Vulnerability to Chronic Poverty and Malnutrition in Malawi

A report for DFID Malawi

Stephen Devereux
Bob Baulch
Alexander Phiri
Rachel Sabates-Wheeler

February 2006

Acknowledgements

We would like to thank the following individuals for their support and various inputs to this report:

- DFID Malawi: Sharon Kinsley, Mulle Chikoko, Leigh Stubblefield, Roger Wilson, Andrea Cook, Isabelle Cardinal, Dennis Pain, Mark Davies, and Yamikani Banda;
- University of Sussex: Catherine Lowery and Santiago Ripoli, for research assistance, Mike Campbell (Geography Department), for producing the maps, Henry Lucas (IDS), for DHS data analysis, and Jenny Edwards (IDS), for administrative support;
- Government of Malawi: Ben Botolo, Dan Mwabumba and Charles Rathman, from the Ministry of Economic Planning and Development (MEPD); Madson Mwadiwa, Permanent Secretary for the Department for Poverty & Disaster Management Affairs (DPDMA);
- Poverty and Vulnerability Assessment (PVA) team: Kathleen Beegle, Antonio Nucifora, Benjamin Davis, Harold Alderman;
- IFPRI: Todd Benson, for sharing geo-referenced mapping files for Malawi;
- participants in two project workshops held in Lilongwe in August and December 2005.

Contents

Tables

Figures

CHAPTER 1. INTRODUCTION AND CONCEPTUAL FRAMEWORK

1.1. INTRODUCTION

The purpose of this project, is to develop a conceptual framework to improve the understanding of vulnerability to chronic poverty and malnutrition in Malawi. This should support the review and development of relevant policies and programmes by the Government of Malawi and its development partners. The work had two phases. The objectives of the first phase were to review available evidence and thinking on the poverty and vulnerability context in Malawi, and to develop an evidence-based conceptual framework. Objectives of the second phase were to elaborate and test the framework empirically, by drawing on the 2004/5 Integrated Household Survey (IHS-2) and other datasets, to strengthen the analysis and refine the conceptual framework as developed in Phase I. The overall intention was to draw out implications for social protection programming in Malawi. Much of this analytical work was also desk-based, but was informed by engagement with policy-makers in Malawi, and with the Poverty and Vulnerability Assessment (PVA) team, led by the World Bank.

1.2. CONCEPTUAL FRAMEWORK

Our conceptual approach draws on several insights from the risk and vulnerability literature, including the following propositions: (1) that ***vulnerability*** is a complex and multi-dimensional concept; (2) that vulnerability must be understood in relation to ***outcomes*** of interest ('vulnerable to…'); (3) that individuals, households and communities are not passive in the face of vulnerability but adopt a range of ***responses****;* and (4) that policy ***interventions*** can address vulnerability in many discrete ways. Our approach can be simply encapsulated in the following statement, which provides an organising framework for the work on vulnerability that is undertaken in this project:

> ***Vulnerability*** is conceptualised in relation to specified ***outcomes*** (chronic poverty, malnutrition) and is mediated by both ***household responses*** (coping strategies) and ***policy interventions*** (risk reduction, risk management, risk coping).

A conceptual framework for analysing vulnerability to chronic poverty and malnutrition in Malawi expands on the highlighted elements of this statement. The framework has seven components:

Generic vulnerability categories: agricultural vulnerabilities; economic shocks and processes; health risks; demographic vulnerability; political, legal and social risks.

Malawi-specific vulnerability factors: these are directly related to the above list of generic vulnerability categories: for example, under 'agricultural vulnerabilities' we consider erratic rainfall and soil fertility decline; under 'economic shocks and processes, weak markets and undiversified livelihoods; 'health risks' include malnutrition and HIV/AIDS, and so on.

Outcomes of vulnerability: in the context of this project, the main outcomes of interest are chronic poverty and malnutrition.

Household responses to vulnerability: these include agricultural intensification, livelihood diversification, and 'coping strategies'.

Generic policy responses to vulnerability: following standard risk analytical frameworks, these include 'risk reduction', 'risk mitigation', and 'risk coping'.

Specific policy responses to vulnerability: under 'risk reduction', these include economic growth and employment creation policies; under 'risk mitigation', livelihood diversification and insurance mechanisms; and under 'risk coping', safety nets (e.g. food aid) and broader social protection policies – recognising that some forms of social protection also have impacts on risk reduction and risk mitigation.

Relevant policies in Malawi: these are directly related to specific policy responses – Malawi's Poverty Reduction Strategy relates to economic growth; MASAF is partly an employment creation programme; there is already a National Safety Net Strategy; and there will be a Social Protection Strategy in 2006.

1.2.1. Defining vulnerability

A common way of conceptualising vulnerability is to view it as a product of two components: **exposure** to hazard (a shock or process) and **resilience**, or the ability to manage the hazard. From the perspective of vulnerable Malawians, hazards could include natural shocks such as drought, or economic shocks such as currency depreciation. Resilience relates to 'coping strategies' at the individual, household, community and group levels. People can protect themselves against the risk that a hazard will undermine their livelihood by drawing on savings, diversifying their livelihoods to spread risk, building social networks that can provide informal social assistance in times of need, and so on. When all these risk coping mechanisms fail, people become acutely vulnerable to even minor shocks. As will be argued later in this report, ***many Malawians are more vulnerable today than in the past because hazards appear to have increased – rainfall and food production are erratic, HIV/AIDS is spreading, markets are weak and prices are volatile – and their ability to cope has declined – livelihoods are dangerously undiversified, repeated shocks have eroded assets and savings, informal networks are less willing or able to provide assistance.***

Understanding vulnerability in two-dimensional space is important as it illustrates the very different policy responses that need to be taken in relation to what constitutes the vulnerability of any one person, household, community, or 'vulnerable group'. It is particularly useful for acute situations requiring an immediate response. That is, at any one time it is possible to construct a static vulnerability profile that indicates whether the hazard or the ability to cope is the main determinant of vulnerability. Policies appropriate to the composite nature of the vulnerability can then be designed. However, to fully understand vulnerability it is not enough to simply take a one-period view; we need know what happens in the next period. Vulnerability needs to be forward-looking, as it makes a prediction about future poverty (or other outcomes). Vulnerability does not simply refer to those who are likely to become poor in the future due to an unexpected shock, but also those who will remain poor, those who will fall deeper into poverty and those who may fall into poverty due to predicable fluctuations such as seasonality. This disaggregation is important as the policy responses are very different for these different groups.

An understanding of vulnerability is further complicated by the notion of 'ability to manage.' We argue that ability to manage shocks or hazards is a complex function of existing behaviour, reflected in livelihood profiles that themselves represent long-term or structural adaptation to predictable shocks; crisis response behaviour (such as the ability to rely on formal and informal insurance and networks in times of crisis), which is constrained by established livelihoods; and by external (policy) response to a predicted and actual crisis.

It is important to emphasise that vulnerability, poverty and food insecurity are not synonymous, although the three concepts do overlap and all of them are responsible for causing malnutrition, one outcome indicator of interest in this study. Specifically, vulnerability is a broader concept than poverty, in at least three ways:

(1) The non-poor are also vulnerable to future poverty (some definitions of vulnerability refer to people whose income is within, say, 20% of the poverty line).

(2) Vulnerability incorporates various non-income aspects of ill-being, such as insecurity, social exclusion and political marginalisation, while poverty measures focus on income and assets.

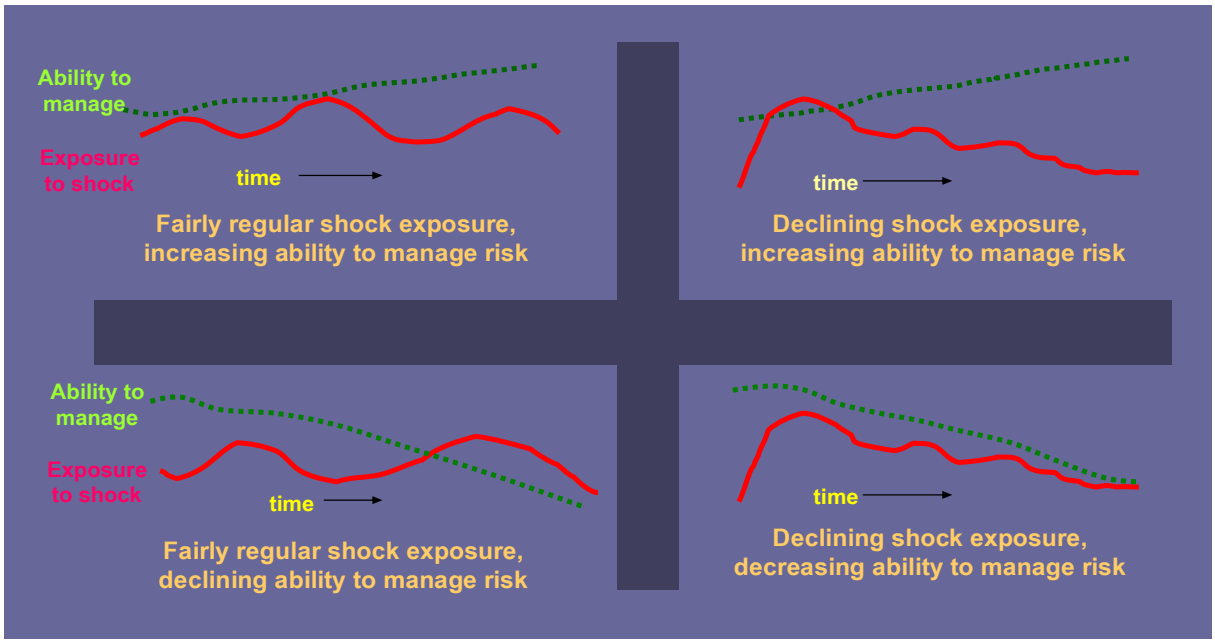
(3) Vulnerability is a dynamic concept, which is both forward-looking and constantly changing, while poverty is a static concept that measures proxies for wellbeing at a point in time.

Policy implications of vulnerability are also broader than efforts to reduce poverty – although it is true that wealthier people tend to be less vulnerable, because they have more income and assets to buffer them against hazardous shocks and adverse processes. Policy interventions to manage vulnerability can either aim to reduce or spread risk (e.g. by supporting livelihood diversification), or to strengthen resilience (e.g. by introducing social insurance mechanisms such as weather insurance for farmers). In the absence or failure of these measures, public interventions need to deliver safety nets (e.g. food aid) and other forms of social protection (e.g. orphan carer grants) to those affected by shocks and processes that they are unable to cope with unassisted.

1.2.2. Vulnerability scenarios

The above conceptualisation of vulnerability as having two distinct and dynamic dimensions can be illustrated in relation to the 'vulnerability scenarios' presented below.

Figure 1. Vulnerability scenarios for Malawi



Source: Sabates-Wheeler and Haddad (2005)

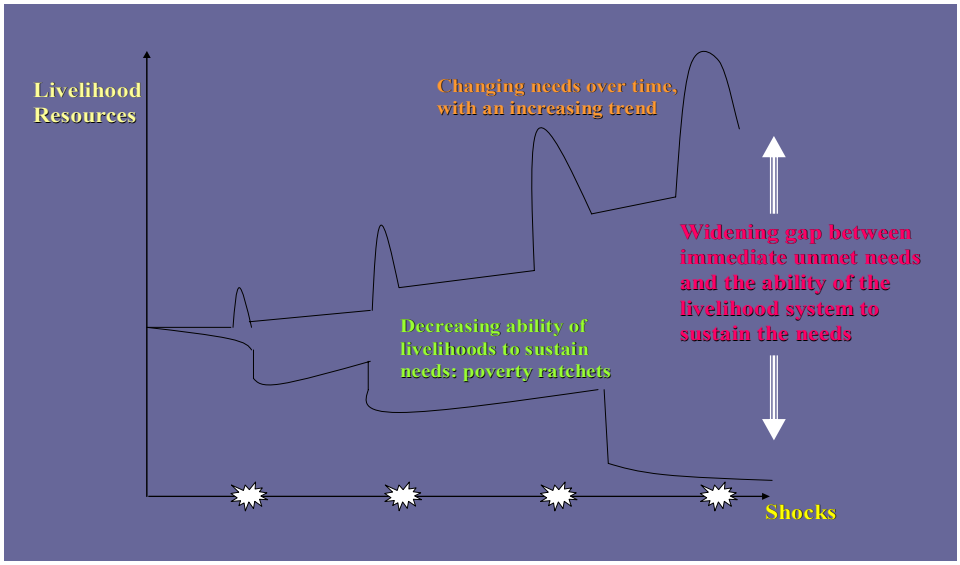
The stylised scenarios in Figure 1 highlight a few possibilities of dynamic situations. The bottom left-hand quadrant illustrates a slow-onset crisis, where management of risk is gradually eroded in a context of regularly repeated shocks (for instance, chronic poverty and the run-down of assets in response of small but cumulatively devastating shocks). At the extreme left-hand side of the diagram we see that shocks and management ability are mutually exclusive. As we move to the right-hand side, shocks begin to erode the ability to manage, however, the latter dominates the former. Over time the shock increasingly interact with and erode ability to manage, to a point when the effects of the shock overwhelm ability to manage. The top left-hand quadrant highlights a situation where public and private actions combine to improve the ability to manage risk, despite continued exposure to shocks (e.g. certain effective AIDS-management policies).

The bottom right-hand quadrant describes a scenario where both exposure to shock and ability to manage are decreasing. This is a less intuitive scenario. An example may be a land-grab from the widow of a recently deceased man. This would be a major shock to the woman and any children, stripping her of important productive assets and undermining her ability to manage future hazards and shocks. While she may not experience substantial future shocks, it is possible that her ability to manage will be further undermined by social discriminatory practices that alienate her from social networks, non-land assets and possible livelihood opportunities. The top right-hand quadrant is a 'best case' scenario – exposure to shock is reducing (e.g. by moving homes away from flood-prone areas) and ability to manage risk is increasing.

Clearly the severity and frequency of shocks are crucial factors in determining ability to manage. Many different scenarios are possible, depending on the nature and severity of hazards (a single devastating disaster such as an earthquake, a number of moderate shocks such as a sequence of poor harvests, or a persistent process such as falling farm sizes over many years); whether shocks are multiple and simultaneous, or individual and occasional; whether shocks are totally unexpected (such as a tsunami) or regular and predictable (such as the annual hungry season). But vulnerability not just a phenomenon that corresponds to shocks striking people at random, it is also socially constructed, being related to structural rigidities and inequalities that perpetuate disadvantage, exclusion and marginalisation of certain groups of people in the long-term. Certain types of vulnerabilities are established and reproduced through socio-cultural norms, various forms of discrimination, and differential access to political power. These factors are unlikely to present themselves as shocks, but rather as long-term declining trends in ability to manage.

A final point to emphasise is that shocks and adverse processes often interact to reinforce each other, so that transitory shocks can create or deepen chronic poverty. This point is illustrated in Figure 2. During a period of crisis (such as the 2001/02 food crisis in Malawi) people respond by engaging in 'coping strategies' such as borrowing, selling assets, rationing food consumption, withdrawing children from school, and so on. The consequence of adopting such 'erosive' coping strategies is that the household's ability to generate future livelihoods is compromised, because its livelihood resources (including community support) have been compromised. When the next shock strikes, the household has fewer options and will again be forced to shed assets to survive. Over time, the 'poverty ratchet' effect that repeated shocks have on increasingly weakened livelihoods steadily undermines the ability to recover, and pushes people towards chronic poverty and destitution. This kind of process may be affecting large numbers of people in rural Malawi.

Figure 2. Cumulative effect of regular shocks



1.3. STRUCTURE OF THIS REPORT

Chapter 2 describes several available data sources for analysing vulnerability in Malawi, notably the Integrated Household Survey (IHS-2) conducted in 2005. Chapter 3 reviews the literature on vulnerability in Malawi, both conceptual approaches and analyses of risks and vulnerabilities of various kinds (agricultural, economic, health, demographic, political, legal and social). Chapter 4 analyses variables relating to income (expenditure) and asset vulnerability in the IHS-2 dataset, assesses household- and community-level shocks, and constructs a 'durable asset index' to estimate changes in wellbeing over time. Chapter 5 analyses indicators of subjective poverty and social exclusion in the IHS-2 dataset, compares these findings to monetary measures of poverty, and explores the relative vulnerability of different 'vulnerable groups' (such as orphans, or female-headed households). Chapter 6 concludes and draws implications for policy.

CHAPTER 2. DATA SOURCES FOR ANALYSING VULNERABILITY IN MALAWI

2.1. INTRODUCTION

During the first phase of this study, various sources of data were reviewed for their relevance to the analysis of vulnerability to chronic poverty ad malnutrition in Malawi. Among the datasets considered were the following:

- Integrated Household Surveys (IHS): IHS-1 and IHS-2;
- Complementary Panel Survey (CPS);
- Malawi Atlas of Social Statistics;
- Malawi Vulnerability Assessment Committee (MVAC);
- Demographic and Health Surveys (DHS): 1992, 2000, 2004;
- Core Welfare Indicator Questionnaire (CWIQ).

2.2. INTEGRATED HOUSEHOLD SURVEYS (IHS)

Two 'Integrated Household Surveys' have been conducted in Malawi, in 1997/98 and 2004/05. These are usually referred to as IHS-1 and IHS-2.

The 1997/98 IHS was a comprehensive socio-economic survey of living standards of households in all the (then) 25 districts of Malawi plus the four major urban centres. The National Statistical Office administered the two-part IHS questionnaire to 12,960 households over a 12-month period between November 1997 and October 1998. However, after two rounds of data cleaning the data set shrunk to first 10,698 and then to 6,586 households (for whom consistent consumption expenditure data, suitable for conventional poverty analysis, are available). Expansion factors (sampling weights) were derived for the 25 districts and 4 urban areas, but in some districts the number of households left after data cleaning was "very small". Nonetheless, district-level maps of the incidence and depth of poverty (headcount and poverty gap, etc.) have been produced from the IHS-1 data.

The IHS-1 questionnaire consisted of two parts, a "large questionnaire", typically administered to the respondent households in a single visit, plus a diary of expenditures kept over 14 days (either by the household head if s/he was literate, or through twice weekly visits by the enumerator). The use of the diary method in IHS-1 undermines its comparability with other household surveys conducted in Malawi – including the IHS-2 – which use the recall method. Indeed the use of diary methods for collecting expenditure data in poor countries is now questioned by many survey experts.

The "large questionnaire" of IHS-1 contains the following modules: household identifiers, household roster, current education of those under 25, past education of those over 25, health/morbidity, nutrition, fertility, deaths over the last 12 months, immunisation, income, employment, time use, migration, housing, assets (durables, livestock and land), credit, recall information on major household expenditures.

Although a number of extremely useful studies – in particular the National Economic Council's 'Malawi Poverty Profile' (2000) and 'Determinants of Poverty' (2001) – have been generated from the IHS-1, the quality of the enumeration and processing of questionnaires is generally regarded to be problematic in some respects.

A second IHS was conducted between March 2004 and March 2005, with a sample of 11,280 households across 564 communities. Unlike IHS-1, which used a diary method, IHS-2 used a 7-day recall period for collecting information on food consumption, and included a community questionnaire to collect information on infrastructure and basic services at Traditional Authority

(TA) level. The data files were finalised by CSO and the World Bank, who also constructed the expenditure aggregates and poverty lines from the IHS-2. The quality of the enumeration and processing of IHS-2 was said to constitute a "substantial improvement" over IHS-1.

There is no longitudinal element (panel) between households in IHS-1 and IHS-2, but a number of retrospective questions (on shocks, durable assets, subjective well-being) are included in the IHS-2 questionnaire which are useful for analysing vulnerability related issues. Unlike IHS-1, IHS-2 also included an anthropometric module for children under 5 years old. Table 1 lists the variables in the IHS-2 household and community questionnaires that are relevant to this study.

Table 1. IHS-2 Questionnaires: Relevant modules for vulnerability analysis

Module	Description	Remarks	Page
Household Questionnaire:			
AB	Recent Shocks to Household Welfare	Over last 5 years, for three major shocks – includes information on how widespread and response	50
AC	Deaths in Household	Over last 2 years – causes include accidents and illness codes (including HIV-AIDS)	51
AD	Child Anthropometry	Measures weight and height (or length) of all children aged 6–60 months. Asks about child participation in nutrition programs.	52
Y	Social Safety Nets	List of programs from which the household benefited over the last 3 years, plus value of benefits in last year	47
M	Durable Assets	Ownership of 36 durable and productive assets, with recall information on ownership over the last 5 years for 19 of the durable assets	29
F	Security and Safety	Past 3 years – subjective and objective on attacks and theft, including whether reported to the police	16-17
D	Health	Self-reported illness over last 2 and 4 weeks – also information on hospitalisation and its costs	10-12
AA	Subjective Assessment of Well-being	Includes minimum level of income to make ends meet; adequacy of food, housing, clothing, and health care; 6-step ladder visualisation exercise	49
W	Other Income	Includes income from pensions	45
Community Questionnaire:			
CG	Changes	How community conditions have changed for worse or better (5-point scale) over the last 5 years; Q50 asks about important events which made people worse off or better off over last 5 years, useful for triangulation of module AB of the household questionnaire	12-14
CD	Access to Basic Services	Includes information on roads, bus services, markets, ADMARC markets, clinics, schools, mosques, etc.	6-7

2.3. COMPLEMENTARY PANEL SURVEY (CPS)

The CPS is a longitudinal household survey conducted between January 2000 and September 2002 by the International Food Policy Research Institute (IFPRI), the Centre for Social Research (CSR), and the Poverty Monitoring System of the Government of Malawi.

The first round of the CPS was conducted in January to February 2000, drawing on a purposive sample of households that were "believed" to have been surveyed in the IHS-1 of 1997/98. The second round of the CPS was conducted in October to December 2000, with a sample of 667

households. The third round was in July to August 2001, and surveyed 631 households. The fourth round took place in August to September 2002, with a sample of 499 households. Due to various problems with identifying the IHS-1 households, theft of round one questionnaires before they were entered and processed, and problems in tracking households between rounds, just 291 households can be tracked between the IHS-1 and rounds 1 to 4 of the CPS. Furthermore, seasonality and differences in the way in which data was collected means that "the comparability of the CPS and IHS welfare indicators must be seriously questioned" (Sharma *et al*., 2002).

The CPS sample had four strata, enabling the rural Southern, rural Central and rural Northern regions of Malawi plus its four Urban centres to be identified separately. Given the sample size and level of attrition in the CPS noted above, it is unlikely that statistics derived from it can be regarded as representative of these four regions.

The CPS has a common set of modules that appeared in all rounds. These are the household roster, education, morbidity, food security and coping strategies, labour and employment, income, expenditures and transfers. Other modules (for example HIV/AIDS, negative economic shocks, household decision-making, pre-marriage assets, and time use, were included on an *ad hoc* basis to allow the investigation of additional topics of interest.

A number of useful papers have been prepared by IFPRI and the Government of Malawi, using the CPS and IHS-1 data (Government of Malawi 2000; Sharma and Yisehac Yohannes 2005).

2.4. MALAWI ATLAS OF SOCIAL STATISTICS

The 'Malawi Atlas of Social Statistics' was produced by the Government of Malawi and the International Food Policy Research Institute (IFPRI). The Atlas of Social Statistics provides disaggregated data on poverty and a range of household-level demographic, economic and other variables. The data come from the 1998 Census and the 1998 IHS. Disaggregated estimates of monetary poverty were produced by combining the Census and HIS data using small area estimation techniques. The data are disaggregated to the Traditional Authority (TA) level.

Variables of interest include: population/ sex ratio/ growth rates/ poverty headcount/ ultra-poverty headcount. Marital status/ depth/ severity of poverty/ orphanhood/ literacy/ schooling/ water access and source/ cooking/ assets/ distance/ location.

2.5. MALAWI VULNERABILITY ASSESSMENT COMMITTEE (MVAC)

Malawi's 'Vulnerability Assessment Committee' (VAC) is a consortium committee of government, NGO and UN agencies that is chaired by the Ministry of Economic Planning and Development (formerly the National Economic Council). The MVAC has developed a series of livelihood profiles that describe how households obtain their primary food requirements: these are called 'baseline studies' and they depict the sources of food and income, as well as the expenditure patterns that households employ to survive. If these baselines are combined with monitoring information that describes changes in the different variables then it is possible to translate the changes into food equivalents. This means that we are able to observe how changes in food access occur as a result of changes in livelihoods, such as access to markets, price changes, labour markets.

The main purpose of the MVAC is to assess and reduce vulnerability in Malawi. The MVAC is based on the Household Economy Approach (HEA). This method of data collection is less cumbersome than a typical household multi-topic survey (such as a Living Standards Measurement Survey (LSMS) or the IHS), as it purposely collects 'representative' information at an aggregate level. That is, through focus groups, village-specific knowledge, key informant interviews and processes of triangulation the HEA specifies averages for the main variables of interest for clusters of groups, where within-group characteristics are relatively homogeneous (i.e. wealth categories). The data are presented in spreadsheets according to wealth category (rich, middle, poor) and location (or livelihood zones). The HEA approach is often used for monitoring

vulnerability to changes in food access over time and for predictive purposes. Models are typically constructed that introduce a shock to a livelihood system (such as the removal of a subsidy) and the implications this would have for food access of different wealth groups are calculated.

The MVAC was set up in response to the food crisis of 2001/02. Between May and July 2003, the MVAC conducted a livelihood rezoning exercise and an HEA baseline survey in 11 out of 17 livelihood zones in Malawi. These activities form the first stage in the establishment of a livelihood information and monitoring system within the MVAC that is designed to generate a deeper understanding of rural livelihoods, food access issues, and the ability of households from different wealth groups to cope with shocks and vulnerability. The baseline information is employed as an analytical modelling tool by the MVAC for monitoring household food and livelihood security. It is also used to generate analysis for understanding the impact of different programming and policy on vulnerability, and food and livelihood security. The LBVA (livelihood-based vulnerability approach) adopted by the MVAC is aimed at providing relevant information and analysis on food access and livelihoods to different government ministries, as well as international organisations and civil society to inform early warning, rural development strategies, poverty reduction, safety nets programming and food security policy formulation.

The data comprise a large range of variables that would be useful for an analysis of poverty and vulnerability, including crop production data, consumption, livestock, income, expenditure, employment, sources of food, cash, expenditure, AIDS and food security. It is also the closest available source of 'dynamic' longitudinal data in Malawi. However, it has limitations due to the method of aggregation of households which means that changes in food access due to shocks can only be assessed for the 'typical' or average household in any one wealth group. Also, assessing outcomes (food access) is derived in the sense that outcomes are simulated according to assumptions about how a hazard will work through a livelihood system.

2.6. DEMOGRAPHIC AND HEALTH SURVEYS (DHS)

Four 'Demographic and Health Surveys' (DHS) have been conducted in Malawi: in 1992, 1996, 2000, and 2004. There was also a 'DHS Ed' survey in 2002, but this only collected information on education.

The 1992 MDHS sampled 5,232 households, 4,840 women and 4,232 men. It also contained a facilities survey of 223 clinics, health stations, etc. The 1996 MDHS surveyed 2,898 households, 2,683 women and 2,658 men. The 2000 MDHS increased its sample size dramatically to 14,214 households, 13,220 women and 3,092 men. Finally, the 2004 MDHS, for which no results had been released by late 2005, sampled 15,000 households, 13,000 women and 5,000 men.

DHS surveys do not collect information on incomes and expenditures, but are extremely useful for their comprehensive information on human development indicators, in particular mortality and malnutrition among children, and mothers' health, education and well-being. Information about community characteristics, housing, and assets are also collected. DHS surveys are useful for examining trends in well-being, both within and between countries, but do not contain a panel component, making the analysis of issues to do with poverty dynamics and vulnerability difficult.

The Macro-International website (http://www.measuredhs.com) has the reports for the 1992, 1996 and 2000 MDHS but only an abstract for the DHS Ed Survey of 2002. The status of the 2004 MDHS was listed as "ongoing" as of late 2005.

2.7. CORE WELFARE INDICATOR QUESTIONNAIRE (CWIQ)

One CWIQ survey has been conducted in Malawi, in 2002, with technical support from the World Bank (which has conducted CWIQ surveys in 14 other African countries). Data collection occurred between September and November 2002, and a total of 9,819 households were surveyed (8,941 of which were rural and 878 urban). There were 31 sampling strata: the 27 districts plus 4 urban centres.

The CWIQ contains 10 modules: household roster, education, health, employment, household assets, household amenities, children under 5, food security, safety and security, and HIV/AIDS. The CWIQ does not collect information on incomes and expenditures, but a set of pre-chosen poverty predictors (identified using the IHS-1) were used to estimate poverty levels as per the standard CWIQ methodology. The HIV/AIDS section asks about people's knowledge of HIV transmission and prevention, but it does not allow HIV infection rates to be estimated.

As a reflection of its acronym, the initial CWIQ survey reports (based on scanned questionnaires and pre-programmed standard tables) was produced just one month after the survey work was competed in December 2002. The main results of the CWIQ are summarised in a 139-page report by the National Statistics Office (NSO 2002).

2.8. NUTRITION AND FOOD SECURITY SURVEILLANCE

The Malawi Integrated Nutrition and Food Security Surveillance System produces monthly 'Data Reports' on a number of indicators of malnutrition and food stress in sentinel sites across the country. Technical support is provided by Action Against Hunger, with funding from the European Union. This system monitors the growth of 4,200 children in 12 districts, and assesses the food security status of their households using a short questionnaire. The nutritional surveillance component reports on underweight children (weight-for-height) and mid upper-arm circumference (MUAC). The 'food stress index' combines eight indicators – including (1) households with <51kg cereals in their granary; (2) households earning <MK1,001 in the last month; (3) meal frequency; (4) households reducing portions; and (5) households going entire days without staple food. The questionnaire also monitors the proportion of households looking for *ganyu.*

CHAPTER 3. REVIEW OF LITERATURE ON VULNERABILITY IN MALAWI

3.1. DEFINITIONS AND CONCEPTUAL APPROACHES

Vulnerability is defined by economists as the risk of future poverty. In Malawi's context of high baseline poverty, however, Sharma & Yohannes (2005) do not exclude the current poor from their definition of vulnerability as "the presence of a high degree of risk of slipping into deeper poverty". They also point out that the extent of vulnerability is affected by the depth of poverty. "Since consequences of unexpected declines in income on welfare become harsher the poorer the households, vulnerability generally increases with poverty."

Different analyses of vulnerability in Malawi adopt different conceptual and analytical approaches. Ellis *et al.* (2002) consider historical and contemporary constraints to livelihood diversification as a potential pathway out of rural poverty, and they provide a framework for analysing poverty and vulnerability based on characteristics of different 'wealth groups' such as assets owned (e.g. land, livestock), housing type, labour market participation and food security status. TANGO (2004a) summarises the underlying causes of livelihood vulnerability and food insecurity in Malawi:

> "The current vulnerability in Malawi is the result of decades of exposure to macro-economic shocks, weather-induced production shortfalls, and demographic pressures. The government's focus on national self-sufficiency has not been sustainable or appropriate in the context of rapid population growth, rising input costs and recurrent droughts and floods. The country enjoys few employment opportunities outside of agriculture, while market liberalisation has increased rural inequality and stratification."

Dorward and Kydd (2002) develop a framework for understanding vulnerability in Malawi that identifies interactions between structural economic weaknesses and transitory shocks or risks.

> "Low levels of financial and physical capital together with reliance on agriculture and natural resources make poor rural economies and livelihoods particularly exposed and vulnerable to *risks of natural shocks*. These might arise from adverse weather (affecting crop yields or damaging physical assets); human, crop or animal disease; or physical insecurity (as a result of crime, or political violence, or conflict). Where markets are thin and there are poor communications and high transport costs, isolated markets are prone to large *price risks* when affected by local supply or demand shocks. This may be particularly problematic for food crops with relatively inelastic demand and where there are large differences between local import and export parity prices."

3.2. SOURCES OF VULNERABILITY

Based on our own conceptual framework and a review of the literature, we subdivide the sources of vulnerability to poverty and malnutrition in Malawi into five clusters of factors: (1) agricultural, (2) economic, (3) health, (4) demographic, (5) political, legal and social vulnerabilities.

3.2.1. Vulnerability in agriculture

Over 85% of the population of Malawi is rural, and 89% of the labour force was employed in agriculture in 1998. Yet despite employing most of the population and producing 72% of Malawi's total exports, agriculture accounts for only 36% of total value added to the Malawian economy, a large proportion of this coming from the commercial estates, mainly tobacco (Wobst *et al.,* 2004). Malawi is no longer self-sufficient in maize, its staple food crop. Smallholder agriculture has consistently under-performed. A combination of characteristics of the sub-sector raises the vulnerability of smallholder households in Malawi to both transitory shocks and chronic poverty. By common consensus, the following factors combine to cause food production to be either consistently or occasionally inadequate to meet consumption needs in many rural households:

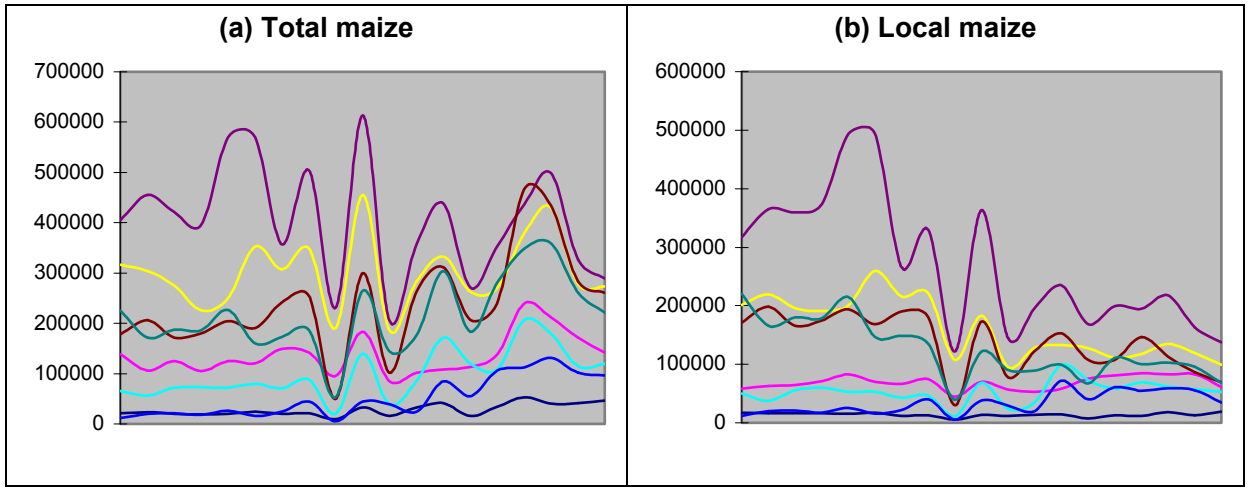
1. Erratic rainfall: the near total dependence of rural households on rainfall for their livelihoods, both directly (for crop production) and indirectly (for *ganyu* employment), where rainfall is erratic and unpredictable, exposes farmers every year to the risk of drought or flooding within the growing season. Figure 3 illustrates the variability in maize production in Malawi, which is largely attributed to erratic rainfall. Although the trend in maize production is generally rising, the coefficient of variation has become greater since the early 1990s. This unpredictability of rains and harvests undermines food security and raises vulnerability. For instance, the food crisis of 2001/02 followed two bumper harvests (in 1999 and 2000) and a harvest (in 2001) that was actually 6% above the 10-year average (Devereux and Tiba 2006).

Figure 3. Maize production in Malawi, 1990–2001 (metric tonnes)

Source: Tiba (2005)

Figure 4a shows that maize production over the past 20 years has been even more variable at the Agricultural District (ADD) level than at aggregate (national level). It also reveals that maize production is concentrated in a few districts (such as Lilongwe and Kasungu), while food insecure districts such as the Shire Valley produce much smaller harvests. Figure 4b reveals a substantial decline in production of local maize, which has been compensated in recent years by corresponding increases in hybrid maize (Figure 4c) and composite maize (Figure 4d). Figure 5 illustrates this shift away from local maize towards composite and hybrid varieties – in terms of hectarage planted to each. This trend could be interpreted as an encouraging indicator of agricultural intensification.

Figure 4. Maize production in Malawi (MT) by ADD, 1984–2002



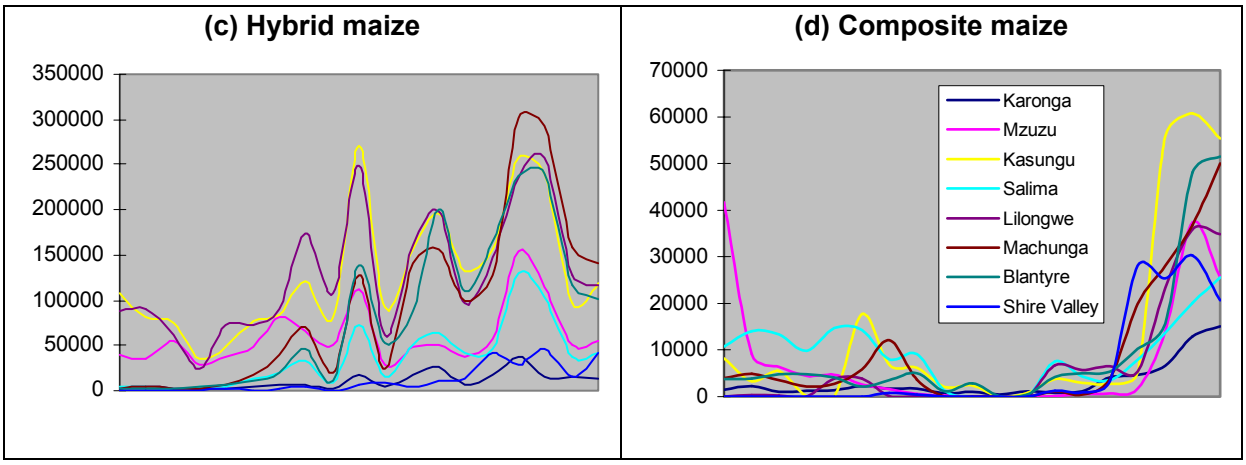
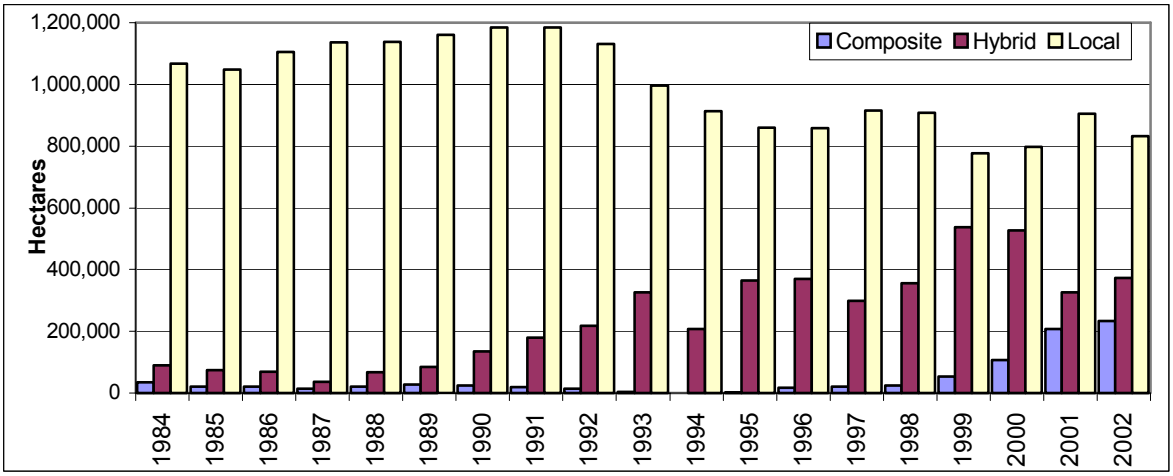


Figure 5. Maize hectarage in Malawi by variety, 1984–2002



Source: Phiri (2005b)

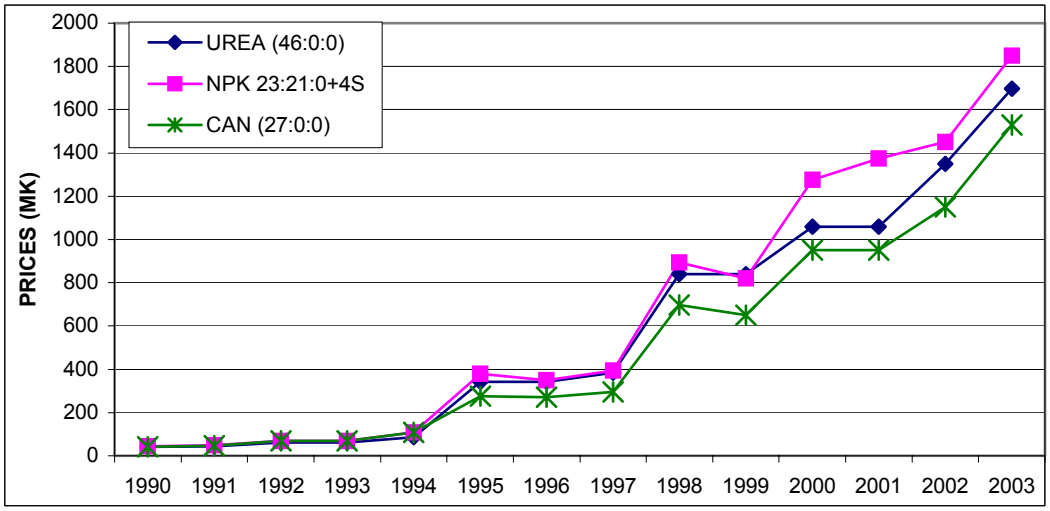
Dorward and Kydd (2002) note that risk lowers the productivity of rural economies in three ways, by: (1) reducing returns to investment, (2) distorting investments "away from those that maximise expected returns towards those that reduce risks", (3) discouraging investment altogether, because returns are low and investors are risk-averse. In this way, risk contributes to under-investment and hence to agricultural stagnation and rural poverty in Malawi.

2. Land constraints: In just 20 years between 1977 and 1998, population growth rates of about 2% per annum resulted in a doubling of the Malawi population, a corresponding doubling of population densities, from 59 to 112 persons/km^2, and a halving of cropland per capita, from 0.42 to 0.23 hectares (GoM, 2000). Land pressure intensifies from north to south: cropland per capita averaged 0.256 ha in the North but just 0.176 in the South. At the household level, landholding averages one hectare, but is 0.9 ha in the South, and 78% of rural households in 1998 cultivated less than one hectare. Increasing land pressure is a source of vulnerability because poorer rural households tend to cultivate less land, and because declining farm sizes have not been accompanied by agricultural intensification, or by diversification either within or outside agriculture. Instead, yields of staple food crops have remained low, soil fertility has declined, and cultivation of high-yielding varieties or high-value crops remains limited.

3. Lack of livestock: Uniquely in Africa, Malawians own very few livestock, and "there is a virtual absence of cattle from asset portfolio of rural households" (Ellis *et al* 2002). In agricultural societies elsewhere in Africa, livestock provide draught power and manure for farming, they serve as pack animals for transporting goods to and from markets, they provide nutritious food (meat and milk), and they are a store of wealth and savings that accumulates in good times and can be drawn down in emergencies. Most Malawians own few – if any – physical or financial assets that increase in value over time.

4. Constrained access to fertiliser and input credit: Since the completion of the Fertiliser Subsidy Removal Programme (FSRP) in 1995, and following the collapse of SACA (the Smallholder Agricultural Credit Association) in 1992, Malawian smallholders have faced higher prices for fertilisers, and severely restricted access to input credit. Many farmers' clubs that formed in order to access fertiliser and hybrid maize seed have defaulted on their loans and disbanded (van Donge *et al.,* 2001). Costs of agricultural inputs have continued to spiral beyond the reach of most farmers following successive devaluations of the Malawian kwacha during the 1990s (notably by 62% in August 1998), and further depreciations since 2000 [see Figure 6]. Households that reported being badly affected by recent fertiliser price increases were found to have average consumption levels 13% lower than other households (Hoddinott 2005).

Figure 6. Fertiliser price trends in Malawi, 1990–2003



Source: Phiri (2005a)

In all the major productive inputs required for sustainable agriculture – water, land, soil, livestock, fertiliser – therefore, Malawian farmers face severely constrained access. Moreover, many of the most vulnerable households are those with severe labour constraints. As a consequence, per capita food availability declined throughout the 1980s and 1990s, mainly because of falling per capita maize production (Wobst *et al.* 2004). The magnitude of the decline in food supply was disguised in the 1990s by exaggerated cassava production figures, which appeared to offset the decline in maize output until they were exposed as grossly inflated during the 2001/02 food crisis.

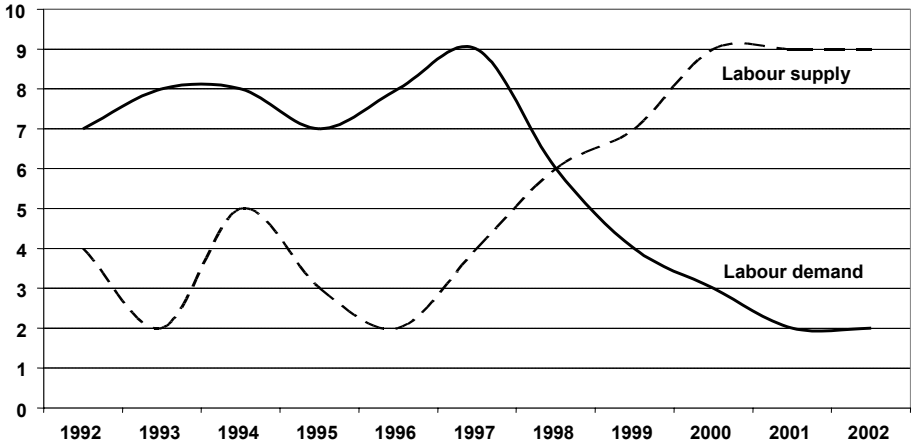
A recent literature on 'asset thresholds' argues that rural households need a certain minimum bundle of productive assets to make a viable living from farming. Without this minimum bundle, they will be structurally incapable of meeting their subsistence needs, and – even worse – they will lack the capacity to cross the threshold from structural poverty to sustainable accumulation (Carter *et al.* 2004). Given the severe asset constraints that many Malawian households face, and the evidence of high levels of chronic undernutrition that persist independently of short-term livelihood shocks, we have to conclude that large numbers of Malawian families are trapped in this 'asset trap'. This situation can not be redressed with food handouts or even with employment creation programmes: instead, asset-protecting and asset-building interventions are needed.

3.2.2. Economic shocks and processes

1. Undiversified livelihoods: The belief that rural Malawians derive almost all their food and income from subsistence-oriented maize production pervades the literature. This view is too simplistic, as the chronic food gap that the majority of farming households experience for several months every year forces them to find secondary sources of food. In the past, *ganyu* (casual labour) provided the main supplementary income for poor households, but *ganyu* is becoming more difficult to find: there is a surplus of rural labour and demand for *ganyu,* as well as wage rates, are falling. (Figure 7 illustrates these trends in rural labour markets, from a participatory exercise conducted in Zomba District in 2003.) There is a correlation between

poverty and engagement in *ganyu:* according to Wobst *et al.* (2004), the poorest, middle-income and relatively wealthy categories of rural households take 39%, 28% and 23% of *ganyu* employment respectively. Nonetheless, *ganyu* is a survival option rather than an accumulation strategy. Lucrative alternatives to farming remain rare in rural Malawi, and most non-farm activities that people pursue are minor and generate very low returns to labour.

Figure 7. Supply and demand for 'ganyu' labour, 1992–2002, rural Zomba



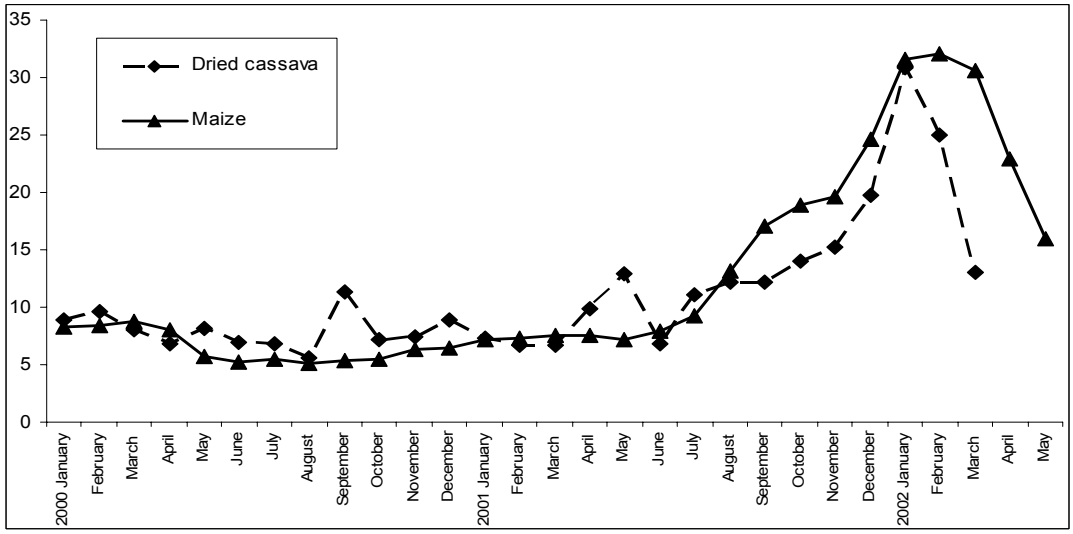
Source: Devereux *et al.* (2003: 64)

Urbanisation rates in Malawi are unusually low – under 20% – compared to neighbouring countries. One adverse consequence is that rural–urban linkages are limited, so livelihood diversification that includes access to non-covariate incomes (i.e. not correlated to rainfed agriculture) are also limited. Migration and remittances are not only low; important migration opportunities have declined over time (for instance, large-scale migration of contract miners to South Africa's goldmines ended in the 1970s), terminating that source of non-covariate income, much of which had been reinvested in agriculture and small enterprise activities.

2. Weak markets: ADMARC remains a major actor in agricultural marketing, but its roles have been redefined and its activities have been curtailed several times in recent years, leaving a confused an inefficient agricultural marketing system, where neither ADMARC nor private actors are serving the needs of smallholders for access to inputs and output markets that are reliable and timely, deliver inputs at affordable prices, and pay fair prices for their produce. Instead, rural households face input prices during the farming season, and food prices during the hungry season, that they cannot afford to pay. Phiri (2004) found that while maize prices tend to be higher closer to urban areas and lower in the remote areas, fertiliser prices followed an opposite trend. He concluded that villages closer to town use more fertiliser and hence are more food secure, while those further away apply less fertiliser so produce less, and also earn less from crop sales so are poorer. This evidence that markets are weaker in distant communities suggests that vulnerability is related to geographic remoteness.

   Dorward and Kydd (2002) explain agricultural marketing failures in Malawi in terms of high transactions costs (due to low trade volumes and poor communications), and coordination failures (because the high risk premiums and margins needed to make trade profitable in this context depress demand), which result in "a low-level equilibrium trap and market failure". High input prices combined with food price seasonality result in low yields and a food gap that can only be covered – because *ganyu* is scarce and food prices are so high in January-March – by coping strategies that erode the household's asset base. Figure 8 graphs the evolution of food prices in Malawi before and during the famine of 2001/02. The failure of private trade and public interventions to stabilise food supplies and prices is clear, and it was this particular source of vulnerability that transformed a relatively minor food production decline into a major food security crisis. Giving evidence to the UK's inquiry into 'The Humanitarian Crisis in Southern Africa', one expert witness (John Seaman) argued that: 'if you had stabilized the price of maize in 2001 in Malawi, no crisis would have occurred' (IDC, 2003: EV67).

Figure 8. Average maize and cassava prices in Malawi, 2000 – 2002 (MK/kg)



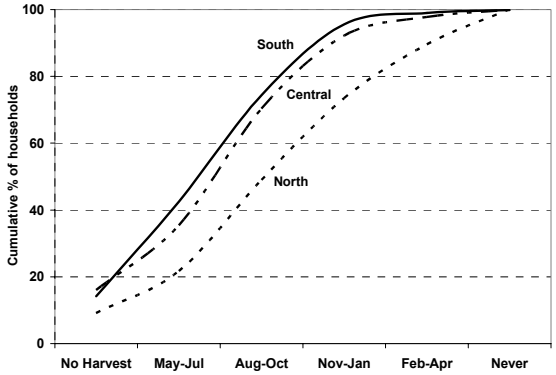
Source: Tiba (2005)

3. Interactions between transitory shocks and chronic poverty: Although the focus of this report is on chronic vulnerability rather than transitory livelihood shocks, there are significant interactions between the two that are important to recognise and understand. Households that are chronically poor are more vulnerable to even minor livelihood shocks, while severe or repeated shocks can force households to dispose of key productive assets to meet immediate consumption needs, leaving them incapable of maintaining a sustainable livelihood. Hoddinott (2005) demonstrates that "past shocks continue to affect current levels of consumption" in Malawi – survey data reveal that households that were directly affected by the 2001/02 drought had lower consumption and lower asset holdings in 2004.

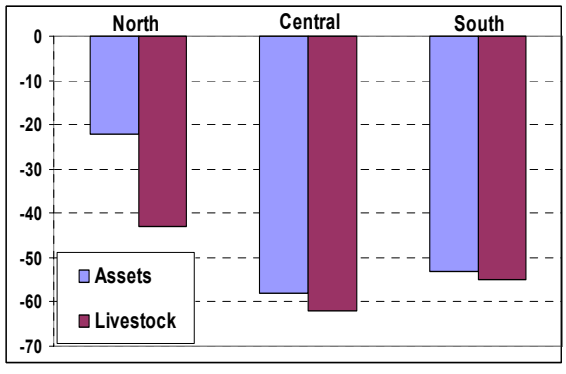
Further evidence on the long-term impacts of the 2001/02 food crisis comes from a survey conducted one year later. Figure 9a plots the proportion of households by region running out of own-produced maize, month by month, in the year of the food crisis. By August–October, for instance, 80% of households in Central and Southern regions, but only 50% of households in Northern region, had run out of harvested maize. One response to harvest failure was to sell assets to buy food. Figure 9b measures the average 'value losses' from durable assets and livestock sold during the crisis (defined as the percentage difference between the income received from selling the asset and its replacement cost). Here again, the impacts are seen to affect Central and Southern households disproportionately, as asset and livestock prices collapsed due to higher volumes of 'distress sales' and the weakness of asset markets.

Figure 9. Impacts of food crisis on household maize stocks and asset losses, 2001/02

(a) Depletion of maize stocks, 2001/02



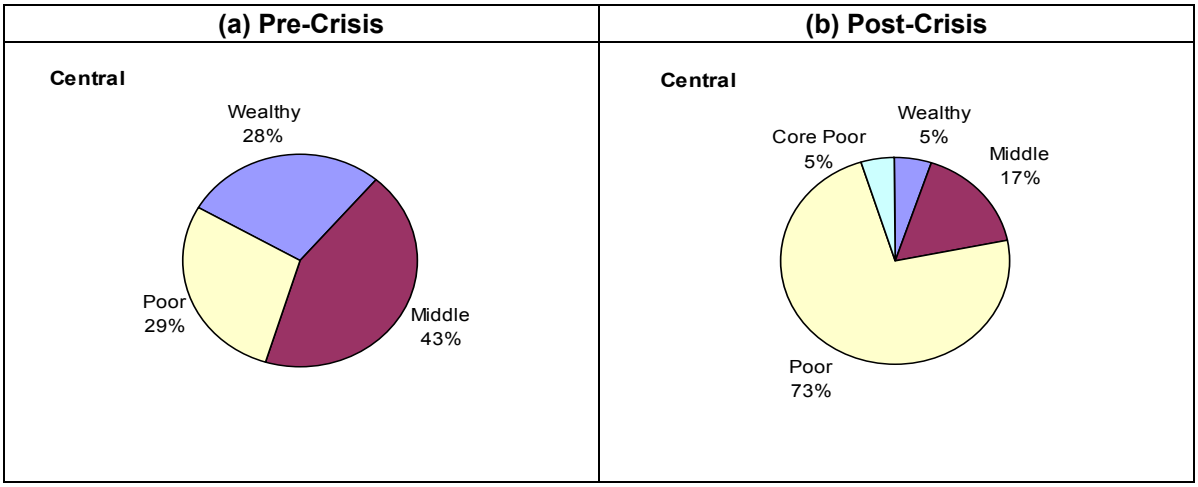
(b) Mean value losses, 2001/02



Source: Devereux *et al.* (2003)

Partly because of distress sales of assets, the 2001/02 food crisis impoverished households throughout Malawi. In Central Region, the proportion of households identified as 'poor' by participatory wealth ranking exercises in affected communities more than doubled, middle and wealthier groups collapsed, and a new group of destitute 'core poor' emerged [Figure 10].

Figure 10. Self-assessed poverty in Central Malawi, before and after the 2001/02 crisis



Source: Devereux *et al.* (2003)

3.2.3. Health and nutrition risks

Poor health and nutrition undermines the cognitive development of children and the productive capacities of adults. Almost half of all Malawian children have stunted growth (an indicator of chronic poverty and food insecurity), 16% of babies are born malnourished, half the population (49%) suffers from micronutrient deficiencies – iron, iodine, vitamin A – and almost three-quarters (73%) have inadequate food intake (Gillespie and Haddad, 2004). More than half of all pregnant women (56%) are anaemic (GoM 2004). 'Diseases of poverty' such as diarrhoea, acute respiratory infections, cholera and malaria are endemic in Malawi. Many of these health risks interact with each other: inadequate intake of calories, protein, fat and micronutrients lowers the body's immune system and raises susceptibility to water-borne and other diseases, including HIV. Episodes of Illness in turn are associated with appetite loss, vomiting and poor nutrient utilisation, which exacerbates malnutrition and perpetuates the cycle. Poor quality and outreach of health services, limited availability of drugs, under-provision of reproductive health care, limited access to potable water, and a virtual absence of public health and sanitation facilities in most rural communities amount to a wholly inadequate set of public interventions to address these health risks and break these vicious cycles.

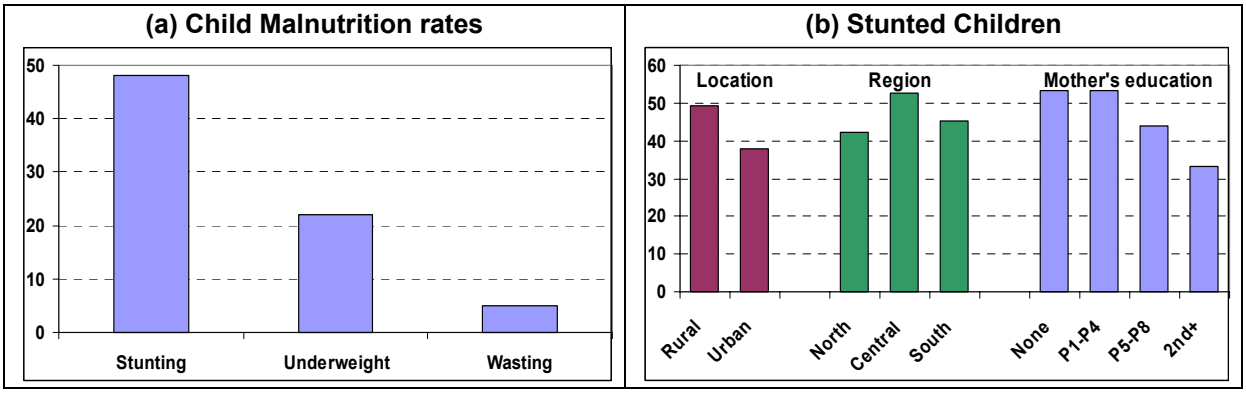
Table 2. Access to health services and drinking water in Malawi (% of households)

Indicator	North	Centre	South
Time to nearest health centre			
<15 minutes	6.5	9.0	8.8
15–29 minutes	10.6	10.7	9.3
30–44 minutes	11.6	13.4	11.9
45–59 minutes	7.2	10.4	11.5
60+ minutes	64.1	56.5	58.6
Main source of drinking water			
Communal pipe, borehole	61.7	51.0	67.6
Unprotected, rainwater	13.7	35.3	17.7
Spring, lake, river, pond	18.4	7.4	8.3
Piped water, protected well	6.2	6.2	6.3

Source: NSO (2002) Malawi Core Welfare Indicators Survey

According to successive rounds of Demographic and Health Surveys (DHS), there has been no significant improvement in the nutritional status of Malawian children for at least the last 15 years. Almost half (47.8%) of 8,520 children measured in the 2004 DHS were stunted (low height-for-age) – "virtually identical" to the level of stunting recorded in 1992 and in 2000. Levels of wasting were much lower – just 5% in 2004 – which means that chronic malnutrition is much more of a problem among Malawian children than transitory or acute malnutrition [Figure 11a]. Stunting is higher in rural than urban areas, and in Central and Southern Regions than in Northern Malawi. DHS data also find a strong association between stunted children and mother's education level, with the incidence of stunting falling significantly after four years of education – the minimum required to achieve basic literacy [Figure 11b]. This is consistent with findings from elsewhere that maternal education is positively associated with improvements in children's wellbeing.

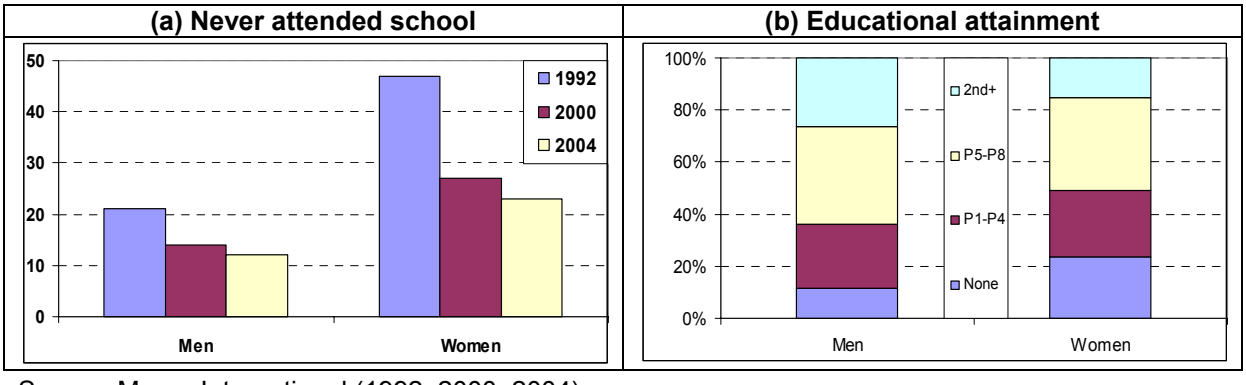
Figure 11. Child malnutrition in Malawi, 2004



Source: Macro-International (2004)

Given the importance of education, not only for child well-being but also to diversify livelihood options away from agriculture, there are some encouraging trends. Since the introduction of free primary education in 1994, the proportion of Malawians who have never attended school has halved, from 34% in 1992 to 17.5% in 2004. However, this progress is gendered: twice as many women (23%) as men (12%) have never attended school [Figure 12a]. Men are also much more likely than women to have reached secondary school (26% against 16%) [Figure 12b].

Figure 12. Education in Malawi, by gender

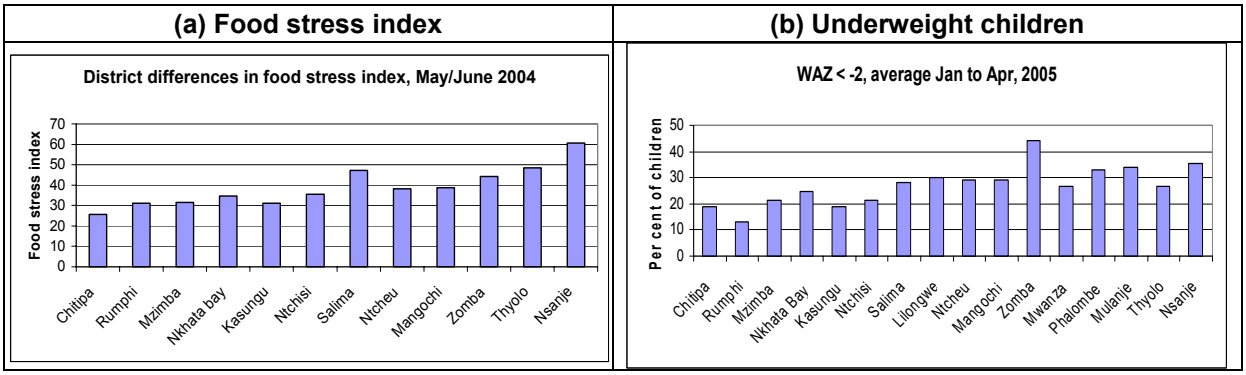


Source: Macro-International (1992, 2000, 2004)

On many indicators of vulnerability and ill-being, including prevalence of stunting, the Northern Region appears to be better off than the Central and Southern Regions. The Central Region is paradoxical: sometimes better off than other regions but on other indicators worst off. In general, though, several indicators display evidence for a 'north-to–south gradient' of falling well-being. Figure 13a presents Action Against Hunger's 'food stress index' for 12 districts, ordered from north to south, from May/June 2004. Figure 13b presents the proportion of underweight children for 16 districts from Action Against Hunger's nutritional surveillance bulletins from January to April

2005, again ordered from north to south. For both indicators, a clear increase in food stress and of underweight children can be seen. Though this pattern is not monotonic – there are anomalous districts – it provides further evidence that vulnerability to food insecurity and malnutrition are higher in Southern than Northern Malawi.

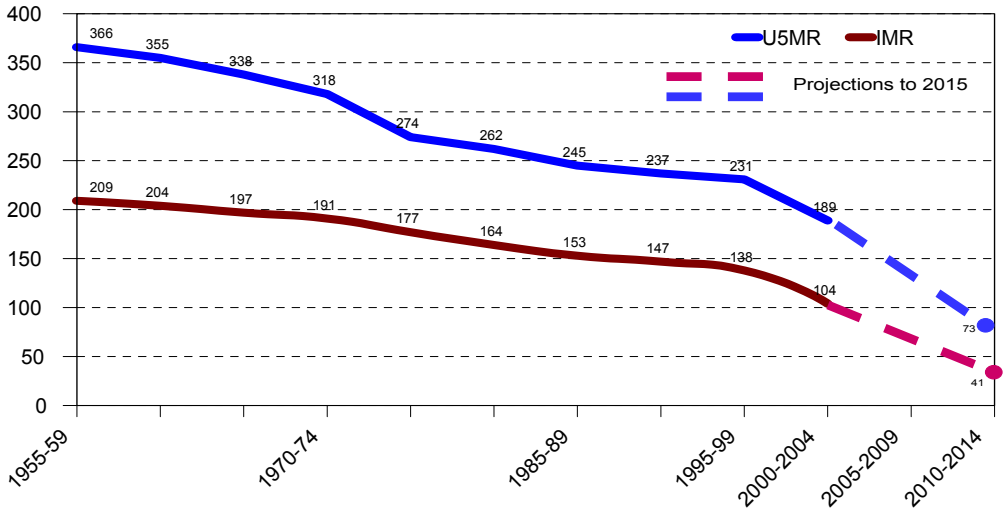
Figure 13. 'North-to-south gradients' in food stress and malnutrition in Malawi



Source: Action Against Hunger (2004/05)

Encouragingly, infant mortality rates (IMR) and child mortality rates (under-fives – 'U5MR') are falling in Malawi. Until the 1990s these declines were gradual, but in the last decade the rate of improvement has accelerated, and is projected to continue to do so [Figure 14]. It is not clear what is driving this rapid improvement, which according to the 2004 Malawi DHS "has also been observed in neighbouring countries".

Figure 14. Infant and child mortality rates in Malawi, 1955–2015



Source: World Health Chart (WHO, 2001) and Macro-International (2000)

In recent years, HIV and AIDS has reached pandemic proportions in Malawi, where an estimated 15% of Malawian adults aged 15-49 are now HIV-positive and mortality due to HIV and AIDS increased by 75% during the 1990s. "Malawi has already lost more than 5% of its farm labour force due to HIV/AIDS and is projected to lose an additional 15% by 2020 (TANGO 2004a). HIV/AIDS is not only a human tragedy; it is responsible for widespread impoverishment among affected families. The main mechanisms include: loss of household labour and skills; diversion of adult labour time and withdrawal of children from school to care for the sick and dying; depletion of savings and sale of assets to pay for treatment, care and funeral costs. Households with chronically ill members (especially adults), are more vulnerable because their income-earning potential is lower and their costs are higher, than before the illness. One recent study in Malawi estimated "an income loss of approximately 60% among PLWHAs who were running businesses due to reduced operations, frequent closures and capital diversion" (Palamuleni *et al.,* 2003).

3.2.4. Demographic vulnerability

Increasing numbers of households in Malawi are headed by women, children, or the elderly (who are often left caring for orphaned grandchildren), and most of these households face labour constraints that undermine their ability to sustain a viable independent livelihood (Kadzandira 2002). It is generally accepted that these households are more vulnerable than others, both to chronic poverty and to transitory shocks. These households share a common characteristic, in that they are either structurally labour-constrained, or their labour capacity has been undermined by chronic health problems, such as HIV/AIDS affecting adult household members. The process of becoming a female-, elderly- or child-headed household is often in itself a 'poverty ratchet', as the loss of adult male labour is especially detrimental to the household's capacity to farm and engage in *ganyu* or manual labour. A recent study found that the death of a spouse in a Malawian household severely reduces consumption levels, by as much as 27-45% (Hoddinott 2005).

Total fertility rates (TFR) in Malawi are extremely high: the average rural Malawian woman will have six children in her lifetime. This produces high dependency ratios, which places more stress on income-earners (and more orphans if the adults succumb to AIDS). Urban fertility rates are lower than rural fertility rates, and urban households are generally better off and less vulnerable than rural households. The trend is towards lower TFR over time – down from 7.6 in 1984 to 6.0 in 2004 – which is arguably a positive trend, as smaller households tend to be better off by various indicators.

There are a number of reasons why vulnerability in Malawi is significantly gendered in nature. A recent review of 'Gender Exploitation in Malawi' summarised many of these reasons [Box 1].

Box 1. Gendered vulnerabilities in Malawi

1. Women comprise 70% of the agricultural labour force, but they are less likely to engage in cash crop production due to labour and time constraints.
2. The value of assets owned by male-headed households is double that of female-headed households and male headed households are more likely to own productive agricultural assets.
3. Women's rates of pay for *ganyu* is likely to be only two-thirds the rate paid to men.
4. Women face more difficulties in accessing credit, as they do not possess assets for collateral.
5. In 1998, 44 % of women were literate compared with 72% of men.
6. Only 43% of births are attended by health workers.
7. As household assets are depleted women are more likely to engage in sexual transactions to meet household subsistence needs.
8. Women and girls typically take on the burden of caring for sick family members.
9. Young girls are more likely to be withdrawn form school to care for younger siblings or the sick, and to assist with domestic and agricultural work, following a livelihood shock to the household.
10. Female-headed households are more dependent than male-headed households on external support for their subsistence – gifts of food from relatives, food aid and public works programs.
11. Women are rarely represented on the council of elders, and so are unable to influence decisions over access to land, inheritance rights, and so on.

Source: TANGO (2004c)

3.2.5. Political and social vulnerabilities

Poverty is differentially distributed across regions, with the lowest incidence in Central Malawi (44.2%) and the highest in Southern Malawi (59.7%). Although the Central Region has the lowest poverty rate, it also has the widest gap between male- and female-headed households (42.2 % versus 53.4%), while the Northern Region shows the narrowest difference (53.8% versus 55.4%) [Table 3]. One explanation could be the impact of regionally differentiated marriage systems and settlement patterns. It might be hypothesised that the patrilineal marriage system in the north leads to more equitable distribution of resources, particularly land.

In the north, even after the death of a husband, the widow is expected to remain in her husband's village. Until recently, widows were 'inherited' by a brother or cousin of the deceased, and the dowry that is paid in the north links women strongly to her husband's family. Widows therefore continue to cultivate the same land as when the husband was alive. Conversely, Southern Malawi is largely matrilineal (*Chikamwini*). Husbands settle in the wife's village; land is acquired through the wife; and after divorce or death of the husband; the wife also continues to cultivate the same piece of land. However, population pressure is highest in the South (146 persons per square kilometre in 1998, compared to 46 persons in the North), so partition of land leads to smaller farms and (other things being equal) to higher poverty levels.

Lastly, the Central Region has a more mixed marriage system. *Chikamwini* is practised, as in the South, but *Chitengwa* is increasingly common. In this system the husband requests permission from the wife's parents to take her to his home, after paying a small token. Following divorce or death of the husband, the wife is usually chased out of the husband's village back to her natal village, leading to loss of assets and a more precarious livelihood. These differences in marriage systems could explain some of the gendered differences in poverty observed between regions.

Table 3. Poverty in Malawi by region and gender of household head, 2004/05

	Poverty Rate	Ultra-Poverty	Male-headed	Female-headed
Malawi	**52.4%**	**22.4%**	**51.0%**	**58.5%**
Urban	22.5%	7.5%	24.4%	31.8%
Rural	55.9%	24.3%	54.7%	60.8%
Region				
Southern	59.7%	28.5%	58.8%	63.1%
Central	44.2%	15.4%	42.2%	53.4%
Northern	54.1%	24.4%	53.8%	55.4%

Source: IHS-2 Summary Results (2005)

Conflict and civil instability are rare in Malawi, but crime is rising and the associated insecurity is causing behavioural change that adversely affects livelihoods. One reason why people do not own livestock to the extent that they did in the past is fear of theft. Backyard granaries have disappeared from many rural communities, as people increasingly store their harvest indoors to protect it from thieves. A recent survey found that one in five households interviewed had crops stolen from their field or granary (19.4%), and one in seven had lost livestock to theft (14.7%) (Sharma and Yohannes 2005).

Malawians in both urban and rural communities complain that people help each other less than in the past, either because they are less able to help (due to poverty), or because they are less willing to help (due to social change, including increasing individualisation and commercialisation) (Devereux 1999). The erosion of 'traditional values' was highlighted by the breakdown of law and order during the 2001/02 food crisis, when people caught stealing maize were mutilated and even killed in unprecedented outbreaks of 'vigilante justice' (Devereux 2002). This suggests that social change is undermining social capital, which was previously an important source of informal social protection against risk and vulnerability.

3.3. CONCLUSIONS

This chapter has demonstrated that the poor and the vulnerable in Malawi are not two distinct categories. Those most vulnerable to shocks are the chronically poor, because poverty and vulnerability interact and reinforce each other in various 'poverty cycles' or 'vulnerability ratchets'.

Despite being the dominant livelihood activity for most Malawians, agriculture is a source of both chronic poverty and acute vulnerability. Limited productive assets (land, livestock, labour) and

constrained access to inputs (fertiliser, seeds) undermine the ability to cope with shocks such as erratic rainfall – which result in asset depletion and deepening poverty. Undiversified livelihoods and weak markets expose people to price fluctuations which cause further asset depletion, in the absence of alternative sources of income and limited savings or insurance mechanisms.

Poor health status and high rates of undernutrition are perpetuated from one generation to the next by persistent food insecurity and inadequate outreach and quality of health services. Negative interactions between ill-health and poverty are well documented, and are apparent from evidence of higher levels of malnutrition, food insecurity and monetary poverty in Southern Malawi than Northern Malawi. HIV/AIDS is a major vulnerability factor in both senses: raising the burden of illness and the costs of care in affected households, while also undermining household assets and income-earning capacity. The impacts of ill-health and poverty are significantly gendered, with women and female-headed households being more severely affected.

Finally, rising crime also impacts negatively on both poverty and vulnerability. Fear of theft partly explains why people now keep fewer livestock, and the breakdown of law and order during the food crisis of 2002 may be symptomatic of a longer-term erosion of community solidarity, either because of rising (perceived, relative or actual) poverty and inequality, or changing social values.

CHAPTER 4. VULNERABILITY IN THE MALAWI IHS-2 DATA

4.1. INTRODUCTION

Economists often view vulnerability as vulnerability to monetary poverty (Pritchett *et al.*, 2000, Chaudhuri *et al.*, 2001). Since a large proportion of the population is often "just above" the poverty line, this implies that many more people are vulnerable to poverty than are currently poor. The IHS-2 data can be used to ascertain whether this is also the case for Malawi.

Using the poverty line established by the Central Statistics Office and World Bank of MK 16,165 per person per year, the number of people with per capita expenditure below the poverty line (the poverty headcount) is estimated to be 52.4%. However, as shown in Table 4 below, if the poverty line was raised by 10%, the poverty headcount would rise to 58.4% while if it were to fall by 10%, poverty would fall to 45.5%. Thus approximately one-eight of the population is living within +/-10% of the poverty line. Similarly, if the poverty line were to be increased/decreased by 20%, the poverty headcount would rise/fall to 63.8% and 37.6%. So just over a quarter of the population is living within +/-20% of the poverty line.

Table 4. The poverty headcount with alternative poverty lines

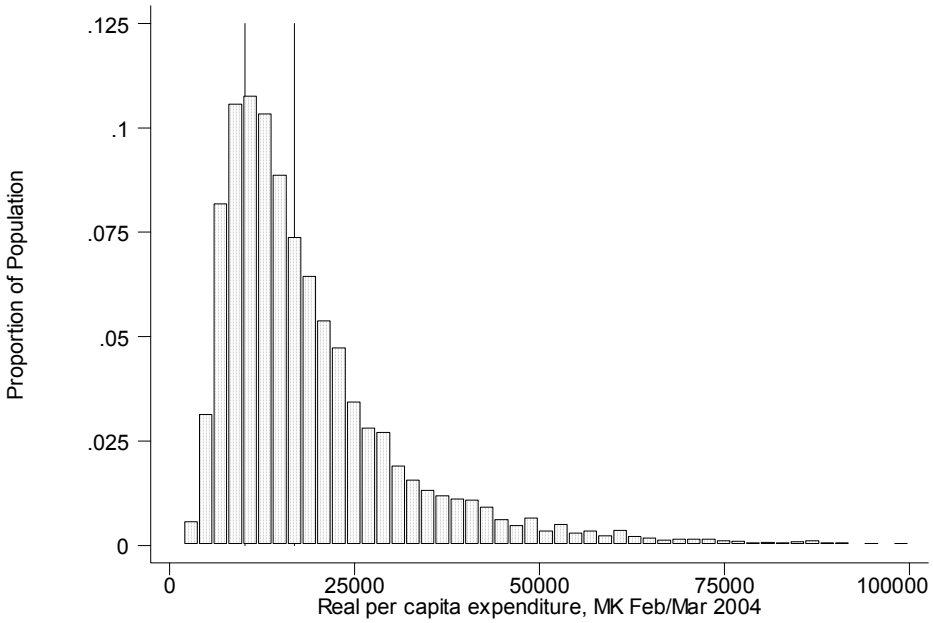
Poverty line	Estimate	Std. err.	Design effect
z–20	37.6%	1.0%	4.45
z–10	45.5%	1.0%	4.46
z	52.4%	1.0%	4.48
z+10	58.4%	1.0%	4.37
z+20	63.8%	0.9%	4.34

Source: IHS-2, ihs2_pov

Figure 15 provides a pictorial representation of why such vulnerability to monetary poverty occurs, using a histogram of expenditures. The bars in this figure show the proportion of the population that falls into each of 50 ranges, while the two vertical lines show the food (or ultra-) poverty line and (total) poverty line of the CSO-WB. As is common with Cost of Basic Need type poverty lines, the mode of the distribution is very close to the poverty line – in this case the ultra-poverty line.[1] Some 22.4% of the population have per capita expenditures below the ultra-poverty line, compared to 52.4% for the total poverty line (which also includes a modest allowance for non-food expenditures). The closeness of the poverty line to the mode of the expenditure distribution is both good and news. It is good news because it indicates that a relatively small increase in mean per capita expenditures will move large numbers of poor households over the poverty line. But it is also bad news, since it would only take a relative small reduction in expenditures for those currently just above the poverty line to fall back into poverty again.

[1] The ultra-poverty line established for IHS-2 is MK 10,020 per person per year.

Figure 15. Histogram of per capita expenditures with ultra- and total poverty lines



The next section uses the IHS-2 data to examine the type of shocks that might push non-poor individuals and households back into poverty, while the following section uses the IHS's current and retrospective asset data to estimate the changes in welfare that were due to such shocks.

4.2. SOURCES OF VULNERABILITY

The sources of vulnerability are multiple, and affect different types of households, and individuals living within them, differently. It is common to distinguish between two types of risk: household or person specific (idiosyncratic risk) and community-wide (covariant risk).[2] In addition, some shocks (which are realised risks/hazards) may recur on a regular basis. The extent to which realised risks (i.e., shocks) translate into vulnerability is a function of the shock and ability to cope.

The IHS-2 asks a number of questions about the frequency and effects of shocks, at both the household and community levels. Table 5 shows the percentage of households who were severely and negatively affected by different types of shocks over the past five years.

[2] See, for example, Binswanger and McIntyre (1987).

Table 5. Frequency of shocks at the household level

Type of shock	Yes	No
Large rise in price of food	77.0	23.0
Lower crop yields due to drought or floods	62.7	37.3
Illness or accident of household member	45.7	54.3
Death of other family member	40.6	59.4
Large fall in sales price for crops	38.0	62.0
Livestock died or were stolen	33.3	66.7
Crop disease or crop pests	23.8	76.2
Household business failure	21.9	78.1
Theft	19.3	80.7
Birth in the household	11.0	89.0
Dwelling damaged or destroyed	10.2	89.8
Break-up of the household	10.1	90.0
Loss of salaried employment or non-payment of salary	8.9	91.1
Death of working member of household	8.7	91.3
End of regular assistance, aid, or remittance	7.2	92.8
Death of household head	4.8	95.3
Other	1.4	98.6
Total	**23.8**	**76.2**

Source: IHS2, Module AB

Over three-quarters of all households stated they were affected by large rises in the price of food. Nearly two-thirds of households experienced lower crop yields due to drought or floods, while just under two-fifth (38%) experience large fall in the sales price for their crops. Just under a quarter of households experienced crop diseases or crop pests. As confirmed in Table 6, these shocks were covariant or community-wide as they impacted most or all households in the community.

Table 6. Impact of household-level shocks in Malawi

Type of shock	Who did the shock affect: (%)			
	Own HH only	Some other HHs too	Most HHs in com-munity	All HHs in com-munity
Large rise in price of food	3.2	9.1	41.4	46.3
Lower crop yields due to drought or floods	3.0	18.2	46.5	32.3
Rise in farm inputs prices	16.6	14.7	37.4	31.4
Crop disease or crop pests	7.9	35.1	37.1	19.9
Household business failed	80.0	10.3	4.7	5.1
Loss of salaried employment or non-payment of salary	73.2	19.0	5.2	2.6
End of regular assistance, aid, or remittances	67.6	19.1	10.8	2.5
Livestock died or were stolen	54.6	30.5	13.4	1.5
Illness or accident of household member	77.9	19.5	1.3	1.3
Theft	77.7	17.8	3.4	1.1
Death of working member of household	37.6	60.6	1.4	0.4
Dwelling damaged or destroyed	78.9	17.2	3.5	0.4
Death of household head	53.2	45.2	1.4	0.2
Break-up of the household	89.5	9.2	1.2	0.1
Birth in the household	93.8	5.7	0.5	0.0
Total	31.0	22.8	25.0	21.3

Source: IHS2, Module AB

In contrast, negative shocks such as illness, accidents and deaths of family members, the failure of household business, loss of wage employment, and theft tend to be idiosyncratic, in that they affect either only the household or a few other households too. Of these shocks, illness, accidents and deaths of family members are most common, affecting 40-45% of households. In only 9% of cases, however, is the death of a working household member involved. A third of households experienced the death or theft of livestock in the last 5 years, but the lack of covariance of these shocks suggests that epidemic livestock disease and cattle rustling are relatively rare. Just under a fifth of all households experienced some other type of types, while over one-fifth experienced a business failure.

Other types of 'shocks', such as the birth of a child, destruction of housing, break-up of the household, and loss of regular assistance, affected around 10% of households. It is important to note that some of these events, such as the birth of a child or death of the household head, may not strictly be 'shocks' as they may be anticipated.

The IHS-2 community questionnaire also asked focus groups (of at least five people each) about their community's experience of shocks over the last five years. Allowing for some differences in coding, a similar ranking of shocks is revealed in Table 7. Sharp increases in prices (whether of inputs or food) affected 25% of communities, followed by drought. Furthermore, drought is shown to occur more frequently (22%) than floods (5%). Human epidemic diseases and loss of key social services affected 13% and 7% of communities respectively. Where these figures differ from the shocks module in the household questionnaire is that a much lower percentage of communities than households say they experienced shocks, though with relatively higher percentages of the population affected. This suggests that a more stringent criteria for identifying shocks may have been applied by the focus groups than by households.

Table 7. Frequency and impact of community-wide shocks

Type of shock	Number of communities	Percent of communities	Percent of population affected
Sharp increase in prices	451	25.0	94.2
Drought	392	21.7	92.5
Other negative shock	358	19.8	81.6
Human epidemic disease	238	13.2	60.9
Loss of key social services	124	6.9	83.2
Flood	85	4.7	75.4
Mass job lay-offs	78	4.3	57.8
Livestock disease	43	2.4	69.5
Crop disease/pests	38	2.1	85.1
Total	**1,807**	**100.0**	

Source: IHS2, Community Questionnaire

IHS-2 households stated that responses to the occurrence of a shock are fairly uniform. 35% of households stated that they "did not do anything" in response to the shocks, 20% worked more, 11% spent their cash savings, 9% reduced their food consumption and 6% sold livestock. Other less common responses to shocks included consuming less preferred but cheaper foods, borrowing money from relatives or moneylenders, reducing non-food expenditures, and prayer.

4.3. ESTIMATING CHANGES IN WELFARE OVER TIME

Analysing vulnerability using the IHS data is problematic as the IHS-1 and IHS-2 do not track the same households over time (i.e., they do not have a panel component). Furthermore, there is a lack of comparability in some of questions included in the IHS-1 and IHS-2 questionnaires (especially the expenditure module). Fortunately, the IHS-2 included a number of questions that

asked about changes in household circumstances in the recent past, which allows changes in welfare for the same households to be estimated.

In this section, we use the information on durable asset ownership to construct a welfare index for both 2004 and 2005. After showing that the 2005 asset index is well correlated with real household expenditures in that year, we use the asset index to assess changes in household welfare over the last year.

To construct the asset index, we followed the approach used the Demographic and Health Surveys (Rutstein and Johnson, 2004), which is itself modelled on Filmer and Pritchett's (1998) work in India. The DHS uses 13 to 15 variables on ownership of durable assets, vehicles, land and housing to construct its wealth index. Unfortunately, the IHS-2 does not contain retrospective information on housing or land ownership, so we are restricted to the variables on durable assets (which includes vehicles). Unlike the DHS, however, the IHS-2 did collect information on the ownership of 19 types of the durable assets in both 2004/05 and during the preceding five years.

For each of these variables, we first created indicator variables for each of the durable assets in Module M of the IHS-2, for which we have information in both 2004/05 and during the preceding five years. Examination of the recall questions on asset ownership shows that it becomes relatively unreliable after one or two years have elapsed, so we restrict our attention to the changes in asset ownership over the last year.[3] As shown in Table 8, mean levels of asset ownership are very similar – and in some case identical – across the two years.

Table 8. Changes in ownership of durable assets

Type of durable asset	Level of ownership (% of households)		Weight
	2004/05	2003/04	
Mortar/ pestle (*mtondo*)	48.8	48.7	0.040
Bed	30.1	29.9	0.150
Table	34.3	34.2	0.141
Chair	43.0	42.7	0.130
Fan	2.3	2.3	0.188
Air conditioner	0.2	0.3	-
Radio (wireless)	54.5	54.1	0.045
Tape or CD player, HiFi	15.9	15.8	0.146
Television & VCR	3.7	3.7	0.197
Sewing machine	2.8	2.8	0.091
Kerosene/paraffin stove	2.2	2.2	0.104
Electric or gas stove	2.5	2.4	0.182
Refrigerator	2.0	1.9	0.195
Washing machine	0.2	0.2	-
Bicycle	36.1	36.1	0.058
Motorcycle/ scooter	0.4	0.4	-
Car	1.3	1.3	0.141
Mini-bus	0.2	0.2	-
Lorry	0.2	0.2	-

Source: Based on IHS-2, Module M

For each of these durable assets, we first created indicator variables from Module M in the IHS-2, showing whether the household owned one or more of the asset in both 2004/05 and 2003/04. Five types of assets (air conditioners, washing machines, motorcycles, mini-buses and lorries) were owned by less than 1% of all households, and so were excluded from the subsequent analysis. The data on the remaining 14 durable assets ownership for the two years was pooled,

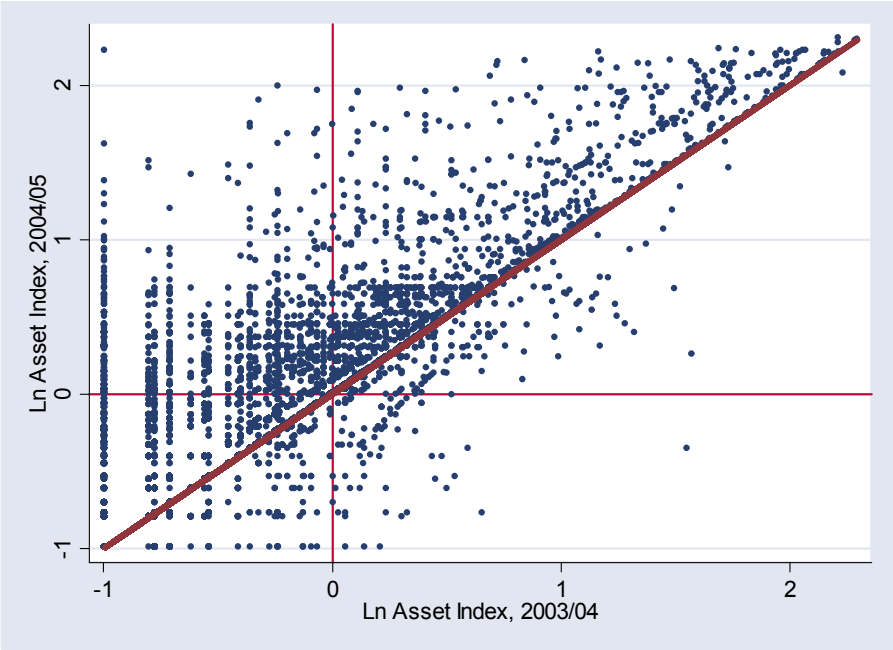
[3] This is also the same period over which subjective changes in household well-being was assessed in IHS-2.

and principal components analysis applied was used to estimate an index that explains the variance in asset holdings. The first three principal components explain almost half (48.7%), and the first principal component just over a quarter (26.2%), of the total variation in asset holdings.

Accordingly, we constructed a durable asset index using the first principal component as the weights, as shown in column 4 of Table 8. Multiplying the indicators variables for each household and durable asset by these weights and scaling produces an asset index with a mean close to zero and a standard deviation of one. The asset index has a correlation of 0.747 with real household expenditures for 2005/04, and a similarly (left) skewed distribution.

Figure 16 shows how the asset index in 2004/05 compared to that in 2003/04 for all households in the IHS-2. Households whose welfare (as proxied by the asset index) had improved would lie above the diagonal line in Figure 16. Conversely, households whose welfare had deteriorated between 2003/04 and 2004/05 would lie below the diagonal. Of the 11,280 households in the IHS-2, 5,229 have asset indices which improved between the two years, while 607 households had asset indices which deteriorated. The remaining 5,444 households had the same asset index in both years.

Figure 16. Scatter plot of the asset index in 2003/04 and 2004/05



To examine the determinants of changes in the durable asset index, we regressed the (absolute) change in the asset index between 2003/04 and 2004/05 on a number of (time-invariant) household characteristics plus five types of shocks. Household characteristics included as regressors were the age, sex, marital status and educational level of the household head, the amount of land cultivated by the household, whether the household operated a household enterprise and housing and toilet type. A dummy variable indicating whether or not the household had a mains electricity connection was also included as a proxy for urbanisation.[4] Community-level variables included the distance of the community to the nearest tarmac road, school or market. Shock variables included dummies for whether the household had experienced crop failure of crop diseases, whether there had been large falls in the sales price for its crops or the prices paid for food, whether any household member had experienced illness, whether a household member had died, and whether there had been any instances of theft. All these shocks relate to changes within the last year.

[4] The urbanisation variable included in IHS-2 is problematic, as many households classified as urban actually live outside the urban centres and engage in agriculture as their primary occupation.

Since better-off households will be better able to draw down assets in order to pay for unexpected expenditures or smooth consumption, all these shock variables were interacted with the initial value of the durable asset index. After allowing for the stratification and clustering of the survey, and using household level sampling weights, the regression results in Table 9 were produced.

Table 9. Determinants of changes in the durable asset index

Survey linear regression

Number of obs	= 11026
Number of strata	= 30
Number of PSUs	= 447
Population size	= 2638528
F(37, 381)	= 30.31
Prob > F	= 0.0000
R-squared	= 0.2987

Dep = change in asset index	**Coef.**	**Std. Err.**	**t**	**P>|t|**
Household Characteristics				
age head of household	-0.0071	0.0013	-5.39	0.000
age head squared	0.0000	0.0000	4.17	0.000
sex of head	-0.0370	0.0170	-2.18	0.030
Marital Status of Head				
polygamous marriage	-0.0250	0.0111	-2.25	0.025
separated	-0.0309	0.0184	-1.68	0.093
divorced	-0.0465	0.0170	-2.72	0.007
widowed	-0.0324	0.0231	-1.4	0.163
never married	-0.0097	0.0352	-0.27	0.784
Matrilineal	-0.0630	0.0096	-6.54	0.000
Education of Household Head				
PSLC	-0.0038	0.0151	-0.25	0.803
JCE	0.0717	0.0257	2.79	0.006
MSCE	0.2403	0.0714	3.36	0.001
Diploma Degree	0.5306	0.1302	4.08	0.000
Land Cultivated by Household				
< 1 ha	-0.0158	0.0341	-0.46	0.643
1 to 2 ha	-0.0394	0.0234	-1.68	0.094
2 to 5 ha	-0.0218	0.0221	-0.99	0.324
5 to 10 ha	-0.0114	0.0217	-0.53	0.600
10 to 20 ha	0.0128	0.0228	0.56	0.575
over 20 ha	0.0604	0.0397	1.52	0.129
Household Enterprise	0.0452	0.0100	4.52	0.000
Housing				
permanent dwelling	0.0939	0.0209	4.49	0.000
semi-permanent dwelling	0.0715	0.0117	6.1	0.000
latrine	0.2924	0.0967	3.02	0.003
flush toilet	0.0227	0.0065	3.48	0.001
electricity	0.7769	0.0619	12.56	0.000
Community Characteristics				
ln distance to road	-0.0059	0.0031	-1.94	0.054
ln distance to market	-0.0081	0.0042	-1.94	0.053
Shocks				
crop failure	-0.0038	0.0183	-0.2	0.838
crop failure x asset index	0.0060	0.0354	0.17	0.866
price shock	-0.0600	0.0215	-2.79	0.006

price shock x asset index	-0.1779	0.0680	-2.62	0.009
illness	0.0203	0.0239	0.85	0.395
illness x asset index	0.0105	0.0572	0.18	0.855
death of hh member	-0.0061	0.0195	-0.31	0.757
death x asset index	-0.0271	0.0398	-0.68	0.497
theft	0.0078	0.0102	0.77	0.442
theft x asset index	-0.0754	0.0216	-3.48	0.001
constant	0.3883	0.0402	9.65	0.000

The regression results generally conform to expectations. After controlling for other factors, households with young, female, or divorced heads are associated with decreases in the asset index. If decreases in the asset index are associated with lower expenditures, as the high correlation between the asset index and expenditures reported above indicates, this suggests that households with young, female or divorced heads are more vulnerable. Polygamous marriages and coming from a language group with a matrilineal inheritance tradition are also associated with dis-accumulation of durable assets and lower material well-being. In contrast, households whose heads have completed the junior certificate of education, high school or college/university are in a position to accumulate assets, as are household who operate a household enterprise or cultivate more than 20 ha of land. This confirms the usual argument that ownership of human or physical assets is a key buffer guarding against vulnerability. Living in a permanent or semi-permanent house or one with a flush toilet or latrine is also associated with increases in the asset index. Having a mains electricity connection, which as explained above can be interpreted as a proxy for urbanisation, is also strongly associated with rising asset levels. Turning to the community-level variables, distance from either a tarmac road or primary school is associated with decreases in the asset index, suggesting that remoteness plays a key role in vulnerability.

Most of the shock variables have the expected negative sign, indicating that shocks in the past year are associated with decreases in the durable asset index. However, with the exception of price shocks, their coefficients are not statistically significant at the 5% level. The negative and statistically significant terms on the price shock and theft dummies interacted with the asset index in 2003/04 suggests that richer households are more vulnerable to changes in prices and theft. We hypothesise that this is due to richer households being more dependent on the market for their livelihoods, or being more prone to be targeted by robbers.

4.4. CONCLUSIONS

This chapter has examined vulnerability to monetary poverty using data from the 2004/05 Malawi Integrated Household Survey. The main findings from this analysis are that:

- Vulnerability to monetary poverty in Malawi is high: a quarter of people have expenditure within +/- 20% of the NSO's expenditure poverty line.
- Covariant shocks are widespread: over three-quarters of IHS-2 households stated that they had been negatively affected by the rising price of food over the past five years, while nearly two-third had experienced lower crop yields due to drought or floods. Idiosyncratic shocks, in particular illness, accidents and the death of family members, are rarer but still common, affecting around two-fifths of IHS-2 households.
- Changes in the durable asset index suggest that the living standards of the vast majority of households have improved (46.3%) or static (48.3%) between 2003/04 and 2004/05. However, a significant minority (5.4%) of households had deteriorating asset indices.
- After controlling for other factors, households living in remote areas or with young, female or divorced head, polygamous marriages and matrilineal inheritance traditions, are found to be most likely to have deteriorating asset indices. In contrast, living in an urban area, completing higher or secondary education, cultivating more than 20 hectares of land, or operating a household enterprise are all characteristics that are associated with an improvement in the asset index over the last year.

CHAPTER 5. SUBJECTIVE POVERTY AND SOCIAL EXCLUSION IN MALAWI: AN ANALYSIS USING IHS-2 DATA

5.1. INTRODUCTION

The proliferation of recent poverty analyses, both conceptual and empirical, confirms the need to utilise measurements of poverty that are broader than income or occupation (see, for instance, Ravallion and Bidani, 1994; Ravallion, 1996; Ravallion and Lokshin, 1999). Subjective poverty measurements – those that rely on relative measurements or self-reported poverty – are becoming widely used as they are able to capture more fully the social and political aspects of poverty. Of course, they are sensitive to personality, relative positioning and aspirations, however we believe that understandings of the determinants of subjective poverty and vulnerability complement monetary measurements of poverty, rather than substituting for them, and together provide a much richer and more comprehensive understanding of poverty and vulnerability. For this reason we focus here on analysing subjective poverty measurements, comparing them to monetary measures. We then move on to investigate why the two measures may yield different results. This is followed by an exploration of the relative vulnerability of different traditionally-labelled vulnerable groups (such as orphans, female-headed households, minority language groups, widows), in an attempt to understand the extent of exclusion in Malawi.

5.2. DATA AND DATA LIMITATIONS

The IHS-2 dataset includes a special section on subjective wellbeing and changes in wellbeing over the past year. This provides the basis for our analysis here. We construct two variables from this module that we use as dependent variables. The first variable is constructed from the following question: “In terms of your household economic wellbeing, are you better off, the same as, or worse off than this same time a year ago?” The respondent had to choose one of five categories (much better, better, no change, worse off, much worse off). We grouped these into three categories: ‘better’, ‘no change’ and ‘worse’. Thus we have a three-category variable indicating changes in wellbeing over the last year.

The second variable is a subjective poverty measurement. Respondents were asked to imagine six steps, the bottom step representing the poorest people and the top step representing the richest people. Each respondent indicated which step they were on when interviewed. Again we collapse these steps into two categories (poor and non-poor) so that we can compare subjective poverty indicators with the expenditure-based indicator. After examining the data and frequencies of households falling into each poverty category we decided to label the two bottom steps as ‘poor’ (n=9,399) and the top four steps as ‘non-poor’ (n=1,864). This classification could be disaggregated further.

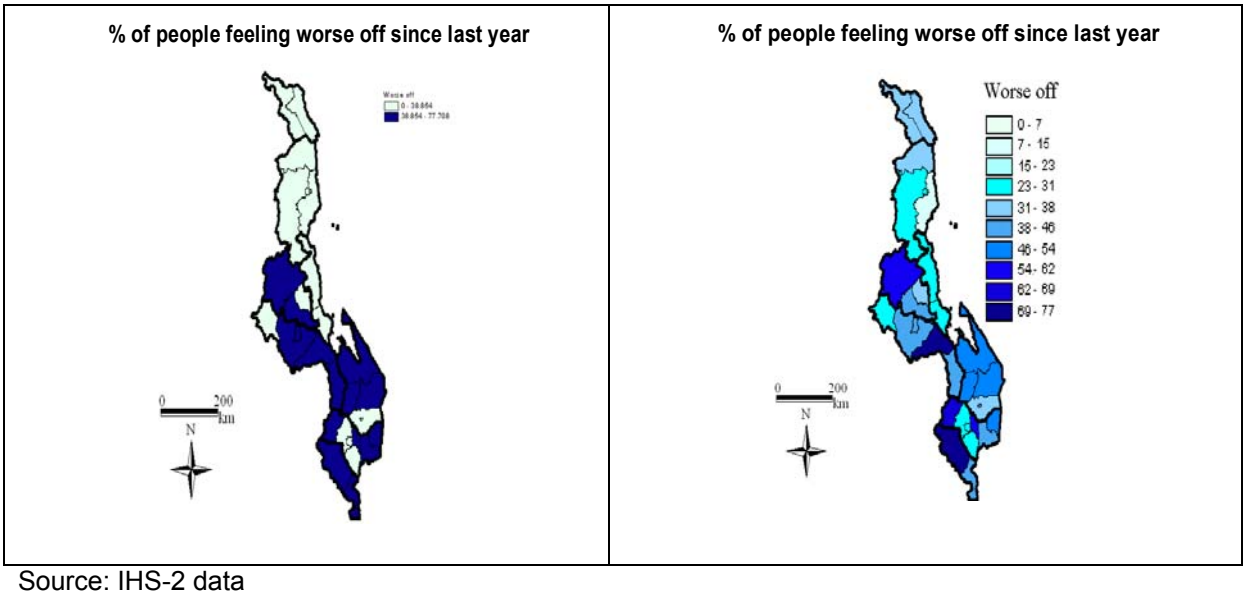
Other variables utilised below that require brief explanations are shock variables, change variables, an asset index, language groupings and tenurial types. The IHS-2 survey contains a comprehensive module on the type of shocks experienced by households over the past 5 years. We have collapsed these shocks into five categories: price shocks, crop failure, illness, death of a household member, and theft. We also restrict our analysis of shocks to those experienced in the last year, as some of our other variables are based on the last year and this will allow for comparability. The asset index is constructed using principal components analysis and according to the methodology detailed earlier in Chapter 4 of this report. We include a change in the asset index, which involved subtracting the log of the asset index in 2005 from the log of the asset index in 2004. Thus the variable measures the ratio of the asset index across years. Other change variables include household perceptions of changing levels of crime in the last year. Based on knowledge of Malawi, we construct two variables that may provide evidence of social exclusion. The first variable uses the main language spoken by the household head to construct three language groupings – from the dominant languages to the minority languages. These are

taken as a proxy for majority, middle and minority population groups (see Annex Tables for a list of these language groupings). The second variable is constructed according to whether the property tenure system is matrilineal, patrilineal or mixed. (Again, the districts corresponding to these types are presented in the Annex Tables.)

5.3. CHANGES IN WELLBEING

For those households who feel that they have become worse off over the last year, we mapped the distribution on a map of Malawi (see Figure 17a). What is obvious at first glance is that the majority of those households feeling worse off are located in the south and centre of the country. Disaggregating further (Figure 17b), the picture is much more nuanced, with the majority of those feeling worse off in the south, but coexisting with pockets of households who feel better off this year than last year. This finding is consistent with findings presented in earlier chapters, of a broad 'north-to-south gradient' in wellbeing indictors, but with certain districts in the Central and Southern Regions being better off than neighbouring districts.

Figure 17. Self-reported declines in well-being in Malawi



Source: IHS-2 data

5.3.1. Factors associated with changes in wellbeing

Apart from those geographic and historical factors discussed above, it is also interesting to look at the determinants of changes in wellbeing at a household level. To do this we run a multinomial logit regression with a three-category dependent variable that indicates changes in wellbeing over the last year. After allowing for the stratification and clustering of the survey, and using household level sampling weights, the regression results in Table 10 and Table 11 were produced.

Table 10 presents the results of a regression that uses only information on changes and shocks over the past year as determinants of changes in wellbeing. Households experiencing 1 or 2 shocks last year are 17% more likely to feel worse off than those households that experienced no shocks. Households that experienced 3 or more shocks are 29% more likely to feel worse off. An increase in crime over the last year is also a significant determinant of feeling worse off. An increase in durable assets over the last year implies that households are 13% less likely to consider themselves worse off. In terms of the shock variables, crop failure is positively and significantly related to declines in wellbeing as compared to the death of a household member (in other words, crop failure is seen as more damaging to wellbeing than the death of a household member), whereas theft is not considered as serious as the shock from the death of a family member. Hospitalisation of a household member in the last year is also significant and positively related to a decline in wellbeing.

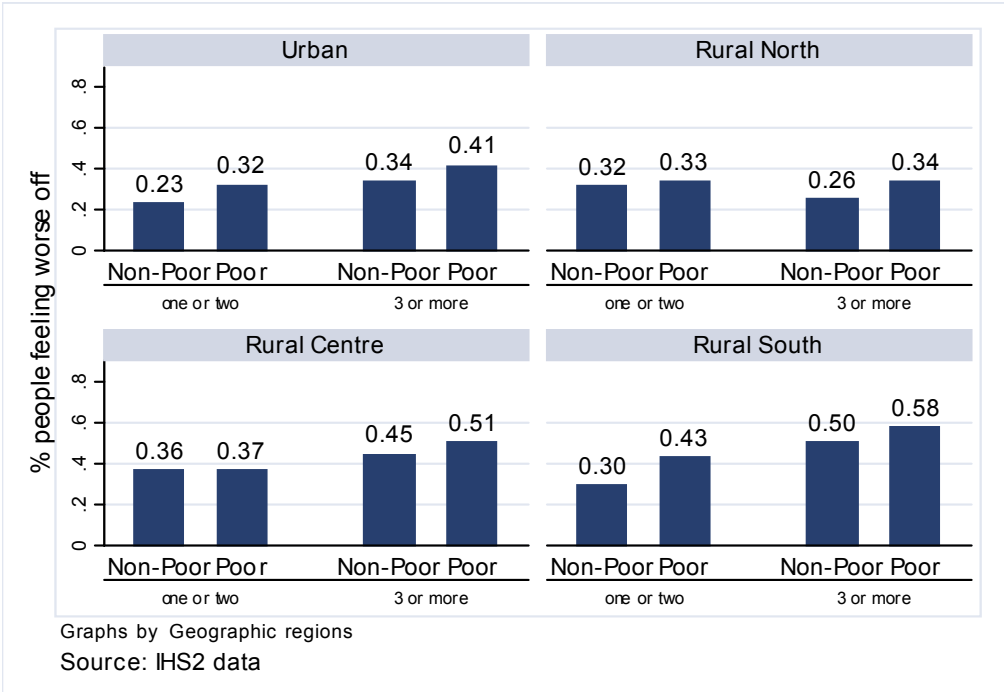
Table 10. Multinomial logit model for estimating perceptions in change in wellbeing over the last year

Shock variables	Worse off			Same		
	Beta	Std. Err.	Marginal effects	Beta	Std. Err.	Marginal effects
No shock						
1-2 shocks	**1.038**	**0.188**	0.170	**0.587**	**0.161**	-0.028
>2 shocks	**1.593**	**0.193**	0.296	**0.528**	**0.167**	-0.075
Crime has decreased						
Crime is the same	-0.027	0.078	-0.066	0.424	0.078	0.097
Crime has increased	**0.146**	**0.079**	0.027	0.065	0.084	-0.006
Change in durable assets	**-0.989**	**0.102**	-0.136	**-0.780**	**0.095**	-0.033
Death of household member						
Crop or food price shock	-0.214	0.125	-0.010	**-0.334**	**0.124**	-0.042
Crop failure	**0.439**	**0.111**	0.100	0.066	0.127	-0.048
Illness	-0.150	0.101	-0.019	-0.131	0.116	-0.008
Theft	**-0.315**	**0.114**	-0.023	**-0.437**	**0.141**	-0.051
No hospitalisation						
Hospitalisation	**0.456**	**0.178**	0.053	**0.404**	**0.189**	0.020
_cons	-0.722	0.196		-0.277	0.165	

Note: This model is based only on changes and shocks experienced last year.

Unpacking the above effects in terms of poverty status and gender reveals that poor people who experience shocks are more likely to experience a decline in wellbeing than non-poor people who experience the same number of shocks. In other words, the impacts of shocks are exacerbated by poverty Figure 18 illustrates this graphically and by area.

Figure 18. Are shocks felt equally by the poor and the non-poor?



Graphs by Geographic regions

Source: IHS2 data

As well as exploring 'pure change' factors that may have occurred over the last year causing a change in wellbeing, it is also important to examine whether time-invariant characteristics of households (such as sex of household head, ethnic or language group, location) as well as asset variables, explain declines in wellbeing. The results indicate that real per capita expenditure is negatively and significantly related to declines in wellbeing. That is, the more income a household

has the less likely it is to experience a decline in wellbeing, even if it is exposed to similar shocks as poor households. Female-headed households and households with older heads are more likely than other households to have experienced a decline in wellbeing. The minority language groups experienced a decline in wellbeing. Whether a household participated in *ganyu* last year is highly significant and positively related to declines in wellbeing. This makes sense as *ganyu* is seen largely as a poor person's coping mechanism in difficult times. Thus, increasing *ganyu* should be indicative of a worsening situation. As expected, households in the rural south are more likely to have experienced a decline in wellbeing over the previous year, compared to households in urban areas.

Table 11. Multinomial logit including change variables plus time-invariant characteristics

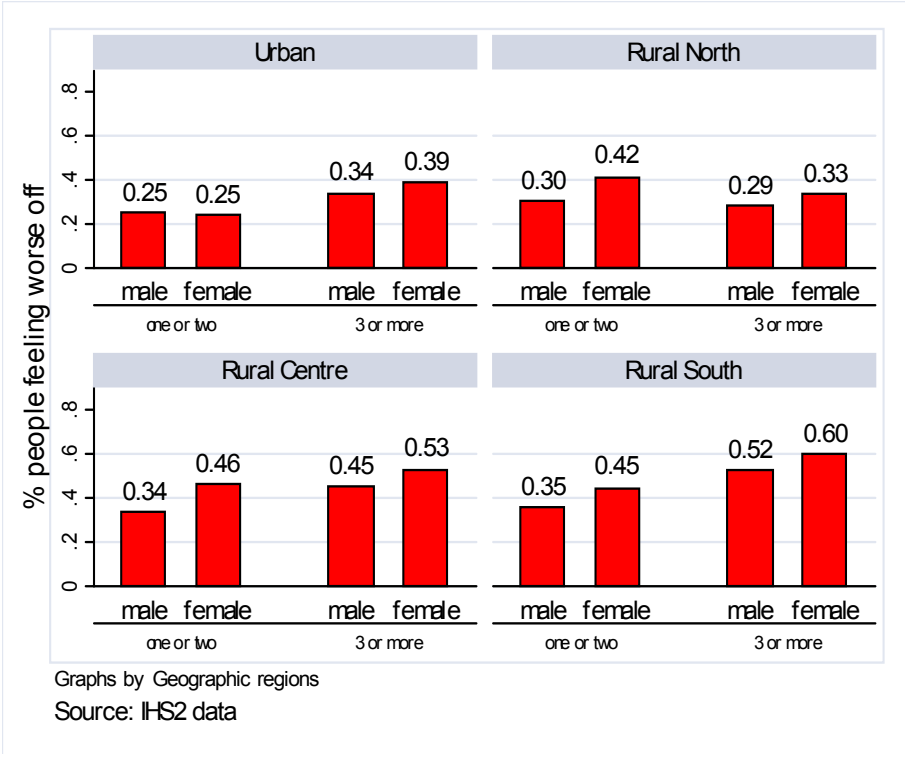
Variables	Worse off		Same	
	Beta	S.E	Beta	S.E.
Shock Variables				
One or two shocks	**0.933**	**0.192**	**0.472**	**0.166**
Three or more shocks	**1.280**	**0.201**	**0.316**	**0.164**
Crime is the same	-0.019	0.082	**0.378**	**0.080**
Crime has increased	**0.238**	**0.080**	0.137	0.084
Change in asset index	**-0.440**	**0.107**	**-0.338**	**0.100**
Price shock	-0.064	0.131	**-0.269**	**0.127**
Crop failure shocks	0.180	0.116	-0.120	0.130
Illness shock	-0.132	0.108	-0.145	0.121
Theft	-0.122	0.122	-0.262	0.146
Hospitalised in last 12 months	**0.398**	**0.184**	0.345	0.197
Household and demographic variables				
Per cap Expenditure	**-0.537**	**0.074**	**-0.656**	**0.073**
Log Household size	-0.129	0.087	**-0.357**	**0.089**
Dependency Ratio	-0.230	0.132	**-0.299**	**0.140**
Sex of household head	**0.349**	**0.129**	**0.510**	**0.136**
Age of household head	**0.016**	**0.002**	**0.016**	**0.002**
Monogamous	-0.247	0.166	0.164	0.186
Polygamous	-0.243	0.182	-0.062	0.199
Never married	-0.151	0.156	0.131	0.161
Widow(er)	0.135	0.231	-0.176	0.242
PSLC	-0.007	0.100	-0.068	0.100
JCE	**-0.246**	**0.121**	0.002	0.113
MSCE or Diploma	-0.213	0.165	-0.089	0.139
Exclusion and access variables				
One or more household members has a disability	0.134	0.100	-0.046	0.111
Majority language group	-0.400	0.259	**-0.646**	**0.216**
Northern	**-0.528**	**0.211**	-0.131	0.199
Patrilineal	**0.977**	**0.172**	**0.766**	**0.169**
Mixed system	**1.216**	**0.158**	**0.412**	**0.170**
Road	0.096	0.117	0.106	0.117
Community access to a primary school	-0.145	0.092	-0.113	0.099
Asset variables				
Had wage employment last year	-0.012	0.084	**0.206**	**0.084**
Engaged in *ganyu* last year	**0.527**	**0.072**	**0.392**	**0.081**
Log of land area	-0.077	0.056	-0.100	0.064
Owns an enterprise	**-0.222**	**0.066**	**-0.165**	**0.073**

Permanent dwelling	**-0.349**	**0.113**	**-0.275**	**0.111**
Semi-permanent	**-0.440**	**0.096**	-0.144	0.083
Location				
Rural North	-0.263	0.245	**-0.836**	**0.216**
Rural Centre	0.147	0.151	0.137669	0.165551
Rural South	**1.159**	**0.170**	0.24692	0.193859
_cons	3.737	0.960	6.312482	0.911196

5.3.2. Changes in wellbeing by gender of household head

Figure 19Figure 19 indicates that female-headed households are more likely to experience a decline in wellbeing as a result of shocks compared to male headed households. There are a host of possible reasons for this. Female-headed households may have fewer assets, less education, less labour and less social and political capital than male-headed households, leaving them in a much more vulnerable situation than their male counterparts. In the event of a shock, female-headed households may be less resilient. We explore these possible explanations below.

Figure 19. Shocks affect female-headed-households more than male-headed-households

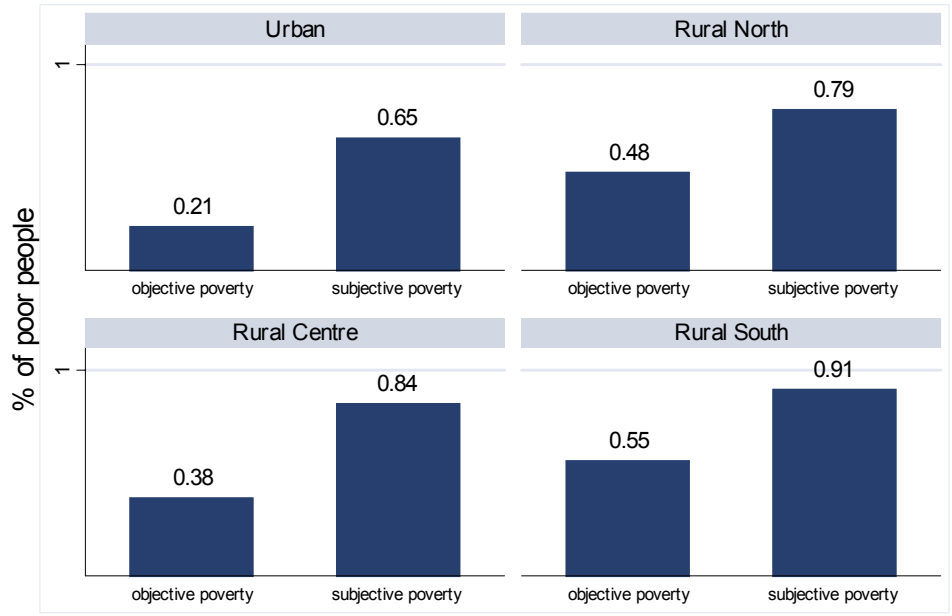


5.4. COMPARING SUBJECTIVE AND MONETARY POVERTY MEASUREMENTS

It is now widely accepted that poverty is a multi-dimensional phenomenon, comprising more than just adequate income and consumption needs, but also including feelings of relative deprivation, vulnerability, social exclusion and lack of access to basic needs. Given this, it is very likely, even expected, that determinants of monetary poverty will be different to determinants of subjective poverty. Monetary poverty measurements quantify income or basic expenditure requirements of a household or individual. Subjective measures are likely to extend well beyond this, as they will include a household's feelings of relative deprivation, exclusion from services and institutions, as well as feelings of marginalisation related to household or individual status (such as ethnicity, or marital status). Figure 20 illustrates the percentage of households classified as poor according to monetary and subjective poverty measurements (see the description earlier for the way in which the subjective poverty variable was created). The proportion of Malawians classified as poor is very different depending on which measurement of poverty is used. A subjective poverty measure

produces a much higher incidence of poverty. For instance, in the rural south 55% of households are poor by the monetary measure (16,165 MK), whereas 91% report that they feel poor. This large difference indicates that the different measures reflect different dimensions of poverty.

Figure 20. A comparison of monetary and subjective poverty in Malawi, by Region



Source: IHS2 data

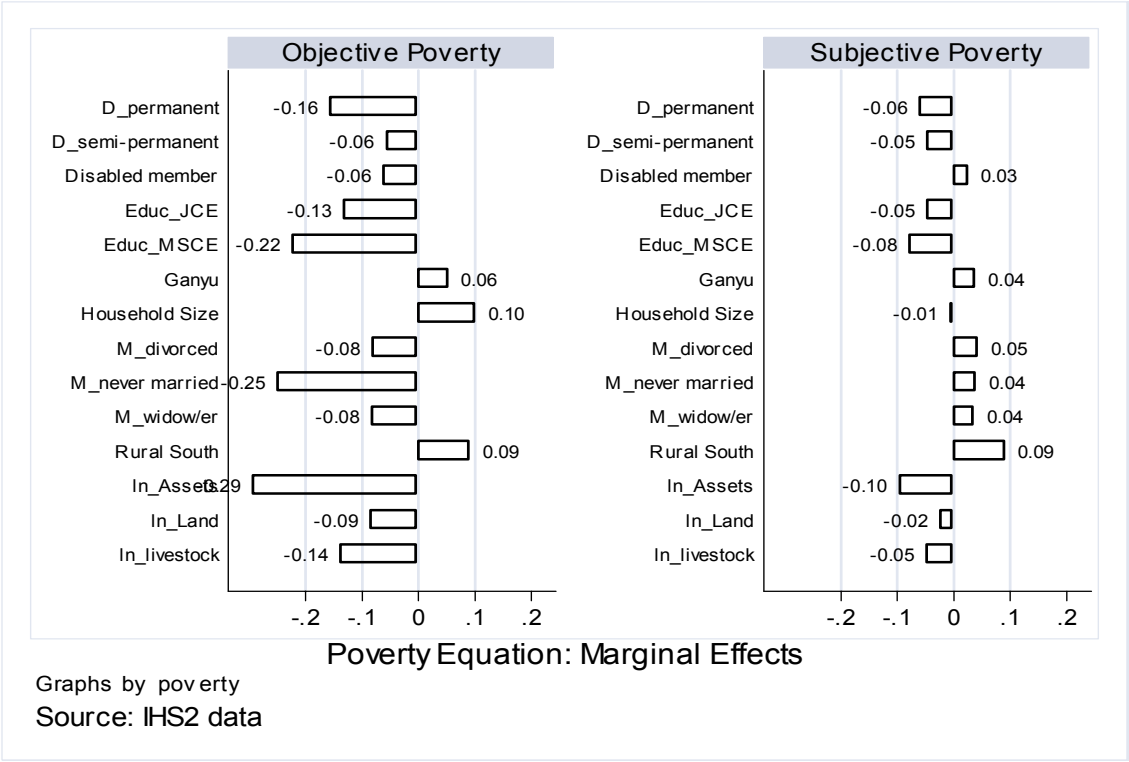
Below we use the IHS-2 dataset to explore the differences in monetary and subjective poverty measures, as a way of gaining some insight into determinants of subjective poverty in Malawi. Two probit models were run, using the same explanatory variables.[5] The first model uses the monetary poverty line to classify households as poor or non-poor. The second model uses self-reported poverty status. A full set of results for both regressions is presented as an Annex Table. Figure 21 and Figure 22 report the marginal effects for selected findings that are of interest to this report. Figure 21 shows the correlates of poverty that are significant in both the monetary and subjective poverty equations. As expected, we find that a range of variables predicts both types of poverty, and in the same way. These include, land cultivated, amount of livestock owned, the level of durable assets owned, the amount of *ganyu* performed, type of dwelling and region that a household is located. Specifically, Figure 22 shows that households living in permanent and semi-permanent dwelling structures are less likely to be monetarily poor and to feel poor than households living in traditional dwelling structures. Similarly, households with heads who have obtained junior certificate or secondary certificates of education are less likely to be poor and feel poor compared to those with no schooling. In the rural south, households are 9% more likely to be poor and feel poor than those in urban areas. The higher the *ganyu* labour, the more likely that a household will be monetarily and subjectively poor. With some variables there is a substantial difference in the strength of the relationship with poverty across the regressions. For instance, households with more livestock units are 14% less likely to be monetarily poor but only 5% less likely to feel poor.

What is particularly interesting about the results presented in Figure 21 is the nature of the divergence between the impact of the explanatory variables on the dependent (the same is true for Figure 22). We see that households with disabled members are 6% less likely to be monetarily poor but 3% more likely to be subjectively poor. Similarly, the bigger the household size the more

[5] The subjective poverty regression includes one extra variable (log of real per capita expenditure). This could not be included in the monetary regression as the dependent variable (poverty) is constructed using this expenditure.

likely the household will be monetarily poor but the less likely it will feel poor. There is a clear opposite trend in the results for marital status. Divorced heads, heads who have never married and widows or widowers are less likely to be monetarily poor but more likely to feel poor. These results give some insights into what may be driving the difference between alternative poverty measurements. Larger households may provide intangible benefits, such as a sense of belonging, support and care, that feed into peoples' sense of wellbeing. Thus, even though on average larger households have less income, individuals do not associate households size with poverty. In fact large families may be positively associated with wellbeing. It also appears that a person's marital status will affect their sense of wellbeing in a negative way. This is likely to be related to socio-cultural norms around marriage, with widows, divorcees and people who have never married feeling more socially vulnerable than people who are married. The same rationale applies to households with members who have disabilities. While they are less likely to be financially poor, these households feel that the disability negatively affects their wellbeing.

Figure 21. Correlates of poverty that are significant in monetary and subjective measurements

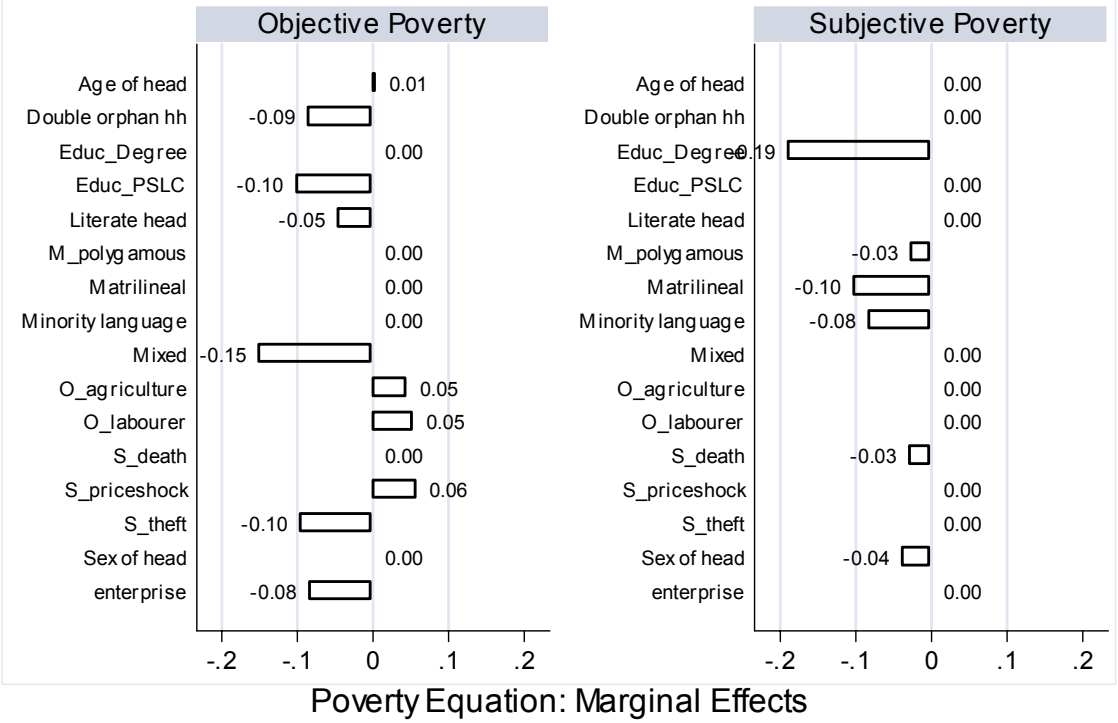


Key: D_permanent: a permanent dwelling
D_semi-permanent: a semi-permanent dwelling
Disabled member (the household has one or more members with a disability)
Educ_JCE (Junior Certificate of Education)
Educ_MSCE (Malawi Secondary Certificate of Education)
Ganyu (days of *ganyu* labour obtained last year)
Ln_asset (log of asset index)
Ln_land (log of land size)
Ln_livestock (log of tropical livestock units)

Figure 22 presents results from the same regressions, however these results indicate where different factors are significantly associated with one poverty measure but not with another. Household heads with a diploma/degree are less likely to feel poor, but there is no difference in their objective poverty status compared to household heads with no education. Other significant factors explaining subjective poverty are polygamy, tenurial type, language group, nature of shocks and female headship. Female household heads report feeling less poor than male heads. Polygamous households are less likely to feel poor compared to monogamous households, as are matrilineal households compared to patrilineal groups. Households from minority language

groups feel less poor. Households with double-orphans are 9% less likely to be monetarily poor than households with no orphans (perhaps this is because of the various social protection mechanisms they are able to access), however, it appears that households with orphans do not feel poorer than other households.

Figure 22. Differences in correlates of poverty according to poverty measurement



Source: IHS2 data

The above analysis has drawn attention to the diversity of factors that constitute 'poverty' in Malawi. A monetary measure of poverty alone, and the analysis and policy focus that typically emerges from this, would not adequately or fairly represent the extent and complexity of household poverty and vulnerability. Recognising the social and cultural underpinnings of poverty, as well as the obvious financial and asset-based determinants, helps us to move some way to tackling the causes of poverty and vulnerability in a more comprehensive and meaningful way.

The following section provides a descriptive analysis of a number of groups that much of the current literature on Malawi labels as vulnerable, and attempts to establish whether there is some evidence to support these claims.

5.5. SOCIAL UNDERSTANDINGS OF POVERTY: VULNERABLE GROUPS[6]

A review of recent literature on poverty and vulnerability in Malawi often reports on vulnerability in terms of vulnerable groups. These include orphans and vulnerable children, female-headed households, people with disabilities and people living with HIV/Aids. This section investigates the relationship between different vulnerable group indicators and poverty. We also use other groupings, based on language and tenurial systems, to investigate whether there is any statistical evidence that suggests that certain groups are poorer and more vulnerable than others.

[6] See also chapter 7 of the PVA for complementary analysis.

5.5.1. Do poor households have more orphans?

There are 1,040,000s OVCs in Malawi, which accounts for 14% of all children in Malawi (2004).[7] By 2010, the expected figure of OVC will be 1,150,000, of which 50% will be due to HIV/AIDS. The Malawi National Action Plan for Orphans and Vulnerable Children covers the period 2004-2009. The emphasis of the Plan is to provide care, support, protection and development for OVC through the family and community. One initiative planned is a cash transfer to carers and families of OVCs, specifically involving direct assistance to destitute families caring for OVCs. This type of programme will require well designed targeting mechanisms. The assumption underlying this programme, as well as many others across Africa, is that orphans are predominantly located within poorer households. This is not uncontested. A recent study concluded:

> "The presence of an orphan (defined as having lost 1 or both parents) in a household has been widely used in southern Africa as a targeting criterion for food aid. However, in villages in Swaziland and Mozambique no relationship was found between this criterion and poverty. In Malawi the relationship was tenuous and no relationship was found between female-headed, or grandparent-headed households" (Seaman and Petty 2004).

In direct contradiction to the findings of the study above, Figure 23 indicates that the mean number of orphans is higher in poorer households than richer ones. This finding is consistent across regions, with a declining pattern across income quintiles.[8] One reason for this may be that poorer households have, on average, larger households. Figure 23 also indicates that there is little difference across regions in terms of the mean number of orphans per household.

Figure 23. Distribution of orphans across income quintiles

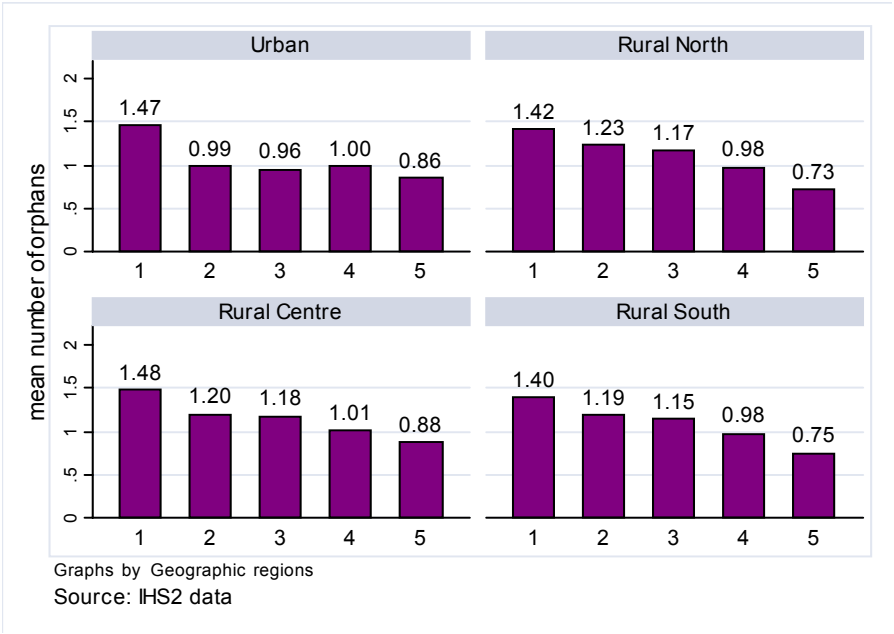


Table 12 provides information on various characteristics of households with and without orphans, across expenditure quintiles. Some interesting patterns stand out. Households with orphans are larger across the income range. The poorest households with single orphans have an average size of 6.18 compared to 5.45 for households with no orphans. Households with orphans are more likely to be female-headed, and have older household heads. Poorer households have older heads than richer households, whether they have orphans or not. The number of children (orphans and non-orphans) per household is higher in poor families than richer families, but not significantly different across orphan and non-orphan households. The last row in Table 12

[7] Statistics are taken from the Malawi National Plan of Action for Orphans and Vulnerable Children (2004).

[8] The same holds true for households with double-orphans.

indicates that the share of orphans to all children does not change dramatically as households become richer.

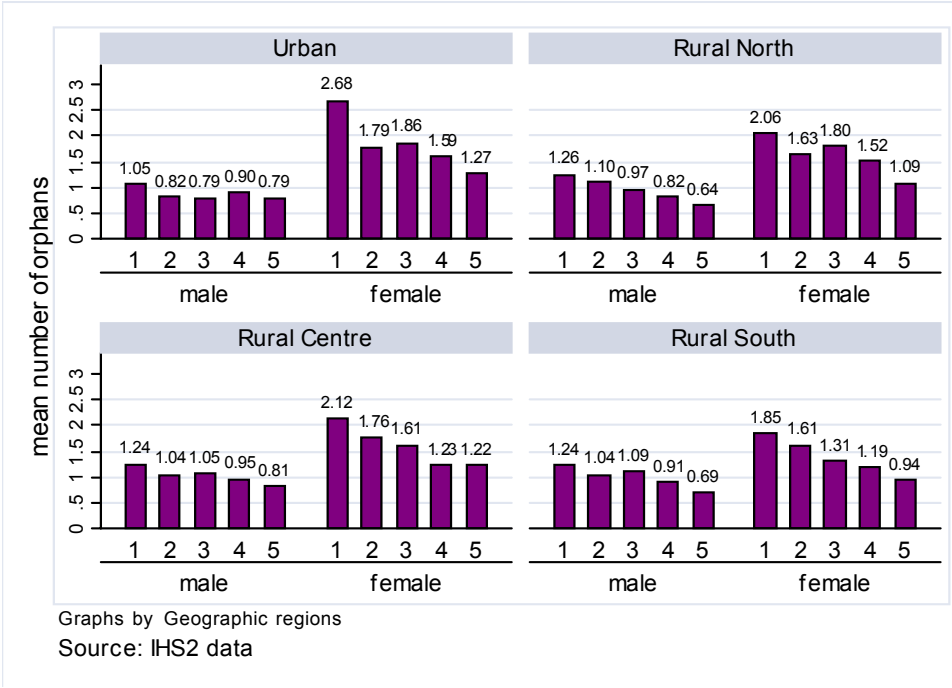
Table 12. Characteristics of households with and without orphans aged 0-18 years

Household characteristics / *Income quintile*	No orphans					Orphans				
	1	2	3	4	5	1	2	3	4	5
Households in each quintile (%)	16.4	18.6	18.9	21.2	24.8	22.1	20.8	20.6	19.2	17.1
Household size (mean)	5.45	4.84	4.28	3.84	2.83	6.18	5.23	4.62	4.06	3.48
(median)	5	5	4	4	2	6	5	4	4	3
Age of household head	35.9	34.6	32.6	32.3	31.2	48.8	48.2	48.7	47.5	45.8
Female household head (%)	25.1	24.3	20.4	22.6	27.5	74.8	75.6	79.5	77.3	72.2
Number of children (1-15)	3.26	2.69	2.19	1.79	1.03	3.45	2.73	2.21	1.73	1.32
Dependency ratio	0.6	0.53	0.48	0.41	0.28	0.62	0.58	0.55	0.48	0.44
Orphans as a share of total children						0.62	0.67	0.69	0.68	0.58

Source: IHS-2

Analysing mean number of orphans across income quintiles and by gender of headship, Figure 24 shows that female-headed households have, on average, more orphans across the board, with poorer female-headed households caring for the most orphans (this is also the case for double orphans). Female-headed households located in urban areas, on average, care for more orphans than in any other areas of Malawi.

Figure 24. Female-headed households have more orphans and they are poorer

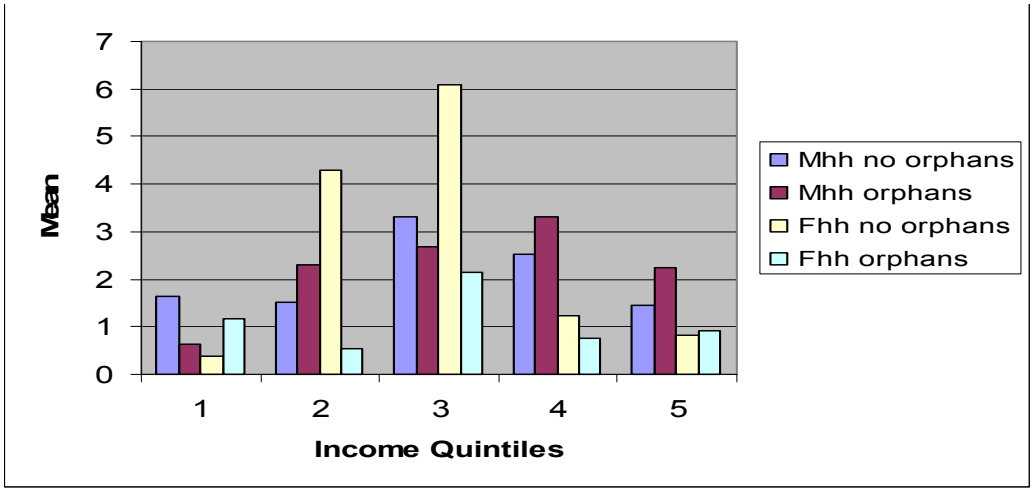


5.5.2. Are poorer female-headed households caring for orphans more vulnerable than other poor households?

Analysing the asset-holdings of households with orphans and those with non-orphans, we find no significant difference between the two types of households (see chapter 7 of the PVA). However,

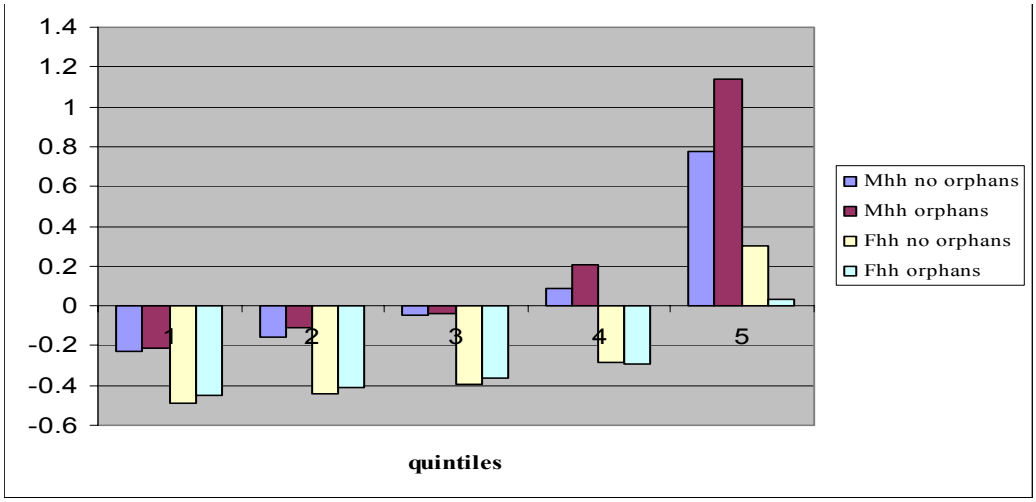
disaggregating the data by sex of the head of household and looking at asset profiles over the income quintiles reveals some interesting results. Figure 25 and Figure 26 show the average land and asset holdings across different types of households. A striking result is that female-headed households with orphans have significantly less land per capita than other households. Furthermore, female-headed households in general own less durable assets than male-headed households.

Figure 25. Land per capita by different household categories



Note: All cases with land per capita over 1000 hectares have been dropped

Figure 26. Levels of durable assets owned by different household categories



5.6. OTHER 'VULNERABLE GROUPS'

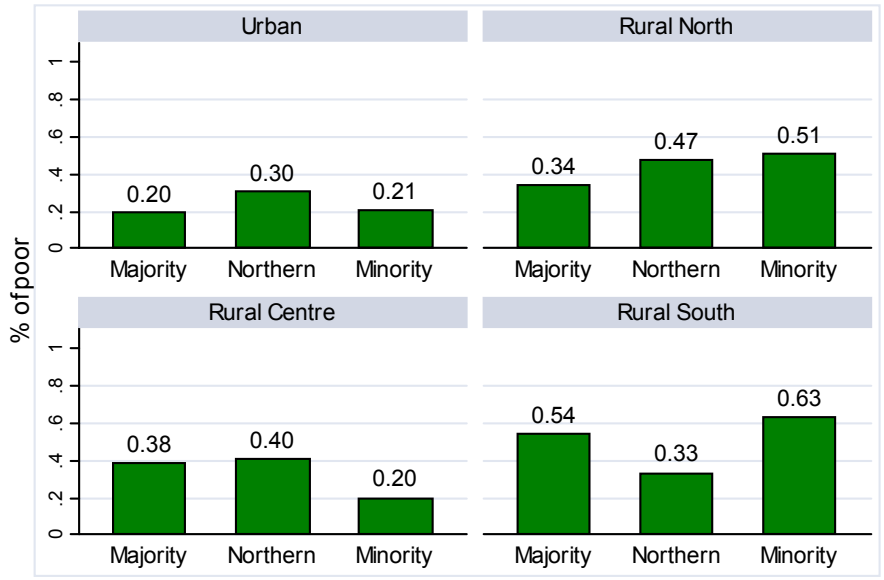
Much of the literature discussing vulnerability in Malawi refers to various categories of vulnerable groups. For instance, a report on causes and consequences of vulnerability in Malawi states that:

> "while chronic poverty is widespread among rural households, the rural poor that fall into this category should not be considered a homogeneous group. Certain demographic sub-sets have been identified as being particularly prone to high rates of chronic poverty. These include land-constrained smallholder farmers; labour-constrained female-headed households; estate workers or tenants; *ganyu* (piece-work) and other casual labourers; destitute or disadvantaged children; persons with disabilities; the elderly; the uneducated; and the unemployed. One chronically vulnerable group that has grown in size in recent years is people living with HIV/AIDS. The 2001-03 food crisis made a strong case for

stepping up social protection interventions to support PLWHA, AIDS orphans and care givers (Devereux 2003). An estimated 80,000 people now annually die of AIDS and another 110,000, mostly young people, are infected. PLWHA face new constraints to food security, with consequences at the micro-, meso-, and macro-levels" (TANGO, 2004a: 18).

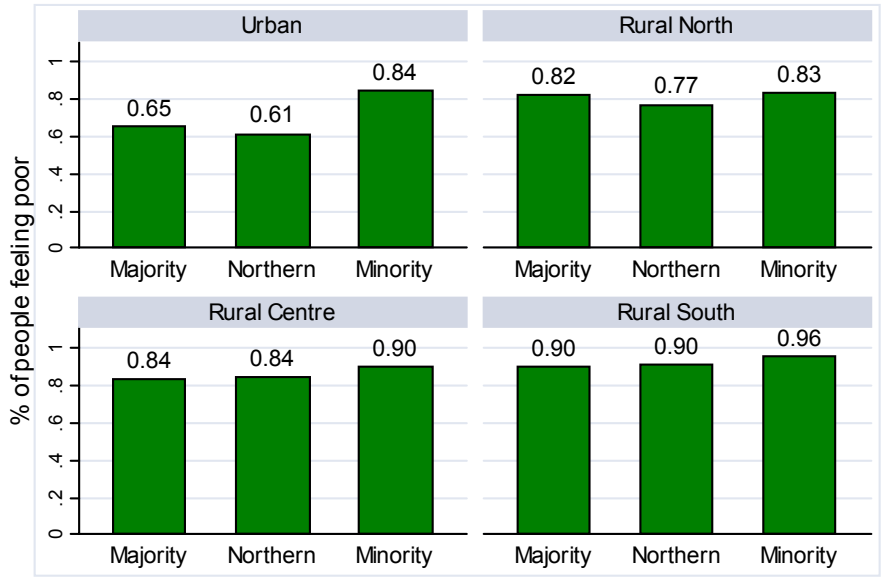
Below we provide some information on vulnerable groups, defined by: (1) disability, (2) language groupings, and (3) tenurial types. The overall conclusions from these three groups is that there is little evidence of significant poverty differences between sub-categories within these groups.

Figure 27. Percent of monetarily poor households according to language groupings



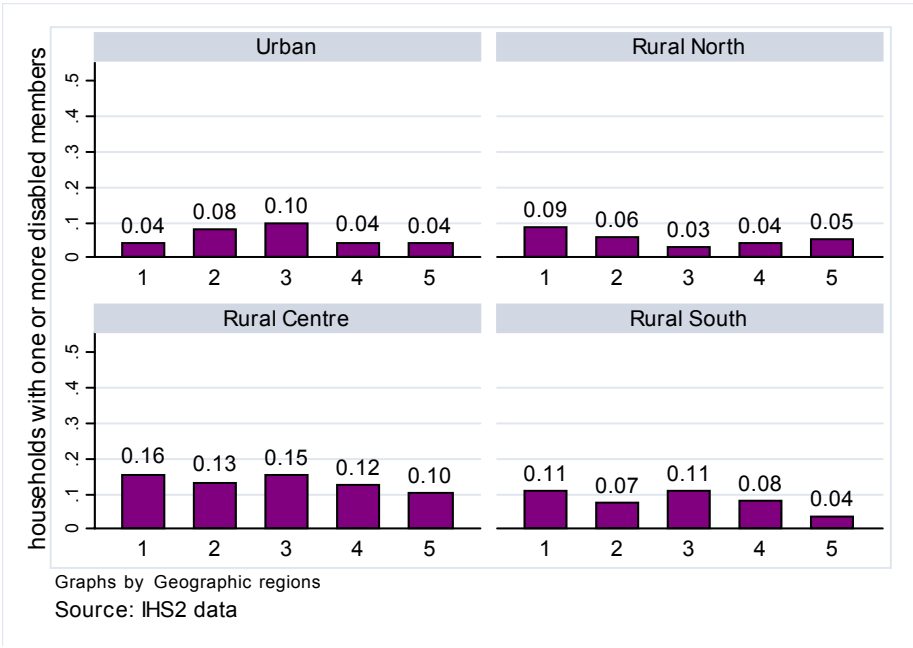
Graphs by Geographic regions
Source: IHS2 data

Figure 28. Percent of subjectively poor households according to language groupings



Graphs by Geographic regions
Source: IHS2 data

Figure 29. Households with disabled members



5.7. CONCLUSIONS

From the evidence presented in this chapter, the following conclusions can be drawn about the distribution of poverty and vulnerability in Malawi.

- Location: Households in southern and central Malawi are consistently worse off, both in monetary and in subjective poverty terms. This finding is consistent with evidence from earlier chapters, of a broad 'north-to-south gradient' in wellbeing indictors, but with certain districts in the Central and Southern Regions being better off than neighbouring districts.
- Changes in wellbeing: Multiple shocks, changes in crime levels, changes in durable asset wealth and hospitalisation contribute to feelings of ill-being. Poor people who experience shocks are more likely to experience a decline in wellbeing than non-poor people who face the same number of shocks – in other words, the impacts of shocks are exacerbated by poverty. Furthermore, female-headed households and households with older heads are more likely than others to have experienced a decline in wellbeing.
- Subjective and monetary poverty measures: Subjective poverty is higher than objective poverty, indicating the multi-dimensional nature of poverty and vulnerability. Moreover, factors explaining the different poverty measures indicate interesting divergences. Socio-cultural factors related to marital status, and cultural perceptions related to disability and household size, cause subjective and objective poverty linkages to work in opposite directions. Similarly, land tenure system, language group and sex of household head are important predictors of subjective poverty, but not of monetary poverty.
- Orphans and female-headed households: Poorer households care for more orphans than richer households. Female-headed households have, on average, more orphans across the income range, with poorer female-headed households caring for the most orphans (this is also the case for double orphans). Female-headed households located in urban areas, on average, care for more orphans than in any other areas of Malawi. A striking result is that female-headed households with orphans have significantly less land per capita than other households. Female-headed households in general also own fewer durable assets.
- Social exclusion: There is no hard evidence for identifiable 'vulnerable groups' by personal characteristics – such as language group (a proxy for ethnicity), or disability – suggesting that social exclusion on these grounds is not common and/or is not strongly associated with poverty outcomes.

CHAPTER 6. IMPLICATIONS FOR POLICY

6.1. INTRODUCTION

Policy responses to address chronic vulnerability in Malawi should pursue two parallel objectives:

1. Social protection: provide social assistance and social insurance to people facing inadequate food consumption and/or erratic incomes;
2. Livelihood promotion: support viable livelihoods through improving access to key productive inputs and to output markets;

6.2. SOCIAL PROTECTION

It is often asserted (though not empirically proven) that "informal safety nets are breaking down" (TANGO, 2004b) in Malawi,[9] and that the poor are therefore increasingly dependent on formal safety nets provided by the government and NGOs. It is certainly true that formal social protection is increasing in Malawi – Smith and Subbarao (2003) recorded 15 distinct donor-funded social protection programmes – but these interventions are generally uncoordinated, poorly targeted and 'projectised' rather than institutionalised. As a matter of urgency, social protection policy in Malawi needs to be made coherent by being set within a single overarching framework, it needs to be comprehensive but tailored to specific groups (the labour-constrained and the economically active poor have very different needs), and it needs to be institutionalised within government (though drawing on technical and financial support from development partners as required). Specific interventions that should be prioritised by government and donors include the following.

1. ***Stabilise food prices and attack food price seasonality:*** For all its problems, ADMARC did have a mandate to protect household food security, through consumption-smoothing interventions such as food price banding (purchasing maize at a pan-territorial floor price and selling at no higher than a fixed ceiling price), and managing a Strategic Grain Reserve to stabilise inter-seasonal food supplies. ADMARC has steadily withdrawn from these food security functions, but the private sector has not responded to generate the integrated, competitive and efficient markets that would stabilise prices and keep food affordable even during the hungry season. The risks that food price variability introduce to market-dependent poor households are not only short-term – cumulative food deficits result in stunted child growth, intergenerational transmission of undernutrition, and chronic poverty. Policies must be introduced that stabilise food supplies and reduce inter-seasonal food price variability. Innovative approaches – to avoid the risk of making matters worse – include using South African futures and options contracts to establish a floor price for maize; or measures to promote intra-annual grain storage by private traders.
2. ***Introduce labour-saving technologies for labour-constrained households:*** Households can become labour-constrained if their productive members become chronically ill and/or die, or if a couple separates leaving a female-headed household without adult male labour. Shah (2002) identifies several ways in which female-headed and labour-constrained households can continue to make a viable living from agriculture. These include: "introducing labour economizing technologies, introducing crops that require less labour, increased and better utilization of low-lying wetlands and homestead gardens, and providing opportunities for women to acquire skills to cultivate high value 'male' crops like tobacco, so that in the event of their husband's death, they don't lose a significant source of their livelihood."
3. ***Targeted nutrition programmes for adolescent girls:*** "At an absolute minimum, there is a need for a specific focus on anaemia among adolescents – which is both widespread and

[9] See also Palamuleni *et al.* (2003): "social structures that offer extended and communal support are gradually collapsing…".

preventable, through the provision of iron/folate supplements as part of the Essential Health Package" (Gillespie & Haddad 2004).

4. ***Protect land rights for rural households with no adult males:*** "land ownership and usufruct rights to be revisited to protect children, divorcees and widows/widowers" (Kadzandira 2002).
5. ***Social insurance:*** Effective social insurance has the potential to protect the gains from economic growth against shocks that, in the absence of insurance, can dissipate these gains. (For example, a household that builds up its assets over several years can be forced to dispose of these assets to care for a chronically ill family member.) Social insurance mechanisms include: (1) *crop or weather insurance* to protect farmers against erratic rainfall; (2) *community-based health insurance schemes* and *burial societies* to provide funds to draw down in times of illness and death; (3) *employment guarantee schemes* to stabilise income following a livelihood shock or during periods of underemployment. These three examples also illustrate the range of social insurance providers: (1) is a market-based intervention, sometimes subsidised by donors; (2) is a self-funded informal insurance scheme; (3) is a government-run programme (the Government of India enacted a National Rural Employment Guarantee Programme in August 2005, which guarantees 100 days of work at the minimum wage to every household in rural India on demand).

These 'social protection' interventions all have the advantage of linking short-term support to long-term livelihood promotion. For instance, controlling food price seasonality will allow poor households to retain their assets rather than selling them to survive the 'hungry season' and falling into irreversible 'poverty traps'. Nutrition programmes that allow young mothers to have healthy babies will break the cycle of intergenerational transmission of poverty and undernutrition: low birthweight babies are known to face problems with human capital formation in later life. Social insurance mechanisms like weather insurance or employment guarantee schemes will encourage farmers to take moderate risks (e.g. by investing in higher-yielding crop varieties), in the knowledge that if their harvest fails they will be compensated, or can at least be assured of finding alternative employment.

6.3. LIVELIHOOD PROMOTION

Although there are linkages between some form of social protection and livelihood promotion, social protection is never enough on its own to address the underlying causes of chronic poverty and vulnerability, which in rural Malawi are largely a product of ***lack of assets*** at the household level and ***market failures*** at the sectoral level, in a context of recurrent ***natural risks and policy failures*** at the national level. Apart from social assistance for those unable to participate in economic activities (i.e. social welfare support for 'vulnerable groups' such as orphans, the elderly and the chronically ill), social protection is compensation for a failure of livelihoods, and it should not substitute for policies, programmes and investments that promote sustainable livelihoods and ultimately reduce the need for social assistance to economically active groups. Priority measures to promote rural livelihoods in Malawi should focus on input and output markets, assets, and employment.

1. ***Restore access to agricultural inputs, especially fertiliser:*** either through free handouts (not desirable or sustainable), subsidies, or input credit – or building fertiliser markets.
2. ***Expand markets for high-value crops:*** In the early 1990s, when Malawian smallholders were first legally allowed to cultivate burley tobacco, this crop was seen as a pathway out of poverty for many rural households. But tobacco failed to live up to this initial promise, due to unpredictable auction prices, inability to compete with tobacco estates on either quality or volume of production, and the fact that smallholders continued to face input constraints which meant that tobacco had to compete with maize for scarce land, labour and fertiliser. In the late 1990s, paprika was promoted as another high-value cash crop (Peters, 1999). To date, all efforts to identify high-value crops that could lead to accelerated income growth for large numbers of Malawian farmers have either petered out have provided opportunities for only a small cluster of smallholders. Nonetheless, these efforts should continue.

3. ***Protect and build productive assets:*** 'Asset buffers' protect individuals and households against shocks, so one solution to rising vulnerability in some Malawian communities is to build productive assets of all kinds. This includes: (1) human capital at the *individual* level (improved health services to reduce illness and raise labour productivity, improved education to build skills and broaden livelihood opportunities beyond agriculture); (2) physical assets at the *household* level (e.g. exploring innovative options for building livestock flocks and herds); (3) infrastructure at the *community* level (e.g. feeder roads to integrate markets, which can be – and are being – constructed and maintained through public works projects).
4. ***Increase opportunities for rural non-farm employment:*** in order to diversify rural options, stabilise consumption, and raise incomes (Ellis *et al.,* 2002).

6.4. CONCLUSION

The likelihood of achieving successful outcomes from the interventions proposed above, in terms of sustainable poverty reduction and reduced vulnerability, is dependent on the broader context within which individuals and households pursue their livelihoods. There are many features of the socio-economic environment in Malawi that are 'disabling' rather than 'enabling', which require policy attention if livelihood promotion and social protection interventions are to be fully effective.

Key contextual ***economic*** factors that emerge from our analysis as undermining livelihoods include weak markets – which restrict access to productive inputs and expose poor households to excessive price seasonality – and limited non-agricultural employment opportunities. Contextual ***social*** factors that exacerbate vulnerability include gender inequities – severe discrimination against women and girls that results in lower wellbeing outcomes – and an apparent decline in informal social support systems in recent years, accompanied by rising crime and insecurity.

Finally, any targeted intervention that aims to protect the vulnerable and promote the livelihoods of the poor requires accurate identification of those who need different types of assistance, to minimise both inclusion and exclusion errors. Targeting is a major challenge facing all antipoverty programmes. The analysis in this report suggests that monetary measurements of poverty do not allow us to capture, and thereby target, certain types of poor households – such as households experiencing vulnerability as a result of changing family structure (household size and family breakdown), as well as those including members with disabilities. On the other hand, a robust proxy for vulnerability and poverty is female-headed households, especially those caring for orphans. Poor female-headed households are poorer than others in terms of income as well as land size and assets owned. These households typically have more orphans than other households and are often on a downward spiral over time, in terms of both actual and perceived wellbeing. These trends are important for policy because they imply that current poverty status under-estimates the extent and severity of future poverty for these (and other) highly vulnerable households. For targeting purposes, this also suggests that subjective understandings of poverty are as important as objective measurement, when classifying and responding to vulnerability.

REFERENCES

Action Against Hunger (AAH) (2004–2005) *Malawi Integrated Nutrition and Food Security Surveillance: Monthly Reports,* Lilongwe: Action Against Hunger.

Binswanger, H., and McIntire, J. (1987) 'Behavioural and material determinants of production relations In land-abundant tropical agriculture', *Economic Development and Cultural Change.*

Carter, M., Little, P., Tewodaj Mogues and Workneh Negatu (2004) *Shocks, Sensitivity and Resilience: Tracking the Economic Impacts of Environmental Disaster on Assets in Ethiopia and Honduras,* University of Manchester: Institute for Development Policy and Management.

Cavastassi, R., Davis, B. and Lipper, L. (2004) 'Estimating poverty over time and space: construction of a time-variant poverty index for Costa Rica', *ESA Working Paper,* 04-21, Rome: Food and Agriculture Organisation.

Chaudhuri, P., Jalan, J. and Suryahadi, A. (2001) 'Assessing household vulnerability to poverty: methodology and application to Indonesia', *Mimeo,* Colombia University.

Devereux, S. (1997) 'Household Food Security in Malawi', *Discussion Paper,* 362, Brighton: Institute of Development Studies, University of Sussex.

Devereux, S. (2002) *State of Disaster: Causes, consequences and policy lessons from Malawi,* Lilongwe: ActionAid Malawi.

Devereux, S., Chilowa, W., Kadzandira, J. Mvula, P. and Tsoka, M. (2003) *Malawi Food Crisis Impact Survey: A research report on the impacts, coping behaviours and formal responses to the food crisis in Malawi of 2001/02,* Brighton, UK and Lilongwe, Malawi: Institute of Development Studies and Centre for Social Research.

Devereux, S. and Tiba, Z. (2006) 'Malawi's First Famine: 2001-2', in S. Devereux (ed.) *The New Famines,* London: Routledge.

Dorward, A. and Kydd, J. (2002) 'The Malawi 2002 Food Crisis: The Rural Development Challenge', Centre for Development and Poverty Reduction, Imperial College at Wye.

Ellis, F., Kutengule, M. and Nyasula, A. (2002) 'Livelihoods and Rural Poverty Reduction in Malawi', *Ladder Working Paper,* Norwich: University of East Anglia.

Filmer, D. and Pritchett, L. (1998) 'Estimating wealth effects without expenditure data – or tears', *World Bank Policy Research Working Paper,* 1994, Washington DC: World Bank.

Gillespie, S. and Haddad, L. (2004) *Reducing Chronic Malnutrition in Malawi: What Role for DFID?* Washington DC: International Food Policy Research Institute (IFPRI).

Government of Malawi (2000) *Profile of Poverty in Malawi: Poverty Analysis of the Integrated Household Survey 1998,* Lilongwe: National Economic Council.

Government of Malawi (2001) *The Determinants of Poverty in Malawi, 1998: An analysis of the Malawi Integrated Household Survey, 1997-98,* Lilongwe: National Economic Council.

Government of Malawi (2002) *Malawi Poverty Reduction Strategy Paper,* Lilongwe: Ministry of Finance and Economic Planning.

Government of Malawi and International Food Policy Research Institute (2002) *Malawi – An Atlas of Social Statistics,* Lilongwe: National Statistical Office.

Hoddinott, J. (2005) *Vulnerability, Shocks, and Impacts in Ethiopia and Malawi: Implications for Public Action,* Washington DC: International Food Policy Research Institute (IFPRI).

International Development Committee (IDC) (2003) 'The humanitarian crisis in Southern Africa', *Third Report of Session 2002-03,* London: House of Commons.

Kadzandira, J. (2002) *Sources of Risks and Vulnerability for Malawian Households and Communities,* University of Malawi: Centre for Social Research.

Lok-Dessallien, R. (2000) *Review of Poverty Concepts and Indicators,* http://www.undp.org/-poverty/publications/pov-red/poverty-assessments.pdf

Macro-International (1992, 2000, 2004) *Malawi Demographic and Health Survey Reports,* http://www.measuredhs.com/

Malawi National Vulnerability Assessment Committee (2004) *Food Security Monitoring Report, Malawi,* Lilongwe: MVAC.

National Statistical Office (2002) *2002 Malawi Core Welfare Indicators Questionnaire Survey: Report of Survey Results,* Zomba: NSO.

Palamuleni, M., Kambewa, P. and Kadzandira, J. (2003) *HIV/AIDS and Food Security in Malawi,* Lilongwe: World Food Program.

Peters, P. (1999) *Agricultural Commercialization, Rural Economy and Household Livelihoods, 1990-1997, Final Report*, Harvard: Harvard Institute for International Development.

Phiri, A. (2005a) 'Vulnerability Analysis of Malawi's Agricultural Sector', Lilongwe: Bunda College of Agriculture.

Phiri, A. (2005b) 'Regional Vulnerability Analysis for Malawi: Poverty, Agriculture and Nutrition Security', Lilongwe: Bunda College of Agriculture.

Pritchett, L., Suryahadi, S. and Sumarto, S. (2000) 'Measuring vulnerability to poverty: a proposed measure with application to Indonesia', *SMERU Working Paper*.

Ravallion, M. (1996) 'How Well Can Method Substitute for Data? Five Experiments in Poverty Analysis', *World Bank Research Observer,* 11(2).

Ravallion, M. and Bidani, B. (1994) 'How Robust is the Poverty Profile?' *World Bank Economic Review,* 8(1): 75-102.

Ravallion, M. and Lokshin, M. (1999) 'Subjective Economic Welfare', *Policy Research Working Paper,* 2106, Washington, DC: World Bank.

Rutstein, S. and Johnson, K. (2004) 'The DHS Wealth Index', *DHS Comparative Reports 6*, Calverton: ORC Macro.

Shah (2002) 'The Impact of HIV/AIDS on Agricultural Production Systems and Rural Livelihoods in the Central Region of Malawi', Lilongwe: CARE.

Sharma, M, Tsoka, M., Payongayong, E. and Benson, T. (2002), 'Analysis of Poverty Dynamics in Malawi With an Assessment of the Impact of ADMARC on Household Welfare', Washington DC: IFPRI.

Sharma, M. and Yisehac Yohannes (2005) *Vulnerability, Shocks, and Their Consequences on Household Expenditure and Asset Levels in Malawi,* Washington DC: IFPRI.

TANGO International (2004a) 'Theme Paper: Underlying Causes of Livelihood Vulnerability and Insecurity in Malawi', Lilongwe: CARE.

TANGO International (2004b) 'Theme Paper II: Social Protection in Malawi', Lilongwe: CARE.

TANGO International (2004c) 'Theme Paper IV: Gender Exploitation in Malawi', Lilongwe: CARE.

van Donge, J., Chivwaile, M., Kasapila, W., Kapondamgaga, P., Mgemezulu, O., Sangore, N., Thawani, E. (2001) 'A Qualitative Study of Markets and Livelihood Security in Rural Malawi', *An evaluation study commissioned for the Ministry of Agriculture and Irrigation of the Government of Malawi,* Lilongwe: DFID Malawi.

Wobst, P., Lofgren, H., Tchale, H. and Morrison, J. (2004) *Pro-poor Development Strategies for Malawi: An Economy-wide Analysis of Alternative Policy Scenarios,*.

ANNEX TABLES

Table 13. Language groups in Malawi

Category	Languages	Comments
1	Chewa and Nyanja, Yao, Lomwe, English	These are the largest groupings in the country, with Chewa and Nyanja mainly in Central Region, and Yao in Balaka, Mangochi, Machinga and part of Zomba, while Lomwe is spoken in Thyolo, Chiradzulu and Mulanje. These groupings largely determine the current political environment in Malawi.
2.	Tumbuka, Tonga, Ngoni, English	These are all languages in the north, with Tumbuka as the main grouping (mainly Mzimba and Rumphi districts), with Ngoni part of the minority in Mzimba district.
3.	Lambya, Nyakyusa, Sukwa, Nkhonde, Senga, Sena, other	These are minority groupings (Lambya, Nyakyusa, Sukwa, all in Chitipa district) Nkhonde in Karonga, Senga in Mchinji and Sena in the Lower Shire (Nsanje and Chikwawa districts).
4.	English	I did not understand this category. It is difficult to place it. But although a minority group, not likely to be excluded as these become influential people in the community.

Table 14. Property tenure systems in Malawi

Category	Districts
1. Patrilineal	Mzimba, Rumphi, Nkhata bay, Chitipa, Karonga, and Likoma are the only clear patrilineal districts. Ntcheu, Chikwawa, Nsanje and Mchinji are mixed but they lean more towards patrilineal.
2. Matrilineal	Zomba, Machinga, Balaka, Mangochi, Mulanje, Thyolo, Chiradzulu, Phalombe. These are typical matrilineal districts, where the man moves and follows the wife. Land ownership is through the wife. This is known as *Chikamwini*.
3. Mixed	Dedza, Nkhotakota, Blantyre, Mulanje, Thyolo, Chiradzulu, Salima, Lilongwe, Dowa, Ntchisi, Kasungu, Mwanza. Most of these districts are matrilineal but men may take their wife to their village through a system known locally as *Chitengwa*, which means that land is obtained through the man. There are also pockets of *Chikamwini,* hence these are mixed districts.

Table 15. Comparison of monetary and subjective poverty measurements

Variables	Monetary			Subjective		
	Coef.	Std. Err.	t	Coef.	Std. Err.	t
hhsize	0.258	0.016	16.370	-0.033	0.013	-2.430
agehh	0.013	0.007	2.000	0.008	0.007	1.160
age2	0.000	0.000	-1.210	0.000	0.000	-0.580
sexhhh	0.134	0.079	1.700	-0.182	0.095	-1.910
_leduchead_2	-0.257	0.069	-3.740	-0.102	0.062	-1.640
_leduchead_3	-0.336	0.070	-4.780	-0.215	0.067	-3.200
_leduchead_4	-0.582	0.113	-5.160	-0.334	0.093	-3.600
_leduchead_5	-0.434	0.256	-1.700	-0.687	0.170	-4.050
_loccupati~1	-0.015	0.072	-0.200	-0.042	0.068	-0.610
_loccupati~2	0.115	0.045	2.530	-0.021	0.062	-0.330
_loccupati~3	0.137	0.065	2.120	-0.017	0.076	-0.230
_lmarstat_2	-0.037	0.062	-0.600	-0.130	0.062	-2.090
_lmarstat_3	-0.205	0.088	-2.320	0.261	0.110	2.380
_lmarstat_4	-0.665	0.147	-4.530	0.241	0.121	2.000
_lmarstat_5	-0.208	0.085	-2.440	0.211	0.111	1.900
lithhh	-0.118	0.040	-2.950	-0.068	0.055	-1.230
_lo_1	0.003	0.040	0.060	0.054	0.044	1.240
_lo_2	-0.217	0.085	-2.540	0.107	0.098	1.090
matrilineal	0.092	0.111	0.830	-0.465	0.104	-4.460
mixed	-0.382	0.081	-4.710	-0.146	0.087	-1.690
_llang3_1	-0.056	0.131	-0.420	-0.284	0.176	-1.610
_llang3_2	-0.022	0.166	-0.130	-0.358	0.165	-2.170
dismem	-0.157	0.060	-2.620	0.150	0.073	2.070
lnland	-0.213	0.042	-5.110	-0.122	0.035	-3.480
ltlu	-0.346	0.052	-6.710	-0.245	0.049	-5.030
lnai05	-0.738	0.038	-19.470	-0.486	0.049	-10.020
distroad	0.000	0.001	0.280	-0.003	0.002	-1.780
pschool	0.076	0.055	1.360	0.027	0.063	0.420
clinic	-0.029	0.064	-0.450	-0.008	0.065	-0.120
ganyu	0.138	0.040	3.450	0.213	0.046	4.660
enterprise	-0.212	0.045	-4.740	-0.043	0.050	-0.860
_ldwelling_1	-0.396	0.073	-5.400	-0.275	0.067	-4.140
_ldwelling_2	-0.142	0.054	-2.640	-0.221	0.062	-3.580
_ltoilet2_1	-0.065	0.047	-1.380	-0.081	0.070	-1.160
_ltoilet2_2	-0.391	0.256	-1.530	0.068	0.173	0.390
priceshock	0.148	0.072	2.040	0.080	0.069	1.160
theftA	-0.243	0.084	-2.900	-0.042	0.084	-0.500
totdeathbr~k	-0.044	0.052	-0.840	-0.139	0.058	-2.410
illness	-0.073	0.056	-1.290	-0.073	0.061	-1.190
hos	-0.035	0.082	-0.420	0.158	0.111	1.420
_larea_2	0.016	0.169	0.090	-0.007	0.187	-0.040
_larea_3	-0.156	0.104	-1.500	0.063	0.086	0.730
_larea_4	0.234	0.121	1.930	0.495	0.100	4.960
lrcpexp				-0.368	0.057	-6.510
_cons	-1.293	0.224	-5.760	5.196	0.665	7.810