Comparison of Agricultural Input Subsidies and Social Cash Transfers as Policies for Reducing Vulnerability to Hunger in Malawi

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Abstract

This thesis compares agricultural input subsidies and social cash transfers as alternative policy levers for addressing vulnerability to hunger in Malawi. Input subsidies stimulate yield growth in agriculture, and can improve the food security of food-deficit small farmers both directly and indirectly. Social cash transfers directly support the immediate consumption needs of populations at risk of missing minimum food entitlements. The two policies interact both as livelihood complements and as competitors for fiscal space. Research to date has provided little comparative evidence on such interactions and their effects. The thesis objective is to gain a deeper understanding than hitherto available of these policy options, which in Malawi are characterised by confusion concerning their roles in achieving a sustainable reduction in vulnerability and deprivation.

In Malawi both policies were introduced in 2005/06, following five years of recurrent national food crises. The input subsidy programme (ISP) is a national programme targeting over 50 per cent of Malawi's 3.2 million farm families every year. Social cash transfers, in contrast, are pilot schemes in seven of the 28 districts, and aim to cover the 10 per cent of households identified as ultra poor and labour constrained. The research involved the use of secondary data sources combined with a fieldwork in Mchinji district, which was the first pilot site for social cash transfers in 2006.

The research demonstrates the difficulty in Malawi of constructing a policy environment that can enduringly reduce the proneness of the rural population to hunger and deprivation. The ISP appears to have more than doubled maize output according to official figures but caution is indicated regarding the true magnitude of output gains realised. For social cash transfers, evidence suggests positive food security and livelihood impacts but important caveats are identified. Overall, the thesis contributes to the growing awareness that one strategy on its own cannot be relied upon to achieve sustainable vulnerability reduction; a portfolio of instruments that address differing needs is advised, while carefully considering complementarities and trade-offs between them.

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List of abbreviations frequently used in this thesis

ADC	-	Area Development Committee
ADD	-	Agricultural Development Division
AEC	-	Area Executive Committee
ADMARC	-	Agricultural Development and Marketing Corporation
AIDS	-	Acquired Immune Deficiency Syndrome
CSCTC	-	Community Social Cash Transfer Committee
DA	-	District Assembly
DEC	-	District Executive Committee
DSCTC	-	District Social Cash Transfer Committee
EPA	-	Extension Planning Area
FHH	-	Female headed household
GDP	-	Gross Domestic Product
GVH	-	Group Village Head
Ha	-	Hectares
HH	-	Household
HIV	-	Human Immune Virus
IHS	-	Integrated Household Survey (IHS1 = first survey; IHS2= second survey)
IHS2	-	Second Integrated Household Survey of 2004/05
ISP	-	Input Subsidy Programme
Kgs	-	Kilograms
MASAF	-	Malawi Social Action Fund
MHH	-	Male headed household
MK	-	Malawi Kwacha, local Malawi currency
Mn/Bn	-	Million/Billion
MoAFS	-	Ministry of Agriculture and Food Security
MT	-	Metric tonnes
MVAC	-	Malawi Vulnerability Assessment Committee
NAC	-	National Aids Commission of Malawi
NGO	-	Non-governmental organisation
NSO	-	National Statistical Office
OPV	-	Open pollinated varieties of maize
OVC	-	Orphans and vulnerable children
PWP	-	Public Works Programme
RDP	-	Rural Development Programme
RHVP	-	Regional Hunger and Vulnerability Programme
SCTs	-	Social Cash Transfers
SFFRFM	-	Smallholder Farmer Fertiliser Revolving Fund of Malawi
SPS	-	Starter Pack Input Scheme
TA/STA	-	Traditional Authority(Chief)/ Sub Traditional Authority (sub Chief)
TIP	-	Targeted Input Programme
VDC	-	Village Development Committee

List of local names and terms used in this thesis

Alibe maziko okwanira	-	Literary 'lack established foundations', particularly livelihood sources to support a household
Banja	-	Family or marriage but commonly refers to a household
Boma	-	Government or district headquarters, believed to have originated from British Overseas Military Administration (BOMA) during colonial period
Chaona mzako chapita mmawa chiona iwe	-	Proverb literally translated as 'what has befallen your friend today is gone, tomorrow it will befall you. So people need to always help one another'.
Gaga	-	Maize bran
Ganyu	-	Casual labour, mostly as a survival strategy
Katungwe ndi kukankhana	-	Proverb literary translated as 'in a swing game, you need to take turns in pushing each other so that both players, and not just the same one, are satisfied in the end'.
Khomo	-	Home or (door entrance), but typically refers to household
Kusowa/kusauka	-	Lacking or needing, referring to poverty
Kuvutika	-	Suffering, referring to vulnerability (to hunger)
Mayi wa mkono umodzi	-	Literary 'woman/mother of one hand' referring to a woman/mother without a husband or known source of income or other forms of help
Mayi wamasiye	-	Literary 'orphaned woman', meaning a widow
Mayi wayekha	-	Literary, 'a woman on her own', referring to a woman who has no husband
Mfumu (mafumu in plural)	-	Chief, commonly referring to TA, STA, GVH or village head
Mose wa Lero	-	Literary 'today's Moses'. It refers to the biblical Moses delivering Israelites out of Pharaoh's bondage in Egypt. It connotes Dr Mutharika delivering Malawians from the 'bondage of hunger'
Mzungu	-	A white person
Ngwazi	-	Literary 'conqueror' or 'saviour'. Title by which former president Dr Kamuzu Banda (now deceased) was bestowed for 'conquering colonialism' and has since been adopted by President Mutharika
Nkhasako	-	Rich and apparently lacking nothing
Nyumba	-	Local term for a 'house' but typically also refers to a household
Ufa	-	Maize flour
Wamasiye	-	Literary meaning 'being left behind by a deceased'. It normally refers to an orphan (*mwana wa masiye* - orphaned child) and a widow (*mayi wamasiye* - as noted above) but rarely a widower (*bambo wa masiye*- 'orphaned man').

Chapter 1: Introduction

1.1 Introduction

This thesis addresses the problem of vulnerability to hunger in low income African economies, through the medium of a case-study in Malawi. Specifically, the thesis is concerned with alternative policies for reducing vulnerability to hunger. Some policies approach the problem directly in the form of food or cash transfers to those groups in the population considered most at risk of failing to meet their minimum food and basic needs. Others act indirectly by seeking to improve the income generating capabilities of vulnerable people. Broadly, these alternatives divide between consumption and production-led efforts to improve people's food security. However, such a distinction is only useful up to a point since an array of policy options address different needs in different ways, and operate over different timescales.

Malawi represents an appropriate case-study country to examine these policy alternatives. It is well-known as one of the poorest countries in Africa with a per capita gross domestic product (GDP) of US$326 per annum in 2009 (World Bank 2010b) and ranks as one of the least developed countries in the world according to the human development index (HDI). Malawi's position in the HDI is ranked 160th out of 182 countries in 2009 (UNDP 2009, pp.171-74), and this relative position has barely changed over the past twenty years.[1] Malawi is also one of a set of poor countries in Africa that have been especially prone to episodes of food insecurity over the past two decades. Others in this group in eastern and southern Africa are Ethiopia, Kenya, Lesotho, Mozambique, Zambia, Zimbabwe and Swaziland (Devereux 2006). A high prevalence of HIV infection, estimated at 11.9 per cent of the adult (15-49 year old) population in 2007 (UNAIDS 2008), has added to vulnerability in Malawi due to its adverse effects on morbidity, mortality, life expectancy and asset depletion by affected households. Life expectancy at birth in Malawi in 2008 was estimated at 53, just one year more than in 1998 (World Bank 2010b).

There are several other reasons why a study of vulnerability and its amelioration or reduction in Malawi offers the opportunity to take forward policy debate about reducing extreme hunger and vulnerability. Earlier studies in Malawi (e.g. Government of Malawi/United Nations 1993, Devereux 1998, 1999) made valuable contributions to the broader understanding of

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[1] In 1990, Malawi was ranked 117th out of 130 countries (UNDP 1990, pp.28-9).

vulnerability and to the coping strategies of families both in anticipating crises and in dealing with shocks once they had occurred. Malawi has an unusually high nutritional dependence on a single crop, maize, as the dietary staple food of the population, and most maize is produced in just one season each calendar year making seasonality a critical aspect of household vulnerability. Successive Malawi governments have exhibited a policy preference for subsidising agricultural inputs as the means to increase yields and incomes in agriculture, and since 2005, the country has had a large scale, countrywide, subsidy scheme in place called the agricultural input subsidy programme (ISP)[2]. In addition, since 2006, Malawi has implemented a pilot social cash transfer scheme aimed at the chronic extreme poor, which had expanded by March 2010 to cover 28.1 thousand households in seven districts (Government of Malawi 2010i).

This chapter provides the setting and groundwork for the rest of the thesis. The second section states the research problem upon which the thesis intends to shed light, and the research questions addressed by the empirical work of the thesis. This section also provides a brief introduction to the methodology, which is elaborated in greater detail in Chapter 4. The third section provides a preliminary clarification of definitions used throughout the thesis regarding terms such as safety nets, social transfers, categorical transfers, and social protection. These topics are elaborated more fully in Chapter 2 of the thesis. The fourth section sets out some pertinent features of Malawi for the thesis as a whole, with a particular focus on rural poverty, maize production and the price seasonality problem in the Malawi maize market which is the major contributor to lean season vulnerability to hunger. Finally, the fifth section of this chapter provides a descriptive overview of the structure of the thesis.

1.2 Thesis objective, research questions and methods

The objective of this thesis is to gain an in-depth understanding of policy options for reducing vulnerability to hunger in a poor, mainly rural, African country, represented by the example of Malawi. This objective is informed by the persistence of hunger and deprivation in Malawi, and by confusion at the policy level concerning the ability of different policy instruments to provide satisfactory and sustainable amelioration of such deprivation. For example, in the current era the Malawi government has chosen decisively to prioritize agricultural input subsidies as its flagship policy for tackling vulnerability. However, in the midst of the

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[2] From 2010, this has been renamed the farm input subsidy programme (FISP)(Government of Malawi 2010d).

estimated maize output gains which have been achieved by this policy, every single year sizeable humanitarian transfers of food or cash transfers are required in order to overcome 'missing food entitlements' that are discovered in different locations across the country[3]. Moreover, other policies for tackling chronic vulnerability to hunger are being advocated or are already partially in place. The main, but not the only, one of these is a social cash transfer scheme designed to protect the minimum acceptable consumption level of families that are destitute for reasons of ultra poverty, and lacking able-bodied labour in the household.

Ideas about tackling chronic extreme poverty have evolved rapidly in the past decade, mainly under the umbrella term 'social protection', the meaning of which this chapter considers in greater detail in due course. The emphasis of recent ideas has been to separate for policy purposes transient hunger and deprivation caused by adverse events such as drought or conflict from chronic deprivation that is present all the time, irrespective of unusual trends or events. It is thought that policy responses should differ between these categories, emergency action only being needed for large scale or widespread catastrophes such as droughts, while regular social transfers can meet the needs of those persistently unable to achieve acceptable levels of food consumption and nutrition (Gross and Webb 2006, Tibbo and Drimie 2006, Devereux *et al.* 2008). The phrase used to capture this idea is 'predictable funding for predictable needs' (Ellis *et al.* 2009, p.3), and calculations have been done to demonstrate the lower cost to governments and donors that could accrue by switching from an emergency driven to continuity oriented response to chronic deprivation.[4]

This shift in emphasis towards routine social transfers is only part of a complicated emerging picture. The preference has also shifted in the same period from providing social transfers as food to providing them as cash. Food transfers tend to be associated with emergency operations, and have known disadvantages including high delivery cost and a propensity to undermine local food markets. Cash transfers, by contrast, are potentially cheap to deliver and can support local food markets (Farrington and Slater 2006). Cash transfers can, however, take a variety of different forms, so policy choices are also required as between, for example, providing a social pension or trying to target precisely only those most in need. The variety of

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[3] These are reported in routine assessments by the Malawi Vulnerability Assessment Committee (MVAC), and are also summarised in FEWSNET monthly reports on food security in Malawi: http://www.fews.net/pages/country.aspx?gb=mw

[4] As reported by Ellis *et al*., (2009, p.59), in the preparatory work for the Hunger Safety Nets Programme (HSNP) in Kenya, it was estimated that the cost per person per year would fall from US$79 to US$55 with a switch from emergency food aid to an equivalent continuous cash transfer.

such options, their strengths and weaknesses, are examined in greater detail in Chapter 2. Here, it suffices to state that the thesis intends to focus mainly on the policy options represented by agricultural input subsidies, on the one hand, and poverty targeted social cash transfers, on the other.

It is tempting to pose input subsidies and cash transfers as mutually exclusive alternatives for tackling vulnerability that should be set in contrast and opposition to each other. However, this is not the stance towards them that is taken in this thesis. These policies address the problem of reducing vulnerability to hunger in distinct ways, over different timescales, and reaching rather different rural social groups. Therefore, there is broad scope for them to operate as complementary policies, and if both of them were in place, they might have a mutually reinforcing beneficial effect. Nevertheless, there is one important dimension in which they do compete, and that is for scarce public resources. This latter competition may be decisive, since if available government expenditure is devoted exclusively to one of them, then this on its own may rule out the other. Specifically, in the Malawi case, the government has chosen since 2005 to use most, if not all, of its available 'fiscal space'[5] to fund the agricultural input subsidy scheme. This has effectively relegated social transfers to the sidelines of government efforts to reduce extreme poverty and hunger, since the various partial schemes operating on the social transfers side depend almost entirely on project funding by bilateral or multilateral aid donors. The trade-offs involving fiscal space in Malawi is examined in Chapter 8 of the thesis.

These considerations lead to a set of research questions about vulnerability reduction policies in Malawi, which this thesis sets out to tackle in pursuit of its overall objective. These research questions are as follows:

(1) What are the chief sources of vulnerability to hunger in Malawi, and how have debates about reducing poverty and vulnerability tended to be framed in the past?

(2) What are the criteria that distinguish different vulnerable groups, and how are the needs of these groups in the short and long term met by different policy levers?

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[5] Fiscal space' refers to the room available to government in the short term to undertake discretionary expenditures, when fixed commitments (e.g. civil service establishment) have been met (Heller 2005).

(3) What is the history of input subsidies in Malawi, and how successful have they been in tackling vulnerability, especially in the most recent era?

(4) What is the history of social cash transfers in Malawi, and what is the evidence to date on their effectiveness at improving the food security of the extreme poor?

(5) What does empirical investigation at community and household levels show us about the effectiveness of input subsidies and cash transfers for achieving family food security in rural Malawi?

(6) What are the budgetary trade-offs in Malawi regarding the costs, coverage and effectiveness of different potential components of a vulnerability reduction strategy?

The research underlying this thesis deployed a variety of methods in order to address its objective and the above research questions, and these methods are set out in full in Chapter 4. Since the chosen research topic spans an array of sub-topics that are infrequently juxtaposed to each other, substantial reliance is placed on secondary data sources in order to construct the analysis of the thesis. For example, an examination of input subsidies and their efficacy requires data on fertilizer use, yields and output in maize, as well as price and food balance sheet data in order to interpret the validity of estimated output trends. Likewise, secondary sources and data sets yield pertinent information on the scope, coverage and costs of social transfer schemes; especially the Mchinji social cash transfer scheme which is the case-study selected for detailed treatment in the thesis. Household and community level empirical investigations were carried out in three communities in Mchinji district in order to examine, over an annual cycle, the ways input subsidies and cash transfers affected the livelihood circumstances of recipient families. In addition, the research involved a considerable number of interviews with key informants involved in policy formulation or implementation at central, district and more local levels; and in this context the principle of triangulation was applied in order to cross check the veracity of different views on the policies under consideration and their implementation.

1.3 Vulnerability, input subsidies, social transfers and social protection

This section sets out in a preliminary way the understandings adopted by this thesis concerning vulnerability, input subsidies and social transfers. These topics are covered in substantially greater detail in the literature review of Chapter 2. Of relevance, too, and also

touched upon here is the term 'social protection' over which quite a lot of confusion exists concerning its coverage and focus in the poverty reduction policy arena.

Vulnerability is a term that evokes weakness and risk of falling prey to an adverse cause (Chambers 1989). Other terms for vulnerability are 'susceptible to' or 'prone to', interpreted in the same sense of not having the strength to withstand an adverse event or circumstance. In the food security and social transfer literature, vulnerability tends to refer almost entirely to vulnerability to hunger, and it is in this sense that it is used throughout this thesis. In other words, the thesis does not address other vulnerabilities to which individuals or families may be prone such as physical violence, or disempowerment or abuse. However, even when narrowed down to 'vulnerability to hunger', the term vulnerability requires further elucidation, especially to distinguish it from poverty (Swift 1989, Dercon 2002, Ellis 2003).

While poverty refers to the failure to attain a minimum acceptable consumption level of food and basic needs, vulnerability refers to the risk of shocks occurring to people's livelihoods, and their ability to deal with such shocks when they occur (Devereux 2002b). This definition of vulnerability has two clearly interlocking components. On the one hand, there is the 'risk' component. Other things being equal, the higher and the more diverse the risks confronted by families, the more vulnerable they are. On the other hand, there is the 'ability to deal with shocks' component. In general, the more assets people own (land, livestock, tools, implements, crops in store) and the stronger their sources of income (e.g. a regular cash wage), the less vulnerable they are. This is because they are able to overcome adverse events (such as the death of an income earning member of the family, or crop failure) from resources they have at their own disposal.

People are highly vulnerable when they are prone to multiple shocks, their incomes are low and uncertain, and they own few assets. Rising vulnerability can occur as a cumulative process whereby incomplete recovery occurs from successive shocks, resulting in an erosion of assets. One of the functions of social transfers (the so-called 'preventative' function) is to prevent this asset erosion from taking place (Guhan 1994). Vulnerability is not directly measurable, nevertheless various proxy indicators of vulnerability have been found useful for policy purposes. One set of these are measurable assets such as food stores and livestock holdings that can be tracked over time. Another set is provided by coping strategies such as reducing the portion size of meals or skipping meals altogether (Maxwell 1996, Maxwell *et al.* 1999).

Poverty predisposes people to vulnerability, and in any given situation there will be a very considerable overlap between people who are poor and those who are vulnerable. This applies even more so to the 'extreme poor' or 'ultra poor', often defined as those unable to secure even the minimum nutritional requirements for a healthy existence (Halder and Mosley 2004). Nevertheless, it is possible to envisage circumstances in which poor people live in relatively risk free environments, with stable social and economic institutions, and are therefore poor but not vulnerable. Indeed, it could be said that a key aim of social transfers is to reproduce such circumstances, such that people's low income does not also expose them to a high risk of starvation or destitution. Conversely, people in high risk environments may be non-poor but vulnerable, for example, if they live on a flood plain, earthquake zone or face unusually variable and unpredictable climatic cycles (Wisner *et al.* 2004).

In poor agrarian economies like Malawi, the performance of small farm agriculture has long been understood to play a central role in determining the scale of national poverty, and the pace at which it can be reduced through economic growth. This is because in such economies, the majority of the poor are rural, and their livelihoods are based in crop and livestock production. Growth in small farm agriculture is thought to have properties of labour intensity and employment creation that few, if any, other sectors could match (Christiaensen and Demery 2007); and therefore in the development literature stimulating small farm economic growth has tended to be placed as a priority objective on both growth and equity grounds (Johnston and Kilby 1975, Lipton 1977). In the 1990s, the potential of diversity of income sources for reducing risk and providing pathways to higher incomes in rural areas became a significant subsidiary theme (Bryceson and Jamal 1997, Reardon 1997, Ellis 1998, 2000), leading also to policy advocacy in relation to rural non-farm enterprise (Haggblade *et al.* 2008). While a wide range of policies acting on farm input and output markets in different ways can potentially be deployed to promote increasing yields and higher output in agriculture, policy fashions have changed over the years concerning the amount of government interference in markets that is considered advisable. Subsidies to farm inputs, lowering their price to farmers, are one such set of instruments the credence of which in terms of their costs and effectiveness has varied over the years.

While input subsidies can cover a range of inputs including fertilizer, seeds, fuel, credit and machinery, for most purposes in this thesis the reference is to fertilizer subsidies since these are by far the most important type of input subsidy encountered in Malawi, both nowadays

and in the past. Fertilizer subsidies are not a welfare transfer. In economic terms they seek to overcome sub-optimal use of a key productive input caused by risk and market failure. Small farmers cannot afford the high outlay on full cost fertilizers because of the prevalence of climate shocks that lead to crop failure and ruin, and the absence of credit markets by which such an outlay can be financed. Fertilizer subsidies are supposed to accomplish a transitional, bridging, function (see Chapter 2). They stimulate fertilizer uptake resulting in higher yields, more marketed surplus, higher cash incomes, more money in circulation in rural areas, improving rural credit markets and so on. The past wisdom was that once these outcomes had been achieved, the subsidies should be gradually phased out, for otherwise they would represent a continued substantial drain on public finances, preventing support to other worthwhile social and economic goals from being undertaken.

Fertilizer subsidies do not assist the poorest and most vulnerable rural households directly, although they can have beneficial indirect effects. In most contemporary instances of their application, subsidies apply to a limited quantity of fertilizer that is targeted to small farmers. However, land and labour are prerequisites for productive use of fertilizer, and therefore the landless and those lacking active labour are excluded. Moreover, because the overall quantity made available at the subsidised price is rationed, a parallel market is likely to arise that does the job of allocating the restricted quantity available at some price between the subsidised price and the full price. Studies of the distribution of subsidised fertilizers tend to discover that the majority of eventual beneficiaries are non-poor and better off rather than poor farmers (Minde *et al.* 2008). This is so even if some attempt is made to allocate coupons to poorer farmers, since the latter will, in many cases, sell their coupons because they are unable to afford even the subsidised price that the coupon represents.

Nevertheless, poor and vulnerable people can gain from fertilizer subsidies indirectly in three recognised ways. First, poor farmers who are allocated vouchers and then sell them in effect get a cash transfer (but this is a very expensive way of providing such a cash transfer). Second, lower food prices as a result of higher supply improve the food security position of food deficit farmers and landless rural dwellers. Third, a vibrant agriculture increases demand for rural labour, creating additional jobs and potentially resulting in higher rural wages (Dorward and Chirwa 2011). From the viewpoint of this thesis, these indirect effects are not regarded as the primary reasons for having a fertilizer subsidy, and they do not provide cause for ignoring social transfers that may be able to address a broad range of vulnerabilities to

hunger (including in farming populations) more directly, more effectively, or less expensively than fertilizer subsidies.

Social transfers refer to welfare payments or social security provided by the state to designated beneficiaries in order to ensure that they can meet their minimum food security and basic needs. Social transfers have a long history in the now developed countries as the means by which unacceptable levels of deprivation experienced by the weakest members of society are addressed (Tabor 2002). While social transfers can potentially be made available for a wide variety of adverse circumstances, the core principle of modern social welfare systems is that they should be made available to those members of society who for lifecycle or other reasons outside their control are unable to provide for themselves. The main social groups this principle encompasses are the old, young, chronically ill, and disabled. The related policies are pensions, child benefits, ill health payments, and disability grants. A feature shared by these groups is that they are 'dependent', so the social or moral issue is the sharing of the burden of their dependency between society as a whole and their families.[6]

Until relatively recently, the provision of such social transfers in the poorest developing countries was considered a most unlikely occurrence, simply on the grounds that the governments of such countries would be most unlikely to afford them (Behrendt 2008). However, views change, and the contemporary position is more one of placing social transfers in the balance against other government priorities, so that the prospects of them being funded are at least properly considered. This rise in the prospective role of social transfers has been driven partly by the Millennium Development Goals (MDG) agenda (social transfers provide additional instruments to lift people out of poverty, or to get children into school, or to improve gender outcomes) (Barrientos and Hulme 2008, Grosh *et al.* 2008), and partly by the switch in thinking mentioned earlier from crisis-driven emergency responses to the provision of predictable transfers.

In addition, a rather different focus in terms of beneficiaries has marked the discussion in low income African countries. Instead of a focus on 'dependent' categories of the population, the focus has been on targeting the extreme poor, in countries where more than half the population are estimated to be poor according to household income and expenditure surveys. The particular social transfers under consideration have therefore been 'poverty-targeted'

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[6] Of course many older people may not be 'dependent' until they become frail with age, but in wage labour based societies they nevertheless require pensions in order to purchase food and basic needs.

transfers, and this emphasis has been deliberate and related to the affordability issue. If suitable eligibility rules could be devised, then a 'poverty-targeted' transfer would reach far fewer beneficiaries than would be captured by a categorical transfer like pensions, and might be affordable while tackling the most severe of all vulnerability problems (i.e. those people not able to secure enough food even in normal circumstances). The term 'social cash transfers' (SCTs) tends in the recent literature to refer to transfers made to beneficiaries on the basis of selection criteria for extreme poverty (Devereux *et al.* 2005).[7] This is to distinguish this approach from social transfers in general, and from 'categorical' transfers like old age pensions.

While SCTs are of particular interest here because the thesis explores the comparison between input subsidies and SCTs as instruments for attacking vulnerability to hunger in Malawi, this account of different types of social transfer in the low income country context is incomplete. Another substantial category of social transfers are seasonal safety nets of the food-for-work or cash-for-work variety that limit financial exposure in rather a different way, by only coming into existence for periods of the year or in places where the problem of incipient hunger is most acute. In Malawi, seasonal safety nets have played a significant hunger prevention role in the past, although they are declining in credibility for a number of reasons that are elucidated in Chapter 2, and thence are giving way to the poverty targeting approach.

The poverty targeting approach is itself the subject of critical discussion. In pilot schemes, it has been found that about 65 per cent of beneficiary households are headed by persons aged 65 years or over (Schubert 2007b), resulting in pertinent questions about the effort and cost of beneficiary selection, when a social pension could do the job just as well with a fraction of the administrative complexity. Politics also importantly enters the picture, since poverty targeted transfers tend to have little electoral traction, while pensions once introduced are politically popular and, like input subsidies in Malawi, the defence of them by a government in power is found to be a powerful force for re-election in countries such as Lesotho that have implemented them (Pelham 2007, Hagen 2008, Likoti 2008).

Social protection is quite a confusing term. It entered the development lexicon at some point in the 1990s, and was being widely used by academics and international aid agencies to describe an extended view of social transfers by the mid first decade of the 2000s. At one

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[7] Social cash transfers are permanent schemes that transfer cash on a regular and reliable basis to eligible beneficiaries (Schubert 2005, p.8).

level it is merely new terminology for the older and more widely understood notions of 'social security' or 'welfare policies'. At another, it is a broader and more inclusive term, covering not just social transfers, but also the rights and entitlements to transfers that citizens should possess, and the promotion of improving livelihoods in addition to the protection of minimum levels of consumption. A full discussion of difficulties around the meaning of social protection is deferred to Chapter 2 of this thesis. In the meantime, a widely accepted contemporary definition is provided by Devereux and Sabates-Wheeler (2004), and is stated as follows:

> 'Social protection describes all public and private initiatives that provide income or consumption transfers to the poor, protect the vulnerable against livelihood risks, and enhance the social status and rights of the marginalised; with the overall objective of reducing the economic and social vulnerability of poor, vulnerable and marginalised groups' (Devereux and Sabates-Wheeler 2004, p.9).

This definition contains certain basic components with which this thesis would agree. The chief focus is on social transfers that directly improve the consumption level of designated beneficiaries. However, social inclusion is also an important aspect. Social protection seeks to ensure that the weakest members of society are able to participate fully in social and economic life. Social protection also typically includes employment protection, and health and safety, in formal sector places of work.

The foregoing is intended only to give a taste of the key issues that preoccupy this thesis. At the centre is vulnerability to hunger which is an ever present dimension of social and economic life in Malawi (Rethman 2006), and one which has scarcely diminished over the more than four decades since independence in 1964. Indeed, until the recent burst of growth (partly attributed to the inputs subsidy) of the period 2006-10, vulnerability in Malawi was considered to be spreading and intensifying due to the frequency and scale of humanitarian actions required in the 1990s and early 2000s. Input subsidies represent the preferred Malawi government policy to overcome poverty and vulnerability, but their effects need differentiating between different types of vulnerable people, and the claims made for their success require critical scrutiny. Social cash transfers have also been advocated, and are being piloted on quite a large scale in Malawi. However, such transfers are themselves just one of an array of prospective social transfers that are preoccupying social policy debate in low income countries and their feasibility at scale remains largely unproven.

1.4 Linking poverty, vulnerability and the maize economy in Malawi

Malawi has made slow economic progress since gaining independence from Britain in 1964. As shown in Table 1.1 gross domestic product (GDP) measured in constant US$ has increased fourfold in the forty years from the late 1960s to the late 2000s. Since population has risen 3.4-fold in the same period, gains in per capita GDP have been really quite small over such a long historical period, when much of the world experienced an extended (with short interruptions) economic boom. Specifically, GDP per capita rose by 24 per cent overall, going from US$120 to US$149. By comparison over this same historical period per capita income in South Asia grew by 207.9 per cent from US$207 to US$639, in India by 242.5 per cent from US$198 to in US$676 and in China by 1,723.8 per cent from US$101 in 1965 to US$1,842 (World Bank 2010b).

Table 1.1 shows that there are significant sub-periods within the overall growth trend. Strong growth occurred in the first two decades post-independence which, as is discussed in Chapter 3, resulted in part from policies that favoured estate over smallholder agriculture and in part from nascent manufacturing in branches of industry capable of succeeding in a small economy (such as beer brewing, local food canning, and others). There then followed a long period of relative stagnation, punctuated by short sub-periods of improvement (one of these was in the late 1990s).

Table 1.1: Trends in major socio- economic indicators of Malawi, 1965-2009

Period (Year)	GDP (constant 2000 US$ m.)	GDP growth (%)	GDP per capita (constant 2000 US$)	GDP per capita growth (%)	Population (million)	Population growth (%)
1965-69	502.8	7.6	120.2	5.0	4.2	2.5
1970-74	660.7	6.5	137.2	3.3	4.8	3.0
1975-79	887.2	6.0	156.8	2.6	5.6	3.3
1980-84	996.9	1.3	151.9	-1.5	6.7	2.9
1985-89	1,135.4	2.1	139.7	-3.2	7.9	5.4
1990-94	1,290.8	1.3	132.3	-0.6	8.8	1.8
1995-99	1,593.9	7.0	148.1	4.1	9.8	2.8
2000-04	1,689.1	0.8	134.7	-2.1	11.0	2.9
2005-09	2,164.9	7.4	149.4	4.4	12.6	2.8
Average	1,213.5	4.4	141.1	1.3	7.9	3.0

Source: Government of Malawi (2008f); World Bank (2010b)

According to the World Bank data in Table 1.1, GDP per capita in the early 2000s was 14 per cent lower than the average figure for the late 1970s. Not too much should be read into these figures since several revisions in GDP methodology and numerous exchange rate changes will have occurred over this period. However, researchers (e.g. Kydd and Christiansen 1982, Sahn and Van Frausum 1994, Harrigan 2001, Conroy *et al.* 2006) who have kept track of the Malawi economy since its early post-independence period are widely agreed that the economy stagnated or declined in this middle period, and this sense of stalled progress also reveals itself in plenty of other data, such as in rural household surveys (e.g. Ellis *et al.* 2003), and in hunger crises of the 1990s and early 2000s (Devereux 2002a, International Federation 2006). In the latest period, growth seems to have picked up momentum; indeed for 2007, 2008, 2009 and 2010 estimated overall real growth rates of 9.8, 7.7, 6.7 and 7.6 per cent respectively were recorded (Government of Malawi 2010g).

The most recent full household income and expenditure survey in Malawi, referred to as the second Integrated Household Survey (IHS2), was conducted in 2004-05. This yielded a poverty estimate of 52.4 per cent and an ultra-poverty estimate of 22.3 per cent (Government of Malawi 2005b). Later in the thesis regional and district level patterns of poverty and ultra-poverty are examined. Subsequent partial surveys (welfare monitoring surveys) conducted in 2007 and 2008 suggest a fall in poverty and ultra poverty since 2005, down to 40 per cent and 15 per cent for these two measures respectively in 2008 (Government of Malawi 2009h). It is not known how firmly such results can be treated, and it will require another full survey to confirm the strength or otherwise of such trends. Based on the 2004-05 results, poverty in Malawi is overwhelmingly rural in character. Rural poverty was estimated at 56.3 per cent, urban poverty at 25.4 per cent, and the rural poor corresponded to 94.5 per cent of all poor people in Malawi. This thesis is concerned with rural poverty and vulnerability. For this reason, except in passing, it does not refer to policies appropriate to urban poverty and deprivation.

Malawi is a fairly unequal country. Derived from the 2004-05 IHS2, the gini coefficient of income inequality was 0.39 overall, with an urban inequality coefficient of 0.48 (Ellis 2011). Table 1.2 provides data derived from the IHS2 on mean per capita expenditure by decile for rural areas, urban areas and the country as a whole. In rural areas, the bottom 60 per cent of the population has little separating them in terms of material standards of living. Indeed, when converted into US$ at the exchange rate prevailing at the time of the survey, only US$1.8 per

capita per month separates each decile from the first up to the sixth decile (Ellis 2011).[8] In rural areas, as depicted in Figure 1.1, small changes in inter-decile per capita consumption occur up to the sixth decile, with steeper disparities intensifying through the seventh to tenth decile. The comparative picture for urban areas displays greater inequality occurring throughout the distribution, with especially large differences at the high income end.[9]

Table 1.2: Monthly Per Capita Expenditure by Income Decile (MK per month)

Decile	Rural		Urban		National	
	Mean	Inter-Decile Change	Mean	Inter-Decile Change	Mean	Inter-Decile Change
1	552	-	801	-	565	-
2	776	224	1,200	399	801	237
3	949	174	1,511	311	988	187
4	1,123	174	1,851	340	1,174	186
5	1,311	188	2,231	380	1,380	206
6	1,529	218	2,746	515	1,619	240
7	1,802	273	3,433	687	1,923	304
8	2,175	373	4,398	965	2,363	440
9	2,820	645	6,624	2,226	3,154	791
10	5,097	2,277	16,147	9,523	6,902	3,747

Source: Ellis (2011)

Figure 1.1: Malawi rural, urban and total income distributions, by decile
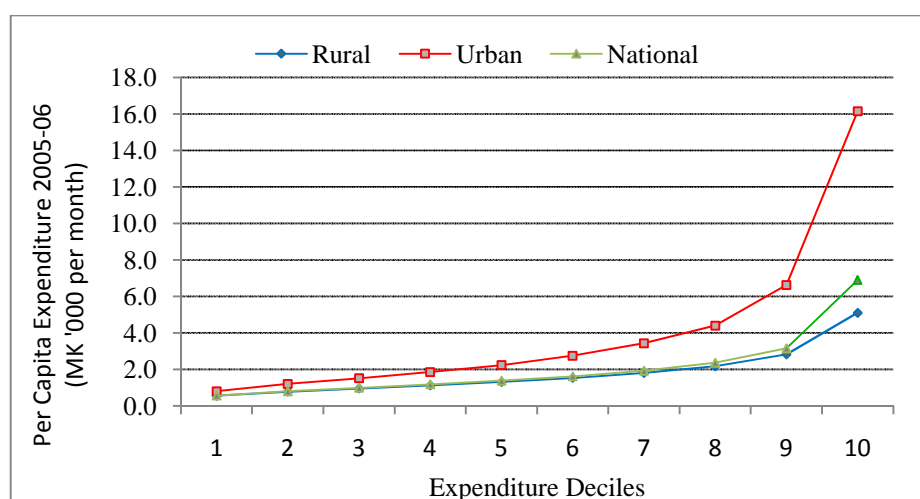
Source: Data contained in Table 1.2

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[8] The exchange rate used by Ellis (2011) was MK108.9 to the US$.

[9] Note that it is not unusual for the first inter-decile difference to be unexpectedly large in data sets of this kind. This is because more statistical variation in per capita expenditure occurs in the first decile, where implausibly low expenditure levels may be recorded even after data cleaning.

The IHS2 collected a considerable amount of data pertinent to understanding vulnerability to hunger in Malawi, and this data was analysed by several teams who published their findings in key documents (e.g. Devereux *et al.* 2006a, Government of Malawi/World Bank 2006, World Bank 2007a). One of these teams summarised their findings thus:

> . . . .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 (e.g. Devereux *et al.* 2006a, p.14).

The IHS2 questionnaire asked respondents to state the frequency with which shocks occurred to them, and the types of shock that were most serious. Ninety-five per cent of respondents reported one or more shocks in the preceding 5 years. The most prevalent of these were large rises in food prices, low crop yields due to drought or floods, illness or accident of household members, and death of a family member. These represent a mixture of weather-related and personal risks and shocks that are pervasive for rural Malawians. Factors predisposing households to ultra poverty in these reports were found to be large household size, more young children, lack of active adult labour, lack of access to land and female household headship. The reports also emphasised the dynamic character of poverty and vulnerability, in particular that successive shocks could push formerly non-poor households into poverty.

Maize has historically played a pivotal role in social and economic life in Malawi, and this remains the same to this day. It is the staple food of the population and fundamental to food security in Malawi. Its cultivation occupies roughly 60 per cent of the cultivated area in the small farm sector (Government of Malawi 2008a, p.44).[10] It is variously estimated that maize contributes between 55 per cent (Jayne *et al.* 2008) and 72.8 per cent (FEWSNET 2007) of all calories consumed by the population of Malawi. Some 97 per cent of small farmers are thought to grow maize (Government of Malawi 2005b). Table 1.3 presents selected indicators of maize production while Figure 1.2 compares trends in per capita maize production and consumption requirements.

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[10] Refers to 2007/08 crop season: maize occupied 1.6 million ha, and all crops 2.6 million ha. The latter figure excludes coffee, macadamia nuts and cashew, which are counted in number of trees in the MoAFS data.

Table 1.3: Historical maize output and requirements 1965 to 2009

Period (Year)	Maize area (million ha)	Maize output (million tons)	Maize yield (kg/ ha)	Per capita output (kg)	Per capita surplus /deficit (kg)*	Per capita surplus /deficit (%)
1965-69	1.01	1.05	1,057	252.56	94.16	36.6
1970-74	1.08	1.20	1,108	249.55	91.15	35.7
1975-79	1.06	1.25	1,171	222.72	64.32	28.2
1980-84	1.12	1.32	1,179	198.35	39.95	20.0
1985-89	1.20	1.36	1,129	171.47	13.07	7.2
1990-94	1.31	1.29	976	146.40	-12.00	-29.3
1995-99	1.20	1.63	1,269	166.12	7.72	0.8
2000-04	1.50	1.76	1,209	161.35	2.95	-1.2
2005-09	1.54	2.66	1,790	209.52	51.12	14.9
Average	1.23	1.50	1,210	197.56	39.16	12.5

* Author calculations based on per capita maize requirement of 158.4 kg per year, explained in Chapter 4.

Source: Derived from data compiled from Government of Malawi (2008a, 2009f, 2010f) and FAO (2010).

It can be seen that maize output increased steadily from 1.01 million tons in late 1960s to 1.36 million tons in the late 1980s (5-year averages). Between 1990 and 1994, production declined to around 1.29 million tons per year owing to many factors, discussed in Chapter 3, the impacts of which was reflected in the lowest recorded maize yield in the history of maize production in Malawi (976 kg per ha). Production picked up again to 1.63 million tons in 1995-99, much higher than during the earlier years and reaching an average of 2.66 million tons in the last five years of this decade (2005-2009). These averages of course mask great annual fluctuations in production, especially during the first five years of the 2000s when the yield varied between 1,099 kg per hectare in 2000/01 and 809 kg per hectare in 2004/05.

The maize production figures in Table 1.3 which have been graphed in Figure 1.2 are also pertinent to the examination of domestic maize availability per capita over the years. In recent years, maize output has been between 2.6 and 3.6 million tons per year. With a population of around 13 million people, this has meant an apparent per capita maize surplus of 15 per cent or 51.1 kg per capita after annual consumption requirements (about 160 kg per person per year). At a national aggregate level, this is well in excess of annual domestic consumption, and should imply that the country is more than self-sufficient in its staple food. However, it is

probable that production data in recent years is not quite as it seems in official statistics, a consideration which is examined in more detail in Chapter 5 of the thesis.

Figure 1.2: Trends in per capita maize output and requirements 1965-2009
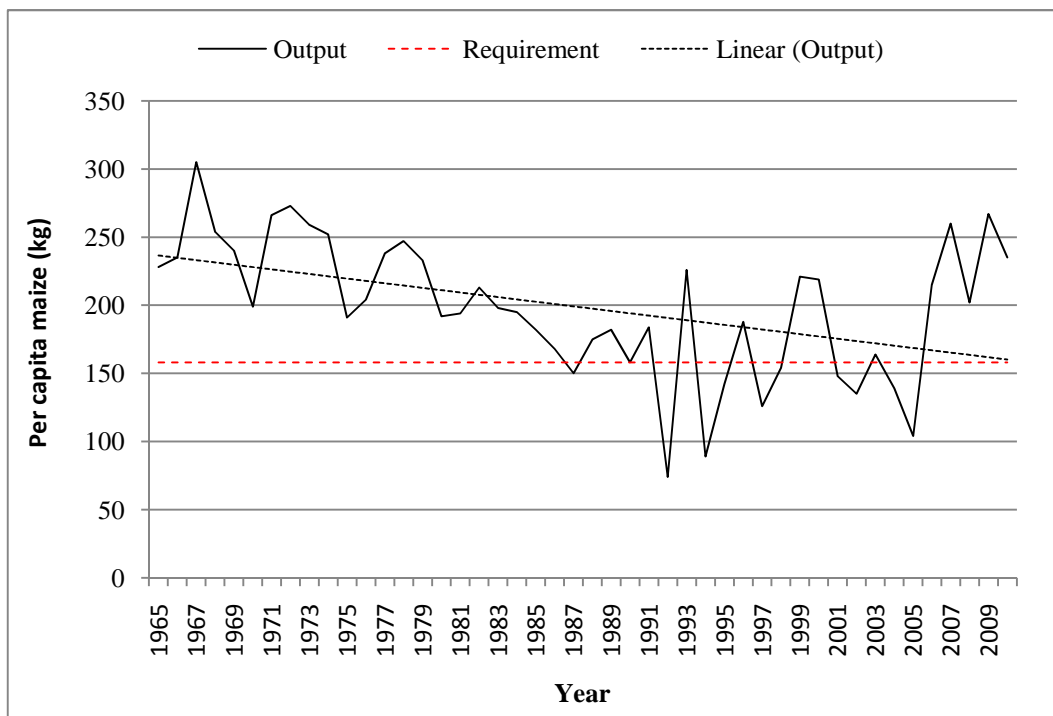
Source: data series underlying Table 1.3

In contrast with output the cultivated maize area has continued to rise steadily from 1.01 million hectares in the 1960s to 1.54 million hectares in the late 2000s. There have been specific years when the harvested maize area has been below 1 million hectares, indeed three individual seasons in the period of 40 or so years. The lowest maize areas were recorded in 1966/67 (0.86 million ha), 1979/80 (0.97 million ha) and 1995/96 (0.88 million ha) due to drought in the first two cases, and more widespread agricultural collapse in the last instance. The generally rising trend in maize area diminishes the area available to other crops, and limits greater diversity of food crop output in Malawi (Mloza-Banda 2005).

The overall maize output shown in Table 1.3 is a product of cultivated area and the yield level achieved. In the first twenty years, maize yields grew steadily from 1,057 kg per ha in 1965-69 to 1,179 kg per hectare in 1980-84 before declining to the lowest 976 kg per ha in the 1990-94 period. The average yield improved in the late 1990s, but fell back again in the early 2000s, attributable to difficult weather conditions, and (arguably) a change in the subsidised

fertilizer regime (to be examined later in the thesis). In the later 2000s, substantial improvements in yields seem to have occurred, giving rise to an average yield of 1,790 kg per ha in the 2005/09 period. This represents a 48 per cent increase above former long run yield levels; however, as in previous years, considerable annual fluctuations in yields have continued to occur.

Table 1.4: Historical maize areas and yield by variety, 1985 to 2009

Period (Year)	Maize Area (million ha)			Maize yield ((Kg/ha)		
	Local	Composite	Hybrid	Local	Composite	Hybrid
1985-89*	1.14	0.02	0.06	1,033	1,531	2,743
1990-94	1.09	0.01	0.21	725	1,123	2,238
1995-99	0.86	0.02	0.37	864	1,267	2,221
2000-04	0.80	0.23	0.42	770	1,366	1,952
2005-09	0.54	0.53	0.45	1,372	1,769	2,526
Average	0.86	0.18	0.32	946	1,401	2,300

* Refers to three years from 1986 to 1989, years data is available

Source: data provided in Table 4.3 Chapter 4

The rise in maize yields in recent years represents a combination of several different factors, amongst which relatively benign rainfall patterns, the ISP, and changes in the variety of maize cultivated have all made contributions. As shown in Table 1.4, Malawi has three broad types of maize varieties which are local, composite (open pollinated varieties or OPV in short) and hybrid maize[11], with farmers in recent years apparently preferring the higher yielding hybrid maize (Dorward *et al.* 2008). Serious efforts to promote hybrid maize in Malawi gathered momentum in 1998/99 when the government distributed free hybrid seed to every farmer through a nation-wide starter pack input scheme. In the subsequent scheme (the targeted input programme) from 2000/01 to 2004/05, policy emphasis shifted to OPVs. Since 2005/06, the government has promoted both hybrid and OPVs under the input subsidy programme but, as discussed later in Chapter 5, constraints to farmer access to the seed still persist.

As trends in Figure 1.3 show, the area devoted to local varieties has declined from 1.2 million ha in 1986 to only 400,000 ha in 2009. The areas under composite varieties remained very low throughout the 1990s but this has grown rapidly especially with the ISP from 2005/06 and now corresponds to a third of the cultivated area (400,000 ha). Similarly, the maize area

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[11] These three groups of maize varieties are also referred to as flint, semi-flint and dent maize varieties, reflecting the relative hardness of their starch. Hybrid maize gives higher yields but there are also arguments that OPVs are poor friendly since they can be recycled by farmers and can do better with limited fertilizer (Hardy 1998, Denning *et al.* 2009).

under hybrid maize remained low until the 1998/99 crop season, when their use jumped upwards in connection with the introduction of the nation-wide starter pack scheme, but then declined during the TIP era (2001-2005)[12]. As can be seen in Figure 1.3 the area under these three groups of varieties has converged over time, so that they now represent nearly equal shares in the total area under maize cultivation in Malawi.

Figure 1.3: Trends in maize area by variety, 1985 to 2009
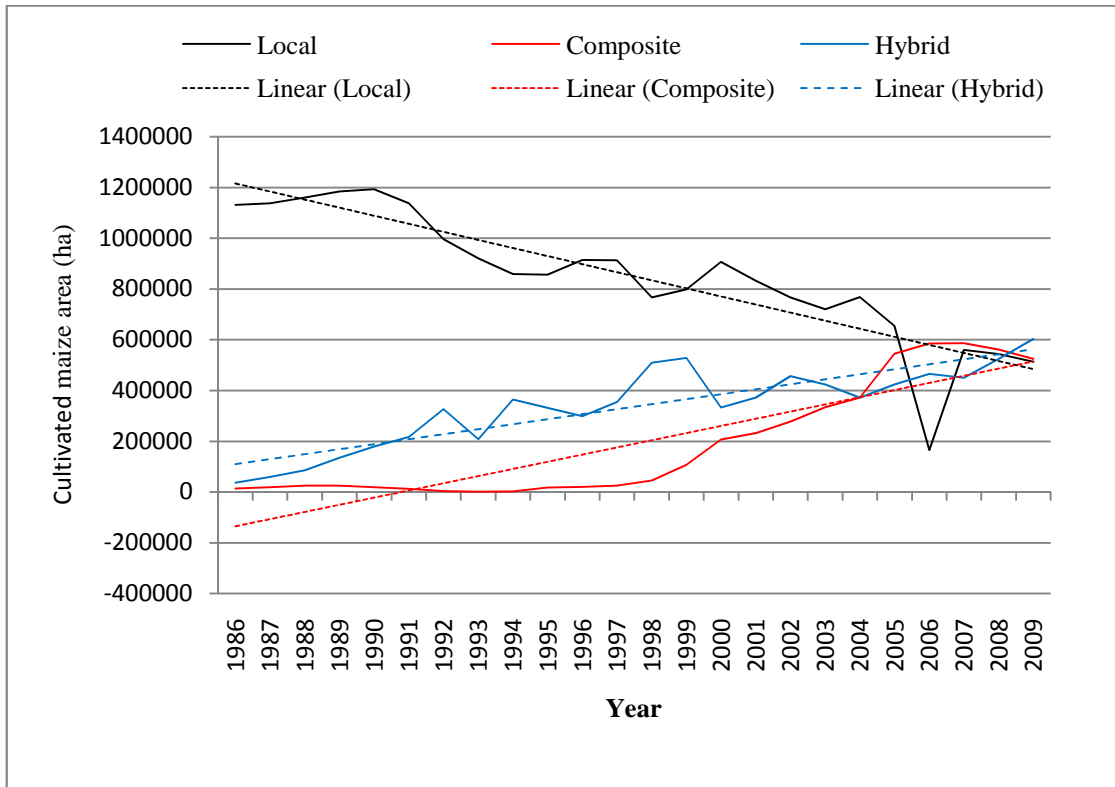
Note: Year 1986 refers to production season 1986/87 and so on.

Source: data series underlying Table 1.4

In brief summary of these contextual economic aspects of the present study (a) Malawi has a generally weak record of per capita income growth, and has remained one of the poorest countries of the world since independence in 1964, however, economic performance in the period 2006-10 has improved markedly; (b) the most recent full integrated household survey (the 2004-05 IHS2) put poverty in Malawi at 52.4 per cent, and ultra-poverty at 22.3 per cent; partial subsequent surveys indicate a subsequent rapid decline in the poverty rate but this must

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[12] Four factors have been implicated in the slow adoption of hybrid maize varieties in Malawi. These are the historical absence of a significant settler population, a previous government growth strategy through estates, lack of cash to purchase inputs, and farm families' preference for local maize (Smale and Heisey 1997, Smale and Jayne 2009).

be regarded as provisional pending proper verification; (c) vulnerability to hunger in Malawi was observably intensifying throughout the 1990s and early 2000s, but this process may have been reversed in the most recent era; [13] and (d) Malawi's reliance on maize for food security at national and household levels has remained a constant feature for the entire past 40 years, and this continues to hold true in the most recent era.

1.5 Structure of the thesis

This chapter sets out the objective of this thesis to take forward contemporary policy debates in Malawi regarding the most appropriate combination of policy instruments for overcoming vulnerability to hunger in the country. The distinction is made between production oriented instruments, exemplified by the agricultural input subsidy programme; and consumption oriented instruments, exemplified by the Mchinji social cash transfer scheme. The chapter provides a brief summary of evolving policy ideas in relation to poverty and vulnerability reduction, as well as an overview of key features of the Malawi economy. Research questions to be addressed by the thesis are set out.

The thesis proceeds as follows. In Chapter 2, the background ideas that inform the thesis are explored in relation to the wider literature. The economic rationale and the historical experience of inputs subsidies are examined, including changing views about them up to the present time. In similar fashion, evolving ideas about social welfare policies, and the different forms that social transfers can take are summarised. Ambiguities that occur around the term social protection and its scope are discussed, and clarification for the purposes of the thesis is provided. Finally, the chapter shows how social protection, vulnerability and agriculture are interwoven at the conceptual level, as well as in the reality that the most vulnerable people in a country like Malawi are food deficit poor farmers.

Chapter 3 provides essential information about Malawi that is important for the argument of the thesis. The chapter contains an agricultural policy history of Malawi, oriented especially to the role of fertilizer subsidies in Malawi agricultural policy over past decades. The chapter also provides a history of social transfers and social transfer policies in Malawi, including public works programmes associated with the Malawi Social Action Fund (MASAF), and the adoption of a National Safety Net Policy. The chapter concludes with a brief consideration of

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[13] The progression of vulnerability in Malawi at the turn of the 21st century is elaborated in Chapter 3, Section 3.4

politics in Malawi, and the way decentralised public administration is organised in the country.

Chapter 4 is concerned with research methods. The thesis comprises three sets of methods. The first involves making use of data collected by the Malawi government; the second involves village and household level research covering 90 households in Mchinji district; and the third involves key informant interviews with stakeholders, often with a view to triangulating the interpretation of policy options provided by different respondents with differing ideas. The chapter summarises the collection methods for various data series produced by the Malawi government that play important roles in the thesis. It also describes the community selection and sampling approach to fieldwork, and the organisation of key informant interviews.

The agricultural input subsidy programme (ISP) is examined in Chapter 5. The chapter provides an overview of the programme, details of its organisation (and how this has evolved since the programme has been in operation), economic features of the programme (coverage, effect on fertilizer use, amount of subsidy in successive years, cost of delivery, findings of programme evaluations), and a consideration of the programmes strengths and weaknesses in terms both of its own criteria and the interests of this thesis in vulnerability reduction. The chapter contains an extended section on the likelihood that maize output levels since the ISP was introduced have been as high as officially recognised. Price behaviour in the maize market in 2007 and 2008 suggests that official maize output levels are infeasible in economic terms, and an exercise is conducted to assess how large this discrepancy has been.

The Malawi social cash transfer scheme, also often referred to as the Mchinji scheme from the district in which it was first introduced is examined in Chapter 6. This chapter provides an overview of social cash transfers in Malawi, the details of how the Mchinji scheme was implemented, how this organisation has evolved, what evaluations have had to say about the scheme, and strengths and weaknesses that are identified from secondary sources. The chapter contains an extended section that critically examines the 10 per cent principle which has capped the number of beneficiaries in the Mchinji scheme. Spatial patterns of poverty and ultra-poverty are examined, and the income distribution implications of providing the Mchinji level of cash transfers are considered.

The ISP and the social cash transfer scheme in Malawi are independent programmes but operate side by side in some communities, including using community targeting to select beneficiaries. In Chapter 7, empirical investigation of a sample of 90 households is utilised to examine how these programmes interact at household and community level. The chapter looks specifically at three main dimensions: (a) organisation and beneficiary selection; (b) food security differences between cash transfer recipients and non-recipients; and (c) the impact of ISP coupon receipt on farmer input behaviour, comparing coupon recipients with non-recipients, and households that received both coupons and cash transfers.

Chapter 8 draws the threads of the thesis together in a particular way. It examines how the vulnerability reduction attributes of input subsidies and social cash transfers differ from each other, and reveal different strengths and weaknesses. It also widens out the social transfer side of the picture to consider other transfers such as social pensions. The chapter examines the ability of the Malawi government to afford subsidies or transfers, given the structure of and balance of government income and expenditure. The historical and current budgetary cost of input subsidies is examined. An exercise is conducted to show how the same budgetary outlay could be allocated in different ways to provide a diverse portfolio of vulnerability reduction policies.

Chapter 9 is the final chapter of the thesis. The chapter returns to the objective of the thesis, and reviews this in the light of what the thesis has discovered. It then proceeds to summarise how the thesis has tackled the six research questions set out in this chapter, and the findings that have emerged under each of those headings. Finally, the chapter seeks to put forward a balanced assessment of the implications of the findings of the thesis for future vulnerability reduction policy in Malawi.

Chapter 2: Input Subsidies, Social Protection and Vulnerability

2.1 Input Subsidies

This chapter synthesises the background ideas that inform the topic and research questions of the thesis. The chapter examines the economic rationale and past experience with input subsidies, as well as summarising the treatment of them in recent literature. This is followed by a parallel tour of emerging ideas about social transfers in low income sub-Saharan Africa. Finally, the chapter expands on the brief introduction to vulnerability provided in Chapter 1, and links vulnerability ideas to social protection and farm inputs.

Input subsidies are one amongst an array of policy levers that are used by governments in order to achieve output or income goals in agriculture. Other such policies include output price stabilisation, controls over marketing, reducing the cost of credit, constructing irrigation systems, developing new technologies, and diffusing new ideas through agricultural extension systems. In the past, in countries like Malawi, governments became deeply engaged in manipulating the economic environment surrounding agriculture. Often a single government agency, such as the Agricultural Development and Marketing Corporation (ADMARC) in Malawi would be delegated broad powers to implement such policies, and might be designated monopsony powers in the purchase of crops from farmers and monopoly powers in the delivery of fertilizers and seed. Often, too, for equity as well as stabilization reasons, a single pan-territorial and pan-seasonal producer price would be fixed for key strategic crops in advance of the agricultural season (Harrigan 2001, Djurfeldt *et al.* 2005).

Input subsidies became a popular policy instrument in low income developing countries in the 1960s. They are associated with the recognition that small-farm agriculture could be efficient (Schultz 1964, Hopper 1965), which in the mid- to late-1960s overturned previous ideas about the non-formal or 'traditional' economy acting as a source of labour to the modern sector of the economy, including estate or plantation agriculture (Lewis 1954, Figueroa 2004).[14] This period also saw the advent of new, higher yielding, varieties of wheat and maize which began to be adopted rapidly in Latin America and Asia (Herdt and Capule 1983, Dalrymple 1986b,

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[14] Figueroa (2004) points out that the Lewis 'dual economy' model was not about subordinating agriculture to industrial development, but was about moving labour from non-accumulating sectors to sectors offering the potential for accumulation and growth. These latter sectors could equally be agricultural as industrial.

1986a). A new mainstream thinking emerged, in which small farmers would be encouraged to make a leap forward in production technology, by combining new varieties with appropriate levels of inputs, and (where possible) with sufficient control over water availability (irrigation) in order to ensure that high yields could be attained and sustained (Johnston and Kilby 1975). This was the so-called Green Revolution, also sometimes referred to as the seed-fertilizer-water revolution (Blyn 1983, Lipton and Longhurst 1989).

The basic economics of manipulating an input price like that of fertilizer is shown in Figure 2.1 (Ellis 1993, pp.18-26). This shows in a stylised way the relationship between the output of a crop like maize or rice and differing levels of fertilizer use, holding other conditions of production constant. It is assumed that some level of output, denominated Y_1 would occur in the absence of fertilizer. Thereafter, output increases as fertilizer use increases; however, at a characteristic diminishing rate with ever larger quantities of fertilizer (the law of diminishing marginal returns). Eventually, a maximum level of output occurs, shown as Y_{MAX}, beyond which no further output gains are made for increases in the fertilizer input.

Figure 2.1: Influencing Fertilizer Use by Changing Its Price
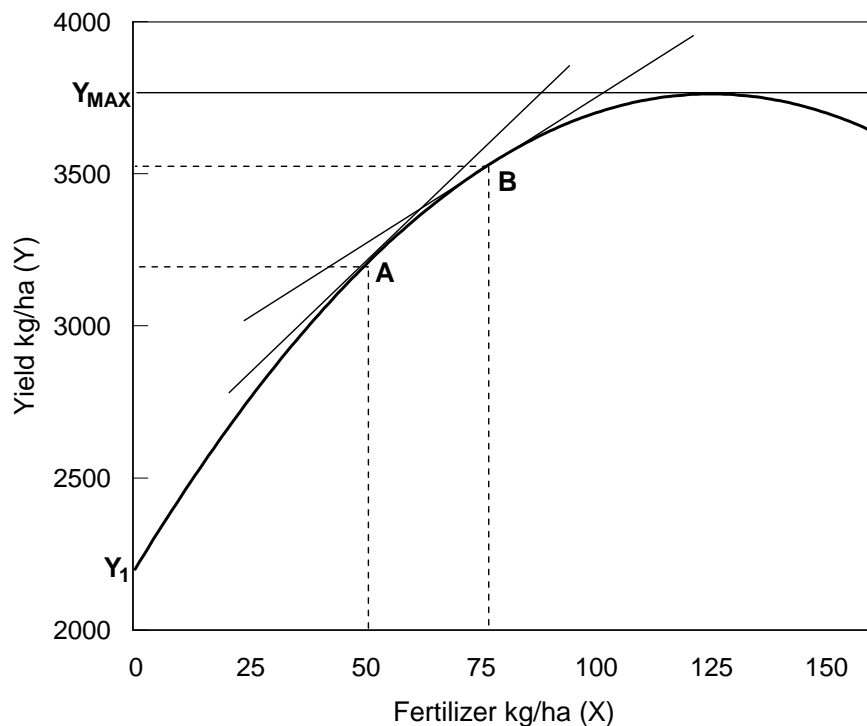
Source: based with changes on Ellis (1993, p.24).

If output, Y, is expressed in value terms (i.e. the physical output multiplied by the producer price, P_y), and if we have a price for fertilizer (P_x), then the economic optimum level of output and fertilizer use occurs at point A on the production function, when the familiar condition is satisfied that:

$$MVP_x = P_x \qquad\qquad (1)$$

Here, MVP_x is the marginal value product of fertilizer (i.e. the additional output value obtained by increasing fertilizer use by one unit), and P_x is the price of fertilizer. If equation (1) were not satisfied, then either $MVP_x < P_x$ and more is being paid out for fertilizer than is being obtained in extra output value; or $MVP_x > P_x$ in which case a greater additional value of output could continue to be obtained by increasing the level of fertilizer use. By rearranging this expression, the optimum condition can also be stated as:

$$MVP_x/P_x = 1 \qquad\qquad (2)$$

In other words, the ratio of the marginal value product of an input to its price should equal one. This allows for a conceptually simple test for whether any variable agricultural input is being used by farmers is close to its efficient level of use or not. If the marginal value product of such inputs can be estimated (by no means a straightforward task), then statistically significant departures of the stated ratio from 1 would be indicative of inefficient input use by that group of farmers. Since the marginal value product of increasing an input like fertilizer is the marginal physical product multiplied by the output price (i.e. $MVP_x = MPP_x * P_y$), yet another useful way the optimum level of input use can be expressed is in the form:

$$MPP_X = P_x/P_y \qquad\qquad (3)$$

The marginal physical product of a variable input like fertilizer should equal the price of the input divided by the price of the output. For example if the price of fertilizer is MK500 per kg, and the price of maize is MK50 per kg, then optimum fertilizer use occurs when the additional output per unit of fertilizer use (the MPP) is 10 kg. This makes it possible to see what happens when the price of fertilizer is reduced, holding the price of maize constant. If the price of fertilizer were halved, for example, to MK250, then a new optimum level of input use would occur when the MPP is 5 kg rather than 10 kg. The lower marginal physical product occurs further up the production curve, say, at point B, where fertilizer use and output are both higher than they are at point A. Thus, for a given technology of production, lowering the price of fertilizer should result in higher fertilizer use and higher output.

This analysis is of course highly stylised and really does no more than show the predicted direction of change that is expected to occur if fertilizer prices are lowered. Taken on its own, this would almost certainly turn out to be an exceptionally expensive way of achieving relatively small gains in output. In the real world of the 1960s and 1970s, however, the perceived problem was that most small farmers were not using fertilizers at all. This was partly thought to be associated with their unfamiliarity with cash inputs (coming from a subsistence oriented economy), and partly with their inability to shoulder the risk of cash outlays, in the event of subsequent crop failure (Lipton 1968, Binswanger and Sillers 1983). In effect, the task was to get farmers to move from point Y_1 to point A in Figure 2.1, not from point A to point B, but it was considered that low fertilizer prices (due to the reduction in risk this would cause) might 'jump start' this process. It follows that even at this simple analytical level, input subsidies have been regarded by agricultural economists as transitional policies, only to be kept in place until the desired change in farmer input use were achieved, after which they should be withdrawn.

There are, of course, other aspects of fertilizer purchase by farmers that are not captured in the picture presented so far (Johnston and Clark 1982, Ahmed 1987, Tomich *et al.* 1995). The reliable and timely supply of fertilizer at remote rural depots is another aspect that in the 1960s and 1970s was considered a service that the private sector would not cover adequately, so the state often moved into fertilizer supply management to ensure the availability problem was addressed. Moreover, the purchase of fertilizer occurs in a period of year (the new cultivation season) when all but the best off small farmers lack cash. Therefore, the advance of credit to farmers and their uptake of fertilizer are inextricably linked. Many experiments occurred (and continue to occur) with the provision of credit to farmers to enable them to purchase fertilizer. In the past, this credit was often at subsidised interest rates. Many different institutional models have been trialled, such as providing credit and fertilizer from the same organisation that purchases crops from farmers, allowing recoupment of the credit by deduction of its cost from payments made to farmers for their output. This coordination of different markets (in this case, credit, fertilizer and output markets) is still today considered by some experts a valuable feature of the parastatal era in low income African countries, that deserves reconsidering in cases where the private sector fails to make the necessary connections (Kydd and Dorward 2004, Dorward *et al.* 2005, Poulton *et al.* 2006).

The adoption of new technology offers an even stronger justification for input subsidies than promoting greater input use with an existing technology. Using the same simple tools as for Figure 2.1, an improvement in technology appears as a shift upwards and rightwards of the total product curve (Figure 2.2). The improvement in technology means that higher output is achieved for all different levels of fertilizer input; moreover, the new crop variety may be more responsive to fertilizer than traditional varieties, and over a greater range of fertilizer use. This is illustrated in Figure 2.2 by the steeper slope of the product curve, and a much higher level of input use before maximum output (Y_{MAX}) for a single variable input occurs. The economic optimum input use for a given input/output price ratio occurs at a higher rate of fertilizer use than under the former technology. The same ability to shift farmers' position along the product curve by lowering the fertilizer price also, of course, applies.

Figure 2.2: New Technology and Stimulating a Leap in Fertilizer Use
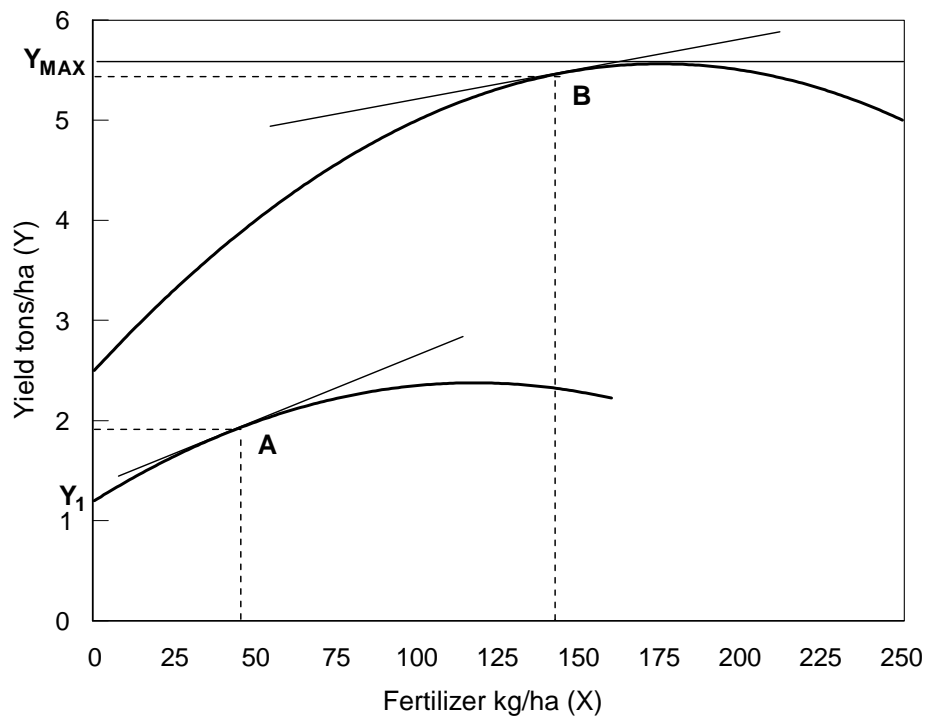
Source: adapted from Ellis (1992, p.138)

The potential jump in output and fertilizer use depicted in Figure 2.2 is referred to in the literature as the 'dynamic disequilibrium' reason for implementing input subsidies (Ellis 1992, pp.138-140). Despite the potential offered by the new technology, illustrated by the shift in the production function, farmers may continue to use no fertilizer at all, or stick to the

level of fertilizer use to which they were accustomed with the previous technology. The purpose of the subsidy, as in the previous case but with hoped for considerably greater gains, is to overcome farmer reluctance to increase fertilizer use due to risk and credit constraints, and to bring use close to the optimum fertilizer requirements for the new higher yielding crop variety. As in the previous case, however, it is not considered that this artificially low cost of fertilizer should remain in place indefinitely. To do so is to invite farmers to use fertilizers at rates of application that go beyond the optimum rate indicated by the opportunity cost of fertilizers to society (the world price of fertilizers), therefore creating economic inefficiency. Moreover, at the higher yields made possible by the new technology, it is expected that farmers would be unlikely to reduce fertilizer application much if a phasing out of the subsidy occurs.[15]

A further aspect of this logic that merits brief consideration is the potential of using the producer price rather than the fertilizer price as the means of stimulating a change in fertilizer use by small farmers (Quizon 1985, Sidhu and Sidhu 1985). An implication of the efficiency condition stated in equation (3) above is that the same stimulus to increased fertilizer use could in theory occur by raising the producer price, as by lowering the fertilizer price. However, this is by reference to an abstract microeconomic model. In practice, small poor farmers either do not engage in the market at all for their staple food crop, or, if they do so, it is only for a small proportion of their harvest needed to meet immediate cash needs. So an output price rise would be filtered through complicated trade-offs between subsistence and sale, weakening its theoretical impact on the motivation to use more fertilizer. In addition, producer price rises have broader unwanted effects on the consumer price of food that most governments would wish to avoid, so in this comparison a fertilizer subsidy is a superior policy instrument. This can also be shown using partial welfare analysis (producer and consumer surplus). An output price rise causes a net welfare loss, whereas a fertilizer subsidy under specified conditions regarding their effectiveness can be shown to produce a net welfare gain (Barker and Hayami 1976).[16]

In the 1960s and 1970s, input subsidies produced variable outcomes, especially comparing the Asian and African experience. In Asia, such subsidies contributed to rising fertilizer use and

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[15] This depends on farmer response to fertilizer price changes once they have got used to usage levels appropriate to the high yielding varieties which they are now cultivating.

[16] In the Barker & Hayami (1976) analysis, producer prices are artificially raised by the government paying farmers higher prices than the world market price.

yield increases which in the case of rice jumped regionally from around 1 to 4 tons per ha. In India, fertilizer use increased from 0.8 million tons in 1965 to 7.7 million tons in 1983 (Desai 1986, 1988). In Indonesia, fertilizer use increased from 0.2 million tons in 1970 to 4.5 million tons in 1986 (Hedley and Tabor 1989, Roche 1994). Nevertheless these experiences also illustrate the financial costs of keeping subsidies in place long after farmers have adopted new varieties and the appropriate levels of fertilizer to go with them. In the Indonesia case, the fertilizer subsidy on its own reached 25 per cent of all government expenditure by the early-1980s (Booth 1989, Hedley and Tabor 1989). This was in a large, industrialising, oil exporting country with plentiful and rising sources of tax revenue. The problem overlooked in Indonesia was that a subsidy that seemed manageable for fertilizer sales, say, of 0.5 million tons, became quite infeasible when sales reached 4 million tons. This, of course, only applies if unlimited supplies to meet demand are made available at the subsidised price, a consideration that does not apply in the contemporary Malawi case.

While in Asia input subsidies are seen as having contributed positively to the Green Revolution, and were in the end phased out or reduced with little subsequent loss in yields or output, in Africa such gains were difficult to discern by the early 1980s (World Bank 1981). Many factors can be identified that contributed with varying significance to the less positive experience in Africa (Mellor and Ahmed 1988). Improvements in maize varieties were slower and more fragmented than for rice and wheat in Asia. Likewise, irrigation (which ensures the availability of water to plants during the period of fertilizer applications) reaches only a fraction of the cultivated food crop area achieved in Asia. African governments had problems financing sufficient supplies of fertilizer (especially after the oil price crises of 1973 and 1979), resulting in rationing at subsidised prices. Fertilizer delivered by parastatal agencies became widely associated with leakages (bags disappearing from trucks and warehouses), and with too little being delivered to farmers too late. By the mid-1980s with the change in policy sentiment towards market liberalisation underway, input subsidies in Africa became one of the priorities for removal under the structural adjustment programmes of the international financial institutions (Commander 1989, Shepherd 1989, Cornia and Helleiner 1994).

Rationing is an important issue in relation to input subsidies that is pertinent in the Malawi case where deliberate rationing has formed the basis of various phases of input subsidy policy implementation. In general, if insufficient supply is available to meet demand at a subsidised price, then rationing will occur. If this rationing is unplanned, being caused perhaps by

inadequate ordering of supplies, insufficient finance, or poorly functioning delivery systems, then a rather anarchic scramble for access is likely to prevail. Rationing causes a parallel market to arise, which will price the input at somewhere between the subsidised price and the full market price for the restricted level of quantity available, depending on the strength of demand at different price levels, and on the severity of the shortfall in availability.[17] Unfortunately rationing encourages corruption in public sector supply chains (the temptation to make side sales out of store increases, the greater the disparity between the subsidised and parallel market price) (Trivedi 1988). This also inevitably means that it is the better off farmers who secure most of the restricted supplies, since only they can afford either the bribes required in order to receive an allocation at the subsidised price, or the parallel market price.

Malawi has followed several different variants of planned rationing of subsidised fertilizer supplies since the re-introduction of input subsidies with the Starter Pack Scheme (SPS) in 1998 (detailed in Chapters 3). Under Starter Pack, the rationing took the form of allocating all small farmers just enough fertilizer each to cover 0.1 ha of maize. This was a universal scheme, so equity in distribution was a key feature (Mann 1998, Blackie and Mann 2005b). Starter Pack was succeeded by a Targeted Input Programme (TIP) in which a similarly very small quantity of seeds and fertilizer were distributed to a restricted number of beneficiaries, designated as those poor but able to farm (Levy and Barahona 2002, Potter 2005). In both SPS and TIP it is likely that some recipients sold their allocations to better off neighbours who were prepared to offer an attractive price for them (Levy 2005a). Therefore some upward 'drift' towards better off farmers is likely to have occurred. In the most recent agricultural Input Subsidy Programme (ISP), rationing occurs through a coupon system (Dorward *et al.* 2008), and a discussion of its distributional features is deferred to Chapter 5.

From the mid-1980s until the late 1990s, fertilizer subsidies became substantially less prevalent in agricultural policy implementation in Africa. This occurred variably and haphazardly across the continent with stronger resistance to external pressures occurring in some countries than in others (Seppala 1998, Jayne *et al.* 2002). The liberalisation period saw significant falls in the proportion of public expenditure devoted to agriculture, and a generalised erosion and fragmentation in public services to the sector. This was to be expected given the external pressures placed on governments by the international financial institutions

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[17] If imports of full price fertilizer are unrestricted then the border price would form the upper limit of this price range.

(IFIs) to decontrol markets and dismantle or privatise service institutions. Many researchers have interpreted emerging food crises in the 1990s as originating in these effects of liberalisation (Gibbon 1992, Engberg-Pedersen *et al.* 1996, Bryceson and Jamal 1997). In view of this enforced retrenchment it seems somewhat disingenuous that the international narrative in the 2000s became one of African governments' failures to invest in agriculture. This has been reiterated in numerous strategic documents including the Millennium Commission strategy to achieve the Millennium Development Goals (UN Millennium Project 2005), the DFID policy paper on agriculture (DFID 2005), and the 2008 World Development Report on agriculture (World Bank 2007b).

There seems little doubt that fertilizer use amongst smallholder farmers declined in the liberalisation period (Bryceson and Jamal 1997). Various experiments were tried to make privatised full cost fertilizer more accessible to small farmers, for example by selling in small quantities in rural kiosks. In the early 2000s, free or subsidised input packages began to be promoted by international NGOs in order to help farmers recover from drought or floods, or deal with chronic food insecurity. Zambia introduced a government-led Food Security Pack (comprising free fertilizer and seeds) in 2000, distributed through a local NGO called the Programme Against Malnutrition (Jayne *et al.* 2006a). The World Bank and others began to talk about 'smart' input subsidies, that would be used to kick-start recovery in countries with languishing agricultures, but which (as in the older arguments) would be withdrawn once a recovery was solidly underway (World Bank 2007b, Minde *et al.* 2008).

Taking this idea further, Morris *et al.* (2007) set out ' ten commandments' that should guide the implementation of market smart subsidies: (1) promote the factor or product as part of a wider strategy that includes complementary inputs and strengthening of markets; (2) favour market-based solutions that do not undermine incentives for private investment; (3) promote competition and cost reductions by reducing barriers to entry; (4) recognize that effective demand from farmers is critical for long-run sustainability; (5) insist on economic efficiency as the basis for the fertilizer promotion effort; (6) empower farmers to make the decisions about soil fertility management; (7) devise an exit strategy to limit the time period of public interventions; (8) pursue regional integration in order to benefit from economies of market size; (9) emphasize sustainability as a goal when designing interventions, and, (10) promote pro-poor growth, in recognition of the importance of equity considerations. These are all very

well but they imply perhaps an unrealistic coordination capability over multiple objectives, as well as neglect of the politics of subsidies.

In brief summary of the present state of affairs, the use of subsidies to promote fertilizer use in low income country agriculture currently seems to have a semi-legitimised status amongst the IFIs and aid donors, captured by the notion of 'market smart' subsidies. This reflects an ambivalent view about their role, how far they should be encouraged, and how to prevent them from becoming too institutionalised.

2.2 Social Transfers

As touched upon briefly already in Chapter 1, social transfers occupy quite a different policy space from input subsidies. Social transfers are a branch of social policy, and are concerned with ensuring the minimum welfare of the weakest and most disadvantaged members of society, while input subsidies are an agricultural growth policy. The two policy spheres are therefore distinguished at a basic level by social transfers being focused on consumption, while input subsidies are focused on production. In recent development policy discussion in Africa, these distinctions have tended to be elided, causing considerable confusion for donors, advocacy organisations and governments. In particular, the advocacy of 'social protection' has tended to cast a wide net, drawing in a broad range of instances in which government in some way 'subsidises' the lives of its citizens, and input subsidies have tended to get caught in this net too.

This section reaches its own conclusion about the advisability of conflating input subsidies and welfare payments, but in the meantime ground needs to be covered concerning a number of critical past and current features of social transfers. All societies must grapple with the human and ethical problem of those members of society who for one reason or another are unable to support themselves through their own efforts. In traditional societies, the extended family and the community were the site at which such social support occurred; however, in the modern world the state also carries obligations to ensure that none of its citizens are wilfully left to perish, and this is enshrined in the 1948 Universal Declaration of Human Rights (United Nations 1948). The developed industrial countries experienced their own past political struggles to achieve social transfers to disadvantaged or excluded social groups; however, the scope, coverage and generosity of such transfers remain debated issues, never fully resolved in any country.

Social transfers can be divided into various different categories, distinguished according to differences in their financing, coverage and nature of beneficiaries' eligibility to receive them (Tabor 2002). A first such distinction is between transfers that do not rely on past contributions for their funding, from those that are mainly funded through contributions paid by their intended beneficiaries. Non-contributory transfers represent obligations taken on by the state to support different categories of people in need, without prior payments made by recipients. Such transfers tend to be referred to in the literature as 'social assistance' (Norton *et al.* 2001). An example would be disability grants paid to all registered disabled people, or an old age pension made to all citizens above a certain age without prior contributions. Botswana, for example, has a non-contributory social pension, introduced in 1996 (Casey and McKinnon 2009).

Contributory transfers are transfers to which people become entitled due to having made prior payments into a scheme. Such transfers are referred to as 'social insurance', since they obey the insurance principle that payments or 'premiums' are paid in order to secure a payout when certain conditions occur. Contributory transfers are especially associated with employment and the formal economy. For example, occupational pension schemes (including civil service pension schemes) are contributory transfers of this type. It is obvious that in a country like Malawi, only a small proportion of the population are covered by contributory transfers, since the formal sector of the economy is small compared to the informal sector, including customary small farmers. Since most poor and vulnerable people in an economy like Malawi are not in the formal sector, most of the discussion about social transfers refers to non-contributory transfers (ILO 2005, Samson 2009). Collectively, social assistance and social insurance taken together are termed 'social security'. This is the established term for social transfers overall, superseded in the literature of the past decade by term 'social protection', to which discussion returns shortly (Barrientos and Hulme 2008, Grosh *et al.* 2008).

A second important distinction regarding social transfers is whether their recipients are required to conform to any activities or obligations in order to receive the transfer. For example, in food-for-work schemes, it is a requirement of the receipt of a food transfer that physical work is performed in a designated public works project, such as repairing a rural road. In some countries, it is a requirement of receipt of benefits that children attend school or infants and young children turn up for regular checks at health clinics. Transfers that require

activities or obligations on the part of their beneficiaries are called 'conditional transfers'. Those who require no such obligations are 'unconditional transfers'.

In contemporary developing countries, conditional cash transfers (CCTs) are the norm for social assistance in the Latin American region. Indeed, two of the best known contemporary social protection programmes in developing countries are Bolsa Familia in Brazil and Oportunidades in Mexico, both of which are CCTs that impose quite strict obligations on their recipients in terms of school and clinic attendance (Fiszbein *et al.* 2009). In sub-Saharan Africa, the work condition is clearly present in food-for-work or cash-for-work schemes, but in other respects the balance of argument to date has tended to be in the direction of non-conditionality for social transfers. The reason for this is that school and clinic provision in rural areas of poor African countries is not considered robust enough (in quantity and quality) for imposition of Latin American type conditions to be a worthwhile option (Schubert and Slater 2006). Nevertheless, Ghana has a poverty targeted social assistance scheme called Livelihoods Empowerment Against Poverty (LEAP), described in more detail shortly, which imposes such conditions on scheme beneficiaries (Samson 2009).

A third factor that distinguishes different social transfer approaches is the way eligibility for receipt of payments is determined. This is called the targeting dimension. Targeting is a potentially costly component of the overall operation of delivering social transfers. For example, means-testing, which seeks to measure the income or wealth of individuals in order to decide whether they should receive transfers is particularly difficult to carry out in a non-formal economy with no record of people's earnings or savings. Means-testing is one amongst an array of devices for separating eligible from non-eligible potential recipients of a social transfer. One particular category of social transfers – those organised in the form of food-for-work or cash-for-work – relies on the preparedness of individuals to turn up for manual labour at a wage rate (or food equivalent) below the market wage in order to select beneficiaries. These are 'self-targeted' social transfers, which avoid the administrative cost of beneficiary selection by individuals themselves deciding whether or not to participate (Coady *et al.* 2004). However, in conditions of unexpectedly widespread hunger, such as might occur in a country like Malawi due to a shortage of maize in the market and unusually high lean season prices, there may be more people turning up for food-for-work or cash-for-work schemes than the amount of work available. In this case, work must be rationed and other targeting methods

such as selection by community leaders, or by village welfare committees, are used to supplement self-selection (Chirwa 2007).

Social transfers that do not require a targeting method (other than the basic designation of a type of beneficiary) are often referred to as 'universal' transfers. For example, social pensions where all people above a threshold age (such as 60 or 65) are entitled to receipt of the transfer are a universal benefit. However, in the recent literature, this use of the word 'universal' tends to be considered unsatisfactory since it perhaps wrongly conveys the idea that everyone in society is eligible for the benefit. For this reason, the term 'categorical' transfers is preferred, since the transfers are actually to a category of society such as older people or young children, or disabled people (Kakwani and Subbarao 2005, Ellis 2011). In southern Africa, there are several countries that have categorical social assistance programmes. For example, South Africa, Lesotho, Swaziland, Botswana and Namibia all have social pensions; while Namibia and South Africa also have child support grants. The pension in South Africa is means-tested (Casey and McKinnon 2009, Ellis *et al.* 2009, Klasen and Woolard 2009).

As already introduced in Chapter 1, much of the discussion about social transfers in southern Africa in the 2000s, including in Malawi, has been about targeting them to the poorest and most vulnerable members of society. The specifics of the Malawi case are traced in Chapters 3 and 6 of the thesis; however, some of the general issues that arise are worth exploring in a preliminary way here. The notion of providing social transfers to the extreme poor in sub-Saharan African countries seems to have arisen from several different directions. One such direction has undoubtedly been the desire of international agencies, bilateral donors and governments to make progress towards the Millennium Development Goal of halving countries' poverty rates by 2015 (Barrientos and Hulme 2008, Grosh *et al.* 2008). In parts of the world (principally sub-Saharan Africa) where progress towards this goal was barely discernable in the early 2000s, all stakeholders have cast around for policy levers that might provoke some greater forward momentum to occur. Social transfers to the poorest represent one such, previously relatively unexplored, option.

Another impetus towards poverty targeted transfers has already been outlined in Chapter 1, and this was the increasing reliance of certain countries in eastern and southern Africa on emergency food transfers, not just on an intermittent basis, but almost every year in the late-1990s and early 2000s. It began to occur to those involved in implementing these emergency operations, as well as the donors funding them, that a significant proportion of such transfers

were to the same populations and social groups year-after-year, implying a chronic rather than temporary proneness to food security failure. It was then quite a short step to argue that chronically food insecure people should be supported by routine and predictable transfers rather than emergency operations. This thinking also coincided with a growing disaffection with the readiness with which donors funded, and countries were prepared to receive, food aid. While an earlier literature criticised food aid as a form of dumping of unwanted food surpluses by the US and Europe, as well as for its negative effect on local food markets (Maxwell and Singer 1979, Singer 1987), the more recent literature focuses on its costs and effectiveness at dealing with repeated and predictable food security crises (Barrett and Maxwell 2005). In particular, emergency food operations incur significant delays between the decision to go ahead and the arrival of the food in communities needing help, with the result that significant mortality especially amongst the physically weakest members of society occurs before the food arrives. In addition, the cost of delivering food from international markets (or storage warehouses) to remote rural areas in poor countries is very considerable, making food aid one of the most expensive ways of delivering a benefit (representing a particular level of calorie consumption) to recipient families (Dearden and Ackroyd 1989, Clay *et al.* 1998, Maxwell *et al.* 2008).

Yet another factor provoking interest in poverty targeted transfers in the past ten to fifteen years has been the rise of families lacking able-bodied labour to generate sufficient livelihoods, or burdened with high ratio of dependents relative to the number of active adults in the household. The chief cause of such circumstances in southern Africa has been the growing prevalence of HIV infection, resulting eventually in AIDS-related illnesses and mortality, as well as a steep rise in the number of orphans in society. The HIV prevalence rate and other pertinent data for southern Africa, including in Malawi, is summarised in Table 2.1 below. This reveals HIV infection rates in the adult population varying between 11.9 per cent in Malawi and 26.1 per cent in Swaziland, and orphan numbers reaching 4.2 million in the region as a whole by 2007 (UNAIDS 2008).

The rising incidence of AIDS-related deaths in southern African countries by the early 2000s led to the proposition that this might be a crucial factor reducing the capability of populations to cope with external shocks. This proposition has been termed 'new variant famine' due to certain features that distinguish it from 'old famines', principally associated with the onset of droughts (de Waal and Whiteside 2003). The comparison is summarised in Table 2.2 below.

The starting point is risk management, and it is proposed that whereas drought risks are anticipated in the custom and design of farming systems in Africa, HIV/AIDS risks most decidedly are not so, because the risk is new in historical terms, and less than a generation has had the chance to learn from the experience of living with HIV/AIDS.

Table 2.1: Major HIV indicators in selected countries in Southern Africa

Country	People living with HIV ('000)		HIV prevalence 15-49 years (%)		Life expectancy (Years)		AIDS-orphans 0-17 years ('000)
	1990	2007	1990	2007	1990	2007	2007
Lesotho	5.9	270	0.8	23.2	59.2	44.7	160
Malawi	90	930	2.1	11.9	49.2	52.3	550
Mozambique	94	1500	1.4	12.5	43.3	47.8	400
South Africa	160	5700	0.8	18.1	61.4	51.4	1,400
Swaziland	3.9	190	0.9	26.1	60.4	45.3	56
Zambia	360	1100	8.9	15.2	51.1	44.5	600
Zimbabwe	710	1300	14.2	15.3	60.8	43.1	1,000

Source: compiled from statistics contained in UNAIDS (2008), UNICEF (2010)

Both old and new food security crises possess some coping strategies in common, but others differ markedly. In particular, adults consuming less food is a viable strategy if they are healthy but is not an option for adults made ill by AIDS; asset sales for coping leaves labour and its skills intact after a shock, while AIDS depletes labour and its skills; labour- intensive livelihood activities continue up to moment that hunger strikes in previous crises, but are increasingly neglected in AIDs households, reducing resilience. Once hunger seriously takes hold, additional differences can be observed. In previous food security crises, mortality occurs mainly amongst children and the elderly; the dependency ratio falls; and more men die than women. In AIDS crises, mortality mainly strikes working age adults, the dependency ratio rises, and more women die than men. Finally, agrarian livelihoods in the past recovered from droughts and other weather-induced crises, and social networks that were drawn upon in order to cope were rebuilt. However, the prevalence of AIDS may make agrarian livelihoods as currently structured unsustainable and social networks become overburdened by caring for orphans.

Table 2.2: The New Variant Famine Hypothesis

'Old Famines' (or previous effects of shocks)	'New Variant Famine' (or new effects of shocks)
risk of drought is built into farming systems	risk of HIV/AIDS is not built into farming systems
food rationing as coping strategy widespread	food rationing not possible for people ill as a result of AIDS
asset sales for coping leaves labour and its skills intact	the labour asset is depleted, and skills and knowledge lost
labour-intensive operations continue before the crisis and can be resumed afterwards	labour-intensive operations are neglected before the crisis, reducing resilience
mortality mainly young and old	mortality mainly economically active adults
more men die than women	more women die than men
dependency ratio falls	dependency ratio rises
social networks can be rebuilt	social networks overstretched by orphans
agrarian livelihoods recover	agrarian livelihoods are unsustainable

Source: adapted from Ellis (2003)

A detailed picture of the AIDS pandemic and its economy-wide impacts in Malawi in the early 2000s is provided in Conroy *et al.* (2006). In this edited collection a particular argument about the impact of HIV/AIDS on agriculture and livelihoods is made by Whiteside and Conroy (Chapter 4) including an estimate that the pandemic adversely affects the lives of 85 per cent of the population who draw their livelihoods from agriculture. In particular, labour scarcity resulting from the pandemic means that critical farm activities cannot be conducted on time and fully. Also, since seasonal food availability depends on availability of labour to undertake ganyu (casual labour) as a coping strategy, HIV/AIDS undermines this household capability and increases vulnerability. Vulnerability to hunger and AIDS in Malawi also presents gender dimensions as women resort to prostitution as a coping mechanism (Conroy 2005).

The discussion of the deleterious effects of HIV/AIDS on household demography and food security leads into consideration of the eligibility criteria for poverty targeted social transfers.

The impossibility in practice of means-testing very poor people in rural low income country settings has meant that aid agencies and government have tended to develop proxy criteria for the extreme poverty that they wish social transfers to address. These proxy criteria tend to focus on household demography; for example, the headship of the household (households headed by elderly, widows, orphans, or children); the number of orphans cared for by the household; and the dependency ratio of the household (number of dependents divided by active adults aged 18-64). In addition to demographic factors two additional indicators are common in poverty targeting. One of these is lack of land for farming, and a second is direct observation of food insecurity stress as shown by the family reducing meal size or only having one meal per day (Maxwell *et al.* 1999).

Having developed proxy criteria for extreme poverty and deprivation, the question remains how best to conduct the selection of beneficiaries in communities (Ellis *et al.* 2009, Ch.3). Unfortunately, beneficiary selection is prone to 'moral hazard'. For example, village leaders may fill up beneficiary lists with their own relatives (an occurrence termed 'elite capture'), or households may modify their composition in order to fulfil the criteria that have been publicised (suddenly an unexpectedly high number of households turn up filled with orphans, or elderly widows etc.). In order to overcome elite capture, aid agencies have tended to gravitate towards community selection methods for targeting those most in need (Conning and Kevane 2002). This entails first creating a village or community welfare committee (if one does not already exist), then charging this committee with the task of drawing up a beneficiary list, according to a chosen set of criteria. Ideally, this list is then taken back to a general village meeting for verification. However, even with these checks and balances, transfers can create contrary behaviours in communities. For example, beneficiaries may be put in the position of having to 'share' their benefits with the committee members who put them on the list. The complexity, cost, and ambiguous outcomes of poverty targeting processes contribute to a set of arguments in favour of universal or categorical targeting, the additional costs incurred by complete coverage being considered preferable to the inaccuracies of attempts to narrow down unduly the number of beneficiaries (Coady *et al.* 2004).

The foregoing distinctions suggest a typology that groups social transfers according to some of the key features that they do or do not share. One such type comprises 'safety nets' (see below) that do not impose on government any future or long term obligations regarding their

provision, and which are mainly funded by donors or multilateral agencies like the World Bank. Another type is categorical transfers that involve routine monthly payments to their beneficiaries, and are usually legislated by the governments that provide them, and are therefore entitlements on the part of the citizens who qualify to receive them (pensions and child support payments are this type). A third type are poverty targeted transfers which hitherto have mainly comprised pilot programmes funded by donors, and where the chief difficulty as seen from the donor perspective is persuading governments to scale them up and institutionalise them as long term budgetary commitments.

Amongst these social transfer types, not much has yet been said about the safety net approach. Safety nets made their appearance on the social policy stage in Africa in the mid- to late-1980s as a response to predicted transient hardship created by structural adjustment and market liberalisation programmes. The World Bank became a leader in promoting safety nets, following the critical stance on adjustment taken by the 1987 UNICEF book *Adjustment with a Human Face* (Cornia *et al.* 1987). Following earlier debates in India about the difficulties of identifying those most adversely affected by economic and social change, the 'self-targeted' public works programme became the dominant model for this type of social protection (Subbarao 1997, 2003). In this model, individuals who turn up for food- or cash-for-work projects receive a wage which is below the market wage for that time and place, thus discouraging the participation of all but those genuinely unable to secure income from other sources.

In sub-Saharan Africa, public works programmes were the most prevalent form of social protection in the 1990s, with the exception of a few countries of southern Africa. Public works programmes require planning and designing a social project (e.g. repairing or building a rural road), overseeing the quality of the work performed, and making decisions about eligibility if supply of labour seems likely to outstrip the workplaces available. Beneficiary selection in the latter case re-enters the picture either as a top down administrative decision, or through consultation with local key informants (e.g. village leaders), or through a participatory process of beneficiary selection. These different selection methods evolved sequentially during the 1990s and 2000s.

Public works programmes have known flaws. They are expensive to set up and administer, and comparative cost studies show that they are amongst the most expensive ways of putting a dollar in the pocket of someone in need (upwards of US$1.40 to provide US$1.00 benefit,

as compared, for example, to US$1.05 to provide US$1.00 benefit for some social pension programmes) (Ellis *et al.* 2009, p.90). Their requirement for physical labour excludes access by those lacking able-bodied labour in the household, who are often those most desperately in need of social support.

Nowadays, public works programmes remain a widespread solution to providing relief for rural families experiencing food and other deprivations in the lean season before the next grain harvest. Indeed, the largest public works programme in Africa is at the centre of the Productive Safety Nets Programme (PSNP) in Ethiopia which routinely provides cash- or food-for-work in the lean season to 7-8 million people (more on which below). In this form, safety nets have become quite sophisticated, taking on board newer ideas of 'predictable funding for predictable needs' (as outlined in Chapter 1), as well as seeking to bolt on additional components (e.g. agricultural support) in order to assist beneficiaries to 'graduate' in future years.

Nevertheless, a critical distinguishing feature of safety nets is that they remain temporary structures, outside the main business of government, and not implying a future social security obligation on the part of the state. Confusingly, the World Bank has taken to calling safety nets 'social protection' while retaining a stance of avoiding institutionalising social security (see, for example, Grosh *et al.* 2008). Funding for social protection was a major component of the Global Food Crisis Response Programme (GFRP) set up by the UN in response to the food and financial crises of 2007-09 (McCord 2010). An examination of the US$1.2 billion spent from this fund up to April 2010 shows that by far the majority of disbursements were to temporary food-for-work or cash-for-work programmes (World Bank 2010a).

Three contemporary social programmes in Africa illustrate the current state of play in social transfer thinking in the continent, although legislated entitlements like pensions are not part of these examples. The first described briefly here is the Productive Safety Nets Programme (PNSP) in Ethiopia (IDL Group 2007, Devereux *et al.* 2009). Food insecurity in Ethiopia is mainly chronic in nature. Around 7-8 million people (10 per cent of the population) require assistance every year irrespective of agricultural outcomes, and these numbers increase steeply in drought years. In the past no distinction was made between chronic and transitory hunger, and almost all transfers to those in need were met through annual emergency responses. The PNSP was established in 2005 with powerful impetus by the 'donor group' that had hitherto been responsible for funding emergency food aid (principally, World Bank,

EU and DFID). It addresses chronic hunger in a multi-year programme with an agreed forward budget over a five-year cycle (it is currently in 2010 at the start of its second cycle). Transfers to beneficiaries are for a maximum of six months in the lean season. Transfers may be in food or cash, or can be switched between cash or food mid-season (latterly, recipients have expressed a strong preference for food over cash following steep food price rises in 2008-09). It has both a public works (conditional) transfer component and a direct support (unconditional) component, although the latter only applies to households lacking able-bodied labour (about 10-15 per cent of all recipient households). The core public works component is not self-targeted, beneficiaries being selected by community targeting.

The PNSP is essentially a hybrid of the safety net and poverty targeted social transfer types delineated above. It is also, however, illustrative of another factor, not yet discussed, that worries African governments about social transfers. This is the concern that recipients will become 'dependent' on transfers, creating a long term and cumulative burden on the state. The worry about dependency leads to the notion that support to beneficiaries should be temporary, and they should 'graduate' from requiring transfers after an interval of time. In the PSNP there is an expectation that recipients should graduate after three years, with the help of complementary public investments in agricultural development. However, the conditions for graduation have proved difficult to pin down, and an unusually large caseload of households needing support in 2008-09 (10-11 million people) meant that hopes of graduating a significant proportion of the regular 7-8 million beneficiaries in that season failed to materialise.

A second illustrative case study is provided by the Hunger Safety Net Programme (HSNP) in Kenya, initiated in 2009 (Irungu *et al.* 2009, Devereux and White 2010). In the semi-arid northern districts of Kenya, about 1.5 million people are regarded as a predictable caseload requiring assistance every year. It was estimated in 2007 that a predictable cash transfer would cost donors or the government less per person assisted than food aid (US$55 against US$79)(Ellis *et al.* 2009, p.59). DFID decided to trial the funding of an unconditional cash transfer over a 10-year period, with a total budget of US$245 million. Transfers in the HSNP are regular, throughout the year, and will eventually be made to 60,000 households (300,000 people) which is about 20 per cent of the estimated total number of people needing routine support. It is hoped that other donors and the Kenya government will come on board to expand the programme in the future.

The HSNP is a poverty targeted transfer, and although it is the largest of its kind it is essentially a cash transfer pilot, which is not institutionalised in the Kenya government. Its chief innovation has been the use of electronic technologies for the transfer of funds to beneficiaries, thus overcoming leakage and security problems that would inevitably accompany the physical delivery of cash to beneficiaries in remote (and in northern Kenya sometimes lawless) rural areas. In the HSNP, local shop and kiosk owners in the districts covered by the scheme are issued with point-of-sale devices connected by satellite communication to a bank called the Equity Bank in the capital, Nairobi. Beneficiaries are issued with a smartcard, charged up with their monthly allowance, and this is inserted in the point-of-sale device against a thumbprint and PIN number, for payout by the trader or kiosk owner who is designated as a pay point in the programme. The point-of-sale device automatically communicates the transaction to a special bank account opened in the trader's name in the Equity Bank so the trader is then credited with the transfer plus a 2-3 per cent service charge (Vincent 2010).

The third illustrative case study is the Livelihoods Empowerment Against Poverty (LEAP) programme in Ghana, mentioned earlier in this section. The LEAP programme is also a poverty targeted transfer, aimed at the destitute or near destitute, with tightly specified proxy criteria for extreme poverty. However, unlike HSNP (and also PSNP), LEAP is funded by the Ghana government from its own resources, and has an agreed budget line in planned government expenditure. It is therefore semi-institutionalised in the sense discussed earlier of a government taking on the obligation of ensuring continuity of transfers into the future. However, it is not legislated as an entitlement in the same way as social pensions are in some southern African countries. LEAP is also a conditional cash transfer, reflecting perhaps the hiring of Brazilian consultants during the period when it was being devised. Conditions comprise birth registration of children, enrolment of family members on the National Health Insurance Scheme, not allowing child labour, and sending children to school. LEAP was launched in March 2008, with coverage of 15,000 households in 50 districts. By May 2009, LEAP had was benefiting about 26,200 households in 74 districts (out of 178 districts nationally). The Department of Social Welfare (DSW) in the Ministry of Employment and Social Welfare (MESW), which manages the programme, aims to reach 165,000 households in 138 districts by the end of 2012 (Government of Ghana 2007, Sultan and Schrofer 2008, UNICEF 2009).

These three programmes in different ways raise interesting points for the future of social transfers in sub-Saharan Africa, which also influence the development of ideas in this thesis. A critical issue is whether or not governments decide to take on social transfers as their own responsibility, and Ghana represents an unusual case of this happening, leaving on one side for the moment social pensions in some southern African countries listed earlier. A second issue is the amount of the transfer (either cash or food equivalent). This has varied in these examples from US$3.50 per month (Ethiopia), to US$5.4-10 per month (Ghana) and US$10 per month (Kenya).[18] A third issue is whether or under what conditions food or cash makes the best form of transfer to beneficiaries. This is returned to later in the thesis, but it can be noted briefly here that cash transfers require working food markets and stable food prices, for otherwise the value of the transfer is eroded by rising food prices. In Ethiopia, the preference of beneficiaries for food became overwhelming due to this reason in 2008-09. This also places doubt, of course, on the enthusiasm for cash that dominated policy discussion in the mid-2000s (Farrington and Slater 2006).

2.3 Social protection, vulnerability and agriculture

In this chapter so far, the term social protection has only been used in passing, without placing too much weight on it as an umbrella term for social transfers and other services and regulations protecting the welfare of a country's citizens. In this section, the term is given more substance, and in addition links are made between social protection and vulnerability, as well as with agriculture.

It is not entirely clear when and where the term social protection originated, but there is no doubt that by 2005 it had become the dominant expression used to describe social welfare policies in developing countries. This has caused problems for governments as well as for welfare advocates. Governments tend to be familiar with older terms like social welfare or social security, and they often have departments of social welfare (or agencies with similar titles) located in a major ministry like the Ministry of Labour or Ministry of Health or Ministry of Community Services. For governments, the difficulty is not being certain where the reach of social protection begins and ends, and therefore what the likely costs and obligations would be if they were to espouse a social protection policy. For aid agencies and advocacy organisations, the broadness of the term has been something of a double-edged

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[18] These figures refer to actual or planned payments in these programmes in the period 2008 or 2009, and may have changed subsequently.

sword: on the one hand they have been able to smuggle all sorts of progressive welfare ideas into policy debate under a social protection rubric; on the other hand this has made the term imprecise and unwieldy, and has created precisely the distrust on the part of government officials that they would have hoped to avoid.

In Chapter 1, a widely accepted definition of social protection was provided. This focuses on transfers and on protecting the rights of marginalised people. In a well known article written in 1994, Guhan (1994) proposes that social protection has prevention, protection and promotion roles (the 3Ps). In this, prevention refers to preventing asset disposal by households when disaster strikes, so that they can recover their former livelihood resilience more quickly once the crisis has passed. Protection refers in a straightforward way to protecting the minimum consumption needs of poor and vulnerable people. This clearly needs to be timely, and is therefore best done as a planned intervention, rather than waiting until people are already in distress before acting. This is one way in which social protection is distinguished from emergency responses. Promotion refers to providing people with the means to strengthen and improve their livelihoods in the future. It is under the 'promotion' rubric that policies such as free input packages, or subsidised fertilizers, came in certain quarters to be regarded as social protection.

Much of the difficulty about the scope of social protection seems to stem from confusion between protection as the outcome of a range of policies, and protection as a set of policy instruments. The inclination has been to treat all instruments that involve any sort of subsidised service or transfer from government under the 'social protection' rubric, even if such instruments fall under the competencies of many different government ministries. However, this mixes up ways of achieving a desired objective with the objective itself. Social protection as an outcome can be achieved by a range of policy interventions, not just social transfer instruments. For example, the social protection of someone chronically ill due to AIDS requires a food or cash transfer, yes, but also needs other services (medical supervision, anti-retroviral drugs, special diets, care in the home). Likewise the social protection of a small poor farmer may be contributed to by input subsidies, output price stabilisation and food security stocks, but these are all agricultural, not social welfare, policy instruments.[19]

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[19] This paragraph benefitted from a discussion with my supervisor, Prof Frank Ellis, regarding the difficulties for this thesis of the broad scope used in much of the literature for the term social protection.

In this thesis, the basic definition of social protection provided by Devereux & Sabates-Wheeler (2004) is accepted, but with the proviso that ends should not be confused with means, and because an instrument may ultimately improve the welfare of its recipients this does not necessarily make it a 'social protection' instrument. Hence, agricultural input subsidies are not treated as a social protection instrument in this thesis, even though the Malawi government has at times found it convenient to represent its ISP as social protection rather than agricultural policy to make the programme more palatable to social protection oriented donors (Government of Malawi 2008i). As a set of instruments, social protection includes social transfers (social assistance and social insurance), and possibly employment protection and health and safety in the workplace (although these may equally be called labour market policies). It may also include rights and entitlements to certain transfers (such as pension rights), where countries decide to legislate them. A substantial branch of the social protection literature is concerned with the rights arguments for adoption by governments of regular social transfers to the weakest members of society (Sabates-Wheeler and Devereux 2007, Munro 2008).

In the low income, mainly agrarian, economies of eastern and southern Africa, the majority of vulnerable people are small farmers or landless households living in farming communities (Jazairy *et al.* 1992, ACF 2008). This makes their social protection (as an outcome) especially difficult to achieve, because food deficit small farmers are a large proportion of all small farmers (around 60 per cent according to some estimates), the extent of functional landlessness is difficult to pin down, and these categories of the population are especially prone to moving into and out of poverty according to small variations in livelihood outturns from one year to the next.

Starting in the mid 1980s, a literature (e.g. Campbell 1984) began to appear suggesting that traditional means by which poor families dealt with misfortune in poor, mainly rural, countries were severely eroded, creating considerable gaps in coverage (Morduch 1999, Jonathan and Manohar 2002). These traditional support systems were referred to as 'traditional coping' or 'informal insurance', and it was considered that gaps in these pre-existing institutions were becoming more prevalent over time. The term 'coping' in fact originates in the famine literature of the 1980s (e.g. Corbett 1988) and refers to the behaviours adopted by families when confronted by an adverse shock to their livelihoods, including obtaining community help, borrowing from relatives, selling movable assets (especially

livestock), temporarily migrating in search of wage work, eating non-customary and wild foods, and reducing the number of meals consumed per day (Devereux 1993). In later development of this concept, both *ex ante* and *ex post* types of coping were identified (Alwang *et al.* 2001). The former comprises building up assets (household) and nurturing reciprocal obligation (kin and community), while the latter involves running these down after the shock has occurred.

It follows from these ideas that 'informal insurance' comprises two rather different processes. One is an individual household process of building savings, stores and other assets that help the family withstand unforeseen adverse events. The other is a social process of reciprocity in which there is cultural understanding that help given to a family in need today will be repaid in the future if the giver should run into difficult circumstances. The strength of purported social reciprocity was debated in earlier literatures on the peasant economy (Scott 1976, Popkin 1979). There is, of course, crossover and overlap between the individual and social spheres in regard to these processes. The household is an elastic concept in which extended kinship relations play a vital role, and these tend to permeate into the broader social sphere, especially in smaller and more tightly knit communities.

Research in the 1990s pointed to important limitations of informal insurance, especially when entire communities are repeatedly placed under livelihood stress. There is no intrinsic reason that traditional coping should have equalising effects amongst community members. For household level coping, it is found that better off households are able to cope better with a crisis of equal magnitude than a poorer household. This is because the same level of asset erosion will comprise a smaller proportion of the total assets of a richer as compared to a poorer household. Moreover, most social reciprocity is strongly kin based rather than genuinely involving the 'wider community', again meaning that having wealthier relatives places the individual or household in a stronger position than having poorer relatives. With respect to repeated widespread shocks such as drought or floods that adversely affect all members of the community, these reduce the capabilities of community members to respond to the difficulties of others since they must scramble themselves to resuscitate their own livelihoods (Platteau 1991, Carter and Maluccio 2003, Fafchamps and Lund 2003).

Thus another important entry point to contemporary discussions of social protection in Africa has been a perception that long term, socially embedded, ways that rural families have dealt with livelihood risks and shocks in the past have declined in effectiveness markedly over the

past two decades. At the household level, recurrent shocks deplete family assets, with incomplete recovery occurring between shocks so that the capability of households to withstand adverse circumstances is depleted over time. At the community level, recurrent widespread shocks (drought, floods, civil conflict) results in the weakening and eventual disappearance of reciprocal transfers. Research in countries like Malawi, Tanzania and Ethiopia shows that the frequency of shocks increased in the 1990s and early 2000s such that many rural households experienced a mixture of personal or large scale shocks every annual cycle (Dercon 2002, 2005). In southern Africa AIDS morbidity and mortality were a key factor at the household level, and recurrent adverse weather events (too little rain, too much rain) occurred in the ten-year period 1995 to 2005 (however, weather seems to have been more favourable in the most recent period).

Seasonal price changes represent a particular difficulty for food deficit small farmers, and a substantive regular annual cause of heightened vulnerability to hunger is the extent to which food prices rise in the lean season before the next harvest. The importance of seasonality for vulnerability was established in a much earlier literature (Chambers *et al.* 1981). In West Africa, for example, there is a seasonal pattern of male migration to cities which serves the dual purpose of 'removing mouths to feed' from the resident household and securing cash income for food purchases (Toulmin 1992). In Ethiopia, proneness to hunger is highly seasonal, and the policy response in the form of the PNSP provides food or cash transfers just for the lean season. In Malawi, the majority of food-for-work or cash-for-work programmes have been seasonal in character (see Chapter 3). Price seasonality causes evident difficulties for regular cash transfer programmes, regarding the amount of the transfer (and its purchasing power over food at different price levels), or whether, alternatively, indexing of the amount of transfer to the food price should be considered. In experiences of cash transfers (including pensions) so far in African countries, price indexation has not been contemplated due to its administrative complexity. An exception was a short term intervention in Dowa district of Malawi in 2006 called the Dowa Emergency Cash Transfer (DECT) scheme implemented by the NGO Concern Worldwide with funding from DFID, which indexed cash transfer amounts each month to the price of maize (Davies 2007, Devereux 2008). This worked moderately well, but beneficiaries were somewhat nonplussed when their benefit level fell for the last two months of the scheme due to a fall in the price of maize just before the next harvest.

The significance of seasonality, as well as the prevalence of food-deficit small farmers, links vulnerability and social protection very firmly to agriculture. This set of interactions has been examined recently at a conceptual level by several researchers (e.g. Holmes *et al.* 2007, Devereux 2009, Dorward *et al.* 2009). These authors distinguish the various ways agriculture and social transfers can contribute singly or jointly to the achievement of social protection as an outcome of different combinations of policies. Five different policy scenarios are distinguished, denominated as (1) social protection from agriculture (agricultural support policies of various kinds succeed in achieving livelihood security for nearly all rural families); (2) social protection independent of agriculture (social transfers of various kinds are directed at protecting the consumption of the most vulnerable); (3) social protection for agriculture (market-based crop insurance instruments); (4) social protection through agriculture (free input transfers to the most vulnerable to achieve their livelihood security); and (5) social protection with agriculture (agricultural input subsidies mainly benefitting non-poor farmers, but with beneficial side-effects for the most vulnerable including lower food prices, and labour hiring by better off farmers).

These are useful distinctions, but they leave open the precise combination of policies that are likely to have the greatest traction on reducing vulnerability given the circumstances of a specific country. In any specific case, it becomes critical to know (a) just who in the rural economy benefits from an input subsidy of a given amount, delivered in a particular way; (b) just how strong are the indirect effects on those for whom the subsidy makes little direct difference to their food security (i.e. in terms of lowering or stabilising food prices, or creating more work at higher farm wages); (c) how the costs of creating these indirect effects compare with the costs of direct transfers to the same or closely overlapping social groups; and (d) the extent of vulnerable people missed out entirely by agricultural interventions (for example, the elderly, the disabled, households lacking able-bodied labour etc.). It is admittedly beyond the scope of this thesis to attempt to resolve these unknowns entirely for Malawi. Yet progress can certainly be made on some of them, which is what the thesis hopes to achieve.

2.4 Summary

This chapter has examined past and contemporary ideas and experiences in the areas of agricultural input subsidies, social transfers, social protection and vulnerability, in order to get a grip on the key factors that need to be taken into account in assessing the policy approaches

taken in Malawi to tackle the recurring problem of vulnerability to hunger. The chapter is mainly pitched at a general level, not specific to the Malawi case study, since the latter constitutes the subject of the next chapter and the rest of the thesis.

The economic logic and history of input subsidies in low income countries is traced. It is noted that the historical experience of input subsidies was quite different in Asia (where generally they are regarded in hindsight as having made a useful contribution to the Green Revolution) to Africa (where they were regarded as failed policies in the 1980s). More recently, their reputation as having a role in stimulating agricultural growth in Africa has been partially rehabilitated. This follows from a measure of success in the small-scale delivery of free input packages (mainly by NGOs) in African countries confronting severe food security problems, as well as apparent success achieved on the larger scale in a few countries which have re-introduced them as national policies, amongst which Malawi is the focus of much attention. This rehabilitation has been encouraged by the contemporary international focus on achieving yield gains in African agriculture, including NEPAD's Comprehensive Africa Agriculture Development Programme (CAADP) and the Alliance for a Green Revolution for Africa (AGRA) (NEPAD 2002, Sanchez *et al.* 2009, AGRA 2010).

The history of social transfers in sub-Saharan Africa is also traced. The important distinction is made between social assistance (not requiring prior contributions) and social insurance (requiring contributions), with the latter being associated almost entirely with employment in the formal sector. Distinctions are also made between different categories of social transfer, with temporary safety nets (food-for-work, cash-for-work) being distinguished from poverty targeted transfers (continuous social cash transfers) and categorical transfers (such as pensions and child support grants). These types of social transfer have been funded in different ways and imply different obligations on the part of government, and entitlements on the part of their recipients. Safety nets and pilot cash transfers have been mainly funded by donors, but in the latter case there has been the intention that they would eventually be scaled up and adopted by governments (as indeed has occurred in Ghana). On the other hand social pensions represent cash transfers at scale that have been legislated by the governments that introduced them, and are a right or entitlement on the part of their recipients.

Some difficulties around the definition of social protection are noted. There has tended to be an unhelpful elision between the means and ends of government policies aimed to improve the welfare and livelihood security of their citizens. Social protection as an outcome of

diverse policy instruments, including both those that work on production and those that work on consumption and wellbeing, is confused with social protection instruments that primarily comprise social transfers. The consequence has been that the social protection net is cast too wide, causing unnecessary confusion for governments. In this thesis, unless otherwise indicated, the term social protection is predominantly used to refer to social security; while input subsidies in agriculture are treated as an agricultural policy intended to achieve yield and output growth.

Social protection and agricultural policies inevitably overlap when most vulnerable people in a country are small poor farmers or landless agricultural labour. The discussion about vulnerability and agriculture reveals the key question addressed by this thesis, which is the combination of policies that are likely to be most successful at reducing the scale of vulnerability to hunger in a country, and that therefore also overcome the country's proneness towards recurrent food security crises. In the next chapter, the two main policy strands that run through this thesis (agricultural policies and social protection) are examined for the specific case study of Malawi.

Chapter 3: Malawi as a Case-Study Country

3.1 Agricultural Policy History of Malawi

The purpose of this chapter is to provide background information on Malawi that is pertinent to the topic of vulnerability to hunger and how it might be tackled using different policy instruments. The chapter begins with an agricultural policy history of Malawi, centred mainly on maize sector because of the critical importance of maize in Malawi's food production and nutrition, as established already in Chapter 1, as well as the role of the maize sector in either ameliorating or intensifying the vulnerability to hunger of food deficit farm families. The chapter also provides a social transfer policy history of Malawi, a brief account of the country's political history and its administrative structure, and an examination of key additional features of vulnerability.

The government vision for the economy in the first two decades after independence in 1964 prioritised estate-led labour-intensive agricultural exports while perceiving smallholder agriculture as expected to play a dominant role in national food self-sufficiency (Blackie and Conroy 2006). As a result, agricultural policy often represented tensions between national food self-sufficiency and export promotion objectives, mediated by land tenure considerations. The outcome of this process was the emergence of a dual agricultural economy characterised by a predominantly smallholder subsistence sector on customary land and a tobacco dominated commercial estate sector on private (leasehold) land. Smallholder farmers were nevertheless allowed to grow some tradable crops such as fire-cured tobacco, cotton and groundnuts but these were sold only to a state marketing board, described in due course, which in turn exported them at large trading margins (Kydd and Christiansen 1982, Harrigan 2001).

Marketing for smallholder inputs, outputs and food staples were the responsibility of the state owned Agricultural Development and Marketing Corporation (ADMARC)[20] which was set up in 1971. Markets were regulated through pan-territorial and pan-seasonal fixed prices, accompanied by delivery to farmers of subsidized fertilizers and credit. Localised private trading that had occurred in earlier years was effectively prohibited from 1971 onwards (Chilowa 1998). Producer prices were kept artificially low in order to keep the food price low

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[20] From independence in 1964, marketing was undertaken by the Farmers Marketing Board which in 1971 was converted into ADMARC, with extended powers and responsibilities.

and, for the export crops that smallholders were permitted to grow, also to generate financial surpluses. The financial surplus was generated from ADMARC paying small farmers low prices for export crops (fire-cured tobacco, cotton and groundnuts) and selling these crops at high export prices. The surpluses were then transferred to the estate sector through cross-ownership holdings between ADMARC and Press Holdings, a national conglomerate owned by the President (Dr Kamuzu Banda) but operated as a private holding company with equity investments in almost all sectors of the economy. So apart from cross subsidising losses in its maize trading, as discussed in due course, most of this profit was not reinvested in smallholder agriculture but was siphoned off to support the expansion and activities of tobacco growing estates owned by a privileged political class (Harrigan 2001, p.35).

The government position on the smallholder economy involved public provision of a continuum of services under one umbrella: agricultural technologies, credit, extension, and, of course input, output and food marketing. These were organized through an agricultural credit-input-extension policy that aimed to promote hybrid maize and fertilizer, with an agricultural extension worker at community level acting as facilitator and mediator of the links between farmers and the various service providers. These services were organized in the context of the National Rural Development Programme (NRDP) established in the 1970s as a successor to the earlier integrated rural development project (IRDP) in the 1960s. While ADMARC was responsible for marketing functions, another state organization called the Smallholder Agricultural Credit Administration (SACA), established in the early 1970s as a department in the Ministry of Agriculture, managed the credit aspects which farmers accessed through farmer clubs. Once SACA approved a farmer club for agricultural credit, actual inputs were provided at ADMARC markets where also loan deductions were made during the crop sales period. This subsidised distribution arrangement could be regarded as quite successful in ensuring a high level of recoupment of input loans as well as in providing farmers with a predictable trading environment for inputs and outputs (Dorward *et al.* 2005, Poulton *et al.* 2006).

At the centre of the 'NRDP arrangement' was a unified national policy framework called the Statement of Development Policies (DEVPOL). The first policy from 1971 to 1980 (DEVPOL 1) was aimed at accelerating agricultural and rural development as an engine of growth for the Malawi economy. The second policy from 1981 to 1996 (DEVPOL II) was aimed at private sector development and envisaged a reduced role for state-owned enterprises

such as ADMARC (Record 2007). Since 1996, Malawi has had no unified policy of the DEVPOL nature but has operated piecemeal policies and strategies, often on an *ad hoc* basis as cabinet directives, and sometimes reflecting donor demands and corresponding concessions. The effects of this is apparent in the lack of coordinated policy direction on the relationship between agricultural and other policies, including social protection (Dorward *et al.* 2008).

The extension-technology-credit-marketing arrangement collapsed during the 1990-94 period owing to three major factors. First, agricultural credit was delinked from agricultural extension in response to changing international thinking. It was argued that the role of agricultural extension was to provide technical information and not to distribute inputs, administer credit, recover loans or collect data. Second, prior to the first 1994 multiparty general elections, political parties including the United Democratic Party (UDF) which eventually won the general election had campaigned on a promise of writing-off agricultural loan debt, creating a setting for 'officially sanctioned loan defaults'.[21] Third, Malawi suffered serious droughts in 1992 and 1994, leading anyway to widespread loan default and, eventually, to the collapse of SACA in 1994 (Zeller *et al.* 1998, Kherallah and Govindan 1999, Sulaiman and Hall 2002). The full impacts of the collapse of the credit system and the increased cost of fertilizer, masked for several years through emergency input distribution programmes, emerged in 1996-97 when food became scarce despite good weather (Mann 1998).

Returning to the role of ADMARC, as alluded to earlier, at least until the end of the 1970s, ADMARC was a profitable marketing organization that was able to fund the losses incurred in maize trading through profits generated in other operations (Kydd and Christiansen 1982). In 1979, Malawi experienced a deepening economic crisis characterised by rising import prices, declining export prices and rising losses in estate and other state business interests. ADMARC nevertheless continued to implement the established price policy framework up to 1987, but with increasing difficulty in remaining commercially viable. Malawi's economic problems provoked international interventions through International Monetary Fund (IMF) Standby Facilities and World Bank Structural Adjustment Loans (known as SAL I, II and III), implemented between 1981 and 1987. The first structural adjustment loan (SAL I) occurred in

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[21] The Kamuzu Banda government had used draconian measures to ensure credit repayment, and as a result, had an impressive repayment record although a dreadful human rights one (Blackie and Conroy 2006, note number 13, p.102).

1981, a second SAL was signed in early 1984, and a third SAL was agreed in late 1985 but occurred in two stages in 1986 and 1987 (Christiansen and Stackhouse 1989).

In the first loan in 1981 (SAL I), the Bank insisted on realignment of smallholder crop prices with export parity, but the maize price was exempted. The government reluctantly acceded to increasing export crop prices, but also chose to raise the producer price of maize which continued to be pan-territorial and pan-seasonal, and set by the government in advance of the crop season. While the maize producer price was kept towards the top of the import-export parity price range, the consumer price was kept much lower such that ADMARC incurred large losses in its maize trading activities. Meanwhile export parity pricing for crops other than maize meant very small trading margins in other crops for ADMARC. Together with dwindling government funding, ADMARC became unable to cross-subsidise loss-making maize trading as it had done in the past. The corporation's financial problems were exacerbated in 1981 when the government mandated ADMARC to take on the new responsibility of managing the country's Strategic Grain Reserves. By the 1985/86 season, ADMARC had accumulated and continued to incur unsustainable trading losses (Christiansen and Stackhouse 1989, Chilowa 1998).

In the second loan (SAL II) in 1984, the Bank insisted on gradual elimination of the fertilizer subsidy[22] (Lele 1990, Harrigan 2003). In the third loan (SAL III) in 1985, the Bank insisted on market liberalisation, in particular for the government to divest ADMARC of its non-marketing functions, and to allow private trading (Christiansen and Stackhouse 1989). At this point, the government had little room for negotiation given ADMARC's huge financial problems but it was nevertheless sceptical about the effects on food security (Smith 1995). A number of policy reforms then ensued between 1985 and 1995:

(a) repeal of the Agriculture (General Purposes) Act and the Agricultural Produce (Marketing) Regulation Act in 1987;

(b) repeal of the Special Crops Act in 1990 in order to allow smallholder farmers to grow burley tobacco which had earlier been exclusively an estate crop;

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[22] Uma Lele called this ' an ill-fated effort to eliminate the fertilizer subsidy' on the part of the World Bank (Lele 1990, p.1211).

(c) passing of the Agricultural Produce (Marketing) Act in 1994 to revoke an earlier ban on the private export of crops, however, maize was excepted from this liberalisation with maize exports being restricted to a list of licensed traders;

(d) introduction of a broad liberalisation of all crop prices in 1995 to allow traders to buy and sell according to market forces with the exception of maize;

(e) introduction of a producer maize price band for ADMARC and the passing of a Fertilizer, Farm, Feed and Seed Remedies Act, effectively removing all restrictions on private trading in farm inputs (Oygard *et al.* 2003).

The reforms meant significant changes in ADMARC's position in the markets, including restructuring and closing market outlets. For example, in the late 1980s, ADMARC had a market structure that comprised 3 regional offices, 12 divisional offices, 80 area offices, 217 unit markets[23] and 1,300 seasonal markets (Chirwa 2006). By 2001, the division and area offices were replaced by 14 district offices and 10 depots. While unit markets were increased to 343, seasonal markets were reduced to only 441. In 2002, the regional offices for centre and northern were merged (Chirwa *et al.* 2005). Nevertheless, ADMARC has remained a large player in the market, a position strengthened in recent years by its responsibility in distributing subsidised fertilizers (see below and Chapter 5). However, its share of crop purchases is substantially diminished compared to the 1980s. In the 2000s, different challenges have arisen for the proper role of ADMARC in the maize market, and in regard to price stabilisation. As shown in Chapter 5, the first years of the 2000s experienced high volatility in production outcomes and price instability. There were seasons when ADMARC set out to defend the producer price band, then abandoned the attempt when market prices soared out of the range. In other seasons, ADMARC joined the scramble for supplies, lifting its buying prices in line with market developments. For a period from 2008 to 2010, ADMARC was temporarily given monopoly control again over maize trade, in an effort to control spiralling prices in a year with an apparently good harvest according to official production figures.

Turning more specifically to input subsidy history, the government during the period 1964-1990 also managed subsidized pan-territorial and pan-seasonal input prices linked to the

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[23] Unit markets had permanent structures able to operate through the year in urban or near urban centres while seasonal markets were made of temporary (grass-thatch) structures in village settings.

agricultural credit-input-extension policy described above. From 1971 ADMARC was the sole importer and distributor of fertilizers (Smith, 1995) but this changed in 1988 when the government under donor pressure set up the Smallholder Farmers Fertilizer Revolving Fund of Malawi (SFFRFM) to be responsible for the procurement of fertilizer, while ADMARC focussed on distribution (Oygard *et al.* 2003). By 1982, subsidies were costing 6 per cent of the government budget, and the World Bank insisted on a phased removal of the subsidy (Chirwa 2006); a process which the government started in 1984 but unilaterally abandoned in 1987 due to food security concerns. Instead, the government increased the subsidy to 22 per cent, a little higher than it had been in the immediate pre-reform period (Chilowa 1998, Harrigan 2003). With funding from the European Commission (EC), the government also introduced a fertilizer buffer stock project that also constructed four regional warehouses for SFFRFM with a total capacity of 140,000 tons. This was also an 'insurance' against disruptions of fertilizer supplies due to civil war in Mozambique at that time (Smith 1995).

In 1990, the government effectively resumed the fertilizer subsidy removal process when it signed an Agricultural Sector Adjustment Credit (ASAC) with the World Bank. This removal occurred unevenly due to temporary subsidy measures reinstated in particular years, and complete removal did not occur until 1995/96. Sharp rises in fertilizer prices occurred in the 1990s, not just due to subsidy removal, but also to successive devaluations of the kwacha.[24] Within the framework of ASAC, the Bank also insisted on opening up the fertilizer market to private operators. As a compromise, the government agreed to such liberalization while retaining ADMARC's role as 'seller of last resort' (Smith 1995). In official terms, the fertilizer market was now liberalized (Chirwa 2006).

In 1991/92, there was a drought that reduced national maize output by 58.7 per cent (from 1.6 million tons in 1990/91 to 0.7 million tons in 1991/92). The immediate policy response was a Drought Recovery Inputs Programme (DRIP) that distributed free inputs for the 1992/93 crop season (Harrigan 2008). For the 1994/95 crop season, a Supplementary Inputs Project (SIP) was established with funding from UK ODA (soon to become DFID). This was succeeded by three seasons of complete subsidy removal from 1995/96 to 1997/98; however, the government was increasingly at odds with the World Bank about this policy stance, and

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[24] 'The Kwacha was devalued several times since 1994, increasing from about MK9 to the US$ in 1994 to MK45 to the US$ in 1999. Effectively, the average price of a 50 Kg bag of NPK or urea increased from about MK100 in 1994/95 to MK800 to 900 Kwacha in 1998/99' (Minot *et al.* 2000, p.4).

acquired allies in the donor community and amongst the large NGOs who were particularly concerned with deteriorating household level food security in the country.

As already mentioned, politics took centre stage in the form of campaigns for the first multi-party elections in 1994. Opposition political parties campaigned on the promise to forgive outstanding credit for input purchases and to reinstate lower fertilizer prices. For the 1998/99 crop season, with another election coming up in May 1999, a major reversal in fertilizer policy occurred with the introduction by the government of a universal Starter Pack scheme at a cost of US$23.5 million, and an outreach of 2.3 million smallholders, funded by the government (US$14.5m), DFID (US$8.2m), the World Bank (US$1.7m), the European Community (US$0.7m) and Republic of China (US$0.5m) (Harrigan 2005, p.237). The Starter Pack ran for a second year in 1999/2000 as a universal scheme open to all small farmers and with an estimated uptake of 2.8 million farmers. Yields and output jumped by about 40 per cent over the preceding levels, assisted by good rainfall in those two seasons (Levy and Barahona 2002). The scheme demonstrated potential for increasing productivity but it was abandoned after two years owing to donor pressure[25] in favour of a scaled-back version that came to be known as the Targeted Input Programme (TIP) implemented from 2000/01 to 2004/05. TIP reflected the following changes to the starter pack: (1) the number of beneficiaries was reduced to 0.4 million farmers (later increasing to 1.5 million due to persistent hunger events); (2) the size of the input package was reduced to 0.08 hectares maize area (2 kg maize seed, 1 kg legume seed and 12 kgs fertilizer); and (3) the seed was changed from hybrid to OPV maize. Unlike the starter pack, TIP coincided with a series of major adverse weather events, mainly floods in 2000/01 and droughts in 2001/02 and 2003/04 (Frankenberger *et al.* 2003, Government of Malawi 2004) but the fall in maize production and the ensuing hunger is largely attributed to the scaling down of the starter pack (Levy and Barahona 2002).

For the 2005/06 crop season, and subsequently, the government made good on its 2004 election promise of re-introducing a more comprehensive fertilizer subsidy, the agricultural input subsidy programme (ISP)). The ISP has provided 1.7 million (and upwards) farm households with subsidised fertilizers via a coupon distribution that provides beneficiaries with two 50 kg bags of fertilizer at greatly discounted prices. Due to rising world prices of

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[25] An apparently quiescent World Bank up to that point suddenly reverted to a tougher stance, and put considerable pressure on other donors (principally DFID) to move away from universal coverage.

fertilizer, the subsidy rate grew steeply from an initial level of 64 per cent to an estimated 92 per cent in 2008/09. This also increased the share of the subsidy in government revenue from 5 per cent to 14 per cent. The 2008/09 figures reflected a price spike that occurred in world fertilizer prices in mid-2008. Nevertheless, this is a historically unprecedented level of fertilizer and other input subsidisation for Malawi. The subsidy is associated with (but not necessarily entirely responsible for) an apparent increase in production from an average 1.55 million tons in 2000/01-2004/05 to 3.06 million tons in 2005/06-2009/10. Production outcomes in this latter period are explored further in Chapter 5 (section 5.5) of this thesis.

Table 3.1: Agricultural input transfer programs in Malawi, 1998/99-2008/09

Year	Scheme	Input package	Cost (MK billion)	FARM HHs (Mn)	Maize Output (Mn MT)
1998/99	Starter Pack	Fert: 10 Kgs 23:21:0+4S, 5 Kgs Urea Seed: 2 Kg hybrid maize, 2 Kgs legume	1.1	2.3	2.2
1999/00	Starter Pack	Fert: 10 Kgs 23:21:0+4S, 5 Kgs Urea Seed: 2 Kg hybrid maize, 2 Kgs legume	1.2	2.8	2.3
2000/01	TIP	Fert: 5 Kgs fertilizer, 2 Kg Seed: OPV maize, 1 Kgs legume	0.6	1.5	1.6
2001/02	TIP	Fert: 5 Kgs NPK, 5 Kgs Urea Seed: 2 Kg OPV maize, 1 Kgs legume	0.5	1.0	1.5
2002/03	TIP	Fert: 5 Kgs NPK, 5 Kgs Urea Seed: 2 Kg OPV maize, 1 Kgs legume	1.1	2.0	1.8
2003/04	TIP (Winter)	Fert: 5 Kgs Urea, 2 Kg Seed: OPV maize, 1 Kgs legume	0.2	0.4	1.6
2004/05	TIP	Fert: 12.5 Kgs NPK, 12.5 Kgs Urea Seed: 5 Kg OPV maize, 1 Kgs legume	4.2	2.0	1.2
2005/06	ISP	Fert: 50 kg 23:21:0+4S & 50 kg Urea for maize at MK950 or 50 kg D compound & 50 Kgs CAN for tobacco at MK1450 Seed: MK400 per 3kg hybrid or OPV	7.2	1.4	2.6
2006/07	ISP	Fert: 50 kg NPK & 50 kg Urea for maize or 50 kg D compound & 50 Kgs CAN for tobacco at MK950 per bag; Seed: MK400 per 3kg	12.7	1.8	3.2
2007/08	ISP	Fert: 50 kg NPK & 50 kg Urea for maize or 50 kg D compound & 50 kgs CAN for tobacco at MK900 per bag; Seed: 2 kg hybrid up to MK900 or 4 Kg OPV maize (MK400)	16.3	1.7	2.6
2008/09	ISP	Fert: 50 kg NPK & 50 kg Urea for maize or 50 kg D compound & 50 kgs CAN for tobacco at MK800 per bag; Seed: 2 kg hybrid or 4 kg OPV at MK680	39.8	1.7	3.6
2009/10	ISP	Fert: 50 kg NPK & 50 kg Urea for maize at MK500 per bag; Seed: 5 kg hybrid/10 kg OPV at MK1500	25.0	1.6	3.2

Source: Government of Malawi (2008a, 2009f, 2010f, 2010d)

Table 3.1 provides a summary of the three successive input interventions that the government has implemented in this decade and considers to fall within 'agricultural input programmes in Malawi'. The focus of this thesis in Chapter 5 is on the ISP but where necessary in the discussion, reference is made to the earlier schemes. Detailed descriptions, operations and outcomes of the Starter Pack and TIP can be found in the literature (e.g. Levy 2005b).

The government has since March 2010 formulated a six year Medium Term Plan (2010/11-2015/16) for the input subsidy programme, which has since been renamed the Farm Inputs Subsidy Programme (FISP). [26] Before then, issues around the input subsidies were managed on *ad hoc* basis mostly as cabinet directives and donor concessions. This 'ambitious' MK202.6 billion programme has three main components (1) Farmer Access to Farm Inputs (coupon system); (2) Farm Inputs Markets (agricultural credit) and (3) Farmer Access to Complementary Services (agricultural extension and other services). Every year, 8 million coupons will be distributed covering 160,000 metric tonnes of maize fertilizer (80,000 tonnes each Urea and NPK), 8,000-16,000 tonnes of maize seed and 3,200-8,000 tonnes of legume seed. It is envisaged that by 2015/16, over 3.5 million farm families will be reached (Government of Malawi 2010d). Table 3.2 presents the costs.

Table 3.2: The Medium Term ISP Plan 2010/11-2015/16 (MK billion)

Year	Farm Inputs	Input Credit	Agric. Services	Total
2010/11	29.01	0.00	0.21	29.22
2011/12	31.06	0.00	0.22	31.28
2012/13	32.93	0.00	0.24	33.17
2013/14	34.57	0.10	0.25	34.92
2014/15	35.26	1.27	0.27	36.80
2015/16	35.62	1.32	0.29	37.23
Total	198.46	2.70	1.47	202.63

Note: official rate of exchange US$1.00 = MK140

Source: Government of Malawi (2010d, pp.31 & 54)

This rather condensed history of input-output-food market regulation and fertilizer-credit subsidy policy in Malawi provides an essential background to the policy options for

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[26] The ISP has become Malawi's flagship economic policy, but remains controversial on numerous grounds including its funding (ostensibly funded by the government, but nevertheless dependent on general budget support), targeting (who actually gets the coupons), secondary markets (in coupons and fertilizer), impact on food security at the household level, and accuracy of the maize output levels attributed to it. These aspects are examined in much greater detail in later chapters of this thesis.

overcoming vulnerability which are the focus of this thesis. Maize policy in Malawi is understandably highly political, and many decisions can only be understood in terms of electoral cycles, promises made by political parties and their leaders prior to gaining power, and the goal of securing political support from important sectors of the populace in the future. The Malawi government has had a continuous priority of securing maize self-sufficiency at national level, and at times this has coincided with the evolving concerns of donors regarding household level food security, thus resulting in some periods of agreement and in other periods of disagreement over objectives and the means to secure them. The periods of agreement notably during the starter pack scheme saw the World Bank contributing up to 29 per cent of the programme resources and during the period of disagreement (TIP), the Bank did not contribute any financial resources (see Table 17.1 in Harrigan 2005, p.237). The policy switches that have occurred have reflected the often brief ascendancy of one side or the other in terms of leverage over the course of events, with more liberalisation and less subsidies occurring when the external agencies have been in the ascendant, and reversion to more regulation and more subsidies when the Malawi government has felt able to exercise more control.

3.2 Social Transfer History in Malawi

Policy ideas about formal social transfers emerged in Malawi in the early 1990s after a UN-funded *Situation Analysis of Poverty* published in 1993 revealed widespread and pervasive poverty, manifested by multiple adverse indicators (Government of Malawi/United Nations 1993). The analysis was conducted at the peak of the political transition which culminated in the first multiparty general elections in May 1994. During the campaign, the main opposition United Democratic Front (UDF) party had campaigned on a promise to reduce poverty. Immediately after the general election, the winning UDF-led government launched a Poverty Alleviation Programme (PAP) in August 1994. Between 1994 and 1995, the government set up a poverty alleviation framework and implementation structure, coordinated by a secretariat in the Ministry of Economic Planning and Development (MEPD). The government also organized a series of stakeholder workshops to discuss ideas around social funds that were emerging from the World Bank. This process eventually culminated in the establishment of the Malawi Social Action Fund (MASAF) which the president launched in August 1996 as its

flagship poverty alleviation strategy (Bloom *et al.* 2005).[27] Since 1996, MASAF has evolved in terms of scope and management, and three distinct phases can be identified:

(1) The first phase (MASAF 1: 1995-1999) obtained funding of US$56 million and comprised two components; a Community Sub-Project (CSP) and a Public Works Programme (PWP).

(2) The second phase (MASAF II: 1999-2003) became effective in 1998 and ran until 2003 with further World Bank funding of US$66 million. MASAF II added a third component known as Social Sub-Projects or sponsored sub-projects (SSP).

(3) The third phase (MASAF III: 2003-2015) became effective in November 2003 with a funding commitment of US$240 million, with further details as follows.

The community sub-projects (CSP) component financed community-driven and managed infrastructure projects such as construction of school blocks, health centres and bridges. MASAF disbursed funds directly to the communities in three tranches, upon accounting of first tranches. The Sponsored Sub Projects (SSP) component addressed the needs of groups such as orphans, persons with disabilities, street children and people living with HIV/AIDS whose needs the design of MASAF I had inadvertently ignored. Most projects were income generating activities, early childhood development centres, food security and nutrition and vocational skills training. MASAF disbursed funds to Project Support Committees (PSCs) through a sponsoring agency (SA) that managed the resources on behalf of the communities. The sponsoring agencies were mostly NGOs with technical capacity in the selected project, and already working in the community.

The focus of this section is particularly on public works programmes (PWPs) which comprise Malawi's major social safety net. The first PWP was implemented during MASAF I as a cash transfer-based safety net pilot in response to income poverty and food insecurity that had been identified in the earlier poverty assessment, and had been followed up in a vulnerability assessment mapping (VAM) in 1996. In terms of budget allocation, PWPs accounted for 27 per cent of the financial resources of MASAF I and 20.6 per cent of MASAF II. In the

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[27] MASAF was a World Bank funded project the government publicised it as UDF's commitment to reducing poverty in a similar way the government has publicised the ISP as the Democratic Development Party (DPP) commitment to reducing hunger.

decentralised structure, PWPs are nowadays implemented by district assemblies with MASAF as the principle funding agency (Bloom *et al.* 2005, Government of Malawi 2005a).

The programme involves labour-intensive public works such as building or rehabilitating community roads, dams, forests and other environmental assets. The programme targets poor and vulnerable but economically active individuals who can provide labour. The targeting follows a three-tier system that involves (a) geographic targeting using VAM to identify communities within a district that are poorest and at risk of food insecurity; (b) community targeting using community committees to identify and select deserving individuals; and (c) self targeting in which the wage rate is set at 20 per cent below the government minimum wage to ensure that only genuinely needy individuals participate. During MASAF I and II, the cash transfer was pegged at MK43 for a four-hour task in a day. Following the 2001/02 drought, MASAF's PWP was redesigned as a conditional cash transfer (PWP-CCT) involving a fixed ten days of work at MK200 per day. It was implemented between October and December, prior to the onset of agricultural season. The unenforceable conditions were that beneficiaries would use the cash to buy agricultural inputs. Following another hunger in 2004/05 that compelled the government to introduce the input subsidy programme, the government now holds the view that the PWP-CCT programme is implemented to provide cash with which to redeem coupons provided in the input subsidy programme. From MASAF operational guidelines, PWP funds would be released to districts when the subsidized farm inputs were available on the market; every participant would receive MK2400 for 12 days' of 4 hour work per day (Government of Malawi 2007d, p.4). The government expects participants to purchase at least one 50-kg bag of maize and one 50-kg bag of the subsidized fertilizer (Barnett *et al.* 2008, p.44).

In addition to MASAF's continuing PWP funded by the World Bank, the government has implemented other variants through MASAF and other institutions to address specific short-term shocks. For example, following the 2001-02 drought, the World Bank provided an additional US$6 million through an Emergency Drought Recovery Project (EDRP) for relief related transfers through PWPs from 2002 to 2005. The Department for International Development (DFID) also provided US$12.2 million to implement PWPs in selected districts. The first phase called DFID 1 was implemented by MASAF in 2001-02. The second phase was implemented in 2002-04 through an international NGO (CARE) in a project called the Improving Livelihoods through Public Works Programme (ILTPWP). The government

provided MK113 million (US$1.26 million) to implement the Relief Cash for Work Programme (RCWP) in 2002-043. Another non-MASAF public works programme has been funded by the European Union (EU) since 2001 and is known as the Government of Malawi/European Union (GoM/EU) Income Generating Public Works Programme (IGPWP) (Chirwa 2007).

The main phase of the IGPWP ran from 2001 to 2005 with the aim of reducing poverty and improving food security. It covered all districts and, like MASAF's PWPs, focused on rehabilitation and maintenance of rural roads, afforestation projects, and small-scale irrigation schemes. Unlike MASAF, the programme worked with local contractors who in turn recruited beneficiaries. The wage rate varied between contractors but was set at a minimum of MK64 per 6-hour task. Between 2002 and 2004, the GoM/EU implemented a PWP Food Security Programme through five district assemblies in the central region targeting the 'rural poor with surplus labour'. Local leaders identified and selected beneficiaries in consultation with district officials (leadership beneficiary selection). The wage rate was set at MK147 for a 5-hour task. In the 2005/06 hungry season, GoM/EU implemented a Special Programme for Relief and Investment in Needy Times (SPRINT) between November 2005 and March 2006 in communities that were identified through VAM to be badly hit by the food crisis. SPRINT beneficiaries were selected by community committees (community targeting) and were paid MK150 per day for an average period of 20 days. Since 2005, the main IGPWP has continued with the local contractor approach, but local leaders are involved in rationing beneficiaries. The wage rate in 2009 was MK150 for a 6-hr task (Chirwa 2007).

The third major safety net public works programme is the nationwide Special Government Public Works Programme (SGPWP) managed by Ministry of Transport and Public Works since 2005, and funded by the government. It is implemented by the District Assemblies and covers all the districts in Malawi. District officials decide on the roads to be rehabilitated in district but the beneficiaries are identified and selected by local leaders through a rationing approach. The wage rate is set at MK200 per day for an 8 hour task (Devereux *et al.* 2006a, Chirwa 2007, Ntata 2010). Other PWPs in Malawi include those implemented by NGOs such as World Vision International, Catholic Relief Services, Malawi Red Cross, Save the Children, OXFAM and others (World Bank 2007a, p.31). Table 3.3 provides summary of some (and not all) of the major PWPs in Malawi in terms of timing, budgets and their sources.

Table 3.3: Major Public Works Programmes in Malawi, 1996-2008

Institution	Public Works Programme	Period	Budget (US$ million)	Source of Funds
MASAF	MASAF II PWP	1999-2002	13.10	IDA
	EDRP	2002-2003	6.37	IDA
	DFID I	2001-2002	4.25	DFID
	ILTPWP	2002-2004	7.95	DFID
	RCWP	2002-2003	1.40	GoM
	PWP-CCT	2005-2006	12.10	IDA
	PWP-CCT	2007-2008	3.40	IDA
GOM/EU	Food Security Programme	2003-2006	84.90	EU
	Public Works Programme	2003-2006	34.90	EU
	Income Generating PWP	2003-2006	2.70	EU
Ministry of Transport & Public Works	Special Public Works Programme	2003-2006	3.30	GoM

Source: Government of Malawi (2003a, p.23, 2007d, p.10), Barnett, *et al* (2008, p.45), World Bank (2007a, p.33).

Since 2005, there has been a shift in emphasis regarding social transfers in Malawi. This has involved a move away from seasonal PWPs towards cash transfers that are paid continuously (on a monthly basis) across the calendar year. The Mchinji social cash transfer scheme (Chapter 6 of this thesis) was designed in 2005 and implemented in 2006. The scheme replicates design features that were devised earlier for a social cash transfer pilot in Kalomo district in Zambia (Schubert 2003, 2006, Miller *et al.* 2010). As the first such scheme in the region, and given the burgeoning enthusiasm for cash transfers amongst bilateral donors and international NGOs in this period, the Kalomo scheme acquired almost celebrity status. In March 2006, the African Union held a conference on social protection attended by 13 African heads-of-state, in Livingstone in Zambia, the proceedings of which involved a visit to the nearby Kalomo scheme. This resulted in the Livingstone Call for Action in which the African Union pledged to encourage its member countries to adopt social cash transfer policies as part of their social protection strategies (African Union 2006).

In addition to the Mchinji social cash transfer scheme, there were other, shorter term, unconditional cash transfer projects in Malawi in the 2000s. These include a component of Concern Universal's safety nets scheme in Dedza district (Levy *et al.* 2002); an Oxfam social cash transfers scheme implemented in Thyolo district (Harvey and Savage 2006); and the Concern Worldwide cash transfer scheme in Dowa district in the 2005-06 season called the

Dowa Emergency Cash Transfer (DECT) scheme (Devereux *et al.* 2006b). These schemes did not involve routine social cash transfers of long duration, rather they were short-term responses to immediate deprivation, with limited timescales. Nevertheless, they provided considerable impetus to the search in Malawi for innovative ways to tackle chronic vulnerability, and to examine alternatives to the safety net PWP approach (Devereux 2008).

Between 2006 and 2008, donors and NGOs helped the government to formulate a Social Protection Policy the goal of which is to reduce poverty and enable the poor to move out of poverty and vulnerability. It sets out four pillars, comprising (i) provision of welfare support to the most needy, (ii) protection of assets, (iii) livelihood promotion through productivity enhancement, and (iv) policy linkages and mainstreaming within government. In 2008, the Cabinet discussed the policy but did not approve it because the narrative used higher poverty rates (52 per cent from IHS2) when later welfare monitoring surveys revealed apparent decline to 40 per cent by 2007. The cabinet changed the name 'social protection policy' to 'Social Support Policy' because the former implied dependency on the state (Chinsinga 2009, Government of Malawi 2009h, p.9). A second draft of January 2009 incorporated the directives (Government of Malawi 2009g) but, at the time of writing this thesis, the policy is yet to obtain official status because the Cabinet again failed to approve it in June 2010 (Government of Malawi 2010i). The policy represents a broader and more predictable resource commitment from government and donors to respond to vulnerability (FANTA 2007, p.22) but the formulation process is also faulted for lacking local participation since it was driven by donors and not government and also lacked political or grassroots input (Chinsinga 2007d).

The policy builds on previous safety net strategies which can be traced to earlier initiatives in 1999 when the World Bank led a process for the design of a National Safety Net Strategy (NSNS) (World Bank 1999). The NSNS recommendation was delivered to the government in 2000 but no further action was taken at that time (World Bank 2007a). In 2002, fresh efforts were initiated to put in place a National Safety Nets Programme linked to the 2002-2005 Malawi Poverty Reduction Strategy (MPRS) which provided for safety nets in order to improve the lives of the most vulnerable people (Government of Malawi 2002a). A third set of efforts emerged during the formulation of the Malawi Growth and Development Strategy (MGDS) covering the period 2006-2011 (Government of Malawi 2006a).

There have also been attempts to improve coordination of social transfer initiatives. Initially, safety nets were coordinated by the Poverty Alleviation Programme (PAP) Unit in the then National Economic Council (NEC), and operated under a Presidential Council on Poverty Alleviation. The coordination then moved to a Safety Nets Unit in the Ministry of Economic Planning and Development when NEC was dissolved, and later to the Department of Poverty and Disaster Management Affairs (DPDMA) in the Office of the President and Cabinet. Currently, social protection is coordinated by a Social Protection Unit in the Ministry of Economic Planning and Development. It operates under a National Social Protection Steering Committee (NSSSC) comprising principal secretaries from the key ministries, and heads of donor agencies and civil society which is represented by the Council for Non Governmental Organizations in Malawi (CONGOMA), a coordinating body for civil society organizations in Malawi (World Bank 2007a, Government of Malawi 2008i). However, the Social Protection Unit mandated to coordinate implementation of the Social Support Policy remains a one-man office (staffed by a Director) and the government continues to implement a variety of social transfers using parallel structures, some of them even located in the same ministry as the Social Protection Unit (e.g. Department of Disaster Preparedness and Management).

3.3 Politics and Public Administration in Malawi

The earlier summary of agricultural policy history in Malawi provides some insights into the significance of the country's politics in determining the policies that are given priority by governments in power. Malawi has had just three heads of state since independence in 1964. Dr Hastings Kamuzu Banda ruled from 1964 to 1994 (30 years). After a referendum in 1993 and an election in May 1994, he was succeeded by Bakili Muluzi, leader of the UDF political party, who won two successive elections in 1994 and 1999. In 2004, the UDF regained power under the leadership of Bingu wa Mutharika, who due to the slenderness of his majority and political infighting between the major parties, proceeded to move his government and leadership into a new party, the Democratic Development Party (DPP) in 2005. Bingu has subsequently won a second electoral term, which runs from 2009 to 2014. [28]

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[28] President Mutharika is popular and is known locally by praise titles such as *Mose wa lero* or *Ngwazi*. The former means 'today's Moses' and connotes Dr Mutharika delivering Malawians from hunger. Ngwazi means 'conqueror' or 'saviour', the title with which Dr Banda also was bestowed for having conquered colonialism. A university in China in 2010 conferred on the president an honorary professorship. His official salutations have now become His Excellency Ngwazi Professor Bingu wa Mutharika.

Dr Banda is regarded by most political science observers of Malawi to have entrenched what is called neo-patrimonialism in the way government in Malawi tends to function (see, for example, Cross and Kutengule 2001, Booth *et al.* 2006). Neo-patrimonialism is characterised by excessive patronage, allegiance, cronyism, and rent seeking (Jackson and Rosberg 1984, Kydd 2009). Under neo-patrimonialism, politics is the art of private wealth generation for 'insiders', and political control is achieved and sustained by using high office to 'purchase' loyalty and support. The alienation of land from the customary sector in the Banda era exemplifies neo-patrimonial behaviour. The MCP regime encouraged its senior members to engage in the transfer of land from customary to private tenure, mainly to produce burley tobacco for export. The scale of this land alienation was considerable. In the early 1970s there were some 229 estates covering 255,800 ha with an average size of some 1,000 ha each, representing the historic pattern of commercial settlement in forestry, tea, sugar, coffee, and tobacco. By the end of the Banda period in 1993, this had risen to 23,000 estates occupying 1.2 million ha, with an average size of some 50 ha, largely consisting of a clientelist class of tobacco growers. By way of contrast, the same period saw a decline in plot size in the customary sector from 70 per cent of producers owning 2 ha or more in 1969 to less than 15 per cent having more than 1 ha in 1995 (FAO/WFP 1995, Cross and Kutengule 2001).

Politics in Malawi does not only obey neo-patrimonial features; it also exhibits political manoeuvring of more routine kinds such as keeping one step ahead of opposition politicians and groups, making decisions that are reactive to claims put forward in the country's media, attempting to shift responsibility when things go wrong, and denying that an emerging problem exists (Booth *et al.* 2006). In relation to fertilizer policy (and its relative success or failure), several of these behaviours have been deployed at different points in time. Fertilizer subsidies are hugely popular amongst the country's small farmers, and elections in Malawi are won or lost according to how convincingly the leaders of different political parties represent their intentions regarding the future amount and scale of the subsidy (Murwira 2009, Smiddy and Young 2009). However, if maize market behaviour indicates that the policy's impacts may not have been quite as positive as claimed, then scapegoats are sought (typically, private maize traders if maize prices rise steeply), and the existence of a maize shortage may be ignored or downplayed.[29]

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[29] This latter occurs quite often, but was observed at its most disingenuous in Malawi in 2002 when, confronted by mounting evidence of serious famine taking hold in some parts of the country, President Muluzi declared that no such problem existed (Devereux 2002a).

Malawi nowadays has a devolved public administration, following the decentralisation of local government to districts that occurred in 2001. The national decentralization policy introduced in 1998 provides for a unified system of local government with the aim of enhancing local participation, eliminating duplication in service delivery, and promoting transparency and accountability. In this context, districts, towns and cities are all denominated district assemblies (DAs)[30]. Figure 3.1 above provides an administrative map of Malawi showing district assemblies.

The decentralized system comprises a hierarchy of committees constituted by elected or nominated representatives. There is the District Assembly (DA), the Area Development Committee (ADC) and the Village Development Committee (VDC). The DA is constituted by elected ward councillors, but also includes a prescribed number of members of parliament (MPs) and Traditional Authorities (TAs). The DA has the mandate to implement national policies and is also able to formulate district specific policies. The ADC covers a TA (area) and comprises representatives of all Village Development Committees (VDCs) under the jurisdiction of the TA. The ADC is responsible for identification and prioritization of community needs, supervising implementation, and mobilizing community input and resources. A VDC can be the same as, or larger than, a group village head (GVH) which in turn comprises several villages when village size is small.

These committees are supported by technical committees comprising staff from government departments, NGOs and the private sector. A District Executive Committee (DEC) provides technical backstopping to the DA. It constitutes the District Commissioner (DC) as chairperson, the Director for Planning and Development as secretary, and heads of the local offices of line ministries, as well as NGO technical officers. At community level, the Area Executive Committee (AEC) supports the ADC and VDC in their roles. The AEC comprises field extension workers such as Community Development Assistants, Health Assistants, Agriculture field staff, and others (Government of Malawi 1998b, 2000a, 2001). But many government departments have their own parallel structures of service delivery that both departs from and overlaps this administrative and governance system.

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[30] There are 28 rural districts, 4 cities (Blantyre, Lilongwe, Mzuzu in Mzimba and Zomba), and 6 town assemblies (Balaka, Luchenza, Karonga, Kasungu, Mangochi and Salima). The DA for Mzimba district is known as Mbelwa DA.

Figure 3.1: Map of Malawi showing administrative districts of Malawi

Source: Benson, *et al*., (2002, p.6)

Discussion on how the input subsidy programme and the Mchinji cash transfer scheme work is deferred to later chapters (Chapters 5 and 6) but it is relevant to note here that despite the presence of the unified local government structure, government departments, NGOs and projects often continue to use their own parallel implementation structures and systems. The case study of Mchinji district (Chapters 6 and 7) illustrates this point. The district has a 'district social protection committee' and 'community social protection committees' responsible for implementation and management of social transfers. In theory, all social transfer activities should use these sub-committees for their implementation, but this does not happen in practice. The Mchinji social cash transfer programme is implemented by Department of Social Welfare in the Ministry of Women and Community services. At district level, the Ministry has two separate offices: a community development office and a social welfare office responsible for all social issues such as orphan and vulnerable children care and disabilities.[31] The two offices converge at community level where a community development assistant (CDA), who typically covers a TA, coordinates activities of both offices. The social cash transfer programme is implemented by a separate district social cash transfer secretariat and community social cash transfer committees (CSCTCs) under VDCs.

Likewise, Ministry of Agriculture and Food Security (MoAFS) implements the input subsidy programme through district assemblies but lacks consistency. Some activities are implemented through the DC while others are implemented through District Agriculture offices. At community level, some activities are implemented through extension workers, some through village heads and some through village input subsidy committees. An important feature of local authorities in Malawi is their apparent inability to consolidate local governance and development management. In fact, since 2004, the government has not held local elections to constitute the DAs. There are also increasing cases and speculations about tensions between different government departments, corruption, nepotism and mismanagement of public resources (especially agricultural input subsidy coupons), most probably emanating from confusion created by the failure to establish institutional boundaries in the decentralization (Hussein 2004, Patel *et al.* 2007, Tambulasi 2009a).

At the centre of this lack of clarity about institutional responsibility are traditional leaders who comprise an informal but officially recognised administrative structure of traditional

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[31] Note that although the district social welfare office handles issues of disabilities, at national level there is a separate Ministry of Persons with Disabilities.

leadership (the chieftaincy system). Traditional leaders serve multiple roles and command respect as custodians of legal, governance, security, administrative and development issues at the community level. This structure has existed from colonial times and was strengthened during the Banda era. The traditional leadership hierarchy comprises Traditional Authorities (TAs) and sub-Traditional Authorities (STAs), known by the title of chief, who are responsible for a catchment known as an Area. Below TAs and STAs are village heads responsible for villages. Villages are the smallest unit of the traditional authority system, a number of villages are brought together and have a group village head (GVH). A Chiefs Act passed during the colonial era provides the legislative framework for traditional authority. Although government holds the power to confirm or promote or reject a chief, traditional leadership is inherited. A chief is answerable to the president through the District Commissioner and draws a monthly honorarium. The traditional leadership system applies predominantly in rural areas. Although urban areas have 'chiefs', governments have up to now not recognized this arrangement, preferring to call them 'block leaders'. Traditional leaders in Malawi are influential and they act as the focal point for the social, cultural, political, and economic aspects of rural life as well as the *de facto* system for local participation (Kutengule 2000, Chiweza 2005, Muriaas 2009).

Evidence seems to suggest that traditional leaders in Malawi are more than in the past involved in corruption, nepotism and theft of resources. Indeed it has been proposed that after the police, traditional leaders (chiefs and village heads) are the most corrupt social group in Malawi (Kasunda 2008, Tambulasi 2009b, Chipalasa 2010a). As just one example of this in the context of this thesis, the number of registered villages has grown rapidly apparently with a view to increasing the access of chiefs and their citizens to the free cash, inputs and other resources in circulation (Chinsinga 2009). For example, in the social cash transfer project area in TA Mlomba in Machinga district, Seaman *et al.,* (2008, pp.7-8) noted a 60 per cent increase in the number of villages listed by the Social Welfare Department compared to the national census map of 1998. Some villages had as few households as four. The subdivision of the villages appeared to have been partly due to disagreements within villages about engagement with aid projects, but mostly to do with increasing the potential of receiving social transfers from current programmes, especially social cash transfers. During the fieldwork for this research (described in Chapter 7), it was observed that villages in the case study sites were small and structured like hamlets (*mudzi*) or 'clans' of people related to each other either by blood or affiliation through marriages. In particular one VDC called Kangwere

comprised one clan with Zulu as the common household name. The VDC called Mduwa represented 33 villages with 1146 households (i.e. 34 households per village). Some villages (Mdumpha, Jimu and Tachoka) had ten or less households. This background is important for understanding how social transfers actually work at district and community levels.

3.4 Further notes on vulnerability in Malawi

A definition of vulnerability was provided in Chapter 1 of this thesis, and the problem of growing vulnerability in low income eastern and southern African countries was discussed in Chapter 2. In addition some brief comments were made in Chapter 1 concerning the chief causes of vulnerability in Malawi. In this section, the thesis briefly extends this understanding of vulnerability in Malawi. First it reaffirms a context of persistent poverty and widening vulnerability through the 1990s and 2000s. Second it provides data on the poverty status of households, as emerged from the 2004-05 IHS2. Third it summarises the chief causes of vulnerability that have been identified by other researchers. Fourth, it comments on the relative participation of different proportions of the farm population as net buyers or sellers of maize.

First, there is a broad consensus that from the early 1990s to the mid-2000s vulnerability to hunger in Malawi became more prevalent and more deeply entrenched than in former decades (Devereux 1998, 1999, Devereux *et al.* 2006a). This trend is implicit at one level in the lack of progress in poverty reduction in that period. Rural poverty was found to be 65 per cent in a UN survey conducted in 1993 (Government of Malawi/United Nations 1993), 67 per cent in the first Integrated Household Survey (IHS1) conducted in 1997/98 (Government of Malawi 1998a), and 60 per cent in the second Integrated Household Survey (IHS2)(Government of Malawi 2005e). Given the margins of error in these statistics, little if any progress in rural poverty reduction occurred over this 15-year period, with significant spillovers into the progression of vulnerability.

The reasons widely put forward for this process are explored shortly (see the discussion about the chief causes of vulnerability); however additional trends are also relevant. As shown in earlier tables on maize production, maize output in the 1990s and early 2000s was uneven on a declining trend, culminating in the lowest output since 1993/94 occurring in 2004/05. At the same time, efforts to diversify Malawian food crop agriculture away from maize yielded slow and marginal results (Mataya *et al.* 1998). Crops such as cassava, potatoes, rice, sorghum and

millet which can be direct substitutes for maize in consumption are 'location-specific' crops. For example, rice and cassava do well in lakeshore and river areas, but rice in particular is not an option in most rainfed agriculture in Malawi. Likewise sorghum and millet do relatively well in the lower Shire valley, but cannot compete with maize in yields or returns in much of the rest of the Malawi. There is some truth, perhaps, in the broader observation about sub-Saharan Africa made by Hardy (1998) that maize often dominates farming systems in Africa because it is the crop most suited to agro-ecological conditions and it provides the broadest range of benefits in storage and consumption for poor people.

Alongside a disappointing agricultural trend, there are continuous pressures from rising population and diminishing farm size. The 2008 census revealed an overall rate of population growth of 31.5 per cent from the preceding census in 1998, and population in rural areas rose by 30.3 per cent over the intercensal interval, from 8.8 million to 11.5 million people (Government of Malawi 2008b). With no new land becoming available, this increased rural population has had to be accommodated within the existing area available for cultivation, with inevitable effects on farm size and the incidence of functional landlessness. At the same time, the opportunities for non-farm wage work in rural areas remained quite limited throughout that period, and it is observed that demand for *ganyu* tended to outstrip supply, lowering the real rural wage (Whiteside 2000, Devereux *et al.* 2008, p.34).

Second, it is useful here to reprise briefly some key figures from the IHS2 household budget survey undertaken by the NSO in 2004/05, details of which are provided in Chapter 4, even though these figures are now five years old, and partial surveys (as discussed in Chapter 1) show a marked improvement in poverty indices in the intervening period. In 2004/05 roughly 17 per cent of all households in Malawi (448 thousand households) were estimated to be ultra-poor.[32] According to the IHS2 definition of ultra-poverty, these are households unable to meet even minimum annual calorie needs on the basis of their per capita expenditure level. Of this national figure, 428 thousand households (15.9 per cent of all the households) are rural and ultra-poor; in other words ultra-poverty is overwhelmingly rural in character. Furthermore, 174 thousand households are not just rural and ultra-poor but are labour constrained in the sense of having a dependency ratio of 3 or over or have chronic illness

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[32] This is less than the ultra-poverty rate of 22.3 per cent that has already been cited as the figure for Malawi, and which refers to individuals, not households. Since poorer households are larger than better off households in Malawi, the proportion of households that are ultra poor is lower than the proportion of people who are ultra poor.

amongst adults in the household. These and related figures are summarised in Table 3.4 below. While the ultra-poverty line should not be treated as too definitive (people move in and out of ultra-poverty depending especially on their maize harvests), these data are indicative of the scale of the vulnerability problem faced by Malawi in the recent past.

Table 3.4: Distribution of Households by Poverty Category 2004-05

Poverty Category	National		Rural	
	Number	%	Number	%
Non poor	1,518,620	56.4	1,249,296	53.2
Poor but not ultra-poor	726,718	27.0	672,228	28.6
Ultra-poor, *of which:*	448,206	16.6	428,337	18.2
Not labour constrained	266,392	9.9	253,995	10.8
Labour constrained	181,814	6.8	174,342	7.4
Total Households	2,693,544	100.0	2,349,861	100.0

Source: drawing on Ellis and Marchetta (2009)

Vulnerability to hunger in Malawi is associated with long term and short term factors, as well as cumulative effects on household resilience (Devereux 1999, Devereux *et al.* 2006a). The principal causes of vulnerability in Malawi identified in the literature are as follows:

(a) a substantial proportion of small farm households (estimated at around 60 per cent) are net food buyers, always requiring recourse to the market to cover their 'food gap' even in good years;

(b) a long run decline in available cultivated land per farm family (Jayne *et al.* 2003), accelerated in Malawi during the 1970s and 1980s by the land alienation policies of the Banda period;

(c) unstable maize production outcomes from one year to the next, caused principally by varying weather conditions, but also associated in the past with low yielding traditional varieties, depleted soil fertility and varying access to fertilizer;

(d) an associated high degree of maize price instability, both within years (seasonal price instability) and across years in terms of the degree of such instability;

(e) slow progress in the diversification of the rural economy, both in terms of reducing small farmer's reliance on maize as the principal food crop, and in terms of the lack of non-farm activities in rural areas;

(f) the adverse impacts at household level of the rise in HIV infection in the 1980s and 1990s, and the associated chronic illnesses and mortality of AIDS in the late-1990s and 2000s (these impacts include asset erosion to pay for medical care and funeral costs, and depletion of available labour for productive activities) (Conroy *et al.* 2006);

(g) decline in personal security in rural areas, especially evidenced by livestock theft, causing a fall in the use of livestock (especially goats and cattle) by small farmers as an asset buffer against future shocks (Ellis *et al.* 2003, Pelser *et al.* 2007).

(h) the cumulative impact of all these risk and shock factors taken together, principally manifested by incomplete recovery from successive shocks reducing long term resilience and increasing the likelihood that households are unable to cope with adverse effects using their own resources.

Examining points (a) to (d) further, small farm size, coupled with inequality in land access in customary areas and inability to access agricultural technologies and input, means that participation in maize markets is highly differentiated. According to Jayne *et al.* (2003), about half of marketed output in Malawi is supplied by just 2-3 per cent farmers, operating in the farm size range of 4-20 hectares. The remaining half of marketed supply originates from a second tier of roughly 20 per cent of households, selling in the range of 0.1 to 5 tons maize per household. As stated in point (a) above, a third category comprises buyers only of staple grains, corresponding to around 60 per cent of all rural households. A final category of farmers (15-20 per cent) carry out both selling and buying of maize, or are self-sufficient in food overall due to combining maize production with other starchy crops like cassava or sweet potatoes. The size of the third of these categories, the 60 per cent of farm households who are net buyers of staple grains, is a key factor in explaining vulnerability to hunger in Malawi. Such households are prone to widening 'food entitlement' gaps in years of poor harvests, as well as to the adverse purchasing power effects of seasonal maize price increases. The next chapters, especially chapter 5, examine these aspects in more detail including analysis of maize price trends, and the proportion of people identified as at risk of missing food entitlements, at a time when government has declared phenomenal maize surpluses.

3.5 Summary

The intention of this chapter was to provide essential features of Malawi's past policies, politics, administration, and maize economy that inform the later concerns of the thesis. The chapter begins with a synthesis of the agricultural policy history of Malawi, with a special focus on past input subsidy policies. It then explores the history of cash transfers in Malawi, mainly in the form of food- or cash-for-work schemes associated with public works programmes. The chapter summarises views found in the literature about the way politics works in Malawi, and sketches out the current structure of devolved public administration. Finally, the chapter extends previous points made about vulnerability in Malawi, addressing 'who are the rural vulnerable' via an examination of the proportion of ultra-poor and ultra-poor labour constrained rural households, and the proportion of all farmers that are net buyers of maize.

Chapter 4: Empirical Methods and Fieldwork in Malawi

4.1 Methods Overview

As stated in a preliminary way in Chapter 1, this thesis represents a mixture of methods in which use of secondary data sources, and their interpretation, is combined with a relatively small fieldwork component in one district. Specifically the thesis comprises three sets of methods. The first involves making use of data collected by the Malawi government; the second involves village and household level research covering 90 households in Mchinji district; and the third involves key informant interviews with stakeholders, often with a view to triangulating the interpretation of policy options provided by different respondents with differing ideas.

The reason for placing a high reliance on secondary data sources in this thesis is that several of the research questions posed in Chapter 1 are best approached by interrogating existing data in a different way from the uses to which it is normally put, or by extending the analysis of data in new directions. The following list sets out the principal ways this is done in the thesis:

(1) a significant proportion of vulnerability to hunger in Malawi is seasonal in nature, and is created by large and unpredictable seasonal changes in the price of maize, so that analysis of this price instability contributes to the overall understanding of vulnerability (Section 4.2.7 and Tables 4.10 and 4.14 below);

(2) the vulnerability assessment analysis that is conducted in Malawi provides the spatial data upon which social transfers of food or cash are made in different parts of the country, down to the sub-district level (see below section 4.2.8);

(3) a spatial disaggregation of poverty and ultra poverty conducted in Chapter 6 (section 6.2), as part of strengthening understanding of social cash transfer policies, relies on extracting previously unpublished data from the 2004-05 IHS2;

(4) institutional monitoring data, as well as evaluations, provide the core information from which to examine critically and interpret the two main programmes that are compared in this thesis, the ISP and the Mchinji social cash transfer scheme (Chapters 5 and 6 of the thesis);

(5) budget and expenditure data provide the background against which the affordability question of input subsidies and social transfers can be examined (Chapter 8).

The next section of this chapter sets out the major methodologies that are used by the government of Malawi to generate the secondary data that is utilised in the thesis. This section is then followed in Section 4.3 by a description of the fieldwork sites and sample selection methods for the fieldwork component of the thesis.

4.2 Malawi Government Data Collection Methods

The collection, compilation, analysis and dissemination of official government statistics in Malawi is the mandate of the National Statistical Office (NSO) which was set up by the Statistics Act, Chap 27.01 of 1967 as the central office on statistics matters. But due to the diversity of statistics required for development planning and decision making processes, other ministries and departments also produce official statistics (Government of Malawi 2008h). The next sections describe major government methodologies.

4.2.1 Integrated Household Survey 2004-05

NSO conducts routine and *ad-hoc* socio-economic surveys, but the most influential survey in recent years is the second Integrated Household Survey conducted in 2004-05 (IHS2). The IHS2 yielded poverty profiles which have since become the fundamental source of statistics for the planning and delivery of social transfers in Malawi. IHS2 was a follow up to a first Integrated Household Survey in Malawi (IHS1) conducted in 1997-98 to provide an understanding of poverty issues in the country (Government of Malawi 2005e).

Both surveys employed same household and community questionnaires, with additional questions in IHS2. Major variables from the household survey were: household characteristics and composition; education of all persons above the age of four years; health of all persons and maternal and pre-natal care issues for all recent mothers aged 12 to 49 years; time and labour use; security and safety; housing; consumption and expenditure on food and non-food items; ownership of assets; agriculture; income and sources; social safety nets transfers; access to credit; subjective assessment of wellbeing and shocks; child nutrition. Key variables from the community survey were: physical and demographic characteristics; access to services; economic activities; changes in the last five years, prices. In terms of sample size,

IHS2 comprised 11,280 households drawn from all the districts (Government of Malawi 2005e). Table 4.1 summarises poverty data which emerged from the IHS2.

Table 4.1: Distribution of rural poverty in Malawi, 2004-05

Region/District	Poor (%)	Ultra-poor (%)	Ultra Poor Labour Constrained*
Malawi	52.4	22.3	9.6
Urban	25.4	7.5	3.2
Rural	55.9	24.3	10.5
Northern Region:	56.3	25.9	7.9
Chitipa	67.2	30.4	10.7
Karonga	54.9	28.3	9.3
Mzimba	50.6	22.7	5.8
Nkhata Bay	63.0	30.3	10.6
Rumphi	61.6	24.2	7.4
Central Region:	46.7	16.2	7.8
Dedza	54.6	20.9	7.9
Dowa	36.6	4.8	2.9
Kasungu	44.9	15.1	4.8
Lilongwe	37.5	11.7	6.3
Mchinji	59.6	30.4	13.4
Nkhota Kota	48.0	11.4	4.8
Ntcheu	51.6	21.1	13.7
Ntchisi	47.3	12.2	8.8
Salima	57.3	25.0	12.9
Southern Region:	64.4	31.5	13.6
Balaka	66.8	33.5	19.0
Blantyre	46.5	16.0	9.5
Chikwawa	65.8	31.9	11.0
Chiradzulu	63.5	27.5	9.3
Machinga	73.7	38.3	18.5
Mangochi	60.7	29.3	13.3
Mulanje	68.6	30.6	10.9
Mwanza	55.6	19.7	6.3
Nsanje	76.0	44.3	22.8
Phalombe	61.9	26.9	15.5
Thyolo	64.9	33.0	9.7
Zomba	70.0	41.0	18.2

Source: Government of Malawi (2005b, pp.142-145), * Ellis and Marchetta (2009, p.8).

4.2.2 Population Data

The NSO also conducts population and housing censuses every ten years and makes population projections. Table 4.2 presents population figures which have been employed in Chapter 5 to estimate annual national maize requirements (Government of Malawi 2008f).

Table 4.2: Malawi population data, 1991-2010

Year	Population	Inter-censal growth rate (%)	Corresponding Crop season
1991	8,647,385		1990-91
1992	8,820,427		1991-92
1993	8,996,931		1992-93
1994	9,176,968		1993-94
1995	9,360,607		1994-95
1996	9,547,920		1995-96
1997	9,738,983		1996-97
1998	*9,933,868*	*3.4*	1997-98
1999	10,184,501		1998-99
2000	10,441,457		1999-00
2001	10,704,896		2000-01
2002	10,974,982		2001-02
2003	11,251,882		2002-03
2004	11,535,768		2003-04
2005	11,826,817		2004-05
2006	12,125,209		2005-06
2007	12,431,129		2006-07
2008	*13,066,320*	*2.8*	2007-08
2009	13,395,985		2008-09
2010	13,733,967		2009-10

Note: *Italicised bold* denotes actual census figures, otherwise NSO projections

Source: Government of Malawi (Government of Malawi 2008f)

4.2.3 The Crop Estimates Methodology

Since the 1960s, the government has compiled and publicised official crop production statistics collected by the Ministry of Agriculture and Food Security (MoAFS). More organized efforts, however, emerged in 1990s when FAO helped the government to develop a formal crop estimates methodology which was officially adopted for the 1992/93 crop season.

The National Rural Development Programme (NRDP) mentioned in Chapter 3 divides the country into eight agricultural zones known as Agricultural Development Divisions

(ADDs).[33] An ADD, managed by a programme manager, covers two to seven zones called Rural Development Projects (RDPs) of which there are 31 in total. In the past, some RDPs cut across two districts but now all fall within a district following introduction of the national decentralization policy. An RDP is now typically called the District Agriculture Office, and is managed by a District Agriculture Development Officer (DADO). RDPs comprise 2-19 Extension Planning Areas (EPAs) under the management of an Agricultural Extension Development Coordinators (AEDC) and there are about 150 of these across the country. An EPA is further divided into 2-15 zones called Sections managed by Agricultural Extension Development Officers (AEDOs). A Section covers a village or group of villages. The lowest unit in this system is a Block, from which a group of farm families is organized into farmer clubs as a unit of contact for the AEDOs (extension workers)(Government of Malawi 2008a).

The crop estimate methodology uses the Blocks in order to select randomly sample farmer plots. The process involves dividing crops into major and minor crops according to cropped areas, the cut off point being 5 per cent. Major crops that occupy more than 5 per cent of the crop area in Malawi are maize, rice, groundnuts, tobacco, cotton, wheat, millets, sorghum, pulses (beans and peas) while minor crops that occupy less than 5 per cent of crop area are guar beans, cashew nuts, macadamia, sesame, sunflower, coffee, paprika, chillies, cassava and potatoes. For the major crops, 25 per cent of all blocks in an EPA are randomly selected followed by 20 per cent of farm families in each sampled block, so that the sample constitutes 5 per cent of farm families in an EPA. The process is repeated for minor crops except that all farm families growing the crop in the sampled block are selected in order to give an estimated sample proportion of 25 per cent of the farmers who grow minor crops in an EPA.

Three rounds of crop production estimates are conducted in a season: at the onset of the rains in November/December (first round); in February/March when the crop stands in the field (second round); and immediately after harvest in April/May (third round). The methodology applies predominantly to smallholder and rain-fed crops but is also extended to estate and off-season (*dimba* or irrigated) crops. The first round involves sampling and measuring plot areas that have been prepared for planting. Together with inferences from crop yields realised in the immediate past season, a first forecast of production is deduced. The estimates are discussed and released in January/February. The second round involves verification of the crop areas

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[33] The ADDs are Karonga and Mzuzu in the north; Kasungu, Lilongwe and Salima in the centre; and Blantyre, Machinga and Shire Valley in the south.

planted to different crops and estimates of the uptake of inputs as deduced from fertilizer sales in order to provide production estimates that are released in March/April. The third round involves measuring the plot area actually harvested, and weighing the output obtained from the sample plot. Government releases the results in June, before the start of the budget session of parliament. A fourth round is undertaken in August for winter crops, the results of which are released in September[34]. In summary, the methodology entails random selection of sample farms to be measured in each of the EPAs. It involves 5-10 per cent of farmers for the first and second round estimates, reducing to 1-2 per cent for the third round when the harvested crop is actually weighed (FAO/WFP 2005).

Discussion (and 'cleaning up') of the results follows a six-tier 'cascade' model before final release. The first meeting is at EPA level chaired by the AEDC where AEDOs present the results from their sections, while EPA subject matter specialists (SMS) in crops, extension, irrigation, and others critique. The next meeting is at district level chaired by the DADO to discuss EPA results (district level SMSs critique). The third meeting is at ADD level chaired by the Programme Manager to discuss district (RDP) results. From there, regional meetings involving ADDs in that region are held in order to adopt a regional consensus. The fifth meeting is at Ministry level chaired by a senior ministry official to discuss the ADD results. The final meeting is a national meeting of the National Agricultural Production Estimate Committee (NAPEC)[35] to approve and publicise official results. In most of these meetings, ADMARC and the Department of Meteorological Services also present perspectives related to their areas of competence to provide a broader perspective for the crop production estimate figures. The 'cascade' model permits departures from the strict outcomes of a quantitative procedure to creep into the estimates at each stage; in effect, it allows judgements on the veracity of the quantitative indicators to be made, and opens up the possibility for political considerations to enter these deliberations. In Chapter 5, the potential for such bias is considered in greater detail in relation to production figures in recent years. In the meantime

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[34] The fourth estimates may not be reflected in the official statistics released in June. As a result, official crop production figures quoted in different government documents including those originating from the Ministry of Agriculture tend to vary depending on whether they include or exclude the winter maize estimate.

[35] Chaired by Secretary for Agriculture, membership includes government departments (Economic Planning, Finance, department of Meteorological Services), state marketing institutions (ADMARC, SFRFM), private sector (grain association of Malawi, farmers union of Malawi), donors (FAO, WFP, DFID, EU, World Bank, USAID) and NGOs.

Table 4.3 below sets out the official maize production figures from 1986 to 2010 as published by MoAFS.

Table 4.3: Maize Production Estimates for Malawi, 1986-2010

Table 4.3a: All maize production

Crop Season	Production (tons)	Area (Ha)	Yield (Kg/Ha)
1986-87	1,201,757	1,182,415	1,016
1987-88	1,423,902	1,215,087	1,172
1988-89	1,509,513	1,270,822	1,188
1989-90	1,342,809	1,343,784	999
1990-91	1,589,377	1,391,878	1,142
1991-92	657,000	1,368,093	480
1992-93	2,033,957	1,327,038	1,533
1993-94	818,999	1,129,327	725
1994-95	1,327,865	1,225,580	1,083
1995-96	1,793,469	875,195	1,443
1996-97	1,226,478	1,233,538	994
1997-98	1,534,326	1,292,669	1,187
1998-99	2,245,824	1,369,153	1,640
1999-00	2,290,018	1,435,222	1,596
2000-01	1,589,437	1,446,264	1,099
2001-02	1,485,272	1,513,945	1,034
2002-03	1,847,476	1,617,917	1,230
2003-04	1,608,349	1,478,750	1,088
2004-05	1,225,234	1,513,929	809
2005-06	2,611,486	1,762,839	1,608
2006-07	3,226,418	1,215,356	2,655
2007-08	2,634,701	1,596,955	1,650
2008-09	3,582,502	1,608,996	2,227
2009-10	3,233,364	1,640,878	1,971
Average	1,834,981	1,377,318	1,315

Source: Government of Malawi (2008a, 2009f, 2010f).

Table 4.3b: Trends in maize production by variety

Period (Year)	Maize Area (million ha)			Maize yield ((Kg/ha)		
	Local	Composite	Hybrid	Local	Composite	Hybrid
1986-87	1,131,540	13,780	37,095	953	1,635	2,706
1987-88	1,137,499	18,698	58,890	1,094	1,199	2,667
1988-89	1,159,985	25,072	85,765	1,052	1,760	2,855
1989-90	1,184,036	24,725	135,023	813	1,400	2,555
1990-91	1,193,642	18,878	179,358	872	1,417	2,908
1991-92	1,137,894	13,347	216,852	324	1,403	1,307
1992-93	996,757	3,873	326,408	1,036	1,623	3,050
1993-94	920,920	778	207,629	580	772	1,369
1994-95	859,143	2,303	364,134	767	1,043	1,829
1995-96	856,417	17,469	331,313	1,009	1,474	2,726
1996-97	914,518	20,275	298,745	730	1,044	1,801
1997-98	912,751	24,997	354,921	818	1,202	2,134
1998-99	767,056	45,441	509,613	997	1,572	2,613
1999-00	798,636	107,902	528,684	994	1,693	2,485
2000-01	906,405	207,333	332,526	743	1,361	1,905
2001-02	831,988	232,626	372,445	669	1,245	1,717
2002-03	767,012	277,823	457,056	758	1,366	1,939
2003-04	720,890	334,184	423,676	684	1,163	1,714
2004-05	768,605	372,703	372,621	518	888	1,331
2005-06	654,176	545,553	424,301	877	1,802	2,486
2006-07	164,731[36]	585,486	465,139	3,638	2,132	2,965
2007-08	559,912	587,041	450,002	866	1,767	2,472
2008-09	544,248	561,787	524,620	960	2,257	3,374
2009-10	513,234	524,424	603,160	915	1,972	2,867
Average	850,083	190,271	335,832	944	1,425	2,324

Figures in red suggest the yield, especially for local maize in 2006/07, might have been over-estimated.

Source: Organized from official crop production estimates data (Government of Malawi 2008a, 2009f, 2010f).

4.2.4 The Maize Crop Monitoring and Yield Assessment Model

In tandem with the national crop production estimate methodology, the Department of Meteorological Services in the Ministry of Natural Resources and Environmental Affairs forecasts production based on rainfall and crop water requirements, illustrated in Table 4.4.

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[36] This maize area figure is the official figure published by the government in MoAFS statistics (Government of Malawi 2008, Table 2.2, p.44), and also entered into the FAO maize production database for Malawi (FAO 2010). It is possible that the figure results from a typographical error, since it falls outside the likely range of an area decline given the surrounding maize area trend in preceding and succeeding years. Nevertheless, the figure is taken as given in this thesis, since it does not alter the findings and conclusions either in this or subsequent chapters of the thesis.

Table 4.5 presents historical rainfall data to help understand crop failure events described in Chapter 3, and maize production trends examined in Chapter 5. According to official documents, 'normal' rainfall in Malawi is around 950 mm per year (Government of Malawi 2010a).

Table 4.4: Crop water requirements in Malawi

Crop	Growing period (days)	CWR (mm)
Maize	90 – 140	500 -700
Sorghum	90 – 140	450 -650
Groundnuts	90 – 140	500 -700
Beans	60 – 120	300 -500

Source: Government of Malawi (2009c).

Table 4.5: Average rainfall (mm) in Malawi 1985/6 to 2009/10

Year	Rainfall (mm)	% of Normal*
1989-90	1,081.3	14.0
1990-91	981.4	3.5
1991-92	736.1	-22.4
1992-93	1,150.5	21.3
1993-94	775.6	-18.2
1994-95	807.4	-14.9
1995-96	1,087.8	14.7
1996-97	1,174.9	23.9
1997-98	1,138.1	20.0
1998-99	1,193.1	25.8
1999-00	875.0	-7.7
2000-01	1,290.1	36.0
2001-02	1,049.2	10.6
2002-03	1,084.5	14.3
2003-04	859.9	-9.3
2004-05	823.1	-13.2
2005-06	1,087.0	14.6
2006-07	1,083.0	14.2
2007-08	1,049.0	10.6
2008-09	975.3	2.8
2009-10	903.7	-4.7
Average*	1,009.8	6.5

*Author calculations

Source: Government of Malawi (2008a, 2009a, 2010a)

The Department employs a Maize Crop Monitoring and Yield Assessment Model that involves two stages. The first stage of the model involves predicting yield (Y):

$$Y = a + b \text{ (WRSI), where}$$

a = intercept constant

b = coefficient of the relationship between historical yields and WRSI

WRSI = Water Requirement Satisfaction Index (accounting for soil water holding capacity, rainfall efficiency, crop water requirement coefficients, season characteristics, etc).

The second stage involves forecasting production (P):

$$P = Y \times A \text{, where}$$

Y = predicted yield

A = area planted to a specific crop (e.g. maize)

This regression-model process is conducted for different districts because of geographical variations in rainfall mentioned above. The results are then consolidated and presented as ADD figures which are then consolidated into national figures. The crop productions forecasts are conducted following the timing pattern of the rounds of the crop production estimate methodology described above (first, second and third round crop production estimates). The model can be applied to different crops but the emphasis is on maize. The model also provides potential for discretionary adjustments of the results of the crop production estimate results, as discussed above. Table 4.6 illustrates how the model results compare with results of the crop production estimate methodology.

The first part of Table 4.6 (refer to the rows) provides the results of the model forecast for final round maize production estimates in 2008/09 and 2009/10. The second part provides respective figures from the national crop production estimate methodology for those two years. The final part of the table shows differences in the figures between the model estimates and the crop production estimate methodology. Negative figures imply lower figures from the crop production estimate methodology compared to the model estimates and vice versa.

Table 4.6: Comparing Third round estimates from the Model and MoAFS estimates

Maize type	2008/09 Final Maize Production Estimates				2009/10 Final Maize Production Estimates			
	WRSI (%)	Yield (Kg/ha)	Area (Ha)	Production (Tons)	WRSI (%)	Yield (Kg/ha)	Area (Ha)	Production (Tons)
Model est.:[a]								
Local & OPV	92	2,040	1,057,562	2,157,746	86	1,973	973,203	1,920,394
Hybrid maize	94	3,330	476,760	1,587,420	89	2,434	559,165	1,360,835
All maize	93	2,685	1,534,322	3,745,166	88	2,204	1,532,368	3,281,229
MoAFS est.:[b]								
Local & OPV		1,609	1,106,035	1,790,617		1,444	1,037,658	1,504,097
Hybrid maize		3,374	524,620	1,770,014		2,867	603,160	1,729,068
All maize		2,491	1,630,655	3,560,631		2,155	1,640,818	3,233,165
Differ (%):								
Local & OPV		-26.8	4.4	-20.5		-36.7	6.2	-27.7
Hybrid maize		1.3	9.1	10.3		15.1	7.3	21.3
All maize		-7.8	5.9	-5.2		-2.2	6.6	-1.5

Source: [a] Government of Malawi (2009d) and [b] Data underlying Table 4.3

4.2.5 The Food Balance sheet

The government through Department of Nutrition in the Ministry of Agriculture prepares and publishes 'Food Balance Sheets'. The NAPEC approves these as part of the crop production estimates statistics. The food balance sheets, which adopt an FAO format, include major energy foods (maize, rice, sorghum, millets and cassava) which vary in importance across districts[37]; however the emphasis is on maize which provides an indication of food surplus or shortage in the country.

Table 4.7 illustrates the actual content and the arithmetic that goes into the preparation of the official food balance sheet; while Table 4.8 presents official maize food balance sheet positions in the last 11 years. On the supply side (food availability), in Table 4.7, the balance sheet includes estimated total quantities of energy foods produced, imports and stocks in stores (strategic grain reserves). From the total supply, the balance sheets deduct purchases into stock, exports, stocks required for livestock feed, seed, industrial and non-food use and wastage. On the consumption side, the balance sheets include all foods determined on the basis of per capita energy requirements, adjusted for demographic factors such as age and sex.

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[37] For example, rice and cassava are major foods along the lake shore districts of Karonga, Nkhata Bay and Nkhota Kota, while sorghum and millets are major food staples in Lower Shire districts of Chikhwawa and Nsanje.

Table 4.7: Illustrating the official food balance sheet for Malawi

Food Balance Sheet Item	Maize	Rice	Sorghum /Millet	Cassava	Maize Equiv.
A. Net production (a1-a2)	1,473.2	30.8	52.4	691.0	2,192.0
A1. Gross production	1,733.1	49.7	58.3	767.8	2,546.7
A2. Post-harvest losses	0.0	0.0	0.0	0.0	0.0
B. Opening stocks (B1+B2+B3+B4)	29.1	0.0	0.0	0.0	29.1
B1. On-farm stocks	0.0	0.0	0.0	0.0	0.0
B2. Stocks in Strategic Grain Reserve	7.0	0.0	0.0	0.0	7.0
B3. Stocks in ADMARC stores	0.0	0.0	0.0	0.0	0.0
B4. WFP (humanitarian aid)	22.1	0.0	0.0	0.0	22.1
C. Domestic availability (A+B)	1,502.3	30.8	52.4	691.0	2,221.1
D. Kilocalories/kg	3.5	3.3	3.4	3.2	0.0
E. Requirements (E1+E2+E3)	2,030.1	97.2	53.9	313.6	2,466.6
E1. Food Use	1,930.9	93.4	53.4	313.6	2,363.2
E2. Seed Requirement	39.2	3.8	0.5	0.0	43.4
E3. SGR Replenishment	60.0	0.0	0.0	0.0	60.0
F. Domestic food balance (C-E)	-527.8	-66.4	-1.4	377.4	-245.5
G. Cross substitution	282.3	-64.1	-1.4	347.8	0.0
H. Shortfall/surplus (F+G)	-245.5	0.0	0.0	0.0	-245.5
I. Total imports	120.2	2.6	0.5	1.6	124.6
I1. Commercial Imports	111.8	2.5	0.3	1.6	116.0
I1-1. Imports Received: Official	35.6	0.0	0.0	0.0	35.6
I1-2. Imports Received: Informal	76.2	2.5	0.3	1.6	80.4
I2. Food Aid (Confirmed Pledges)	8.4	0.0	0.2	0.0	8.6
I2-1. Prog/Emergency Food Aid recvd	8.4	0.0	0.2	0.0	8.6
L. Committed exports (L1+L2+L3)	0.7	0.7	0.0	0.0	1.4
L1. Actual Exports	0.0	0.0	0.0	0.0	0.0
L2. Not Yet Exported	0.0	0.0	0.0	0.0	0.0
L3. Actual Exports (Informal)	0.7	0.7	0.0	0.0	1.4
M. Actual net imports (I-L)	119.5	1.9	0.5	1.6	123.2
N. Projected net imports	0.0	0.0	0.0	0.0	0.0
O. Total food gap (maize)	-245.5	0.0	0.0	0.0	-245.5
P. Actual food gap	-126.0	1.9	0.5	1.6	-122.3

Source: Government of Malawi (2005f)

Table 4.8: Maize production and requirements, 1999-2008

Year	National Requirement (tonnes)	Maize Production (tonnes)	Surplus or deficit	
			Tonnes	% of Production
1999-00	2,023,625	2,122,495	98,870	4.7
2000-01	1,643,274	2,432,334	789,060	32.4
2001-02	1,825,449	1,495,104	330,345	-22.1
2002-03	2,035,643	1,351,549	-684,094	-50.6
2003-04	2,016,052	1,966,024	-50,028	-2.5
2004-05	2,039,291	1,502,259	-537,032	-35.7
2005-06	2,183,506	2,620,513	437,007	16.7
2006-07	2,255,049	3,444,655	1,189,606	34.5
2007-08	2,352,668	2,790,546	437,878	15.7
2008-09	2,458,123	3,767,408	1,309,285	34.8
2009-10	2,485,049	3,208,847	723,798	22.6
Average*	2,119,794	2,427,430	367,700	4.6

Source: Government of Malawi (2008g, p.23, 2010e, p.16)

4.2.6 The Smallholder Fertilizer Consumption Data

In the discussion on the crop production estimate methodology above, it has been mentioned that during the discussion of the results of the crop production estimates, ADMARC and other key fertilizer dealers are available to present estimates of smallholder fertilizer consumption based on tallies of farmer purchases of the input at major market outlets. Major fertilizers in Malawi relate to maize (e.g. Urea, NPK, 23:21:0:4S) and tobacco (e.g. CAN and Compounds). Table 4.9 provides a compilation of official data from 1991/92 to 2009/10.

Table 4.9: Smallholder fertilizer consumption 1991/92-2009/10

Year	Maize Fert (Tons)	Tobacco (Tons)	Total Fert (Tons)	Maize Fert share (%)	Subsidy Sales (%)	Private sector sales (%)
1991-92	128,377	3,305	131,682	97.5		
1992-93	138,737	3,868	142,605	97.3		
1993-94	80,041	3,031	83,072	96.4		
1994-95	122,894	17,746	140,640	87.4		
1995-96	152,992	43,041	196,033	78.0		
1996-97	79,147	72,327	151,474	52.3		
1997-98	130,345	56,581	186,926	69.7	8	79
1998-99	131,799	50,977	182,776	72.1	36	79
1999-00	140,734	50,918	191,652	73.4	36	83
2000-01	121,153	50,868	172,021	70.4	16	67
2001-02	135,996	50,535	186,531	72.9	9	80
2002-03	174,577	37,786	212,363	82.2	18	94
2003-04	173,166	54,761	227,927	76.0	10	84
2004-05	211,636	49,400	261,036	81.1	23	89
2005-06	237,501	54,483	291,984	81.3	45	55
2006-07	264,086	38,462	302,548	87.3	60	58
2007-08*	203,694	12,859	216,553	94.1	100	23
2008-09*	182,309	19,969	202,278	90.1	100	0
2009-10*	161,074		161,074	100.0	100	0
Average	156,329	37,273	191,641	82.1	43	72

*Refers to ISP programme fertilizer, which in 2007/08 was the only source

Source: Government of Malawi (2008a, 2009f, 2010f), except subsidy and private sector sales up to 2006/07 are from Dorward, et al., (2008, p.11)

4.2.7 Malawi Retail Market Prices

In Malawi retail market prices are collected for crop and livestock products by the Agro-Economic Survey Unit of Planning Division in the Ministry of Agriculture and Food Security (MoAFS). Systematic data collection started in 1988 under a World Bank funded Agriculture Marketing and Estate Development project. The price collection methodology has undergone

several subsequent refinements mainly with USAID funding, the most notable recent innovation being the introduction of mobile phones through which MoAFS enumerators transmit the data from the collection point (local market) to the processing point (Agro-Economic Survey Unit).

Table 4.10: Average maize retail prices 1988-10 (MK/kg)

Year	Maize
1988	0.26
1989	0.30
1990	0.38
1991	0.38
1992	0.51
1993	0.63
1994	0.99
1995	1.52
1996	2.62
1997	3.23
1998	7.03
1999	8.20
2000	6.66
2001	11.29
2002	21.45
2003	12.54
2004	15.86
2005	23.74
2006	27.65
2007	18.70
2008	45.86
2009	46.01
2010*	37.31

*refers to 9 months January-September 2010.
Source: Government of Malawi (2008a, 2009b).

Data collectors from the Ministry (Agro Economic Survey Unit staff) collect the price data on a weekly basis from 72 local markets across the country (2-7 markets per district). For each of the sample commodity items (the price collection started with maize in 1988 and included other items from 1989), the prices are collected three times a day (8-9 am, 11-12 pm and 3-4 pm) once a week for four weeks which are then consolidated to generate monthly average prices for each market and commodity. The averages for all the 72 markets then give national average monthly prices for each commodity, while the monthly averages in turn provide average annual prices. The price data collection methodology exercise collects prices on a number of food commodities but only prices for maize, rice, cassava, groundnuts, beans, peas, and meats (beef, pork and goat meet) are released in official statistics (see Government of Malawi 2008a, pp.80-119). Table 4.10 gives national average annual prices from 1988 to

2010. Similar price series are available for each of Malawi's 28 districts, on a weekly, monthly or annual basis.

4.2.8 Malawi Vulnerability Assessment Committee (MVAC) Methods

Following the 2001-02 food crisis and in response to deepening poverty and vulnerability that was highlighted in the first Integrated Household Survey in 1998, the government set up a Malawi Vulnerability Assessment Committee (MVAC) which is a consortium committee of government, NGO and donor agencies. Its secretariat is located in the Ministry of Economic Planning and Development and is funded by DFID (Government of Malawi 2005d).

The starting point in 2005 was to divide the country into 18 livelihood zones (see Figure 4.1) which group locations in terms of livelihood activities, susceptibility to shocks and coping strategies. A livelihood zone boundary generally follows EPAs and not district boundaries. A livelihood zone comprises a district, number of districts or parts of districts. This was followed by development of livelihood profiles for the 'livelihood zones' to serve as baseline. Since 2005, routine vulnerability assessments are conducted four times a year to monitor the emerging food situation (April-June, and so on) (Government of Malawi 2005d).

MVAC employs a data collection approach known as the Household Economy Approach (HEA)[38] that entails a four-step data collection and analysis process. The first step, as mentioned earlier, is 'livelihood zoning' which involves deciding on main *geographical groupings* to which households in a particular locality belong. The major proxy indicators constituting the zoning criteria are options for obtaining food and income. The second step is 'wealth ranking' of the population in a Livelihood Zone in terms of how different households compose their livelihoods (food, income and coping options). The baseline yielded three categories: poor, middle and better off which in general terms were differentiated by land sizes, livestock owned and levels of income. In broadest terms, districts in the central region of Malawi lack diversity in income (tobacco) and food (maize) compared to districts in livelihood zones in the southern or northern regions. The case study district of Mchinji in this thesis falls within MVAC Livelihood Zone No.3 (Kasungu-Lilongwe Plain) in the central region. The third step involves analysis of 'livelihood access' in a 'typical' or 'normal' year. It involves one of: (1) identifying sources of food and income and their relative importance to the household's total food and income access, or (2) quantifying access to food and income

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[38] Methodological details of the approach can be found in Seaman, *et al.,* (2000).

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and expenditure over a 12-month baseline period. The final step is 'outcome analysis' which involves examining implications of the effects of shocks such as price increases, or crop failure, on people's future access to food and income. This results in consideration of the appropriate interventions and associated budgetary implications required to ameliorate the suffering population at risk of missing food entitlement (Government of Malawi 2005c).

MVAC uses the term 'missing food entitlement' rather than 'food deficit' because the latter is usually associated with shortfall in production, from the national crop production estimates. This shortfall actually indicates how much food needs to be imported in order to meet local average consumption but there is no guarantee that people will be able to access that food. Missing food entitlement, on the other hand, is the sum of all the food that is missing at household level, after households have exhausted all the options they have for obtaining it. It represents the total missing calories from people's intake or consumption, rather than from their production (Government of Malawi 2005c). Table 4.11 shows the outcomes of the MVAC vulnerability assessment in terms of population at risk of missing food entitlement and the cost of intervention in Malawi as at June and October 2010. Table 4.12 presents district 'vulnerability' rates in terms of population at risk of missing food entitlements in each quarter of the MVAC assessment calendar, every year.

Table 4.11: Population at risk and missing food entitlements October 2010

| Affected district | Initial Forecast: June 2010 | Revised Forecast: October 2010 | | |
| | | Population at Risk- October | Missing Food Entitlements | |
	Population at Risk- June		Maize Equivalent (MT)	Maize Equivalent (MK'000)
Balaka	64,553	23,362	1,313.1	52,261
Blantyre	79,018	49,522	1,889.3	75,194
Chikwawa	161,205	74,724	7,568.2	301,214
Chiradzulu	60,235	19,280	1,034.8	41,185
Karonga	6,844	0	0.0	0
Machinga	21,649	20,120	904.8	36,011
Mangochi	54,280	0	.00	0
Mulanje	74,198	41,560	2,988.4	118,938
Mwanza	12,861	9,042	513.3	20,429
Neno	26,344	20,760	894.4	35,5597
Nsanje	101,711	44,589	3,185.9	126,799
Ntcheu	47,202	27,823	1,579.3	62,856
Phalombe	54,201	29,214	2,222.4	88,452
Thyolo	203,426	112,260	3,010.6	119,822
Zomba	94,893	35,832	1,497.7	58,261
Total	1,061,625	508,089	28,602	1,138,360

Note: the average population at risk in June 2010 represents 15 of the 28 districts of Malawi or 7.7 per cent of the Malawi population.

Source: Government of Malawi (2010h)

Figure 4.1: Map of Malawi showing National Livelihood Zones
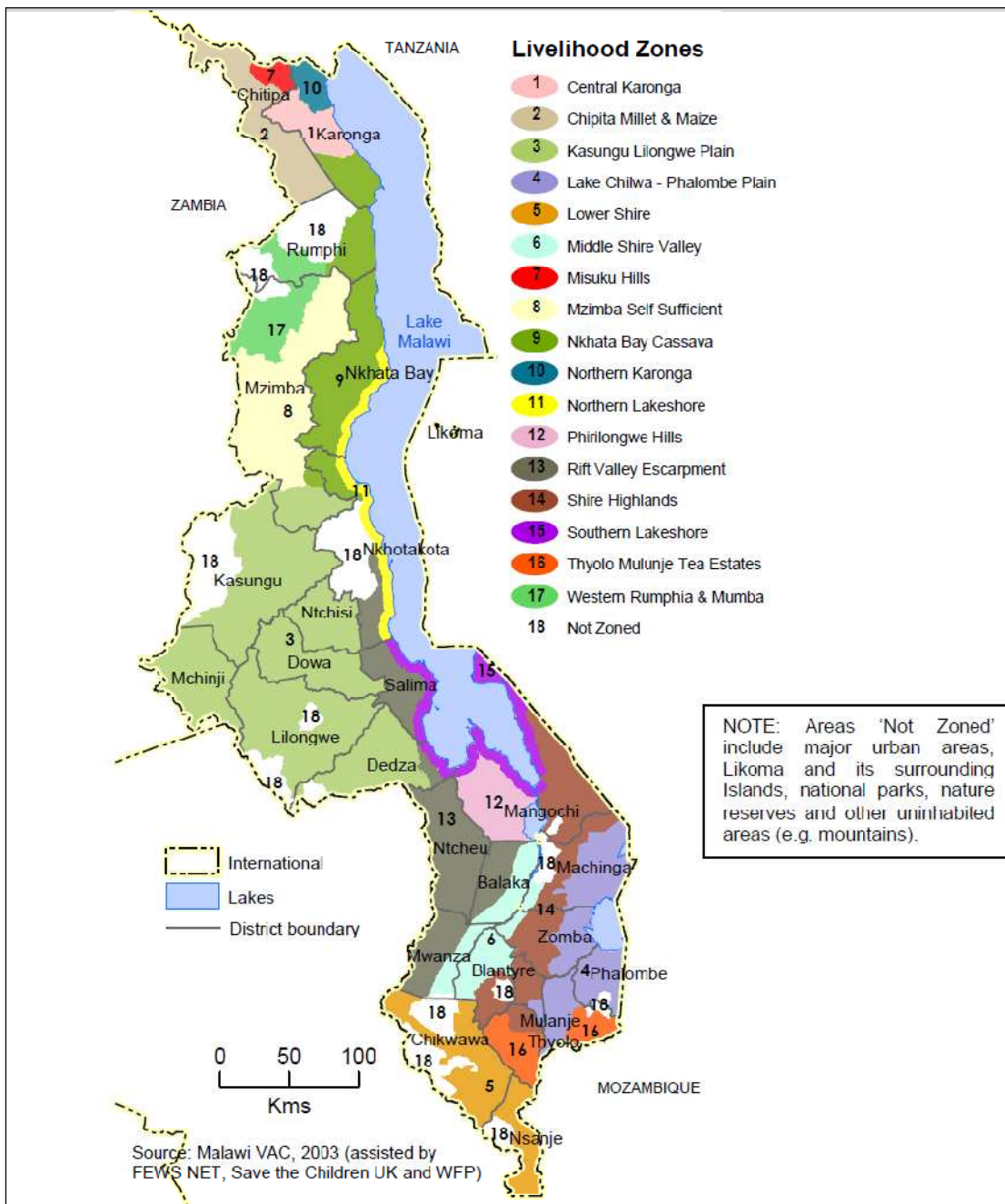
Note the distribution of the districts in the ADDs and regions:

Karonga ADD - Chitipa and Karonga districts in the North

Mzuzu ADD - Likoma, Mzimba, Nkhata Bay and Rumphi in the North

Kasungu ADD – Dowa, Kasungu, Mchinji and Ntchisi districts in the Centre

Salima ADD – Nkhota Kota and Salima districts in the Centre

Lilongwe ADD – Dedza, Lilongwe and Ntcheu districts in the Centre

Machinga ADD – Balaka, Machinga, Mangochi and Zomba districts in the South

Blantyre ADD – Blantyre, Chiradzulu, Mulanje, Mwanza, Phalombe and Thyolo in the South

Shire Valley ADD - Chikwawa and Nsanje districts in the South

Source: Government of Malawi (2005c, p.8)

Table 4.12: Population at risk of missing food entitlements in rural Malawi

District	Apr-Jun (1st Quarter)	Jul-Sept (2nd Quarter)	Oct-Dec (3rd Quarter)	Jan-Mar (4th Quarter)
Malawi	10.7	20.9	35.5	39.8
Northern Region:				
Chitipa	0.0	27.2	27.2	27.2
Karonga	0.0	0.0	1.5	7.0
Mzimba	0.0	2.9	30.3	30.3
Nkhata Bay	0.0	na	na	na
Rumphi	0.0	0.0	14.5	14.5
Central Region:				
Dedza	2.6	8.6	22.9	30.4
Dowa	0.0	12.1	16.1	16.1
Kasungu	0.0	13.0	23.5	23.5
Lilongwe	0.0	6.6	17.5	17.5
Mchinji	0.0	13.6	18.2	18.2
Nkhota Kota	0.0	15.8	29.2	45.9
Ntcheu	6.0	27.0	68.0	73.3
Ntchisi	0.0	18.2	34.8	34.8
Salima	0.0	26.6	63.5	63.5
Southern Region:				
Balaka	50.0	57.1	81.1	81.1
Blantyre	36.2	52.0	52.0	77.1
Chikwawa	79.6	79.6	79.6	79.6
Chiradzulu	31.8	31.8	31.8	79.6
Machinga	21.6	32.2	40.9	61.7
Mangochi	0.0	6.0	35.4	35.4
Mulanje	32.0	42.0	76.2	76.2
Mwanza	15.7	15.7	76.3	76.3
Neno	17.4	17.4	86.0	86.0
Nsanje	58.8	81.1	81.1	81.1
Phalombe	12.2	29.7	50.0	50.0
Thyolo	0.0	38.5	71.2	71.2
Zomba	17.7	33.5	50.0	50.0

Note: Likoma is sometimes treated as part of Nkhata Bay district, and not shown here

Source: World Bank (2007a, pp.11-12), drawing on MVAC data

4.2.9 Basic Needs Basket Surveys

The vulnerability assessment methodologies described so far are predominantly rural and conducted by the government. The only known regular 'urban vulnerability monitoring' at the time of writing this thesis is the Basic Needs Basket (BNB) survey conducted by Centre for Social Concern (CSC) of the Roman Catholic Church in Malawi. The BNB surveys are

conducted monthly, since 2006, in the four cities of Malawi (Blantyre, Lilongwe, Mzuzu and Zomba) in order to monitor basic cost of living. The government has since taken the BNB surveys as major initiative of food security monitoring in the country and most recent BNB reports are now on the MoAFS website under the theme 'social protection'[39]. Table 4.13 is provided to show only what enters into the cost of basic food items of the BNB surveys while Table 4.14 shows the average price of maize in the four urban areas from 2007 to 2010.

Table 4.13: The cost of basic food items for in Lilongwe City for January 2008

Description of the constant items	Units	Price/Unit	Qty	Cost (MK)
Maize (50 Kg Bag)	50-kg bag	1,780	2.0	3,560.00
Milling (Including Grinding)	Tins	52	14.0	728.00
Beans (0.8kg/day) 8 Days	Kgs	198	6.4	1,267.20
Usipa (250g/day) 4 days	Kgs	856	1.0	856.00
Dry Fish-Utaka (200g/day) 4 days	Kgs	808	0.8	646.40
Kapenta (200g/day) 4 days	Kgs	823	0.8	658.40
Beef (1 kg/day) 4 days	Kgs	361	4.0	1,444.00
Eggs (12/day) 4 days	Number	18	48.0	864.00
Rape (750g/day) for 30 days	Kgs	63	22.5	1,417.50
Tomato (0.5 kg/day) 30 days	Kgs	131	15.0	1,965.00
Onion (116g/day) 30 days	Kgs	175	3.5	612.50
Fresh Milk (250mls/day) 30 days	500 ml- packets	70	15.0	1,050.00
Kasungu Cooking Oil (100mls/day)		427	3.0	1,281.00
Bread (5 bkfsts/week) 20 days	Loaves	97	20.0	1,940.00
Sugar (2 kgs/week)	Kgs	107	8.0	856.00
Kitchen Salt	Kgs	58	1.0	58.00
Tea Leaves (Chisangalalo)	50g-pkts	19	20.0	380.00
Cassava (2kgsx2bkfsts/wk)	Kgs	50	16.0	800.00
Sub-total				20,384.00

Source: Center for Social Concern, Lilongwe, Malawi. 2008 (as explained in the text)

The BNB methodology assumes an average household of six members. The reporting comprises four components: (1) cost of basic food items (maize, relish and flavourings), (2) cost of essential non-food items (cooking and lighting – charcoal, paraffin, electricity, groceries, water bills and rent for a two bedroom house), (3) Some other additional costs (transport costs and child education expenses- fees, notebooks etc), and (4) Some comparative figures of wages especially average wages in the civil services for jobs that employ majority of workers – teachers, nurses, police, clerical officers and security and cleaners. The main

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[39] Available at http://www.moafsmw.org (MoAFS) or http://www.cfscmalawi.org/bnb_pub.html (CSC)

BNB is drawn from component (1) and (2) while component (4) gives an indication of how employment based incomes are able to cover cost of living (i.e. 4-1+2+3). This rapid data collection exercise involves collection of prices from markets and retailers selected at random and do not have a fixed sample markets or sample size. It is meant to be fairly simple and rapid survey 7 to 10 markets and retail outlets as well as selected households.

Table 4.14: Maize prices in the four cities of Malawi 2007-2010

Year	Month	Blantyre	Lilongwe	Mzuzu	Zomba	Average	National
2007	Oct	27.84	21.84	40.50	21.50	27.92	20.76
	Nov	30.00	24.00	37.76	22.50	28.57	24.11
	Dec	34.50	32.00	51.00	23.76	35.32	28.67
2008	Jan	35.16	35.60	60.00	29.00	39.94	33.60
	Feb	50.00	45.40	60.00	28.00	45.85	39.69
	Mar	55.00	62.84	86.66	25.40	57.48	43.53
	Apr	38.14	41.26	41.00	25.40	36.45	35.41
	May	36.50	40.40	49.00	34.00	39.98	32.85
	Jun	51.66	49.00	53.00	30.50	46.04	37.91
	Jul	69.16	57.20	63.00	57.00	61.59	42.99
	Aug	70.00	61.44	78.66	55.00	66.28	55.52
	Sep	60.84	55.20	63.34	53.80	58.30	53.38
	Oct	63.34	59.60	60.80	54.40	59.54	54.33
	Nov	68.34	69.00	64.26	58.80	65.10	57.81
	Dec	76.84	67.00	63.26	58.80	66.48	63.35
2009	Jan	58.66	74.50	72.00	58.66	71.29	69.22
	Feb	80.00	81.12	78.00	58.14	74.32	70.57
	Mar	80.00	80.00	65.00	59.58	72.90	65.27
	Apr	45.84	35.70	42.80	26.66	37.75	45.36
	May	37.00	33.26	39.40	48.58	39.56	34.19
	Jun	40.00	36.88	38.60	34.72	37.55	32.98
	Jul	42.50	40.00	38.60	31.46	38.14	35.57
	Aug	42.50	39.00	36.60	33.50	37.90	37.29
	Sep	50.00	43.00	42.00	40.00	43.75	38.74
	Oct	50.00	41.00	41.40	44.00	44.10	39.98
	Nov	50.00	41.76	38.26	40.00	42.51	41.21
	Dec	50.00	44.50	38.78	39.56	43.21	41.74
2010	Jan	50.00	45.72	49.60	45.50	47.71	45.29
	Feb	51.66	44.28	51.40	49.20	49.14	46.47
	Mar	45.00	41.28	39.20	51.14	44.16	43.75
	Apr	50.00	31.26	39.20	31.14	37.90	37.57
	May	35.84	24.76	37.80	20.72	29.78	30.51
	Jun	37.50	27.72	46.40	25.32	34.24	29.81

Source: as explained in the text.

The trends presented in Table 4.14 are meant to illustrate the impact of maize price changes as measured in the urban areas of Blantyre, Lilongwe, Mzuzu and Zomba from October 2007 to June 2010. This is so because the sharp rise in maize retail prices experienced across two successive lean seasons in 2008 and 2009, as discussed in detail in Chapter 5, first emerged in Blantyre where ADMARC started rationing maize. This was before the rationing was extended to other parts of the country, and the government eventually imposed nationwide restrictions on private trading on maize, including setting maximum prices (Government of Malawi 2008g). Figure 4.2 compares the trends in the urban areas and the average national prices collected by MoAFS as discussed earlier (Table 4.10).

Figure 4.2: Trends in urban maize prices in Malawi 2007-2010
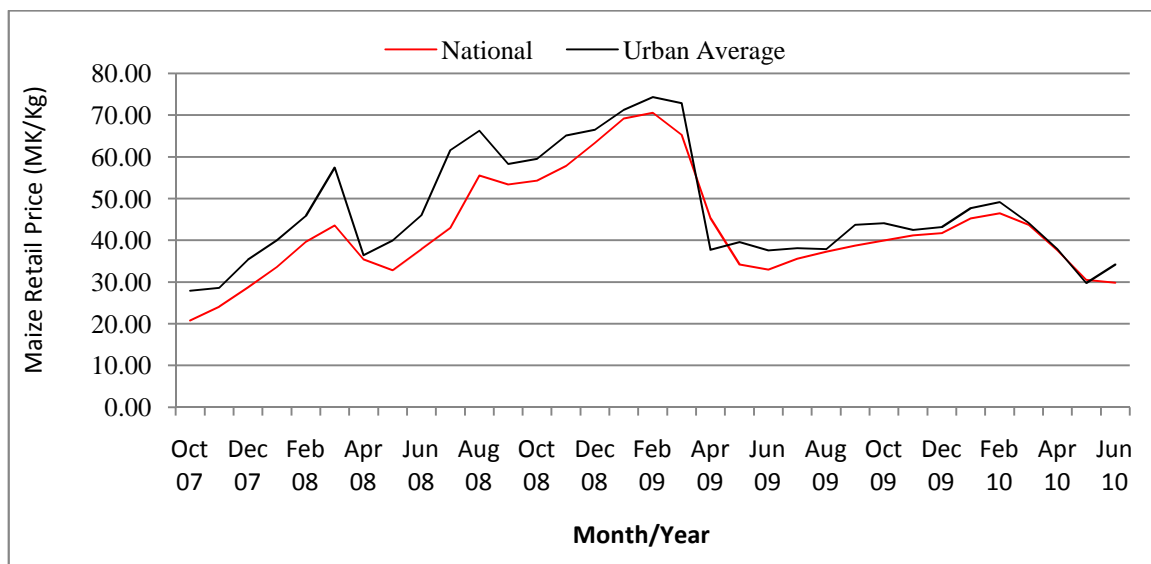
National prices refer to maize prices presented in Table 4.9

Source: as explained in the text.

4.3 Fieldwork Component of the Research

4.3.1 Introduction

Original data was collected in three communities in Mchinji district where the two social transfer programmes have operated side by side since 2006. A sample household survey using structured questionnaires was conducted to collect quantitative data on proxy livelihood indicators such as demography, assets, labour and food production and consumption. A baseline survey was conducted in January 2008 to establish cropping patterns and the household food situation, and a follow up survey in September 2008 captured crop production

and sales. In between, two tracking surveys in March and May 2008 were conducted using a sub-sample of the main survey in order to capture what happened to households during the season. In addition, focus group discussions were conducted in October 2008 to identify various aspects of livelihoods and social transfers from a wider perspective of the rural community. And as part of on-going fieldwork, consultations and key informant interviews were also conducted at national, district and community levels to solicit the views of policy makers, researchers and stakeholders on many aspects such as policy, programme implementation and impacts. The survey questionnaires are provided in an Annex to this thesis, after the Reference list.

4.3.2 Choice of Mchinji District

Chapter 3 discussed that social cash transfers have operated in Malawi in selected seven districts, while the input subsidy programme is national covering all 28 districts of Malawi. Among the seven districts implementing the social cash transfers in the 2007/08 season, only Mchinji district had been the site of both schemes in the three years preceding the fieldwork, thereby potentially permitting comparative analysis of their impacts on a relatively longer term than any other district.

Mchinji is one of the nine districts in central Malawi. It borders with Kasungu district to the north, Lilongwe district to the east, Zambia to the west and Mozambique to the south. The district headquarters (locally called *Boma*) is located about 110 km from the capital Lilongwe and 10 km from the Zambia border at Mwami. In 2008, the district population was 456,558. There were 97,209 households with an average household size of 4.7 (Government of Malawi 2008b). However, in the same year, Ministry of Agriculture estimated farm families at 141,347 (Government of Malawi 2008a). In 2002, about 40 per cent of the farm families were female headed (Government of Malawi 2002b). In the 2007/08 season, Mchinji had nine TAs, namely Mlonyeni, Mkanda, Dambe, Mavwere, Zulu, Dambe, Kapondo, Mduwa and Nyoka. This was an increase since 2002 when there were six TAs and 61 VDCs. At that time, the government had not yet declared Kapondo, Simphasi and Nyoka as TAs (Government of Malawi 2002b). Agriculturally, the district falls within the Kasungu ADD and has six Extension Planning Areas (EPAs), namely, Mkanda, Kalulu, Mikundi, Chioshya, Mlonyeni and Msitu. These administrative structures have already been described in Chapter 3. Table 4.15 presents selected statistics in relation to these structures. A further discussion of livelihood aspects of the district is provided in Chapter 7.

Table 4.15: Selected Mchinji district statistics

EPA	TA covered	Avge land (ha)	Agricultural structures		Traditional and decentralization		Farm families	
			Section	Block	Village	VDC	Total	% FHH
Mkanda	Mkanda	2.8	11	88	83	15	16,731	34
Kalulu	*Dambe & Kapondo*	*3.3*	*7*	*56*	*80*	*10*	*11,930*	*27*
Mikundi	*Mduwa & Nyoka*	*1.1*	*10*	*80*	*80*	*6*	*17,209*	*35*
Chioshya	Simphasi & Zulu	2.6	10	80	76	13	22,925	40
Mlonyeni	Mlonyeni	1.8	9	72	77	7	12,679	32
Msitu	Mavwere	1.8	9	72	100	10	18,894	50
Mchinji		2.2	56	448	496	61	141,347	38

Note: Bolded italics refer to social cash transfer project sites in the district

Source: Government of Malawi (2002b, 2008b)

In terms of livelihood zoning, the district is located within the Kasungu-Lilongwe Livelihood Zone, which is Malawi's best zone agriculturally with the potential for production of a wide range of smallholder crops. Mchinji has potential for a wide range of crops and other agricultural enterprises. Major crops are maize, groundnuts, burley tobacco, cassava, sweet potatoes and beans (*Phaseolus*, ground beans and soya beans). There is also substantial livestock production: cattle, pigs, goats, sheep, rabbits, chickens and guinea fowl. Irrigated farming is also practiced but on a limited scale. The district also has many tobacco estates, potentially offering alternative livelihood sources (Government of Malawi 2002b). The district has a high maize production potential. As shown in Figure 4.3, yields in the district have increased steadily in the last ten years while area planted to maize has generally remained almost the same. This contrasts with the national picture that suggests some steady increase in area planted to maize but uneven progress on yields. But the district is also potentially vulnerable. Unlike in other districts where people can also rely on rice, cassava, millets and sorghum, there is limited food diversity in Mchinji (Government of Malawi 2005c, 2008d). Mchinji is among seven districts in Malawi[40] with high child malnutrition (FANTA 2007) and has high rates of ultra-poverty although it is ranked among the middle ten districts in Malawi in terms of poverty ranking (Government of Malawi 2005b). Mchinji is not regarded as a hotspot district in terms of the risk of missing food entitlements (see Table 4.12). A further discussion of livelihood aspects of the district is provided in Chapter 7 of this thesis.

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[40] The districts are Dedza, Machinga, Mchinji, Mwanza, Ntcheu, Ntchisi, and Zomba

Figure 4.3: Comparing Mchinji and national maize productivity 1996-2008

(a) Maize production (tons)
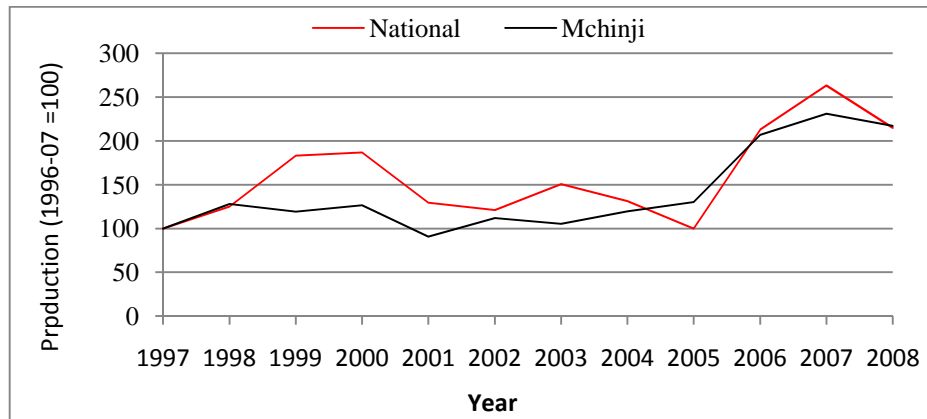
(b) Maize hectarage (Ha)
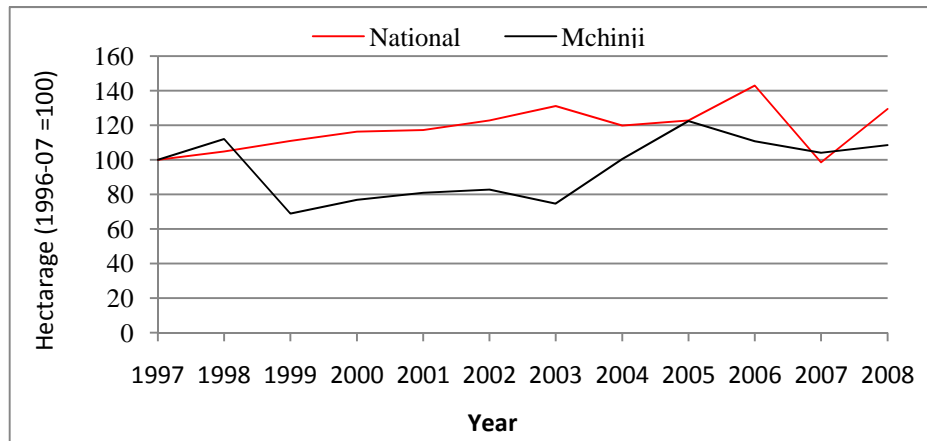
(c) Maize yield (Kg/ha)
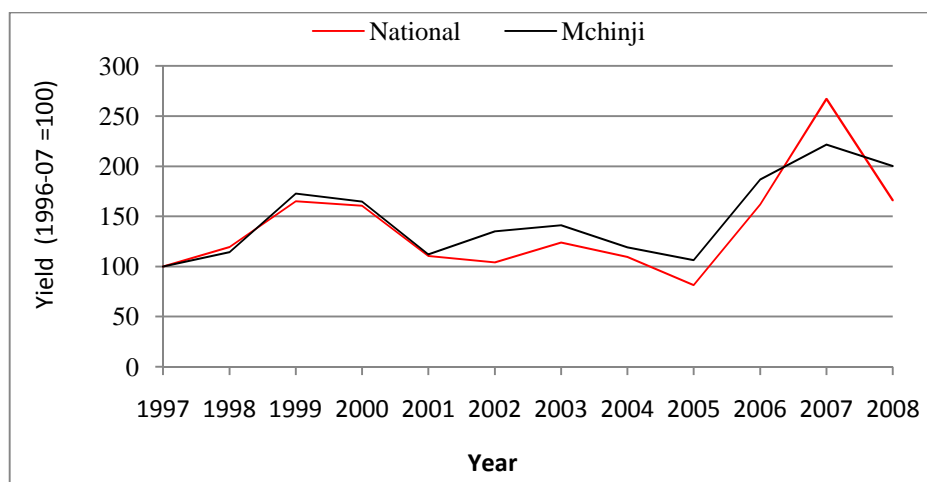
Note: 1997 refers to 1996-07 crop season and so on

Source: Data underlying Table 4.3

4.3.3 Selection of study communities

The fieldwork was conducted in three communities implementing the Mchinji Social Cash Transfer scheme. A community in Malawi typically refers to a village or group of villages. Villages are part of an informal but officially recognised administrative structure of the traditional leadership (chieftaincy system), as already described in Chapter 3. Because they organize and influence people's social, cultural, political, economic aspects, villages are important research entities (Kutengule 2000, p.58). Despite these structures, the two social transfer programmes that are the focus of this thesis use Village Development Committees (VDCs) in order to target beneficiaries. Chapter 3 has described the VDCs as part of the national decentralization policy introduced in the 1990s to promote local governance and development management and were framed around traditional leadership structure. As of October 2007 during which period the study sites were being selected, the Mchinji social cash transfer scheme was operational in 29 VDCs in four TAs (Dambe, Kapondo, Mduwa and Nyoka) and covered about 2,500 beneficiary households which increased to 2,800 by April 2008.

The study was conducted in Mduwa VDC, Chiti VDC and Kangwere VDC which together had a total of 2,639 households (1,146 Mduwa, 861 Chiti and 632 Kangwere) and a total of 256 cash transfer beneficiary households (110 Mduwa, 82 Chiti and 64 Kangwere). The selection of the study sites was made in consultation with the district social cash transfer office. Three factors were considered in the actual selection of study communities: (1) the distribution of the study sites across TAs in order to capture a wider community perspective; (2) selection of study sites located as far away from 'urban centres' or main roads as possible in order to capture 'typical' agricultural dimensions. The three study sites were located at least twenty kilometres from the district headquarters (*boma*) and at least ten kilometres away from main the Lilongwe-Mchinji road. However, there is a main tarmac road which connects Kasungu and Mchinji districts and forms the boundary between TA Mduwa and TA Nyoka; and (3) avoidance of VDCs where other studies (Miller and others) were being conducted from March 2007 to May 2008 as part of ongoing evaluations of the Mchinji Scheme.

Table 4.16 provides the distribution of VDCs, households and the beneficiaries. The selected study sites are highlighted in bold italics. Figure 4.4 is map of Mchinji district to show the location of the study sites.

Table 4.16: Distribution of Mchinji pilot scheme beneficiaries

Traditional Authority(TA)	Village Development Committee (VDC)	Number of Households	SCT beneficiaries		
			FHH	MHH	Total
Dambe	Chalunda	1,187	64	41	105
	Chilowa	387	19	12	31
	Chimwala	793	41	30	71
	Dambe	1,004	59	41	100
	Kakunga	1,917	79	42	121
	Kambuwe	310	18	10	28
	Khwere	174	13	4	17
	Mphanda	1,081	57	51	108
	Mtopola	1,081	49	29	78
	Nthema	1,124	69	39	108
	Panye	784	42	35	77
Kapondo	Chankhanga	1,354	83	52	135
	Chapakama	351	19	15	34
	Chiwoko	393	32	7	39
	Chiti	*861*	*56*	*26*	*82*
	Kalulu	1,162	62	44	106
Mduwa	Chimongo	980	72	23	95
	Mduwa	*1,146*	*67*	*43*	*110*
	Mkangala	1,018	75	25	100
	Mtunga	375	24	14	38
	Mzama	922	50	33	83
	Nduwa	1,255	77	38	115
	Thomasi	1,160	81	35	116
Nyoka	Kachamba	683	46	18	64
	Kangwere	*632*	*41*	*23*	*64*
	Mkunda	1,340	77	36	113
	Ndooka	1,221	74	34	108
	Nyoka	898	63	23	86
	Sivima	1,176	76	34	110
	Total	26,769	1,585	857	2,442

Note: *Italicised, bold* refer to the selected study VDCs.

Source: Mchinji District Social cash Transfer Office, October 2007

Figure 4.4: Map of Mchinji showing the location of the case study communities
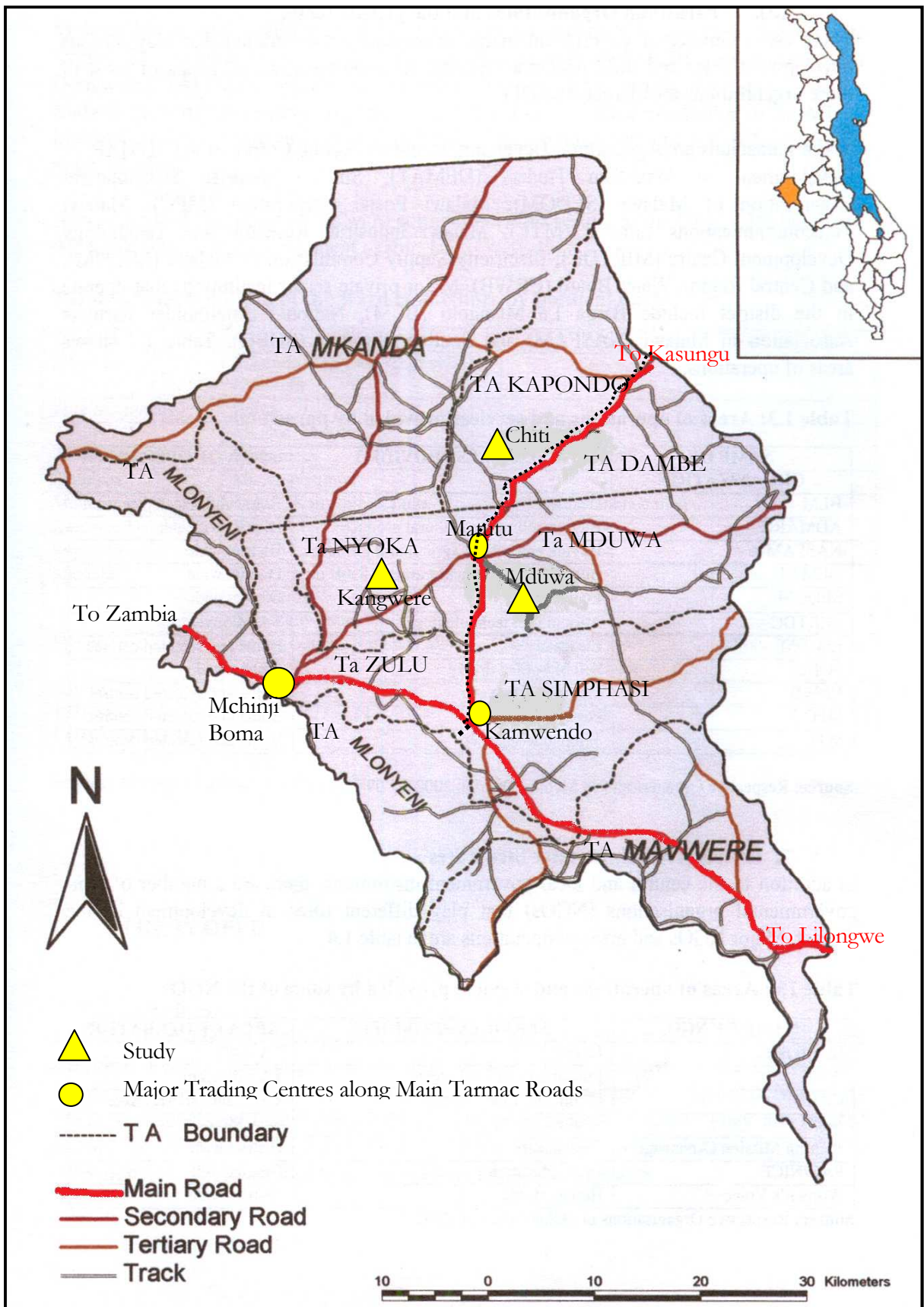
Source: Adapted from Government of Malawi (2002b:19)

4.3.4 Sampling

Sampling is required in order to draw valid inferences about the population from which the sample is drawn. The basic assumption in research is that the sample being studied is representative of a larger population of interest from which the unit of inquiry is sampled (Lenth 2001). In livelihoods research, a household is recommended as the basic unit of inquiry (Ellis 2000, Seaman *et al.* 2000). A household can be described as a social unit that comprises a person or group of persons generally bound by ties of kinship who live together under a single roof or within a single compound and who share the same household head and eat from the same pot (Casley and Kumar 1988, p.6). Variants of this description also exist. For example, Kutengule (2000, pp.59-60) discusses the household in rural livelihoods of Malawi and terms it '*banja*'. *Banja* includes spouses (parents), their children, other kin and even workers who live with them since all these groups are regarded as 'children' in Malawi kinship systems. Nevertheless, the membership and terminology of household in Malawi are matters of practice in different socio-cultural contexts. It can be known by many terms such as *banja* (the family of) or *khomo* (the home of) or *nyumba* (the house of) and it may not necessarily comprise parents as heads since orphans and other vulnerable children (OVC) are increasingly known to head households. It is not uncommon now to find households being categorized as 'male headed', 'female headed', 'elderly headed' or 'child headed', as the Mchinji scheme has shown.

Different approaches can be used to select valid samples but in practice, sample size may not be the main issue. The goal is to design a study that captures parameters and dimensions of interest. The sample can be too small for statistical generalization but yet still be valid enough for constructing useful stories. Flexible research designs are therefore recommended as yielding better research results (Sandelowski 2000, Lenth 2001). Nevertheless, for most practical purposes, a '30-10 rule' is recommended. The '30-10 rule' requires the sample size to be a minimum of 30 units or 10 per cent of population of interest, whichever is greater and where a complete population of interest is known (Grinnell 2001). Different approaches also exist in the literature on sample selection. However, stratified purposeful sampling is recommended in situations where a complete sampling frame might not be available and sample sizes are likely to be too small for generalization (Bartlett *et al.* 2001, Grinnell 2001, Lenth 2001). All the theoretical issues considered, the final sample for this research comprised 90 households for the main household survey, from which a sub-sample of 30 households was drawn for the tracking survey.

At the time of sampling in October 2007, input subsidy (coupon) beneficiaries were not known because identification and registration was in progress. For this reason, the sample was drawn from three 'beneficiary household strata' that had emerged from the selection of beneficiary households for the Mchinji Social Transfer Scheme. The first group comprised cash beneficiary households that in official terms represented the poorest 10 per cent of the population (eligible beneficiaries). The second group comprised households that were registered by community social cash transfer committees (CSCTCs) but rejected by district social cash transfer committee (DSCTC) on the basis of not meeting minimum eligibility criteria (eligible non-beneficiaries). The third group comprised households that were not registered because they were considered to be non-poor (ineligible non-beneficiaries). The original plan was to distribute the pre-determined 90 sample households equally into these three household categories but this was not possible because of inadequate numbers of eligible non-beneficiaries. For this reason, the final distribution was 30 eligible cash beneficiaries, 26 eligible non-beneficiaries and 34 ineligible non-beneficiaries. However, the predetermined sample size of 90 households was distributed equally among the three study VDCs (30 Mduwa, 30 Chiti and 30 Kangwere). The plan was for each VDC to have equal distribution of the three cash beneficiary categories but this was not possible for Chiti and Kangwere because of low numbers of eligible non-beneficiaries.

The district social cash transfer office provided a list of households showing eligible cash beneficiaries and eligible non-beneficiaries by VDC, zone, village and gender.[41] The first step therefore involved taking the list of households to each VDC for discussion and confirmation with respective CSCTCs at specially organized meeting for the research. Together, the three VDCs had 256 eligible cash beneficiaries (110 Mduwa, 82 Chiti and 64 Kangwere) and 38 eligible non-beneficiaries (22 Mduwa, 7 Chiti and 9 Kangwere).

The second step involved actual selection of samples from the eligible cash beneficiaries and eligible non-beneficiaries. A research assistant randomly picked households until the required sample size was achieved, balancing zone, village and gender in the process. However, for Chiti and Kangwere, all eligible non-beneficiaries were selected since they were less than ten each.

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[41] For cash payment purposes, the Mchinji Scheme divides VDCs into zones comprising a number of villages. The zones were: (1) Mduwa VDC – Mduwa, Tcholonjo and Jemusi; (2) Chiti VDC – Bwemba and Chiti; (3) Kangwere VDC – Kangwere, Mzangawo and Nyamazya.

The third step involved the selection of the ineligible non-beneficiaries. To allow village level comparisons, a decision was made that where possible, all the three cash beneficiary categories should be sampled from same villages. So, a list of villages was compiled to show where the sampled eligible cash beneficiary and eligible non-beneficiaries households came from. Then all ineligible non-beneficiary households in the village were listed by gender. On average, there were about twenty households in this category. Then a research assistant randomly picked households to complete the 30 sample for a VDC, while balancing the representation of zone, village and gender. The final sample size was 34 ineligible beneficiaries (10 Mduwa, 13 Chiti and 11 Kangwere). Table 4.17 shows the distribution by zone of the number of villages represented in the sample with the help of chairpersons of CSCTCs.

Table 4.17: Distribution of zones in the study VDCs and sample survey

VDC	Zone	No of Villages	Vges in survey	Cash HHs	Sample HHs	FGD participants
Mduwa	Mduwa	19	4	66	14	9
	Jemusi	2	2	27	6	
	Tcholonjo	12	3	15	10	
Chiti	Bwemba	4	4	45	14	
	Chiti	3	3	38	16	7
Kangwere	Kangwere	1	1	26	13	8
	Mzangawo	3	2	16	10	
	Nyamazya	3	1	22	7	

Note: CSCTC consultations here refer to those held on the day of PRA discussions to triangulate the responses. Otherwise, full CSCTCs were consulted as a committee at the start of the fieldwork and as individuals throughout the fieldwork to seek their views on a number of issues.

Source: Mchinji Field Surveys 2007-08

The distribution of the social cash transfer scheme and the input subsidy programme in the final working sample emerged from the 90 households as: 8 cash beneficiary households (cash), 47 coupon beneficiary households (coupon), 22 households that were beneficiaries of both schemes (both) and 13 households that were non-beneficiaries of either scheme (none).

From the main sample of 90 households described above, a sub-sample of 30 households (10 Mduwa, 10 Chiti and 10 Kangwere) was selected for the tracking survey. The selection involved balancing the three beneficiary strata described above, zone, village and gender. From the sub sample of 30 households, the distribution of the two schemes emerged as

follows: 3 'cash', 17 'coupon', 8 'both' and 2 'none'. Figure 4.5 depicts the stages that were followed to select the sample.

Figure 4.5: The stages and outcomes in the sample selection
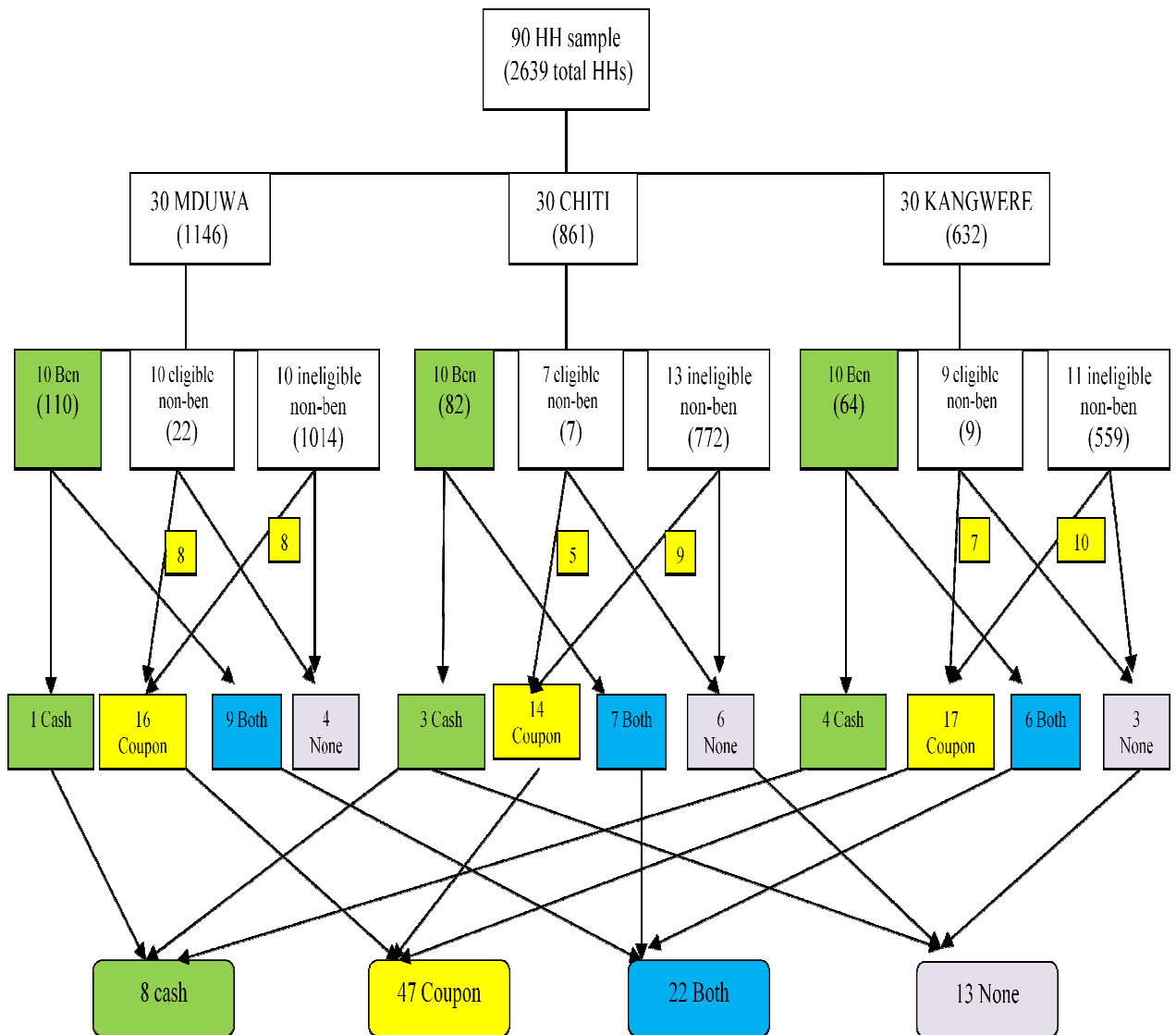
Colour codes:
   Green – Social cash transfer recipients
   Yellow – Coupon recipients
   Blue – Recipients of both cash transfers and coupons

Note: Figures in brackets refer to total households in that category/at that level

Source: Field sampling, 2007

4.3.5 Focus group discussions

To facilitate payment of social cash grants, each VDC is divided into zones, each comprising 15-120 beneficiary households. The zones constituted neighbouring villages and also served as central place for VDC project meetings. It has also been discussed earlier that the villages were organized like hamlets that comprised related individuals or individuals who knew each other fairly well. For this reason, the focus group discussions were held at zone level since that was the highest level that the participants were deemed fairly able to know and discuss every household in the villages. The discussions were conducted in Kadimba Village in Mduwa VDC, Chiti Zone and Kangwere zone.[42]

At least three days prior to the focus group discussions, chairpersons of CSCTCs helped to organize 7-10 participants drawn across villages represented in that zone to constitute the focus group discussions. In addition, separate discussions were organized with members of CSCTCs to generate different perspectives with which to compare results of the PRA discussions. It is important to note here that CSCTC which is constituted at VDC level comprised representatives from villages represented in that VDC. Based on what was discussed during the PRA discussions, as discussed further in Chapter 6, a VDC meeting attended by households from all villages in that VDC is held to elect CSCTC members. While popular vote counts, deliberate efforts are made to ensure representation from wider villages. That is why the official guidelines stipulate CSCTC membership of 12 individuals but in the three study sites, membership ranged from 11 to 14 members (11 members in Kangwere and 14 members in Mduwa and Chiti VDCs).

It is also important to note here that the CSCTCs were not independent entities but part of a 'community system of committees'. Again, based on what was discussed and observed during the field work, there were also input subsidy committees that were formed and worked with village heads to register coupon beneficiaries for input subsidy programme. Most members of CSCTCs were also members of the input subsidy committees. Thus, it was practically difficult to separate committees for the social cash transfer programme from those of the input subsidy programme. And by the structure of the villages and reporting requirements for the

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[42] Former TA Mduwa had passed away, such that it was not possible to organize discussions at zone level. Special arrangements were made to conduct the PRA in Kadimba village since it was relatively far away from the TA headquarters.

committees, the committee activities were not entirely free of the influence of the village heads and 'relational' aspects.

During the actual focus group discussions, the research team met with the participants at a central place where they normally met for CSCTC or village meetings. The researcher facilitated the discussions using a checklist of questions while two RAs took notes. The RAs were oriented to the PRA guides and facilitation and note-taking techniques before the exercise. Immediately following each focus group discussions, separate discussions were held with members of CSCTCs to generate a different perspective with which to compare results of the focus group discussions. All discussions took place 3-5 hours in the morning and the afternoons involved research team meetings to consolidate and summarise major findings. Table 4.17 above has provided the distribution of focus group discussion participants.

4.3.6 Key Informant Interviews

The researcher also conducted a number of key informant interviews at national, district and community levels as part of ongoing fieldwork activity. At national level, those interviewed included senior government officials in key ministry (Finance, Economic Planning- Social Protection Unit and MVAC, Agriculture, Local Government, Transport and Public works, Ministry of Gender- Social cash Transfer Unit, MASAF), donor agencies (DFID, UNICEF, WFP), NGOs (Concern Worldwide, Centre for Social Concern, CISANET, IPRISE and FEWSNET) and Centre for Social Research (that was conducting evaluation of the Mchinji Scheme with Boston University). At district level, interviews were held with Director of Planning, DADO, District Social Welfare officer and key staff. At community level, key informant interviews were conducted with agriculture field staff and village heads. It is stressed here that most of these were informal consultations to get deeper understanding of policy views, programme implementation processes and apparent outcomes and impacts on poverty and vulnerability reduction. Some consultations continued by email and telephone after the researcher had returned to the UK in order to get updates on ISP and social cash transfer programmes.

4.4 Data transformations and analysis and epistemological issues

4.4.1 Data analysis

After each round of household survey, the questionnaires were processed and entered in SPSS. It is important at this point to stress the restricted character of the empirical fieldwork

research. In order to support the secondary data of this thesis, earlier described, the researcher conducted a limited fieldwork exercise to gain a more definite feel for critical strengths and weaknesses of the two programmes under discussion in this thesis. The researcher had no resources to carry out a full-scale livelihoods and vulnerability analysis of a large sample of households. For this reason, this thesis is mainly concerned with simple statistical methods for describing observed food security effects of the two schemes under consideration in this thesis. To test for differences in means, One-way Analysis of Variance (One way ANOVA) comparing at least three sample groups or Independent-Samples T-Test comparing two groups have been employed on the data. To test for differences in proportions between groups, Mann-Whitney U test (for 2 independent samples) and Kruskal-Wallis H Test (for k independent samples) have been conducted. In addition, simple regression ($y=\alpha+\beta t$) is applied to the different productivity time series (secondary) data in order to test for the existence of a positive or negative trend. Simple correlation analysis using Pearson's product-moment correlation coefficient is also conducted to test for linear positive or negative relationships between two variables. These are most appropriate tests to yield the evidence sought in this research (Colman and Pulford 2006).

A number of transformations have been conducted to the original data in order to permit comparisons between households. To allow comparisons of labour availability, ages of household members were converted into adult labour equivalent using conversion factors in Table 4.18. From the literature all persons above the age of 7 years provide productive labour in one way or the other, especially on family farms in Africa (Johnson 1982, p.205). In doing this calculation, there is no implication that 'child labour' is desirable. To the extent that the labour contribution of persons aged below 19 years is considered child labour is a matter of government policy, which currently lacks a proper framework. [43] The government has so far not outlawed or criminalized the participation of young people either on family farms or in *ganyu* in neighbouring farms. The attention to date has focussed on child labour in commercial tobacco and tea estates because of a previous history of using children as cheap labour (Eldring 2003, Otanez *et al.* 2006). In fact, the ISP as a main vulnerability reduction policy initiative in Malawi targets (amongst other categories) households where the head

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[43] The Malawi Constitution provides for the protection of children from economic exploitation. The Employment Act of 2000 prohibits the employment of persons below the age of 14 but allows the employment of persons aged 14-18 years as long as it does not harm child development (Eldring, 2003, p.12) labour (Eldring 2003, p.12). Government economic reports (e.g. by NSO) describe economically active age group in Malawi to be 15-64 years.

cannot provide active labour but there are dependents, including children, who can (Mwale 2009). In the *Medium Term Plan for the Farm Inputs Subsidy Programme* covering the period 2011-16, there is a stated policy provision to reach resource poor households headed by children and orphans, in the same way as special consideration is to be given to households headed by the elderly, HIV positive persons, females, disabled persons, or household heads caring for the elderly, chronically ill or disabled persons (Government of Malawi 2010d, p.16). During the fieldwork, children as young as five years were reported to have participated in family farms and even in *ganyu* but for the purpose of this thesis, labour input of individuals aged below the age of 7 years is considered to be zero.

Table 4.18: Labour conversion factors (adult units equivalents)

Age (Years)	Female	Male	Average*
Below 7	0.0	0.0	0.0
7 -14	0.4	0.4	0.4
15-64	0.8	1.0	0.9
65 and above	0.0	0.5	0.5

* author calculations to remove gender bias

Source: Johnson (1982, p.205)

The fieldwork also monitored availability of food (maize) stocks at every survey round. The stocks were collected in both grain and *ufa* (maize flour) in units reported by the households and applicable to most rural Malawi. To permit comparisons to be made between households in the sample, the quantities were 'standardized' into kilogrammes using conversion factors developed by NSO and widely used as official measures for Malawi (see Table 4.19).

Table 4.19: Maize conversion factors for Malawi

Measure of maize	Kilograms
50 kg bag	46.7
90 kg bag	84.0
Pail (small)	8.7
Pail (large)	20.0
No. 10 plate	0.2
No. 12 plate	0.8
Basket (*dengu*) shelled	34.6
Basket (*dengu*) unshelled	13.3
Oxcart (unshelled)	32.3
Oxcart (shelled)	350.0

Source: Agricultural Input Subsidy Survey by NSO, July 2007

The *ufa* was reported in the form of *ufa woyela* (refined meal)*, mgaiwa* (whole meal) *o*r mixed. To permit comparative analysis of households, the *ufa* was converted into maize grain equivalents using factors derived by leading researchers on food security and nutrition in eastern and southern Africa (Jayne *et al.* 1996). These were consistent with conversion factors earlier provided by nutritionists in the Department of Home Economics and Human Nutrition at Bunda College of Agriculture of the University of Malawi[44]. According to Jayne, *et al.,* (1996, p.5), the extraction rate for *mgaiwa* is 96-99 per cent while the rate for *ufa woyera* is 65 per cent. To account for situations where the *ufa* in the sample was mixed, an average rate was derived for this thesis as follows: the average of extraction rate for ufa woyera plus the average extraction rate for mgaiwa ((60 + (96+99)÷2) ÷2). This gave a working rate of 78.8 per cent with which the *ufa* was converted back into maize equivalents. In any case, less than 10 per cent of the sample households reported food in *ufa* form at every survey visit.

To permit comparisons of the duration (days) the stocks would take to deplete, the stocks were 'standardized' into household maize calorie equivalents by applying a conversion factor (see Table 4.20) derived from two separate studies conducted on Malawi. In 1992, FAO estimated that 468.8 grams of maize in Malawi provided 1,422 calories equal to 3,033.3 calories for each kilogram of maize (FAO 1992, Table 24). In 2010, Ecker and Qaim (2010, p.5) estimated that 381.7 grams of maize provided 1,332 calories equal to 3,489.7 calories for each kilogram of maize. [45] These two sources provide an average figure of 3,261.5 calories for each kilogram of maize, and this is the figure utilised for nutritional conversions in the rest of the thesis.

The household maize calorie requirements were computed by applying conversion factors that were provided by the government in the 1998 Profile of Poverty in Malawi that drew on IHS-1 (see Government of Malawi 2000b, p.109). The factors are adjusted for age, sex and scale of activity a person performs but the author derived age-based averages to remove 'gender biases'. On the basis of these conversion factors, the average per capita maize requirement is 0.43 kg per day or 158.4 kgs per year. To estimate number of days the food stocks would take

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[44] Mr Kingsley Masamba, Lecturer in Food Science at Bunda College, provided an extraction rate of 90 per cent for *Mgaiwa* and 60 per cent for *ufa woyera* as conversion factors used by Department of Home Economics and Human Nutrition at the College.

[45] Mr Neil Orchardson (Technical Advisor for Food Security and Nutrition) of the Ministry of Agriculture and Food Security informed the researcher in October 2010 that the Ministry has since adopted this as the 'official' conversion factor.

to deplete, total household maize calorie requirements per day were derived by summing up daily maize calorie requirements of different individuals in the household. This was then used as a denominator with which to divide the total maize calorie equivalents:

Days food would last = Available food stocks (maize calorie equivalents)
Daily household maize calorie requirement

Table 4.20: Per capita calorie and equivalent maize requirements (kgs)

Age (Years	Mchinji sample Equiv group (yrs)	Daily calorie requirement	Daily maize calorie	Daily maize requirements (kgs)	Annual maize requirements (kgs) [46]
<1	0-0.9	820	597.0	0.18	65.7
1-2	1-1.9	1,150	837.2	0.26	94.9
2-3	2-2.9	1,350	982.8	0.30	109.5
3-5	3-4.9	1,550	1,128.4	0.35	127.8
5-7	5-6.9	1,800	1,310.4	0.40	146.0
7-10	7-9.9	1,950	1,419.6	0.44	160.6
10-12	10-11.9	2,075	1,510.6	0.46	167.9
12-14	12-13.9	2,250	1,638.0	0.50	182.5
14-16	14-15.9	2,400	1,747.2	0.54	197.1
16-18	16-17.9	2,500	1,820.0	0.56	204.4
18-30	18-29.9	2,600	1,892.8	0.58	211.7
30-60	30-59.9	2,567	1,868.5	0.57	208.1
60+	60+	2,225	1,619.8	0.50	182.5
	Average	1,941	1,413.3	0.43	158.4

Source: as explained in the main text above.

4.4.2 Epistemological position in this thesis

Research in the field of social sciences entails purposive and rigorous investigation that aims to generate new knowledge (Sarantakos 2005, p.4) based on facts that are not just given but also produced (Mukherjee and Wuyts 1998, p.243). Different research works adopt different epistemological stances regarding views on 'generation of new knowledge' but this research adopts view that allows for the comparison of different ideas on a relative basis (Proctor 1998b). This epistemological position can be referred to as critical realist strands of thought which approaches issues of knowledge as constituting both realism and practical activity; that reality exists but it has to be interpreted within a given context by interpreting the observed interactions between powers, institutions, actors or forces. In the field of social sciences, the

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[46] As a rule of thumb, the government encourages Malawians to keep two and a half 50-kg bag of maize per person per year. But working figures vary considerably. In the BNB surveys described in earlier sections of this Chapter, the methodology has adopted a working maize requirement of two 50-kg bags per month for a family of six persons, translating into 200 kgs per person per year. The average of the two sources yields 162.5 kgs per person per year, which is very close to 158.4 kgs derived for this study – a difference of 4.1 kgs may be acceptable for all practical purposes.

purpose is to uncover deeper issues around causes, patterns, outcomes and effects around themes of research interest; the interaction between 'powers' in issues around poverty and vulnerability and their most recent policy responses emphasizing social transfers/agriculture in the case of this thesis. This interpretive process involves aspects of subjectivity as set of empirical methods are explained and elaborated. The results of such analytical process in this thesis can provide the basis for 'policy' change. In this research, examples that have received critical analysis include power relations (e.g. role of private sector in ISP), ethical (e.g. leakages of coupons or social transfers), economic (e.g. cost effectiveness of social transfers) or political (e.g. politics of social transfer targeting and reporting of the outcomes that have created unexplained gaps with reality on the ground (Bhaskar 1989, Proctor 1998a, Carter and New 2004). This study combines social sciences including economics (e.g. optimal use of resources such as inputs) and politics (how political factors can override evidence-based policy making) with agriculture (e.g. maize production), geography and environment. These disciplines fall into either or both of the two main paradigms of positivist or post-positivist perspectives on knowledge generation. Importantly for this study, a number of different fieldwork methods were found appropriate, and a combined qualitative and quantitative approach was followed (Booth *et al.* 1998, Ellis 2000, Kanbur 2003).

The field work was conducted with the assistances of six research assistants (RAs) who helped with field data collection variably at different periods but three worked on more or less 'permanent basis' while the other three were brought in periodically to confirm the data collected. The original plan was to recruit research assistants resident in each of the three study VDCs. It was apparent from initial consultations that the CSCTCs did not favour the idea because it would kill the spirit of volunteerism since members of the CSCTCs were not receiving any formal remuneration for their time, resources and services.[47] On the basis of these reservations, two assistants were recruited from communities neighbouring VDCs not participating in the study. Agricultural staff at district and Mikundi EPA helped in the identification and recruitment process. One RA was recruited from the district headquarters (Mchinji Boma) and worked with the researcher throughout the study from initial sample and community selection to data entry. All the three RAs commuted to the study sites on daily basis using bicycles.

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[47] It is discussed in Chapter 6 that members of the CSCTCs are not volunteers in strictest sense because they draw a monthly allowance, now at MK1500 per month in addition to daily allowances every time they participate in project activities, mostly outside their communities.

A central place known as Matutu, a trading centre which forms a boundary between TAs Kapondo, Nyoka and Mduwa, was identified as a meeting place for the research team. Matutu also has some houses for agricultural extension workers from Mikundi EPA, one of whom volunteered venue for training and meetings throughout the fieldwork. Prior to the fieldwork data collection, one week training was provided to the RAs to orient them to the research objectives and design, data collection methodologies to be employed and ethical issues in research (sensitivity, confidentiality etc). Part of the training included a pre-test of the baseline questionnaire in nearby villages. The pre-test experiences were used to refine the questionnaires and to map out field logistics before fully-fledged baseline survey.

The three RAs implemented the baseline survey (90 households), first tracking survey (30 households) and final survey (90 households) through interviews with heads of households or their proxies. Each household survey phase took two weeks maximum and each household tracking phase was completed within one week. In addition to community level consultations, the researcher supervised and monitored the data collection by the RAs. But to ensure quality work, the payment of the RAs was tagged to each properly completed, checked and approved questionnaire. In the second tracking survey, however, the RAs responsible for Mduwa and Chiti were replaced with two new RAs (one from Lilongwe and another from Mchinji Boma; and a third was recruited from Bunda to specifically help with focus group discussions) in order to independently verify some issues. The new RAs were oriented to the study and questionnaire. The approach also changed - the research team (3 RAs & the researcher) moved together, completing the survey in one community before moving to the next community. Each study site took one full day to administer 10 questionnaires. All the household level interviews were conducted at respondent's house/home using a structured questionnaire. Immediately after completion of each round of household survey, the questionnaires were coded and entered in SPSS. One RA did the data entry with regular help from the researcher.

4.5 Summary

This chapter has reviewed methodologies that are relevant to the construction and analysis of this thesis. These methodologies divide into two main categories: those associated with Malawi government statistics, and those associated with the author's own fieldwork in Mchinji district. It is considered important to set out the basis of various government statistical series or surveys, since the provenance of these affects both questions of data

accuracy and the information that is available for food insecurity policy decision making. In particular, the targeting methods used in the Mchinji social cash transfer scheme have depended on a particular interpretation of data contained in the IHS2 conducted in 2004-05. The chief measure of success of the ISP are the output gains estimated according to the methodology set out in section 4.2.2 above, which, as discussed in that section, allows discretionary discussion of data to occur at particular points in the methodology. All the methods discussed in Section 4.2 above in one way or another have a bearing on data and its policy interpretation in this thesis.

The second half of the chapter describes the methodology that applies to the fieldwork study conducted in Mchinji district. The section describes how major data transformations that have been conducted to the original data to allow comparisons between households. The restricted scale of the fieldwork is also discussed; because the purpose was to support secondary data sources described in Section 4.2. The importance of taking epistemological issues into great depth when conducting empirical research is recognised but not a binding factor in this thesis; although 'fair' consideration has been taken in that direction.

Chapter 5: Agricultural Input Subsidy Programme

5.1 Introduction

Previous chapters have established that agricultural input subsidies have consistently been seen by successive governments as the principal policy initiative for tackling poverty and vulnerability in rural Malawi. The purpose of this chapter is to examine how the most recent input subsidy programme (ISP) works on the ground and its outcomes. The chapter begins with a background to the ISP, including the factors that influenced the government decision to introduce agricultural input subsidies in 2005/06 and to continue them at scale in successive years. The chapter then provides a description of the organization, implementation and management of the programme as these have evolved since the programme started. The third section examines economic aspects of the programme, including coverage, fertilizer use, delivery costs, and cost effectiveness. The fourth section considers strengths and weaknesses of the programme that have been identified in various different studies of its functioning. Finally, the chapter critically examines the output claims of the subsidy, utilising maize balance sheet and price data to draw inferences about likely maize production levels in Malawi in recent years.

The input subsidy programme (ISP) was introduced for the 2005/06 cropping season, and therefore the logistics for its implementation were put in place during mid-2005 so that coupons for subsidised input purchase were distributed by the planting season in 2005, and fertilizer was available in warehouses for coupons to be redeemed. The introduction of the ISP immediately followed a poor production year in 2004/05, leading to widespread hunger in the following 2005/06 lean season. As summarised also in Chapter 3, the ISP followed on from two previous schemes, the Starter Pack input scheme (SPS) which operated in the 1998/99 and 1999/00 seasons; and the Targeted Input Programme (TIP) that operated at varying different levels of coverage from the 2000/01 to 2004/05 seasons.

The background to these predecessor schemes is relevant to this chapter. In particular, SPS was introduced in response to a cumulative deterioration in food security in Malawi that had evolved during the 1990s. The reasons identified in the literature for this deterioration include adverse side effects of market liberalisation and collapse of public service (1990-94), adverse weather conditions especially droughts (1991/92-1994/95) and floods (1996/97), an influx of Mozambican refugees (1987-1994), the negative effects on production of growing AIDS-

related illness and mortality, declining soil fertility, and high market price of fertilizers (Conroy *et al.* 2006).

A five year programme of work by a national maize productivity task force presented its findings in 1998 (Mann 1998, 2008). This identified a cost-effective package of maize and fertilizer technology for small farmers with little cash to buy agricultural inputs. The package provided the correct inputs for just 0.1 ha of maize, but was considered effective, with good rains, if it was (a) accessible by all small farmers, (b) accessed on time before the onset of the season, (c) based on high productivity and reliable technology (of hybrid seed) with economically efficient doses of fertilizers and (d) supported by a strong mass campaign and a focussed extension effort (Mann 1998, Blackie and Mann 2005a, Mann 2008). The design of SPS incorporated these recommendations. It provided every farm family an input package comprising hybrid maize seed (2 kgs), legume seed (2 kgs), basal fertilizer (10 kgs 23:21:0+4S) and top dressing fertilizers (5 kgs Urea) adequate for 0.1 hectare of maize.

While SPS seemed to demonstrate good potential for raising maize yields and output in Malawi, it was halted after two years due to disagreements between donors regarding its advisability. Specifically, the World Bank opposed a universal scheme, and DFID which had provided technical support and funded SPS eventually gave way to the Bank's position. SPS was replaced by a scaled-back version that came to be known as the Targeted Input Programme (TIP), implemented from the 2000/01 season. TIP incorporated the following changes to the starter pack: (a) the number of beneficiaries was reduced to 0.4 million farmers (later increasing to 1.5 million farmers, due to recurring hunger events); (b) the size of the input package was reduced to 0.08 hectares maize area (2 kg maize seed, 1 kg legume seed and 12 kgs fertilizer); and (c) the seed was changed from hybrid to OPV maize. Unlike the starter pack, TIP coincided with a series of adverse weather events, mainly floods in 2000/01 and droughts in 2001/02 and 2003/04 (Frankenberger *et al.* 2003, MVAC 2004), but the fall in maize production and ensuing hunger tended to be attributed in government circles to the scaling down of the starter pack (Levy and Barahona 2002).

The 2004/05 crop season produced the lowest maize output in a decade. It coincided with the new government of Dr Bingu wa Mutharika, elected in May 2004, who had campaigned on scaling up input subsidies to end hunger in Malawi (Denning *et al.* 2009). In 2005, the government moved to comply with its campaign promises and introduced the ISP in defiance of majority donor views, a decision that has since been described in some quarters as 'ending

famine simply by ignoring the experts' (Dugger 2007). The programme has since 2005/06 provided every year 1.3-1.7 million farm families with 2-10 kilograms of maize seed and 100 kilograms of fertilizer adequate for 0.4 hectares of maize area. At the Africa Summit of the World Economic Forum in Cape Town, South Africa on 4 June 2008 the president reaffirmed his commitment to providing input subsidies at this scale:

> "Enough is enough. I am not going to go on my knees to beg for food. Let us
> grow the food ourselves. And indeed we have" (Mutharika 2008)

As discussed in Chapter 3 in the context of the history of agricultural policies in Malawi, fertilizer subsidies have long represented a focus of contestation between government and donors (and also, at times, between different groupings of donors). For economic reasons set out in Chapter 2, the World Bank, IMF and USAID have generally been antagonistic towards the reintroduction of subsidies in Malawi, after a long battle in the 1980s and early 1990s to persuade the government to remove them. However, the World Bank softened this stance for an interval in the late 1990s, allowing the Starter Pack scheme to go ahead, only to retreat into its default position two years later. Currently, donor views fall between outright disapproval (USAID), sceptical but guarded approval (World Bank's 'smart subsidies', EU, DFID), and near unreserved approval (most UN agencies, Nordic governments and international NGOs). The government on the other hand sees the ISP as reclaiming its policy space (Chinsinga 2007b, 2007c).

Even disapproving donors (USAID) have eventually shown a degree of interest in ensuring that the ISP achieves the most desirable outcomes and is properly monitored with regard to its efficiency and effectiveness. The World Bank and USAID have funded evaluations of the programme. In the most recent MK39 billion programme in 2009/10, major donors contributed resources as follows: DFID (£3.8 million pledged but £2 million provided), EU (€3 million in pledges), Norwegian Government (NK 15 million pledged but not provided, awaiting production of government audit for 2007/08 funds), Irish Aid (€3.2 million) (Government of Malawi 2010c). It is important to note that while the government has an apparent goal to widen the scope of the ISP to include smallholder cash crops such as tobacco, cotton, tea and coffee, the position of the quiescent donors is that the programme should be limited to food crops (maize and legumes) and poor farmers (DFID 2010). Given this stance, the 2009/10 ISP was restricted to maize only and, as the findings of the fieldwork in the tobacco-dominated Mchinji district reveals (Chapter 7) households that receive coupons

display a preference towards the utilization of the fertilizer on maize. External experts who have examined or evaluation successive input programmes in Malawi (e.g. Dorward *et al.* 2008) tend to come down in favour of a small universal subsidy for all farmers in Malawi (i.e. similar to Starter Pack) rather than a large subsidy targeted (probably ineffectually) towards poorer farmers.

Table 3.1 in Chapter 3 provides a summary of these three successive input subsidy interventions. Of special note is their varying coverage. SPS was designed as a universal programme to reach all small cultivators in Malawi, and in 1999/00 is thought to have reached 2.8 million farm families. Good levels of maize harvest were achieved in both these seasons, at 2.2 and 2.3 million tons respectively; however, it is recognised by commentators that fortuitously good weather in these seasons contributed to these outcomes (Levy and Barahona 2002). TIP varied in coverage, and also in the composition of the input package provided. As already noted poor weather resulted in a succession of low harvests in the TIP period, culminating in the disastrous 2004/05 season when only 1.2 million tons was harvested. The TIP data indicates the difficulty of deducing the effectiveness of input subsidies, given the overwhelming importance of weather events in rainfed maize production. Thus TIP coverage both in terms of number of farmers and size of pack was quite generous in 2004/05 (see Table 3.1 n Chapter 3), but did not prevent a low harvest and serious hunger from happening. SPS and TIP performance has been examined in detail in a number of sources (e.g. Levy 2005b, Harrigan 2008).

The ISP varied in coverage in successive seasons between 2005/06 and 2009/10. It set out to reach 1.7 million farmers (roughly 60 per cent of all small farmers) in 2006/07, while in the other years it sought near universal coverage. Official output levels during these five seasons of ISP implementation have varied between 2.6 and 3.6 million tons (see Table 4.3 in Chapter 4); however, there are serious concerns about the accuracy of these figures which have been expressed by several leading researchers on maize markets in eastern and southern Africa (e.g. Jayne *et al.* 2008), and this is critical for the eventual evaluation of the ISP's success in averting hunger and vulnerability in Malawi, as described in section 5.5 below. Table 5.1 provides summary of basic data of the ISP from 2005/06 to 2009/10.

Table 5.1: Basic Data on the Agricultural Input Subsidy Programme 2005/06-2009/10

Crop season	HHs Reached	Subsidy[a] Fertilizer Sales	Coupon Redemption Price	Coupon Market Value	Approx Subsidy Rate	Total Cost	Total Cost
	no.	tons	MK/50kg	MK/50kg	%	MK bn	US$ m
2005-06	1,370,060	131,388	985[b]	2,735	64	7,200	61.0
2006-07	1,772,280	174,688	950	3,430	72	12,729	90.9
2007-08	1,700,000	216,553	900	4,199	79	16,346	116.8
2008-09	1,700,000	206,541	800	9,800	92	39,848	284.6
2009-10	1,600,000	161,074	500	5,750	91	25,000[c]	178.6

a   Maize seed sales were 4000 tons per year from 2006/07 to 2008/09, increasing to 8000 tons in 2009/10

b   In 2005-06 subsidised maize fertilizer was sold at MK950 and tobacco at MK1450 per 50kg bag, this figure represents a weighted average. The planned quantities 2006/07-2008/09 were 170,000 tons of fertilizer but 2.7-27.4 per cent above the planned quantities was actually sold through ISP.

c   2009/10 cost is the budgeted cost

Source: updated from Dorward and Chirwa (2011), drawing on data underlying Table 3.1

5.2 Programme Organisation

The ISP is a fertilizer and maize seed subsidy program covering the entire country. It is funded by the Government of Malawi, with varying resource inputs and logistical support from donors in different years, especially DFID, NORAD, UNDP and the European Union. It is implemented by the Ministry of Agriculture in collaboration with several other institutional actors, principally two semi-autonomous public bodies that had played important earlier roles in fertilizer distribution as described in Chapter 3, ADMARC and the Smallholder Farmers Fertilizers Revolving Fund of Malawi (SFFRFM). The participation of the private sector in delivering ISP has varied from year to year (Dorward *et al.* 2008, Government of Malawi 2008c, 2009e, 2010c). Figure 5.1 illustrates the institutional arrangements that have been responsible for the delivery of the ISP since it was started.

Figure 5.1: Implementation arrangements for the Input Subsidy Programme
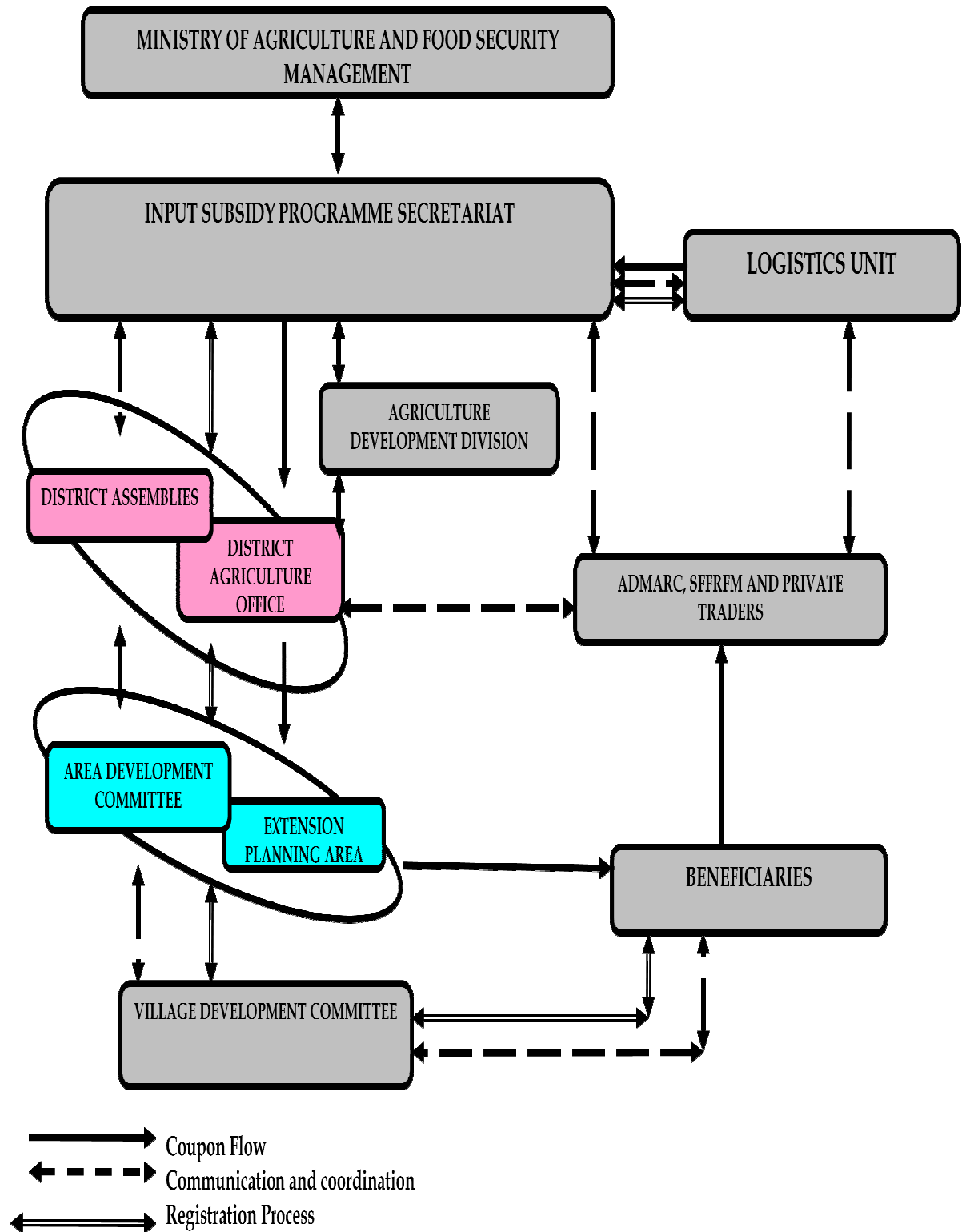
The ISP is a complex programme involving many activities and stakeholders. Some tasks are implemented in sequence and others in parallel, operating at different scales (from centre down to the village level). The major areas of activity nevertheless interact (e.g. fertilizer available must match coupon allocation). These can be summarised as (a) selection of beneficiaries (targeting), (b) coupon allocation and distribution, (c) fertilizer procurement and distribution, (d) coupon redemption by recipient farmers and (e) invoicing and reimbursements of suppliers. Within and between these activities, some tasks are implemented in sequence while others run parallel to each other. A stand-alone, leanly staffed Logistics Unit within MoAFS coordinates the implementation process in which the following are key players and their roles:

(1) MoAFS senior management and an ISP Secretariat who decide on the work plan of coupon and fertilizer distributions in a season, and who are responsible for controlling the costs of ISP implementation;

(2) specific donors who have provided logistical assistance (for example, DFID assisted with fertilizer distribution to warehouses in some years) as well as technical expertise, and financial contributions to assist with programme costs;

(3) District Assemblies, ADDs and traditional authorities (TAs) which are responsible for beneficiary selection, registration and the distribution of vouchers;

(4) ADMARC and SFFRFM and, variably, the private sector contracted to provide services of input procurement, warehousing, transportation, packaging and delivery, printing and publicity.

The implementation of these activities, as summarised in Table 5.2, has evolved over the years. The ISP is a coupon-based input subsidy scheme. Eligible small farmers receive two coupons (vouchers), one for 50kg basal dressing and one for 50kg top dressing fertilizer, entitling the holder to redeem the fertilizer at a prescribed subsidised price per bag. The main emphasis of the programme is on maize but coupons were also issued to tobacco farmers (and in 2008/09 to a limited number of tea and coffee farmers) but this has been stopped since 2009/10. The organisation of beneficiary selection has varied in different years, but has tended to move from reliance on traditional leaders (TAs) or VDCs to more open community

verification of suggested beneficiary lists. While there is no principle that the same households will be registered in successive years, in practice, repeat selection is the norm.

Table 5.2: Summary of programme design and implementation 2005- 2010

Year	Scope of subsidised inputs	Coupon distribution system	Coupon redemption system	Other system innovations
2005-06	Maize & tobacco fertilizers; Maize seed (OPV)	District allocation by maize areas, distribution by TAs	Only through SFFRFM & ADMARC	
2006-07	Maize & tobacco fertilizers; Maize seed (hybrid & OPV)	District allocation by maize areas, distribution varied, through DAs, TAs, VDCs, MoAFS	Fertilizers also at private retailers; Flexible maize seed vouchers at range of seed retailers	Coupons specific to fertilizer type. Fertilizer buys back system. Involvement of Logistics Unit
2007-08	Maize & tobacco fertilizers Maize seed (hybrid & OPV); Legume seed (limited); Cotton seed & chemicals	District allocation to farm HHs & areas, DA selected beneficiaries, vouchers distributed through MoAFS and VDCs	Fertilizers also at private retailers; Flexible maize & legume seed vouchers at range of seed retailers; Cotton inputs through ADDs	Reduced copies of coupons. Remote EPA premium. Fertilizer buy back system
2008-09	Maize, tobacco, tea & coffee fertilizers; Maize seed (hybrid & OPV); legume seed, cotton seed & chemicals, maize storage chemicals	District allocation to farm HHs & areas; Farm HH register; Open meetings for allocation & disbursement	Fertilizers only at ADMARC & SFFRFM; Flexible seed vouchers at range of seed retailers; Cotton inputs through ADDs	Extra coupon security features & market monitoring. No remote EPA premium. ADMARC computers for voucher processing
2009-10*	Maize fertilizers and seed (hybrid & OPV) only; Flexible seed vouchers discontinued	Only DADOs working with local community leaders allowed to select beneficiaries and distribute vouchers	Only ADMARC & SFFRFM allowed to sell the fertilizers; Only seed companies allowed to redeem seed vouchers	Seed quantities increased to 5kgs hybrid & 10 Kg OPV

*2009/10 is author's update drawing on Govt of Malawi (2010c)

Source: updated from Dorward and Chirwa (2011, p.6)

The ISP has in principle followed a similar set of eligibility criteria for beneficiary selection since it began in 2005. A beneficiary household should be poor, and meet some combination of the following criteria: (a) a Malawian who owns a piece of land; (b) a household with low income; (c) a guardian looking after persons such as disabled, chronically ill or orphans; (d) hard working in farming; (e) an adopter of specified agricultural technologies (conservation agriculture); (f) a resident of the village; (g) a member of a designated vulnerable group, for

example, child headed households, female headed households, elderly households with active labour (Mwale 2009). Only one person per deserving household (typically the head of household or in the name of the household head) is supposed to be registered to receive two coupons but, as substantiated with empirical evidence later in this chapter, this is not always the case.

In practice, actual selection of beneficiaries may be observed to depart from these principles in a variety of ways. For example, studies done on the 2006/07 ISP revealed varying practice on the part of village leaders or local committees in different places, including: (a) all eligible, including non-farmers resident in towns with family in the village; (b) ownership of a piece of land; (c) demonstrated ability to pay the subsidized price; (d) participation in community development projects; (e) participation in cash-for-work schemes, with the cash then allocated to input purchase; (f) adherence to a maize cultivation method known locally as *sasakawa* or 'conservation farming'[48]; (g) first-come, first-served; and (h) none of the above: non-transparent allocations in which leaders, police, chiefs, friends and relatives received the bulk of coupon allocations (Ellis 2007, p.3, Kadzandira 2007).

The ISP implementation process begins with a stakeholders' meeting involving government, donors and selected private sector representatives who meet early in the year to decide on scope of the next season's ISP in terms of coverage, distribution and management logistics, and timelines of major activities. For the 2007/08 ISP, for example, the meeting was held in March 2007 and agreed that:

(1) selected farmers throughout the country would receive vouchers that could be exchanged for fertiliser and seed;

(2) the programme would comprise 170,000 metric tonnes of fertiliser to be sold at a farmer's contribution of MK 900 per 50 kg bag and a maximum of MK 90 for seed voucher;

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[48] A maize cropping practice that involves planting single seeds on a grid pattern, with fertilizer targeted precisely to each 'planting station'. It is being promoted by government as a recommended practice for boasting productivity.

(3) a bonus (MK100-200) to be paid for fertilizer voucher redeemed in selected remote EPAs, in order to encourage private sector involvement in input distribution in more remote rural areas;

(4) the district allocation of coupons to be finalised by mid June 2007;

(5) the selection of beneficiaries by districts to be completed by mid August 2007;

(6) preparation of distribution registers to commence mid July and complete September 2007;

(7) voucher distribution to start mid August and complete late October 2007;

(8) redemption of coupons to be conducted in November-December in order to ensure adequacy and timeliness of input supplies, consistent with the sowing and growing season between late October and January.

Once the programme size and modalities have been agreed, MoAFS then allocates district quotas through a process that uses a distribution matrix that first allocates maize fertilizer and seed proportional to past area grown to maize in that district. Subsequent adjustments are done to reflect utilizations (redeemed vouchers) in previous years. The second step is to allocate the quantity of district vouchers between EPAs. A similar process is conducted for tobacco and cotton only for areas where these crops are grown[49]. MoAFS then distributes the coupons are to districts and TAs, where they are further distributed between villages (by the VDC) and to recipients by village leaders, following the selection process discussed above.

Up to 2008/09, the programme made available four fertilizer types; two each for maize and tobacco but, in practice, a coupon holder could redeem any of the four types. In 2009/10, only maize fertilizers were planned to be distributed but some beneficiaries ended up with tobacco fertilizers due to shortage of maize fertilizers on the market; however, it is not clear whether or not this was used on maize or tobacco. Until 2008/09, programme management at district level was the responsibility of district commissioners (DCs) who worked in collaboration with District Executive Committees (DECs) acting through Area Development Committees (ADCs) and VDCs to select beneficiaries while District Development Agricultural Officers

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[49] From 2009/10, as shown in Table 5.2 above, the government has 'decided' to remove the other crops and support maize production only.

(DADOs) distributed the coupons through the VDCs. In 2009/10, only the DADOs working with the local community leaders selected the beneficiaries and distributed the coupons or vouchers (Government of Malawi 2008c, 2009e, 2010c).

The format of coupons has evolved in order to overcome concerns about their efficacy reported or observed in successive seasons. In 2005/06, the printed coupons were fairly simple, and the same basic design applied to all the different types of fertilizer available for different purposes by different categories of farmers. This meant that coupons could easily be reassigned by their holders, for example, between tobacco and maize fertilizers, and, equally, could 'go astray' into different districts from those to which they had been allocated. In 2006/07, the design was made more sophisticated, each coupon comprising a booklet in triplicate bearing a unique serial number including a district identifier, and different colour coupons for different inputs. In this instance, redemption required matching up the correct colour coupon against the type of fertilizer purchased, and copies of the coupon and sales invoice being held after the transaction by both the seller and the buyer. In 2007/08 and 2008/09, the government produced four types of vouchers: combined maize fertilizer and seed vouchers; tobacco fertilizer vouchers; maize seed vouchers only; and flexible seed vouchers that could be exchanged for maize, legume or cotton seed. In 2009/10, only maize fertiliser vouchers were printed. Each beneficiary was given two vouchers - one was for a 50- kg bag of NPK (base fertiliser) and the other for a 50-kg bag of Urea (top dressing). The same beneficiaries also received a maize seed voucher that could be exchanged for a maize seed package (5 kgs hybrid or 10 kgs OPV). The same selected farmers also received a legume seed voucher that could be exchanged for a pack containing any one of the following: beans, cow peas, pigeon peas, groundnuts or soya. In other words, flexible seed vouchers were discontinued for the 2009/10 programme (Government of Malawi 2008c, 2009e, 2010c).

However, until 2008/09, a potential consequence of having a multiplicity of coupon types was to make their distribution between recipients arbitrary. For example, some beneficiaries might receive one seed voucher for maize only or flexi seed; others might receive vouchers that allowed them to redeem two bags of maize fertilizer and a maize seed pack (one voucher for basal fertiliser, one voucher for top dressing and another voucher for maize seed); and others might receive vouchers to redeem two bags of tobacco fertilizer (one voucher for basal fertiliser and one voucher for top dressing fertiliser). In Mchinji district, beneficiaries in 2007/08 in most communities in the case study areas (see Chapter 7 below) were offered a

choice between maize fertilizer and tobacco fertilizer but not both, although cases were reported during the fieldwork where some households had managed to acquire different coupons from those which they had initially been allocated.

Every coupon bears the name of the district where the coupon is redeemable, the type of fertilizer (e.g. NPK), and the name, village and TA of the holder. Figure 5.2 provides an example of a coupon to allow the holder in Mangochi district to redeem one bag of NPK fertilizer. Before the other crops were removed, the coupon required the input seller to tick whether the redeemer was a maize/tobacco/cotton grower (on the sample coupon is written *chimanga/fodya/thonje*, with the bracketed instructions asking the seller to tick the crop for which the coupon has been redeemed). At redemption point, every coupon is supposed to be signed by chairman, secretary and committee member of VDC after confirming the identity of the holder. This process does not work on the ground as it is too cumbersome, and in any case officials tend to behave in ways that reflect their own interests in the process, not just administrative compliance.

Figure 5.2: Sample of a fertilizer coupon for the 2007/08 programme

Source: Masanganise (2009)

Moving now to the physical fertilizer logistics of the ISP, procurement entails suppliers being awarded government contracts to import agreed quantities of fertilizer (or supplying the same from their residual stocks). The initial fertilizer deliveries are made to three SFFRFM regional depots located in Blantyre, Lilongwe and Mzuzu. From these depots, outward distribution occurs to ADMARC storage and sales facilities at district and EPA levels by contracted local transporters. Procurement and distribution of fertilizer has evolved over the years. In 2005/06, fertilizer procurement was mainly by SFFRFM and both fertilizer and seed were exclusively delivered to outlets by ADMARC and SFFRFM. The role of private sector input suppliers was restricted to a share of the total importation required. In 2006/07, partly under donor pressure, the role of the private sector was widened, especially for procurement, and the private sector was made responsible for seed distribution, while ADMARC and SFFRFM continued to be mainly responsible for fertilizer distribution. This resulted in a 50 per cent increase in private sector participation (Ellis 2007, p.5). In 2007/08, nine private suppliers were awarded contracts to procure and deliver 80 per cent of the programme fertilizers (Government of Malawi 2008c, p.8).

In 2008/09 and 2009/10, the government excluded private traders altogether ostensibly because one private supplier had failed to perform in the 2007/08 programme, delivering only 5 per cent of the awarded fertilizer quantity. This had caused the government to pay an additional US$2.5 million for replacement fertilizer. The private sector (agro-dealers) was nevertheless allowed to continue to trade in seed which in the 2009/10 programme was awarded to a restricted list of private seed companies. However, a Final Report on the Implementation of Agricultural Inputs Subsidy Programme 2007/09 (Government of Malawi 2008c) revealed that the late procurement experienced in 2007/08 was in fact due to delays by the government in awarding contracts. Delays in procurement and outward distribution to warehouses are widely reported, with some farmers not being able to exchange their coupons until January when crops are already in mid-growth. In the 2008/09 programme, for example, sales for the subsidised inputs commenced in the first week of November 2008 and ceased in the second week of February 2009 (Government of Malawi 2010c).

Table 5.3 presents the unit cost (US$ per ton) of delivering the fertilizers from regional SFFRFM warehouses districts (Mzuzu for districts in the north, Lilongwe for districts in the centre and Blantyre for districts in the south) to just over 800 ADMARC/SFFRFM selling points throughout the country. The average in the three seasons (2007/08-2009/10) was about

US$40 for each ton of fertilizer, and this ranged from US$18.45/ton for Chiradzulu to US$108.44 for Chitipa.

Table 5.3: Cost of delivering fertiliser to districts (US$/ton)

District	2007/08	2008/09	2009/10	Average
Chitipa	90.71	117.89	116.72	108.44
Karonga	43.28	45.73	58.47	49.16
Likoma	60.83	na	na	60.83
Mzimba	32.77	42.27	42.04	39.03
Nkhata Bay	16.98	26.46	24.05	22.50
Rumphi	23.66	23.86	27.40	24.97
Dedza	34.31	30.28	25.99	30.19
Dowa	16.79	21.40	19.09	19.09
Kasungu	34.25	39.21	37.57	37.01
Lilongwe	14.93	18.33	21.00	18.09
Mchinji	30.25	35.90	30.61	32.25
Nkhota Kota	49.56	61.94	60.31	57.27
Ntcheu	52.95	51.98	55.19	53.37
Ntchisi	24.65	29.52	28.78	27.65
Salima	26.70	27.06	27.20	26.99
Balaka	29.26	35.11	37.21	33.86
Blantyre	na	17.36	23.77	20.57
Chikwawa	25.35	29.76	30.24	28.45
Chiradzulu	15.20	18.03	22.11	18.45
Machinga	48.77	59.35	42.98	50.37
Mangochi	59.59	76.73	61.72	66.01
Mulanje	22.60	35.05	29.01	28.89
Mwanza	19.92	34.04	29.48	27.81
Neno	21.51	36.17	30.27	29.32
Nsanje	40.66	50.88	45.72	45.75
Phalombe	31.15	48.57	33.86	37.86
Thyolo	17.35	28.93	28.57	24.95
Zomba	18.51	31.35	26.22	25.36
Regional Averages:				
Northern	44.71	51.24	53.74	50.82
Central	31.60	35.07	33.97	33.55
Southern	29.16	38.56	33.94	33.66
National averages	33.43	39.75	37.61	37.30

Source: compiled from Final ISP Implementation Reports prepared by Logistics Unit (Government of Malawi 2008c, 2009e, 2010c)

Once the coupons are distributed and inputs delivered to sales outlets, a coupon redemption process begins. To redeem the coupons, holders are required to present them (plus) along with the required cash payment (the subsidised price) to authorised input dealers selected by the government. In 2005/05, only ADMARC and SFFRFM were designated authorised dealers. In 2006/07 and 2007/08, the programme also allowed selected private fertilizer dealers to redeem the vouchers but the market was restricted to ADMARC and SFFRFM and a few big private suppliers who had been awarded fertilizer procurement contracts discussed above. The bulk of coupon redemption was done through ADMARC and SFFRFM market outlets. In fact 80 per cent of fertilizer sales in 2007/08 were conducted through ADMARC and SFFRFM markets while, as discussed earlier, 80 per cent of the fertilizer procurement had been undertaken by the private sector. In 2008/09 and 2009/10, only ADMARC and SFFRFM were allowed to trade in programme fertilizer as discussed above (Government of Malawi 2008c, 2009e, 2010c).

As shown in Table 5.1 above, the subsidised purchase price of the fertilizers has varied between maize and tobacco and over the years. In 2005/06, the price of tobacco fertilizers was higher than for maize, at MK1450 (US$10.36) per bag, while in 2006/07 the single price of MK950 (US$6.79) per bag was used across all fertilizers. This was also the case in subsequent years when an across the board price of MK900 (US$6.43) per bag was applied in 2007/08, MK800 (US$5.72) in 2008/09 and MK500 (US$3.57) in 2009/10.

In addition, seed coupons are issued permitting purchase at a prescribed price per pack of seed. Unlike fertilizer coupon redemption, seed market outlets in 2007/08 were unrestricted and included agricultural retail dealers, general wholesalers, SFFRFM, and ADMARC. However, this was changed in 2008/09 and 2009/10 when the government allowed only eight recognised seed breeders to redeem vouchers in exchange for seed (which in 2009/10 programme was packaged as follows: 5 kg hybrid maize, 10 kg OPV, 1.5 kg bean seed 1.5 kg groundnut seed, 1.2 kg each for Soya bean seed, Pigeon peas and Cow peas). In 2005/06, the maize seed coupons were set at MK400 per 3 kg pack of seed (hybrid or OPV). In 2007/08, two price arrangements prevailed. A seed coupon set at a value of MK400 was adequate to redeem 4 kgs of OPV seed. For hybrid seed, a coupon beneficiary was required to make a cash top up to redeem a 2 kg seed and this price varied from trader to trader, reaching MK900 in most areas. In 2008/09, however, seed vouchers for both hybrid and OPV carried a value of MK680 and no cash top up by the beneficiary was required. In 2009/10, the maize seed

vouchers carried a redemption value of MK1,500 when exchanged for seed but the seed companies had the option to request a maximum of MK100 from the farmers on top of the maize seed voucher in exchange for the seed packet (Government of Malawi 2008c, 2009e, 2010c).

Table 5.4: Redemption rates for maize (hybrid and OPV) seed coupons 2007/08-2009/10

District	Number of seed maize vouchers distributed				Proportion of vouchers redeemed (%)			
	2007/8	2008/9	2009/10	Average	2007/8	2008/9	2009/10	Average
Chitipa	38,141	25,869	30,383	31,464	0.9	127.2	75.0	59.4
Karonga	24,005	22,291	26,285	24,194	2.4	125.8	94.1	73.5
Likoma	709	680	683	691	7.8	96.9	5.9	36.4
Mzimba	164,573	96,840	107,727	123,047	0.3	129.9	88.2	60.0
Nkhata Bay	24,078	22,566	23,956	23,533	1.4	70.1	95.8	55.4
Rumphi	34,785	30,650	29,465	31,633	0.6	85.2	89.8	55.6
Dedza	99,635	66,800	67,386	77,940	3.4	122.3	101.4	65.6
Dowa	93,030	70,910	72,722	78,887	3.7	108.1	101.5	65.0
Kasungu	104,580	82,528	90,345	92,484	3.6	90.7	95.2	59.3
Lilongwe	260,492	124,429	161,211	182,044	1.3	101.4	102.0	53.8
Mchinji	121,948	63,200	70,131	85,093	2.9	105.2	99.0	54.7
Nkhota Kota	35,968	28,454	31,437	31,953	10.1	109.2	92.5	66.5
Ntcheu	95,564	68,270	73,000	78,945	3.6	84.0	93.0	54.4
Ntchisi	50,609	30,900	40,465	40,658	6.7	107.4	98.6	62.7
Salima	39,129	36,180	36,800	37,370	9.1	102.1	87.3	64.8
Balaka	9,187	40,911	53,285	47,794	37.8	110.7	101.9	82.4
Blantyre	82,140	83,741	94,233	86,705	52.8	104.9	83.0	80.5
Chikwawa	18,532	11,184	18,895	16,204	27.6	105.1	2.4	35.6
Chiradzulu	61,782	55,559	52,964	56,768	55.1	108.9	98.2	86.0
Machinga	81,783	63,455	64,819	70,019	26.8	98.4	103.0	71.9
Mangochi	94,976	71,178	75,825	80,660	23.5	89.1	97.2	65.9
Mulanje	76,054	73,153	76,533	75,247	28.6	107.7	49.4	61.3
Mwanza	19,385	21,832	15,600	18,939	39.0	99.4	97.4	78.2
Neno	21,593	16,918	17,573	18,695	45.5	77.5	96.8	71.2
Nsanje	12,153	11,060	14,702	12,638	36.3	106.2	0.1	42.6
Phalombe	49,345	71,704	60,379	60,476	28.8	99.8	66.5	69.4
Thyolo	93,932	118,022	101,685	104,546	38.9	115.3	85.7	82.8
Zomba	91,685	74,497	91,511	85,898	68.8	111.8	94.6	90.4
Regional Avge:								
Northern	47,715	33,149	36,417	39,094	2.2	105.8	74.8	56.7
Central	100,106	63,519	71,500	78,375	4.9	103.4	96.7	60.8
Southern	57,888	54,863	56,770	56,507	39.2	102.7	75.1	70.7
National Avge	69,278	52,992	57,143	59,804	20.3	103.6	82.0	64.5

Source: compiled from Final ISP Implementation Reports prepared by Logistics Unit (Government of Malawi 2008c, 2009e, 2010c)

Table 5.4 presents data to show the number of maize seed vouchers that were distributed and actually redeemed in 2007/08, 2008/09 and 2009/10. It can be seen that the unlike fertilizer vouchers which are all redeemed, there has been a generally poor redemption of maize seed vouchers especially in 2007/08 which recorded an average national redemption rate of 20.3 per cent most probably because of the pricing mentioned above. When the top up cash requirement was removed in 2008/09, the average national redemption rate even surpassed seed vouchers that were officially distributed through the Logistics Unit but this progress fell back to a national average of 64.5 per cent in 2009/10 when the cash top up requirement of up to MK100 was introduced. Further analysis for the 2007/08 seed redemption shows that the plural treatment in the seed vouchers redemption prices potentially affected use of hybrid seed since the cash top up of up to MK900 for a 2 kg pack of hybrid seed demanded by traders in that year (2007/08) could redeem a 50 kg bag of fertilizer at MK900 per bag.

The final stage of ISP organisation is redemption of invoices and payment of suppliers. The redemption process described above involves a coupon holder surrendering the vouchers, together with the prescribed cash payment for each voucher, to the supplier in exchange for the 50 kg bag of fertilizer or packet of seed. The redeemed coupons and associated paper work are then submitted back to the Logistics Unit to facilitate reimbursement of the difference (local market cost of the input less the amount paid by the coupon holder). This process does not necessarily work well, resulting in variations in claims. In the 2007/08 programme, for example, claimed values for reimbursement by suppliers varied widely across districts and types of fertiliser. Claimed values for maize fertilizer vouchers ranged from MK3,160 in Blantyre in the southern region to MK3,485 in Chitipa in the northern region. The claimed value for a maize fertilizer coupon was relatively higher than for tobacco fertilizer vouchers which ranged from MK2,635 in Rumphi in the northern region to MK2,815 in Mangochi in the southern region (Government of Malawi 2008c).

5.3 Economics of the Programme

As already stated, the Malawi ISP has national coverage and sets out to reach small farmers in the remotest corners of the country reaching 1.4 to 1.7 million farm families every year. Since there are an estimated 3.1 million farm families (Government of Malawi 2008a:10), coverage in the 2007/08 programme, for example, was around 55 per cent. Reaching this level of coverage has huge budgetary implications, the discussion of which is deferred to Chapter 8. It suffices here to observe that the programme consumes over 50 per cent of the national

agriculture sector budget. In the MK210 billion 2008/2009 national budget, for example, MK20 billion (about 60 per cent of the Ministry of Agriculture budget) was allocated to the ISP. However, due to an unforeseen price spiral in international fertilizer prices in 2008, the final cost was MK39 billion, representing 19 per cent of total government expenditure (see Chapter 8 for more on these magnitudes). The budgeted subsidy was almost as much as the allocations to Malawi's two biggest ministries after Agriculture, the Ministry of Education (2008/09 budget MK24 billion) and Ministry of Health (2008/09 budget MK23 billion) (Nation Reporter 2009), and actual expenditure exceeded these figures by almost 100 per cent in that financial year (Government of Malawi 2010d).

The decreasing cost to farmers of subsidised fertilizer in successive years was summarised in Table 5.1 above. The fertilizer subsidy rate (i.e. the proportion of full market cost paid by the state) has increased steadily since the ISP started. The subsidized price for a 50 kg-bag of maize fertilizer was MK950 in 2005/06-2006/07 when the local market price was MK2,735. It reduced to MK900 in 2007/08 when the local market price was around MK4,200; and further still to MK800 in 2008/09 when the commercial price locally rose to MK9,800. [50] In 2009/10, the subsidised price reduced further to MK500. In 2005/06, the MK950 voucher represented a subsidy of roughly 75 per cent on the full cost price of a 50 kg bag of fertilizer. In 2008/09, this rose to 90 per cent due to a sharp rise in prices in world markets, as well as domestic political competition for subsidy largesse in the run up to the May 2009 general elections (Chinsinga and O'Brien 2008, Dorward and Chirwa 2009).

Table 5.5 compares the subsidised prices with local commercial prices for the same fertilizer. The last column shows by how much the commercial price is greater than the subsidised price; for example, in 2005/06 the commercial price was 3 times the subsidised price, whereas by 2008/09 this had become 12 times. Even with a subsequent rapid decline in international fertilizer prices, the full market price is predicted to remain at around 10-11 times the subsidised price in 2009/10 and 2010/11. In other words, Malawi is currently operating an apparent 90 per cent fertilizer subsidy policy.

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[50] In 2008/09 commercial fertilizer prices reached high levels due to a sharp rise in world prices: MK7200 for CAN, MK9940 for Urea and MK11010 for 23:21:0+4S, MK11360 for D-Compound and MK13580 for S-Compound. In 2009/10, these prices fell to almost half the previous years: MK4330 for CAN, MK5330 for Urea, MK5180 for 23:21:0+4S, MK6600 for D-Compound and MK7810 for S-compound.

Table 5.5: Comparing commercial and subsidised price of fertilizer 2005/06-2010/11

Year	Price per 50 kg bag (MK)		Price per kg (MK)		Price difference (times)
	Subsidised	Commercial	Subsidised	Commercial	
2005/06	950	2,735	19	55	2.9
2006/07	950	3,430	19	69	3.6
2007/08	900	4,199	18	84	4.7
2008/09	800	9,800	16	196	12.2
2009/10	500	5,750	10	115	11.5
2010/11	500	5,350	10	107	10.7

Source: Elaboration of data in Table 5.1

Key factors in trying to describe the economic efficiency of a programme like the ISP are the productivity of the fertilizer delivered, in terms of output per kg of fertilizer applied; and the cost efficiency of delivering a benefit of a certain value to the recipients of that benefit. For example, if a subsidy worth MK3000 per bag is provided to recipients, it makes a great deal of difference in terms of the efficient use of government resources if this subsidy costs MK2000 per bag or MK200 per bag to deliver. In the former case, the total cost to government is MK5000 per bag, and the efficiency ratio of the transfer is 1.67 (5000÷3000); whereas in the latter case, the total cost to government is MK3200, and the efficiency ratio of the transfer is 1.07 (3200÷3000). Here, the fertilizer productivity aspect is considered first, followed by the cost efficiency of providing the subsidy.

Table 5.6 provides time series data on maize output, cultivated area, yields, fertilizer use and output per kg of fertilizer for the period 1991/92 to 2008/09 in Malawi. The data are official MoAFS figures for the production, area and maize fertilizer time-series described in Chapter 4; while the various ratios are calculated from those figures. On the production side, the figures in Table 5.6 reaffirm trends that have already been discussed elsewhere in the thesis, namely the considerable variability in maize production and harvested area, the low average harvests in the 2001-2005 period, and the apparent jump in output occurring after the introduction of the ISP in 2005/06. The estimate of total maize fertilizer applications must be treated as approximate. While data on imports and distributions of different fertilizers are strong enough (see Table 4.7 in Chapter 4), the precise decisions made by farmers regarding the crops on which they use fertilizers is not susceptible to accurate measurement at scale. Nevertheless, maize fertilizer use without doubt jumps substantially from 2005/06; from an average of 163.3 thousand tons in the five years preceding the ISP to an average of 209.7 thousand tons under the ISP. The difference here of 46.4 thousand tons demonstrates a factor

also highlighted by Dorward *et al.* (2008), that the total quantity of subsidised fertilizer (going up from 130 to 180 thousand tons in 2005/06 and 2006/07) is not the same as the net gain in fertilizer use created by the ISP. The ISP causes a substitution between subsidised and fuller cost supplies, so that the net gain in fertilizer use compared to the previous period is around 40 per cent.

Table 5.6: Maize-Fertilizer Productivity Relationships in Malawi 1991/92-2008/09

Crop Season	Production (tons)	Area (ha)	Maize Fertilizer (tons)	Yield (kg/ha)	Appln Rate (kg/ha)	Average Product (kg mz/kg fert)
1991-92	657,000	1,368,093	128,377	480.2	93.8	5.1
1992-93	2,033,957	1,327,038	138,737	1,532.7	104.5	14.7
1993-94	818,999	1,129,327	80,041	725.2	70.9	10.2
1994-95	1,327,865	1,225,580	122,894	1,083.5	100.3	10.8
1995-96	1,793,469	875,195	152,992	2,049.2	174.8	11.7
1996-97	1,226,478	1,233,538	79,147	994.3	64.2	15.5
1997-98	1,534,326	1,292,669	130,345	1,186.9	100.8	11.8
1998-99	2,245,824	1,369,153	131,799	1,640.3	96.3	17.0
1999-00	2,290,018	1,435,222	140,734	1,595.6	98.1	16.3
2000-01	1,589,437	1,446,264	121,153	1,099.0	83.8	13.1
2001-02	1,485,272	1,513,945	135,996	981.1	89.8	10.9
2002-03	1,847,476	1,617,917	174,577	1,141.9	107.9	10.6
2003-04	1,608,349	1,478,750	173,166	1,087.6	117.1	9.3
2004-05	1,225,234	1,513,929	211,636	809.3	139.8	5.8
2005-06	2,611,486	1,762,839	237,501	1,481.4	134.7	11.0
2006-07	3,226,418	1,215,356	264,086	2,654.7	217.3	12.2
2007-08	2,634,701	1,596,955	203,694	1,649.8	127.6	12.9
2008-09	3,582,502	1,608,996	182,309	2,226.5	113.3	19.7
2009-10	3,233,364	1,640,878	161,074	1,970.5	98.2	20.1
Average	1,945,904	1,402,718	156,329	1,388.9	112.3	12.6

Note: Maize fertilizer included both subsidized (large part) and commercial

Source: Data contained in Table 4.3 and Table 4.8 in Chapter 4

The figures in Table 5.6 show the difficulty in unambiguously assigning production and yield levels to fertilizer use, utilising Malawi official statistics. This is without taking into account possible exaggerations in recent production levels discussed in Section 5.5 below. Yields have been high in the ISP period, relative to the long term average, but so too they were high in

1992-93, 1998/99 and 1999/00. Applying a simple linear regression to the yield trend provides a significant trend at the 0.05 level of confidence (the t-statistic for the β coefficient is 51.5, p=.022)[51]. The trend shows yields rising at 51.5 kg/ha per year. It can easily be seen why the Starter Pack scheme (SPS) is regarded in Malawi maize history as a successful policy, since yields in the two years of SPS were as high as in two of the first three years of ISP. Even in the officially best ever season of 2006/07, average yields (given the pattern of cultivation between varieties provided in Table 1.4 and Figure 1.3 in Chapter 1) do not approach the target yields that MoAFS regards as possible with a high input/high output smallholder production regime. According to MoAFS estimates it should be possible for smallholder maize in Malawi to attain 3,000 kg per ha for local maize, 5,000 kg per ha for OPV maize and 10,000 kg per ha for hybrid maize (Government of Malawi 2007c, p.41, 2010d, p.53).

The last two columns of Table 5.6 show the average application rate of fertilizer on maize (total fertilizer/total area) and the average product of fertilizer (total output/total fertilizer). The application rate provides an ambiguous time series. This is because official maize area is actually estimated harvested area, and in a drought year area harvested can be substantially less than the area originally sown to maize. The average application rate is 112.3 kg fertilizer per hectare. A time-series regression on application rates does not show any significant upward trend over the period (the t-statistic for the β coefficient is 2.4 and p=.110). The trend shows fertilizer application rate rising by a mere 2.4 kg/ha per year (from 93.8 kg/ha in 1009/91) over the twenty year period from 1990 to 2010.

The average product of fertilizer (final column of Table 5.6) provides yet another different view of productivity trends in maize over the past twenty years. The productivity of fertilizer in rainfed maize is of course highly dependent on weather events and especially on the pattern of rainfall in the sowing and cultivation period. It also depends on the correct timing of fertilizer applications, since applications too late in the growing season (due to late delivery of supplies) have less positive effects on final yield than the correct applications in the mid-growth period. The average product of maize fertilizer in Malawi seems to vary with no discernable trend, and this is confirmed by the simple regression against time which finds no

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[51] In this and subsequent paragraphs the simple regression y=α+βt is applied to the different productivity time series, where y is the productivity indicator, t is time, α is a constant, and β is the change coefficient. The test for the existence of a positive or negative trend is H_0: β is not significantly different from zero.

statistically significant trend (the t-statistic of the β coefficient is .236, with p=.164). When taken in conjunction with the other findings here, time series data on maize-fertilizer productivity relationships do not firmly demonstrate rising efficiency in maize production over the past twenty years, even in the presence of the final five years in the time series when the ISP was in full implementation.

The second, and rather different, aspect of efficiency in relation to the fertilizer subsidy is the cost efficiency of delivering the subsidy to its beneficiaries. The idea of cost efficiency has already been suggested above: a given level of subsidy incurs costs in its delivery to recipients and the size of these costs relative to the subsidy itself is an indicator of the 'value for money' that the government achieves in making such as subsidy available to a designated group of its citizens. It is immediately evident that cost efficiency is different from cost-benefit analysis. The latter seeks to assess the financial or economic returns to an investment by attaching monetary values to current and future streams of costs and benefits and bringing the two into comparison. Cost efficiency has the more limited scope of specifying an objective and then examining the costs incurred in achieving it. In the current context, the objective is providing 1.7 million farmers (2005/06 to 2009/10 target) with a subsidy on the market value of their farm inputs, and the costs incurred are all those activities listed in the preceding section of this chapter to do with selecting beneficiaries, issuing coupons, moving fertilizer to distribution points and redeeming coupons for fertilizer sales.

Cost efficiency is a common tool for comparing performance in the delivery of social welfare benefits to people. It is less common for an intervention like an input subsidy which has evident production objectives, and which is therefore susceptible in principle to cost-benefit analysis in which the cost of provision (including the subsidy itself) can be compared to the output gains realised (see discussion in Dorward *et al.* 2008). However, cost-benefit analysis may be difficult to calibrate in practice due to the effect of 'other variables' (such as rainfall), and lagged effects on soil fertility and good cultivation practices. Cost efficiency, on the other hand, is relatively tractable since the transfer (the amount of subsidy) can be calculated from the difference between the purchase price and the coupon price of the inputs, and the costs of delivery should be available from the agencies responsible for issuing coupons, distributing fertilizer, and managing the programme. Cost efficiency can be expressed in two different ways. If it costs US$2 in administrative and delivery costs to provide US$10 per month subsidy, then the ratio of the subsidy (US$10) to total outgoings (US$12) provides a cost-

efficiency ratio of 0.83 (this is sometimes called the 'alpha ratio'). Alternatively, the reciprocal of the alpha ratio (1.20) tells us the total budget required to deliver US$1 worth of subsidy to beneficiaries (Ellis *et al.* 2009, p.86).

In relation to the ISP, Dorward *et al.* (2008) provide data on both the size of the subsidy and the costs of provision for the fertilizer component of the 2006/07 programme. The unit cost of fertilizer procurement by government into store was US$434 per ton (MK3,038 per 50kg bag), and the fertilizer coupon price as we have seen was MK950 per bag. Therefore the subsidy was MK2,088, or a subsidy rate of 69 per cent of the into-store procurement cost. The grand total cost of fertilizer delivery was MK11.9 billion, equivalent MK3,439 per bag (given a delivery quantity of 173,000 tons). Deducting the average price paid by farmers as contribution towards this, the net delivery cost was MK2,489 per bag (MK3,439 minus MK950 bag). Therefore MK2,489 (US$17.8) was required to deliver MK2,088 (US$14.9) subsidy value, a ratio of US$1.19 needed to deliver US$1.00 transfer value (Ellis 2007). This estimate is low to the extent that it ignores (which it does) the draw down on existing administrative capacity (in MoAFS, ADMARC, and the DAs) in order to deliver the input subsidy.

Table 5.7 provides data obtained by the author from the Logistics Unit regarding the delivery costs of the 2007/08 programme. This estimates total costs of MK16.4 billion, of which MK10.9 billion are stated as government outlays on fertilizer contracts, leaving MK5.5 billion as delivery costs. In 2007/08, 216,553 tons of subsidised fertilizer were sold (see Table 4.7 in Chapter 4) equivalent to 4.3 million bags, giving a delivery cost of MK1,280 per bag. According to the data in Table 5.5, the market value of fertilizer was MK4,199 per bag, and the subsidy was MK3,299. The recoupment of MK900 per bag (the price paid by farmers) needs to be deducted from the delivery cost to obtain a net cost. The outcome is MK3,679 to deliver a MK3,299 subsidy, a cost-efficiency ratio of 1.12. This seems remarkably efficient; however, figures in various different sources, referring to different aspects of the 2007/08 scheme, do not necessarily dovetail with each other. For example, the MK4,199 per bag estimated as the market value of fertilizer in 2007/08 (Table 5.5) would mean a government procurement cost of MK18.2 billion rather than the MK16.3 billion stated in Table 5.7. There are wide margins of error in many of the figures associated with the subsidy scheme, and the only area where a degree of confidence eventually occurs relates to the eventual charge made by the ISP against the government budget, which in 2007/08 was recorded as MK16.3.

Table 5.7: Costs of implementing the 2007/08 ISP programme

Cost Categories	Cost (MK m.)	% Total Cost
Programme Costs		
Seed voucher redemption	641.3	3.9
Flexible voucher redemption	264.2	1.6
Cotton chemical voucher redemption	33.0	0.2
Fertilizer Voucher redemption	3,434.1	21.0
Government Fertilizer contracts	10,864.7	66.4
Transport costs to and within unit markets	801.3	4.9
Recovery costs from unit markets	38.1	0.2
Known Voucher printing costs	12.9	0.1
Known SFFRFM operational costs	195.9	1.2
Logistics costs met through Government	26.3	0.2
Re-bagging costs (SFFRFM)	1.9	0.0
Total Programme Costs	*16,313.6*	*99.6*
Operational Costs		0.0
Logistics Unit HQ	28.5	0.2
LU SFFRFM depot staffing	3.9	0.0
Beneficiary registration	3.4	0.0
Voucher control staff	10.0	0.1
Monitoring ADMARC/SFFRFM sales	13.3	0.1
Total Operational Costs	*59.1*	*0.4*
Overall Total Costs	16,372.7	100.0

Note: percentages are author calculations.

Source: Government of Malawi (2008c)

5.4 Insights into the true functioning of the ISP

The treatment of the ISP so far given in this chapter has tended, with a few exceptions, to describe the programme according to the principles of its design in different years, and to examine resulting productivity relationships in terms of official time series data available from MoAFS. There is broad agreement amongst those that have evaluated or otherwise studied the ISP that the decisiveness of its introduction by the government in 2005, its ambition in terms of scale, and its implementation in terms of ensuring that coupons are allocated and fertilizer is available for purchase, are significant achievements which deserve due recognition. It also seemed at first that the outcomes of the ISP were unambiguously positive. The jump in official production from 1.2 million tons in 2004/05 to 2.6 million tons in 2005/06 was without precedent in the previous maize history of Malawi. Moreover, the impact of this increase in output could be visibly observed in maize price behaviour from May

2006 to December 2007 (Table 5.8 and Figure 5.3). The nominal price of maize declined from a peak of MK51 in February 2006 to a low of MK18 in June 2006 following a good harvest of the 2005/06 crop in April-May 2006. Due to the huge volume of maize available in markets following the 2006 harvest, the normal rise in prices in the following lean season was unusually muted, peaking at MK22 in December 2006. With another apparently record harvest in prospect in 2006/07, the maize price descended to a low of MK14 in May 2007.

Table 5.8: Nominal and Real Maize Prices 2006-2010 (MK/kg)

Month	2006		2007		2008		2009		2010	
	Nom.	Real*	Nom.	Real*	Nom.	Real*	Nom.	Real*	Nom.	Real*
Jan	41.68	18.20	21.18	8.50	33.6	12.47	69.22	23.50	45.29	14.26
Feb	50.67	22.44	19.22	7.89	39.69	15.09	70.57	23.28	46.47	14.17
Mar	45.95	21.06	18.21	7.75	43.53	17.08	65.27	21.63	43.75	13.38
Apr	27.46	12.68	16.03	6.89	35.41	14.00	45.36	15.41	37.57	11.81
May	19.07	9.00	14.26	6.28	32.85	13.26	34.19	11.96	30.51	9.90
Jun	18.31	8.19	14.61	6.11	37.91	14.49	32.98	11.93	29.81	10.03
Jul	18.76	8.35	15.63	6.49	42.99	16.30	35.57	13.02	29.7	10.13
Aug	19.30	8.36	16.86	6.80	55.52	20.43	37.29	13.96	30.77	10.74
Sep	20.39	8.62	18.04	7.09	53.38	19.08	38.74	13.78	30.95	10.29
Oct	21.32	8.58	20.76	7.76	54.33	18.45	39.98	14.13		
Nov	22.28	8.70	24.11	8.72	57.81	19.07	41.21	14.15		
Dec	22.45	8.82	28.67	10.41	63.35	21.00	41.74	13.87		

*real prices are nominal prices deflated by the CPI (2000=100)
Source: data underlying Table 4.10 in Chapter 4

Figure 5.3: Trend in Nominal Maize Prices in Malawi 2006-2010
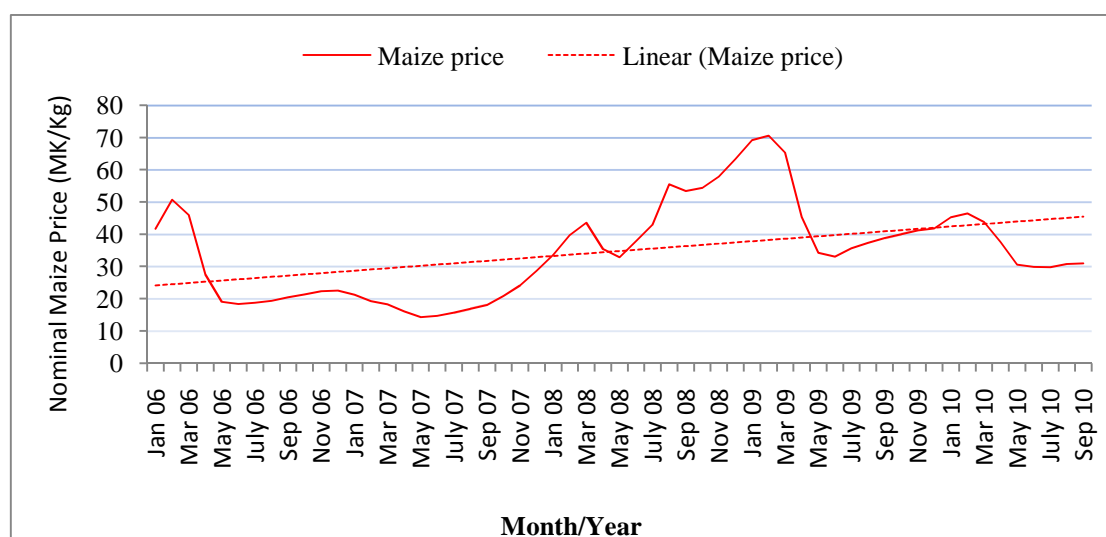
Source: Data contained in Table 5.8

A consideration of what subsequently happened to domestic maize prices and implications for the verity of harvest outcomes is deferred to the next section. Here the concern is to try to put together a more realistic picture of how the ISP has operated in practice than can be conveyed by its design features and well-publicised intentions. It is worth visualising a real situation: the rural economy of Malawi awash with fertilizer coupons (3-4 million coupons) that have represented an ever greater discount to the cost of full price supplies in successive years; the possibility open to virtually everyone dealing with the allocation of coupons or the distribution of fertilizer to realise personal gains by trading in some area of the margin between the subsidised and full price; the significance of coupon allocation for reward and allegiance in a neo-patrimonial political environment (Chapter 3); the exercise of power and control at local levels in determining who should receive coupons and who should not. Much of this picture is difficult to pin down empirically; however, small and large studies have been done by local researchers, certain types of data are available from programme operations and can be interpreted, some datasets have been collected specifically in relation to monitoring programme performance. In the rest of this section, insights into the true functioning of the ISP are derived from secondary sources and data sets, in relation to the following aspects: (a) distribution of coupons across districts; (b) beneficiary selection and allocation of coupons; and (c) use of coupons to acquire fertilizer.

5.4.1 Distribution of coupons across districts

The distribution of coupons to a stated number of households across districts in the ISP is freely available data, published by the Logistics Unit. In Table 5.9, this data is compared to the total number of farming households in each district for the TIP and ISP. This table also provides district level data on share of harvested maize area in the 2007/08 season, poverty rate as shown by district level IHS2 data, and the proportion of district households estimated to be at risk of missing food entitlements in the January to March period according to a World Bank study undertaken in 2007.

A first point to note from this table is that the proportion of households allocated coupons in each district varies considerably across districts in all seasons (Table 5.9). For example, in 2007/08, only 21 per cent of households in Nsanje district received coupons while in some districts the number of households designated to receive coupons exceeded the total number of farming households in the district (Mzimba, Rumphi). Second, there is considerable consistency in this variable allocation by district; for example, Dedza, Nkhota Kota, Nsanje

and Chikwawa are consistently the lowest recipients of coupons, while Chitipa, Rumphi, Phalombe and Thyolo are consistently amongst the highest recipients. Third, there seems to be no relationship between this variation in relative coupon allocation and other indicators that might suggest a district should be favoured for coupons such as maize area (share of district maize area in total national maize area), poverty rate or vulnerability to hunger.

Table 5.9: Comparing distribution TIP and ISP beneficiaries 2000/01-2009/10 (%)

District/ Region	TIP beneficiary[a]					ISP Beneficiary[b]				Mz Area[b]	Poor pop[a]	At risk pop[c]
	2001	2002	2003	2004	Avge	2006	2007	2009	Avge			
Chitipa	24	30	51	30	34	111	98	52	87	1.7	67	27
Karonga	57	63	61	63	61	19	50	41	37	1.4	55	7
Mzimba	30	38	33	38	35	92	102	41	78	8.3	51	30
NkhataBay	20	22	26	22	23	15	36	41	31	0.9	63	na
Rumphi	19	29	38	29	29	96	114	50	87	0.9	62	15
Dedza	26	31	40	31	32	32	45	30	36	6.3	55	30
Dowa	33	42	48	42	41	61	79	30	57	4.6	37	16
Kasungu	32	42	40	42	39	67	99	27	64	5.8	45	24
Lilongwe	22	29	35	29	29	82	90	34	69	11.1	38	18
Mchinji	41	43	42	43	42	72	85	42	66	5.5	60	18
Nkhotakota	36	35	36	35	35	20	42	37	33	1.2	48	46
Ntcheu	45	52	50	52	50	65	64	48	59	6.3	52	73
Ntchisi	41	46	50	46	46	80	91	34	68	2.3	47	35
Salima	49	59	50	59	55	45	67	39	50	2.5	57	64
Balaka	46	55	64	55	55	32	53	49	45	3.9	67	81
Blantyre	32	37	37	37	36	57	66	56	60	2.9	47	77
Chikwawa	47	60	58	60	56	6	23	15	15	2.3	66	80
Chiradzulu	54	38	42	38	43	51	56	52	53	2.0	64	80
Machinga	38	47	56	47	47	52	54	34	47	3.4	74	62
Mangochi	46	48	54	48	49	30	41	28	33	7.1	61	35
Mulanje	34	48	46	48	44	49	69	42	53	3.7	69	76
Mwanza	69	67	62	67	66	49	73	56	59	1.2	56	76
Neno						41	56	54	50	1.5		86
Nsanje	57	64	68	64	63	5	21	20	15	0.8	76	81
Phalombe	33	42	44	42	41	65	70	62	66	2.7	62	50
Thyolo	5	11	55	11	20	66	99	53	73	3.4	65	71
Zomba	38	46	48	46	45	43	49	42	45	6.0	70	62
Average	37	43	47	43	43	52	66	41	53	3.7	52	40
Northern	30	37	39	37	36	67	80	45	64	13.2	56	31
Central	32	39	42	39	38	58	74	36	56	45.6	47	36
Southern	40	46	53	46	46	42	56	43	47	40.9	64	71

Note:
  (1) 2001 refers to 2000-01 season, and so on.
  (2) Likoma district is not shown. Like Neno which in the past was part of Mwanza district, Likoma was part of Nkhata Bay district until as recent as 2002.

Source: [a]Government of Malawi (2005b, p.102) & [b](2008c, 2009e, 2010c); [c]Table 4.11.

Figure 5.4: District Distribution of TIP and ISP
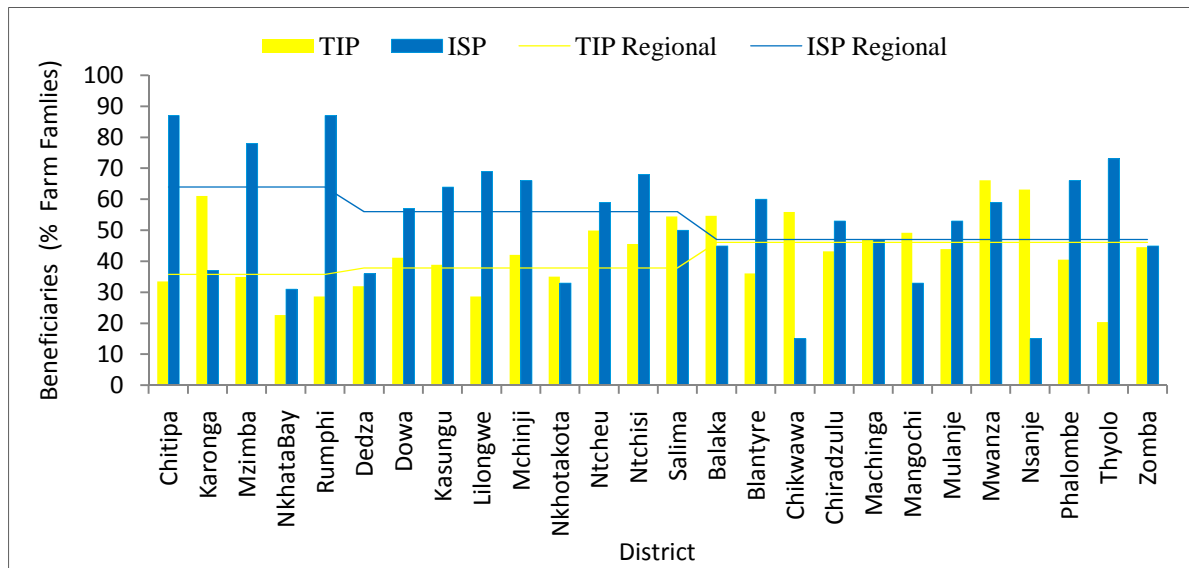
Note: TIP was implemented under UDF (Muluzi) government while ISP is under DPP (Mutharika).

Source: Data contained in Table 5.9

Table 5.10: Correlation matrix of ISP distribution and selected indicators

		Maize area 2007/08 (%)	2007/08 Benefic. (%)	2008/09 Benefic. (%)	2009/10 Benefic. (%)	Poor (%)	At risk (%)
Maize area 2007/08 (%)	Pearson Cor.	1	.306	.250	-.237	-403*	-.344
	Sig. (2-tailed)		.120	.209	.233	.041	.086
	N	27	27	27	27	26	26
2007/08 Benefic. (%)	Pearson Cor.	.306	1	.925**	.413*	-.294	-.437*
	Sig. (2-tailed)	.120		.000	.032	.145	.026
	N	27	27	27	27	26	26
2008/09 Benefic. (%)	Pearson Cor.	.250	.925**	1	.380	-.385	-.483*
	Sig. (2-tailed)	.209	.000		.051	.052	.012
	N	27	27	27	27	26	26
2009/10 Benefic. (%)	Pearson Cor.	-.237	.413*	.380	1	.066	.211
	Sig. (2-tailed)	.233	.032	.051		.747	.302
	N	27	27	27	27	26	26
Poor (%)	Pearson Cor.	-.403*	-.294	-.385	.066	1	.505*
	Sig. (2-tailed)	.041	.145	.052	.747		.010
	N	26	26	26	26	26	25
At risk (%)	Pearson Cor.	-.344	-.437*	-.483*	.211	.505*	1
	Sig. (2-tailed)	.086	.026	.012	.302	.010	
	N	26	26	26	26	25	26

* significant at the 0.05 level (2-tailed), ** significant at the 0.01 level (2-tailed)

Source: Data in Table 5.9

Several researchers have detected political undertones in these variations in relative coupon allocation (Chinsinga and O'Brien 2008, Murwira 2009, Smiddy and Young 2009). It seems that districts which are known strongholds of the ruling DPP tend to be allocated consistently high relative quantities of coupons (Mulanje, Thyolo and Phalombe), while districts which in Malawi are well-known as supporting opposition parties at elections tend to be allocated low relative quantities (Dedza, Nkhata Bay, Nsanje, Chikwawa, Mangochi, Nkhota Kota). In general, the distribution in ISP is a direct opposite of the distribution of TIP which apparently favoured UDF strongholds (Figure 5.4). Moreover, the allocation matrix that places substantial weight on past allocations means that once these biases have been built-in they then persist in subsequent years. Simple correlation analysis (Table 5.10) shows that relative allocations of the ISP have remained similar in paired years of implementation. It also shows that the relative allocations are poorly correlated with the indicators on last three columns of Table 5.9.

5.4.2 Beneficiary selection and allocation of coupons

Moving from the central allocation to districts to within-district allocation, several researchers have found evidence of widespread malpractice in beneficiary selection and assignment of coupons to households (Kadzandira 2007, Mgemezulu 2008) Available evidence regarding the 2006-07 allocation was summarised by (Ellis 2007) as follows:

(a) at sub-district level and down to community level, the handling of coupon allocations has been highly variable, with, in the worst instances, fraudulent loss of coupons to officials, politicians, policemen, chiefs and headmen;

(b) fraudulent practices have included splitting coupon booklets, giving villagers invalid single copies of coupons, using blocks of coupons to acquire fertilizer then sold on to farmers above the subsidised price, and many others;

(c) these instances resulted in widely varying access by ordinary farmers to coupons, and to physical fertilizer, in different parts of the country, across and within districts.

There are openly reported instances of fraudulent behaviour that nonetheless fail to provoke official outrage or censure or punishment, in effect allowing such behaviour to become institutionalised over time. For example, in 2007/08 allegations were made that cabinet ministers had at different times stolen quantities of between 50 and 400 thousand coupons,

but these allegations were never investigated (Nyirongo and Sonani 2007, Kashoti 2008). In the same season, delivery drivers were implicated in the theft of 500 tons of physical fertilizer, but were never prosecuted on the instruction of the government (Government of Malawi 2008c).[52] In the 2008/09 distribution of coupons, politicians were alleged to have shared some 150 thousand coupons between them without any subsequent follow-up (ADMIN 2009a). Many other examples, of varying gravity, could be cited since such instances are frequent news items throughout the coupon allocation period every year.

However, further than these fragmentary pieces of evidence or allegation, the more serious proposition has been advanced that the ISP is systematically permeated by institutionalised coupon syndicates comprising (a) politicians, including ministers, using political influence to obtain large blocks of coupons for sale; (b) government officials obtaining substantial quantities of coupons for sale; (c) traditional leaders on their own or as conduits for broader syndicates selling instead of distributing coupons, (d) workers at coupon printers stealing large quantities of coupons, (e) criminal groups printing and selling fake coupons or using fake coupons to buy fertilizer for resale (Tambulasi 2009b, pp.23-27). Irregularities in the management of the programme could help to explain weak accounting of subsidy resources, and reluctance of the government to produce transparent accounts of funds allocated to the programme. For example, the government at the time of writing the thesis had not yet produced accounts for the 2007/08 distribution, causing the Norwegian government in 2010 to reconsider their financial support to the programme. The government dismissed a request by the Norwegians for an audit report, stating the Norwegian government did not fund the ISP (Chipalasa 2010b).

Irregularities in coupon management are revealed empirically in the Agricultural Input Subsidy Survey (AISS) conducted by Michigan State University as part of the monitoring of the 2006/07 ISP programme[53]. The survey comprised a statistically valid sample of 3,298 households, matched to the sample frame of the IHS2. Bearing in mind that selected recipients should be entitled to at least two coupons (maize) and a maximum of four coupons (a further two for tobacco), the distribution of recipients by number of coupons produces

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[52] This was enough to have provided 5,000 beneficiary households with fertilizer at two 50 kg bags each. The full market value of this quantity was about MK100 million (US$0.72 million) in 2007/08.

[53] The dataset for the AISS was made available to the author by Michigan State University, and the data presented here was derived from the survey by the author.

interesting findings (Table 5.11)[54]. Forty-five per cent of the households in the sample received zero coupons; 25 per cent only one coupon; a further 25 per cent two coupons (the correct number for maize only or tobacco only recipients); and 6 per cent 3 or more coupons, including 1 per cent (41 households) who received 5 or more coupons. In addition there appears to be a land ownership bias in this coupon distribution indicating that larger land owners systematically acquire more coupons. Thus the proportion of coupon holders owning less than 0.5 ha descends from 30 per cent to 16-17 per cent as coupon allocation rises; whereas, inversely, the proportion owning more than 1 ha rising from 34 per cent to 73 per cent as coupon allocation rises. Mean land ownership rises from 1.1 ha (1 coupon holder) to 4.0 ha (holders of 5 or more coupons).

Table 5.11: Characteristics of households that acquired coupons in 2006/07

Characteristics	All HHs	No. of coupons acquired					
		0	1	2	3	4	5+
Distribution of HHs by coupons:							
Number of HHs (n)	3,298	1,487	808	817	64	81	41
Proportion of HHs (%)	100	45	25	25	2	3	1
HH land ownership (%):							
No land	4	7	1	2	0	3	0
Less than 0.5 ha	27	30	29	23	16	16	17
0.5 to 1.0 ha	29	30	28	28	28	22	10
More than 1.0 ha	41	34	43	47	56	59	73
Average Land (ha)	1.3	1.3	1.1	1.2	1.4	1.6	4.0
IHS2 poverty ranking (%):							
Ultra-poor	18	19	19	18	13	13	11
Poor	30	30	30	30	22	32	29
Non-poor	52	51	51	52	65	55	61
Not IHS2 sample	10	10	10	10	16	12	7

Source: Author analysis of July 2007 AISS data

5.4.3 Use of coupons

Acquiring a large number of coupons does not necessarily imply that those coupons are used by their holders to purchase fertilizer. The coupons may be sold, allowing their recipients to realise a cash income from being allocated them. In the same survey it was found that while

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[54] From 2009/10, the programme now targets maize only such that a beneficiary should be entitled to a maximum of two coupons.

subsidised fertilizer purchases rose in line with the number of coupons obtained, the quantity of additional fertilizer purchased departed increasingly from the quantity that could have been obtained for the given number of coupons. Moreover, zero allocation coupon holders nevertheless reported purchasing coupon fertilizer (Table 5.12). The average quantity of fertilizer rose from 61 kg to 119 kg across the range of incremental coupon holders (from zero to 5+); however, had these coupon holders (who acquired more than five coupons) used their coupons to purchase the exact amount to which they were entitled, the minimum quantity of fertilizer would be 1750 kgs, translating into 500 kg of fertilizer equivalents of unredeemed coupons. In effect, higher coupon holders progressively used less of their coupons to purchase fertilizer, implying that they must have sold them in a coupon 'parallel market'.[55]

Table 5.12: Fertilizer quantities acquired by number of coupons in 2006/07

Category	All HHs	No. of coupons acquired						P-value
		0	1	2	3	4	5+	
Number of observations (n)	3298	1487	808	817	64	81	41	
Subsidy fert acquired (kg)								
Mean	70	61	63	90	65	102	119	.226
Std Deviation	312	367	189	318	70	278	211	
Minimum	0	0	0	0	0	0	0	
Maximum	7,500	7,500	5,000	5,000	350	2,500	1,250	
Acquired less expected (kg)								
Mean	20	61[a]	13[ab]	(10)[ab]	(85)[b]	(98)[b]	(299)[c]	.000
Std Deviation	317	367	189	318	70	278	322	
Minimum	(1,750)	0	(50)	(100)	(150)	(200)	(1,750)	
Maximum	7,500	7,500	4,950	4,900	200	2,300	200	

Figures denoted by different letters are significant at 0.05.

Note:
(a) Subsidy fertilizer acquired refers to quantities of fertilizer that were acquired regardless of whether one had acquired coupons or not.

(b) 'Acquired less expected' refers to quantities that were acquired when they should not or were not acquired when they should be, given the number of coupons acquired. For example, non-coupon holders ended up acquiring an average of 61 kg of fertilizer. Holders of one coupon where expected to acquire 50 kgs but actually acquired 63 kgs, an additional 13 kgs. Figures in brackets are negative, suggesting quantity of fertilizer (kg) which were expected given the number of coupons but not acquired. For example, a holder of 4 coupons was expected to acquire 200 kgs but actually acquired 102 kgs, a shortfall of 98 kgs.

Source: Author analysis of 2007 AISS data

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[55] No doubt some of them were freely given to family or friends, but on a large scale it is safest to assume that there is a coupon market that reallocates coupons between those that do not need them, or cannot afford the subsidised price for the fertilizer, and those that are seeking to purchase additional fertilizer.

The existence of multiple governance issues surrounding the ISP does not necessarily mean that the subsidy is ineffective in achieving improved food security overall in Malawi. It must be supposed that most of the subsidised fertilizer ends up on farmers' fields, even if the farmers that utilise the fertilizer are not the same as those who were designated to receive coupons.[56] In effect, an administrative allocation system for distributing vouchers becomes a market allocation system as a consequence of leakages from the administrative template and coupon recipients voluntarily relinquishing them in exchange for cash. The most probable outcome of this process is that fertilizer ends further up the rural wealth distribution than was intended in the plans, and this is not unusual in the history of subsidised fertilizers in Africa (Chapter 2 above). From a production viewpoint, the net effect could be positive if richer farmers are able to make better use of complementary inputs than poorer farmers, resulting in higher maize yields overall. There is even some indirect evidence of this occurring, with increased demand for labour in rural areas causing a rise in rural wages (Dorward and Chirwa 2009).

However, production effects are only part of the picture, and the vision of the subsidy put forward by Tambulasi (2009b) is a serious issue with its implication that the subsidy may be entrenching institutionalised unlawful behaviour throughout the political and administrative structure of rural Malawi. If this were the case, then it would also mean that the subsidy will be exceptionally difficult for any future government of Malawi to reduce or discontinue due to the pervasive vested interests with which it has become associated. It is not an objective of this thesis to pursue this line of thinking any further, especially as many of the arguments tend to be speculative and difficult to verify factually. However, what is important for this thesis is the degree to which the ISP provides a genuine advance in Malawi's struggle to reduce the exposure of its poorer citizens to recurrent lack of sufficient food and inadequate nutrition. For this the output effects of the ISP are critical, since they determine, first, whether the annual food gaps of food-deficit farmers have narrowed since the ISP was introduced; and, second, whether market price volatility in the lean season has diminished, therefore better enabling food-deficit households to purchase food in that period. It is to these questions that this chapter now turns.

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[56] The consideration that would undermine this supposition is significant leakage of subsidised fertilizers into neighbouring countries. On this there is anecdotal evidence, but as far as this author is aware no systematic study has been undertaken to reveal the extent of such leakage in any of the areas where cross-border informal trade is commonplace.

5.5 Reconsideration of the Output Effects of the ISP

The foregoing discussion of the strengths and weaknesses of the ISP as a vulnerability reduction strategy in Malawi refers to the significance on the strengths side of the size of production gains achieved by the policy. This section proposes to probe these production gains more deeply, bearing in mind that several leading authorities on food markets in eastern and southern Africa consider the official figures to be implausibly high, particularly in view of maize price behaviour in 2007 and 2008 (Jayne *et al.* 2008, Tschirley and Jayne 2010). If output gains are as suggested in official figures then several positive benefits should ensue: market supply will increase due to yield gains experienced by maize surplus farmers; food deficit farmers should see their annual 'food gaps' decrease for the same reason; the seasonal maize price rise should be on the low side of the long term average (which is pulled up by extreme price episodes); and rural wages should rise as more labour is demanded in farming and related activities.

As already verified at the beginning of the preceding section, the initial claims of ISP success seem amply justified by market responses. Production jumped from 1.2 to 2.6 million tons from 2004/05 to 2005/06, and the market price declined in nominal terms from MK50.67 per kg to MK18.76 between February and July 2006. Due to high expectations of an even more spectacular harvest in 2007, nominal prices reached a historic low in May 2007 of MK14.26 (price data in this paragraph refer to Table 5.8 above). The proof of a harvest of a particular magnitude lies, of course, in price behaviour in the months following the harvest rather than the predicted harvest level before the event. In the case of the 2006/07 harvest, prices began to rise surprisingly soon after the harvest, gathering momentum through the end of the year to temporarily peak at a nominal level of MK43.53 in the January-March 2008 lean season, before then resuming an upward trend that reached MK70.57 in February 2009.

Table 5.13 and Figure 5.5 below show this price behaviour in annual terms in historical perspective. For this purpose, the CPI was rebased to calendar year 1996, so that real prices (nominal prices deflated by the CPI) are denominated in 1996 terms. In addition to showing the nominal and real annual retail maize price trend, the graph also shows the average real maize price for the period 2001-10 (up to Sept 2010). The data and graph are illuminating. In general, real maize prices rose over the decade of the 2000s. In addition, and standing out very clearly in Figure 5.5 real maize prices rose to unprecedented high levels in the period 2007 to 2009 before beginning to decline towards the long run average later in 2009 and in 2010.

Table 5.13: Nominal and Real Maize Prices in Malawi, 2001-10

Year	Nominal MK/kg	Real* MK/kg
2001	12.29	23.85
2002	20.25	33.18
2003	13.33	19.42
2004	15.73	20.37
2005	21.81	24.03
2006	27.30	27.57
2007	18.97	17.48
2008	45.86	38.69
2009	46.01	36.75
2010	37.31	28.31
Average	25.89	26.97

* deflated by the CPI rebased to 1996=100

Source: price data contained in Table 4.16 in Chapter 4

Figure 5.5: Nominal and Real Maize Prices 2001-10
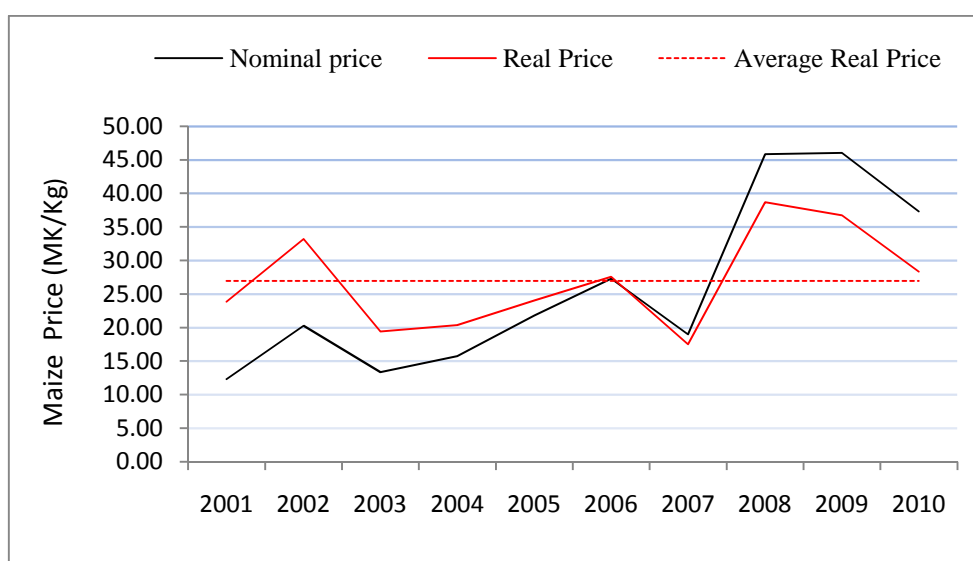
Source: Table 5.14 above

It is tempting to find a cause for this price behaviour other than questioning domestic production figures. The 2007-08 international spike in the price of grains is the explanation most readily to hand, and has been deployed by the Malawi government as an explanation. However, the international food price crisis was not synchronised even closely with Malawi price events (world prices were declining steeply as the Malawi maize price was rising through 2008), and previous analysis has shown that in countries like Malawi and Zambia with significant barriers (both geographical and administrative) to external maize trade, domestic

maize prices tend to be decoupled from world prices and reflect far more the balance of supply and demand in the domestic market (Jayne *et al.* 2006b).

To gauge fully the strangeness of the 2007-09 real price rise in Malawi, the estimated maize surplus generated by the officially record harvests of this period can be examined in the comparative context of preceding years. Table 5.14 and Figure 5.6 show maize surpluses and deficits from 1991 to 2010 calculated from official production figures and a consumption trend derived from average maize consumption per capita discussed in Chapter 4. This follows population growth with a constant maize requirement per capita of 158.4 kg (see Table 4.18 above).[57] The previous instability of the Malawi maize market is apparent, as also is the prevalence of market deficits in the 2000s, culminating in the very poor harvest of 2004/05. Overall, up to 2004/05, there had been nine deficit and six surplus years since 1990/91. This then gives way in startling fashion to a succession of huge surpluses from 2005/06. As observed in a previous chapter, whereas average production from 1990/91 to 2004/05 was 1.55 million tons, from 2005/06 to 2009/10 it was 3.06 million tons. In this later period, estimated maize surpluses in the domestic market were 1 million tons per year on average, or cumulatively 5 million tons since the ISP started. Another reason put forward for the steeply rising prices experienced in 2008 was a 400,000 ton export sale to Zimbabwe from the 2006/07 harvest; however, this should have been easily accommodated in the context of the 3.2 million ton harvest proclaimed for the 2006/07 season.

The maize balance sheet figures of Table 5.15 below, coupled with annual price change data, permit some, admittedly fairly crude, estimates of the likely magnitude of underlying changes in maize harvests that price trends in 2007-09 were indicating. Here, the relevant price change is for 12-month periods from May of one year to April of the following year, capturing the seasonal cycle of maize prices in successive years. The price rises or falls from one maize year to the next can be treated as responses to surpluses or deficits coming into existence at the preceding harvest. In other words, the May 2007-April 2008 average price reflects the outturn in the 2007 harvest season; and the price change from 2006/07 to 2007/08 reflects the degree to which 2006/07 production (harvested in May 2007) meets consumption requirements through the 2007/08 crop season.

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[57] For this purpose it does not matter if the assumption of a constant consumption per capita is rather unrealistic. The magnitudes of surplus or deficit are generally so large compared to an assumed relatively stable consumption trend that more refined annual consumption estimates would make negligible difference to what is portrayed.

Table 5.14: Maize Balance Sheet 2000-10

Year	Production (Tons)	Consumption Needs (Tons)	Surplus or Deficit (Tons)	Surp/Deficit (% Production)
1991	1,589,377	1,369,746	219,631	13.8
1992	657,000	1,397,156	-740,156	-112.7
1993	2,033,957	1,425,114	608,843	29.9
1994	818,999	1,453,632	-634,633	-77.5
1995	1,327,865	1,482,720	-154,855	-11.7
1996	1,793,469	1,512,391	281,078	15.7
1997	1,226,478	1,542,655	-316,177	-25.8
1998	1,534,326	1,573,525	-39,199	-2.6
1999	2,245,824	1,613,225	632,599	28.2
2000	2,290,018	1,653,927	636,091	27.8
2001	1,589,437	1,695,656	-106,219	-6.7
2002	1,485,272	1,738,437	-253,165	-17.0
2003	1,847,476	1,782,298	65,178	3.5
2004	1,608,349	1,827,266	-218,917	-13.6
2005	1,225,234	1,873,368	-648,134	-52.9
2006	2,611,486	1,920,633	690,853	26.5
2007	3,226,418	1,969,091	1,257,327	39.0
2008	2,634,701	2,069,705	564,996	21.4
2009	3,582,502	2,121,924	1,460,578	40.8
2010	3,233,364	2,175,460	1,057,904	32.7
Average	1,928,078	1,709,896	218,181	-2.1

Note: Maize Price and consumption in 1991, for example, is associated with 1990-91 production and so on. Negative figures denote maize deficits.

Source: As explained in the text above

Figure 5.6: Calculated Maize Surpluses and Deficits 1991-2010
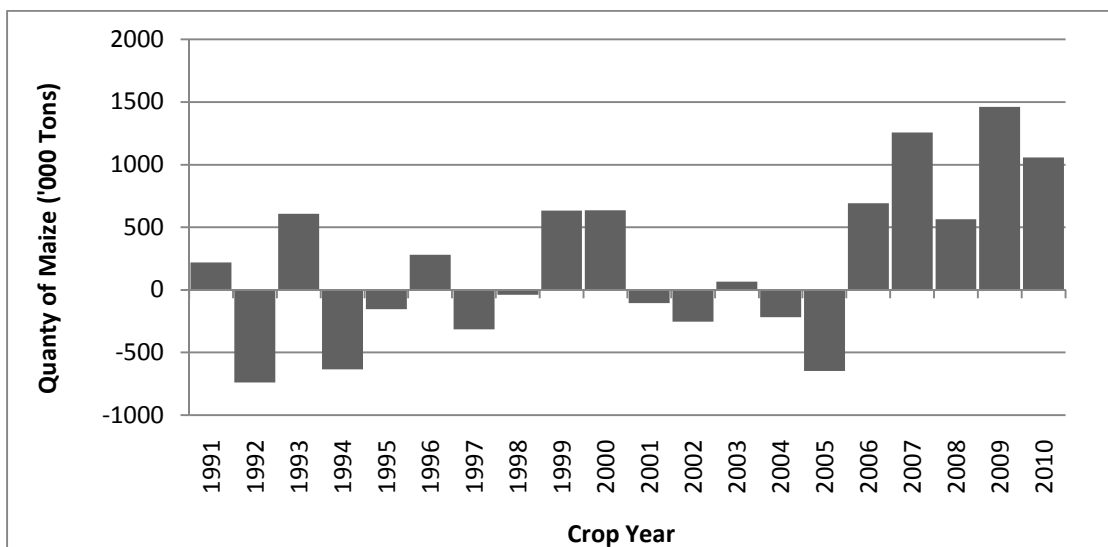
Source: Data contained in Table 5.14

A modest simulation exercise is conducted in Table 5.15 below. In this price changes are related to consumption needs via a provisional assumption that the elasticity of consumption with respect to price changes is 0.5.[58] This means, for example, that a 50 per cent price rise would be indicative of a 25 per cent fall in availability relative to the consumption needs figure. This gives rise (in the fourth column) to a calculated surplus or deficit (from price changes and the consumption trend), and thence to a calculated production level (fifth column) which is compared (in the sixth column) with official production estimates.

Table 5.15: Simulation of Production Levels Based on Price Movements

Crop Year	Consumption Needs (tons)	Real Price Change %	Calculated Surplus/Deficit (tons) [1]	Calculated Production (tons)[2]	Official Production (tons)[2]
2004/05	1,873,368				
2005/06	1,920,633	61.7	-592,515	1,328,118	1,225,234
2006/07	1,969,091	-39.0	383,973	2,353,064	2,611,486
2007/08	2,069,705	0.0	0	2,069,705	3,226,418
2008/09	2,121,924	126.7	-1,344,239	1,177,685	2,634,701
2009/10	2,175,460	-29.0	315,442	2,490,902	3,582,502

Notes:

(1) calculated as described in the text assuming an elasticity of consumption with respect to price of -0.5

(2) both calculated and official production refer to the preceding season relative to the consumption season i.e. 2009/10 consumption is related to the 2008/09 production year, the harvest for which occurred in Apr-Jun 2009

Source: Table 5.14 above; author's calculations based on average real maize price data.

Surprisingly, this rather blunt approach works quite well for years when production estimates may have been fairly accurate; thus, for 2005/06 a 62 per cent price rise indicates an output in the preceding harvest of 1.3 million tons (official production 1.2 million tons), and for 2006/07 a 39 decline in price gives rise to an estimated output of 2.4 million tons (almost the same as the official figure of 2.6 million tons). However, for 2007/08 to 2009/10 this procedure yields figures that diverge sharply from official production. Taking into account an export figure of 400 thousand tons taking place during 2007-08, calculated harvests indicate a drop in output in

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[58] The elasticity of demand with respect to price for staple foods in low income countries varies according to substitution possibilities and income, such that low substitutability (applying to maize in Malawi) results in low price elasticity (range 0.2 to 0.5) while low income can work in the opposite direction if substitute foods are acceptable and available (Pinstrup-Andersen 1985). The figure of 0.5 here is a trial figure used for illustrative purposes.

2007 as compared to 2006, and a further drop in 2008. The size of the gap between estimated and declared harvests is certainly much too large; nevertheless, its direction points to significant overestimates of production in the period 2006/07 to 2008/09.

Table 5.15 should be interpreted perhaps more as an indicator of plausible directions of change in production than as firm predictions. It suggests that the only ISP year for which a degree of confidence can be attached to official maize harvest figures is 2005/06 (harvest occurring in May 2006). It is this year, of course, which led to justifiable (at the time) claims for the success of the programme, and resulted in donors softening their initial antagonism to it. Real price changes in 2007-09 (as shown in Table 5.8) demonstrate, if nothing else, that the direction of change in harvests must have been downward rather than upward in the 2007 and 2008 harvests, and even if these drops in production were minimal (say a fall of 200,000 tons in each of those years), this would still mean a gap of 400-600 thousand tons a year to the official figures in those years (see also Jayne *et al.* 2008, Jayne and Tschirley 2009).

There are, of course other factors that may have contributed to the steeply rising maize prices in 2007-09; although in the view of this thesis these are not sufficiently powerful to overturn the likelihood of production overestimates in the 2007 and 2008 harvests. One such factor is hoarding of grain after harvest by private traders; another is cross-border exports of maize; and a third is the timing of the government's total ban on private maize trade. Relevant to all these arguments is the consideration that traded maize in Malawi is a small fraction of total production, which can cause small changes in availability to result in big price changes. Nevertheless, detailed quantitative economic analysis has demonstrated that private maize trade in Malawi is competitive and efficient (Myers 2008), implying that hoarding can only occur if all traders concur that an impending shortage will drive up future prices. Moreover, cross-border informal trade (monitored by FEWSNET) displays negligible exports and high net imports of informal maize in both those seasons (FEWSNET 2009).[59] The timing of the ban on private trade may indeed be relevant, but only in the context of an underlying shortage already causing strong upward pressures on prices.

The foregoing conclusion receives support from an entirely different direction. Quite independently of the various MoAFS area, production and yield estimates for maize and other

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[59] FEWSNET data shows cross-border maize imports of 79,581 and 57,582 tons in 2006/07 and 2007/08 respectively. Meanwhile estimated informal exports in the same years were 3,721 and 7,115 tons (FEWSNET 2009).

crops, the Malawi Vulnerability Assessment Committee (MVAC) undertakes annual surveys of livelihood zones across Malawi in order to obtain estimates of the location and size of rural populations at risk of 'missing food entitlements', and therefore potentially requiring remedial action in the next lean season. These figures are produced in June each year, and take account of harvest data reported by households within their Household Economy Approach (HEA) methodology (discussed in Chapter 4 above). The key data is summarised in Table 5.16 below.

Table 5.16: Areas of tension between MVAC figures and maize production estimates

MVAC Report	Maize estimates		Population at risk of missing food entitlements		Maize equivalents requirement		Affected districts (out of total 28 districts: 13 South, 9 Centre, 6 North)
	Crop Season	Surplus (%)[a]	NO	%[b]	Tons	%[c]	
May-05	2004-05	-35.7	4,224,400	35.7	269,400	17.9	All districts
Jun-06	2005-06	16.7	833,000	6.9	57,300	2.2	16 districts (8S, 5C, 3N)
Jun-07	2006-07	34.5	519,200	4.2	'Watch'		8 districts (5S, 1 C, 2 N)
Jun-08	2007-08	15.7	1,490,146	11.4	56,459	2.0	17 districts (13S, 2 C, 1N)
Jun-09	2008-09	34.8	147,492	1.1	6,678	0.2	3 in south
Jun-10	2009-10	22.6	1,061,625	7.7	45,366	1.4	15 districts (13S, 1C, 1N)

Notes:
(a) Official government position (see Table 4.9)
(b) Author calculations based on population estimates in Table 4.2 (chapter 4)
(c) Author calculations based on official figures in Table 4.9 (chapter 4)

Source: Compiled from MVAC Reports described in Chapter 4.

Taking 2004/05 as a starting point, MVAC findings in May 2005 were entirely compatible with a very poor harvest. A total of 4.2 million people across all districts are identified as at risk of hunger in the following lean season. In June 2006, this figure drops dramatically, and drops again in June 2007 (probably reflecting, as do other data, a continued maize surplus overhang from the very successful 2006 harvest). However in June 2008, MVAC estimates are thrown into reverse, with a rise to 1.5 million people across 17 districts predicted to have insufficient food entitlements. This coincides with the steep price rises noted for 2008, and the government suppressed the MVAC report and delayed its publication due to the unwelcome predictions that it put forward. The June 2009 report curiously shows an almost negligible hunger problem, but the June 2010 report again suggests a deficit of maize in the market and serious risk to over one million people in 15 districts (out of 28 districts). Overall, MVAC findings do not support a picture of the Malawi maize economy that is so awash with maize as a result of successive record harvests that hunger is banished for all but the least fortunate in Malawi rural society.

5.6 Summary

This chapter describes and assesses the success of the input subsidy programme (ISP) that has been implemented in Malawi since the 2005/06 agricultural season. This is the flagship government policy for reducing rural vulnerability in contemporary Malawi, and it builds on a long history of farm input subsidies in post-independence Malawi history. The ISP is highly charged politically in all its aspects. It is popular with the mainly rural electorate, and there is a trend to increase the rate of subsidy in successive years. A plan is already in place to extend its implementation to at least the crop year 2015/16.

The Malawi government represents the ISP to the outside world as wresting the policy initiative from the donors and international financial institutions, and achieving food security through a truly national approach (Chinsinga 2007a). The incumbent President Dr Bingu wa Mutharika has received several awards for the publicised achievements of the policy: the International Award for Food Security by Food and Agriculture Natural Resources and Policy Network (FANRPN) in 2008; the Agricola Medal by the Food and Agriculture Organisation (FAO) in 2008; and the Drivers of Change Award by the Southern Africa Trust in October 2009 (Jayne and Tschirley 2009). The latest such recognition is an honorary professorship of Economics by the East China Normal University in 2010.

The chapter describes the massive logistics of distributing 130,000 tons and more of fertilizer to between 1.4 and 1.7 million farmers, using a coupon system. These logistics involve determining the geographical distribution of coupons, allocating these coupons to farmers at the local level, moving fertilizer from border entry points to depots throughout the country, redeeming coupons for fertilizer at sales outlets at the subsidised price, and returning receipts from sales to the central government. This operation is conducted every year mainly by public sector bodies, with the Ministry of Agriculture and Food Security at the apex, and private sector agents have been permitted variable roles, under contract, in different years. The ambition and scale of the programme has been admirable, and it is widely agreed that the scheduling and timeliness of coupon and fertilizer distribution has in general been well done.

Nevertheless there are documented aspects of the programme which give rise to a degree of doubt about its true effectiveness in achieving a sustainable reduction in poverty and vulnerability in Malawi. The allocation of coupons between districts seems possibly to reflect political as much as agricultural or economic criteria; there is widespread reportage of coupon

misappropriation, including by senior politicians and civil servants; and field studies have shown extensive misallocation at the small scale in local areas involving village leaders, district councillors, local civil servants and the police. There is evidence from field studies conducted by local researchers to show that a secondary market in coupons exists, and this market tends to redistribute subsidised fertilizer from poorer to better off farmers. This is to be expected with a subsidy that has reached around 90 per cent of the full cost price of commercial fertilizer in recent years, and there is the additional possibility not yet verified that there may be substantial leakage of fertilizers into adjacent countries (Mozambique, Tanzania, Zambia).

From the viewpoint of this thesis, it is the output claims of the ISP that are critical. If the ISP fails to prevent food deficit rural households from experiencing nutritional deprivation in the lean season every year, then its claims to have brought Malawi into an era of food security for all become legitimately questionable. In fact, the period from August 2007 to March 2009 saw the most severe seasonal price spike in Malawi history, unusually maintained across two successive lean seasons. The chapter uses simple economic deduction to show that the output claims for the 2006/07 and 2009/10 maize harvests cannot have been anything like as high as are claimed by official maize production figures. The exact degree of such exaggeration is of course difficult to pin down. This author is not the first to suggest these discrepancies; however, the attempt made in the chapter to get some purchase on their approximate size has not been done by other researchers. There are two implications for the thesis that arise from the findings of this chapter: one is that the ISP has not turned out to be as efficacious for achieving national level food security as it is claimed to have done; and another is that whatever its effects on total maize production, it may still leave a substantial proportion of the poorest rural citizens exposed to missing food entitlements in the lean season every year The next chapter examines an alternative approach to achieving food security of the poorest members of rural society, represented by poverty targeted social cash transfers.

Chapter 6: Social Cash Transfers in Malawi

6.1 Origins of social cash transfers in Malawi

In September 2006, Malawi started a pilot social cash transfer (SCT) scheme in Mchinji district. It was motivated strongly by an external consultant to UNICEF Malawi, Dr Bernd Schubert, who had formerly been responsible for the design of a social cash transfer pilot in Zambia, the Kalomo social cash transfer scheme. The Kalomo scheme had been set up in November 2003 as a social welfare intervention for households mostly headed by the elderly, widows, children, chronically ill persons, and the disabled, most of which were affected by HIV/AIDS.[60] These groups were deemed to be ultra-poor, labour constrained and with higher than average dependency ratios, and unable to provide for basic needs such as food, health and education (Schubert 2003). In the programming of the Kalomo and similar social cash transfer pilots in countries such as Malawi, these groups were described as the 'non-viable' or 'incapacitated' poor. The Kalomo pilot scheme was a touchstone at an African Union social protection conference that Zambia hosted in the town of Livingstone in March 2006.[61] The conference recognised positive impacts of regular cash transfers on the lives of poor people. This led to a 'Livingstone Call for Action' to introduce and institutionalize social cash transfers as major components of national social protection policies and programmes (African Union 2006). Several countries have since introduced or scaled up different variants of social cash transfers, including Ghana, Kenya, Uganda, Rwanda and Malawi (Schubert 2007a).

Since 2004, the UNICEF office in Malawi has advocated the mainstreaming of social cash transfers into national development policies and budgets. In 2006, it organised a study tour for government officials to learn about social cash transfer programmes in Zambia and Brazil. It also supported a consultancy for the Department of Poverty and Disaster Management Affairs to design and test a pilot social cash transfer scheme. It provided initial funding for the project preparation phase, and start up funds amounting to US$872,534 that covered the period January 2006 to December 2007, until funding was sought, and eventually obtained, from the

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[60] The recommendation for a social cash transfer pilot in Zambia was first made in a GTZ study, Social Welfare Interventions for AIDS Affected Households, for the Ministry of Community Development and Social Welfare in March 2001. By August 2003, GTZ helped the Social Safety Net Project in the Ministry to design a pilot social cash transfer scheme which was first implemented in two agricultural blocks of Kalomo District. The scheme was launched in 2004 and by December that year, it had been rolled out to over one thousand households. The Kalomo scheme became the first of its kind in eastern and southern Africa (Schubert 2003)

[61] The participating governments at the conference were Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mozambique, Namibia, Rwanda, South Africa, Tanzania, Uganda, Zambia and Zimbabwe.

Global Fund for AIDS, Tuberculosis and Malaria (Global Fund) that assists countries to respond effectively to a high incidence of HIV/AIDS. In June 2006, Mchinji district in central Malawi was selected for the pilot social cash transfer scheme. The objectives of the pilot scheme were to: (a) reduce poverty, hunger and starvation in all households living in the pilot area that are ultra poor and at the same time labour constrained; (b) increase school enrolment and attendance of children living in target group households; and (c) generate information on the feasibility, costs and benefits, and on the positive and negative impact of social cash transfers as a component of a possible future national social protection programme (Schubert and Huijbregts 2006, p.9, Miller *et al.* 2008b, p.11).

From the outset and in line with the 'Kalomo principles', the pilot social cash transfer programme in Malawi decided to target what were called the 'ultra poor labour constrained' households. As mentioned earlier, other expressions used in the early documentation of the scheme to describe this social group were the 'incapacitated poor' or the 'non-viable poor'. The targeting of the social cash transfers follows a 'one in ten' basic model deduced by Dr Schubert and colleagues, in this chapter referred to as the 'Schubert targeting rule', at the time of devising the original Kalomo scheme in Zambia. The thinking asserts that the 'ultra poor labour constrained' correspond to roughly ten per cent of all households in countries like Malawi and Zambia. The starting point for identifying this group in Malawi was to use the IHS2 (described in Chapter 4) to divide all households into four different categories: (1) poor, low dependency households; (2) poor, high dependency households, (3) ultra-poor but low dependency households, and (4) ultra- poor, high dependency households.

Figure 6.1: Identifying 10 per cent of Malawi households in need of social cash transfers
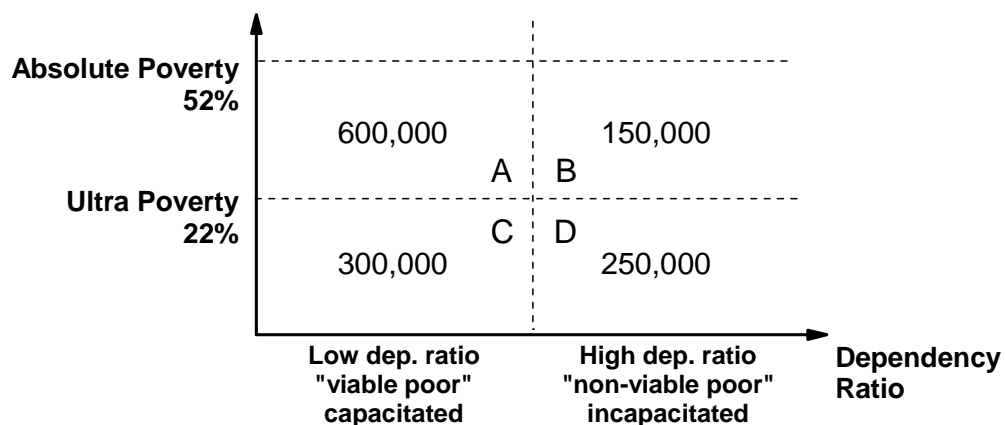
Source: Schubert and Huijbregts (2006, p.19)

Figure 6.1 shows the distribution of poor households in Malawi as calculated by Schubert and Huijbregts (2006), based on IHS2. In this 600,000 poor households are classified as above the ultra poverty line, and with a low dependency ratio (quadrant **A**); 150,000 poor households are above the ultra poverty with a high dependency ratio (quadrant **B**); 300,000 households are classified as ultra-poor but low dependency (quadrant **C**); and 250,000 households are classified as high dependency, ultra- poor households (quadrant **D**). These categories add up to 1.3 million households, which is 52 per cent of a figure of 2.5 million used for total households in Malawi.

A targeting method and criteria were developed from this starting position for the practical selection of beneficiaries in the pilot SCT scheme. They consisted of two sets of proxy indicators: (a) ultra poor households were defined as those below the national ultra poverty line of MK16,165 per capita per year (US$115 per year) in 2005, in the lowest expenditure quintile, consuming only one meal per day on most days, and owning no valuable assets; and (b) labour constrained households were defined as those headed by elderly or children with no adults between the ages of 19 to 64 that were fit for work; they had dependency ratios that higher than three (if possible to calculate) or might comprise households with no economically active adults. Chronically sick or disabled adults (19-64 age group) were counted as dependents thereby pushing up the dependency ratio (Schubert 2007a, pp.18-22).

The Schubert 10 per cent principle was applied in Malawi to the Mchinji pilot SCT, and also in its later expansion to other districts, to be detailed later in this chapter. It is worth bearing in mind that such a rule is not just about trying to reach an impoverished social group with precise demographic and economic characteristics that can be readily identified. It is also a way of 'capping' the budgetary outlay on welfare payments in a poor country, where otherwise support to the very poor might seem a rather open-ended proposition. If a maximum of 10 per cent of a country's households are going to be potentially eligible for such transfers then the ceiling budgetary exposure of such a scheme is known, and appropriate allocations either by a government, or by some combination of government and donors, can be made.

This chapter proceeds, first, by describing in detail the Mchinji pilot social cash transfer: its organisation, selection processes and coverage (section 6.2). It then moves on to summarising the results of a detailed evaluation of the Mchinji scheme conducted in 2007-08 (section 6.3). The expansion of the scheme to additional districts, and its potential roll-out nationally in the

future, are then discussed (section 6.4). Finally, the chapter looks at strengths and weaknesses of social cash transfers in Malawi, especially as revealed by the working of the Mchinji pilot, but also taking into account lessons of the scaling up that has occurred so far (section 6.5). The chapter concludes with a brief summary of its main findings.

6.2 The Mchinji pilot scheme

6.2.1 The design

The pilot Mchinji scheme was designed in April 2006 and started with 2,500 beneficiary households in four of the nine Traditional Authorities (TAs) in the district. In June 2006, the first payments were made to 400 households before the scheme was officially launched in September 2006 (Miller *et al.* 2008b). In the design of the original pilot, the first stage was to select a district to implement the programme. The criteria used for selecting Mchinji as the district are not clear from the documentation, but based on what was discussed with government officials during the fieldwork in 2007/08, the criteria was said to include the poverty rate in the district, the prevalence of HIV and orphans, the regional (political) balance, accessibility during the rainy season, and the capacity of the district to implement the scheme.

In the programming of social cash transfers in Malawi, district capacity refers broadly to staff numbers, skills and resources such as vehicles, office space and computers (Schubert 2006). It has been argued in Chapter 3 that district assemblies in Malawi exhibit a generally weak capacity for development management; and the social cash transfer districts are not exceptions to this problem. In the Mchinji scheme, capacity weaknesses have included inability to maintain up-to-date and organized beneficiary records, irregularities in financial accounting and weak monitoring and reporting on progress. Capacity weaknesses persist also because line ministries do not provide the required technical oversight, for example, in areas of monitoring, evaluation and reporting. Even when the districts submit required reports, the responsible ministries (Ministry of Gender and community Services and Ministry of Economic Planning and Development) do not provide feedback (Miller *et al.* 2008b). It has been argued that these capacity constraints in running cost-effective and reliable social cash transfer schemes are not unique to Malawi, and affect all social cash transfer schemes in Africa (Schubert and Slater 2006, p.575).

Table 6.1: Distribution of population, poverty and vulnerability by district

District/ Region	Population	Poverty and vulnerability (%)					2007/08 Maize (%)	
		Poor	Ultra poor	Ultra/ lab. const.	At risk	Orphans	Area share	Surplus/ deficit
Chitipa	*179,072*	*54.9*	*28.3*	*9.3*	*27*	*9.3*	*1.7*	*50.7*
Karonga	272,789	54.9	28.3	9.3	7	13.3	1.4	-5.5
Likoma	*10,445*							
Mzimba	724,873	50.6	22.7	5.8	30	11	8.3	38.4
NkhataBay	213,779	63.0	30.3	10.6	na	11.9	0.9	-17.1
Rumphi	169,112	61.6	24.2	7.4	15	10.1	0.9	13.4
Dedza	623,789	54.6	20.9	7.9	30	11.1	6.3	14.5
Dowa	556,678	36.6	4.8	2.9	16	10.2	4.6	23.8
Kasungu	616,085	44.9	15.1	4.8	24	9.4	5.8	39.0
Lilongwe	1,228,143	37.5	11.7	6.3	18	8.1	11.1	27.3
Mchinji	*456,558*	*59.6*	*30.4*	*13.4*	*18*	*9.7*	*5.5*	*54.2*
Nkhotakota	301,868	48.0	11.4	4.8	46	12.2	1.2	-159.2
Ntcheu	474,464	51.6	21.1	13.7	73	14.8	6.3	39.6
Ntchisi	224,098	47.3	12.2	8.8	35	7.6	2.3	55.1
Salima	*340,327*	*57.3*	*25.0*	*12.9*	*64*	*10.5*	*2.5*	*1.1*
Balaka	316,748	66.8	33.5	19.0	81	16.8	3.9	8.3
Blantyre	338,047	46.5	16.0	9.5	77	16.8	2.9	28.7
Chikwawa	438,895	65.8	31.9	11.0	80	14.7	2.3	-94.2
Chiradzulu	290,946	63.5	27.5	9.3	80	18.8	2.0	-35.6
Machinga	*488,996*	*73.7*	*38.3*	*18.5*	*62*	*11.7*	*3.4*	*-61.4*
Mangochi	*803,602*	*60.7*	*29.3*	*13.3*	*35*	*14.3*	*7.1*	*2.2*
Mulanje	525,429	68.6	30.6	10.9	76	17.8	3.7	-12.4
Mwanza	94,476	55.6	19.7	6.3	76	17.5	1.2	43.0
Neno	108,897				86	na	1.5	36.4
Nsanje	238,089	76.0	44.3	22.8	81	17.6	0.8	-166.4
Phalombe	*313,227*	*61.9*	*26.9*	*15.5*	*50*	*15.5*	*2.7*	*18.8*
Thyolo	587,455	64.9	33.0	9.7	71	10.5	3.4	1.3
Zomba	583,167	70.0	41.0	18.2	62	16.8	6.0	23.5
National	1,3066,320	52.4	22.3	9.6	40	12.4	100*	21.4*
North (%)	13.0	56.3	25.9	7.9	31	7.9	13.2*	16.0*
Centre (%)	42.0	46.7	16.2	7.8	36	7.8	45.6*	10.6*
South (%)	45.0	64.4	31.5	13.6	71	13.6	40.9*	-16.0*

The **bolded italics** are the seven pilot social cash transfer sites in Malawi as of June 2010

*The figures may not add up to or tally with national figures provided in Section 4.2 of Chapter 4 due to discrepancies in the official data.

Source: Data in or underlying various Tables in Section 4.2 (Chapter 4) and author calculations

As demonstrated in Table 6.1 above, Mchinji district is not in fact amongst the poorest or most deprived districts in Malawi. Indeed, its poverty rate in the 2004-05 IHS2 was estimated at 59.6 per cent which places it exactly in the middle of Malawi's districts, ordered by the poverty criterion. Half of Malawi's districts had poverty rates over 60 per cent in 2004-05, and three had poverty rates over 70 per cent (Zomba, Machinga and Nsanje). Similar considerations apply to rates of ultra poverty and the 'ultra-poor labour constrained'. The population of Mchinji considered 'at risk' of food insecurity in 2005 according to an MVAC assessment compiled by the World Bank (2007a) was 18 per cent, placing Mchinji as the 5th most secure district; while many other districts were assessed to have 'at risk' rates of 70 or 80 per cent. With respect to the proportion of orphans and vulnerable children (OVC) in the population, Mchinji is also only the 5th highest, with an OVC of 9.7 per cent, whereas 8 districts have estimated OVC rates of over 15 per cent (Government of Malawi 2006b, p.253). Finally, Mchinji is a strong maize surplus district overall, whereas many other districts have low predicted maize surpluses or serious maize deficits. It would seem that proximity to the capital Lilongwe, relative strength in district administration, and political factors were probably the decisive factors resulting in the choice of Mchinji for Malawi's first poverty-targeted social cash transfer scheme.

From the outset, the Mchinji pilot SCT scheme adopted a variable rather than fixed approach to the level of cash transfers provided to beneficiary households. This was a departure compared to Kalomo where households were given the same level of transfer irrespective of household size or demographic structure. In Mchinji, the level of transfer varied according to household size, and extra payments were made for the confirmed school attendance of school-age children (6-18 years old). The monthly cash transfer grant to a beneficiary household was designed as shown in Table 6.2 below. The cash transfer rises from MK600 per month for a one-person household to a maximum of MK1,800 per month for four or more persons in the household. In addition a school bonus is paid for each child attending school of MK200 per month for primary school pupils and MK400 per month for secondary school pupils. The cash levels have not been adjusted since the scheme was introduced in 2006 when a MK600 grant was equal to US$4.00 (Schubert 2007a, pp.18-22) at that time, in line with a national poverty line of MK 44.30 (US$0.5) per person per day.[62] A six-person household with two secondary and one primary school children would obtain a transfer of MK2,400 (US$17) per month. In

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[62] The exchange rate used for these calculations was MK140 to US$1, a rate which prevailed for several years in the middle and second half of the 2000s.

2008, the average level of transfer in the Mchinji scheme was MK2,000 (US$14) per month (Government of Malawi 2008e).

Table 6.2: Levels of monthly cash grants to a household in the Mchinji SCT

Household size (Persons)	Monthly cash grant (MK/month)
Main transfer	
One	600
Two	1,000
Three	1,400
Four or more	1,800
School bonus (per child)	
Primary school	200
Secondary school	400

Source: Schubert (2007a, pp.18-22)

The implementation and management arrangement for the Mchinji scheme involves committees that work successively from national to district and to community levels. Key actors are the Ministry of Gender and Community Services as 'owner' of the scheme; the National AIDS Commission (NAC) as fund managing agency; UNICEF as a technical support agency; the District Assembly as implementing agency and Community Social Cash Transfer Committees as facilitators of community activities. This structure is also replicated in additional districts subsequently added to the SCT programme. In the subsequent description of organisation given here, most characteristics apply to all districts included in the SCT programme; however, specific examples typically refer to Mchinji district where the author's fieldwork was conducted.

The overall responsibility of the programme lies within the Department of Social Welfare in the Ministry of Gender and Community Services. A separate Social Cash Transfer Unit within the department and headed by a programme manager is responsible for daily management and coordination of the Malawi social cash transfer programme, and also serves as a social cash transfer secretariat for Malawi. Up to 2010, the SCT activities have been managed on a project basis but there are now plans to manage the scaled-up activities (2011-2015) as part of ongoing activities of the ministry (Government of Malawi 2010i).

Once in the district, a district secretariat headed by the District Commissioner (DC) has overall responsibility. The team varies from district to district but comprises between four and 13 members, the most influential of whom are the DC, director of finance, director of district planning and development and district social welfare officer. The daily management and coordination of the programme activities is done by a District Social Cash Transfer unit which is responsible to the District Social Welfare Officer. The unit comprises a maximum of four staff from the Department Of Social Welfare and is headed by a desk officer. Chapter 3 has discussed district committees established within the framework of the Malawi national decentralization policy of 1998 to promote local participation in governance and development management. Heads of district level government departments are members of the District Executive Committee (DEC) headed by a district director of planning and reporting to the DC as the head of district assembly. With respect to the social cash transfer programme, the DEC has a subcommittee, the District Social Cash Transfer Committee (DSCTC) which is responsible for appraising and approving the list of potential scheme beneficiaries.

Once in a community, the coordination of the programme is carried out by community social cash transfer committees (CSCTCs), which are sub-committees of village development committee (VDCs). Chapter 4 has discussed that the social cash transfer scheme treats village development committees (VDCs) as the relevant local domain for targeting purposes. Typically, a VDC in Mchinji has 400 households (Miller *et al.* 2008b, p.19) but officials state that the SCT programme has maintained 800-1,400 households per VDC to discourage the mushrooming of villages that Malawi has experienced in the last ten years (Government of Malawi 2010i) most probably to benefit from the proliferation of uncoordinated transfer programmes in the country, especially the ISP (Chinsinga 2009).

In official guidelines for the election of CSCTCs, communities are required to choose 12 CSCTC members (6 men and 6 women) who are trustworthy, energetic, able to read, write or speak in English, and willing to work on voluntary basis, and should not be village heads. The typical committee comprised a chairperson and vice-chairperson, secretary and vice-secretary, treasurer and 7 committee members; but there are many variations in practice as communities seek representation of their interests. There is little doubt that some individuals manoeuvre to become CSCTC members in order to benefit from the incentives provided by the scheme (see below). Village heads cannot be elected to the committees but, in reality, have been observed to serve as CSCTC members, or have influenced election of some individuals into CSCTCs.

There are speculations, difficult to verify, that district officials and members of CSCTCs influence the selection process in order to position themselves to access resources associated with the scheme (Miller *et al.* 2008c, p. 37).

Since September 2007, a 'volunteer allowance' has been built into the operation of the Mchinji and other district SCTs in Malawi. This followed complaints from volunteers that the time they gave up to selecting beneficiaries and delivering the cash transfer was entirely unrewarded. CSCTC members receive bicycles, t-shirts and a monthly allowance. The latter began in September 2007 at a level of MK500 per month, later becoming MK835 per month in April 2008 and (in Mchinji) MK1,250 per month in May 2010. MK835 per day is also paid when CSCTC members attend 'external meetings' or workshops outside or within their VDC, unless the meetings are organized by themselves (Government of Malawi 2010i). It was apparent during the fieldwork that some members of the CSCTCs, especially chairpersons, had effectively become 'employees' of the programme because they were observed to be attending to SCT affairs on a daily basis morning to evening, thereby drawing the MK835 daily (in some days when they attended district workshops), and raising some doubt about the voluntarism of their posts.

Figure 6.2 illustrates the implementation arrangement of the Malawi social cash transfer programme as observed during the fieldwork 2007/08. It can be noted in passing here that a draft National Social Support ('social protection') Policy that is coordinated by a social protection unit in the Ministry of Economic Planning and Development provides for establishment of Social Protection Steering Committee (SPSC), and Social Protection Technical Committee (SPTC) at national level, district social protection committee (DSPC) as sub-committee of DEC at district level and community social protection committees (CSPCs) as sub-committees of VDCs at community level. Ideally, all existing transfer committees (including social cash transfer committees and input subsidy committees) would become sub-committees of these respective overall social protection committees. To date, however, these social protection committees are still a concept because the government has not yet approved the National Social Support Policy. Only the national level committees (SPSC and SPTC) are functional. In most official documents, the social cash transfer committees and social protection committees are used interchangeably, causing some confusion in any discussion of the emerging administrative structure.

Figure 6.2: Institutional arrangement for Malawi Social Cash Transfers

| | 'SOCIAL PROTECTION POLICY' | SOCIAL CASH TRANFER (SCT) |

CABINET → Social Protection Steering Committee (SPSC)
• Policy direction

Ministry of gender and community services (Social Welfare Dept)

National SCT unit
• SCT Secretariat
• Daily management

Social Protection Unit (Min Econ. Plan & Dev)
• Secretariat

National Level

Social Protection Technical Committee (SPTC)
• Direction on implementation

NAC
• Funding

UNICEF
• Technical support

DISTRICT ASSEMBLY (District Commissioner) → District Social Protection Committee (DSPC = DSCTCs)
• Beneficiary appraisal & approval

District Social Welfare Office

District SCT Unit
• SCT Secretariat
• Organizing targeting, approval & payment activities

District Level

Beneficiary selection and approval

AREA DEVELOPMENT COMMITTEE

Area executive committee (AEC)
• Orientation of CSCTCs on sector activities

Traditional Authority Level

Payment of cash grants

VILLAGE DEVELOPMENT COMMITTEE

Community social protection Committee (CSPTs = CSCTs)
• Targeting and follow-up of beneficiary households and other activities

Village Group Level

Beneficiary Households

Source: Author illustration based on what was observed during fieldwork, 2007/08

6.2.2   The targeting process

The targeting process in SCT involves three major sequential stages, namely, selection of districts, selection of communities and selection of beneficiaries. A summary of these stages is provided in Figure 6.3. In this sequence, the village development committee (VDC) is the relevant local domain for targeting purposes. The criteria by which VDCs within a district are not clear, but ministry and district officials that were consulted during the fieldwork claimed that the VDCs in Mchinji were selected because of poverty levels and road accessibility during rainy season. [63]

The official guidelines describe the steps to be followed the first time the programme is newly introduced in a district, in terms of identifying, selecting and registering beneficiaries. The first step requires the district to prepare a list of all villages and households from which project sites are to be selected. The second step involves orientation and training of a core district team to be involved in the implementation and management of the programme. The third step is to facilitate formation and training of community social cash transfer committees (CSCTCs) (Government of Malawi 2007b). Once communities have been identified, the actual registration of the beneficiary households is conducted by the CSCTCs. Chapter 7 discusses what was observed during the field work in 2007/08 in Mchinji district regarding the process to select the membership of CSCTCs.

Once the CSCTCs are formed and trained, they are ready to select beneficiaries, using pre-designed forms to fill in details of potential beneficiary households. The registration forms (Form 1) that CSCTCs complete at village level and counter-signed by head of household ask for (1) listing of household members, (2) relationship with household head, (3) ages and date of birth, (4) gender (M/F), (5) fit/unfit to work, (6) if unfit for work, reasons, (7) whether a child is an orphan who lost one or both parents, (8) whether in school (9) name of school and class. There are also narrative questions seeking detailed explanation of socio-economic situation of the household such as: (1) why the household requires social welfare interventions; (2) sources of livelihood of this household (3) types of assets owned (4) other programmes the household benefit (5) whether the household has been affected by a chronic disease especially AIDS and how.

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[63] The accessibility issue also emerged during discussions on which VDCs should be selected for this research.

Figure 6.3: Stages in the targeting and approval process
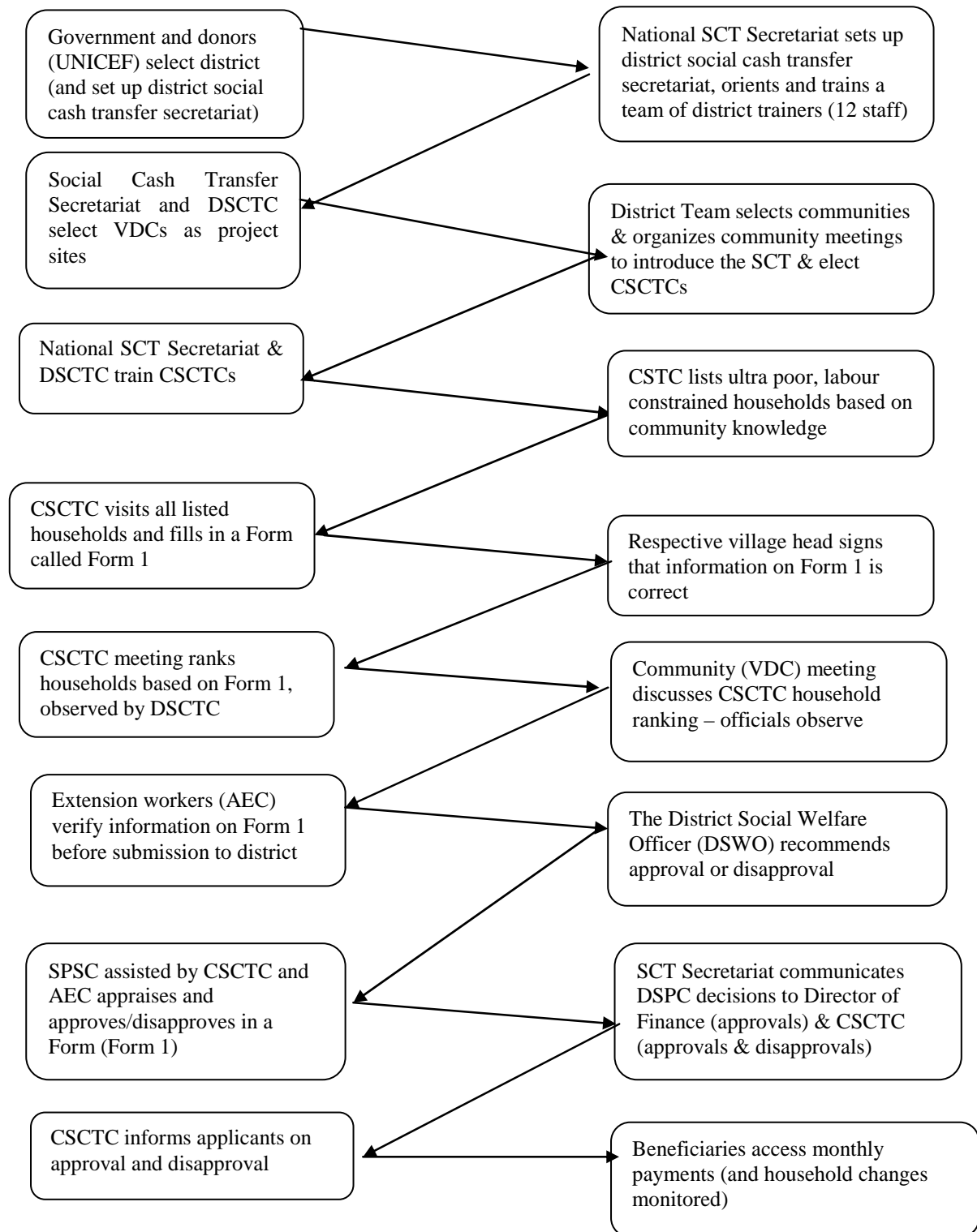
Source: Compiled based on what was discussed and observed during fieldwork, 2007/08

The village level lists of potential beneficiaries (Form 1s) are then discussed at CSCTC meetings attended by extension workers and village heads and observed by district officials. All names approved at the VDC level during the CSCTCs ranking meetings are then written down on a form (Form 2) in order of their ranking, with the neediest being number one priority deserving the social cash transfers. Form 2 has ten columns, nine of which are required to be completed by VDC (1) rank, (2) name of household head (3) age of household head; (4) gender of household head, (5) number of household members, (6) number of household members fit to work, (7) number of children under the age of 19, (8) number in primary school, (9) number in secondary school. Column 10 is reserved for district Social Cash Transfer Committee to indicate decision (approved/rejected) and the recommended amount of cash transfer for the approved household. Before Form 2 is submitted to the district, a community meeting is held to discuss the ranking.

The VDC list (Form 2) is then submitted to district for approval by DSCTC at a meeting attended by members of CSCTCs to argue for the recommended households. Rejected names are transferred onto Form 3 (Application Forms Rejected by DSCTC and Reasons for Rejection) which has three columns (1) rank given by CSCTC, (2) name of head of Household and (3) specific reasons for rejecting application and recommendations for follow up. Approved names are transferred onto Form 4 (Payment Order for Beneficiaries of the Social Cash Transfer Scheme) in which the DSCTC requests the district director of finance to pay the beneficiaries the monthly cash grants. Form 4 (listing approved names at VDC level) has four columns (1) number - on the list and not household number; (2) name of beneficiary and a deputy- in the event the main beneficiary is not able to receive the payment; (3) beneficiary card number; (4) name of village and (5) transfer amount (MK). The director of finance then transfers the names onto Form 5 (Payment Form to be signed by beneficiaries). It has six columns – (1) number of household; (2) name of beneficiary and a deputy; (3) Identity Card number; (4) received –MK, (5) signature – fingerprint and (6) date. Forms 1-5 are the most 'important' ones but the programme has also three other forms; Form 6 (Recommendation for exclusion of some beneficiaries from the scheme), Form 7 (Information from a CSCTCs on changes in the structure of a beneficiary household) and Form 8 (Information from a CSCTCs on the change of a representative).

The ways CSCTCs translate official guidelines into practice is inevitably somewhat subjective. Table 6.3 presents the output of the CSCTCs vetting process at one of the VDCs in

Mchinji to illustrate the actual beneficiary ranking process. It can be seen that household ranked number one was assessed on the basis of lack of support for school children and prevalence of orphans; while an elderly headed household with no known active labour was ranked number six but it is hard to determine how needy one household was from the other. Nevertheless, official district statistics reveal that most beneficiaries of the programme are households headed by females, the elderly and children. This does not on its own mean that beneficiary households are worse off than non-beneficiary households.

Table 6.3: Community ranking of households

Name of household head	Age	Household size	Number fit to work	Social economic status	Rank
Luwiza Kang'ombe	48	5	0	The head is a TB patient and is caring for orphans	2
Mzamose Vaisoni	78	2	0	No decent house and no fit member to work	5
Talasizio Liberito	46	9	2	They are caring for many members	4
Maliyase Simioni	90	1	0	No fit member to work	6
Liviness Chavela	27	10	1	School children lack help; caring for orphans	1
Sabina Filipo	33	5	1	Caring for an elderly person and orphans	3

Source: Miller et al (2008b, p.49)

Table 6.4 compares characteristics of beneficiaries and non-beneficiaries in the Mchinji scheme from data collected and reported in the Mchinji evaluation by Miller *et al.* (2008). This reveals that cash beneficiary households were significantly larger than non-beneficiary households, and also a slightly greater number of the cash beneficiary households cared for orphans. On the other hand, more non-beneficiary households than beneficiary households were headed by the elderly. Otherwise, there is little evidence to suggest that cash beneficiary households comprised more vulnerable persons compared to non-beneficiary households. If anything, cash beneficiary households comprised a higher proportion of persons below the age of 65 years, especially 19-64, while the non-beneficiary households had a comparatively higher proportion of members above the age of 65 years. There is no significant difference in the proportions of children below the age of 18 years, including orphans in the two groups.

Table 6.4: Characteristics of beneficiary and non-beneficiary households in Mchinji

Demographic characteristics of households	Cash (N1)	Noncash (N2)	Evidence
Characteristics of households (N1 = 374; N2 = 392)			
Household size	4.5	3.5	***
HHs caring for orphans (%)	53.2	43.3	*
HHs caring for chronically ill	20.1	24.7	
HHs where at one member living with HIV/AIDS (%)	6.2	3.8	
HHs where members on ARVs (N1 = 19, N2 =15) (%)	82.6	66.7	
HHs keeping persons carers died of HIV/AIDS (%)	8.3	7.9	
Children below age of 18 years (N1 =1056; N2 = 770)			
Orphan lost mother (%)	9.7	11.2	
Orphan lost father (%)	27.3	28.6	
Orphan lost both parents (%)	22.3	20.5	
Any orphanhood (%)	59.2	60.3	
Non orphan (%)	40.5	39.5	
Distribution of all persons (N1 = 1693; N2 = 1367)[a]			
Aged 18 years and less (%)	62.4	56.5	
Aged 19-64 years (%)	18.0	16.0	***
Aged 65 years and above	12.9	21.5	*
Female adults (%)	63.2	67.4	
Distribution of heads of households (N1 = 367; N2 = 387)			
Aged Less than 24 years	1.4	1.8	
Aged 25-64 years	48.9	35.1	**
Aged 65 years and above	49.7	63.1	**
Mean age in years	63.2	67.4	***

*** p<0.01; ** p<0.05; * p<0.1

[a] Author's estimation based on original results in Miller *et al.* cited below

Source: compiled from Mchinji evaluation results (Miller *et al.* 2008a)

These results in Table 6.4 can be contrasted with the official data, shown in Table 6.10, which suggests, for example, that 60.6 per cent of the beneficiary households in Mchinji were headed by the elderly. During the author's fieldwork in Mchinji in 2007/08, an elderly person in the district records for the case study communities were not actually persons above the age of 65 but individuals who 'looked like they were elderly' and were most likely above the age of 55 or 60. Similarly, households that were classified as headed by children were not in strictest sense headed by persons below the age of 18 years, but included those up to the age

of 25 years (many of whom were still in school). These age-related anomalies occur mostly due to inconsistencies in the policy and legal framework in Malawi[64].

6.2.3 Programme funding and related financial aspects

As discussed earlier, the Global Fund has hitherto been the major funder of SCTs in Malawi, through the National AIDS Commission (NAC). Once the funds are with NAC, they are transferred to district accounts following agreed schedules. Subsequent transfers depend on accounting of previous disbursements, and submission of reports. NAC is a major grant manager to various district programme and activities related to HIV/AIDS and the SCTs are only one of many grants the Commission handles. Failure by a district to account for funds relating to one programme or activity means that all other programmes that are funded through NAC are affected. In fact NAC has so far been rarely implicated in cases where beneficiaries have failed to receive their grants, and more serious problems have been encountered in the resource flow from the Global Fund (Miller *et al.* 2008b).

It is worth recognising that implementation of an SCT represents a step change in the size of financial resources being handled at district level (with important potential implications for security and governance). In Mchinji district in 2008, for example, the SCT budget was MK6.1 million (US$43,000) per month for the 2,800 beneficiary households (MK5.7 million actual cash transfers and MK0.5 million, or 7.2 per cent, operational costs). This MK6.1 million represented an annual budget of MK73.2 million in 2008, which was higher than the 2007/08 budget allocated to all other district level line departments except health. In particular, the monthly SCT budget dwarfed the Mchinji district budget allocation of the Ministry of Gender which has the overseeing role of the scheme (see Table 6.5).[65]

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[64] Broadly, policy in Malawi describes persons aged below 18 years as children, persons aged 15 to 25 years as youth and persons aged 65 years and above as the elderly. In principle, children, the elderly and most youth in school or training are dependents. In reality, however, some children head households because of orphanhood and other child vulnerabilities (OVCs). Legal age for marriage in Malawi is 18 years but under-age marriages are common and not illegal. However, policy generally recognises child headed households as those headed by OVCs and 'youth' who are still in education but not those in 'child/ early marriages'. The elderly are assumed to have 'retired' from productive economic engagements. In the past, most elderly people depended on children for care and livelihoods. Now, majority have become carers and providers, especially for OVCs and the chronically ill. In the study communities and in official district social cash transfer records, an elderly person was any person over the age of 60 years while households headed by the youth (though not in school) were also treated as child headed households (Government of Malawi 1995, 2003b).

[65] The monthly SCT budget for Mchinji had increased to MK20.84 million for 9,100 beneficiary households by June 2010 (see Table 6.9), implying an annual budget of MK250 million.

Table 6.5: Approved Mchinji district budget in the 2007/08 National Budget

District sector	Allocation (MK)	Allocation (%)
Agriculture	17,538,771	5.9
Education	12,156,460	4.1
Health	231,377,856	77.6
General Resource Fund	14,331,269	4.8
Constituency Development Fund	18,000,000	6.0
Housing	926,941	0.3
Trade	1,100,000	0.4
Water	862,085	0.3
Gender	1,800,861	0.6
Total Assembly Allocation	298,094,243	100.0

Source: Government of Malawi (2007a)

6.3 Emerging field experiences on the operations and outcomes of the scheme

This section draws on an evaluation of the Mchinji scheme conducted from March 2007 to May 2008 by Boston University (Drs Candace Miller and Kathryn Reichert) and the Centre for Social Research of the University of Malawi (Mr Maxton Tsoka) with funding from the US Agency for International Development (USAID) and UNICEF. The evaluation had three distinct phases covering targeting, operations and impact. A number of findings and recommendations emerged from the evaluation, and the focus here is on aspects considered most relevant for this thesis.

6.3.1   Uses of the cash grants

Social cash transfers are unconditional grants, and this is regarded as a key positive feature of them by human rights advocates (Freeland, 2007). In the April 2008 household survey conducted for the Mchinji evaluation, 374 beneficiary households were asked how they spent the cash grants that they had received in March 2008. Table 6.6 reproduces the data provided by the evaluation but extends this in an attempt to estimate overall expenditure proportions that are suggested for the different types of expenditure listed. The evaluation report lists expenditure categories followed by the proportion of households reporting expenditure on that category, and the average spent per household. This data has been used to infer the total expenditure across all households on that category, and the share of that category in overall expenditure of the cash transfers. This is evidently a somewhat rough and ready exercise, but it is broad orders of magnitude which are of interest.

Table 6.6: Major uses of the March 2008 cash grants in the Mchinji scheme

Major items on which households spent their March 2008 cash grants	Miller (n = 374 HHs)		Author calculations (n = 1004)		
	HHs (%)	Amt spent (MK)	Obs. (n)	Total spend (MK)	Share (%)
Food	92.5	903	346	312,393	49.3
Household items	54.7	486	205	99,425	15.7
Saving	39.8	596	149	88,716	14.0
School/education	27.8	470	104	48,867	7.7
Healthcare: medications	24.6	296	92	27,233	4.3
Livestock	6.5	590	24	14,343	2.3
Labour	6.2	470	23	10,898	1.7
Agricultural inputs	5.2	515	19	10,016	1.6
Business or IGA	3.5	569	13	7,448	1.2
Transport	3.2	369	12	4,416	0.7
Housing	2.9	673	11	7,299	1.2
Beer & tobacco	1.1	45	4	185	0.03
Lending	0.5	950	2	1,777	0.3
Total			1004	633,016	100.0

Source: (Miller *et al.* 2008a, 40); author's own calculations.

In interpreting the data in Table 6.6, the timing of the evaluation survey is critical. March has a special place in Malawi's food security calendar, since it is the month immediately before the next harvest. In March, all previous food stocks tend to be depleted, and vulnerable households are 'clinging on' until the maize harvest begins in or towards the end of the month of April. March is not a month when expenditure would be made on agricultural inputs. These circumstances are reflected in the table. The largest single item of expenditure from transfers was food, and 92.5 per cent of recipient households reported spending part of their transfers on food (it is perhaps surprising that this figure is not 100 per cent, but there are always anomalies in socio-economic data of this kind). It is calculated that just under half (49.3 per cent) of the total transfer amount was spent on food by beneficiary households in that month. Later, in Chapter 7, the author's own fieldwork discovers a figure about half that proportion (i.e. around 25 per cent), but that is based on repeat visits every 3 months, rather than a one month spot check.

In general, Table 6.6 displays prudent use of cash transfers by beneficiaries, with some interesting aspects. After food, other household basic needs and saving are the next two most important categories, the latter apparently indicating that despite the extreme poverty of cash transfer recipients a significant proportion of them (40 per cent) felt able to put cash to one

side for future use rather than spend it on immediate necessities. An important consideration here which is returned to with some force in Chapter 7 is that after a year or more of operation, cash transfer recipients are, in effect, no longer the poorest of the poor since they have had a steady cash income throughout the period of their enrolment on the scheme (see also discussion of SCT weaknesses in Section 6.5 below). Education is the fourth most important category of expenditure, but nevertheless represents quite a small proportion of the total at around 8 per cent. This is interesting given that a significant proportion of beneficiaries are given school bonuses as part of their transfer, and the indication is perhaps that these bonuses are treated just as part of the household cash flow, and not necessarily seen as money that should be spent on children's educational needs.

6.3.2 Programme outcomes on poverty and vulnerability reduction

The Mchinji evaluation allows the outcomes and impacts of the SCT to be assessed according to three themes: (a) poverty reduction impacts (incomes, assets, *ganyu* participation, child education and health); (b) food security and nutrition impacts (meal frequency, amounts of food and nutritional status of children); and (c) agricultural impacts (access to inputs, production and sales income). In the following paragraphs, these are examined in turn.

One aim of social cash transfers is to protect the consumption of extremely poor people and, possibly, lift households out of ultra-poverty. The beneficiary selection criteria try to ensure that recipient households are those possessing the lowest income and assets. Table 6.7 provides data from the evaluation that compares beneficiary and non-beneficiary households over a period of one year. The table contains findings from the Mchinji evaluation, supplemented by the author's further analysis of changes that might have occurred between the two groups. All the indicators presented in Table 6.7 showed significant differences between the beneficiary and non-beneficiary households in both periods at p=0.001; only ownership of hoes in September 2007 were different at p=0.05. According to Miller *et al.*, (2008a) the asset status of cash beneficiary households had improved greatly; indeed, the only asset cash beneficiary households might have owned before the scheme were sickles, the rest had been accumulated because of the scheme.

Analysis of the evaluation results show that the scheme has had impacts on income and asset ownership but the degree of success may not be quite as portrayed in the evaluation report. Income indicators have changed significantly, but examination of changes in proportions of

households owning different assets reveals, overall, only a 2 per cent point difference between cash and non-cash beneficiary households (15.7 per cent average for cash beneficiaries and 13.8 per cent average for non-beneficiaries). The evaluation results also do not indicate the baseline situation at the start of the Mchinji scheme in June 2006. In any case, the earlier discussion has discussed that the schemes are not particularly operating in deprived areas or targeted at very destitute households as many tend to believe.

Table 6.7: Comparing changes in incomes and ownership of assets

Asset description	Mchinji evaluation				Author analysis of changes (%)	
	Sept 2007		April 2008			
	Cash	Noncash	Cash	Noncash	Cash	Noncash
Number of observations	387	401			387	401
Proxy income indicators						
Agric incomes (MK/year)	2000	2000	4000	2000	100.0	0.0
Food expenditures (MK/mth)	460	645	3310	369	619.6	-42.8
Asset ownership (% HHs)						
Bicycle	13.4	1.6	13.0	2.6	-3.0	62.5
Chickens	63.4	10.1	71.0	10.3	12.0	2.0
Goats	45.2	1.6	52.7	1.3	16.6	-18.8
Pigs	17.5	0.0	15.2	0.3	-13.1	30.0
Metal plates	91.0	56.0	64.1	96.5	-29.6	72.3
Hoes	92.0	84.0	95.2	81.8	3.5	-2.6
Metal pots	91.2	72.7	97.3	90.0	6.7	23.8
Pounding mortar	52.0	31.0	59.6	35.4	14.6	14.2
Axes	32.5	28.5	51.9	19.0	59.7	-33.3
Pails, buckets	90.0	59.0	92.6	62.6	2.9	6.1
Sickles	26.0	17.0	56.9	17.0	118.8	0.0
Mats	95.7	72.5	95.5	79.2	-0.2	9.2
Overall average					15.7	13.8

Source: Miller *et al*. (2008a, pp.39-42) and author calculations

Social cash transfers in Malawi have demonstrated improved food security in terms of food expenditures, fewer missed meals, fewer days without adequate food, and greater food diversity. For example, between March 2007 and April 2008, beneficiary households had 1.2 days of 'inadequate' food in a month compared to 5.2 days for non-beneficiaries. And 44 per cent of beneficiary households were reported taking three meals compared to only 8 per cent of the non-beneficiary households. In March/April 2008, 88 per cent of beneficiary households compared to only 57 per cent of non-beneficiary households had food stocks in store. For those with food in store, stocks for 81 per cent of the non-beneficiaries compared to

68 per cent of beneficiary households would not last four weeks (Miller *et al.* 2008a). Table 6.8 summarises these food security impacts from the Mchinji evaluation.

Table 6.8: Food security and nutrition impact indicators in the Mchinji scheme

Food security indicator	Cash (n=374)	Noncash (n=392)	Evidence
Number of meals taken day before survey visit:			
No meals	0.5	4.3	*
One meal	6.4	43.6	***
Two meals	47.9	44.4	
Three meals	44.4	7.7	***
Four meals	0.8	0.0	
Food types taken during one week period:			
Cereals/grains	100.0	99.5	
Roots/Tubers	58.3	32.9	***
Pulses	92.0	51.3	***
Vegetables	100.0	99.5	
Meat/Fish	82.1	18.6	***
Dairy (Eggs/Milk)	44.9	4.6	***
Fruit	82.1	49.0	***
Sugar	75.7	29.6	***
Cooking Oil	73.3	9.7	***
Salt	96.8	93.6	*
Average number of food types (max-10)	8.1	4.9	***
Meals with meat, fish or chicken (days/week)	2.1	0.3	***
Time March/April 2008 food stocks would deplete:			
Less than 1 week	22.2	48.2	***
1-4 weeks	32.9	45.6	**
1-2 months	13.7	13.5	
3-6 months	12.5	5.4	**
6 months	5.8	0.0	**

*** $p<0.01$; ** $p<0.05$; * $p<0.1$

Source: Miller *et al*. (2008a, pp.35-38)

From the point of view of this thesis, the lack of difference in households taking two meals per day requires special discussion. This research tracked households in three VDCs in the Mchinji project site from January to September 2008, including observing the food situation and conducting key informant interviews. The number of meals (ideally three meals per day) and diversity of foods are important vulnerability and food security indicators (Dorward *et al.* 2008), but the fieldwork for this research established that most households typically ate two meals (lunch and supper) of *nsima* (maize meal) with vegetables or legumes. Formal breakfast was rare because people were busy with farm work and other activities. Nevertheless, some

households missed meals because of lack of food while relatively better off households had three meals, including meat-based meals and formal breakfast of tea with bread on a more regular basis. The pattern of meals in Table 6.7 depicts this. The large differences in the duration food stocks lasted may also require elaboration. It is possible that calculations did not account for differences in household calorie requirements, a consideration which this thesis reconsiders in Chapter 7.

The Mchinji evaluation also demonstrates the potential of an SCT to improve household and child health. Fewer sicknesses among adults and children, and greater demand for healthcare for children and adults and higher healthcare expenditures were reported. For example, 73 per cent of cash beneficiary households and only 7 per cent of non-beneficiary households reported improved health status over a one year period between March 2007 and April 2008. In particular, nutritional status of under-five children had improved significantly (Miller *et al.* 2008a, p.23-29). The graphs in Figures 6.4 (a-c) all suggest the better position of beneficiary households compared to non-beneficiary households, although the prevalence of child malnutrition in both households is apparently high.

Figure 6.4: Nutritional status of children in Mchinji Scheme in April 2008

Figure 6.4a: Wasting (weight for height)
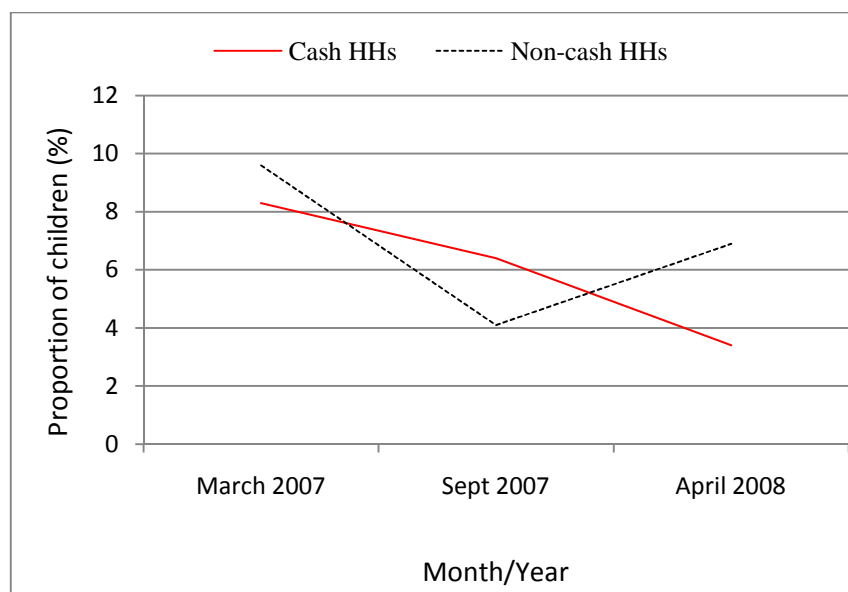
Figure 6.4b: Stunting (height for age)
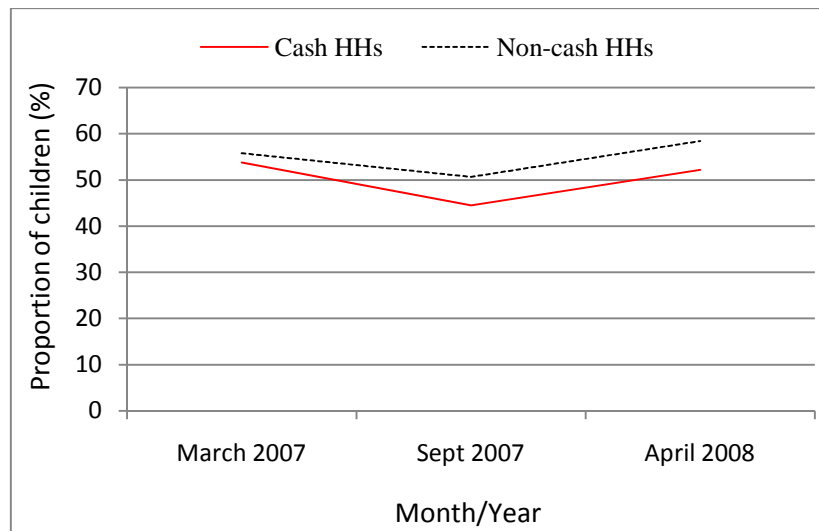
Figure 6.4c: Underweight (weight for age)
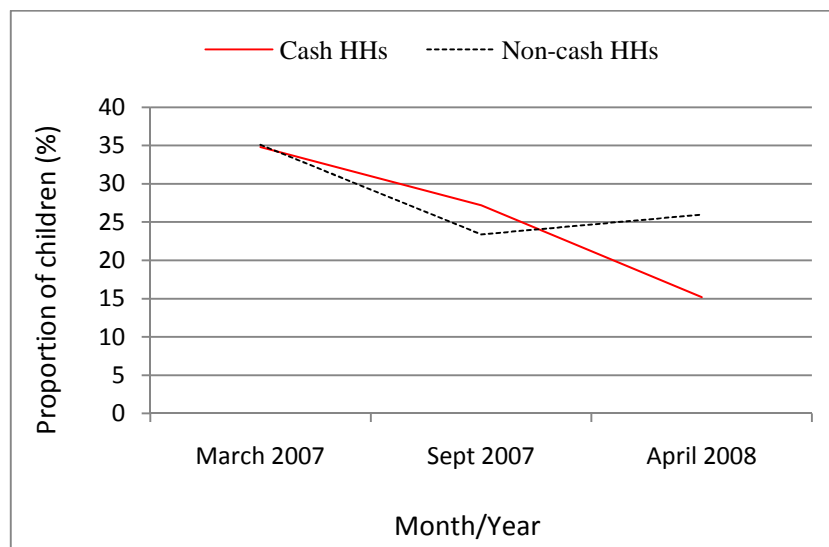
Source: Data in Table 21 of Miller *et al.* (2008a, p.29)

The evaluation also presented evidence supporting increased demand for child education, reflected in resulting in higher school enrolment, fewer absences and higher expenditure on child education. The evaluation recorded a monthly school expenditure difference of MK333 per child or MK1,049 per household between beneficiary and non-beneficiary households. Between March 2007 and March/April 2008, 8.3 per cent of children in cash beneficiary households enrolled in school for first time compared to 3.4 per cent of children in non-

beneficiary households. By March/April 2008, 96 per cent of children in beneficiary households compared to 84 per cent of children in non-beneficiary households were in school. In March 2007, there were no significant differences in the number of days children were absent from school (2.8 days for children in cash beneficiary households against 3.2 days for children in non-beneficiary households) but by March/April 2008, children in cash beneficiary households were absent 1.3 fewer days than their counterparts in non-beneficiary households; at 1.1 days for children in cash beneficiary households against 2.4 days for children in non-beneficiary households (Miller *et al.* 2008a, p.30). Similar improvements in school attendance in beneficiary households due to cash transfers were recorded in a related cash transfer scheme in Zomba in southern Malawi (Baird *et al.* 2009). But as observed earlier (Table 6.6), the actual levels of expenditures are low given the school bonus incentive that the scheme provides.

6.3.3 Conclusions of the Mchinji evaluation findings

The evidence from the evaluation of the Mchinji scheme summarised above suggests that social cash transfers have a very considerable positive impact on the lives of the beneficiary households, both in the short term through immediate food needs and in the longer term through livelihoods investments (e.g. farm inputs and productive assets). The evaluation depended on an interval examination of a set of beneficiary and non-beneficiary involving surveys done in March 2007 and March-April 2008. It is probable that by March 2007, early recipients of cash transfers had already reaped considerable benefits from participation in the scheme, resulting in the data shown in Table 6.7 whereby the income and asset status of beneficiaries was already considerably above that of non-recipients of the cash transfer. In Chapter 7, this overall finding is affirmed by the author's own fieldwork research, with the startling result that by 2008, cash transfer beneficiary households were ahead of non-beneficiaries in just about all indicators of livelihood security. However, the Mchinji evaluation also raised some questions about scheme operation, including the accuracy of initial targeting, and these are taken up in Section 6.5 below.

6.4 Social cash transfer roll-out and future intentions

It is not entirely clear when the Malawi government decided to scale-up from the Mchinji pilot SCT scheme to cover more districts; however this happened at some stage between June 2007 and November 2008. The scheme was extended nationally to six additional districts: Chitipa and Likoma in the northern region; Salima in the central region, and Machinga,

Mangochi and Phalombe in the southern region (Schubert 2007a, 2009). By March 2010, the programme covered a total of 28,000 beneficiary households, representing 11.2 per cent of those originally identified (by Schubert) as the ultra-poor labour constrained in Malawi. Table 6.9 shows the start dates of the district schemes and the number of beneficiaries in June 2010. Table 6.10 summarises characteristics of the beneficiary households while Figure 6.5 shows the geographical location of these pilot districts.

Table 6.9: Distribution of SCT, beneficiaries and monthly budgets

Name of SCT District	Programme Statistics, June 2010				District Statistics, June 2008		
	Start date	HHs No.	Persons No.	HH size*	Monthly cash grants (MK)	Monthly grant per HH (MK)	Operational cost (%)
Mchinji	Sept 2006	9,140	35,182	3.8	18,280,000	2,000	14.0
Likoma	June 2007	183	773	4.2	366,000	2,000	30.0
Machinga	Sept 2007	4,229	18,579	4.4	8,458,000	2,000	21.0
Salima	Nov 2007	2,379	9,065	3.8	4,758,000	2,000	25.0
Mangochi	June 2008	4,859	20,260	4.2	9,718,000	2,000	25.0
Chitipa	Sept 2008	4,208	10,602	2.5	8,416,000	2,000	24.0
Phalombe	Sept 2008	3,140	12,073	3.8	6,280,000	2,000	26.0
National		28,138	106,534	3.8	56,276,000	2,000	23.6

Note: * Author calculation

Government of Malawi (2010i)

Table 6.10: Distribution of SCT households and persons as of June 2010

Project district	Headship of beneficiary HHs				Persons in beneficiary households				
	Total (n)	Elderly (%)	Female (%)	Child (%)	Total (n)	Children (%)	Orphans (%)	Elderly (%)	Disabled (%)
Mchinji	9,140	60.6	64.7	1.2	35,182	62.1	57.0	19.7	2.6
Likoma	183	71.0	77.6	0.0	773	50.6	47.7	21.0	6.5
Machinga	4,229	57.4	73.5	1.5	18,579	70.1	48.7	15.9	1.4
Salima	2,379	43.5	62.5	0.8	9,065	50.9	43.0	16.7	1.5
Mangochi	4,859	64.9	75.5	1.3	20,260	71.5	50.7	17.0	1.7
Chitipa	4,208	52.0	46.5	0.3	10,602	56.7	32.3	23.4	2.8
Phalombe	3,140	45.5	54.3	1.8	12,073	62.0	31.9	14.7	1.4
Total	28,138	56.5	63.9	1.1	106,534	63.7	47.8	18.1	2.0

Source: Government of Malawi (2010i)

Figure 6.5: Map of Malawi showing social cash transfer districts
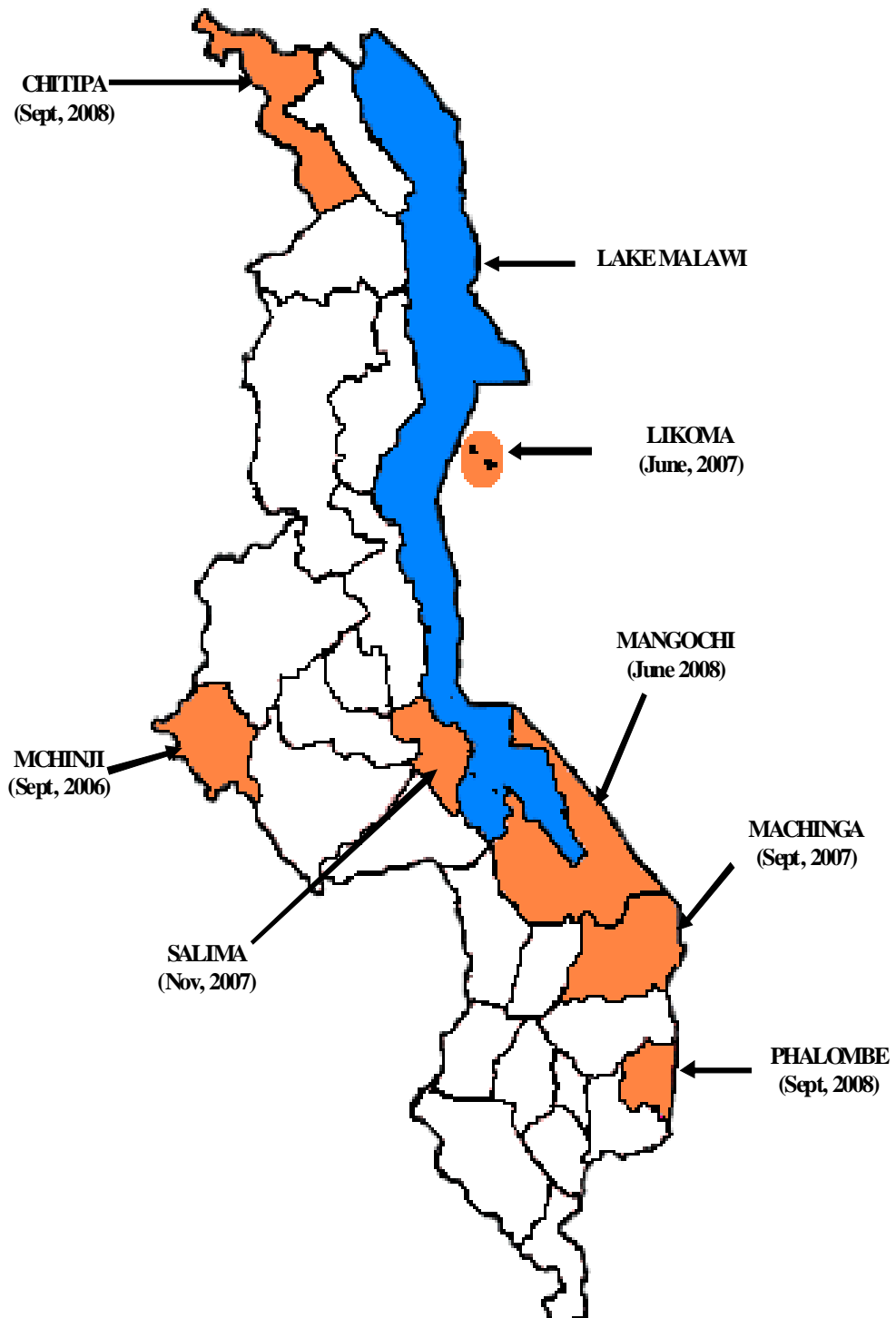
Note: Blue colour denotes Lake Malawi and Likoma is an island on Lake Malawi

Source: Author editing of a map of Malawi showing SCT sites, accessed on 10/07/2009 from: www.**socialcashtransfers-malawi.org**.

As shown in Table 6.9, the budgetary cost of scaled up coverage in June 2010 was MK69.6 million per month, comprising MK56.3 million for transfer payments to 28,138 households, at an estimated average payment of MK2,000 per month, and MK13.3 million for administrative costs (23.6 per cent above the transfer value). The latter includes volunteer's allowances, but does not include staff salaries and other remunerations met directly by the line ministries involved. A key emerging issue from the district budgets (MK) and operational costs (%) shown in Table 6.9 is the rising administrative cost of delivering the cash transfer programme. It is recalled that in April 2008 when the Mchinji scheme had 2,800 beneficiary households, the operational cost was 7.2 per cent in a monthly budget of MK6.1 million (US$43,000) which comprised MK5.7 million for actual cash grant transfers to the households and about MK0.5 million for operational costs (Government of Malawi 2008e). This low operational cost was one of the success highlights of the programme identified in the evaluation of the Mchinji scheme. The jump by roughly three times in the proportional cost of delivering transfers is perhaps an indicator of what happens when a pilot project moves from tight monitoring and control by a sponsoring agency (UNICEF in the case of the Mchinji scheme) to general implementation by the apparatus of decentralised government.

While the Malawi government's future stance on social cash transfers remains rather ambiguous (as manifested by the failure to date to adopt the Social Support Policy), nevertheless there is at least one document in circulation that envisages roll out to all ultra-poor households by 2015, representing the poorest ten per cent of the population (Chinsinga 2009, Schubert 2009). This suggests a phased expansion beginning initially with moving from the current seven districts to ten districts by the end of 2011, and thereafter rolling out an additional 6 districts every year until all 28 districts are covered with projected beneficiary numbers at 295,768 households. If this occurs, it is estimated that a budget in excess of US$55 million or 1.4 per cent of GDP would be required every year of the six years, as shown in Table 6.11. Apart from the potential funders listed in Table 6.11, some donors have expressed interest or will be approached to finance specific operational costs of the planned scaled-up programme: operational costs of US$22 million (European Union, Global Fund), capacity development costs of US$5.5 million (Irish Aid, Australian Aid, UNICEF), information management systems costs of US$2 million (World Bank), delivery mechanism costs of US$6.6 million (DFID) and monitoring and evaluation costs of US$4 million (USAID) (Chinsinga 2009, pp.22-23).

Table 6.11: Roll-out plan for the Malawi SCT programme, 2010/11-2014/15

Financial year	Number of districts	Total HHs	Cost of cash grants US$)	Fund sources and contributions		
				Government	EU (10th EDF)	Global Fund
2009/10	7	87,032	17,406,440	-	-	-
2010/11	10	105,096	22,914,110	-	-	15,000,000
2011/12	16	146,411	33,072,010	5,072,010	18,000,000	10,000,000
2012/13	22	205,177	48,437,950	7,937,950	26,000,000	14,500,000
2013/14	28	295,768	59,153,660	9,553,660	31,900,000	17,700,000
2014/15	28	295,768	59,153,660	9,553,660	31,900,000	17,700,000
Total		295,768	222,731,390	32,117,280	107,800,000	74,900,000

Source: Chinsinga (2009, p.22)

As noted earlier, the major programme funding to date has been from the Global Fund, the funding from which came to an end in 2009; however, resources allocated to the social cash transfer programme from the Global Fund contribution ended in October 2010. The Malawi Government in the 2010/11 budget allocated MK50 million for the SCT programme.[66] The German Government has also provided US$20 million for three years from 2010, and Irish AID has shown some interest to fund the programme (Government of Malawi 2010i). It is therefore most unclear whether predictable long term funding for the current and subsequent expansion can in reality be secured. Already, following the end of the Global Fund Commitment, payments to existing recipients have been scaled back, and some months have been missed. Malawi's multi-million dollar (US$560million) funding proposal (covering 2011-16) to the Global Fund was rejected in 2010 for the second time (an earlier version was rejected in 2009) apparently for being considered too ambitious.[67] Surprisingly, the latter proposal does not contain the proposed US$74.9 social cash transfer budget shown in Table 6.11 (Global Fund 2010).

It is evident that the budget for the roll-out plan depicted in Table 6.11 does not constitute a funding commitment on the part of the government, despite the document from which it is taken supposedly having some official authenticity. Four years after the government approved the pilot social cash transfer scheme and, thereafter, set in motion a scaling up process, it has

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[66] This would barely cover the funding of SCT in Mchinji district for one year, and contrasts with over MK20 billion allocated to ISP in the 2009/10 budget.

[67] In fact, proposals for big countries such as South Africa with high rates of HIV prevalence had budgets US$200 million lower than Malawi's. The proposals and Fund's decisions can be accessed at: http://www.theglobalfund.org/en/fundingdecisions/approved/

not made budgetary allocations to ensure predictable future funding for the programme. The best the government has so far approved in the national budget is funding for staff and operations as part of on-going recurrent budgets to line ministries and district assemblies. In the 2009/10 budget, the government approved and spent MK24.3 billion on social protection (whatever that entailed) but this was reduced by 95 per cent to only MK1.4 billion in the 2010/11 national budget. In contrast, the ISP which cost MK39 billion in 2008/09 was allocated MK25 billion in 2009/10 and MK19.8 billion in 2010/11 national budget (Government of Malawi 2010b, pp.28-29).

6.5 Emerging strengths and weaknesses of social cash transfers in Malawi

The results of the independent external evaluation of the Mchinji pilot scheme summarised above demonstrate significant differences between beneficiary and non-beneficiary households that point to better positions of beneficiary households in household and child well being, including better incomes, food security, school attendance and general health. Although the degree of these improvements relative to the circumstances of beneficiary households before scheme inception is difficult to pin down definitively, the evidence is sufficiently robust to provide powerful arguments to those who are in favour of scaling up the existing coverage to national level. The evaluation also noted strengths in its implementation efficiency, in terms of beneficiary targeting and cost effectiveness, these being comparable or even surpassing similar schemes in the USA, India and Latin America (Mexico or Brazil). In terms of targeting, designers of the programme set performance targets of 10 per cent inclusion error and 20 per cent exclusion error. Although the final outcomes were 22 per cent inclusion error and 38 per cent exclusion error, these errors were still lower or within the known range of 'international' errors (Miller *et al.* 2008c). Internationally, inclusion errors have been found to vary widely from 28 per cent in Ecuador to 99 per cent in Cambodia (Fiszbein *et al.* 2009, p.74).

In addition an apparently notable achievement of the Malawi social cash transfer programme at the time of the evaluation in 2007-08 was in terms of the costs of delivering the social cash grant. The administrative costs of the Mchinji pilot were below 14 per cent of total benefit payments, compared to a target of 15 per cent or more in other countries or in other schemes in Malawi (for example, the ISP, discussed in Chapter 5). The evaluation found that irregularities in the accounting system of the Mchinji programme was in the scale of 0.3 per cent of total programme expenditures compared to countries where irregularities (fraud, error,

corruption) account for 32 per cent of programme expenditures in India or in the USA where overpayments (fraud) accounts for 4 per cent of programme costs (Miller *et al.* 2008b).

The Malawi SCT also, however, reveals certain weaknesses of this approach to tackling vulnerability, and it is important to bring these to the surface since these help to weigh in the balance the arguments for and against different ways of reducing the incidence of chronic vulnerability to hunger in the country. Some of these weaknesses are general to the cash transfer approach, while others may be more to do with the practical implementation of cash transfers in Malawi. The weaknesses examined in this section include:

(1) the problem of small economic and social difference, meaning that a cash transfer unduly favours one particular set of the rural poor, essentially placing them in a privileged position compared to other almost equally deprived ultra poor people;

(2) the problem of the fixed proportional cap on beneficiary numbers, from national to district, sub-district and community levels (the 'ten per cent' rule), relative to varying ultra poverty levels in different locations;

(3) the problem of targeting errors within existing design, i.e. how to avoid 'elite capture' and other problems in the selection of beneficiaries;

(4) the problem of rising operational costs with scaling up, already shown by the costs associated with expansion to other districts in Malawi, and caused by incentive problems in the amount of time that has to be devoted to running a scaled up programme;

(5) the problem of the real value of cash transfers when they remain the same in nominal value despite seasonal or long term changes in the prices of staple foods and basic needs (and exemplified by the rising price of maize in Malawi in 2007 and 2008)

6.5.1 Income distribution effects of a cash transfer

Taking each of these in turn, the first is concerned with the income distribution implications of a cash transfer, taking place in circumstances where over 50 per cent of the rural population are classified as poor, and where very small differences in per capita consumption distinguish successive consumption deciles up to about the sixth decile. This problem was already raised

in a preliminary way in Chapter 1 of this thesis, and Figure 1.1 shows the shallow slope of the lower 60 per cent rural income distribution. In fact, as discussed in Ellis (2011), for rural Malawi on average just MK195.60 (US$ 1.80 at US$1.00 = MK108.9, according to Ellis) per month separates the per capita consumption running from the first to the sixth consumption decile. In this context, a cash transfer of MK600 going up to MK1,800 (and more with school bonuses) inevitably alters the rural income distribution in favour of beneficiaries over non-beneficiaries. The degree to which it does this depends on household size and demography, as well as the quantity of school bonuses received.

Figure 6.6: Income Distribution Implications of Varying Levels of Cash Transfers
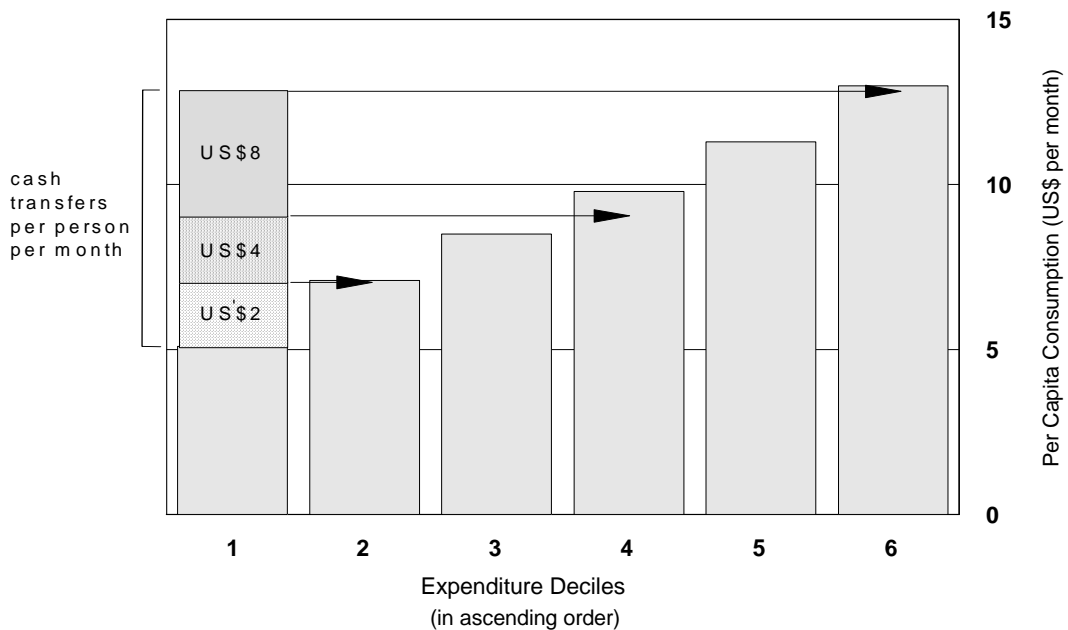
Source: based with permission on Ellis (2011)

The problem of income distribution is illustrated graphically by Ellis (2011) as shown in Figure 6.6, where different amounts of cash transfer per person are shown to propel their recipients up the income distribution. Ellis describes this problem as one of 'leapfrogging' beneficiaries up the income distribution. It is important not to mistake the argument that is being made here. It is inevitable of course that any welfare transfer to a poor person is going to improve their income position relative to other people in society (holding everything else the same). In economic terms, this would not be a reason not to make the transfer. In societies where the poorest and most underprivileged have consumption levels that are deeply below the majority of the population who are in work and enjoying sufficient lifestyles, the effect of

a welfare transfer is typically just to bring the poorest up to the 'floor' experienced by other people. However, in a country like Malawi these circumstances do not apply; the majority of rural people are very, very poor and therefore a welfare transfer has the potential literally to propel the recipients into a lifestyle position that is above that enjoyed by a substantial proportion of their fellow citizens.

In the Malawi case, this problem can be demonstrated by reference to the actual effects of the cash transfers in the Mchinji pilot scheme, relative to the average per capita consumption in the bottom five deciles as shown by IHS2 (see Table 6.12). For example, the mean per capita consumption in the first decile is MK726 and for a one-person household the per capita transfer is MK600, giving a total per capita income with the transfer of MK1,326 per month. This essentially elevates that person to somewhere between the third and fourth deciles of the existing income distribution.[68] Other similar jumps in income status can be inferred by the table. It is also worth bearing in mind that receipt of steady cash income places its recipient (in Malawi rural terms) in quite different circumstances with respect to livelihood risk. Whereas in general all livelihood components are subject to risk (crop failure, weak markets, failure to find *ganyu* etc.), a cash transfer all but eliminates this level of risk for its recipients. There is also a cumulative effect, in part set in motion by this significant reduction in risk: recipients can invest in agricultural inputs and assets in the knowledge that their basic food security is still secured by the cash transfer.

Table 6.12: Illustrating 'leap-frogging' effects of social cash transfers in Malawi

IHS2 Income deciles	Per capita income per month (MK) [69]	Decile plus cash transfer grant per person per month			
		1 person HH	2 person HH	3 person HH	4 person HH
		600	500	467	450
1	726	1,326	1,226	1,193	1,176
2	1,020	1,620	1,520	1,487	1,470
3	1,249	1,849	1,749	1,716	1,699
4	1,478	2,078	1,978	1,945	1,928
5	1,724				

Source: drawing on data in Table 1.2 in Chapter 1

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[68] In Ellis (2011) these effects are examined more rigorously by tracing exactly the shifts in households' position in the rural income distribution that would occur if the Mchinji level of transfers were rolled out nationally.

[69] IHS2 decile means in Table 1.2 but (in Table 6.12) adjusted for inflation of 31.5 per cent between 2004-05 and 2006-07 to reflect cost of living changes during the first year of implementation of the Mchinji social cash transfer scheme.

6.5.2   The fixed proportional cap on beneficiary numbers

Earlier in this chapter, a question mark was placed concerning the accuracy of the calculation whereby Schubert and Huijbregts (2006) derived their 10 per cent household proportion that would act as the uniform cut off point for beneficiary numbers in the design of a Malawi social cash transfer. It is recalled that the IHS2 has an individual poverty rate at 52 per cent equivalent to a household poverty rate of 44 per cent (this is because poorer people tend to have larger households). Yet the calculation of the 10 per cent proportion of households occurs in a context of 52 per cent of population being poor (Figure 6.1 above). In fact, a re-run of the 'ultra-poor labour constrained' numbers in IHS2 verifies this mistake since the criteria for defining this category of the population yields a proportion of 6.75 per cent of Malawi households that can be classified as ultra-poor labour constrained, containing 9.64 per cent of the Malawi population (Ellis and Marchetta 2009).

The accuracy of the 10 per cent proportion is, however, perhaps not the main issue. More important is whether a uniform cap on beneficiary numbers (at whatever fixed proportion) can accurately represent locational variations in poverty and extreme poverty. Table 4.1 in Chapter 4 has provided comparative data, by region and district, for three different proportional measures of poverty in Malawi: poverty, ultra poverty, and ultra poor labour constrained. There is significant variation in the incidence of poverty (and vulnerability, see Table 6.1) in different places across the country. This variation becomes more pronounced at lower levels of geographical aggregation, as well as by moving from the poor, to the ultra poor and the 'ultra poor labour constrained' poverty proportions. For example, ultra-poverty varies between 16.2 per cent and 31.5 per cent at the regional level between rural Central and rural Southern; while at the district level it varies between 4.8 per cent (Dowa) and 44.3 per cent (Nsanje). Meanwhile, the 'ultra poor labour constrained' varies between 2.9 per cent (Dowa) and 22.8 per cent (Nsanje).

The data provided earlier in the last column of Table 4.1 in Chapter 4 are poverty ratios conventionally expressed using individual weights; in other words they are proportions of the population that are classified as poor or ultra poor or 'ultra poor labour constrained'. As discussed earlier, household shares differ from population shares, because average household size differs across the income ranges. Figure 6.7 provides a graphical illustration of how the share of 'ultra poor labour constrained' households varies across rural districts in Malawi. It also shows which districts are above the countrywide average proportion of 6.75 per cent, and

which districts are below this proportion. On a household basis, the lowest and highest proportions are 1.9 per cent (Dowa) and 15.4 per cent (Nsanje). Allowing for a band of one percentage point either side of the 6.75 per cent benchmark (i.e. 5.75 to 7.75 per cent), there are 10 districts with ultra poor labour constrained ratios above this band, and 8 districts below the band, out of the 26 rural districts in total. In other words, at district level, the imposition of a guideline proportion of households based on the national average would result in inaccurate beneficiary selection in 70 per cent of Malawi's districts.

Figure 6.7: Proportion of Ultra poor Labour Constrained Households by District
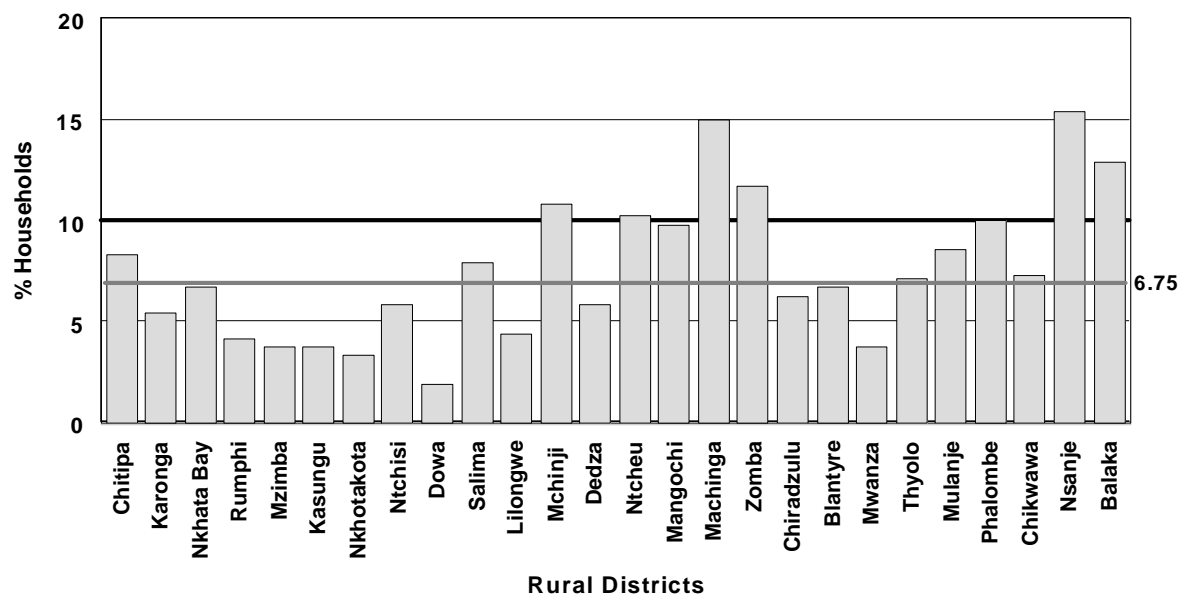
Source: Ellis and Marchetta (2009, p.10).

Figure 6.7 also illustrates the impact of adopting a 10 per cent household eligibility guideline as has been the practice so far in SCTs in Malawi. A 10 per cent guideline would reach the great majority of potential cash transfer beneficiaries that fulfil the ultra-poor labour constrained criteria. However, it excludes some proportion of eligible households in four districts, and includes many not quite so severely deprived households in other districts. In short, because of wide variation across districts (and probably also within districts) in the incidence of severe deprivation, a guideline proportion established for the country as a whole results in inaccurate targeting, with a high prevalence of local inclusion or exclusion errors relative to the underlying scale of the deprivation problem in different places. The evaluation of the Mchinji social cash transfer pilot was critical of setting a fixed guideline for these

reasons (Miller *et al.* 2008c), and Dr Schubert as the chief originator of the approach seems to have conceded that the proportion should perhaps be flexible across districts (Schubert 2009).

6.5.3 Targeting errors within existing design

A major challenge confronted by any poverty targeted cash transfer is achieving accuracy in the identification of intended beneficiaries (Ellis *et al.* 2009, Ch.3, Miller *et al.* 2010). Ideas about how to do this effectively have evolved over the past ten years, and much has been learnt from the implementation of pilot schemes. Initially, there was a tendency to rely on key informants in communities to identify the most deprived households, but then it was found that the key informants (typically leaders or chiefs) had a tendency to fill beneficiary lists with their own relatives and friends (an eventuality referred to as 'elite capture'). The effort then switched to community-based targeting, usually involving the setting up of a representative community welfare committee (the Community Social Cash Transfer Committees described above for Mchinji district is just this type of committee). This does not avoid elite capture or other diversionary outcomes altogether, since leaders may still influence the composition and decision making of such committees and committee members may themselves make side deals with would-be beneficiaries in order to put them on the list. It could be said with some justification that targeting accuracy is a serious potential flaw in the very notion of poverty targeting, in low income country settings such as Malawi where means-testing is not a realistic option (Miller *et al.* 2008c, Miller *et al.* 2010).[70]

The evaluation discussed in Section 6.3 above expressed some doubts about targeting accuracy in the Mchinji scheme. In Table 6.13 data provided by the evaluation is used either directly (dependency ratio) or indirectly (ultra poverty rates) to examine how cash beneficiary households compare to non-cash beneficiary households. With respect to dependency ratio, the evaluation found that a dependency ratio greater than three (a critical criterion for the selection of beneficiaries) applied to 66.6 per cent of the beneficiary sample, as against 26 per cent of the non-beneficiary sample. These proportions sum together what is stated in the table as incalculable dependency ratio (where there is no able-bodied adult in the household, and therefore no denominator in the dependency ratio calculation) and a dependency ratio greater than three. This shows certainly that the dependency ratio criterion had an important influence

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[70] This also helps explain the preference of the World Bank for self-targeted public works programmes, as well as the arguments of other social protection protagonists in favour of categorical targeting (such as social pensions) where a single unambiguous criterion determines eligibility.

on beneficiary selection, but nevertheless also reveals that a third of beneficiaries did not conform to that selection criterion.

Table 6.13: Comparing ultra-poverty and labour constrained HHs in Mchinji Scheme (%)

Programme targeting criteria	All HHs (n=639)	Cash (n=84)	Noncash (n=555)	Evidence
Household size	5.1	4.6	5.2	*
DR with broad illness/disability 19-64 (% HH):				
DR incalculable – no worker	16.2	46.4	10.0	***
DR greater than 3.0	10.7	20.2	16.0	
Ultra poverty (% HH):				
All ultra-poor households	33.2	26.6	34.2	
Ultra poor but not labour constrained HHs	22.4	9.8	24.3	
Ultra poor and labour constrained HHs	10.8	16.7	9.9	

Note: ultra-poverty figures for cash beneficiary households are author re-calculations and not tested statistically.

Source: Miller, *et al*., (2008c, pp. 20 & 34, Miller *et al.* 2010)

On the ultra-poverty measure (Table 6.13), more non-cash than cash beneficiaries were found to be ultra-poor, and the proportion of beneficiary households defined as ultra-poor (26.6 per cent) seems low given that ultra-poverty was the starting principle of social cash transfer design. In this case, the evaluation updated the IHS2 ultra-poverty line to MK15,265 per person per year in 2008 prices, and the proportions relate to households the per capita expenditure of which fall below this level. Of the 26.6 per cent of the beneficiary sample found to be ultra-poor, about one third were not labour constrained (using again the dependency ratio criterion) and two thirds were labour constrained. The direction of these proportions is appropriate relative to non-beneficiaries. A mixed picture emerges, in which, yes, a degree of success was achieved in Mchinji in complying with targeting criteria; however, this was also by no means perfect with at least (and possibly more than) one third of beneficiaries not really complying with fundamental criteria for inclusion in the scheme. However, there is also the problem identified earlier that by the time of the evaluation, cash transfer beneficiaries had already improved their circumstances as a result of being in receipt of transfers for over a year, so the true picture is really rather muddled.

In an evaluation of the Machinga district SCT, Seaman *et al*. (2008) found that beneficiaries were scattered across the per capita expenditure distribution, and no systematic pattern in their

selection could be discerned. When aggregated according to the dependency ratio and ultra-poverty criteria, only half of the cash beneficiaries met the dependency ratio criterion and less than 25 per cent qualified as ultra-poor (Seaman *et al.* 2008, p.20). While this finding was publicly disputed by the Malawi government (RHVP 2008), it has contributed to a sense of unease in social protection discussion in Malawi regarding the ability to maintain acceptable levels of targeting accuracy in the event of future scaling up of the SCT programme.

6.5.4   The problem of containing administrative costs

Reference has already been made to the problem of controlling the administrative costs of implementing social cash transfers in Malawi, as the SCT programme expands to cover more districts. In particular, it was noted that projected future operational costs of the programme at its current level of coverage are set at around 23 per cent; while in its early years the Mchinji scheme reported administrative costs of only 7.2 per cent. In fact, the 7.2 per cent figure seems to have represented more an effort on the part of the district administration to comply with the strictures of the original project document (which set 8 per cent as the maximum allowable administrative share of the project budget) than a realistic accounting of scheme costs. The Mchinji evaluation examined administrative expenditures on a monthly basis for the operation of the Mchinji scheme from September 2006 to January 2008 (Table 6.14) and found that the true level of such expenditures represented about 14 per cent of the total grant rather than the 8 per cent stipulated in project documents.

Operational costs are a very real issue for an expanded social cash transfer programme. It is widely acknowledged in Malawi that they have tended in the past to be inordinately high in public works programmes managed by MASAF (40 per cent and upwards above transfer value),[71] and as discussed in Chapter 5, they are high also for the ISP. Some countries report operational costs as low as 5 per cent for delivering categorical transfers like pensions; so projected costs approaching 25 per cent for a social cash transfer begin to seem quite excessive. Of course the more that a given budget is absorbed in administrative overheads and delivery costs, the less is available for intended beneficiaries, both in terms of coverage (the number of beneficiaries) and the amount of the transfer to them.

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[71] See, for example, Chirwa (2007)

Table 6.14: Distribution of Mchinji scheme expenditures, as percentage of total costs

Month/year	Targeting	Administrative changes	M & E	Overhead	Total operations	Transfer grant
Sept 2006	26	0	0	11	39	61
Oct 2006	34	0	0	4	41	59
Nov 2006	16	1	0	6	26	74
Dec 2006	10	0	1	5	17	83
Jan 2007	7	0	0	5	18	82
Feb 2007	7	0	0	3	13	87
Mar 2007	0	0	0	0	1	99
Apr 2007	0	0	0	0	1	99
May 2007	0	0	0	0	1	99
Jun 2007	2	1	0	2	6	94
Oct 2007	0	1	0	1	8	92
Nov 2007	0	0	0	2	4	96
Dec 2007	0	0	0	0	4	96
Jan 2008	0	1	0	2	9	91
Overall	**8**	**0**	**0**	**3**	**14**	**86**
Planned	3	1	1	3	8	92

Note:
  (a) Reports were missing for July, August and September 2007
  (b) Costs of delivering the actual cash grants per month are not included in the operational costs. They include transport, security charges, fuel etc.
  (c) Planned costs are from the original proposal and log frame.

Source: Miller, *et al.,* (2008b, p.13)

6.5.5 Purchasing power of nominal cash transfers

The final potential weakness of social cash transfers considered here is that of their purchasing power in the context of food price instability or longer run food price inflation. In general, cash transfers are predicated on a reasonably stable food price environment and low inflation. While, the potential to undertake an annual review of their purchasing power is evidently there, governments cannot be relied to act on such information, especially if such action is discretionary rather than mandated in law. The Mchinji scheme (and its extension to six additional districts) has had the same nominal level of transfers since scheme inception in September 2006. This works out at roughly MK2,000 per household per month, and this is the figure that appears in all planning documents related to SCTs in Malawi (see Table 6.9 above).

A useful starting point for examining the evolving purchasing power of the social transfer in the case of the Mchinji scheme is to establish the command over maize that it represented soon after it was launched. This is done in Table 6.15 for November 2006. The table has columns for the monthly transfer according to household size, and shows the quantity of maize that the entire transfer could purchase given the price of maize in Mchinji in that month. In addition, the table shows the daily maize requirement per individual in the household (based on nutritional data provided in Chapter 4, Table 4.20), the monthly maize requirement, and the degree to which the cash transfer in November 2006 could satisfy this requirement. The table in fact demonstrates the generosity of the levels of cash transfer originally decided. The transfer was very substantially more than sufficient to purchase individual and household maize requirements, the degree of this implicit 'surplus' varying from 55 per cent for a one person household to 40 per cent for a 4 person household.

Table 6.15: Illustrating effects on cash transfer grants on different households

Household size	1 person	2 person	3 person	4 person
Monthly cash grant (MK)	600.00	1,000.00	1,400.00	1,800.00
Daily maize requirements (kg)	0.43	0.86	1.29	1.72
Maize Nov 2006 grant could buy (Kg)	29.0	48.0	67.0	86.0
Nov 2006 maize requirements (kg)	12.9	25.8	38.7	51.6
Maize surplus (Kgs)	16.1	22.2	28.3	34.4
Maize surplus as % of maize bought	55.1	46.2	42.3	40.2

Source: Author calculations based on November 2006 Mchinji maize prices in the text above.

Having established this baseline, the maize purchasing power of the transfer is examined on a quarterly basis from the final quarter of 2006 to the second quarter of 2010 in Table 6.16. This gives the quarterly average maize price for Mchinji district (MoAFS official price data), the average quantity of maize that could be bought at that price, and the variations in maize sufficiency that would apply to households of different sizes, obtaining different levels of cash transfer under the scheme. This reveals that during 2007, when there was an unusually deep seasonal fall in prices post-harvest, households of every size gained, and all cash transfer beneficiaries would have found themselves not only able to afford sufficient maize for their daily requirements throughout the year, but would also have had money available for other

basic needs and discretionary expenditures.[72] However, from late 2007, the retail maize price in Mchinji began to rise, and in nominal terms rose from MK18.24 kg in the third quarter of 2007 to MK59.64 in the first quarter 2009 (a nominal rise of 227 per cent). This tipped the maize purchasing power balance of cash transfer households steeply into negative territory, at worst causing a 4-person beneficiary household to be able to afford only a quarter of their monthly maize requirement (deficit of 76.7 per cent shown in the table). In general, households would have been in this negative territory (level of transfer unable to meet fully maize consumption needs) for the period from mid-2008 to mid-2009, with lingering effects thereafter on bigger households until 2010. It is only in the last quarter shown in the table, that the maize price drops to a level where, once again, the transfer is more than enough to purchase all the households maize consumption needs. This progression is illustrated for the 'average' column given in Table 6.16 in Figure 6.8 below.

Table 6.16: Food security effectiveness of cash transfer grants 2006-2010

Year	Quarter	Mz price (MK/kg)	Avge mz buy (Kgs)	Household maize surplus or deficit (%)				
				1 Person	2 Person	3 person	4 Person	Average
2006	Oct-Dec	22.38	53.9	51.0	41.3	37.1	34.8	41.0
2007	Jan-Mar	22.29	54.1	52.1	42.5	38.4	36.1	42.3
	Apr-June	17.52	68.6	61.9	54.3	51.1	49.2	54.1
	Jul-Sep	18.24	66.1	60.0	51.9	48.5	46.6	51.8
	Oct--Dec	23.33	51.7	48.7	38.5	34.1	31.7	38.2
2008	Jan-Mar	29.03	41.7	36.9	24.3	18.9	15.9	24.0
	Apr-June	34.73	35.9	24.7	9.6	3.1	-0.4	9.2
	Jul-Sep	55.79	21.6	-22.6	-47.2	-57.7	-63.5	-47.7
	Oct--Dec	53.24	22.6	-17.0	-40.4	-50.4	-56.0	-41.0
2009	Jan-Mar	59.64	20.2	-32.5	-59.0	-70.4	-76.7	-59.6
	Apr-June	47.56	25.3	-3.3	-24.0	-32.9	-37.8	-24.5
	Jul-Sep	36.55	33.0	19.7	3.7	-3.2	-7.0	3.3
	Oct--Dec	41.66	28.9	9.0	-9.3	-17.0	-21.4	-9.7
2010	Jan-Mar	43.80	27.9	6.5	-12.2	-20.2	-24.7	-12.7
	Apr-June	24.52	49.1	48.3	38.0	33.6	31.1	37.7
	Average	35.77	39.7	21.9	6.3	-0.3	-4.1	6.0

Source: Compiled as explained in the text and following principles in Table 6.15

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[72] For the purpose of this exercise, beneficiary households' own maize production is ignored and they are treated as pure consumers. To the extent that they satisfy a proportion of their maize requirements from own cultivation, their net food security position is better in all time periods than is suggested in this table.

Figure 6.8: Trends in cash grant-maize availability and household requirements
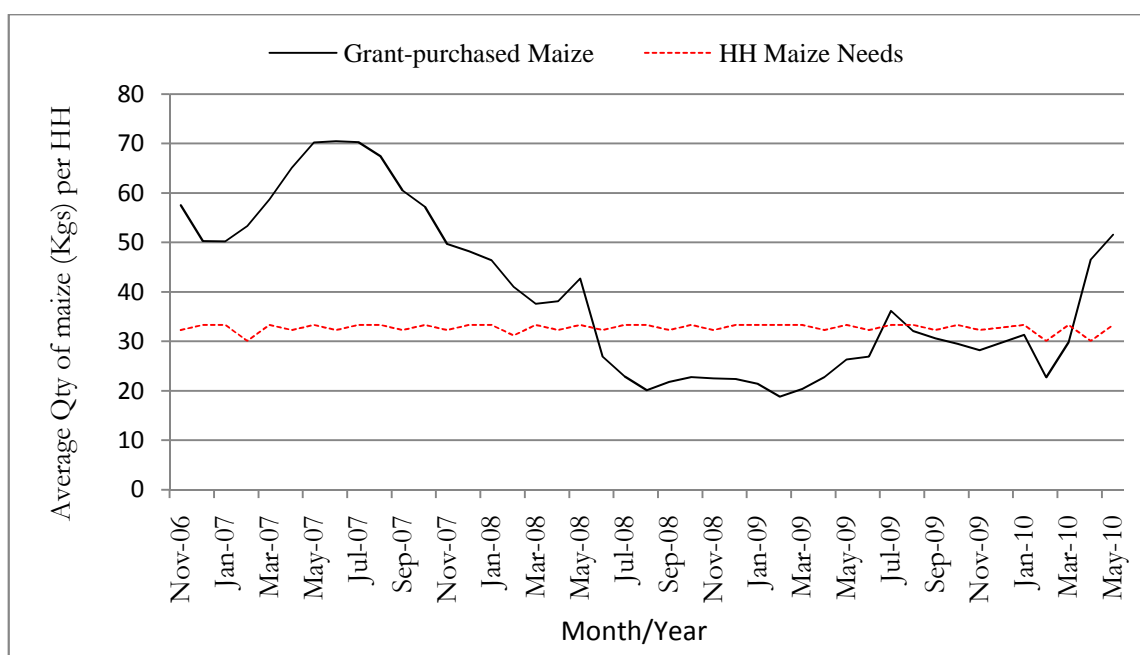
Source: Compiled using average data underlying Table 6.16

Aside from demonstrating the potential flaw of social cash transfers of a given nominal value in relation to food price instability or inflation, Table 6.16 reveals some features of the Mchinji scheme that were neglected in its evaluation, and have been barely remarked upon in the literature. It seems clear that the original transfer levels determined for the Mchinji pilot were excessively generous, implying a higher cost and less coverage of the scheme than would have been possible with lower payments. After all, the purpose of an SCT is to secure the basic minimum calorie requirement of a destitute or near destitute household. Table 6.16 shows that in the first 18 months of scheme operation, the transfer level allowed consumption well in excess of this minimum, and that this pertained again, four years later in mid-2010. This explains findings that recur in this thesis (especially in Chapter 7) that the SCT has enabled beneficiary households to outstrip the living conditions of poor non-beneficiaries, and this also connects to the preceding point about the income distribution effects of cash transfers.

6.6 Summary

This chapter has examined in detail the experience so far in Malawi of implementing poverty targeted social cash transfers. These are welfare transfers directed at the weakest members of society, and they are unconditional. Their primary aim is to ensure the basic food security of

families that for a variety of reasons are thought to be unable to secure a sufficient livelihood to fend for themselves even in 'normal circumstances' as far as food production and availability is concerned. The chapter provides a detailed account of the Mchinji pilot SCT scheme, a summary of the key findings of an evaluation of that scheme, the experience of expanding the scheme to additional districts, and an examination of strengths and weaknesses of SCTs in Malawi.

Available evidence suggests that social cash transfers have a very considerable positive impact on the lives of families who are fortunate enough to be selected to receive them. Not only is the food security of beneficiary households achieved, but cash transfer recipients are also observed to purchase farm inputs and invest in assets. In this it is not just the level of the transfer that is important, but also its security as a continuous monthly payment. It is well known that risk pervades the livelihoods of the poor in rural areas of a country like Malawi, and the cash transfer significantly reduces livelihood risk. Moreover, the presence of transfers quite quickly changes the demographic structure of the household, so that households formerly comprising only vulnerable people unable to work (due to old age, chronic illness, disability, or youth) are able to take in able-bodied adults who can take up farm work. More evidence of these positive effects is provided in Chapter 7.

These strengths of social cash transfers also, however, point to an important and often neglected danger. In rural areas of a country like Malawi, very little separates the material standards of living of households in the bottom half of the per capita expenditure distribution, and amongst, say, the bottom three deciles welfare differences become minuscule. Therefore the advent of a social cash transfer for just some of this population quite easily elevates their livelihood circumstances above those of similarly placed families in the same communities, with a risk of provoking social divisiveness. This process has been referred to as cash benefits 'leapfrogging' their recipients up the income distribution. The continuity of payments to the same recipients also makes this a cumulative process, since the cash transfers enable households also to engage in, or expand, agricultural production, use inputs, obtain better access to medical facilities, and send their children reliably to school.

The chapter has also identified other aspects of social cash transfers that require cautious assessment about this approach as a way forward for tackling vulnerability in a country like Malawi. A serious flaw of Schubert's ten per cent rule is shown to be significant variations in the 'ultra-poor labour constrained' across different districts in Malawi, implying that

adherence to the rule over selects such households in some districts (inclusion error) and under selects them in other districts (exclusion error). The question arises whether these errors are acceptable as a trade off for the organisational simplicity of a single cut off point. In practice, targeting errors are thought to be quite high, even without this problem, due to the almost insuperable difficulty of preventing people in positions of power and authority from biasing beneficiary lists in favour of their own friends and relatives. A further problem is the difficulty of keeping costs of delivery in check; as expansion of a cash transfer scheme occurs the stakes get higher in terms of motivating local officials to carry out the considerable extra workload in managing the transfers, and the temptation to use scheme resources for personal gain. Finally, as mentioned already in previous chapters, the value of a cash transfer to its beneficiaries is only as strong as its purchasing power over food and basic needs, and this can be eroded quickly in the event of undue seasonal price spikes or longer term inflation in the price of the staple food.

Chapter 7: Findings of the Mchinji Fieldwork Research

7.1 Introduction

The immediately preceding chapters have discussed as independent policy initiatives the transfer to poor and vulnerable rural households in Malawi of agricultural input subsidies and social cash transfers. In order to support the secondary data of this thesis, the researcher conducted a limited fieldwork exercise in order to gain a more definite feel for critical strengths and weaknesses of the two programmes when they operate independently yet side by side within the same communities. The restricted character of this exercise is discussed in the methodology chapter (Chapter 4). Mchinji was selected as the district within which to conduct fieldwork due to the presence there of the cash transfer scheme since 2006, meaning that the scheme was well established at the time field visits were conducted in 2007-08. Mchinji also of course has experienced the implementation of the ISP since its introduction in 2005/06, thereby permitting comparison of the working of the two programmes in the fieldwork. Specifically, the intention of the fieldwork was to shed additional light on the following questions, with special attention to the middle question on food security:

(1) How does beneficiary selection for the cash transfer scheme and ISP coupon distribution work in practice at district, sub-district and community levels?

(2) How do cash transfers combine with other dimensions of household food security across the seasonal cycle (maize harvests, maize stocks, other cash income sources, maize prices) to provide a certain level of food security for scheme participants, and how does this compare to the food security patterns of non-transfer recipients?

(3) With respect to coupon recipients, how precisely did they deploy them, and to what effect in terms of seeds selected for cultivation, and fertilizer use on different crops? is there evidence of farmers selling coupons or fertilizers, and how does this manifest itself in a sample of households? What other factors (such as membership of farmer's clubs) have a bearing on coupon use by farmers?

The chapter proceeds as follows. The next section examines the district level management of the SCT and ISP programmes, and the way beneficiary selection procedures for both schemes work out at community level. This is followed, in the third section, by an overview of demographic and other social characteristics of the household sample, distinguished between

cash recipients and non-recipients in the overall sample of 90 households in three villages. The fourth section examines food security in the sample in considerable detail including the calorie needs of households according to their demographic structure, the contribution of maize to these needs, the ability of cash transfers and other cash income sources to contribute to food security, the purchasing power of cash transfers as maize prices change, and the food security duration of maize harvests obtained in the 2008 harvest season. The fifth section focuses, still in a comparative way, on coupon recipients, and on evidence for the working of the secondary market in ISP coupons obtained from key informants, focus group discussions and the household survey.

7.2 Management of SCT and ISP in Mchinji in 2007/08

The previous chapters have discussed distinctions between SCT which targets ultra-poor households with no active labour, and ISP which targets poor households (including ultra-poor) that possess land and active labour but have little cash to buy inputs. These key differences aside, both programmes have tended to emphasize similar human vulnerability factors (e.g. chronic illness, orphanhood, elderliness, widowhood or disability) in framing criteria for deciding who should be excluded from or included in programme benefits. While the institutional arrangements for each of the programmes have been discussed in the preceding two chapters, it is useful to see how they interact in the practical implementation context of districts, sub-district levels, and individual communities. Figure 7.1 summarises institutional arrangements as they prevailed in Mchinji district in 2007/08.

In relation to Figure 7.1, the District Commissioner as head of district had organisational responsibility for both programmes. However, daily management of the SCT was the responsibility of District Social Welfare office working through district social cash transfer committee and social cash transfer secretariat and Community Social Cash Transfer Committees (CSCTCs) at VDC level. On the other hand, the management of the ISP was a shared responsibility between the District Commissioner who, working successively through VDCs and Village Input Subsidy Committees, managed the beneficiary registration process; and the District Agricultural Officer who, working with Agricultural Extension Development Coordinators (AEDCs) at extension planning area (EPA) level and by Agricultural Extension Development Officers (AEDOs) or agricultural extension workers at section level, managed the coupon distribution process. At community level, both programmes used the Village Development Committee (VDC) as an institution to facilitate targeting but they differed in the

routes taken to identify beneficiary households and distribute coupons (ISP) or beneficiary cards (SCT). Input Subsidy Committees formed at village level managed the ISP processes, while CSCTCs formed at VDC level managed the SCT processes.

Figure 7.1: Implementation arrangement for the two programmes in Mchinji 2007/08
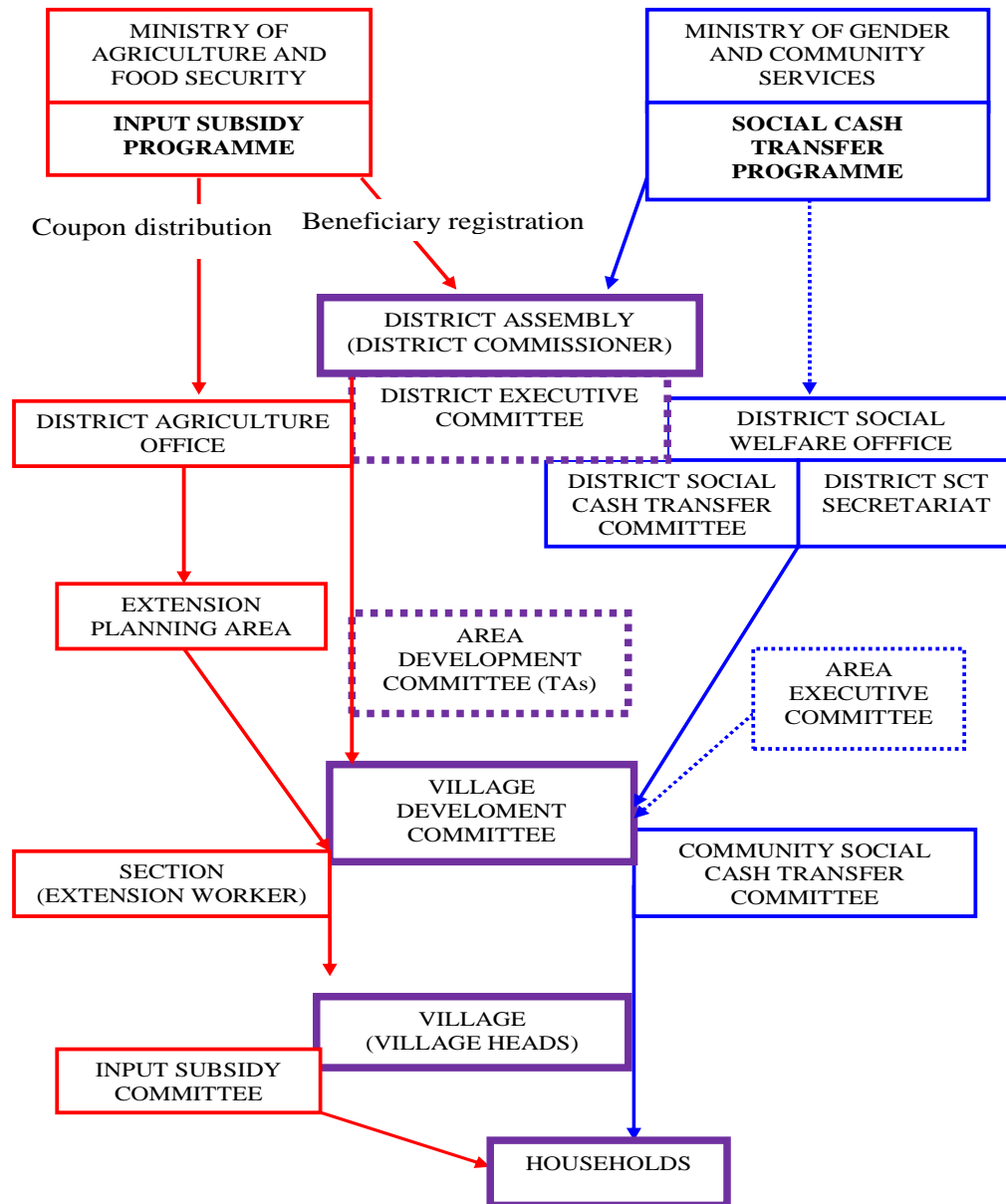
KEY
- Unbroken red – active and influential ISP implementation structure
- Unbroken blue – active and influential SCT implementation structure
- Purple – shared structure for the two programmes
- Dotted lines/boxes - participate in the programmes

Source: Fieldwork in Mchinji district, 2007-08

To select the membership of CSCTCs when the SCT programme was starting in 2006, community meetings of villages were held at VDC level and attended by district officials. Apparently the 'most capable' individuals from the villages were nominated to stand for various committee positions, including individuals who were not present at the meeting but had others standing in on their behalf. Voting was done by supporters physically standing behind a 'blind-folded' candidate of their choice; however, variations in the procedure occurred in some VDCs where voting was done by raising a hand for the preferred candidate. In some cases, candidates were elected unopposed. The process was moderated by local volunteers. A typical CSCTC comprised a chairperson and vice-chair, a secretary and vice-secretary, a treasurer, and 7 elected committee members. However here again variations were evident as individual VDCs tried to ensure that all the villages in their jurisdiction were represented. For example, Kangwere CSCTC had 11 members while Chiti and Mduwa had 14 members each. Village heads were not permitted to be CSCTC members but were still able to influence the work of the committees if they chose, merely by virtue of their status in the community. Based on what was observed during the fieldwork, the CSCTCs could not be said to be entirely independent of other governance institutions at community level. Most members of CSCTCs were also active members of other community committees, including the Input Subsidy Committees.

To select SCT beneficiaries, members of the CSCTCs went round their respective villages to register potential beneficiary households, whose details were then recorded on a form (Form 1s) that village heads approved. The approved village lists (Form 1s) were then discussed at an CSCTC meeting, before holding a community meeting 'observed' by extension workers, village heads and district officials. The community meetings vetted and ranked the registered households according to 'degree of neediness'. It was not clear during the fieldwork consultations whether or not any names were rejected by village heads, CSCTCs or the community meetings. It was found that each VDC submitted to the district slightly more names than were permitted according to the ten per cent rule (Chapter 6). The District Social Cash Transfer Committee (DSCTC) rejected some names apparently for not meeting the criteria for selection; however, a more plausible explanation was the need to observe the maximum ten per cent targeting rule. The researcher obtained official district records at the start of the fieldwork for sampling purposes. The records included households that were submitted by VDCs and those that the DSCTC approved and rejected. Table 7.1 provides a

summary for the three case study communities. It can be seen that the VDCs registered 11 per cent of all households in their jurisdictions, but the DSCTC approved only 10 per cent.

Table 7.1: Comparing eligible and non-eligible households

VDC	Total HHs	Submitted to District		Approved by DSCTC	
		No	%	No	%
Mduwa	1,146	132	11.5	110	9.6
Chiti	861	89	10.3	82	9.5
Kangwere	632	73	11.6	64	10.1
Total	2,639	294	11.1	256	9.7

Source: compiled from Mchinji Social Cash Transfer records, December 2007

Unlike in the SCT programme, beneficiary households in the ISP are registered every year. Variations in the registration process have been discussed in Chapter 5; this section focuses on what was observed to have prevailed in the case study areas in 2007/08. Input Subsidy Committees were formed at village level under the 'authority' of village heads although the latter were not themselves members of the committees. There were variations in the way the committees were formed but in general, the village head appointed individuals to the committees. There were variations even within the same village in the way households were registered as potentially qualified to receive coupons. Some were registered by agricultural field assistants, others were registered by village heads, but overall the majority of households were registered by the Input Subsidy Committees. The committees apparently registered households that were poor households (unable to buy inputs on their own) but nevertheless capable of using the inputs for production. The process of registering ISP beneficiaries in practice took account of the existence in the same communities of the social cash transfer scheme. Based on fieldwork consultations with community members and corroborated by extension workers, the set selection criteria were 'panel-beaten' by community members in order to achieve 'fairness' in the distribution of beneficiaries between the two programmes. The following are examples of arrangements that came to light during focus group discussions with community members in the study sites:

(a) In Chiti village, social cash beneficiary households were generally excluded from registering to receive coupons to minimise unfair advantage over other deserving households that were left out because of the 'one in ten' limit imposed by the social cash transfer scheme.

(b) In Kadimba village in Mduwa VDC where the focus group discussions were conducted, 30 households were registered to receive ISP coupons. Each of the 30 households received two coupons per household which were shared among all 53 households in the village, regardless of whether or not they were also beneficiaries of the social cash transfer scheme.

(c) Kangwere VDC introduced some 'innovative' ways of allocating the beneficiaries. Households that were considered to lack active labour and hence viewed as a waste of resources if given ISP coupons were excluded from ISP registration, but most of them were already cash beneficiaries. Cash transfer beneficiary households that were considered to have active labour and to possess the capacity to pay the subsidised price of MK950 per coupon were registered to receive the coupons in the same way as poor non-cash beneficiary households. Households that were perceived to be non-poor were entirely excluded from the ISP (and were already excluded from the SCT).

(d) In Kangwere, ISP beneficiaries without cash, or with cash only sufficient to purchase one coupon's entitlement to fertilizer were encouraged to pool resources with non-coupon beneficiaries who had the cash (typically, most were social cash beneficiaries) and share the fertilizers. The focus group discussions in Kangwere referred to this arrangement as '*katungwe ndi kukankhana'* (literary translated as: 'in a swing game, you need to take turns in pushing each other so that in the end, both players are satisfied').

(e) In all three case study sites, some ISP beneficiaries (especially those who were also cash beneficiary households) were observed voluntarily to share with non-beneficiaries. The focus group discussions referred to this arrangement as '*chaona mzako chapita mmawa chiona iwe*' (literally translated as: 'what has befallen your friend today is gone, tomorrow it will befall you').

The arrangements (a), (b) or (c) above were facilitated by village heads or with their 'blessings'; while arrangements (d) or (e) were justified by the villagers in terms of being 'one people' (affiliated by blood or marriage, or they had co-existed for generations). Chapter 4 has already discussed the structure of villages and households. The case-study villages were essentially small hamlets (*mudzi*) or 'clans'. For example, Kangwere VDC seemed to

comprise a single Zulu clan such that most members of the CSCTC including the chairperson were direct relatives of the group village head. Some villages such as Mdumpha, Jimu and Tachoka in Mduwa VDC had as few as ten households. In fact, the population of Mduwa VDC comprised 1,146 households living in a total of 33 registered villages, an average of 35 households per village.

The sampling procedure for the research was covered in Chapter 4 above, but its salient features are worth repeating here: 30 social cash beneficiary households were selected from a district level list of approved beneficiaries in the three villages chosen to undertake research; 26 households were selected from the list of names rejected by the district as not eligible for the SCT due to 'not meeting minimum selection criteria', and 34 households were drawn from households that were not in the first place registered for the SCT because they were considered to be less poor. At the time of selecting the sample in October 2007, the distribution of coupon beneficiaries was not yet known because registration was still underway. It later emerged by chance at the first household survey in January 2008 that 8 households were beneficiaries of cash transfers only (9 per cent), 22 households (24 per cent) were beneficiaries of both cash transfers and ISP coupons, 47 households were beneficiaries of coupons (52 per cent), and 13 households were non-beneficiaries of either programme (14 per cent). This outcome is depicted in Figure 7.2. If the weaknesses of community targeting discussed in Chapters 5 and 6 are put on one side for the moment, the eventual structure of the sample suggests that given the ability to distribute between the two programmes, community members would allocate social cash transfers to the poorest ten per cent ('non-viable or incapacitated') and coupons to the next poor 75 per cent (productive but unable to acquire input on their own), while the last 15 per cent would not be registered (non-poor and capable of supporting themselves).[73]

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[73] If we drop the non-beneficiaries (supposedly 'non-poor'), this gives a distribution of the supposedly poor households are follows: 10.4 per cent cash recipients ('ultra-poor and labour constrained'), 28.6 per cent joint recipients ('ultra-poor but with labour') and 61 per cent coupon recipients ('poor households capable of farming but with little cash to buy inputs')

Figure 7.2: Distribution of beneficiary households in the sample for this research
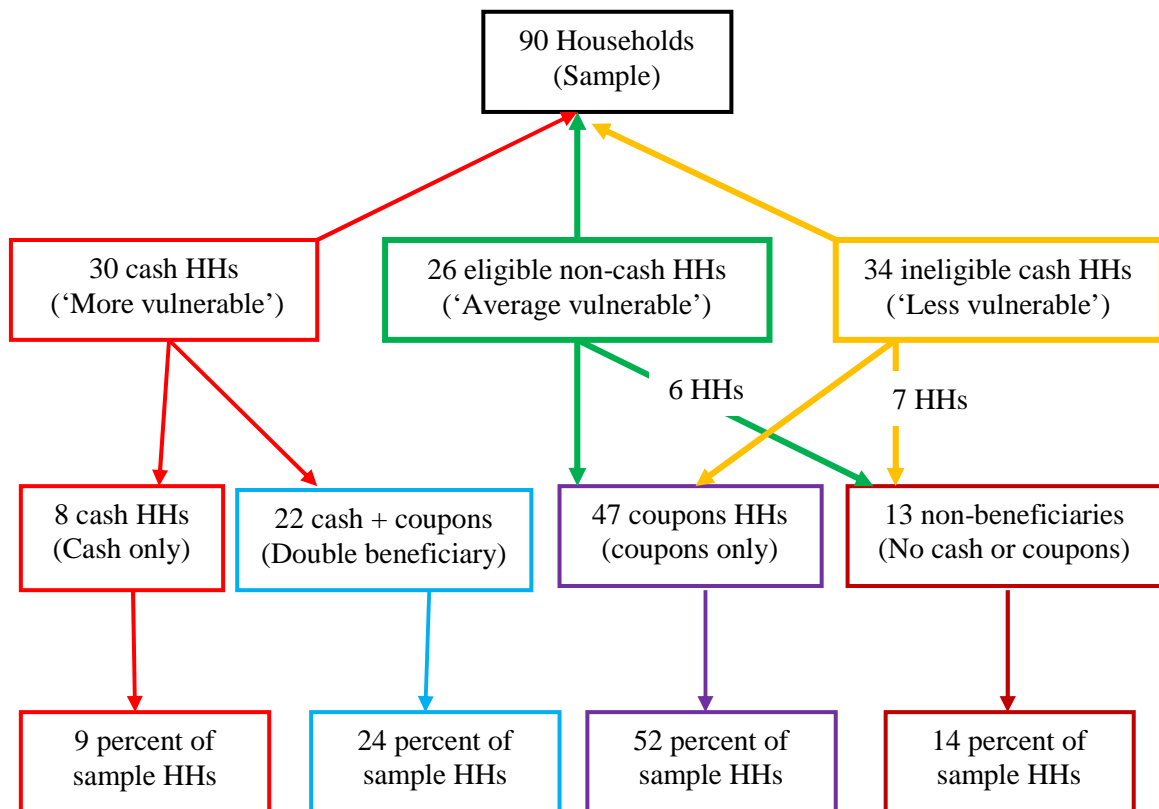
Source: Mchinji Household Surveys, 2007/08

Qualitative investigations with focus groups in each case-study village shed additional light on the way communities interpret poverty and productive capability, and how this results in the beneficiary selection behaviours discussed above. Focus groups were asked to distinguish vulnerable groups applicable in their communities. This generated 3-4 groups across the case-study villages, and the distinctions that were made comprised the:

(i)   'most vulnerable' (*ovutikisitsa* – 'suffering most');
(ii)   'more vulnerable' (*ovutika* – 'suffering');
(iii) 'average vulnerable' (*ovutika pang' no* – 'suffering a little'); and,
(iv)   'less vulnerable' (*osavutika kweni kweni* – 'not suffering very much').

Poverty was referred to as *kusowa* or *kusawuka* ('lacking' or 'needing'), while vulnerability was referred to as *kuvutika* ('suffering'). In Kangwere, relatively better off households were described as *nkhasako (*apparently 'lacking nothing'). Using the participatory wealth ranking method (Ellis and Woldehanna 2005, p.73), households in the case study villages were

assigned between the different vulnerability groups, and discussions were held about the reasons for assignment into specific groups and dynamic factors in the decline or rise in household fortunes over time.

The focus group discussions showed that access to food and agricultural inputs were considered the core factors determining people's relative poverty or vulnerability, and the groups also linked this access to demographic, social and economic factors at household level. The dynamics of poverty and vulnerability were discussed. Elderly-headed households were described as having been 'less or averagely vulnerable' in the past becoming 'more vulnerable' due to the advancing years of the household head. Households headed by persons below age 20 were also described as 'more vulnerable' because they 'lacked established foundations' (*alibe maziko okwanira*). Households headed by women were described as more vulnerable than households headed by men; and households headed by widowed women were considered 'most vulnerable'. Consistently, a widowed woman was referred to as *mayi wamasiye* (literary translated as 'orphaned woman')[74], while divorced or separated women or single women in general were described as *mayi wayekha* ('a woman on her own') or *mayi wa mkono umodzi* (a 'woman of one hand').

People's lifestyles were thought to contribute to their relative poverty or vulnerability. In general, polygamy and ownership of livestock were considered indicators of wealth. On the other hand, individual female headed households within polygamous marriages were often designated as 'more vulnerable' due to the husband's resources, time and effort being spread thinly across his wives. Old age, widowhood, and chronic illness (associated with AIDS) were seen as causes of people becoming more vulnerable over time. The same applied to excessive alcohol consumption. Livestock owners could become poorer and more vulnerable through loss of livestock to foot-and-mouth disease or to theft. Indeed livestock rustling of cattle and goats was mentioned as a growing factor why better off people could fall into destitution. Mchinji district records show that between 1998 and 2000 the goat population fell by 39 per cent and the pig population by 32 per cent, the major cause of which was theft (Government of Malawi 2002b, pp.39-41).

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[74] In the local Chichewa language, *wamasiye* literary means being 'left behind by a deceased'. The term normally refers to an orphan (*mwana wa masiye*) and a widow (*mayi wamasiye*) but rarely a widower (*bambo wa masiye*).

Focus group discussions also distinguished livelihood improvements that had been experienced by some households in the five years preceding the fieldwork. The chief of these was success at tobacco farming and receipt of social cash transfers, thus providing an early indication of the powerful effect that the SCT could have on the fortunes of individual families. In Kangwere, for example, a case was discussed at length concerning a female headed household who had been the most destitute and non-viable in every basic aspect of life, including clothing. The head of this household could not be registered to receive coupons because she was considered unproductive, and lacked active labour. Her situation had improved with social cash transfers, and she was now capable of producing enough food. In 2007-08, this household grew 0.8 ha of maize and applied 100kg of fertilizer; and this despite being a non-coupon beneficiary.

Table 7.2 summarises the vulnerability groups that emerged from this exercise, and the proportions of households in the case-study villages assigned to each group. Across all three villages, 0.9 per cent of households were assigned as 'most vulnerable'; 89.7 per cent as 'more vulnerable'; 4.6 per cent as 'average vulnerable', and 4.8 per cent as 'less vulnerable'. This qualitative assignment matches the distribution of the household sample fairly closely, in particular with only 10 per cent (average plus less vulnerable households) in each case representing non-poor or better off households. It also mirrors findings from other poverty and vulnerability assessments conducted in Malawi. For example, drawing on the wealth ranking in rural Malawi conducted by Chewele and others in 1995, Devereux reports that 63 per cent of households were assessed to be worst off (*wosauka/wosowa*), 28 per cent were fair (*wopezako*), 6 per cent were categorised as fairly well off (*wopeza bwino pang'ono*) while only 3 per cent of the households were assessed to be well-off (*wopeza bwino*) (Devereux 1998, p.38). The fact that nearly 90 per cent of households were placed in a 'more/most vulnerable' category has implications for targeting of social transfers especially where a programme such as the Mchinji Social Cash transfer Scheme puts a cap at only poorest 10 per cent of the population. The earlier discussion in this section about how the case study communities in Mchinji dealt with the targeting of the two transfer programmes (social cash transfers and the input subsidy programme) reflects this subjective categorization of people's vulnerability in the communities.

Table 7.2: Vulnerability distribution of households in case study sites in Mchinji

Vulnerability/ poverty group	Major criteria (common to all 3 sites)	VDC totals (number off HHs)			All 3 FGD sites	
		Mduwa (53)	Kangwere (274)	Chiti (130)	No (457)	%
Most Vuln.	Lacks almost everything	1	3	0	4	0.9
More Vulnerable	Persistently lack food. Farms but with difficulty (lack inputs, old age, chronic illness etc). Limited assets Missing meals some days	41	253	116	410	89.7
Average vulnerable	Own food not last 6 months. Low incomes & assets Two meals per day	0	7	14	21	4.6
Less vulnerable	Own food all year. Regular and more money (remittance, formal jobs) Assets and businesses 2-3 meals per day	11	11	0	22	4.8

Source: Mchinji Focus Group Discussions (FGDs), 2007/08

A number of concerns have been raised recently in southern Africa in relation to perceived weaknesses of community targeting of social transfers, especially social cash transfers (Conning and Kevane 2002). One problem relates to exclusion and inclusion errors that arise due to an inability in practice to implement prescribed targeting criteria. Some studies (Chinsinga 2005, Miller *et al.* 2008c) have attributed the failure of community members to follow prescribed criteria to limited understanding, however, this research offers an alternative view on the basis of the above findings. It was evident in discussions that community members understood the selection criteria perfectly well (indeed, they were able to narrate them almost word perfect). In effect they 'bent' the rules judiciously in order to ensure fairness, given the different types of support (coupons and cash transfers) on offer. Community members interviewed saw nothing underhand or illegitimate in these decisions.

Quite different, however, are claims of malpractice (nepotism and corruption) in which power or control is used in order to favour some individuals or sections of the community (or government officials). An outcome of the fieldwork for this thesis is that an important distinction exists (and needs to be made in evaluating the success or otherwise of targeting) between modifications to prescribed criteria decided by villagers themselves on grounds of fairness or inclusiveness, from modifications that benefit specific individuals in positions of

power. It is considered that much previous discussion on this issue has conflated these two categories unhelpfully, casting doubt on the value of community participation in beneficiary selection, when in fact if communities are given genuine free reign in this type of decision making, equitable outcomes seem likely to follow. Of course it is always a possibility that powerful individuals can wrest control of a community decision making process, or find ways of ignoring the broader wishes of members, but this cannot be assumed always to occur as illustrated by the observation of community targeting processes in this fieldwork.

The foregoing discussion leads us to describe the broader context in which the two programmes operate in Mchinji. This is not a deprived district in relative Malawi terms, as discussed in previous chapters. While in Malawi as a whole 40-80 per cent of the rural population are at risk of missing food entitlements during the months of January-March every year, Mchinji is not regarded as one of the 'hotspot' districts (see section 6.2.1 and table 6.1 in Chapter 6). Analysis of the maize production productivity potential of the district has been provided in Chapter 4 (see Section 4.3.2 and Figure 4.3). The low vulnerability of the district can be deduced from food balance sheet situation depicted in Table 7.3 below which reveals that maize production (MT) has increased steadily and matched population growth. In the 12 crop seasons from 1996/97 to 2007/08, the district recorded an average maize surplus of 38 per cent comparing to a national average of 2 per cent, with deficit maize balance sheet in most years.

Table 7.3: Mchinji versus national maize balance sheet

Crop Year	Mchinji District Maize Balance sheet				National Maize Balance sheet			
	Prod (MT)	Pop	Consum. Needs	Surplus /Deficit (%)	Prod (MT)	Pop	Consum. Needs	Surplus /Deficit (%)
1996-97	72,738	317,270	50,256	31	1,226,478	9,738,983	1,542,655	-26
1997-98	93,200	324,941	51,471	45	1,534,326	9,933,868	1,573,525	-3
1998-99	86,633	335,144	53,087	39	2,245,824	10,184,501	1,613,225	28
1999-00	92,165	345,667	54,754	41	2,290,018	10,441,457	1,653,927	28
2000-01	66,089	356,520	56,473	15	1,589,437	10,704,896	1,695,656	-7
2001-02	81,469	367,714	58,246	29	1,485,272	10,974,982	1,738,437	-17
2002-03	76,688	379,260	60,075	22	1,847,476	11,251,882	1,782,298	4
2003-04	86,893	391,168	61,961	29	1,608,349	11,535,768	1,827,266	-14
2004-05	94,633	403,450	63,906	32	1,225,234	11,826,817	1,873,368	-53
2005-06	150,537	416,118	65,913	56	2,611,486	12,125,209	1,920,633	26
2006-07	167,963	429,183	67,983	60	3,226,418	12,431,129	1,969,091	39
2007-08	158,070	456,558	72,319	54	2,634,701	13,066,320	2,069,705	21
Average	102,257	376,916	59,704	38	1,960,418	11,184,651	1,771,649	2

The low vulnerability of Mchinji district from a maize balance perspective is also affirmed by relative maize price levels that prevailed in 2007/08 which were below national trends. Although the prices had increased from MK150-200 in 2006/07 to MK450-600 in 2007/08 for a 20-kg pail of maize, these were low compared to national averages. A kilogram of maize in Mchinji sold at MK27-35 compared to over MK50 in other parts of the country (Government of Malawi 2008j). Of course, maize prices varied greatly between communities and at different points of time. During the fieldwork period, a kilogram of maize sold at an average price of MK20 per kilogram in Mduwa compared to MK45 in Kangwere. During the harvest period (April-May 2008), maize in the district was selling at a mean price of MK45 per kg but this later dropped to MK35 in June and picked up to MK50 in October 2008. Chapter 6 has argued that the sudden rise in prices did not signal looming hunger but a response to government restrictions on maize trade. District statistics compiled in Table 7.4 show that only one per cent of households in the district were deemed at risk of missing food entitlements and requiring emergency support in the 2006/07 and 2007/08 seasons.

Table 7.4: Distribution of households lacking food in Mchinji in 2006/7 and 2007/08

EPA	Oct 2007-March 2008		Oct 2006-March 2007	
	Total Farm Families	% lacking food	Total Farm Families	% lacking food
Mkanda	27,679	0.4	23,338	1.0
Kalulu	17,843	1.1	14,301	1.1
Mikundi	24,011	1.1	21,780	1.2
Chioshya	24,614	1.2	23,543	1.0
Mlonyeni	20,693	0.3	17,662	0.6
Msitu	26,507	0.6	25,631	1.1
Mchinji	141,347	0.7	126,255	1.0

Note. Mikundi EPA covers Mduwa and Kangwere while Kalulu EPA includes Chiti VDC

Source: Government of Malawi (2008j, p.2)

It seems that Mchinji counts amongst the least vulnerable in Malawi. The district is one of the nine districts in the central region of Malawi where per capita incomes are relatively high in comparison to the country as a whole. Central region contain six of the richest ten districts in Malawi. By comparison, the southern region is the poorest region containing 8 out of the 13 poorest districts. Mchinji is ranked within the middle ten districts in Malawi on poverty criteria (World Bank 2007a). However, the district does have high prevalence rates of

malnutrition (20.9 per cent underweight compared to 20.5 per cent national), stunting (57.5 per cent compared to 46 per cent national), and wasting (3 per cent compared to 3.5 national) (Government of Malawi 2006b, p.46). This is attributable to low nutritional diversity in the district; unlike in many Malawi districts where people can draw on rice, cassava, millet and sorghum, as well as maize, for their energy foods, there is limited diversity in starchy staples in Mchinji (Government of Malawi 2008d). The apparently high incidence of 'vulnerable' households in the case study sites as interpreted by villagers (and depicted in Table 7.2 and Figure 7.2) may not hold up to scrutiny when confronted with quantitative evidence on food security, although this is an open question (see next section).

Certainly, focus group discussions tended to paint a difficult food security picture for most households. In Kangwere, it was claimed that by October every year (about 6 months from the maize harvest), two thirds of the households had run out of food from own maize production and therefore had to rely on *ganyu* sources. Focus group discussions also revealed the major coping mechanisms used by villagers when their food ran out. In Kadimba village in Mduwa VDC, coping strategies in the 2007/08 season included buying *gaga* (maize bran) at maize mills, and premature harvesting of the potato crop. In Kangwere and Chiti VDCs, *ganyu* at a nearby orphanage[75] or across the border in Zambia was a significant strategy. The most common form of *ganyu* was farm work which involved land clearing at MK1,500 per acre and ridging or weeding at MK3,000 per acre. It was claimed that those not involved in *ganyu* relied on non-farm cash sources (petty trading etc.) or cash transfer grants in case of SCT beneficiary households. Further evidence regarding participation in *ganyu* is given in later sections of this chapter.

7.3 Socio-economic characteristics of cash and non-cash beneficiaries in the sample

An important factor to consider when interpreting data presented in this and subsequent sections is that comparisons between cash transfer beneficiaries and others in the sample (including coupon recipients) reflect adaptations in the livelihoods of cash transfer beneficiaries already set in train by their receipt of cash transfers since late 2006 (Chapter 6). Therefore expected differences between sub-samples as a result of implementing different criteria in their selection (detailed above) do not necessarily convert into actual differences more than a year into SCT operation. The reasons for this are fairly obvious: the regular

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[75] The orphanage is called Home For Hope Orphanage and it is where the international musician Madonna adopted an orphaned boy (David Banda) in 2008.

receipt of cash transfers makes a receiving household a secure place to live; it is not only the amount of money that is received that is important, it is also the reduction in livelihood risk experienced by beneficiaries; relatives are likely to come home or stay home, changing the labour force profile of the household compared to when households were first assessed for inclusion in the scheme.

As discussed in some detail in Chapter 6, the Mchinji social cash transfer pilot programme was designed to meet the basic consumption needs of the 'poorest of the poor' in rural Malawi, designated as ultra-poor households lacking able-bodied labour capable of providing the family with a living. The criteria used to identify prospective scheme beneficiaries rested heavily in the first instance on lack of able-bodied labour, translated as households with a dependency ratio of 3.0 or over. In this context, the dependency ratio is the number of dependents in the household divided by the number of economically active adults aged 19-64. Dependents include all children aged under 19, older people of 65+, chronically ill and disabled people. Children also of course include orphans, looked after by the adults in the household. Thus a family comprising a single mother aged 35 looking after 5 children aged between 3 and 16 clearly complies with the dependency criterion (dependency ratio 5, in this instance). In addition to the dependency ratio other descriptive criteria are looked at to aid discussion and decision making: old age, orphans, disability, known individuals who are chronically sick and so on). In view of these criteria, as suggested above, the initial expectation might be that cash transfer households in the sample survey (30 households) should show significantly different levels of vulnerability indicators than non-cash transfer households (60 households). Table 7.5 presents findings in this regard from the sample survey, comparing beneficiary and non-beneficiary households in terms of household size, prevalence of vulnerability conditions such as chronic illness, orphanhood or elderliness, dependency and labour availability.

A mixed picture emerges from Table 7.5, converging on rather a lot of similarity between the two sample groups. Cash transfer households contain double the proportion of elderly people (16 per cent against 8 per cent), and nearly three times the proportion of disabled people (10 per cent against 3.3 per cent), and these differences are significantly different. On the other hand non-cash households have a higher proportion of chronically ill, and households with a dependency ratio greater than 3.0 are higher in the non-cash group than the cash group. No significant differences are found for average household size, mean absolute numbers of

vulnerable persons, mean dependency ratio, or adjusted (see below) labour availability. These results concur in some respects with the findings of other researchers. As shown in Chapter 6 (Table 6.12) only 16.7 per cent of the cash beneficiary households considered to be also ultra-poor met the dependency cut-off ratio of 3.0 (Miller *et al.* 2008c) while in Machinga district, the proportion was found to be 25 per cent (Seaman *et al.* 2008).

Table 7.5: Characteristics of the sample households

Demographic characteristics	All HHs	Cash	Non-cash	P-value
Number of Households (n)	90.0	30.0	60.0	
Total persons in the HHs	485.0	145.0	340.0	
Below 18 years (%)	59.8	54.5	62.1	.120
19-64 years (%)	29.7	29.7	29.7	.991
65 years and above (%)	10.5	15.9**	8.2**	.012
Average household size	5.4	4.8	5.7	.129
Std. Deviation	2.3	2.5	2.2	
Reported vulnerable persons (% HHs)				
Disabled	5.6	10.0	3.3	.196
Chronically ill	10.0	6.5	11.7	.459
Orphans	42.1	40.0	35.0	.764
Mean vulnerable persons	2.0	2.3	1.8	.171
Household dependency				
Persons 19-64 yrs fit to work (W)	141.0	41.0	100.0	
Dependents or consumers (C)	344.0	104.0	240.0	
% HHs with DR < 3.0	66.7	70.0	65.0	.637
% HHs with DR > 3.0	14.4	10.0	16.7	.399
% HHs with incalculable DR (%)	18.9	20.0	18.3	.850
Dependency ratio (calculable)	2.4	2.5	2.4	.884
HH labour availability (adult units)				
Actual labour (any, above 7 yrs)	3.0	2.8	3.2	.199
Adult labour (19-64 yrs, fit)	1.4	1.2	1.5	.277
Adult labour to Actual labour (%)	42.7	42.2	43.0	.899
Persons > 7 yrs offering labour Oct-Jan	409.0	127.0	282.0	
Farm work (%)	88.0	92.9**	85.8**	.041
Ganyu work (%)	44.7	38.6	47.5	.493
Business (%)	8.8	10.2*	8.2*	.093
Public works programme (%)	2.2	4.0	1.4	.103
Total persons 6-18 years (school age)	235.0	68.0	167.0	
Not schooling (%)	9.8	7.4	10.8	.453
Primary class 1-2 (%)	66.8	69.1	65.9	.632
Primary class 6-8 (%)	20.0	20.6	19.8	.886
Secondary Form 1-2 (%)	3.0	2.9	3.0	.983
Secondary Form 3-4 (%)	0.4	0.0	0.6	.523
All persons in school (4-26 yrs)	229.0	69.0	160.0	
% persons aged 6-18 years (sch. age)	87.8	87.0	88.1	.805

Key: *** $p<0.01$; ** $p<0.05$; * $p<0.1$
Source: Mchinji Household Surveys, 2008

The figures for household members available to work in Table 7.5 takes into account the reality that children under the age of 18 contribute to the labour force of the household, as is prevalent throughout rural Africa. The ages of all persons were converted into adult-labour units using factors provided in Chapter 4 (see Table 4.17). In the January survey, households were asked about individuals in the house who had provided farm labour (worked in family farms or *ganyu*) and other productive engagements between October 2007 and January 2008. Notably the data suggest that in a typical Malawi household, active adult labour contributes only just over 40 per cent of the total labour available in the household. There is no difference between cash and non-cash sample households in terms of labour availability but the results suggest that significantly more individuals in beneficiary than in non-beneficiary households participated in family farms and businesses.

The final part of Table 7.5 contains data on schooling. Again this does not demonstrate any significant differences between the cash and non-cash households in the sample. Rates of school attendance are high in this sample, with over 90 per cent of all children of schooling age (6-18 years). This might be expected for cash transfer recipients due to a bonus that is paid for school attendance, but the similarity in proportions of the non-cash beneficiaries seems surprising. An interesting implication of these high attendance rates is that the labour force participation of children discussed in the previous paragraph is conducted in parallel with going to school, implying that a lot of work is conducted out of school hours.

7.4 Cash transfers and food security

The central topic investigated in the sample survey was the food security circumstances of households, where it was considered that interesting light might be shed on the effect of cash transfers in helping very poor and vulnerable households remain food secure during the calendar year. In this section, a number of different dimensions of this topic are explored. These include the evolution of maize stocks during the year, allowing replenishment through cash purchases; the impact of cash transfer receipts on available household cash income; the level of cash transfer income and its distribution between alternative expenditures; the simulated food security capability of cash transfers if they were wholly spent on food; the role of *ganyu* in generating cash, especially for non-beneficiaries of the cash transfer; and the maize provisioning duration of the 2008 maize harvest, not allowing for replenishment using cash resources. The purpose of this section is therefore to explore food security relationships in the different sub-samples, and examine what happens to families when the maize runs out.

The sample survey offered an opportunity to examine various ratios and conversions concerning the contribution of maize to food security in Malawi that are encountered throughout the thesis, and about which a more precise picture can be achieved by examining how these work at household level. For example, a conversion factor of 0.43 kg maize per person per day (72.8 per cent of calorie requirement provided by maize) is deployed at various points in the thesis, the origins of which have been discussed in Chapter 4, and at household level it can be used to construct a picture of how long a particular level of initial maize harvest or stocks will last before the household has to turn to the market to obtain additional supplies.

7.4.1 Maize calorie needs and evolving stock position in 2007-08

The first aspect examined is the evolution of actual maize stocks held in households over a 9-month period (4 repeat visits) between January and September 2008, reflecting stock replenishment as well as run down from an initial harvest position. The sample surveys conducted in January, March, May and September 2008 asked households for the sources of food stocks that they had in the household at time of survey. The distinctions were between own food production, purchased from own cash income, purchased using the cash transfer, and obtained through *ganyu* (often remunerated in the form of food). The findings for each round of the survey are summarised in Table 7.6, with some interesting implications.

Chapter 4 has described conversions that were conducted on the data collected in order to permit comparisons between households. Table 7.6 provides data on the outcome of this exercise, given that all households in the sample were visited in January and September 2008, and a sub-sample was visited in March and May 2008. In each survey, households were asked how much maize they had in store at that moment in time. The table shows the mean household calorie requirement from maize, calculated according to the procedure described above. It also shows average maize stocks per household at each survey, in calorie terms. Finally, it shows how many days into the future stocks will last from the given stock position.

The results in Table 7.6 show that over 90 per cent of the households had food at every survey visit. The strikingly low proportion of households with food stocks during the May visits which was also crop harvest period does not mean a food crisis (see Figure 7.4). Rather, the food was not readily available in the house, but was ripe in the fields. It can also be seen that the timing of the surveys reveals critical differences in household maize stocks at different

points in the year. January-March is lean season, some 8-9 months after the 2007 harvest, and 3-5 months before the next harvest. Average stock duration of about 15 days at this time reflects households making short term purchases of maize to cover routine consumption (i.e. for most households stocks from the last harvest will have already been depleted). In March, most households run out of food, and therefore market sources become important and so too are the social cash grants. In May, a major proportion of the total harvest occurs, and means stocks rise to give 2-3 months forward cover of consumption. By September, the rest of the harvest will have occurred (May-June), but mean stocks have already begun to decline, giving diminished forward cover. Again, the role of the social cash grants are significant here as beneficiary households might have purchased contingency maize stocks (especially with fears of looming hunger that saw maize prices soaring from June 2008, as noted in Chapter 5).

Table 7.6: Availability of food maize in the sample households, Jan-Sep 2008

Food Security Variables	All HHs	Cash	Noncash	P-value
Sample (Jan and Sept)	90	30	60	
Sample (March and May)	30	11	19	
Household size				
January survey	5.4	4.8	5.7	.129
September survey	5.4	4.5**	5.8**	.030
Daily HH maize requirement (Kgs)	2.7	2.4	2.8	.187
Std. Deviation	1.2	1.2	1.1	
HHs with maize stocks (%)				
January survey	97.8	100.0	96.7	.315
March survey	96.7	100.0	94.5	.832
May Survey	46.7	54.5	42.1	.582
September survey	93.3	96.7	91.7	.373
Mean stocks HH maize (Kgs)[a]				
January survey	31.6	32.6	31.1	0.860
March survey	21.7	25.6	18.9	0.159
May Survey	189.1	90.4	250.8	0.211
September survey	114.2	126.9	107.5	0.348
Days HH maize stocks last[a]				
January survey	14.9	18.4	13.0	0.265
March survey	8.9	13.0**	6.1**	0.026
May Survey	72.3	42.5	91.0	0.256
September survey	60.6	67.5**	57.0**	0.037

Key: *** p<0.01; ** p<0.05; * p<0.1
[a] Only households with food stocks and after removing outliers
Source: Mchinji Household Surveys, 2008

It is notable that significant differences between cash and non-cash beneficiaries emerge from this exercise. Cash transfers allow recipient households to buy-in maize stocks during lean periods (January and September but not March and May surveys), and this is potentially a major benefit of an SCT, verified by the data in Table 7.7.

Table 7.7: Sources of food at survey visits (%)

Sources of food by survey visit	All HHs	Cash	Noncash	P-value
Sample (Jan and Sept)	90	30	60	
Sample (March and May)	30	11	19	
January Survey				
Own food production	15.9	16.7	15.5	.889
Purchase, own income	12.5	20.0	8.6	.128
Purchase, cash transfer	11.4	33.3	-	
Other (*ganyu*)	60.0	30.3***	75.9***	.000
March Survey				
Own food production	3.6	0.0	5.9	.781
Purchase, own income	3.6	0.0	5.9	.711
Purchase, cash transfer	3.6	9.1	-	
Other (*ganyu*)	85.7	81.8	88.2	.817
May Survey				
Own food production	92.9	100.0	87.5	.776
Purchase, own income	0.0	0.0	0.0	1.000
Purchase, cash transfer	0.0	0.0	-	
Other (*ganyu*)	7.1	0.0	12.5	.776
September Survey				
Own food production	73.0	72.4	72.7	.976
Purchase, own income	9.5	0.0**	14.5**	.032
Purchase, cash transfer	8.3	24.1	-	
Other (*ganyu*)	9.5	3.4	12.7	.171

Key: *** p<0.01; ** p<0.05; * p<0.1

Source: Mchinji Household Surveys, 2008

Figure 7.3 shows graphically how these stock and duration positions evolve for the survey visit dates. It is clear that the food security of cash transfer recipients is achieved by virtue of the receipt of the transfer, with the cash transfer enabling between a quarter and a third of all food to be purchased, except in May when households stated they were self-sufficient from own production. For non-cash recipients, *ganyu* is of critical importance at food deficit times

of the year as shown in particular by the 76 per cent of their food supplies in January being attributable to *ganyu*. Another way this could be interpreted is whereas cash transfer recipients have a secure fallback position in the event of failures in other sources of their food security, non-cash recipients must work for the totality of the food security they achieve.

Figure 7.3: Evolution of food security position, cash and non-cash households
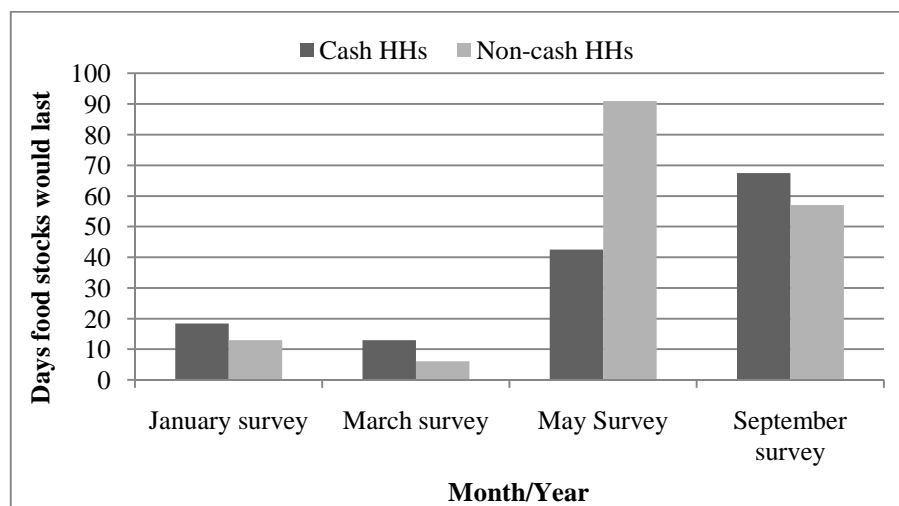
Source: Data in Table 7.6

7.4.2   Sources of household cash income

The foregoing evidence begins to demonstrate the significance of cash income for providing food security when physical stocks of own produced food are depleted, and here the sources of such income are considered in more detail. Household respondents in the January survey were asked to provide enumerators with estimates of their household cash income for the preceding year, and to break this down between different main sources. Table 7.8 shows the findings derived from the cash income questions. It is realised that a one visit survey is unlikely to obtain very accurate results for cash income variables. There are problems of recall (especially for casual work, or sales of minor crops, that occurred sometime over the past year). Individual household members may have cash income sources that the respondent is unaware about, or only has a vague idea of its contribution to the household cash position. There is a tendency to understate income for obvious reasons when being questioned by outsiders. For all these reasons, the literature has a clear preference for estimating household material standards of living through expenditure questions rather than income questions (Deaton 1997). Nevertheless, the cash income questions were asked, and with a view to

strengthening the interpretation of the differing food security circumstances of cash transfer and non-cash transfer households in Mchinji district.

Table 7.8 provides the proportion of households that fall into different annual cash income ranges. This shows that 63 per cent of cash transfer recipients fall into an annual cash income level of MK20,000 or more, while only 10 per cent of non-cash respondents correspond to this top quartile of cash income earners. Furthermore, the average cash income of cash transfer recipients was MK24,782 for the preceding year, while that of non-cash recipients was MK7,463; or less than a third as much. Finally, cash transfers themselves correspond to 84 per cent of cash income received by cash transfer households; while of course this is zero for non-recipients, who instead obtained cash from a mixture of *ganyu*, groundnut sales, tobacco sales and petty trading.

Table 7.8: Annual incomes estimated by households in January 2008

Maize production	All HHs	Cash	Noncash	P-value
Number of observations (n)	90	30	60	
HHs by income level per year (%)				
MK5000 and below	42.2	0.0***	63.3***	.000
MK5000-10000	14.4	16.7	13.3	.673
MK10000 -20000	15.6	20.0	13.3	.413
MK20000 and above	27.8	63.3***	10.0***	.000
Average income per year (MK)	13,236	24,782***	7,463***	.000
Minimum	600	7,200	600	
Maximum	53,600	53,600	50,400	
Standard deviation	12,819	11,579	8,961	
Share of the incomes (%)				
Tobacco	14.9	1.9***	21.4***	.000
Groundnuts	19.1	5.9**	25.8**	.001
Maize	5.2	3.3	6.2	.382
Business (trading/ vending)	6.5	1.5*	9.0*	.054
Ganyu	19.4	1.6***	28.3***	.000
Cash Transfers	28.1	84.4	-	

Key: *** p<0.01; ** p<0.05; * p<0.1

Source: Mchinji Household Surveys, 2008

Despite a lot of variation and recognisably poor quality data in this exercise, it is nevertheless apparent that cash transfers totally transform the livelihood circumstances of recipients compared to non-recipients in the same communities. This can be linked to the previous

observations made in Chapter 6 about the potential for cash transfer recipients to 'leapfrog' the living standards of households adjacent to them in the rural income distribution (Ellis 2011). When, say, 40-50 per cent of rural citizens are truly poor, with little separating them in terms of the material conditions of their lives, the advent of a cash transfer that provides a secure and continuous flow of cash income into the family throughout the year changes completely the fortunes of the households lucky enough to receive the benefit. Moreover, it potentially induces a cumulative divergence between recipients and non-recipients if the transfer is used to invest and accumulate as well as to meet immediate needs.

7.4.3 The level of cash transfers and what they were spent on

It follows from the sizeable impact of cash transfers on comparative levels of household cash income that the level of the transfers themselves is highly significant for food security; moreover, their level may be such as to permit both food security and other objectives to be met by recipient households.

Table 7.9: Expected versus actual cash transfers in the research sample

	HH size (No of HHs)[1]	Actual Cash Transfers[2]		Expected Cash Transfers[3]	
		Per HH	Per Person	Per HH	Per Person
	1 (4)	600	600	600	600
	2 (2)	1,100	550	1,100	550
	3 (2)	800	267	1,600	533
	4 (8)	1,850	463	2,150	538
	5 (2)	1,800	360	2,200	440
	6 (3)	2,333	389	2,533	422
	7 (4)	2,450	350	2,800	400
	8 (3)	2,267	283	2,333	292
	9 (1)	1,800	200	3,400	378
	10 (1)	2,400	240	3,000	300
Average	4.8 (30)	1,747***	410 ***	2,053***	472***
Std Dev	2.5	754	147	789	108

*** mean difference significant at the 0.001 level (2-tailed).

Note:
   (1) Figures in brackets refer to number of households reporting
   (2) What the sample were actually receiving per month per household
   (3) What the sample would be ideally receiving per month based on HH size and school bonus.

Source: Mchinji Household Surveys, 2007/08

With respect to the level of cash transfers, on average, recipient households in the sample received MK1,747 per month (Table 7.9), with large variation around this figure caused by

differences in household demography (the range was MK600-2800). To digress slightly, the average figure was lower than the expected monthly grant of MK2,050 taking into account household size and eligibility for school bonuses. The sample households reported missing payments in some months. In an 11-month period from October 2007 to August 2008, the expected mean payment was MK19,213 (range MK6,600-30,800) but MK18,273 (range MK6,000-28,600) was actually received. Thirteen households (43 per cent of the sample) missed an average of MK2,169 each (range MK200-4,400). This in effect translates into a shortfall of 5 per cent experienced over the 11-month period, equivalent to half a month cash grant per household. This seems a good performance when it is considered how many things could go amiss in supplying cash to poor households in remote rural areas. District officials consulted during the fieldwork stated that reduced or missed payments were deductions of school bonus where the children or dependents had dropped out of school. Official district statistics show an average monthly grant of MK2,000 per household or MK448 per person (Government of Malawi 2008j), while the monthly average for the Malawi programme in general is MK2,100 (US$14) per month (Schubert 2009). Table 7.9 compares the actual versus expected monthly cash grants.

There are no restrictions imposed on beneficiaries regarding the acceptable expenditures of the transfers they receive in the Mchinji scheme, and in any case, any such restrictions would be easily circumvented. The expectation obviously is that the money will be spent on food and basic needs, and it is considered unlikely, given the ultra-poverty of recipients, that it would be spent on productive inputs or assets (still less, that it would be spent on luxury goods) (Miller *et al.* 2008b, p.42). In the September 2008 survey, the sample cash households were asked to provide enumerators with an approximate breakdown of the totality of cash grants that they had received during the 11-month period from October 2007 to August 2008. The data obtained from this question evidently have to be interpreted cautiously. Recall for anyone thinking about cash they have spent over a preceding 11 months is likely to be quite broad brushstroke, and in some instances may be quite faulty. However, forgetfulness in different directions can even out in a sample, and the broad magnitudes revealed by the answers to this question are sufficiently distinctive to consider that it is worthwhile looking at them here. Table 7.10 summarises what was discovered.

The table provides two different types of information. The first is the number and proportion of sample households reporting that they spent some share of their cash transfers on the

different categories of expenditure. For example, 28 out of the 30 households in the sample spent some share of their transfers on food, 23 out of the 30 households spent some share on farm inputs, and so on. The second part of the table shows for the sample as a whole, the aggregate distribution of grants received between the different uses. Hence, 24 per cent of grant income was spent on food, 16 per cent on inputs and so on. The table holds some surprises. Use of cash is spread widely, and, interestingly, two households apparently could not recall spending any of their transfer on food. The occurrence of farm inputs as the second most important use of cash transfers after food is unexpected. Inputs are not a basic need, and these are considered to be ultra-poor households. A similar result was reported by Miller *et al.* (2008a, pp.39-42), so this finding is not without support from elsewhere.

Households in fact spent their grant income in diverse ways, some to do with immediate consumption, and others most decidedly to do with capital formation or productive uses. In the table, food, clothes, and medicine (and funeral costs) sum to 49 per cent of expenditures; while inputs, assets, school fees and business investment sum to 47 per cent. These results are consistent with the earlier finding of the powerful position that cash transfers put their beneficiaries compared to non-cash beneficiaries in terms of income range and command over food. They also strengthen the argument that cash transfers can have important cumulative effects on household welfare and wellbeing, which over a sustained period of time may place them in a better material position than non-recipients in the same communities.

Table 7.10: Major uses of eleven months' cash grants by a household

Major uses of 11-month cash grants	Sample HHs		Average Per HH (MK)	Share of Cash (%)
	No	%		
Total cash received	30		18,273	
Major uses:				
Food	28	93	4,465	24
Agricultural inputs	23	77	2,882	16
Clothes	26	87	2,533	14
Assets	26	87	2,450	13
Medical/funeral costs	23	77	2,026	11
School expenses	22	73	1,719	9
Business (small-scale)	9	30	1,689	9
Other uses (saving, lending)	30	100	509	3

Source: Mchinji Household Surveys, 2008

7.4.4 The role of ganyu

It is clear from the evidence presented so far that in the absence of cash transfers, *ganyu* is the means by which food deficit farm households manage their missing food entitlement in the lean season. *Ganyu* represents what might be called informal social protection or 'traditional safety nets' in Malawian history. It is a lot more than just 'casual wage labour'. In the past there was a social obligation on the part of better-off members of rural communities to ensure that weaker members of the community were assisted when misfortune occurred. This is *ganyu*, and in the past comprised work undertaken for a better-off person, typically remunerated by being provided with meals, or, occasionally, by a small share of the maize harvest.

The original spirit of *ganyu* has not entirely disappeared, although it has evolved a long way from its origins as customary obligation. The alienation of customary land that took place in the 1970s and 1980s (detailed in Chapter 3) contributed to a growing proportion of the rural population possessing insufficient land to attain self-sufficiency in food, at prevailing levels of productivity. This in turn has meant that *ganyu* has become routine every lean season for perhaps one third to a half of all rural Malawians, rather than an occasional need caused by an unexpected shock or bad luck. In effect, *ganyu* has become the rural labour market, and is paid either in kind, or in cash, depending on the preferences of the employer. The need to turn to *ganyu* as early as the final land preparation prior to sowing of maize represents a labour allocation problem noted by several researchers. In effect, engagement in early *ganyu* (carrying out maize cultivation and sowing activities for another farmer) detracts from the proper preparation and sowing of the labourer's own maize, resulting in poorer crop performance later in the growing season (Alwang 1999, Whiteside 2000).

The sample was asked to indicate what typically applied to their households on average, the hiring-in or hiring-out of household labour. This question was repeated in successive surveys and it was apparent that the same households both hired in or hired out labour at different times of the year depending on the availability of cash (for hiring in), or the lack of cash or food (resulting in hiring out). In accordance with the emerging picture of the role of cash transfers, cash recipients are found to be more likely to hire in labour than non-cash recipients, and non-cash recipients are more likely overall to hire out labour. Figure 7.5 shows that 72 per cent of non-cash beneficiaries compared to 53 per cent of cash recipient households reported engaging in *ganyu* between October 2007 and January 2008. In the same

period, 57 per cent of cash beneficiary households but only 27 per cent of non-beneficiary households reported hiring in labour.

For both groups, however, as own food production got depleted, *ganyu* became an important food source and vice versa. In the May survey when crops were being harvested, non-cash beneficiary households reporting *ganyu* dropped by 30 per cent from 90 per cent during peak lean period in January. The high numbers of cash beneficiaries that reported *ganyu* sources of income, especially in January (Figure 7.6) can be attributed to delays in payment of the cash grants. On a wider scale in the Mchinji scheme, Miller *et al.* (Miller *et al.* 2008a, p.viii) have recorded a 10.7 percentage point difference between cash and non-cash beneficiary households in children that worked in neighbouring home in order to supplement incomes and food in their households and most of the participants were from non- beneficiary households.

Figure 7.5: Comparing 'buying' and 'selling' of household labour in the sample, Jan 2008
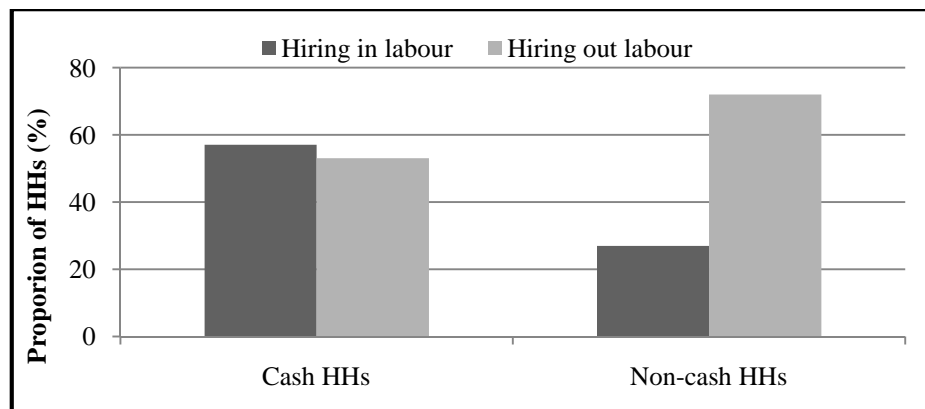
Source: Mchinji household survey data, 2008

Figure 7.6: Comparing seasonal participation in ganyu Jan-Sept 2008

Source: Mchinji household survey data, 2008

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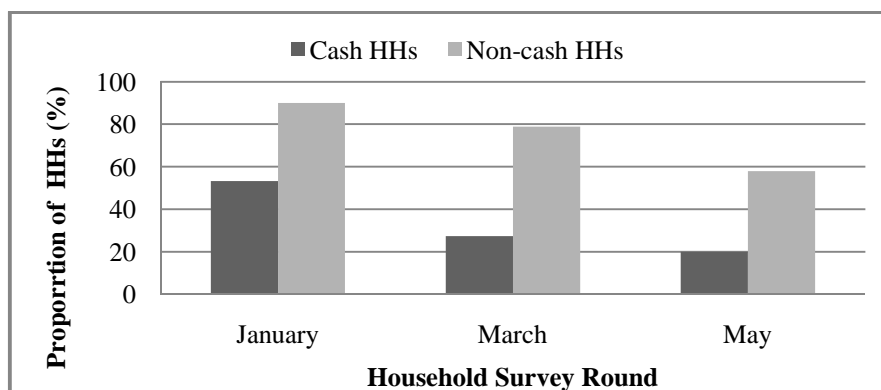
7.4.5　The food purchasing power of cash transfers

A further aspect of the cash transfers that is worth examining in the food security context is the impact on changes in their purchasing power of seasonal changes in the price of maize. This is done here by examining the quantity of maize ultra-poor households with differing demographic structures would be able to purchase with the cash transfer to which they were entitled, given changing seasonal maize prices. Using the maize calorie conversions discussed earlier in this section, the maximum contribution of the cash transfer to satisfying household maize needs can also be calculated. Table 7.11 summarises the findings of this simulation exercise.

Table 7.11: Comparing maize the cash grants could buy in different periods of the year

Impact indicator	Household size				Sample avge
Household size	1	2	3	4+	4.8
Number of Households (n)	4	2	2	22	30
Expected Monthly transfer (MK)*	600	1,100	1,600	2,445	2,053
Actual Monthly transfer (MK)**	600	1,100	800	2,100	1,747
Daily maize needs (Kgs)	0.55	1.06	1.60	3.00	2.45
Maize bought (Kgs)					
(all grant spent on maize)					
Jan survey (MK25.88/kg)	23.2	42.5	30.9	81.1	67.5
Mar survey (MK31.95/kg)	18.8	34.5	25.1	65.7	54.7
May survey (MK28.13/kg)	21.3	39.1	28.4	74.6	62.1
Sep survey (MK59.74/kg)	10.0	18.4	13.4	35.1	29.2
Duration maize take (days)					
January survey	42.1	40.2	19.2	28.8	30.7
March survey	34.1	32.6	15.6	23.3	24.8
May Survey	38.7	37.0	17.7	26.5	28.2
September survey	18.2	17.4	8.3	12.5	13.3
Share monthly needs (%)					
January survey	135.8	129.7	61.9	92.7	98.9
March survey	110.0	105.1	50.1	75.1	80.1
May Survey	124.9	119.4	56.9	85.3	91.0
September survey	60.8	58.1	27.7	41.5	44.3

Note: * What household should be receiving given size and school bonus
　　　** What sample households were actually receiving per month

Source: Mchinji Household Surveys, 2008

Table 7.11 is illuminating in two further areas of this discussion about cash transfers and food security. First, it is notable that the maximum contribution that the cash transfers can make to household maize needs diminishes as household size increases. For example, at the January survey, the cash transfer could have supplied a one-person household with 125 per cent of its monthly calorie needs from maize (39 days supply); while for a 4-person household only 76 per cent of needs would be met by spending the entire transfer on maize. Second, seasonal changes in the market price of maize can make large differences to the food security purchasing power of a cash transfer. In this respect, it is recalled (Chapter 5) that 2008 was an unusual year, in which the post-harvest drop in maize prices was unusually small and of short duration before prices began to rise steeply in August and September. This is picked up in the sample survey, by the rise in the maize from MK28.13 in May to MK59.74 in September. A consequence of this rising price is that the maize needs purchasing power of the cash transfer drops from 86 to 39 per cent of total household maize needs for the average sample household, between the first survey (in January 2008) and the last survey (in September 2008).

7.5 Comparative evidence on ISP coupon recipient households

7.5.1   Land ownership and use

It is recalled that the ISP in principle targets poor households possessing land and labour, but with limited cash to buy inputs. The objective of the programme is to increase agricultural output and incomes. This section examines what was observed to have occurred in the case study sites in 2007/08 in terms of household responses to the ISP. As discussed earlier, the household selection process resulted in a sample of 69 coupon recipients, of which 22 were also beneficiaries of cash transfers. In addition 21 households did not receive ISP coupons (8 cash beneficiaries, and 13 non-beneficiaries of either scheme). In the tables which follow 'coupon only' recipients (47 households) are distinguished from joint recipients and non-recipients.

Although not necessarily a targeting requirement of the ISP, land size in Malawi is often used as an indicator of relative poverty or vulnerability. For example, MVAC livelihood profiles for the Kasungu-Lilongwe zone, within which Mchinji district falls, reveals that the most vulnerable households have holdings of 1.0-2.5 acres (0.4-1.0 ha), averagely vulnerable households own 2-3 acres (0.8-1.2 ha), and less vulnerable households own 3-5 acres (1.2-2.0 ha (Government of Malawi 2008d). Table 7.12 summarises land distribution in the sample,

and shows no statistical differences between coupon recipients and non-recipients in terms of land size but a larger proportion of coupon recipients (43 per cent) had 0.5-1.0 ha compared to only 20 non-beneficiaries or 18 per cent joint beneficiaries. However, non-beneficiaries in the 2007/08 cultivated slightly less proportion of the land, compared to households that were coupon or joint beneficiaries.

Table 7.12: Comparing land ownership and use

Land ownership and sizes	All HHs	Coupon	Both	None[1]	P-value
Observations (HHs)	89	47	22	20	
HHs by land size (%)					
Less than 0.5 ha	11.2	12.8	9.1	10.0	.887
0.5 to 1.0 ha	31.5	42.6*	18.2*	20.0*	.060
1.0 to 2.0 ha	34.8	27.7	36.4	50.0	.214
2.0 ha and more	22.5	17.0	36.4	20.0	.195
Average land size (ha)	1.4	1.3	1.8	1.3	.208
Standard deviation	1.2	1.2	1.4	0.9	
Minimum	0.1	0.1	0.4	0.2	
Maximum	6.1	6.1	5.3	4.3	
Land cultivated in 2007/08 (%)[2]	60.0	67.1	53.6	50.4	.040**
Std Deviation	28.3	27.0	29.3	26.9	
Minimum	7.6	7.6	12.9	8.2	
Maximum	100.0	100.0	100.0	100.0	

Sig: *** $p<0.01$; ** $p<0.05$; * $p<0.1$

Note: [1]one household did not have land and is excluded in all analysis to do with ISP
[2] Total areas cultivated to maize, groundnuts and tobacco as stand- alone crops.

Source: Mchinji Household Surveys, 2008

7.5.2 Crop and crop varieties

As the staple food crop, maize was grown by almost all households in the case study area, only differing in cultivation practices. The tobacco crop is often regarded in Mchinji as the main source cash income but, as group discussions made clear during the fieldwork, people only grew tobacco in 2007/08 if they had access to tobacco fertilizer coupons because tobacco had declined in profitability due to low auction prices. Instead, groundnuts were cited as an important source of cash income in that crop season.

Table 7.13 summarises data obtained on crops, areas and varieties grown by the different sample groups in 2007/08. Coupon recipients had more maize area on average than non-recipients. Overall, the majority of the sample planted local maize, followed in importance by hybrid maize. The preference of all farmers for hybrid seed as compared to OPV seed is clear from this sample. This has been documented on a wider scale in the evaluation of 2006/07 ISP by Dorward et al (2008). Surprisingly, a significant proportion of joint recipients planted mixed seed.

Table 7.13: Comparing crops and varieties in 2007/08

Crops and varieties	All HHs	Coupon	Both	None	P-value
Observations (HHs)	89	47	22	20	
HHs that grew crop (%)					
Maize	100.0	100.0	100.0	100.0	1.000
Tobacco	24.7	18.2	29.8	20.0	.502
Groundnuts	47.2	54.5	48.9	35.0	.483
Average cropped area (ha)					
Maize	0.46	0.44[ab]	0.56[a]	0.39[b]	.032**
Tobacco	0.24	0.25	0.23	0.23	.692
Groundnuts	0.22	0.20	0.25	0.23	.192
Maize varieties grown (% HHs)					
Local	58.4	59.6	50.0	65.0	.603
OPV (Composite)	3.4	2.1	9.1	0.0	.213
Hybrid	36.0	38.3	31.8	35.0	.869
Mixed	2.2	0.0[a]	9.1[a]	0.0[b]	.046**

Sig: *** p<0.01; ** p<0.05; * p<0.1
Figures denoted by different letters significantly different (p=0.032

Source: Mchinji Household Surveys, 2008

7.5.3 Fertilizer sources, coupon uses and membership of farmer clubs

In 2007/08, ISP procured from abroad and distributed in Malawi 170,000 metric tonnes of fertilizer, but the government also allowed the private sector to redeem coupons and claim the difference (between coupon value and commercial value) from the government. In effect, all the 216,553 metric tonnes of fertilizer that was purchased or consumed by the smallholder sector in 2007/08 was ISP fertilizer. Trading in ISP coupons was ubiquitous in the case study areas. In consultations with agricultural staff, VDC members and households the author was informed that fertilizer coupons with a face value of MK900 sold on average at MK2000,

mostly to 'business men'. The redeemed fertilizer at MK900 per bag was then reportedly sold to wealthier (estate) farmers or across the borders in Mozambique and Zambia for around MK10,000 per bag, but other Malawian farmers could also buy their requirements at negotiated prices.

It was apparent in Mchinji in 2007/08 that the rules surrounding coupon redemption were easily evaded. The principle 'rules' in this respect were that the coupon could only be redeemed in their district of issue, and that a single individual could only turn up at the fertilizer distribution point to claim two bags (or a maximum of four bags, if they had also been allocated tobacco fertilizer). These rules were circumvented by individuals wishing to aggregate fertilizer into larger volumes by hiring young men, sometimes from outside the district, to act as the purchasers and redeemers of the coupons, for a small fee. The same young men would move around the district turning up at different outlets to claim their two bags of maize. It was common during the fertilizer purchase period to see long queues containing a disproportionate number of young men in their late teens or early twenties (much more than in the farming population at large) waiting to redeem their fertilizer coupons.

Table 7.14: Sources of inputs and uses of coupons in 2007/08 (%)

Observations (HHs)	All HHs (n-89)	Coupon (n=47)	Both (n=22)	None (n=20)	P-value
Maize and tobacco fertilizer sources					
Coupons	58.4	63.6	57.4	55.0	.926
Cash purchases	3.4	0.0	6.4	0.0	.388
Coupons and cash purchase	12.4	13.6	8.5	20.0	.441
Other (e.g. sharing)	9.0	4.5	8.5	15.0	.478
Did not apply	16.9	18.2	19.1	10.0	.636
Uses of the 2007/08 coupons					
Bought inputs	58.4	81.8	72.3	-	.503
Sold (traders/other farmers)	13.5	13.6	19.1	-	.576
Did not use/still available	5.6	4.5	8.5	-	.763
Did not receive coupons	22.5	-	-	100.0	
Member of farmer club 2007/08	9.0	10.6	4.5	10.0	.703

For uses of coupons, tests compare 'coupon' and 'both' groups of households only
Source: Mchinji Household Surveys, 2008

The results of information collected in the sample survey summarised in Table 7.14 lends support to these qualitative observations. For example, 55 per cent of the non-coupon

recipients in the sample acquired their fertilizer through coupons. About 14 per cent of the recipients openly stated that they sold their coupons, which must be regarded as a minimum proportion, since respondents would have been wary about stating this to an outsider. It is surprising that coupon recipients who were also cash beneficiaries were also found to sell coupons (19 per cent of them admitted to this). The table also shows the membership in farmer clubs of sample households, striking by its low proportion of the sample in all groups. An implication of this is low access to extension advice, since extension officers generally carry out their tasks within the framework of farmers clubs in Malawi.

7.5.4   Maize seed and fertilizer rates and outputs

For the purpose of this section, the main input use here is fertilizer on the maize crop because it is obvious that the practice in Malawi does not promote fertilizer application on groundnuts, while a tobacco crop that has not applied fertilizer automatically gets disqualified at the (auction floors) market. It is nevertheless recognized that the ISP in the area distributed both maize and tobacco fertilizer and, in some communities, beneficiaries had to choose between the two. Table 7.15 presents results on seeding, fertilizer application and maize output in 2007/08.

Table 7.15: Sources of inputs and uses of coupons in 2007/08

Maize-fertilizer productivity	All HHs	Coupon	Both	None	P-value
Observations (HHs)	89	47	22	20	
Average maize area (ha)	0.46	0.44^{ab}	0.56^{b}	0.39^{a}	.032**
Seed planted (Kgs)	10.1	9.8	11.1	9.5	.580
Fertilizer applied (Kgs)	41.3	41.4	46.6	35.4	.587
Maize harvested (Kgs)	387.0	391.3	425.0	335.0	.682
'Standardized' figures					
Seed rate (Kg/ha)	23.6	23.5	22.4	25.2	.690
Fertilizer rate (Kg/ha)	139.8	148.4	130.2	131.6	.702
Yield (Kg/ha)	951.5	927.5	1,034.9	927.3	.806
Average product (kg mz/kg fert)	10.0	8.1^{a}	8.7^{a}	15.6^{b}	.070*
HHs by fertilizer application (%)					
Did not apply	16.9	19.1	18.2	10.1	.632
Applied once	69.7	70.2	68.2	70.0	.991
Applied twice	13.5	10.6	13.6	20.0	.614

Sig: *** p<0.01; ** p<0.05; * p<0.1 & Figures denoted by different letters are significant

Source: Mchinji Household Surveys, 2008

Significant differences in maize areas between coupons recipients and non-recipients have been observed above (Table 7.15). In terms of seed rate, the recommendations in Malawi are

20-25 kilograms per hectare and the results depicted in Table 7.15 suggest this. It has to be recalled from Chapter 5 that farmers in Malawi apply far much below 100 kilograms of fertilizer per hectare of maize crop against the recommended rates of 150-250 kilograms per hectare but the sample for this research suggest closer to the recommendations. However, there is no evidence to suggest differences between recipients and non-recipients of coupons. Instead, evidence suggests lower fertilizer efficiency among recipients than non-coupon recipients as far as average fertilizer product (kilograms of maize per kilogram of fertilizer applied) is concerned, providing an additional insight into the discussion in chapter 5 about efficiency of the ISP (see Table 5.8 in Chapter 5).

The official maize yield in Mchinji in 2007/08 averaged 2,208 kilograms per hectare (1,113 for local maize, 2,324 for OPV and 3,188 for hybrid maize). It has been noted earlier (Table 7.13) that about 60 per cent of sample households grew local maize and about 70 per cent applied fertilizer once instead of the recommended two times (basal dressing for growth and top dressing for cob development), and about 17 per cent did not even apply fertilizer. The yields in Table 7.15 may therefore be within and acceptable range although they are lower than the official yields in that year (of courses estimation methods differed but farmers are also known to provide fairly accurate estimates of their own production).

7.5.5 Cash incomes from crop sales

One objective of the ISP is to promote farmer incomes through sale of crops. Table 7.16 presents results of households that reported (during the September survey) selling crops – it has to be noted here that most crop sales take place between April and August. Although the results do not suggest any statistically significant differences in crop sales incomes, it is important to observe the low crop sales in the sample, especially among tobacco growers. Most farmers especially non-coupon recipients that cultivated the crop did not manage to the standards required (fertilizer application, weeding, etc) by the market and hence failed to sell it. But for growers who sold the crop, it accounted for 50 per cent of the crop sales income in non-coupon recipient households while groundnuts accounted for about 60 per cent of share of the crop sales income in coupon recipient households. It is also important to observe the shares of maize, groundnuts and tobacco in households that were recipients of both schemes (social cash grants and coupons).

Table 7.16: Crop sales and shares 2007/08

Variable	All HHs	Coupon	Both	None	P-value
Observations (HHs)	89	47	22	20	
HHs reported crop sale (%)[a]	48.3	55.3	45.5	35.0	.241
Households reported selling (%)[a]					
Maize	13.5	17.0	9.1	10.0	.563
Tobacco	43.8	47.4	50.0	28.6	.633
Groundnuts	45.2	43.5	58.3	28.6	.560
Total crop sales income (MK)[b]	14,588	17,365	12,912	6,671	.627
Maize share (%)	22.5	24.4	13.1	28.6	.693
Tobacco share (%)	35.0	33.5	28.2	50.6	.606
Groundnuts share (%)	40.2	38.2	58.7	20.8	.243
Share of 2007/08 prod sold (%)[b]					
Maize	2.0	2.2	0.9	2.4	.691
Groundnuts	14.3	16.1	11.7	13.0	.812

Sig: *** $p<0.01$; ** $p<0.05$; * $p<0.1$

[a] Farmers that grew the crop in 2007/08; [b] Farmers that reported selling the crop

Source: Mchinji Household Surveys, 2008

7.5.6 The food security implications of the 2008 harvest

A final way the food security of sample households is examined here is by reference to the actual size of their 2008 maize harvests, occurring from late April to early June 2008. This is worth doing because the final survey conducted in September 2008 was able to collect data on the size of the preceding maize harvest, at a time when the recall period was fairly short and most households had a clear recollection of the quantity of maize they had achieved in the 2008 harvest. Table 7.17 shows how long, on average for the different sample groups, the maize harvested in 2008 would have lasted the household, using the same assumption as before that maize contributes 72.8 per cent to dietary energy in Malawi. For the sample as a whole, the maize harvest would have lasted 193 days or 6.4 months; leaving them exposed to acquiring maize in the market for another 6 months. Differences between categories are not statistically significant as far as production is concerned; however, differences are observed in terms of days the maize would take to deplete (if used for household consumption only). The slight differences between coupon recipients and joint coupon and cash recipients arises from differences to mouths to feed; as expected, the cash beneficiary households might have attracted additional members into the households. It is important also to note the variation in

mean values between the groups was from 95 per cent food requirements met for joint coupon and cash recipients to 40 per cent for coupon holders.

Table 7.17: Maize balance sheet for sample households in 2008 harvest

Category	All HHs	Coupon	Both	None	p-value
Observations (HHs)	85	46	20	19	
Household size	5.5	5.9	5.3	4.8	.237
Annual maize requirements (Kgs)	989.8	1061.9	935.9	871.8	.200
2007/08 Production (kg)	396.9	373.7	492.5	352.6	.303
How long would last (days)	193.3	149.0*	282.9*	206.2	.065
HHs requirements met (%)	57.5	40.4*	95.4*	58.8	.053

Sig: *** $p<0.01$; ** $p<0.05$; * $p<0.1$

Source: Mchinji Household Surveys, 2008

Another way harvest and sales data from the 2008 harvest can be utilised is to examine various scenarios by which sample households can (a) consume their own production, (b) supplement own production by purchases from the proceeds of crop sales (tobacco, groundnut and soya sales) or (c) use cash transfers to purchase maize later in the season (cash transfer recipients only). This simulation is important because the previous findings (Table 7.6) showed that in May survey, cash beneficiary households had food stocks to last 1.5 months while non-beneficiary households reported stocks that would last three month. Three months later in September 2008, cash beneficiary households reported stocks that would last 2.2 months, representing an increase of 0.81 months of stocks. In contrast, stocks in non-beneficiary households dropped by one month of stocks (assuming this is not a reflection of sales) months to reported. The results of a simulation exercise taking these alternatives successively into account are provided in Table 7.18.

Some much more interesting findings on the potential role of cash transfers emerge from this exercise:

(a) as in the previous table, overall 51 per cent of nutritional needs can be provided by maize, on average, if most maize output is used for home consumption and not sold;

(b) sales of other crops are only at best able to provide a small proportion of annual maize requirements, amounting to 7-29 per cent;

(c) cash transfers on their own would provide cash transfer beneficiaries on average with 51 per cent of their annual needs;

(d) a combination of own production, plus maize that could be purchased from other crop sales, plus maize that could be purchased with the cash transfer shows how the cash transfer transforms the food security of recipient households compared to other groups in the sample; the potential command over maize calories of cash recipient households is over 100 per cent compared to 49-57 per cent for other groups in the sample.

Table 7.18: Food security simulation based on maize production and purchase 2008

Category	All HHs	Cash	Coupon	Both	None	P-value
Observations (HHs)	90	8	47	22	13	
Household size						
January survey	5.4	3.3 [a]	5.7 [b]	5.4 [b]	5.4 [b]	.046**
September survey	5.4	3.3 [a]	5.7 [b]	5.0 [a]	6.0 [b]	.037**
Simulation						
(a) 2008 maize output less sales (Kg)	378.7	235.7	357.2	481.6	383.3	.183
Annual maize needs (Kgs)	989.8	668.0	1043.2	975.5	990.7	.175
Maize requirements met (%)	50.5	53.3	44.2	64.7	50.8	.595
Observations (n)	85	7	47	19	12	
(b) 2008 use of other crop sales (Kg)	367.4	213.7	451.1	303.9	74.7	.926
Annual maize needs (Kgs)	1,117.7	901.6	1,236.3	925.5	1,008.6	.245
Maize requirements met (%)	26.9	23.0	29.2	29.0	7.0	.929
Observations (n)	35	2	21	9	3	
(c) Cash transfer purchase maize (Kg)	412.2	342.2		437.7		.248
Annual maize needs (Kgs)	893.9	610.5 [a]		996.9 [b]		.032**
Maize requirements met (%)	51.3	60.2 [a]		48.0 [b]		.053*
Observations (n)	30	8		22		
Potential maize (Kg) (a)+(b)+(c)	638.0	601.9	558.8	977.9	371.1	
Annual maize needs (Kgs)	981.4	610.5 [a]	1,043.2 [b]	996.9 [b]	959.7 [b]	.063*
Overall maize needs met (%)	75.2	112.7 [a]	57.3 [a b]	115.8 [a]	48.5 [b]	.003**
Observations (n)	90	8	47	22	13	

Sig: *** p<0.01; ** p<0.05; * p<0.1

Note: Figures denoted by different letters are significant

Source: Compiled from Mchinji Household Surveys, 2008

The above exercise affirms how access to cash transfers entirely changes the prospective food security situation of beneficiaries relative to non-beneficiaries, a finding now approached from several different angles and being consistent across a range of indicators and food security relationships.

7.6 Summary

This chapter has utilised a sample survey of 90 households in three villages to explore empirically certain important dimensions of the way cash transfers and input coupons work in practice for poor rural families. The district chosen to do this was Mchinji district in Malawi's central region, the district selected to pilot poverty targeted social cash transfers in Malawi. It is pointed out in the course of the chapter that Mchinji is not a severely deprived district in comparative terms for Malawi as a whole. It is generally quite a food secure district, and it can only be supposed that its choice to trial an SCT was more to do with the logistics of access to Lilongwe than strictly to do with the severity of food vulnerability faced routinely by its inhabitants.

The chapter sought to clarify three aspects of the two programmes being compared in this thesis in particular. The first aspect was how programme organisation and beneficiary selection worked in practice, especially at the level of the individual community. The second aspect was how participation and non-participation in the SCT altered the food security prospects of different households across the seasons, taking into account the interactions between cash and food (via the price of maize) and the alternative sources of cash income available to households in different categories. The third aspect was whether coupon beneficiaries could be distinguished in any particular ways in practice from other groups represented in the sample, and in particular whether evidence could be found of the existence and working of a secondary 'coupon market' created by the working of the ISP.

In relation to the first of these aspects certain interesting points emerged. One is that both programmes are fairly well 'managed' in the sense that district administrators in general follow prescribed procedures, and there is some effort (not always successful) to involve communities properly in deciding who should participate in individual schemes. Second, selection behaviour at community level depends a lot on the strength of ethnic and kinship solidarity within any individual village. Where this is very strong (as in one of the case study villages where the entire population seemed to be related to each other), then beneficiary

selection is likely to be fair, and pooling of resources within the community can be observed to occur from different benefits. Third, so-called 'malfeasance' in which selection criteria are neglected, or coupons or payments go astray, is rarely a village or community-level phenomenon; it occurs 'higher up' the system at the level of authority figures and officials rather than ordinary villagers. This is important because in the literature targeting failures are often laid at the door of community targeting, while the observation from this fieldwork is that communities are often made the scapegoats for failures that occur amongst leaders.

The second aspect of food security also yields some important insights. The chapter takes an innovative approach to food security, by first establishing the maize consumption needs in calorie terms of households with differing demographic structures. This enables a more rigorous approach to maize harvests and stocks and how long they will last, than relying only on the subjective impressions of interviewees. The findings show that households rely on a combination of own maize stocks and cash purchases across the seasons. On average, household maize harvests provide food security for about 6 months, but with tremendous variation between households in this regard. Covering food security for the rest of the year depends on generating cash, and in normal circumstances this occurs either through working for other farmers (*ganyu*) or by selling crops like tobacco, groundnuts and soybeans. Cash transfers totally transform this picture, as recipient households then have a secure monthly cash flow that can be used for a variety of different purposes (depending on season), and this makes them 'cash rich' compared to non-beneficiaries, notwithstanding the ultra-poverty and extreme vulnerability that led to them being included in the SCT scheme in the first place.

The third aspect concerned coupon beneficiaries and differences between them and other groups in the sample in relation to agricultural practices. A first finding here was that coupon beneficiaries did not appear to differ much from other farm households with respect to any of the main indicators which might have displayed such differences. This is almost certainly to do with the sheer size of the programme (aimed to reach 60 per cent of all farmers), and the many ways that coupons can get redistributed between households. The second finding is precisely on the 'market in coupons' that microeconomic theory would expect to arise when there is a significant gap between the 'commercial' price of a commodity and its subsidised price. As shown in Chapter 5, in Malawi in 2008, this gap was about 80 per cent of the full price (i.e. the coupon price was only 20 per cent of the market price). Key informant interviews, focus group discussions and observation showed a vibrant coupon market in

existence, utilizing innovative means to circumvent regulatory prohibitions concerning the redemption of coupons. The existence of this market was also supported by quantitative data in the form of coupons sold by their recipients, and purchased by non-coupon beneficiaries.

What was observed in Mchinji in 2008 was already the outcome of a process of adaptation to getting cash transfers by SCT beneficiaries. They were no longer in the 'ultra-poor labour constrained' circumstances in which they might have started, and their basic socio-economic and demographic characteristics differed little from non-recipients in the overall sample. In effect, the presence of a secure and continuous level of cash income meant that these were households worth residing in by relatives, and other adaptations such as being able to farm would follow from this circumstance. In other words, beneficiary households attracted in new household members, therefore had labour with which to cultivate, and also invested part of the transfer on agricultural inputs. In the fieldwork, individual examples were encountered in which near destitute households were transformed to become amongst the most productive and viable households in their communities. It is shown in the simulations (see Table 7.18) that an average social cash recipient household had the potential to generate 10-15 per cent 'maize surplus to household requirements' while non-cash beneficiary households were at potential risk of failing to meet minimum household calorie requirements, barely achieving 49 per cent of the requirements.

The evidence suggests that genuine concerns about cumulative divergence could arise from continuously providing the same set of households with cash transfers over several years. It is not just the level of the cash transfer that is important in this (although it seems quite possible that the Mchinji level has been too generous); it is also the risk free character of a cash transfer (as compared to the uncertainties that prevail for all other means of earning cash in rural communities, except salaried jobs). In general, a cash transfer may enable a real pathway out of poverty to be achieved for its recipients, but then the literature contains little guide to what happens if you cease such a transfer after an interval of time, a decision referred to as 'graduation'. Conceptually, a family might be considered ready to graduate if they can with confidence satisfy their future minimum food security needs in the absence of the transfer. However, this idea proves difficult to convert into practical guidance due the circularity of cause and effect involved in the stimulus the transfer gives to command over resources (Devereux 2010).

Chapter 8: Comparing Policies in Terms of Attributes, Coverage and Fiscal Costs

8.1 Introduction

This chapter begins the process of drawing the strands of this thesis together. The preceding three chapters have examined the agricultural input subsidy and the Mchinji social cash transfer programmes separately (Chapters 5 and 6), and the household level effects of receipt of one or both types of transfer (Chapter 7). An outcome of those chapters is that the two main approaches to vulnerability being compared each have flaws as well as strengths, so that they do not individually provide a sufficient means for preventing a significant proportion of Malawian rural households from experiencing extreme livelihood distress, either every year (in the lean season) or in years of poor harvests. The flaws of the fertilizer subsidy are that outcome gains may be substantially lower than claimed; leakages and secondary markets for both fertilizer and coupons mean that better off rural dwellers gain more from the subsidy than the poorer and most vulnerable segments of rural society; and the subsidy represents a substantial cost to the government budget (to be explored further in this chapter). The flaws of social cash transfers are that they are costly to target satisfactorily; targeting may fail at point of beneficiary selection; an artificial cap is imposed on outreach by restricting beneficiaries to 10 per cent of households; and continuous receipt of transfers may create the peculiar outcome that cash transfer recipients cumulatively end up better off than non-recipients who at the start are almost identical in income and asset levels (and vulnerability to hunger).

At various points earlier in this thesis, it has been pointed out that although fertilizer subsidies and social cash transfers may turn out to exhibit a high degree of complementarity in their coverage and effects on reducing vulnerability, they compete with each other (and with other discretionary expenditures) in terms of their claims on scarce public financial resources. At the core of this competition are two questions: what proportion of its total budget can the Malawi government allocate routinely and sustainably to a combination of farm subsidies and social transfers? And what portfolio of policy approaches within this allocation should be adopted in order to achieve a reliable reduction in the incidence and prevalence of hunger and deprivation in Malawi? These questions are explored in this section.

This chapter also provides an opportunity to consider other types of routine cash transfer in addition to poverty targeted social cash transfers. In particular, given that around 65 per cent households obtaining social cash transfers turn out to contain at least one person over 65 years

of age, it seems useful to include a social pension when examining the affordability of different policy options, or combinations of policies.[76] The chapter proceeds as follows. The next section draws together some key comparisons between fertilizer subsidies and social cash transfers that arise, in part, from the evidence and discussion of preceding chapters. This is followed in section 8.3 by an examination of the budgetary implications of different policies or combinations of policies. This exercise itself has three components: an examination of recent government income and expenditure in Malawi and the scope it reveals for 'fiscal space' (discretionary expenditure above unavoidable long term commitments); the evolving toll of the ISP on the government budget; and the comparison of individual policies and policy combinations, each of which could conceivably be implemented within the available fiscal space.

8.2 Conceptual comparisons between fertilizer subsidies and cash transfers

Table 8.1 makes a series of comparisons between fertilizer subsidies and cash transfers as different instruments for reducing vulnerability to hunger. The comparisons involve multiple attributes: mechanism for reducing vulnerability, prior asset needs, risk reduction, time horizon, coverage limitations, inclusion and exclusion, unplanned effects, budget differences, political dimensions, and rights considerations.

Fertilizer subsidies reduce vulnerability indirectly. Following the microeconomic logic set out in Chapter 2, fertilizer subsidies result in higher fertilizer use, higher yields (if agronomic conditions permit), more output, and lower prices. It is also hoped that seasonal price instability will be kept within a range that reflects competitive storage and trading costs, therefore ameliorating the high proportion of insufficient food entitlement that is caused by high seasonal price volatility. By contrast, cash transfers enable food to be purchased immediately. Local food prices are supported (by contrast to the market effects of food transfers), and the poverty gap between household per capita expenditure and the poverty line is also reduced.

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[76] This is not because a social pension is particularly on the current policy agenda in Malawi (it is mentioned in some quarters and is promoted by the international NGO HelpAge), but in order to demonstrate orders of comparative magnitude of different policy options, and to place the cost of ISP into a relative perspective.

Table 8.1: Comparative Attributes of Fertilizer Subsidies and Social Cash Transfers

Attributes	Fertilizer subsidies	Social cash transfers
Mechanism for Reducing Vulnerability	*Indirect*: • low price increases use • increased use raises yields • high yields raise food security • increased market sales keep seasonal food prices down	*Direct*: • transfer buys food • food prices supported • poverty gap reduced
Asset and Resource Requirements	*Many*: • land to cultivate • labour for cultivation • fertilizer responsive varieties • reliable moisture in growing season	*Some*: • land, labour, not required • markets deliver food & basic needs at stable prices
Risk Reduction Effects	*Farm Livelihoods*: • does not remove climate risks • personal hunger risks reduced	*All Livelihoods*: • personal hunger risks reduced • provided food price swings not excessive
Time Horizon Dimensions	*Cumulative Effects* (hoped for): • uptake of fertilizer sustained • complementary technical improvements (seeds, water) • farm output growth secured • later phase out possible	*Immediate and Linkage Effects*: • food insecurity immediately addressed • cash boosts local economy • some investment may occur • protected or increased assets improves future resilience to shocks

Coverage Limitations	*Sectoral Limits*:
	• rural, not urban
	• farmers, not non-farmers
	• not landless rural dwellers
	• other limits may be set by targeting criteria
		More Open:
		• rural or urban equally
		• farmer or non-farmer equally
		• coverage determined by targeting criteria
		   ○ *narrow*: poverty targeting
		   ○ *broad*: categorical targeting

Inclusion and Exclusion	*Targeting Weak*: • inclusion well-off farmers • exclusion poorest farmers	*Targeting Accuracy Varies*: • poverty transfers prone to inaccurate targeting ○ 'elite capture' • pensions typically accurate
Unplanned Effects	*Unplanned Market Effects*: • displacement full price supplies • secondary coupon market • external leakages at borders	*Unplanned Household Effects*: • 'moral hazard' • demography changes to suit targeting criteria
Budget Planning Differences	*Budgetary Commitment*: • unstable, due to varying world fertilizer prices • rises, due to rise in demand for low price fertilizer	*Budgetary Commitment*: • stable & predictable – pensions • stable – poverty transfers if capped (e.g. 10% targeting) • unstable with regular indexing to food prices
Political Dimensions	*Farm Lobby*: • supported by rich as well as poor farmers • reliable constituency in support • strong political resistance to scaling down or removal	*Diverse Picture*: • pensioners can be strong electoral force • the destitute politically weak • civil society lobbies in favour
Rights Considerations	*Economic Instrument*: • no rights attached • can be reduced or removed • long run goal to phase out	*Social Settlement:* • social transfers derive from human rights (UN declarations etc.) • legislated pension a right • so far poverty transfers seldom a commitment or a right

Source: adapted from Ellis (2009, p.3)

Fertilizer subsidies and cash transfers have different asset and resource profiles. Subsidies require land and labour and appropriate crop varieties to be cultivated. They also require reliable moisture in the growing season in order to achieve the potential increase in yield that additional fertilizer use makes possible. In some of the literature of the past five years, vulnerable people owning land and labour are referred to as the 'vulnerable but viable', meaning that they do not lack the capabilities required to pull themselves into a stronger livelihood position (Schubert 2003). This is contrasted to the 'vulnerable non-viable' meaning lack of land or capacity to work that prevents engagement in productive activity. Cash transfers have no prior asset requirements to achieve their objectives; indeed, it is precisely the lack of assets (and especially the labour asset) that results in cash transfers being advocated as an alternative to forms of support that require labour such as public works programmes. However, in the absence of indexation to food prices cash transfers do require stable food markets to be effective in achieving their food security objective for beneficiary households. This is an important point to which this thesis returns in due course.

The risk attributes of fertilizer subsidies and cash transfers can also be contrasted. As is clear from much preceding discussion, fertilizer subsidies do not eliminate weather-related agricultural risks. Indeed in certain circumstances, they can make the losses incurred by such risks more severe, since the outlay on fertilizer, even at the subsidised price, is not recouped if crop failure occurs due to drought. In the past in Malawi, and throughout tropical Africa, one of the problems of fertilizer subsidies has been precisely the degree of climate variability that means that output failures can still occur irrespective of the improved application of fertilizers (Mellor and Ahmed 1988). Moreover, this risk applies not just at household level, but at budget level in central government, where harvest failure in the presence of the input subsidy means that significant public resources have been spent with little to show in terms of securing citizens welfare in a bad season. On the cash transfers side, receipt of the transfer immediately reduces the risk of hunger, depending on the level of the transfer and the stability of food prices. Since food price risks often stem from production events there turns out to be an interesting inter-relationship between fertilizer use, food output, market management (including use of imports) and the risk reduction potential of cash transfers for poor families.[77]

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[77] The maize market management aspects of maize price instability in Malawi are further drawn out in the final chapter of this thesis.

The time horizon dimensions of fertilizer subsidies compared to social cash transfers also differ. A fertilizer subsidy has intended cumulative long run benefits. Indeed, there are few agronomists or economists who would expect the full benefits from such subsidies to be realised within one crop season. This is because cultivation practices do not change instantaneously across all farmers, and the scope for complementarity between increased fertilizer use, improved seeds, and improved management of soil moisture may take a sequence of seasons to realise. It becomes a matter of careful evaluation of progress made to determine at what point fertilizer use may have stabilised to the extent that the subsidy can be gradually phased out without impairing yield and output levels (provided there is also the political will to contemplate doing this). Cash transfers address food insecurity directly, subject only to the earlier caveat about food prices and the food purchasing power of the transfer. However, as shown in Chapter 7 expenditures from such transfers show that food, on average, corresponds to about 25 per cent of their use, and other goods and services are purchased, as well investments in small assets (e.g. chicks) made. Therefore multiplier and cumulative effects can also occur with cash transfers even though these are not the chief reason for having such transfers. One economic study estimated that the multiplier effect of the DECT social cash transfer in 2006-07 was 2.0 i.e. for every MK transfer MK2.0 net additional economic activity occurred in the local economy (Davies 2007).

The potential coverage of fertilizer subsidies and social cash transfers differ, with respect to very poor people. Fertilizer subsidies provide a potential route to food security for farming families with access to land. Cash transfers on other hand can potentially be made to any poor or vulnerable person: farmer or non-farmer, rural or urban, elderly or young or ill and so on. Both types of transfer can limit their outreach by adopting selection criteria, but leakages from target groups are likely to be greater with fertilizer subsidies due to the emergence of secondary markets for the fertilizer itself or the coupons that provide subsidised access (or, indeed, through the sale of the fertilizer abroad to an adjacent country which does not have an equivalent subsidy policy).

In general, fertilizer subsidies are thought to be weak at reaching, or being utilized by, precise target groups. In social protection terminology, they embody high risk of inclusion errors (the people who benefit from the subsidy are different from the intended beneficiaries) and exclusion errors (the desired beneficiaries fail to be reached by the subsidy). The same can also occur with cash transfers, although this varies a lot between different forms of cash

transfer. Thus poverty targeted transfers have been found difficult to target accurately, even with strenuous efforts to do so, including the creation of new community institutions to make the selection process as transparent and democratic as possible. On the other hand, once age registration has been completed successfully (itself quite a difficult task in a country like Malawi), pensions are typically found to reach elderly people with a high degree of accuracy).

Both fertilizer subsidies and cash transfers have unplanned effects, as identified in various places in Chapters 5-7 above. In the case of fertilizer subsidies, subsidised supplies displace full price supplies that were already being used by better off farmers; therefore the net gain in fertilizer use (as shown in Chapter 5 for the ISP) is significantly below the use represented by the programme itself. As already noted here and previously, subsidised fertilizers tend to create parallel markets, they can encourage illegal (and impossible to police) cross-border fertilizer trade, and they can be used on different crops than those intended. Cash transfers invite a similar array of unplanned effects, although in their case this tends to occur at the site of the household rather than in markets. In particular, household demography is fairly easily manipulated so if the criteria determining selection for a programme demands a particular formation of the household (for example, women headship, presence of elderly, presence of orphans) then these attributes can be readily constructed for the sole purpose of achieving eligibility.

The budgetary implications of different transfers in the Malawi case are treated later in this chapter; however, a few preliminary comments can be made here in terms of how 'open-ended' budgetary commitments are likely to turn out, for the comparison between fertilizer subsidies and cash transfers. As shown by the Malawi case (see further below), the budgetary commitment of a fertilizer subsidy is unstable. As shown in Chapter 2, if subsidised supplies are not rationed, then costs tend to rise steeply in successive years reflecting rising fertilizer usage at subsidised prices. However, even in the absence of this mechanism, the international prices of inorganic fertilizers are unstable,[78] and a subsidised price that seems affordable when introduced in a low international price period can double or triple in budgetary cost when prices in world markets rise. By contrast social cash transfer budgetary outlays permit greater expenditure stability. This is so most obviously for categorical transfers like pensions,

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[78] They tend to parallel the world price of petroleum, since many of their ingredients are side-products of the petroleum industry.

where the number of individuals in the population who are above a given age threshold can be predicted with a high degree of accuracy from census data. However, the same applies to poverty targeted transfers if they are restricted to a specific population proportion (such as the 10 per cent of the Mchinji cash transfer). Where cash transfers can potentially cause budgetary difficulties is if high food price inflation occurs resulting in pressure for indexation of the transfer to the food price. In sub-Saharan Africa indexation has as yet not been considered as a feasible policy option; except in the occasional small-scale pilot exemplified by the DECT scheme in Malawi (Devereux *et al.* 2007).

This thesis has several times drawn attention to the political dimensions of Malawi government stances on different policy options. Input subsidies have loomed large in Malawi politics for decades. They are a popular policy in rural areas, and claims between political parties concerning their future are scrutinised heavily in the press, radio and television, and the plausibility of electoral promises about them can make the difference between success or failure in re-election. Before the 2009 election, for example, the UDF party attempted (as it turned out, unsuccessfully) to gain an advantage over the incumbent president by promising free fertilizers to all farmers ((ADMIN 2009b, Murwira 2009)). This was such an extreme and unrealistic promise that the electorate were not swayed by it, and went with what they had already experienced. The DDP government had already demonstrated that it was prepared to provide low cost fertilizers on a widespread national scale.

Interestingly, governments that have implemented social pensions similarly find that there is considerable political traction in them once they are in place. As Lesotho demonstrates, since pensions are a legislated entitlement, and since pensioners can be vociferous in their defence, a government that introduces them and then maintains their real purchasing power can turn this to advantage for re-election. Pensions also have the advantage well known to social welfare advocates in industrial countries that a benefit that is also received by better off people in society gets a lot more support than one that is targeted just to the poor (Pelham 2007, Hagen 2008, Likoti 2008). Unfortunately, poverty targeted social transfers do not offer this political impetus.

In Chapter 2 the rights based advocacy of social transfers was mentioned, as an entry point that differs from the needs based approach that tends to underlie most policy discussion of food insecurity in countries like Malawi. Input subsidies and different social transfers have differing rights implications. An input subsidy scheme is a discretionary economic policy

instrument, and as such has no rights attached. While recipient farmers may be able to exercise their power of democratic veto in order to ensure that the subsidy remains in place, they cannot claim an entitlement to a productive subsidy of this kind. Any government would need to reserve the ability to withdraw an input subsidy if circumstances changed. Cash transfers can, by contrast, be instituted as rights. The provision of a pension, for example, typically requires legislation rather than executive discretion to be put in place, and once legislated it becomes an entitlement on the part of everyone in society who is eligible to receive it. On the other hand, poverty targeted cash transfers such as the Mchinji social cash transfer is not a right or an entitlement. Hitherto it has been paid for by external funds, and no legislative policy commitment to its future funding from government resources has been entered into. The same is also true of safety net expenditure on PWPs. These differences are important for the policy discussion, since some policies (the prime example being pensions) lock governments into indefinite future obligations, while other do not.

Summarising this discussion, the comparisons made in Table 8.1 reveals quite quickly that fertilizer subsidies are, or could be, to a considerable degree complementary to social cash transfers. They potentially address different vulnerabilities, experienced by different social groups, with different direct and indirect effects, and different politics and rights characteristics. For example, while fertilizer subsidies really only help active farmers with land and labour, and are intended to contribute to growth as well as poverty reduction in the long term, social pensions provide for those no longer in the active labour force, and they are not intended to contribute to growth as their primary goal, even though they may do so indirectly (via the economic stimulus created by expenditure of the pension).

It is apparent from the table and discussion that social cash transfers possess important strengths of their own for tackling chronic vulnerability to hunger that are quite distinct from the indirect impacts of a fertilizer subsidy. Social cash transfers reach those who are unable to generate a livelihood due to lack of land or labour, they do this directly through the purchasing power over food of the transfer, they are equally effective in urban as rural areas, their delivery using electronic methods can be secure at low cost, and their budget cost for a given transfer to a defined set of beneficiaries is stable and predictable.[79] The relationship of complementarity between fertilizer subsidies and social cash transfer can be depicted, as

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[79] This assumes reasonably stable food prices and annual rather than more frequent adjustments in the level of the transfers.

shown in Figure 8.1, by two intersecting spheres. The overlap shared by these spheres represents the degree to which the fertilizer subsidy can provide a reliable defence against hunger for the poorest members of the farming sector. Clearly, the larger the overlap, the more the fertilizer subsidy can be considered as providing a social protection function, and *vice versa*, the smaller this overlap, the more social cash transfers are needed to protect vulnerable citizens from hunger.

The discussion so far has mainly emphasized the scope for complementarity between fertilizer subsidies and social cash transfers in the task of protecting vulnerable citizens from avoidable hunger. These two alternative policies also, however, compete with each other. The most obvious way they compete is in terms of claims over scarce budgetary resources. They also compete in the efficiency with which they provide a given level of protection from hunger; in other words, how much does each cost to ensure that 100,000 at risk families will securely meet their minimum food needs in the coming year? And they may compete in effectiveness: the reliability with which they ensure that such protection occurs.

Figure 8.1: Illustrating the Intersection of Fertilizer Subsidies and Vulnerable People
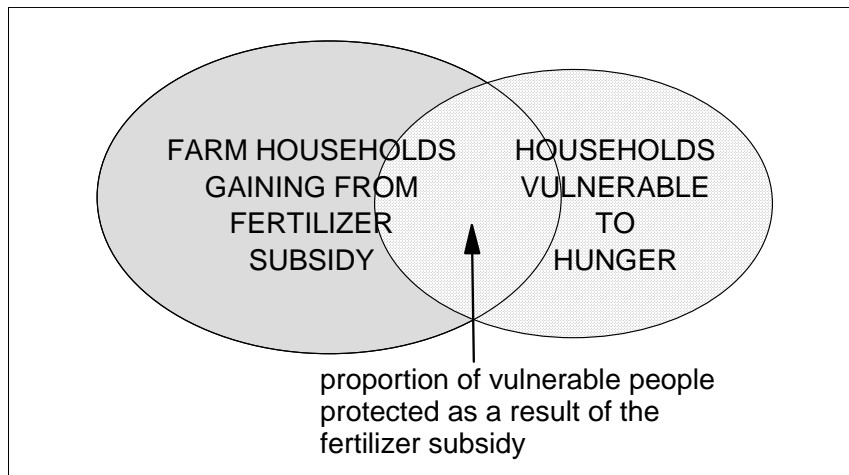
Source: Ellis (2009, p.4)

It is in this dimension of competition that the true trade-offs between the two policies come out into the open. Fertilizer subsidies are notorious for the heavy demands they eventually make on budgetary sources, even if they start from a modest initial position (see the Malawi data below). In terms of Figure 8.1, the more that fertilizer subsidies accrue to better off farmers, and the less they provide direct or indirect support to vulnerable people, the higher the opportunity cost they represent for protecting vulnerable people from hunger. In addition

the gains from fertilizer subsidies can prove elusive in the long term; initial success aided by favourable climate conditions can turn to disappointment when an adverse shock results in crop failure despite the huge outlays that have been made. If the subsidies fail to moderate seasonal price instability, then they also fail to protect vulnerable rural populations from one of the greatest sources of their food insecurity. Finally, despite the widely accepted logic that input subsidies should be phased out once their job of stimulating routine use of fertilizers is done, they are politically exceptionally difficult to reduce or remove, and this difficulty intensifies the longer that the subsidies are in place.

8.3 Budgetary explorations of different policies

Table 8.2 summarises government revenue and expenditure in Malawi over the five-year period from 2004/05 to 2008/09. Provisional figures for 2009/10 are also provided. The table also contains some GDP trend information, comprising the size of nominal GDP, the share of current expenditure in nominal GDP, and estimated real GDP growth on an annual basis. There are several interesting points to make regarding these figures. First, external grants typically make up 40 per cent of total government revenue. Grants comprise general budget support, project finance and assigned (dedicated) grants. In recent years, general budget support has comprised 25 per cent of all grants and this proportion is growing (in 2009/10 it is predicted to reach 32 per cent). Dedicated grants are aid flows that are assigned for specific purposes by donors, for example the health sector wide approach (SWap) which was 19 per cent of all grants in 2008/09 and support to the National Aids Commission which was 16 per cent of government grant income. Pertinent to this thesis, in 2008/09 MK2.8 million was assigned in this category to maize, fertilizer and seed support (a DFID/EU grant), showing that some donors have been prepared to help directly with the logistics of delivering ISP.

Second, expenditure has on average been about 8 per cent higher than revenue, showing that Malawi has kept reasonably tight control of its spending in relation to income in the current era. Exceptions occurred in 2004/05, a food crisis year requiring commercial as well as concessional imports of maize when expenditure was 15 per cent above revenue, and 2008/09 when expenditure was 18 per cent above revenue. The primary reason for this, as will be discussed shortly, was a very substantial overshoot in the cost of the agricultural subsidy programme in 2008/09. For the same reason, in that fiscal year current expenditure leapt from 22-24 per cent of GDP to 32 per cent GDP. The table also shows real GDP growth in this period averaging nearly 7 per cent per year, with a predicted outcome of 6.7 per cent for

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2009/10. The Malawi economy appears to be in robust overall health, and much of this success is being attributed, rightly or wrongly, to the fertilizer subsidy. According to the IMF (2010, p.5) agriculture contributed about 4.3 per cent of the average GDP growth rate of 6.7 per cent recorded in the period 2005-09.

Table 8.2: Summary of Malawi Revenue, Expenditure and GDP Share

Budget aspect	2004-05	2005-06	2006-07	2007-08	2008-09	Average	2009-10(P)
Revenue (MK mn)							
Total	84,925	116,986	147,632	176,853	210,270	147,333	257,661
Domestic	56,809	67,316	84,295	105,700	134,291	89,682	168,773
Grants	28,117	49,670	63,337	71,153	75,979	57,651	88,888
Expenditure (MK mn)							
Total	97,215	120,010	153,580	179,397	247,519	159,544	270,153
Current	71,657	93,746	99,464	119,186	200,780	116,967	187,581
Development	25,558	26,264	54,116	60,211	46,739	42,578	82,572
Nominal GDP (MK mn)	311,954	384,174	464,464	540,053	631,120	466,353	760,842
Current/GDP (%)	23	24.4	21.4	22.1	31.8	25.1	24.7
GDP Growth (%)	3.6	5	7.7	8.7	8.6	6.7	6.7

Sources: Government of Malawi (2007a, 2010b, 2010g); IMF (2008, 2009, 2010)

Fiscal space is a difficult concept to pin down for a country like Malawi that is so heavily dependent on donor funding for its government revenue and expenditure. In one sense, Malawi has no fiscal space at all since the state would not even be able to meet its routine expenditure commitments if it were reliant on domestic revenue to do this. For example, in 2008/09 external grants amounted to MK75 billion out of total revenue of MK210 billion (36 per cent). Domestic revenue was MK134 billion. Current expenditures excluding the fertilizer subsidy were MK163 billion, so without external support there would have been shortfall of MK30 billion just in relation to routine expenditures. However, the external grants are in place, and have been growing in relative importance in recent years. Because of this, the government does indeed have some room for manoeuvre, even in the short term. In 2008/09 expenditure overshot revenue by MK37 billion. This coincidentally is almost exactly what the fertilizer subsidy cost in total that year, but expenditure overruns in other areas also contributed to the recurrent deficit in that financial year (Government of Malawi 2007a, 2010b, 2010g).

A 'best guess' arrived at by inspecting the government accounts for the fiscal years 2004/05 to 2008/09 is that in an average year in the late 2000s, Malawi has had scope for discretionary expenditures of around MK20 billion out of a mean total expenditure of MK160 billion (12.5 per cent). It has chosen to exercise this discretion almost wholly on the fertilizer subsidy. The aid underpinning of this discretion needs to be kept in mind, especially with general budget support reaching MK20 billion in 2008/09 and predicted to amount to MK28 billion in 2009/10 (IMF 2010, p.23). It could be inferred that the Malawi government is allocating its general budget support to the fertilizer subsidy, which explains the somewhat ambivalent reactions of donors to the subsidy when it was introduced and in subsequent years (Chinsinga 2007c, 2007a). On the one hand, general budget support is designed precisely to give governments more autonomy in their decision making over aid expenditures; on the other hand, this can enable governments to spend money on programmes which would not necessarily have been the priority preferences of the aid donors.

The fertilizer subsidy is certainly proving costly in terms of government resources, whether of domestic or external origin. Table 8.3 provides data on the trend of its costs, as well as its share of total revenue, recurrent expenditure and GDP. In nominal terms, the subsidy rose steeply in value, from MK4.3 billion in 2004/05 to MK37.8 billion in 2008/09. The original amount budgeted for 2008/09 was MK19 billion, but fertilizer purchases in that fiscal year occurred at the height of the 2008 'price crisis' when fertilizer prices encountered an unusual price spike due to parallel unprecedented levels of the world oil price. To some degree, therefore, the cost of the subsidy in 2008/09 can be regarded as caused by unusual events. On the other hand, the trend shown in Table 8.3 is precisely what the literature cited in Chapter 2 predicts about fertilizer subsidies: that their costs spiral due to political pressure to keep raising the subsidy proportion, high uptake at low fertilizer prices, and an inability to adjust to just such unforeseen events as the international price rise that occurred in 2008.

As shown in Table 8.3 the inputs subsidy has acquired a large imprint in the Malawi economy over the past five years. Its share of total government revenue grew from 5 to 18 per cent, of current expenditure from 6 to 19 per cent, and of GDP from 1.4 to 6.0 per cent. These are big figures in a small economy. Even with the predicted lower cost in 2009/10 (MK22 billion) due to a fall back in fertilizer prices in international markets, the fertilizer subsidy continued to represent 12 per cent of current government expenditure and 3 per cent of GDP in that fiscal year.

Table 8.3: Inputs Subsidy Compared to Government Finances and GDP

Fiscal Year	Fertilizer Subsidy MK m.	Share Total Revenue %	Share Current Expenditure %	Share Total GDP %
2004-05	4,328	5.1	6.0	1.4
2005-06	6,937	5.9	7.4	1.8
2006-07	9,067	6.1	9.1	2.0
2007-08	15,018	8.5	12.6	2.8
2008-09	37,823	18.0	18.8	6.0
Average	14,635	9.9	12.5	3.1
2009-10	21,861	8.5	11.7	2.9

Source: elaborated on the basis of data contained in IMF (2008, 2009, 2010)

It is apparent from this data that the ISP is a costly programme, and to the extent that it does not meet the needs of a substantial proportion of Malawian citizens who routinely experience episodes of hunger, the policy has an opportunity cost in terms of other programmes that could meet those needs more directly. For this reason the subsidy needs to be viewed as one amongst a portfolio of policies that tackle vulnerability, allowing for debate to take place about the relative priority and budgetary allocation that should be accorded to each of them. The exercise conducted here tries to do this just for two of the largest categories of potential cash transfer recipients; the 10 per cent most vulnerable households and older people. The Mchinji cash transfer represents an incomplete commitment on the part of the Malawi government to provide the latter category with cash transfers, while the cost of a social pension is interesting to put into the mix in terms of its relative magnitude compares to other expenditures.

Table 8.4 provides some basic coverage, cost and budget share data for a number of different alternatives, including the fertilizer subsidy. This table requires a few notes of explanation, so that known facts are distinguished from plausible assumptions, and the basis of the figures provided can be transparently seen:

(a) the population figures underlying beneficiary data are the 2008 census figures of 13,066,320 persons and 2,957,683 households (Government of Malawi 2008b);

(b) population share refers to individuals for the two pension columns, and to households or farmers for the other three columns, the same applies to beneficiary numbers;

(c) the shares of the population aged 60+ and 65+ are as published for the 2008 census;

(d) for pensions and poverty targeted households, the transfer per month is set at MK1,500 (just over US$10), irrespective of whether this is to an individual (pensioner) or a poverty targeted household;

(e) the transfer per year is MK18,900 which is MK1,500 transfer per month plus a 5% administration allowance;

(f) total cost is transfer per year multiplied by the number of beneficiaries (individuals or households);

(g) for the fertilizer subsidy, it is assumed that total cost will in the future fall back to around MK22 billion, which is about 60 per cent of the 2008-09 level of MK38 billion;

(h) GDP and budget shares are calculated on the 2008-09 figures given in Table 8.2.

Table 8.4: Comparative Attributes of Social Protection Alternatives 2008-09

Variable	Unit	Input Subsidy	SCT (10%) HHs	Pensions 65+	Pensions 60+	Comb. A	Comb B
Pop. Share	%	57.0	10	3.83	5.24	11.4	n.a.
Recipients	No.	1,700,000	295,768	500,657	685,316	1,488,626	1,353,427
Monthly Amount	MK	n.a.	1,500	1,500	1,500	n.a.	n.a.
Annual Amount	MK	12,941	18,900	18,900	18,900	14,125	15,536
Total Cost	MKm	22,000	5,590	9,462	12,952	21,027	21,027
Share GDP	%	3.5	0.9	1.5	2.1	3.3	3.3
Share Budget	%	10.5	2.7	4.5	6.2	10.0	10.0

Sources: Government of Malawi (2008b); other sources as for Tables 8.2 and 8.3; calculations as described in the text.

In addition to the comparison between input subsidies (at existing coverage), social cash transfers at exactly 10 per cent coverage of all households, and pensions at existing numbers of people aged 65+ or 60+, Table 8.4 contains two 'combined' policy alternatives. These are, of course, just two illustrative examples out of an almost infinitely graded array of policy combinations that could be put together. They have both been set so that their total cost equals exactly 10 per cent of the 2008/09 Malawi total government budget. The two combined policies set out in the last two columns of Table 8.4 are:

Combination A

In this combination, 10 per cent of all households in the country are covered by a poverty targeted social cash transfer. This does not need to be a uniform proportion geographically in the mode of the original Mchinji cash transfer formulation (Chapter 6). From column 4 of the table we know that this would cost MK5.6 billion, and this then leaves an amount of MK15.4 billion out of the total budgetary allocation of MK21 billion that can be spent on the fertilizer subsidy. In this scheme 1.2 million (rather than the current 1.7 million) farmers would be provided with an input subsidy package, and 296 thousand families would be covered by regular monthly social cash transfer. Altogether 1.5 million households/farmers would be covered. In this combination 26.6 per cent of the budget allocation would be spent on poverty targeted transfers, and 73.4 per cent on the inputs subsidy programme.

Combination B

This combination brings in social pensions for the over-65s in addition to poverty targeted transfers and the input subsidy. Keeping the same 10 per cent budgetary allocation, first social pensions costing MK9.5 billion are deducted from the MK21 billion, allowing MK11.5 billion to be spent on the other components. It is estimated that 65 per cent of poverty targeted beneficiary households are headed by persons of pensionable age, and therefore only 30 per cent of this group would receive the poverty targeted transfer (at a cost of MK1.7 billion). This leaves MK9.9 billion that could be spent on an input subsidy programme. In this combination, 501 thousand persons would receive a non means-tested social pension, 89 thousand households would receive a poverty targeted transfer, and 764 thousand farmers would receive input subsidy coupons. The budgetary share of each of these schemes would be 45 per cent, 8 per cent and 47 per cent respectively.

Table 8.4 offers some illuminating insights. The input subsidy at the predicted future total cost of around MK22 billion (IMF 2010, p.23) represents over 10 per cent of the total 2008/09 level government budget and 3.5 per cent of GDP. If this is treated as a preparedness to spend roughly 10 per cent of government resources on some combination of input subsidies and social transfers it provides an established capability to entertain a variety of social programmes. The poverty-targeted transfer if implemented fully at the simplified benefit rate assumed in Table 8.4 would cost only 2.7 per cent of the government budget, and represent 0.9 per cent of GDP. A universal pension for over 65s would cost 4.5 per cent of the budget and 1.5 per cent of GDP. For illustrative purposes, the comparative figures for providing all

over 60s with a pension is also provided (this would cost 6.2 per cent of the budget and represent 2.1 per cent of GDP). Finally the two combinations constructed for illustrative purposes show that Malawi could, for example, provide a countrywide poverty targeted transfer scheme or a national social pension for the over 65s, and still conduct an input subsidy policy covering 0.8 to 1.2 million farmers.[80]

This exercise is admittedly broad brushstroke, however it serves the useful purpose of lifting the debate about alternative methods for achieving social protection in a country like Malawi above the 'affordability' blocking tactic ('we cannot possibly do that; it would cost too much') into the more productive realm of the appropriate balance between different instruments that can satisfy both productive and protective goals between them. In this realm, a good case can be made for scaling back the fertilizer subsidy to some degree, thus creating the fiscal space to permit at least one form of scaled-up social protection to be properly instituted with countrywide outreach. As discussed throughout this thesis, the fertilizer subsidy fundamentally favours non-poor farmers and only incidentally (and unreliably) benefits land- and labour-constrained poor rural households. Moreover, its entrenchment at rates of subsidy and coverage that stretch affordability to its limits is both economically and politically unwise; it becomes politically impossible to phase out, and its costs leave no room to deal with unforeseen eventualities (such as, for example, the not unlikely occurrence of two successive years of poor rainfall). If the fertilizer subsidy were to cost 5-6 per cent rather than 10 or 15 per cent of the budget, then social cash transfers could comfortably occupy 4-5 per cent, providing reliable protection against hunger for perhaps 15 per cent of the population at that level.[81]

8.4 Summary

This chapter brings input subsidies and social cash transfers into juxtaposition with each other, and also broadens the discussion to include other forms of social transfers, principally social pensions. One purpose of the chapter is to affirm the complementarity of different policies, which is recognised rhetorically by the Malawi government, but not in the funding

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[80] It is reiterated that the pension discussion here is purely being used to demonstrate relative orders of magnitude of different social transfer options; it is not because pensions are currently viewed as a priority by the Malawi government, nor to detract from the main comparison of this thesis between input subsidies and targeted cash transfers.

[81] If 500,000 individuals were covered and shared their benefit on average with 4 people, then this would protect 15 per cent of the population. Similar calculations can be made for a variety of different scenarios.

priorities accorded to different policies. Another purpose is to bring into the open the 'affordability' dimension of social transfer policy discussion, because all too often feasible policy alternatives are rejected out of hand on the basis that they are not affordable for a poor country like Malawi. Yet an input subsidy programme which in 2008/09 cost 18 per cent of the entire budget has been considered affordable by the Malawi government. The interpretation of this is not, however, entirely straightforward since general budget support from the donor consortium to Malawi underpins this level of expenditure, and in its absence the input subsidy programme would cause substantial budget deficits.

The chapter shows that input subsidies and cash transfers are complementary to each other across a range of attributes. In some ways, they compensate for each other's weaknesses, revealed in the detailed analysis of them in Chapter 5 and 6. In particular input subsidies are at their most effective for better off farmers, able to combine land, labour and moisture retention to the best effect to realise high maize yields. Input subsidies are less effective for poorer farmers, especially those lacking labour to apply to the production process, and of course they are not helpful at all (except in a rather indirect way) for landless rural dwellers. By contrast, cash transfers can reach these especially resource poor rural social groups, and can provide an underpinning to their food security obviating the necessity for emergency operations except in exceptional circumstances.

The chapter examines the budgetary costs of different policies, and combinations of policies. The input subsidy programme is expensive. Even without the unusual cost spike of 2008, the current level of farmer coverage is predicted in the future to cost more than 10 per cent of the Malawi government budget (at 2008/09 budget levels). This makes 'lack of affordability' arguments about social transfers rather untenable, especially given the doubts expressed elsewhere in this thesis (and backed up by empirical evidence) that the input subsidy may not be anywhere near as effective as its proponents claim. Malawi could indeed afford fairly generous social transfer coverage. For example, it could easily afford to provide the entire 10 per cent 'most vulnerable' in the country with cash transfers. A good case can be made for Malawi to reconsider the policy options that could be afforded within roughly 10 per cent of the national budget, and to construct a more balanced portfolio of policies for reducing vulnerability to hunger in the country.

Chapter 9: Conclusions

9.1 Revisiting the research objective

This thesis has explored the difficulty in Malawi of constructing a policy environment that can enduringly reduce the proneness of the rural population to hunger and deprivation. In Malawi history, this goal has primarily been seen as a production-side challenge, depending for its achievement on the realisation of yield and output gains in smallholder agriculture. Efforts in this direction have had mixed results in different time periods. While initial success in estate agriculture occurred in the first two decades after independence, the smallholder sector has had variable fortunes, and for a lengthy period from the 1980s to the mid-2000s production outcomes were unreliable and rising vulnerability to hunger seemed to be centrally located in the poor performance of food crop agriculture. Since the introduction of a national agricultural input subsidy programme in 2005/06, maize production appears according to official figures to have experienced a substantial step upwards. However, trends in maize price data in the period 2007-09 indicate the need for caution in accepting these figures at their face value.

The thesis objective has been to gain a much fuller understanding than hitherto available of the complementarities and trade-offs between policy options that are advanced for reducing chronic vulnerability to hunger. The various options such as input subsidies, public works programmes and targeted social cash transfers have tended to be viewed in a rather fragmentary way. In particular, the government has tended to prioritise input subsidies as the chief policy to which it accords ownership; whereas social transfer policies have tended to be motivated and funded by donors, and they enter strategic policy documents either on the back of food security crises, or as part of donors or NGOs pursuing particular agendas. While, senior officials interviewed about policy options during the research were keen to emphasise the government's commitment to social protection, it was always clear that for them the inputs subsidies programme was the chief form of such a commitment, and other policies were at the perimeter of their priorities for what social protection in Malawi might comprise.

In Malawi, official rhetoric is to regard input subsidies as one of four main components of social protection policy in the country. The other three components are the social cash transfer scheme, public works programmes, and a nutrition programme related to HIV/AIDS. These components are, however, disconnected and funded in entirely different ways. Input subsidies

are funded by government and implemented by the Ministry of Agriculture and Food Security. Social cash transfers have been funded by the Global Fund and are implemented by the Department of Social Welfare in the Ministry of Gender and Community Development in partnership with the National AIDS Commission and UNICEF. Public works programmes are funded by MASAF (mainly World Bank funding), Government/European Union and the Ministry of Transport and Public Works, and are implemented by District Assemblies. The nutritional programme is resourced by WFP and implemented by the Department of HIV/AIDS and Nutrition in the Office of the President and Cabinet.

As described in Chapter 3 of the thesis, these different national policies have different historical origins, and in practice are not effectively coordinated at central government level. An attempt by donors to assist the government to development a coherent social protection policy has made slow progress and has become weakened in successive iterations. The current status of this process is a policy document entitled the Social Support Policy, which has yet to be approved by cabinet as an official statement of government intentions in this area. It was decided early in the work of this thesis not to elide agricultural input subsidies and social transfers in the way both donors and government have tended to do in Malawi over the past half decade. It is considered that this melding of productive and welfare policy lacks clarity and contributes to the confusion about what different policies can achieve for poverty and vulnerability reduction that permeates the discourse on them in Malawi. The thesis has preferred to keep these policy groups separate, and has done this by comparing input subsidies and social cash transfers at arms' length from each other. This also enables the trade-offs between calls on scarce budgetary resources and eventual vulnerability reduction impacts to be identified more clearly.

The original contribution of this thesis lies partly in the sustained way that input subsidies and social cash transfers have been juxtaposed and compared throughout the thesis. It also lies in analysis conducted using existing data to clarify the key character of vulnerability in Malawi (Chapters 3 and 6), interpret production trends in the light of price behaviour (Chapter 5), interpret social cash transfers in the light of spatial patterns of poverty and ultra poverty, and the income distribution effects of transfers themselves (Chapter 6), and consider the budgetary implications of different individual instruments or portfolios of instruments (Chapter 8). In addition, Chapter 7 contains the description and analysis of original data collected by the

author in Mchinji district, in which the livelihood effects of these policies in a sample of households are examined.

9.2 Research questions and associated findings

Before turning to the final conclusions of the thesis, it is appropriate to revisit the research questions set out in Chapter 1, and show how the thesis has attempted to answer these questions, and the main findings that were achieved in relation to each research question. It is recalled that the research questions were as follows, and in ensuing paragraphs each of these is discussed in turn:

(1) What are the chief sources of vulnerability to hunger in Malawi, and how have debates about reducing poverty and vulnerability tended to be framed in the past?

(2) What are the criteria that distinguish different vulnerable groups, and how are the needs of these groups in the short and long term met by different policy levers?

(3) What is the history of input subsidies in Malawi, and how successful have they been in tackling vulnerability, especially in the most recent era?

(4) What is the history of social cash transfers in Malawi, and what is the evidence to date on their effectiveness at improving the food security of the extreme poor?

(5) What does empirical investigation at community and household levels show us about the effectiveness of input subsidies and cash transfers for achieving family food security in rural Malawi?

(6) What are the budgetary trade-offs in Malawi regarding the costs, coverage and effectiveness of different potential components of a vulnerability reduction strategy?

9.2.1 Vulnerability in Malawi and policy responses

Vulnerability in Malawi is closely associated with agriculture, the connections being the relative size of the rural population and the prevalence of food deficit small farmers in the smallholder sector. The thesis reprises the known characteristics of vulnerability as documented in numerous reports and analyses (Devereux 1998, Devereux *et al.* 2006a, Government of Malawi/World Bank 2006). In particular, Malawi is prone to periodic crisis

events in the maize market, when the price rise between the harvest and lean season can vary from 100-200 per cent and more. Such very high lean season prices have a devastating effect on the ability of food deficit farmers to provision themselves when their own stocks run out. The severity of these price effects on food insecurity depends, of course, on the size of the 'food gap' for individual farm families. Certainly in the 1990s and early 2000s, the food gap seemed to be widening amongst poorer small farmers; however, this may have stabilised with better growing conditions and the fertilizer subsidy in recent years.

Steep seasonal rises in maize prices inescapably mean a shortage of maize in the country relative to consumption requirements. Interestingly, however, the maize price is not particularly prioritized as a food security indicator in Malawi; and successive governments of all political parties tend to act reluctantly and slowly on price evidence, delaying as long as possible the acceptance that imports may be required. With logistical delays in putting in motion and obtaining delivery of maize import orders, eventual imports often arrive too late to prevent adverse coping behaviours (skipping meals, reducing the size of meals etc.) in the most vulnerable population groups. The food security apparatus in Malawi places greatest credence on crop forecasts (the collection method of which is described in Chapter 4), on food balance sheet calculations produced by MoAFS (which depend on the crop forecasts for their accuracy), and on household economy approach (HEA estimates) of localised food shortages (collated and made available to decision makers by the MVAC, also described in Chapter 4).

An important dimensions of vulnerability explored in the thesis is the spatial distribution of ultra poverty (generally regarded as a good correlate for vulnerability). This reveals that ultra poverty varies considerably across the regions and districts of Malawi, with the highest rates of extreme deprivation found in several districts of the southern region (Chapters 6). This finding also accords with patterns of 'missing food entitlement' identified in the regular vulnerability analyses produced by the Malawi Vulnerability Assessment Committee (MVAC). Spatial variations in vulnerability mean that the imposition of a uniform cap on beneficiary numbers in poverty targeted transfers, as is done at 10 per cent in the Mchinji social cash transfer scheme, causes either under-provision or over-provision in different places. This is one of several weaknesses identified with poverty targeting, the implications of which are discussed later in this chapter.

The consistent thread of past policy responses to vulnerability in Malawi has been the emphasis on improvements in agriculture. This has varied in emphasis in different eras, but

always with an eye to ensuring national maize self-sufficiency. The relaxation of the previous smallholder prohibition on burley tobacco in 1990 expanded the options open to smallholder farmers to generate cash income; however, the tobacco market is itself unreliable from one year to the next. Efforts to diversify food crops away from maize have been partially successful, with an increase in the area under cassava and sweet potatoes in the 1990s; however, maize has remained preeminent as Malawi's food crop cultivation of choice throughout. The agricultural input subsidy of the past five years represents continuity in this line of policy thinking, in which reduction of vulnerability equates with rising own food security which, in turn, equates with rising maize yields and output. The Malawi government response to vulnerability is thus production rather than consumption oriented. It is this approach that is truly 'owned' by successive Malawian governments.

Other responses to vulnerability have been 'owned' more by donors than the government, and have tended, until the advent of the Mchinji social cash transfers scheme, to have comprised seasonal safety net operations, mainly in the form of food-for-work. Seasonal safety nets remain a key component of the government response to anticipated food insecurity, but their funding is almost entirely by external agencies and is tailored to the scale of the immediate problem being addressed. The World Bank (through MASAF), the European Union and DFID have all been major contributors to seasonal safety nets since the mid-1990s. A major role has been played by WFP as the organiser of the food supplies required for food-for-work programmes. Also since the mid-2000s, international NGOs have played significant roles in emergency responses, safety nets and (more recently) cash transfers; as manifested, for example, by Concern Universal's scheme in Dedza district (Levy *et al.* 2002); an Oxfam scheme in Thyolo district (Harvey and Savage 2006); and the Concern Worldwide FACT in 2005-06 and DECT in 2006-07 (Devereux *et al.* 2006b) A fuller discussion of social cash transfers is deferred to question (4) below.

9.2.2 Criteria distinguishing vulnerable groups and policies that address their needs

At various points in the thesis, the question of identifying vulnerable groups for targeting purposes is discussed (Chapters 3, 5 and 6). The identification problem is interpreted differently across groups of policies, yet underlying criteria should converge if policies are to succeed in averting hunger episodes at both household and collective levels. Input subsidies have tended to view vulnerability through the lens of the smallest and poorest farmers, with an implication (not always tied down precisely) that small farm size and ability to cultivate

are the two critical criteria for the allocation of coupons or subsidised supplies. In the case of the ISP, the programme has been so large and the targeting procedures adopted at local levels so variable (Chapter 5) that all small farmers seem to be eligible in an uneven way to participate in the scheme.

As discussed in Chapters 3 and 6, social transfers approach the selection problem in different ways depending on the type of scheme. Seasonal public works programmes embody the principle of self-targeting (people will only turn up out of dire necessity), yet in the early 2000s this approach proved inadequate with schemes routinely having substantially more applicants than could be provided with work. This caused rationing, and an evolution towards leadership or community targeting. Poverty targeted transfers have tended to use proxy criteria for extreme deprivation to select beneficiaries, including the headship of the household (women, elderly, children), number of orphans, dependency ratio, chronic illness and (in urgent circumstances) direct observation of adverse coping (e.g. households only taking one meal per day). The Mchinji social cash transfer scheme (Chapter 6) adopts the poverty targeted approach with a special emphasis on the absence of able-bodied adult labour in the household. All proxy criteria approaches tend to be combined with community-based processes of beneficiary selection.

These different approaches to distinguishing the most vulnerable indicate in the direction of complementarity rather than conflict between different vulnerability reduction policies. An inputs subsidy scheme potentially improves the livelihood situation of poor farm families possessing both land and labour for cultivation. A seasonal safety net picks up those farm families who do not succeed in covering their annual food requirements from own production, and are unable to afford high priced food in the lean season. A poverty targeted transfer addresses the more permanent problem of population categories that are unable to meet their basic needs even in the best of circumstances. This group includes destitute families, elderly people not being supported adequately by their families, chronically ill people, children with no social means of support (orphans), households entirely lacking productive labour, and disabled people.

Nevertheless, successful targeting of these groups is costly and difficult and prone to error or capture by other parties. Overall, in a very poor country like Malawi, there is a high risk of overlap between some beneficiaries while the needs of others fail to be met, caused by what are called inclusion and exclusion errors (Coady *et al.* 2004, Miller *et al.* 2010). Specifically

(as shown in Chapter 7) when input subsidies and cash transfers coexist, many households may end up with both types of transfer, and may also benefit from seasonal safety nets. This is sometimes referred to as 'double dipping', and can occur as much from agencies making available different transfers to the same families, as from households consciously strategising to receive different transfers. As discussed later in this chapter, complementarity in input subsidy and social cash transfer delivery offers scope for considerable improvement in Malawi, to the benefit of both the government budget and vulnerable people with differing specific needs.

9.2.3 Input subsidies in Malawi and their success at reducing vulnerability to hunger

This thesis has explored the input subsidy approach in Malawi in considerable detail, providing a conceptual background in Chapter 2, a historical account of the starter pack scheme and targeted input programme in Chapter 3, and a fairly full description of the ISP in Chapter 5. The latter chapter also carries out an analysis to demonstrate that the output gains of the ISP have been nowhere near as large as has been claimed for them in government official statistics.

The large scale ISP has both positive and negative features. It demonstrates that when there is the political will, even a country as poor and supposedly 'lacking capacity' as Malawi is capable of mobilising on a massive scale. The organisation of the ISP, even though prey to some weaknesses, has largely been successful at conducting a complex nationwide undertaking with a high degree of competence. It is a tribute to MoAFS and cooperating organisations (SSFFRM and ADMARC) as well as the private sector (when permitted to participate) that this has in general worked so well. There is evidence that coupons have reached the intended target of 60 per cent of small farmers, and the fertilizer purchased has almost certainly gone beyond this coverage due to secondary redistributions that occur subsequent to primary allocations.

On the other hand, the ISP raises some legitimate doubts about the strength of its contribution to yield growth and poverty reduction. Chapter 5 describes some of the misallocation that occurs with regard to coupon distribution (see, for example, Ellis 2007, Kadzandira 2007), and this was also found in the researcher's own fieldwork in Mchinji district (Chapter 7). However, it is difficult to evaluate the significance of these occurrences in the broader picture of coupon allocation and fertilizer distribution. More important problems are, first, the true

level of output gains that can be attributed to the subsidy (Chapter 5); and, second, the cost of the programme to the government budget, effectively squeezing out the ability of the government to contemplate complementary provision that could be more successful at reaching the most vulnerable groups in society directly (Chapter 8).

With regard to maize output over the period since the ISP was introduced in 2005/06, the only year for which an unambiguous level of harvest was achieved in line with official estimates occurred in the 2005/06 season itself. There are reasons to be confident that this season delivered an output of around the 2.6 million ton mark officially claimed, a new maize harvest record for Malawi, and 1.4 million tons higher than the preceding disastrous season of 2004/05. Much of the subsequent positive interpretation of the benefits of the subsidy stem from this single season, and the impact it had on maize prices over the following lean season and into the 2007 harvest period. However, the 2007 harvest cannot have set yet another new record as claimed (prices rose steeply in late 2007), nor can the 2008 harvest have been as high as that experienced in 2006 (prices rose even more steeply again). The analysis in Chapter 5 suggests harvests in the period 2006/07 to 2009/10 may be overestimated.[82]

The overestimation of harvest levels achieved by the ISP casts doubts on the growth benefits of the subsidy, and affects the assessment of its influence in reducing vulnerability to hunger. In the lean seasons of 2007 and 2008, poorer rural families in Malawi were once again thrust into negative coping strategies as revealed in routine MVAC assessments described in Chapter 4 and 5, and once again an array of fragmentary social transfer provision had to come into play in order to avert hunger in different parts of the country. In addition, as examined in Chapter 8 of the thesis, the cost of the subsidy spiralled up to the 2008/09 fiscal year, attaining 19 per cent of the government budget and 6 per cent of GDP in that year. The affordability ramifications of this trend are examined further under item (6) below.

9.2.4 Social cash transfers and their impacts on vulnerability reduction

Until 2006, by far the predominant social transfer response of the Malawi government to anticipated or reported hunger was public works programmes. Most public works programmes until the mid-2000s took the form of food-for-work, with WFP being responsible

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[82] The 2007/08 harvest cannot have been greater than the 2005/06 harvest (taking into account a subtraction of 400,000 tons for exports) for otherwise prices would not have risen so steeply in late 2007. Likewise the 2008 harvest must have been at least 400-600,000 tons lower than the 2007 harvest in order to explain the 2008 run up in prices.

for delivering the required food supplies when domestic stocks were unable to fulfil this requirement. In addition direct delivery of food rations to hungry people would occur in the event of a crisis emerging faster than the ability to put in place a suitable PWP. In the period between the 2001-02 and 2005-06 food crises, a highly unstable policy environment prevailed, comprising late and excessive maize imports in some years, high volumes of food aid, large oscillations in strategic food security stock levels, and multiple food security interventions across rural areas conducted by MASAF, international NGOs, donor projects and WFP.

The advocacy of cash transfers needs to be interpreted in the context of this somewhat anarchic situation, found not just in Malawi but also in other countries experiencing recurrent food security crises (Ethiopia, Kenya, Mozambique, Zambia). The proponents of cash transfers point to the predictability of a 'core' caseload of families seeming to require assistance almost every year, allied to the benefits for all stakeholders of replacing heterogeneous short term transfers by routine transfers made on a continuing basis. The specific genesis of the Mchinji scheme has already been described in Chapters 3 and 6, and is not rehearsed again here. The Mchinji scheme has generally been considered fairly successful in terms of its internal logic and objectives (Miller *et al.* 2008a, 2008c, 2008b). It has reached extremely poor rural families characterised by their lack of ability to generate their own needs for survival. In Mchinji district itself, but apparently less so in other districts to which it has expanded, it created a viable organisational structure for implementation including beneficiary selection and cash delivery.

Chapters 6 and 7 demonstrate that social cash transfers at the level provided by the Mchinji SCT scheme have dramatic positive effects on the livelihoods and food security of their beneficiaries. In effect, their basic food needs are not just secured, but exceeded, and cash availability allows discretionary expenditures on inputs, assets, health, education and savings. A key factor is the predictability of the cash flow to households, which is in striking contrast to the risks that attach to all other income streams in a rural Malawian context, whether non-monetised or monetised. This predictability attracts able-bodied family members into households that formerly lacked labour, and permits cultivation of maize and other crops where formerly this was not possible. The ability of households to overcome maize price seasonality is also considerably enhanced, although not avoided altogether. The purchasing

power of nominal cash transfers held at the same level remains a critical issue for social cash transfers in an environment of unstable or rising food prices.

Despite these positive benefits, some weaknesses of social cash transfers are identified. First, the scale of rural poverty in Malawi means that little differentiates the living conditions of scheme recipients from other, only fractionally better off, poor people in the same communities (Ellis 2011). In addition, the stability of cash transfers confers cumulative benefits which mean that the livelihood circumstances of recipients is likely to diverge from non-recipients over time. In this context, it is possible that the monetary level of transfer in the Mchinji SCT was set too high at the beginning, going beyond the amount required strictly to lift destitute families to a minimally acceptable food security level. Second, the fixed proportional cap on beneficiary numbers, from national to district, sub-district and community levels (the 'ten per cent' rule) neglects spatial differences in the incidence of ultra-poverty and destitution. Third, rising operational costs have occurred as the scheme has scaled up, with an initial voluntary ethos of local level management giving way to rewards and remuneration, and administrative costs rising from a planned level of 8 per cent at inception in 2006 to 14 per cent in practice and 23 per cent in future projections. Fourth, the future funding of the scheme is doubtful: the government has allocated a minuscule budget to social cash transfers in 2010/11, and commitments of external agencies remain piecemeal and uncertain at the time of writing.

9.2.5 Findings of fieldwork in Mchinji district for both inputs subsidies and cash transfers

The fieldwork utilised a sample survey of 90 households in three villages to explore empirically certain important dimensions of the way cash transfers and input coupons work in practice for poor rural families. The first aspect was how programme organisation and beneficiary selection worked in practice, especially at community level. The second aspect was how participation and non-participation in the SCT altered the food security prospects of different households across the seasons, taking into account the interactions between cash and food (via the price of maize) and the alternative sources of cash income available to households in different categories. The third aspect was whether coupon beneficiaries could be distinguished in any particular ways in practice from other groups represented in the sample, and in particular whether evidence could be found of the existence and working of a secondary 'coupon market' created by the working of the ISP.

Regarding the first aspect, the fieldwork yielded interesting insights into how social transfers may be managed within communities, although it is difficult to judge whether the experiences observed in a few village in Mchinji district can be generalised. In the case study research sites, community members 'defied' official criteria by allocating ISP and SCT to different households depending on what they felt would 'effectively' make a positive contribution to the livelihood of a particular household. Households that were considered to be 'non-viable' were allocated cash transfers; households that were considered to be poor but productive and capable of raising some cash on their own were allocated coupons; households that were considered to be poor and unable to raise cash ,but nevertheless productive, were allocated both transfers; while households that were considered to be less poor and therefore capable of supporting themselves in terms of productive inputs and food were not registered for either schemes. Interfaced between these allocations were arrangements to share (especially fertilizer) as part of social networking.

From this community allocation, the unplanned distribution of the sample for this research emerged as follows: 9 per cent of households allocated cash, 52 per cent allocated coupons, 24 per cent joint beneficiaries, and 14 per cent non-beneficiaries. Excluding the non-beneficiaries, the distribution emerges as 10.1 per cent cash households, 61.0 per cent coupon households and 28.6 per cent joint beneficiaries. In the programming of social cash transfers in Malawi (and Zambia), the first group corresponds to the labour constrained ultra-poor; the second corresponds to poor but productive households; while the third group corresponds to ultra-poor but productive households. These distributions bear similarities to the distribution of poor rural households from the IHS2 dataset (Table 3.4): 15.8 per cent ultra-poor labour constrained households; 23.1 per cent ultra poor but with labour; and 61.1 per cent poor households. It is also worth noting that the evaluation of the Mchinji scheme found that only 16.7 per cent of the cash beneficiaries were both ultra-poor and labour constrained. These similarities may or may not be mere coincidence but are emerging from three separate studies.

Regarding the second aspect and third aspect, what was observed in Mchinji in 2008 was already the outcome of a process of adaptation to getting cash transfers by SCT beneficiaries. In effect, by the time of the fieldwork, they were no longer in the 'ultra-poor labour constrained' position in which they started, and their basic socio-economic and demographic characteristics differed little from non-recipients in the overall sample. The presence of a secure and continuous level of cash income meant that these were households worth residing

in by relatives, and other adaptations such as being able to farm would follow from this circumstance. The evidence suggests that real concerns about cumulative divergence could result from continuously providing the same set of households over several years with cash transfers at the level decided for Mchinji. It is not just the level of the cash transfer that is important in this (although it seems quite possible that the Mchinji level has been too generous); it is also the risk free character of a cash transfer (as compared to the uncertainties that prevail for all other means of earning cash in rural communities, except salaried jobs). In general, a cash transfer may enable a real pathway out of poverty to be achieved for its recipients, but the literature contains little guide to the 'fairness' of this with respect to the fortunes of non-recipients, nor to what would happen if the transfer to that set of beneficiaries were abruptly ceased after an interval of time.

9.2.6 Affordability and the costs and coverage of alternative policies

Governments of poor countries like Malawi often express the view that national social welfare programmes are not affordable in view of extremely constrained public finances. However, this is a matter of politics and decision making. The real constraints are likely to be how fiercely established spending bodies (mainly government ministries) defend their past and current levels of expenditure, and whether the government in power sees any political advantage in introducing social transfers. In Malawi, as has been made clear throughout this thesis, successive governments have seen substantial political advantage in input subsidies which are popular with the mainly rural and farming electorate, and poverty targeted transfers do not seem to offer anything like the same political traction.

Chapter 8 of the thesis examines the affordability question in some detail. It shows that Malawi has had a strong government budget for the past five years, and has experienced only small annual deficits except in 2008/09. About 40 per cent of the budget is contributed by donors, and a quarter of this proportion (i.e. 10 per cent of the total budget) takes the form of general budget support. Since the input subsidy has cost, on average, around 10 per cent of total revenue in its first five years of implementation, it could be inferred (but does not necessarily follow) that the donors are funding the input subsidy through general budget support. Needless to say this is not a popular inference to make with either the government or the donors, who are able to point to a lot of other socially valuable expenditures that general budget support makes possible. The Malawi government has in fact been prepared to spend up

to 18 per cent of total revenue (6 per cent of GDP) on the input subsidy, as occurred in the 2008/09 fiscal year.

The bottom line on affordability is the answer, yes, the Malawi government is able to afford a portfolio of social transfers and agricultural subsidies, and that the size of such a portfolio is around 10 per cent of total government income (or MK25 million by reference to the 2009/10 planned revenue). How this discretionary expenditure is allocated between different claims is within the government's power to choose.

9.3 Conclusions

It is apparent that neither input subsidies nor poverty targeted cash transfers represent definitive solutions to the continued prevalence of vulnerability to hunger in Malawi. They both manifest particular strengths accompanied by identified weaknesses. The strength of input subsidies is their contribution to growth as well as to poverty reduction, and to the extent that they can secure stable and sustainable increases in yields in food crop agriculture, they have an undeniable role to play in overall vulnerability reduction efforts. However, their major weakness is that they almost certainly help better off farmers more than the poor and their beneficial effect on land- and labour-scarce rural households is indirect and very dependent on the true scale of their agricultural achievement.

The strength of social cash transfers is that they directly protect the consumption level of their beneficiaries. This protection is instantaneous and not dependent on the roundabout or cumulative process of gains from growth in the rural economy. Nevertheless social cash transfers are shown to have important weaknesses: their targeting is administratively cumbersome and prone to exclusion and inclusion errors; the 10 per cent cap on their level is arbitrary and fails to capture variations in extreme poverty within and across districts; moreover, this cap can cause social invidiousness in communities where selection of the worst-off 10 per cent involves trying to discern microscopic differences in their circumstances compared to other extremely poor families. Finally, all types of cash transfer are prone to failing to achieve their intentions in circumstances of volatile food prices. As stated earlier in this chapter and elsewhere, a cash transfer is only as valuable as the quantity of food and other basic needs it can buy.

The thesis concludes that the agricultural input subsidy on its own is likely only to make a modest contribution to vulnerability reduction; and it argues that a portfolio of instruments in

which different types of transfer are tailored to differing needs is more appropriate in the Malawi case. The precise combination of the two and other instruments is a matter for future policy debate. A portfolio of instruments is affordable within the parameters of national budgetary allocations that have hitherto been allocated to the input subsidy on its own. Finally, the thesis accepts that all these considerations are dependent on political factors that may or may not permit advances in the directions suggested here to occur in the future, and will certainly determine the pace of policy change if it occurs.

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Annex: Field Survey Guides

Annex 1. Baseline Survey Questionnaire (January 2008)

HH NAME:	VILLAGE:	ZONE:	VDC:	TA:

FORM 1. HOUSEHOLD COMPOSITION

QNO	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
MEMBER NO	Name	Age (years)	Sex	Relationship to H/H head	Marital Status	Highest Education	Main Occupation	Residency status
1								
2								
3								
4								
5								

CODES
    Q3 Sex: 1 = Male; 2 = Female
    Q4 Relationship to H/H head: 1 = Head; 2 = Spouse; 3 = Child; 4 = Other relation;
        5 = Other permanent
    Q5 Marital Status 1 = Married; 2 = Married, polygamy; 3= widowed; 4= separated/divorced;
        5 = Never Married; 6= No (e.g. child)
    Q6 Highest Education: 1 = None; 2 = Adult Literacy; 3 = Std 1-5; 4= Std 6-8; 5 = Form 1-2;
        6 = Form 3-4; 7 = Other (specify)
    Q7 Main Occupation, at present 1 = Child, not schooling; 2 = Schooling; 3 = Own farming;
        4 = Labourer, nearby farms/HH; 5 = employee of an organization; 6 = Self-employed (business);
        7 = No Occupation (old, ill etc)
    Q8 Residency status: 1 = Permanent resident; 2 = Permanently or always away (State place)

FORM 2. ASSET OWNERSHIP

2.1. TYPE OF MAIN HOUSE

QNO	Question	Options/codes	Code
Q1	Type of wall	1= Burnt brick wall; 2= mud/un-burnt brick wall ; 3= Other	
Q2	Type of floor	1= cement floor; 2= mud floor; 3= Other	
Q3	Type of roof	1= corrugated roof; 2= Grass thatched roof ; 3= Other	

2.2. AMOUNT OF AGRICULTURAL LAND OWNED

QNO	Q1		Q2	Q3
Plot ID	Amount of land		Owned by	Normally used by
	Quantity	Unit		
A				
B				
C				

CODES
    Q2 Owned by: 1 = jointly; 2 = Wife; 3 = Husband; 4 = Other household member (ID from Form 1)
    Q3 Normally used by: 1 = jointly; 2 = Wife; 3 = Husband;
        4 = Other household member (ID from Form 1); 5= Idle; 6= Rented out; 7= Other

2.3. LIVESTOCK OWNERSHIP

QNO	Q1		Q2	Q3
ID	Livestock Type	Code	Numbers now	Current Price (MK/unit)
A				
B				
C				

2.4. OWNERSHIP OF SELECTED FARM ASSETS/TOOLS (e.g. ploughs, oxcarts, hoes)

QNO	Q1		Q2	Q3
ID	Farm asset/tool	Code	Numbers	Current Price (MK/unit)
A				
B				
C				

2.5. OWNERSHIP OF SELECTED HOUSEHOLD ASSETS (e.g. radio, bicycle, sofa sets)

QNO	Q1		Q2	Q3
ID	Household asset	Code	Numbers	Current Price (MK/unit)
A				
B				
C				
D				
E				

FORM 3. INCOME, SAVINGS AND CREDIT FOR THE HOUSEHOLD

3.1. MAJOR SOURCES OF REGULAR INCOME (if household member staying away sends money, give ID from Form 1)

QNO	Q1		Q2	Q3
ID	Income source	Code	Estimated amt (MK)	Frequency of income flow
A				
B				
C				
D				
Codes				

Codes
    Q3 Frequency of income flow 1= Per day; 2= Per week; 3= Per month;
        4= Per year; 5= Other)

3.2. SAVINGS BY HOUSEHOLD MEMBERS- SINCE OCTOBER 2007

QNO	Q1	Q2		Q3	Q4
	HH member	Where save		Frequency of savings	savings now (MK)
ID		Place/Institution	Code		
Codes					
Q3 Frequency of savings 1= Daily; 2= Weekly; 3= Monthly; 4= Annually					

3.3. ACCESS TO CREDIT/LOANS – SINCE OCTOBER 2007

QNO	Q1			Q4			Q7	Q8
		Q2		Q3	Q5	Q6		
ID	HH member	Source of loan	Code	Form of loan	Amt (MK)	Date taken (Mth & Yr)	Duration (Months)	Purpose	Balance now (MK)
Codes								
Q3 Form of loan 1= Cash, 2= Inputs, 3= Materials								
Q7 Purpose 1= Agricultural, 2= Business, 3= Consumption (food)								
4= Other (e.g. school fees, funeral/medical etc)								

FORM 4. LABOUR AVAILABILITY AND USE FROM OCTOBER 2007

QNO	Question				Code
Q1	Does your household hire in labour?				
Q2	Does your household hire out labour?				
Q3	Have members of the household participated in the following activities?				
ID	Member of HH	31 Farming	32 Business	33 Casual labour (ganyu)	34 Cash For Work (PWP)
Codes					
Q1, Q2 1 = No; 2= Yes, casual; 3= Yes regular; 4= Both casual and regular 5= Other					
Q3 Participation in activities 1= Yes, 2 No					

FORM 5. AGRICULTURAL/FARMING ACTIVITIES (CROPS)

5.1. AGRICULTURAL PRACTICES

QNO	Question	Code
Q1	Which crops do you normally grow?	
Q2	Which major maize varieties do normally you grow?	
Q3	What is your major source of seed?	
Q4	Do you normally apply fertilizer?	
Q5	What is major source of your fertilizer in the last three agricultural years?	
Q6	How many times do you weed your field?	
Q7	What is your major source of agricultural extension messages/information	
Q8	Does any member of your household belong to a farm club?	
Q9	Complete the table below as applicable since October 2007	

	91	92		93	94		95
ID	HH member	Name of Club	Code	organization	Years as member	Code	If attended meetings, how often?

Codes
   Q1 Crops 1= maize; 2= tobacco; 3= groundnuts; 4= other
   Q2 Maize varieties 1= local; 2=OPV; 3= hybrid; 4= mixed (state)
   Q3 Seed sources 1= own; 2= cash purchase; 3= coupons, 4 = coupons and cash purchases;
      5 Other(state)
   Q4 Normally apply fertilizer? 1= Yes; 2= No
   Q5 Source of fertilizer 1= cash purchase; 2 = coupons, 3 = coupons and cash purchases;
      4 = Other(state)
   Q6 Weeding 1= None 2= Once, 3= Twice; 4= More than twice
   Q7 Sources of extension 1= extension worker; 2= media (state); 3= other farmers;
      4= input/output dealers; 4= Other
   Q8 Farmer club membership 1= Yes; 2= No
   Q94 Organization 1= Government, 2= NGO 3= Other
   Q95 Meetings 1= None, 2= weekly, 3= Fortnightly, 4= Monthly, 5= Other

5.3. CROP PRODUCTION 2007/08 SEASON

	Q1		Q1	Q3	Q4		Q5	Q6	Q7	Q8		Q9
Plot ID	Area cultivated		Main crop	Variety grown	How much seed		Source of seed	Weeding to date	Applied fert?	How much fertilizer?		Source of fert
	Qty	Units			Qty	Unit				Qty	Unit	

CODES
   Q2 Main crop planted 1= maize; 2= tobacco; 3= groundnuts; 4= other
   Q3 Variety grown 1= local; 2=OPV; 3= hybrid; 4= mixed (state)
   Q5 Source of seed 1= own; 2= cash purchase; 3= input for work, 4= free ; 5 subsidised; 6= Other
   Q6 Weeding to date 1 = None; 2= completed twice; 3= completed once; 4= other
   Q8 applied fertilizer? 1= Yes; 2= No
   Q9 source of fertilizer 1= cash purchase; 2 = coupons, 3 = coupons and cash purchases; 4 = Other(state)

FORM 6. FOOD AVAILABILITY – January 2008

Q1	How many meals per day are you having now?				
Q2	Maize (ufa) stocks available now				
	21		22	23	
	Food type		Major sources	How much is available now	
	Name	Code		Quantity	Units
CODES					
Q1 Meals 1= once; 2= twice; 3= three times; 4= none, some days; 5=other					
Q2 Sources Major sources 1= own production; 2= purchase, own income, 3= purchase, cash transfer; 4=Other					

FORM 7. SOCIAL TRANSFERS

	Question	Responses	Code
Q1	How many times in the last three years up to September 2007 have you received any social transfers?	1= Once, 2= twice, 3= three times, 4=none	
Q2	Have you received coupons this year (2007/08 season)?	1= Yes 2= No	
Q3	For Cash Transfer beneficiaries, how much are you currently receiving per month (MK)	MK	

FORM 8. SOCIAL CASH GRANTS RECEIVED AND USE - FROM OCTOBER 2007

Month	SCT Amt (MK)	Major uses/expenditures	Amt spent (MK)

Detail for each month

FORM 9. HOUSEHOLD'S SELF ASSESSMENT OF VULNERABILITY

QNO	Question	Code
Q1.1	How do you compare your HH vulnerability relative to other HHs in this village? (1= less vulnerable, 2= average vulnerable 3= More vulnerable)	
Q1.2	What reason do you give for your classification?	
Q2.1	How would you have classified this household five years ago? (1= Same, 2= less vulnerable today 3= More vulnerable today)	
Q2.2	What reason do you give?	
Q3	Do you have a disabled person in this household? (1= Yes, 2= No)	
Q4	Do you have a chronically ill person in this household? (1= Yes, 2= No)	
Q5	Do you have an orphan person in this household? (1= Yes, 2= No)	
Q6	Do you have an elderly person in this household? (1= Yes, 2= No)	
Q7	Number of HH members you consider vulnerable in this household	

Interviewer:	Date:
Completed form checked by:	Date:

Annex 2. Household Tracking Survey Questionnaire (March and May 2008)

HH NAME:	VILLAGE:	ZONE:	VDC:	TA:

A. HOUSEHOLD COMPOSITION (ONLY THOSE JOINED OR LEFT)

HH SIZE NOW _____

QNO	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
MEMBER NO	Name	Age (years)	Sex	Relationship to H/H head	Marital Status	Highest Education	Main Occupation	Residency status
1								
2								
CODES								

CODES
   Q3 Sex: 1 = Male; 2 = Female
   Q4 Relationship to H/H head: 1 = Head; 2 = Spouse; 3 = Child; 4 = Other relation;
        5 = Other permanent
   Q5 Marital Status 1 = Married; 2 = Married, polygamy; 3= widowed; 4= separated/divorced;
        5 = Never Married; 6= No (e.g. child)
   Q6 Highest Education: 1 = None; 2 = Adult Literacy; 3 = Std 1-5; 4= Std 6-8; 5 = Form 1-2;
        6 = Form 3-4; 7 = Other (specify)
   Q7 Main Occupation, at present 1 = Child, not schooling; 2 = Schooling; 3 = Own farming;
        4 = Labourer, nearby farms/HH; 5 = employee of an organization; 6 = Self-employed (business);
        7 = No Occupation (old, ill etc)
   Q8 Residency status: 1 = Left 2= Joined; 3= Other (death)

B. ASSET CHANGES SINCE LAST SURVEY

B1. LIVESTOCK CHANGES SINCE LAST SURVEY

ID	Livestock Type	Code	Numbers	Value (MK/unit)	Status (1= sales 2= purchases; 3= deaths; 4= other)

B2. HH ASSET CHANGES SINCE LAST SURVEY

ID	Asset Type	Code	Numbers	Value (MK/unit)	Status (1= sales 2= purchases; 3= other)

C. INCOME, SAVINGS AND CREDIT FOR THE HOUSEHOLD

C1. INCOME SOURCES

Code	MAJOR INCOME SOURCES	SINCE LAST SURVEY	
		How often	Total amount to date (MK)

C2. SAVINGS SINCE LAST SURVEY

ID	RESIDENT HH MEMBER	WHERE SAVE	HOW MUCH NOW (MK)

C23. CREDIT/LOANS SINCE LAST SURVEY

ID	HH MEMBER	SOURCE	CODE	AMOUNT (MK)	DURATION (MTHS)	PURPOSE	CODE	BALANCE NOW (MK)

D. MAJOR FOOD SOURCES AND CURRENT SITUATION

Q1	How many meals per day are you having now?				
Q2	Maize (ufa) stocks available now				
	21		22	23	
	Food type		Major sources	How much is available now	
	Name	Code		Quantity	Units

CODES
   Q1 Meals 1= once; 2= twice; 3= three times; 4= none, some days; 5=other
   Q2 Sources Major sources 1= own production; 2= purchase, own income,
       3= purchase, cash transfer; 4=Other

E. SOCIAL TRANSFERS

	Question	Responses	Code
Q1	Since the last survey, have you received any social transfers?	1= yes, 2= No	
Q2	If yes, specify	1= coupon, 2= SCT	
Q3	For Cash Transfer beneficiaries, how much?	MK	

F. SOCIAL CASH GRANTS RECEIVED AND USE – SINCE LAST SURVEY

Month	SCT Amt (MK)	Major uses/expenditures	Amt spent (MK)

Detail for each month

G. HOUSEHOLD'S VULNERABILITY (SINCE LAST SURVEY)

QNO	Question	Code
Q3	Accident/incapacitation i the household? (1= Yes, 2= No)	
Q4	Chronically ill in this household? (1= Yes, 2= No)	
Q5	Death in this household? (1= Yes, 2= No)	
Q6	Theft in this household? (1= Yes, 2= No)	

Interviewer:	Date:
Completed form checked by:	Date:

Annex 3. Follow up Survey Questionnaire (September 2008)

HH NAME:	VILLAGE:	ZONE:	VDC:	TA:

FORM 1. HOUSEHOLD COMPOSITION (ONLY THOSE JOINED OR LEFT)

HH SIZE NOW _____

QNO	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
MEMBER NO	Name	Age (years)	Sex	Relationship to H/H head	Marital Status	Highest Education	Main Occupation	Residency status
1								
2								

CODES
Q3 Sex: 1 = Male; 2 = Female
Q4 Relationship to H/H head: 1 = Head; 2 = Spouse; 3 = Child; 4 = Other relation;
    5 = Other permanent
Q5 Marital Status 1 = Married; 2 = Married, polygamy; 3= widowed; 4= separated/divorced;
    5 = Never Married; 6= No (e.g. child)
Q6 Highest Education: 1 = None; 2 = Adult Literacy; 3 = Std 1-5; 4= Std 6-8; 5 = Form 1-2;
    6 = Form 3-4; 7 = Other (specify)
Q7 Main Occupation, at present 1 = Child, not schooling; 2 = Schooling; 3 = Own farming;
    4 = Labourer, nearby farms/HH; 5 = employee of an organization; 6 = Self-employed (business);
    7 = No Occupation (old, ill etc)
Q8 Residency status: 1 = Left 2= Joined; 3= Other (death)

FORM 2. ASSET OWNERSHIP

2.1. TYPE OF MAIN HOUSE

QNO	Question	Options/codes	Code
Q1	Type of wall	1= Burnt brick wall; 2= mud/un-burnt brick wall ; 3= Other	
Q2	Type of floor	1= cement floor; 2= mud floor; 3= Other	
Q3	Type of roof	1= corrugated roof; 2= Grass thatched roof ; 3= Other	

2.2. AMOUNT OF AGRICULTURAL LAND OWNED

QNO	Q1		Q2	Q3
Plot ID	Amount of land			
	Quantity	Unit	Owned by	Normally used by
A				
B				
C				

CODES
Q2 Owned by: 1 = jointly; 2 = Wife; 3 = Husband; 4 = Other household member (ID from Form 1)
Q3 Normally used by: 1 = jointly; 2 = Wife; 3 = Husband;
    4 = Other household member (ID from Form 1); 5= Idle; 6= Rented out; 7= Other

2.3. LIVESTOCK OWNERSHIP

QNO	Q1		Q2	Q3
ID	Livestock Type	Code	Numbers now	Current Price (MK/unit)
A				
B				
C				

2.4. OWNERSHIP OF SELECTED FARM ASSETS/TOOLS (e.g. ploughs, oxcarts, hoes)

QNO	Q1		Q2	Q3
ID	Farm asset/tool	Code	Numbers	Current Price (MK/unit)
A				
B				
C				

2.5. OWNERSHIP OF SELECTED HOUSEHOLD ASSETS (e.g. radio, bicycle, sofa sets)

QNO	Q1		Q2	Q3
ID	Household asset	Code	Numbers	Current Price (MK/unit)
A				
B				
C				

FORM 3. INCOME, SAVINGS AND CREDIT FOR THE HOUSEHOLD

3.1.   CROP SALES 2008

CROP	Code	UNITS	QTY	TOTAL VALUE (MK)

3.2. SAVINGS BY HOUSEHOLD- SEPT 2008

Q1	Q2	
How much household savings now (MK)	Where household save	
	Place/Institution (e.g. NBS, Mchinji)	Code

3.3. OUTSTANDING CREDIT/LOANS BY SEPT 2008

Q1	Q2		Q3	Q4	Q5	Q6	Q7
Loan value (MK)	Source	Code	Form of loan	Purpose of loan	Date taken (Mth, Year)	duration (Months)	Balance now (MK)

FORM 4. CROP PRODUCTION 2007/08 SEASON

Main crop planted		Area planted			PRODUCTION		
Crop	Code	Units	Qty		Units	Qty	

FORM 5. FOOD AVAILABILITY – SEPT 2008

Q1	How many meals per day are you having now?			
Q2	Maize (ufa) stocks available now			
	21	22	23	
	Food type	Major sources	How much is available now	
	Name	Code		Quantity	Units

CODES
    Q1 Meals 1= once; 2= twice; 3= three times; 4= none, some days; 5=other
    Q2 Sources Major sources 1= own production; 2= purchase, own income,
       3= purchase, cash transfer; 4=Other

FORM 6. SOCIAL TRANSFERS

8.2 COUPONS RECEIVED – 2007/08

		Question	Answers	Code
Q1		Did you receive coupons in the 2007/08 season	1=Yes. 2= No	
		What did you with the coupon?	1= Bought subsidized inputs 2= Sold other farmers/traders; 3= Did not use it/is still available; 4= Other	

8.2 CASH TRANSFERS - FROM OCTOBER 2007 TO AUG 2008

CASH TRANSFER GRANTS AND USE	AMT (MK)
Total Cash transfer from October 2007 to August 2008	
Major uses	
Agricultural Inputs (fertilizer, seed)	
Food	
Asset purchases	
Business investment	
School fees and associated costs	
Clothing	
Health (bills, funeral costs etc)	
Other	

FORM 7. HOUSEHOLD'S SELF ASSESSMENT OF VULNERABILITY

QNO	Question	Code
Q1.1	How do you compare your HH vulnerability relative to other HHs in this village? (1= less vulnerable, 2= average vulnerable 3= More vulnerable)	
Q1.2	What reason do you give for your classification?	
Q2.1	How would you have classified this household five years ago? (1= Same, 2= less vulnerable today 3= More vulnerable today)	
Q2.2	What reason do you give?	
Q3	Do you have a disabled person in this household? (1= Yes, 2= No)	
Q4	Do you have a chronically ill person in this household? (1= Yes, 2= No)	
Q5	Do you have an orphan person in this household? (1= Yes, 2= No)	
Q6	Do you have an elderly person in this household? (1= Yes, 2= No)	
Q7	Number of HH members you consider vulnerable in this household	

Interviewer:		Date:	
Completed form checked by:		Date:	

Annex 4. Qualitative assessment checklist of issues explored

A. Community assessment issues

(1) Social protection
- types and reasons
- For how long
- Coverage
- Criteria and process for beneficiary selection
- preference ranking
- uses – cash transfer and coupons
- impacts - food sources

(2) Well-being assessment
- Criteria for vulnerability and the groupings
- List all households
- Categorise households vulnerability groups- current
- Changes in household vulnerability past five years and factors

(3) Agriculture
- Major crops and livestock
- input and output markets
- input use
- agricultural extension and other agricultural services
- Future potentials and challenges.

(4) Food situation
- food sources,
- food availability
- number of meals,
- type of food, quality and amount of food;
- Coping when own food production run out,

B. Issues for consultations (government, NGOs, donors, researchers)

(a) Who is vulnerable in the rural and smallholder agricultural sector of Malawi and why?

(b) In what ways and to what extent do different types of social protection seek to secure a reduction in vulnerability among different 'vulnerable groups'?

(c) In what ways and to what extent do different types of social protection seek to contribute to growth in agricultural output and incomes?

(d) Since cash transfers, or cash equivalent transfers (vouchers), are increasingly popular as devices for delivering social protection, what effects do they have on agriculture?

(e) To what extent do traditional agricultural services institutions such as extension, technology transfer, marketing support effective utilization of social protection to promote sustainable growth in agricultural output and incomes?

(f) To what degree do social protection policies encroach on traditional agricultural policies? What are areas of complementarities, overlaps and conflicts between social protection and agricultural policies? In the event of overlaps and conflicts, what are the implications for the role of agricultural service institutions such as extension, marketing and input delivery institutions?

(g) Where are men and women in all these and why?