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Sarah Rowena Einloth

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Fertiliser Subsidies as a Panacea against Hunger and Food Insecurity among the Rural Poor in Malawi?

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The Way Forward:
Fertiliser Subsidies as a Panacea against Hunger and Food Insecurity among the Rural Poor in Malawi?

by

Sarah Rowena Einloth

A dissertation submitted to the University of Durham in accordance with the requirements of the degree of MSc in Development Anthropology in the Faculty of Social Sciences and Health

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The Way Forward: Fertiliser Subsidies as a Panacea

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Abstract

Poverty and hunger have become buzzwords in today's development discourse. Achieving poverty reduction through sustainable economic growth and infrastructure development also represents the principal focus of Malawi's Growth and Development Strategy (MGDS), (IMF 2007). This paper analyses the successes and shortcomings of the Agricultural Input Subsidy Programme (AISP) which was introduced by the Malawian government in 2005/06 following severe famines in nearby preceding years. Interviews with key informants in conjunction with a broad review of grey and published literature revealed that the programme's fundamental problem lies in a lack of clarity about the programme's objectives and targeting criteria. Based on an anthropological perspective the paper's cultural relativist approach is paramount, putting the local's point of view into the centre of attention and questioning certain economic paradigms. Within the broader scope of the subject matter, this paper focuses on fertiliser input, maize production and poor smallholder farmers in particular. This paper stresses the ultimate need for contextualisation in development planning processes by using Malawi's customary gender roles and the widespread urgent issue of HIV and AIDS as examples. There is no doubt about the value of interdisciplinary analyses, though the argument here is to recognise grassroots-level research (involving ethnographic field methods) as key to finding long-term solutions for Malawi's agricultural development strategies.

S.R.E.

Preface

Chronic food insecurity and hunger have unfortunately increased in many parts of the world over the past couple of years and especially in Sub-Saharan Africa. Even a country like Malawi which used to be relatively better-off in terms of food security than many of its neighbouring countries in Southern Africa has been sucked into a vicious circle of poverty and hunger aggravated by drought, HIV&AIDS and poor agricultural policies.

The introduction of an agricultural input subsidy programme by the Government of Malawi has received a lot of attention as it showed positive results by contributing to boost the production of Maize resulting in a surplus national maize production in recent years. However, much of the literature assessing the success and shortcomings of fertiliser subsidies focuses on the economic viewpoint only.

Sarah R. Einloth deserves credit in that she takes a broader perspective, highlights the critical issue of targeting and includes gender relations and the high HIV/AIDS prevalence in her analysis of Malawi's agricultural input subsidy programme. Even though she couldn't include interviews with beneficiaries in her research, she managed to interview some of the best-known experts with an intimate knowledge of the programme. This study presents the reader with a refreshingly different perspective on the issue and confirms that there is no "one size fits all" recipe to alleviate poverty but that there is need for a holistic approach where agricultural input subsidies need to be accompanied by other development processes with the Poor themselves at the centre of any such programme.

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S.R.E.

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List of acronyms

ADMARC	Agricultural Development and Marketing Corporation
AIDS	Acquired Immunodeficiency Syndrome
AISP	Agricultural Input Subsidy Programme
CEO	Chief Executive Officer
FANRPAN	Food Agriculture and Natural Resources Policy Analysis Network
FAO	Food and Agriculture Organization of the United Nations
FEWS	Famine Early Warning System
FHH	Female-headed household
GDP	Gross Domestic Product
GoM	Government of Malawi
HDI	Human Development Index
HIV	Human Immunodeficiency Virus
IHS	Integrated Household Survey
IMF	International Monetary Fund
MGDS	Malawi Growth and Development Strategy
MHH	Male-headed household
MK	Malawian Kwacha
MoAFS	Ministry of Agriculture and Food Security
NGO	Non-Governmental Organisation
NSO	National Statistical Office
NAC	National AIDS Commission
PRSPs	Poverty Reduction Strategy Papers
SFFRFM	Smallholder Farmers Fertilizer Revolving Fund of Malawi
SOAS	School of Oriental and African Studies
TAs	Traditional Authorities
UNAIDS	United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
VDC	Village Development Committee
WHO	World Health Organisation

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1. Introduction

Malawi is one of the poorest countries in the world with just over half of the population living below the national poverty line. The majority (about 85 percent) of the population depends on agricultural subsistence farming for food provision (NSO 2005b; FANRPAN 2008). Over the last decades, however, the context of Malawi's agricultural production has considerably changed. Poor smallholder farmers are trapped in a sector which is low in productivity because of increasing population, declining soil fertility, unpredictable weather conditions, HIV/AIDS and lack of alternative employment that would enable farmers to invest in agricultural inputs (Devereux pers. comm. 2009[1]).

In 2005/06 the Malawian government introduced a new agricultural input subsidy programme (AISP) in order to allow poor farmers affordable access to fertiliser and seeds. The aim of this paper is to provide a critical analysis about the successes and failures of Malawi's fertiliser subsidy programme as a national poverty strategy. Prior to my discussion I will briefly outline my methodology and provide an overview of the subsidy programme's background and implementation processes. My argument starts with a discussion on the issue of correspondence between targeting criteria and the programme's objectives. Secondly, I will examine how gender relations need to be incorporated into the programme's targeting processes, with particular focus on female-headed households and matrilineal and patrilineal descent systems. Third, I will discuss the issue of HIV and AIDS prevalence in relation to food security. Finally, I will discuss additional strategies and possible alternatives to the current subsidy programme.

Much of the literature that I reviewed reflects an economic viewpoint on agricultural development. Economic paradigms generally seem to dominate much of the development discourse. In this paper I will be taking on an anthropological perspective to the issue of Malawi's subsidy programme and its implementation processes.

[1] Dr. Stephen Devereux (see Appendix).

2. Methodology

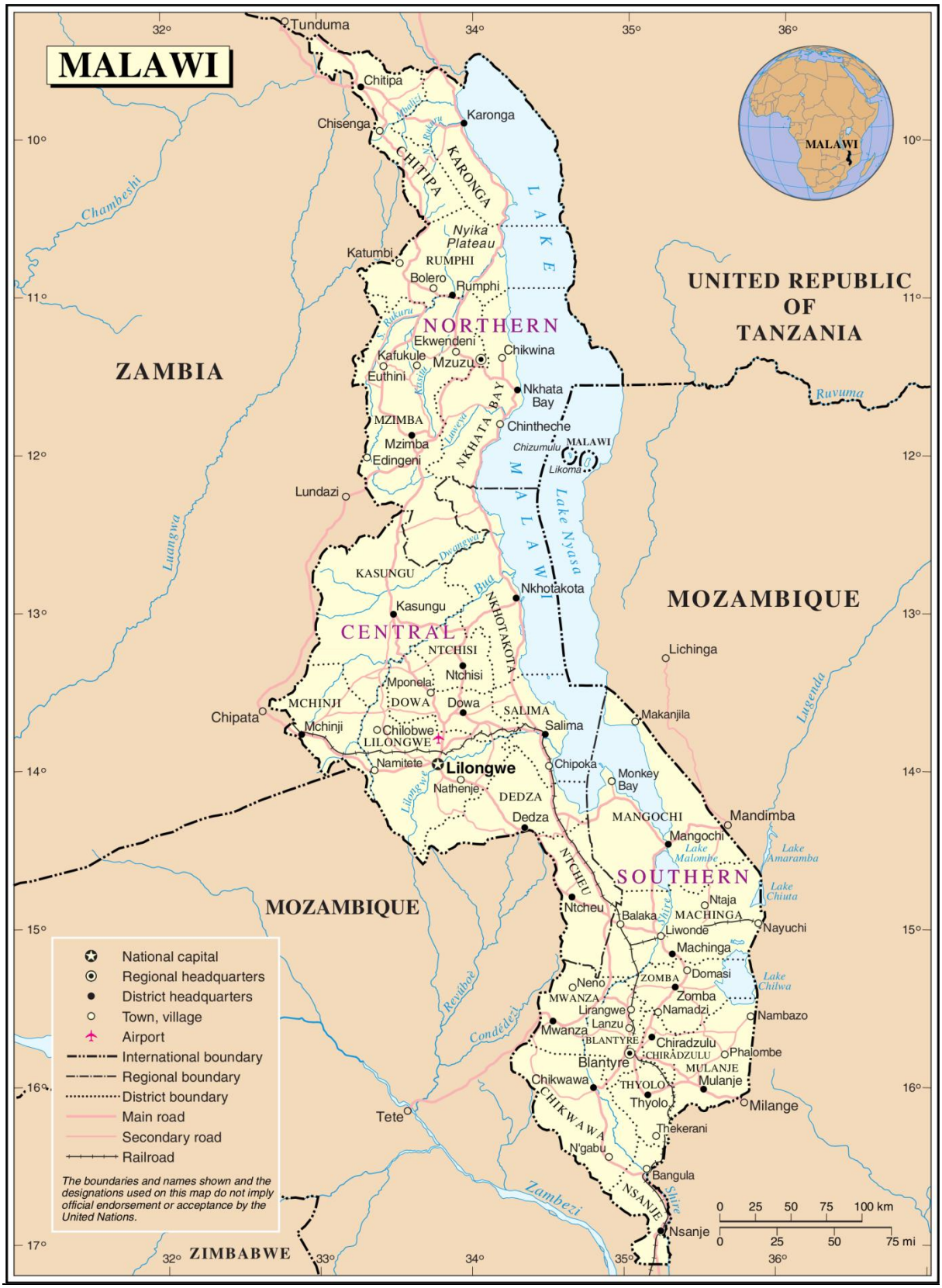
My argument is based upon two central methodologies, including key informant interviews (semi-structured face-to-face, telephone and email interviews) as well as a broad review of grey and published literature. My choice of methodology was determined by my inability to undertake fieldwork in Malawi locally. In this context, interviewing elites provided the best prospects to obtain valuable and useful information on my topic. All of my informants are experienced researchers in Malawi and their distinct viewpoints and foci based on different disciplinary backgrounds also gave me the opportunity to evaluate my topic from different theoretical perspectives. In addition, my informants' 'embeddedness' in multiple social networks enabled me to hear other 'voices' beyond my interviewees' own experiences (Oinas 1999). Generally, I felt that connecting with 'experts' that are in positions to influence substantial decision-making processes, is as important as studying those groups that are affected by those decisions (Smith 2006). The power of discourse immanent to interviewing 'elites' may also suggest that my informants' professional academic status gives them what we may call some kind of rational-legal 'intellectual' authority (adopted from Weber 1947), which attaches a certain legitimate value to their judgements. Though, I also needed to be aware of 'experts'' control of resources (i.e. selectivity of voices) which could have meant to miss the beneficiaries' point of view in favour of broader theoretical knowledge (Oinas 1999).

Furthermore, varying opinions among my informants required me to cross-check information to disclose inconsistencies and implausibilities. In this connection, an in-depth literature review was essential in order to gain a comprehensive insight of various issues related to my topic. The scale of past and recent reading material made it however difficult to be selective in terms of key issues. Furthermore, there had always been the question of reliability of my sources, regarding in whose interests and for whom they had been produced (Bryman 2008). Another main obstacle was the overriding economic viewpoint among texts that related directly to the fertiliser subsidy programme.

My limited scope required me to narrow down my focus to topics that I felt were, among others, important and relevant in particular from an anthropological approach. This also corresponds with my inclination to a postmodern standpoint regarding the different ways of looking at reality, assuming that there is no 'one' truth and therefore no 'one' solution to the

issues under consideration. My methodology allows for replicability of my study and my ambition has been to provide a foundation that will be useful in current and future research in the area of agricultural development and its human impact.

Figure 1: Map of Malawi - Northern, Central and Southern Regions



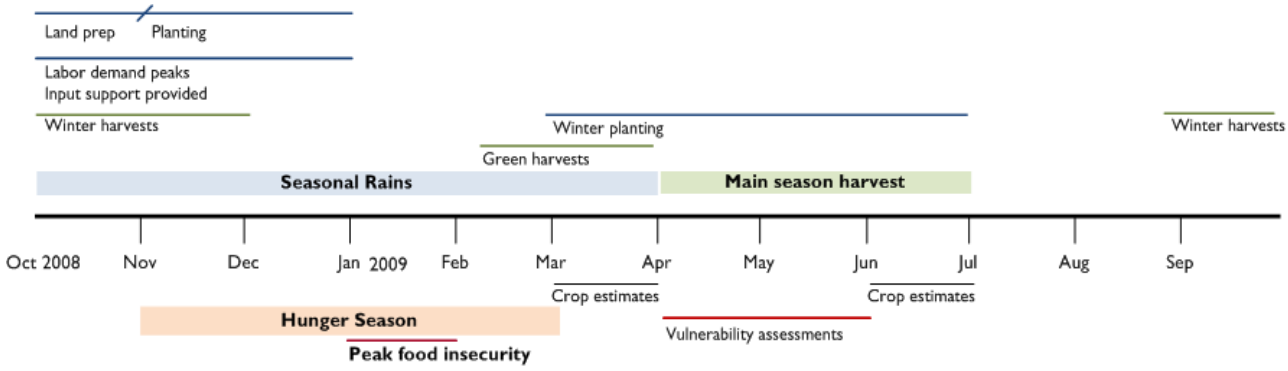
Source: United Nations Cartographic Section, *Country Profile Map: Malawi*, United Nations, Department of Field Support, viewed 3 September 2009, http://www.un.org/Depts/Cartographic/map/profile/malawi.pdf

3. The subsidy programme

Malawi's economy is predominantly based on agriculture. However, agricultural production is very much restricted by increasing land pressures, unreliable weather conditions, extreme loss of soil fertility and increasing prices for inorganic fertiliser (Menon 2007). Extreme land pressure is one of Malawi's main challenges today. In 1975 Malawi's population counted around 5.3 million people, in 2005 it had more than doubled to about 13.2 million, and in 2015 this number is projected to increase to around 17 million people (UNDP 2008). Over three decades the average national landholding size has declined by half to an average of only about 0.8 hectares per household in 2000 (GoM 2001). Estimates show that around 3.2 million smallholder households farm less than 1 hectare of land (FANRPAN 2008).

Seasonal hunger[2] is part of people's recurring annual struggles in Malawi. Farmers are often forced to harvest their staple food (maize) early and consequently miss out on the increased nutritional value of ripe grains. Low crop yields also means less stored grain, resulting in food and income shortages during the hunger season (see figure 2), (FEWSNet 2009; Sabates-Wheeler et al. 2008).[3]

Figure 2: Seasonal calendar and critical events



Source: FEWSNet 2009, 'Malawi Food Security Update 2009', *FEWS NET Malawi*, viewed 1 April 2009, http://wwww.reliefweb.int/rw/RWFiles2009.nsf/FilesByRWDocUnidFilename/VDUX-7QPMAZ-full_report.pdf/$File/full_report.pdf

[2] Seasonal hunger occurs when food stored from the previous year runs out while the current year's crop is not yet ripe.

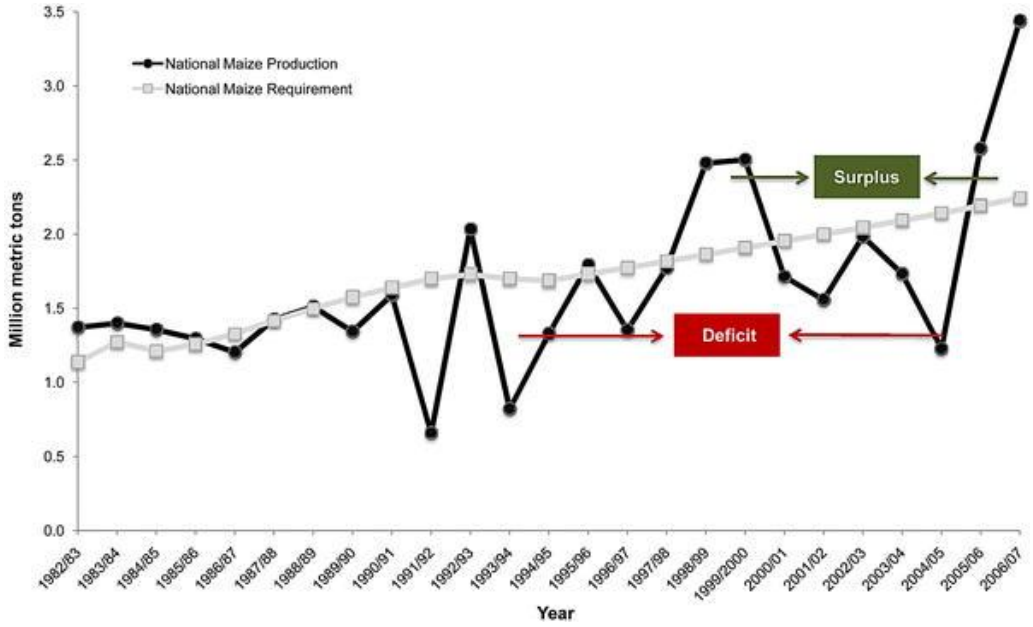
[3] See, for example, Ellis et al. (2003). The authors' case study in the Dedza District in Central Malawi showed that in 2001 less than 5 percent of households were self-sufficient maize producers, 7 percent only had enough food for 9 months, 6 percent had enough for 6-9 months, 15 percent had enough for 3-6 months and around 72 percent only had enough maize for 3 months.

Extreme food shortages lengthen the hungry season which may consequently result in a famine (Devereux & Tiba 2006). In this context and due to Malawi's extreme limitations in the farming sector, fertiliser is bound to be a very important input resource in crop cultivation (Orr & Mwale 2001; Potts pers. comm. 2009[4]; Crawford et al. 2005). The Malawian government consequently launched an input subsidy programme in 2005/06 which operates via a coupon distribution system. The Ministry of Agriculture centrally determines the number of coupons going to each district and the allocations broadly within these districts. The original district allocation of subsidies was based on areas of cultivated land, though this has now changed with a stronger focus on the actual number of households. In the programme's first two years, traditional authorities (TAs) decided upon coupon allocation and distribution on the village level. Due to concerns about favouritism by the TAs, coupon distribution shifted towards Village Development Committees (VDCs) and the Ministry of Agriculture and Food Security (MoAFS) in the assumption that MoAFS staff would be less biased. Since 2008/09 the programme works with a pre-registration of beneficiaries and decisions about coupon allocation are made in public meetings on the village level (Dorward pers. comm. 2009[5]; Dorward & Chirwa 2009). The programme provides two vouchers for maize fertiliser (that is two 50kg bags of fertiliser) for about half of Malawi's smallholder households. The distribution of subsidised fertiliser is controlled through ADMARC and SFFRFM. In 2005/06, the redemption price for one 50kg bag of maize fertiliser was 950 kwacha, which accounts for about a third of the market price (64 percent)[6] (Dorward & Chirwa 2009). In 2005/06 the programme did not receive any donor support, though in the following years the DFID and UNDP provided funding for certain logistical and communication processes (Dorward et al. 2008).

Since 2005/06 there have been positive changes in Malawi's agricultural sector. Many have argued that these changes are directly attributed to the input subsidy programme, which seems to be reflected in coincident increases in subsidised fertiliser use and agricultural productivity (see figure 3, p. 7), (Dorward et al. 2008; Chinsinga & O'Brien 2008).

[4] Dr. Debby Potts (see Appendix).
[5] Professor Andrew Dorward (see Appendix).
[6] Dorward & Chirwa (2009). According to the authors the subsidy on the market fertiliser price has increased to about 79 percent in 2007/08 and 92 percent in 2008/09.

Figure 3: National maize production and maize food requirement over 25 years



Source: Denning, G. et al. 2009, 'Input Subsidies to Improve Smallholder Maize Productivity in Malawi: Toward an African Green Revolution', *PLoS Biology,* vol. 7, no. 1.

Despite those apparent successes, my research investigations led me to examine some of the programme's potential difficulties, in particular the issue of how the programme's resources can be delivered in a way that they are reasonably fairly distributed. In the following section I will be discussing what I consider to be two of the main issues within debates on Malawi's fertiliser subsidy programme, namely its objectives and targeting criteria.

4. Targeting the poor, the poorer or the poorest?

4.1 The programme's objectives

According to Lindiwe Sibanda - CEO of FANRPAN - (2008, slide 16), the objectives of the AISP are twofold:

- The *immediate* goals are "to improve accessibility and affordability of agricultural inputs among the most vulnerable farmers in the country"
- The *long term* goals are "to improve national food security"

Andrew Dorward (2009) adds that the generally stated objectives of the programme are "to increase maize production and household food self-sufficiency among *poorer productive* farmers" (pers. comm., my emphasis). This aim seems to be different from just increasing national maize production, or is it?

As stated by Chinsinga & O'Brien (2008) the subsidy programme is designed "to improve national food security, rather than to alleviate food shortages in every household. Vouchers are allocated to households with sufficient resources to make use of the subsidy (p. 32)". In other words, the programme is supposed "to favour poor farmers with [land, labour and financial capital] to use subsidised inputs efficiently, when they could not otherwise afford to buy enough fertiliser" (Chinsinga & O'Brien 2008, p. 12).

4.2 Targeting criteria

I argue that targeting is the main determinant of the programme's effectiveness. Ill-considered targeting may lead to subsidised fertiliser purchase that merely replaces the fertiliser that would have been bought anyway, instead of achieving increased (incremental) use of fertiliser. The problem is that the targeting criteria (set by the Malawian government) are not very clear and entitlements to receive fertiliser vouchers are very ambiguous. Thus, the question of what should be THE criteria that qualify people to receive coupons is somewhat problematic (Dorward pers. comm. 2009; Chirwa pers. comm. 2009[7]).

Targeting criteria have varied between different districts, however, most commonly it has been stated that fertiliser coupons should be provided to:

- The poorest and most vulnerable households (measured by food stocks or by social categories - e.g. widows, elderly, orphans, people with disabilities)
- Those with access to land and sufficient labour to cultivate crops
- Those with access to cash to redeem the coupons
- Those with the capacity to adopt and utilise technology (e.g. hybrid seeds and chemical fertiliser)

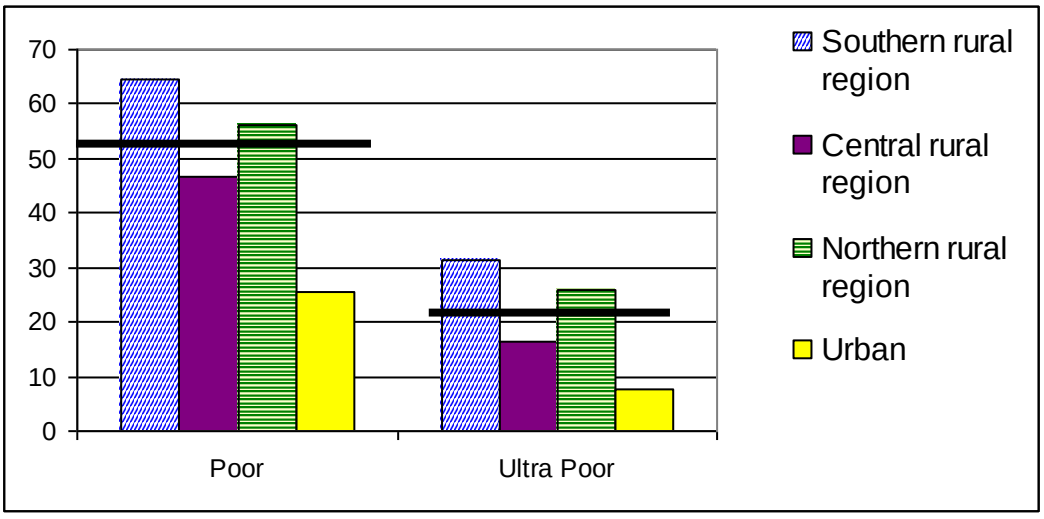
(Dorward et al. 2008, p. 66; Chinsinga & O'Brien 2008, p. 32)

[7] Dr. Ephraim Chirwa (see Appendix).

At once we notice a problem. First, if the programme is actually aimed at targeting the most vulnerable and resource poor famers, how could those farmers be expected to have enough capital (i.e. cash, land and labour) to be eligible for receiving fertiliser coupons? Secondly, if farmers cannot usually afford sufficient agricultural inputs (e.g. fertiliser and seeds) for their fields, how can they be categorised as 'productive'?

Assuming that it is actually the poor that are supposed to be targeted, we first of all need to ask: who is poor? In Malawi this question may be somewhat relative, because the majority of the rural smallholder population is 'poor'. Furthermore, 'the poor' are not a stable category as people move in and out of poverty (Peters pers. comm. 2009[8]; Potts pers. comm. 2009). Assessments of poverty lines vary, but they are most often associated with income or consumption measures (World Bank 2009). According to the National Statistical Office (NSO 2005b), 52.4 percent of Malawi's population is 'poor', with 22.3 percent ranking among the 'ultra poor' (see figure 4).[9]

Figure 4: Proportion of poor and ultra-poor persons by region in percent



Source: NSO, 2005b, Poverty in Malawi from the Second Integrated Household Survey 2005, viewed 22 August 2009, http://www.malawi.gov.mw/information1/publications/poverty%20report.pdf

[8] Dr. Pauline Peter's (see Appendix) long-term fieldwork in the Zomba District in southern Malawi showed that in her income data the very top group (about 15 percent) and the bottom group (about 5 percent) did not shift very much. But, people in the middle group shift from year to year.

[9] NSO (2005b). The 'poor' include those people whose expenditure falls below MK16,165 - poverty line - (about £70.25; US$114.24) per person per year. The 'ultra poor' are people whose expenditure is below MK10,029 - ultra poverty line - (about £43.58;US$70.87) per person per year.

Nevertheless, there are still other ways of measuring poverty[10] (see also Sen (1981)[11]). And, if we measure household food security in terms of maize production self-sufficiency, less than one in four rural Malawians is food secure (Devereux & Tiba 2006).

Pauline Peters (pers. comm.2009) stresses that there is a difference between cash poverty and poverty which is associated with livelihood. Peters' (pers. comm. 2009) research in the Zomba district in southern Malawi shows that villagers defined poverty in three ways, namely: lack of 1) sufficient food, 2) clothing and 3) housing. In addition, people also recognised differences of more subtle poverty degrees within and across communities. In relation to hunger, Hastrup (1993) further states that "no measurement applies to the experience of suffering in general and famine in particular. Where starvation is part of the collective memory, famine is not quantifiable (p. 729)". Thus, I argue that in targeting subsidies, governments, donors and NGOs need to not only consider *objective* but also *subjective* measurements of identifying poor and vulnerable groups, with the latter focusing on the beneficiaries' perceptions themselves (Devereux et al. 2006; Coudouel et al. 2002[12]).

4.3 The local's point of view

Hastrup (1993) argues that "while the need for nutrition is universal, the 'feeling for hunger' is culturally mediated [through a society's value systems and thus] cannot be studied independent of culture" (p. 731). For example, Mandala (2005) argues that the notion of 'cyclical time' (as opposed to 'linear time') dominates in Malawians' culture. The author explains that people in the Lower Tchiri Valley in southern Malawi would not talk of a 'famine' (*chaola*), but expressed their situation in terms of '*njala*' (regular food shortages). In this context, hunger and suffering become seasonal phenomena that are integrated into people's everyday experiences.

[10] UNDP (2008). For example, according to the UNDP Human Development Report (2004), Malawi ranked 165th in 2002 of 177 countries in the Human Development Index (HDI). In Malawi the life expectancy at birth was 37.8 years in 2002 (compared to 46.3 years in sub-Saharan Africa and the world's average of 66.9 years).
[11] Sen (1981) distinguishes between different approaches of 'poverty', such as the 'biological approach', the 'inequality approach', the 'relative deprivation approach', as well as poverty in terms of 'value judgment' and 'policy definition'.
[12] Coudouel et al. (2002). Chapter 1.2.2 on 'Poverty Concept and Measurement' provides an account on different ways of defining poverty with reference to monetary and nonmonetary indicators.

We therefore need to carefully analyse people's different perceptions on who are the most food insecure within their communities. For example, in welfare programmes (like cash transfers or food aid) it is in the communities' interest to identify the most needy as those people who have the least labour capacity, because otherwise the community would have to support them. With a fertiliser subsidy programme it is different, because it is an investment in production, not just a consumption transfer. Thus, the argument is that the poorest, due to their lack of material resources and human capital, cannot actually benefit from fertiliser and seeds because they are unable to efficiently cultivate their land (Devereux pers. comm. 2009; Dorward pers. comm. 2009; Chirwa pers. comm. 2009).

But, how do we decide upon subsidy entitlements in relation to different levels of poverty and vulnerability[13] between households? In my opinion, the fundamental questions that need to be addressed in relation to targeting smallholder farmers in Malawi are:

- Who are the 'poor', the 'poorer *productive* and *non-productive*' and the '(ultra)poorest'?
- How do we measure 'productivity', in particular regarding 'resource-constraint' farmers, and other than in terms of output?
- If targeting criteria are only partially fulfilled, which measures are decisive in making a person eligible or ineligible for receiving fertiliser coupons?

With reference to these questions we may for example consider different types of households. Table 1 (p. 12) shows that poor households in Malawi are characterized by larger average household sizes than non-poor households. But, at the same time, poor households also have larger dependency ratios[14] than non-poor households (NSO 2005a/b; World Bank 1996). For the subsidy programme this could mean that poor households that have more dependants and therefore less 'productive' workers may be less likely to receive fertiliser coupons. But then, for instance and within Malawi's cultural context, does 'access

[13] Cf. Jaspars & Shoham (1999). In comparison to 'poverty' the authors identify four different types of 'vulnerability': "the *physiologically vulnerable* (the malnourished and sick, pregnant and lactating women, young children and the elderly), the *socially vulnerable* (female-headed households, unaccompanied minors and the disabled), the *economically vulnerable* (the poorest) and the *politically vulnerable* (internally displaced, refugees), (p. 361)".

[14] NSO (2005a). The dependency ratio describes the relative number of non-active household members - children under the age of 15 and adults above 65 years of age - to those of active age adults to the total number of persons in the household.

to sufficient labour' include children who are often involved in labour tasks within the household as well as in casual labour arrangements in times of food shortages (Munthali 2006)? If children are not regarded as labourers this may diminish a household's chance to receive fertiliser, whereas if children are classified as labourers, families may receive subsidies. In this case we would also need to assess whether the latter may conflict with children's ability to attend school.

Table 1: Mean household size and dependency ratio by wealth groups

	Non-poor households	Poor households
Household size	3.8	5.4
Dependency ratio	0.8	1.4

Source: NSO 2005b, Poverty in Malawi from the Second Integrated Household Survey 2005, viewed 22 August 2009, http://www.malawi.gov.mw/information1/publications/poverty%20report.pdf

Another example draws from Wheeler and Abdullah (1988) who argue that food allocation on the household level can be understood from three different viewpoints: 'cultural', 'resource control' and 'functional'.[15] Referring to a case study in central Malawi, they concluded that although men had privileged access to high-value food[16] (i.e. food allocation according to the 'cultural' view), overall the 'productive' household members all got a share in accordance with their needs (i.e. functional view). Moreover, the most 'productive' members were particularly favoured in times of food shortages (Wheeler & Abdullah 1988). According to the latter view, the subject of 'productivity' and 'non-productivity' is ascribed to each household member individually. In this context, the subsidy programme might have to re-evaluate its generalised view on 'productive farming households'. A second point to

[15] Wheeler & Abdullah (1988, pp. 437-440). The authors explain that 1) the 'cultural' view assumes that the quantity and quality of food consumed on the household level is determined by the status of the individual household members; 2) the resource control view sees food allocation as being determined by who produces and/or controls food; and 3) the 'functional' view explains food allocation in terms of a ranking of 'productiveness' among individual household members, with the absolute aim of ensuring the household's survival as a whole unit.

[16] See also Mandala (2005) who explains in his field study that every household member received the primary food nsima (maize porridge). But, the more nutritious ndwio (relish eaten with a main dish) which is shorter in supply was predominantly eaten by men and elders.

consider is that increasing yields might not automatically translate into improved food intake, due to culturally determined unequal patterns of food allocation on the household level.

4.4 Community-based targeting

For any development project in Malawi it is generally important to understand distinct kinship patterns within local communities. For example, there may be cases where communities have publicly decided upon coupon allocation, however the traditional leaders in power would subsequently carry out redistributions of already allocated coupons. In other cases, the village head's relatives may be given priority in coupon distribution because of the chief's clan dominance (Chirwa pers. comm. 2009; Jaspars & Shoham 1999). Thus, there is always discussion about whether or not to use traditional structures for certain implementation processes in development projects, because they are not elected. Moreover, social status differentiations are determined through people's lineages and thus have no potential to be changed as they are firmly incorporated into people's cultural systems. However, these structures can vary from village to village with some chiefs being more cooperative and considerate than others (Potts pers. comm. 2009). Thus, it may be wrong to discard their functions altogether. On the other hand, holding public meetings for coupon allocation does not automatically mean that community members are going to behave in an equitable and altruistic way. In fact, individual members have their own interests, agendas and power differentials. Most programmes just assume that communities are homogenous units, though they are not. As a consequence, marginalised voices may not be heard in those public gatherings (Peters pers. comm. 2009; Potts pers. comm. 2009).

Nevertheless, Malawi is culturally very homogenous in terms of ethnicity and most villages are quite cohesive. It might be that communities are occasionally divided into different groups and thus it may occur that a dominant group makes decisions under exclusion of another minority group (Devereux pers. comm. 2009). But, due to internal migration patterns and intermarriages it is rather unlikely to expect major conflicts about fertiliser distribution based on ethnic differences (Peters pers. comm. 2009; Potts pers. comm. 2009).

4.5 Re-evaluating 'successful' outcomes

A fundamental question is whether Malawi's subsidy programme in fact creates a choice of *either* national economic growth *or* food security for the poorest of the poor. According to

many economic voices it does not, because of its believed trickle-down effect which is supposed to lower maize prices and increase wages through enhanced maize production. Thereby it is assumed to assist the poorest not directly, but on a second level (Dorward pers. comm. 2009; Tiba pers. comm. 2009[17]). I agree that national increases in maize production are important in order to reduce prices and therefore to make it easier for poorer people to afford their basic staple food. However, the question of overall production on the national level must not overshadow regional level processes. For example, the local maize price is always higher than the ADMARC price. However, people continue to buy on local markets as they may not be able to afford to go to ADMARC, considering that ADMARC itself is corrupt (e.g. demanding bribes). Another issue is that women in particular may not have sufficient time available to walk long distances to central supplier sites, also knowing that they might put themselves at risk when they are having to stay in the open overnight (Peters pers. comm. 2009; Robson pers. comm. 2009[18]; Dorward et. al. 2008b). In this context, Quinn et al. (1990, p. 140) state:

> "*Food self-sufficiency at the national level, especially when defined as an economic equilibrium between market supply and demand, in no way guarantees that household-level food and economic security - the ability of families to produce or purchase adequate amounts of food to meet biological needs - will be achieved*"

5. The women's role in agriculture

Rachel Bezner Kerr (2005) argues that "food security and soil fertility management are much more complex than a simple linear relationship between higher populations, less land and depleted soils (p. 54)." In this context, this section focuses on the meaning of intra-household gender relations in researching and evaluating food security issues in Malawi.

5.1 Household patterns

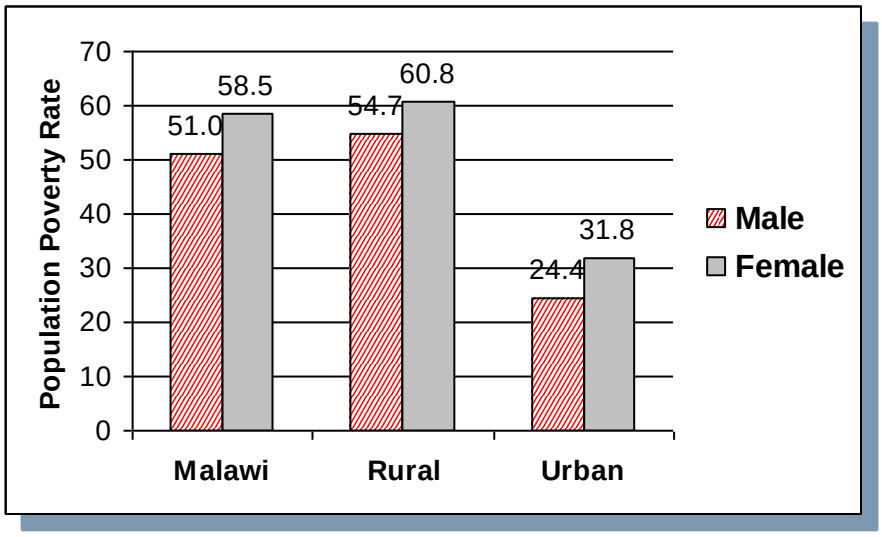
Women dominate the agricultural workforce in Malawi. They are in charge of cultivating food crops and it is their responsibility to prepare meals to feed the members of their households. About one third of all women smallholders head their own households (Mvula & Kakhongwa 1997). Though, according to the National Statistical Office (2005b), rural female-

[17] Dr. Zoltan Tiba (see Appendix).
[18] Dr. Elsbeth Robson (see Appendix).

headed households (FHHs) in Malawi are worse-off than male-headed households (MHHs) in terms of poverty rates (see figure 5, p. 15) and are usually characterised by having lower incomes, smaller landholdings and less assets (Mvula & Kakhongwa 1997; Devereux et al. 2006; UNAIDS 2004). Furthermore, women are the primary caregivers within their families and as a result they are often double-burdened. This is because on average they have fewer working-age adults[19] but more dependants (including orphans) within their households (Takane 2002). Consequently, FFHs may not be able to invest in costly agricultural inputs such as fertiliser and hybrid seeds (Bruce & Lloyd 1997; Mvula & Kakhongwa (1997).

But, regarding the criteria for receiving subsidised fertiliser, we notice that FHHs may actually be less likely to be given coupons. The 2006/07 household survey suggests that smaller proportions of FHHs received subsidy vouchers than MHHs. This pattern is repeated in preliminary results from the 2008/09 household survey (Dorward et al. 2008b; Dorward pers. comm. 2009).

Figure 5: Population poverty rates by sex of household head by place of residence



Source: NSO 2005b, Poverty in Malawi from the Second Integrated Household Survey 2005, viewed 22 August 2009, http://www.malawi.gov.mw/information1/publications/poverty%20report.pdf

Women within FFHs are additionally constrained by time poverty. Rural women's workloads are high, as women are responsible for their families' welfare (nutrition, health and hygiene),

[19] Kennedy & Peters (1992). The authors' field research in Malawi showed that MHHs had over 70 percent more potential income earners than FHHs.

child care, crop tending (growing, harvesting and preparing food) and other household chores (including fetching water and collecting firewood), (Mvula & Kakhongwa 1997; Bezner Kerr 2005). Consequently, women's time poverty negatively affects a household's food security and children's nutritional status in particular (in terms of food availability, calorie density and frequency of feeding (Quinn et al. 1990, p. 142)). On the other hand, research has shown that children within FHHs often had a better nutritional status than children in MHHs. This may also be related to the fact that women are generally more knowledgeable about food crops and tend to spend more of their expenditures on foodstuff than men (Bruce & Lloyd 1997; Kennedy & Peters 1992).

But, it is not only female-headed households that need to be focused on. Women within male-headed households also need to be targeted. This is particularly important because the outsider's position (such as agricultural extension workers, most of whom are men) is often to approach the village men first, as they are assumed to be in charge within the households (Devereux pers. comm. 2009; Peters pers. comm. 2009). In addition, another point to mention is polygamous households (about seventeen percent of all Malawian women live in polygamous unions (White et al. 2005)) and the question whether these are treated as one household unit within the programme's criteria. If yes, it would be important to investigate whether a husband receives fertiliser and maybe his first wife gets access to it, but his second and third wife do not. In this case it would be particularly important to target each wife individually, so that every woman and her children are considered as a household on their own and therefore get a fair amount of fertiliser (Devereux pers. comm. 2009).

Generally, the notion of male dominance persists and because there is a certain respect between a man and a woman (in both descent systems), these assumptions are getting reinforced (Peters pers. comm. 2009; White et al. 2005). Thus, in the presence of visitors people may behave differently. That is, the man is the one to whom the visitor speaks and the woman will only speak if she is spoken to. The position of women does however vary between different societies within Malawi, which is also influenced by the different lineage systems: matrinilieal/matrilocal (predominantly in the southern and central regions) and patrilineal/patrilocal (in the north), (White et al. 2005; Munthali 2005).

5.2 Matrilineal and patrilineal kinship groups[20]

According to Bezner Kerr's (2005) study in northern Malawi, women in patrilineal households have less decision making power than those in matrilineal households. She argues that women in patrilineal societies have fewer entitlements and husbands exert more authority (Bezner Kerr's 2005). Women in matrilineal households have more decision making power than their husbands in terms of land. However, there is also a strong bond between sisters and brothers in decision making processes (Potts pers. comm. 2009). Although the brother may have a certain amount of authority over his sister, Peters (pers. comm. 2009) argues that he should be regarded more in terms of a 'guardian' (nkhoswe), (see also Englund 1999). Thus, the relationship between brother and sister is a matter of respect, which also means to discuss issues and to make decisions together.

It is important to understand that matrilineal systems also include matrilocal residence. A husband moves to his wife's place and leaves on divorce or her death. It has therefore been argued that a husband may not feel obliged to make large investments in the household's farms or to be responsible to take care of his children. This is because the land and children traditionally belong to his wife's matrilineal clan. A woman may thus be in a difficult position after divorce or the death of her husband, because she may then have to care for her family all by herself (White 2005). On the other hand, women in matrilineal households may also expect to receive greater support from their extended families that live in closer proximity to them than it would be the case for married women in patrilineal societies (Peters et al. 2008). Chilimampunga (2006) argues that many male adult migrants that are married in matrilineal systems may not make long-term investments in their farms, however they may still support their families with short-term investments by sending fertiliser and seeds. This example shows that even within the same family systems we need to differentiate the individual circumstances that may put some FHHs more in need of fertiliser subsidies than

[20] *Matrilineal* descent passes primary kinship relationships through the maternal bloodline (i.e. from a mother to her children) - matrilocal (or, uxorilocal) residence means that a couple stays within the village of the wife's family after marriage. *Patrilineal* descent passes primary kinship relationships through the paternal bloodline (i.e. from a father to his children) - patrilocal (or, virilocal) residence means that a couple stays within the village of the husband's family after marriage.

others. However, in terms of gender relations, we generally need to be careful not to simply categorize households or to treat them as homogenous units (Doss 2001).[21]

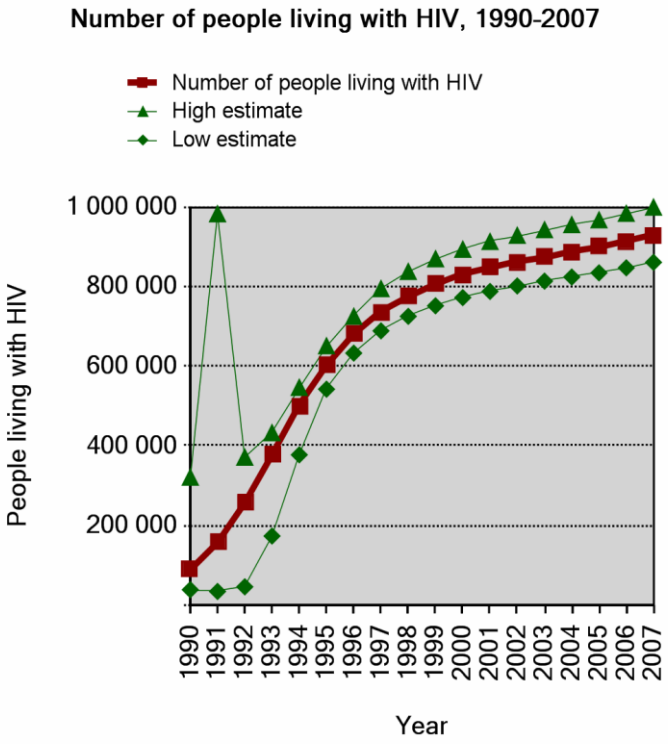
What is important in relation to the subsidy programme is to be conscious that "maize [in Malawi] is gendered wealth" (Englund 1999, p. 143). That is, maize cultivation is mostly carried out by women (Englund 1999; Peters per. Comm. 2009). Women's attitudes towards and knowledge about food and nutritional needs of their families (in particular regarding the issue of child malnutrition (see Quinn et al. (1990)) is a strong indicator for the programme to specifically target women. Thus, when it comes to choosing which fertilisers and seeds should be subsidised it would also be important to consult with women as they are responsible for processing maize and thus may have certain knowledge about the advantages of specific maize varieties (Doss 2001; Chilimampunga (2006)).

6. Food Security and HIV/AIDS

The number of HIV infected people in Malawi has dramatically increased over the last years (see figure 6, p. 19), (UNAIDS/WHO 2008). It is therefore important to assess whether people living with HIV/AIDS (due to their limited, i.e. 'less productive', labour capacities) fall into the category of non-eligible persons for fertiliser coupons and are therefore being left out of the programme. What is important in relation to the subsidy programme is that in Malawi 14 percent of people between 15-49 years are HIV positive. Because people within this group are the most 'productive' within the population, their inability to work dramatically reduces individual households' workforce and income (Munthali 2002).

[21] See also, for example, Kennedy & Peters (1992). The authors discuss differences between de facto and de jure female-headed households in southern Malawi.

Figure 6: Number of people living with HIV in Malawi, 1990-2007



Source: UNAIDS/WHO 2008, *Epidemiological Fact Sheet on HIV and AIDS: Core data on epidemiology and response – Malawi Update 2008*, viewed 12 July 2009, http://apps.who.int/globalatlas/predefinedReports/EFS2008/full/EFS2008_MW.pdf

This phenomenon has been comprehensively discussed by De Waal and Whiteside (2003) who argue that the whole southern African food crisis in 2002 was to a large extent due to HIV and AIDS. They argue that HIV/AIDS destroys a society's social structure as it affects the sexually active part of the population – i.e. the economically productive men and women - which consequently leaves behind the orphans and the elderly (see also Munthali 2002).

I agree that the question of whether the HIV/AIDS epidemic is accountable for food shortages in Malawi is debatable (Robson et al. 2007; Peters pers. comm. 2009). However, the 'new variant famine hypothesis' certainly follows a logical argument and some relevant points also need to be considered for evaluating the fertiliser subsidy programme. For instance, as the generation's most productive people are dying of AIDS, labour shortage as well as the number of dependants on the household level increases (see table 2, p. 20). In addition, the burden of caring for the sick and orphans from AIDS becomes heavier for those left behind (de Waal & Whiteside 2003; UNAIDS 2004). Consequently, I argue that in relation to HIV and AIDS, issues on targeting and malnutrition in particular need to be discussed.

6.1 Targeting the vulnerable

As stated above, HIV and AIDS are jointly responsible for the increase in child-headed households and households headed by the elderly. These households usually lack financial capital, labour and land resources (Ngwira 2003). But again, the programme's emphasis on 'productive' farmers could therefore mean that households which have chronic illnesses in them may not be entitled to receive fertiliser coupons (Dorward pers. comm. 2009). Overall, it is estimated that by 2020 Malawi's workforce will have been reduced by 15 percent due to HIV and AIDS (Devereux et al. 2006). So, if the subsidy programme is going to progress in its present state, does that mean that in fact less and less households will become eligible for fertiliser coupons in the future?

Table 2: Percentage distribution of population by five-year age groups according to sex and residence, Malawi, 2004

	Sex		Place of Residence		
Age group	**Male**	**Female**	**Urban**	**Rural**	**Total**
0-4	17.2	17.2	15.4	17.5	**17.2**
5-9	16.4	15.4	12.9	16.3	**15.9**
10-14	13.0	13.2	12.5	13.2	**13.1**
15-19	10.1	10.0	11.0	9.9	10.0
20-24	9.0	10.2	12.7	9.2	9.6
25-29	7.8	7.4	11.7	7.1	7.6
30-34	6.1	5.6	6.8	5.7	5.8
35-39	4.3	3.9	4.6	4.0	4.1
40-44	3.4	3.7	3.8	3.5	3.6
45-49	2.8	2.7	3.0	2.8	2.8
50-54	2.4	2.8	1.5	2.8	**2.6**
55-59	2.3	2.3	1.6	2.4	**2.3**
60-64	1.6	1.7	0.9	1.7	**1.7**
65+	3.5	4.0	1.5	4.0	**3.8**
Total	100	100	100	100	100

Source: NSO, 2005a, *Integrated Household Survey 2004-2005: Volume I - Household Socio-Economic Characteristics*, viewed 22 August 2009,http://www.sarpn.org.za/documents/d0002046/Malawi_Household_survey_Oct2005.pdf

Although there have been claims about unfair treatments of HIV positive people in relation to coupon distribution (see for example Gondwe (2008))[22], none of my informants could

[22] Gondwe et al. (2008). Members of the 'Coalition of Women Living With HIV/AIDS (COWLHA)' told One World Action that some village headpersons that were responsible for distributing fertiliser coupons apparently denied HIV positive persons (women in particular) access to coupons, because they were considered to already be 'half dead'.

recall any evidence verifying that HIV positive people had been discriminated within their communities. In fact, Pauline Peters (pers. comm. 2009) explains that the notion of AIDS is very much stigmatised by the public media, the government, donors and churches that attribute the illness to promiscuity. However, on the village level HIV/AIDS is not a taboo. People suffering from HIV/AIDS are being looked after exactly in the same way as anybody else and with the availability of ARVs (ARV coverage increased from 5 percent in 2004 to 35 percent in 2007 for both sexes, (UNAIDS/WHO 2008)) things may be changing even more (Robson pers. comm. 2009; Peters pers. comm. 2009).

6.2 Malnourishment and physical constraints

The other point I want to raise is the connection between food insecurity and HIV/AIDS. Malnourishment, due to nutritional deficiencies, puts people at a higher risk to become infected with HIV because it weakens their immune systems. For those people already living with HIV, malnutrition can lead to a shorter incubation period. Being ill with HIV further inhibits the absorption of nutrients (de Waal & Whiteside 2003). I believe this is important in relation to the subsidy programme, because it emphasises the need to provide high quality food for the most vulnerable groups in Malawi (not only the chronically sick, but also children, pregnant women and older people). Thus, instead of subsidising predominantly maize and cash crop seeds and fertiliser, we may also shift our focus towards more highly nutritious food crops.

Bryceson and Fonseca (2005) argue that HIV/AIDS can have an impact on households' vulnerability to food security as people may in fact lose their "faith in farming" (p. 99). What the authors call a "demoralisation" and "traumatisation" of village communities (Bryceson & Fonseca 2005, pp. 99-100), characterised by a loss of inter- and intra-household solidarity, may be comparable with what De Waal and Whiteside (2003) consider to be a breakdown of traditional social networks. However, according to Peters' et al. (2008) long-term study in southern Malawi (which is the country's regionally most HIV-affected area (Munthali 2002)), only a very small amount of households dissolve after the death of a key adult member of the family. They argue that, rather than giving in to "defeatism" or "fatalism" in the face of HIV and AIDS, people are actually "striving for normality" which is predominantly achieved through the support of extended family systems (Peters' et al. 2008, pp. 3-5). In this regard, we may assume that in addition to the possibility of HIV positive people to sell their

coupons, they may also be able to share their vouchers with their kin support group who would be able to apply fertiliser on their own fields and in return help their physically constraint relatives. Generally, I believe that HIV and AIDS must not form a barrier which could lead to the exclusion of people from the programme.

7. The way forward: Review and prospects

I strongly believe that increasing fertiliser use is not a goal in isolation (see also Morris et al. 2007). I argue that trying to find long-term sustainable solutions to fight poverty in Malawi means to comprehend that how we define famine determines how we react to it (Hastrup 1993). I suggest three main ways of looking at the causes of famine in Malawi:

1) Natural hazards (droughts and floods), with unpredictable rainfalls (Menon 2007).
2) Political and economic crises, caused by price increases of maize and discontinuation of government support (Tiba pers. comm. 2009).
3) Social constraints, including breakdowns of traditional coping mechanisms against food crises (Devereux 2001/et al. 2006; de Waal & Whiteside 2003).

The first cause may consider fertiliser as a direct technical means to counteract external climatic forces. The second cause may consider fertiliser subsidies as a means to offset macro-economic power structures. The third cause explains famine not merely in terms of production failure, but links it to deeper cultural issues (Devereux & Tiba 2006). The last point is particularly important, because it emphasizes that "hunger and famine cannot be analysed separately from their social context" (Hastrup 1993 p. 730; see also Vaughan (1987) and Pottier (1999)). Thus, fertiliser may be but one contributor to each of those points, however it must not be regarded as a universal 'cure' against hunger and poverty altogether (Jaspars & Shoham 1999). Since we will not find 'one' solution to combat hunger and poverty, we always need to consider possible alternatives and additional strategies, some of which I have outlined in the sections below.

7.1 Better targeting

A subsample of recent fieldwork in Malawi shows preliminary results of people's preferences regarding different criteria for coupon allocation. The system that was scored most highly

was 'giving it to the poor' (followed by 'giving half the quantity to everybody', and active dislike towards 'giving it only to more productive farmers'). In actual fact, the current subsidy programme is *supposed* to give it to the poor, but the current system was only given a moderate score (Dorward pers. comm. 2009). This might indicate substantial misunderstandings and/or disparities between locals' and outsiders' viewpoints not only regarding the programme's objectives, but also considering its achievements.

Minot and Benson (2009) argue that the objectives of the programme determine whether targeting actually matters. For example, if the objectives were to achieve equity in terms of coupon entitlements, we might actually ask whether it is really meaningful to apply targeting mechanisms in a country where just over half of the population are below the national poverty line. People on the local level will usually say that everybody is poor and thus entitled to the subsidy. Recent field surveys among Malawian households have actually shown that a smaller but universal subsidy had a higher preference than giving a higher quantity of vouchers to only a few selected households (Dorward pers. comm. 2009; Chirwa pers. comm. 2009). If development interventions are based on achieving maximum production impact, targeting the more productive farmers would bring greater benefits. Though, this strategy means excluding the poorest. However, if the aim is equity among people it may be better to apply a universal subsidy or to only target the poorest of the poor (Devereux pers. comm. 2009; see also Minot & Benson 2009). And yet, there are still poor people who cannot afford even the subsidised fertiliser price (Robson pers. comm. 2009).

Triangulation may be another effective way of doing community-based targeting, but at the same time avoiding political problems[23]. This method works in a way that a village is divided into three groups: men, women and the elites (including chiefs, elders, NGO and government workers and so on). Each of those three groups makes their own list of who they believe are the most vulnerable people within their community. A village identifies its most vulnerable members by publicly debating the lists until a consensus is reached, based on the community's own criteria. People are automatically on the programme if their names appear on all three lists. But, if someone is only on one or two of the lists then there is a discussion in which, for example, a chief would have to defend why he put his name on the

[23] See, for example, the 'Dowa Emergency Cash Transfer' project (DECT) which was run by Concern Worldwide in Central Malawi (Mvula 2007).

list but the men and the women groups did not. This targeting process gives women the opportunity to have a voice and limits the men's and elites' powers to dominate (Devereux pers. comm. 2009). Interestingly, survey results have also shown that women tend to focus more on supporting the poorest households, whereas men would prioritise those households that are more likely to increase their productivity (Dorward et al. 2008).

Dorward and Chirwa (2009) state that generally coupons can benefit people in two ways: that is, they can either use it to buy fertiliser or other input to increase their yields, or they can sell it in exchange for a cash transfer. In this case I would ask, why not giving the coupons to the poorest of a community? They might not be able to use it for crop cultivation, but instead they might purchase small livestock (e.g. chicken, pigs, goats), or they might use half of the fertiliser to cultivate their own land as best as they can and use the other half to buy additional food. On the other hand, they may also sell it to the so-called 'productive' farmers. In that case the transfer becomes a benefit to both, because the poorest people get some income from selling their vouchers and the better-off farmers actually get access to the input (Devereux pers. comm. 2009). Another way of targeting the poorest directly as well as indirectly may be in cases where relatives are not able to support them because they do not have the means to do so (i.e. not enough input to grow sufficient crops), (de Waal & Tumushabe 2003; Devereux et al. 2006). As mentioned earlier, giving coupons to the most vulnerable people means that they might be able to pass some of those on to their relatives, who may then cultivate their own land. In this way the chance for the poorest people in getting their share of food and income may be higher in return due to prevailing kinship relations.

Another way of reducing fraud in the allocation of subsidies might be to distribute fertiliser entitlements on smart cards. By means of fingerprint recognition, the only person in a household who could collect the vouchers and redeem them would be the person who received the card. However, regarding intra-household relations this would also make the gender issue more concrete than it is now. That is because a man could not give the card to his wife and a woman could not give it to her husband (Poulton 2005/2006; Dorward et al. 2008b). Moreover, if a woman holding a smart card is constrained by time poverty, no relative would be able to redeem the voucher on her behalf. In other circumstances, what happens when the person who owns a smart card gets sick, or even dies?

Yet another possibility may be to give fertiliser coupons to church welfare initiatives or other community-based organisations (e.g. orphan care centres), (see Munthali 2002), who can then distribute the gains in form of food crops among the most needy - those who are unable to grow maize on their own - within the community.

Another problem with the fertiliser subsidy as it is (i.e. subsidising the natural price of fertiliser), is that it is very attractive to the rich. What may happen in practice is that better-off farmers with more influence, better information and who are more likely to take allowances than the poorest of the poor get hold of the vouchers (Chirwa pers. comm. 2009). Peters (2009) states that better-off smallholders and small estates in the Zomba district got hold of coupons, because they are connected to the people who do the distribution: political parties, native authorities and various other influential groups (such as traders and local elites), (pers. comm.). In addition, we need to keep in mind that there are still poor people who cannot even afford the subsidised price for fertiliser. And, people need to buy the fertiliser before they plant their crops, which is before the rainy season (Oct-Nov), though this also coincides with the beginning of the hungry season (see figure 2, p. 5), (Tiba pers. comm. 2009; Robson pers. comm. 2009; Poulton et al. 2006).

7.2 Local knowledge systems women's roles in agriculture

Mandala (2005) argues that "peasants [are] theoreticians" that need to be taken seriously not as "a source of raw data" for western 'experts', but as experts within their own context-specific circumstances (Mandala 2005, p. 239; see also Sillitoe 1998).

Anthropologists can play an important role in identifying the actual beneficiaries of the subsidy programme. By actually living within a particular community for a longer period of time, anthropologists gain a detailed understanding on how people think and behave. I strongly believe that long-term ethnographic fieldwork is - in contrast to what some economists may argue - by no means a waste of resources. Knowing that we need to find long-term solutions to improve Malawi's smallholders' present situations, the work of anthropologists is an essential component in development research and planning. Most of all, ethnography provides us with an extremely valuable research methodology, because it gives us access to real time data on people's cultural livelihoods and links local level views with larger-scale issues of development projects (cf. Peters pers. comm. 2009; Potts pers. comm. 2009; Sillitoe 1998).

In this context, I believe that in order to assist smallholder farmers to improve their livelihoods we should start off by asking the targeted beneficiaries themselves what they understand to be the key problems and how they might best be helped. Surely, those farmers are not necessarily aware of all the key problems, but they have a very good understanding of their environments (e.g. in relation to soil fertility, issues regarding the nature of water distribution and availability, lacks in particular parts of their village, local power structures and so forth), (Potts pers. comm. 2009).

The problem with integrating local knowledge is that people still often assume that people in rural villages are ignorant (Peters pers. comm. 2009). However, I do not picture rural communities as static entities that are fixed in a continuous status quo. Instead, people - whether poor or not - might actually be quite receptive to new technologies, including advanced crop varieties and fertiliser (Dorward et al. 2008b). I argue that what really needs to be done is strengthening people's resilience, meaning to assist people to absorb and respond to change which enables them to persist in a state of food insecurity.

In terms of research, survey data and ethnographic evidence can be a very powerful tool in combination. Sample surveys that that are carried out during short-term visits and involve so-called rapid methods (e.g. focus groups and short interviews) may sometimes be misleading as they predominantly reflect opinions, not facts. However, the assumption that fieldwork is expensive because one spends a lot of time there is misleading. In contrast, sample surveys are usually national or at least cover several areas and are therefore much more expensive. Also, long-term fieldwork means that ethnographers keep on going back and although it takes effort to track people down again, the rewards are immense (Peters pers. comm. 2009; Robson pers. comm. 2009).

7.3 Crop and livestock development

The subsidy programme has a strong focus on maize production. We may argue that people in Malawi will always cultivate some maize since it is grown by around 97 percent of all rural farming households (NSO 2005a). It may therefore be difficult to persuade people to stop growing maize altogether because it is central to their culture (Potts pers. comm. 2009). Thus, attempting to change the nutrition habits and food preferences of an entire population may actually stir up some psychological issues. However, it would be wrong to assume that

people in Malawi do only grow maize. People's diets also comprise other food crops such as sorghum, millet, cassava, pigeon peas, sweet potatoes, beans and different types of vegetables (Robson pers. comm. 2009; Peters pers. comm. 2009; Tiba pers. comm. 2009). Over and above that, people are very innovative and the good farmers are not necessarily the better-off with large plots of land. Farmers may also be fairly open if they see the point of introducing new cropping systems to improve their food security at the household level and/or that it is going to improve their incomes (Potts pers. comm. 2009; Peters pers. comm. 2009).

Crop diversification, however, is not a new phenomenon, particularly in the south where there is more intercropping (Peters pers. comm. 2009; Peters 2006). And because people are very open to try almost anything to improve their agricultural production, what development programmes need to do is assisting farmers to expand their crop selection and their ability to obtain seeds and cuttings (Peters pers. comm. 2009). Alternatives to maize that would minimize peak labour demands by spreading them more evenly over the year (e.g. groundnuts), may also be advantages for women and female-headed households in particular in terms of time poverty (Bruce & Lloyd 1997; Quinn et al. 1990).

In some areas it might also be useful to take advantage of *dimba* land (wetland) cultivation. *Dimba* gardens commonly lie close to water sources and farmers can cultivate different types of vegetables during the dry season. Hirschmann and Vaughan (1983) and Chilimampunga (2006) again emphasize the women's responsibility for food production in tending those gardens and/or selling its produce. Even though Englund (1999) argues that the woman's role in *dimba* gardening may have changed as men appear to also contribute in cultivation (due to diminishing opportunities, for example, in labour migration), promoting d*imba* crop production by providing suitable seeds and fertiliser might have a positive effect in this farming sector.[24]

Zoltan Tiba's (pers. comm. 2009) case study of a rice producing village in Malawi is an interesting example of looking at food preferences and people's 'survival' strategies. Because rice production did not decline during the 2001/02 famine he assumed that his case village

[24] The authors conducted their fieldwork in different areas. Charles Chilimampunga did his field studies in Chiradzulu and Mangochi Districts in southern Malawi near Lake Malawi and Lake Malombe; Harri Englund did his research in the Dedza District in central Malawi; David Hirschmann and Megan Vaughan conducted their studies in the Zomba District in southern Malawi.

would not be much affected by food shortages. But, the community still had food deficits. Tiba (pers. comm.2009) concluded that people did not consider rice as food produce but as a cash crop. From an anthropological point of view it is important to understand that this behaviour has probably less to do with food preference, but more with rational thinking. Rice is an expensive food which is more often used in special ceremonies and weddings. The reason for people to trade their rice may be because they have nothing else to sell and they need cash to buy other basics, including maize which is cheaper (Peters pers. comm. 2009).

In this context, Alister Munthali's (2006) case studies in the Kasungu and Mchinji districts in central Malawi show that maize, as people's staple food crop, was usually used for household consumption, but not for sale. The high costs for hybrid seeds and fertiliser may be but one reason for why people keep on growing local maize varieties. Different surveys suggest that people may actually prefer local maize due to its resistance to high soil moisture and certain pests (Munthali 2006; Peters pers. comm. 2009).

In this context, another important point to consider is the social meaning of food within Malawian societies. For example, *nsima* (see footnote page 12) is a low-calorie meal. Thus, including fat- or oil-rich foods (that are usually expensive) in people's cropping patterns may be beneficial for the nutritional status of the most vulnerable groups, especially children (Quinn et al. 1990; see also Bruce & Lloyd 1997). Munthali (2006) explains that people in Malawi consider the staple *nsima* as main meal, whereas other crops (such as mangoes, potatoes or vegetables) are not considered as 'food'. Englund (1999) further explains that *nsima* is believed to be essential for pregnant women to give them strength and to support the unborn child's development. Thus, in some ways food preferences may be less connected to people's actual taste than to cultural belief systems that regard different uses of maize as a central element to their everyday lives.

From an anthropological point of view, it is thus very important to stress that the poor in Malawi use hybrid maize and fertiliser as a food strategy (Peters pers. comm. 2009). Peters (pers. comm. 2009) emphasises that there are two different strategies of food security. Better-off farmers want fertiliser and hybrid maize in order to sell their produce. In contrast, the poorest farmers want fertiliser and hybrid maize not in order to sell it, but to feed their families. Peter's (pers. comm. 2009) extensive research in Malawi revealed that the poorest 25 percent (and even to an extent the poorest 10 percent) of people paid a higher

expenditure share for subsidised fertiliser than the richest people. Hybrid maize matures earlier than local maize varieties, meaning that poorer people have access to food earlier in the year which shortens the seasonal hunger period (see figure 2, p. 5). (Peters pers. comm. 2009; Uttaro 2002; Munthali 2006).

In addition to crop diversification, livestock development of small animals (such as chickens, pigs or goats) may have further advantages. For example, de Waal and Whiteside (2003) note that in terms of dietary requirements people living with HIV have higher protein and energy needs than healthy persons and would thus benefit from animal products. On the other hand, people may also be better prepared if coupon and fertiliser deliveries fail as they can fall back on their animals as food or as assets to sell them in return for cash (Tiba pers. comm. 2009; Dorward et al. 2008).

Focusing not only on maize but also on other food crops may have additional nutritional values. This may be particularly true for communities' most vulnerable groups, including the aged, sick, pregnant women and children. I want to stress, however, that focussing on higher value crops might not naturally convert into consumption of better quality foods. For instance, people may simply sell one bag of higher value crops in exchange for two bags of maize. With regard to food preferences and distribution on the household level, anthropologists can play a vital role in order to understand people's rationalities.

7.4 Infrastructure and water management

Late deliveries of fertilisers have supposedly improved over the course of the subsidy programme. Still, roads in Malawi are quite bad, especially in rural areas where there are usually just dry season roads (Chirwa pers. comm. 2009; Chilimampunga 2006). Peters (pers. comm. 2009) agrees that transportation is absolutely critical. If roads are poorly maintained, heavy rains can turn even reasonably good roads into mud patches. If that happens, it will take people extremely long to get to hospitals, schools or markets. Lack of adequate low-cost transportation and communication infrastructures that are not extended into rural areas can have an adverse affect on the subsidy programme's effectiveness, not only in terms of fertiliser deliveries and knowledge transfer, but also in relation to its entitlement criteria. Thus, how would people be able to sell their crops if they do not have access to markets and therefore less cash income? How can households keep their workers healthy if they are

unable to receive adequate care at medical centres? How can women constraints on mobility due to time poverty enable them to be 'productive' workers on their farms (Porter 2008/2009; Chilimampunga 2006; Robson pers. comm. 2009)?

In addition, water is an indispensable input resource that makes rain a key determinant in Malawi's crop cultivation (Potts pers. comm. 2009). Because Malawi's agriculture is based on a single rainfall system it is absolutely critical that there is enough timely rain. Within a rain-fed agriculture there is always an interaction between what farmers are actually able to do in terms of fertiliser input and the right balance of rain (Peters pers. comm. 2009; Chirwa pers. comm. 2009). Some people would argue that it is not clear that poorer rainfall will lead to reduced benefits from the subsidy programme. They say it depends on the nature of the rainfall as well as on the nature of the maize varieties that people grow. But, generally there is agreement that if Malawi experiences a poor rainfall season people are going to face major problems, whether there is a subsidy or not. The question to ask is: will people struggle more if there is a subsidy, or less (Dorward pers. comm. 2009)? I do not know the answer to this, but I would reason that being reliant on very unreliable rains is very problematic and thus fertiliser subsidies and water management have to come in combination.

However, establishing irrigation schemes in Malawi is not easy. It is technically difficult because maize is a smallholder crop and it is grown in areas which are often not amenable to large scale irrigation (Dorward pers. comm. 2009). Potts (pers. comm. 2009) agrees that answers are not to be found in big irrigation projects. But, other possibilities such as micro-scale irrigation (irrigation that is controlled at the farmer level) in relation to improved access to ground water, may bring substantial benefits to poor smallholder farmers in Malawi.

I personally see even broader benefits from improved water management for poor smallholders' everyday lives. I would argue that access to safe water is particularly important in relation to women's mobility in rural areas. The women within a household are usually responsible for fetching water from distant wells (Mvula & Kakhongwa 1997). Thus, improving access to nearby water sources may have a positive effect on women's overall time poverty, that is giving them more time to tend their crops and, by adding fertiliser inputs, increase their agricultural outputs.

7.5 Alternative employment opportunities and migration

One of the main problems in Malawi's economy is the lack of alternative employment opportunities to agriculture (Devereux pers. comm. 2009). Chilimampunga (2006) argues that investing in rural industries (e.g. textiles or food processing) may be one possibility to create jobs for poor rural people. In relation to the increasing scale and scope of the subsidy programme, high import costs and real prices for fertiliser, another option may be to develop a fertiliser industry in Malawi itself in order to produce fertiliser cheaper locally (Tiba pers. comm. 2009). From an anthropological viewpoint, however, we may still have to consider issues regarding regional establishments of those industries, for example in relation to its effect on migration patterns and subsequently household structures.

Today, net migration flows are towards central and northern Malawi where there is more land. However, generally there is not much land to be made available as it is quite heavily used throughout the country (Potts pers. comm. 2009). One possibility, which has already taken place, may be for southern Malawians to move into northern Mozambique and Zambia where there is still existing farm land. Although that might be one option for the medium term, in terms of longer term productivity Malawi will need to find more sustainable solutions (Devereux pers. comm. 2009; Peters pers. comm. 2009). Debby Potts (pers. comm. 2009) stresses that it is however extremely inadvisable to start resettling people in a formal way. And even if people were able to find spare areas of land where people would be told to farm with government assistance, it would be very difficult to find sufficiently large areas of land to which former residents do not already have some claim.

In this context, we may also ask whether fertiliser subsidies may actually provide an incentive for farmers to move back into rural areas. It might be that people are getting encouraged to move back to their kinship groups, which would consequently leas to an increase in their households' labour force and agricultural output. But, this is a complicated equation because other factors are also important, for example developing rural industries and therefore new job opportunities for people locally (Potts pers. comm. 2009; Chilimampunga 2006).

In terms of poverty and food security it is also interesting to compare household with and those without migrants. Households that regularly receive support in form of remittances are on average poorer than those who do not receive any allowances (especially FHHs in

which the woman is married[25]). This is interesting, because it stands against the assumption that households with migrants might be better-off due to cash or other material transfers (World Bank 1996). Households without migrants seem to have less access to farm inputs and are thus less 'productive' in terms of output. Chilimampunga (2006) explains in his case study that migrants would mainly sent cash (though very little, partly because of low educational status and subsequent low wages) and food, but very few received fertiliser and seeds.[26] However, receiving fertiliser and seeds from migrants did not necessarily mean that the household head would invest these in his or her field. Thus, in terms of production, households with migrants may have less input than those without migrants. But, in this regard households with migrants also seem to be less likely to fulfil the criteria for receiving fertiliser subsidies. That is first of all because their most capable workers are away from home. In addition, household members may also engage in *ganyu* casual labour, which can lead to a decline in people's own on-farm productivity (Hirschmann & Vaughan 1983; Alwang & Siegel 1999).

One theme that might need some further investigation in relation to input subsidies is the increase in off-farm income as an important resource for the poor. Due to labour and land shortages some "resource-constrained households [are simply] 'too poor to be efficient'" (Alwang & Siegel 1999, p. 1464). Thus, the 'less productive' poor usually survive on working for other people by engaging in casual labour, also called *ganyu* (Bryceson & Fonseca 2006; Bryceson 2006).[27] On the one hand *ganyu* casual labour is a 'coping strategy' in order to earn additional off-farm income to buy food or agricultural inputs such as fertiliser. On the other hand, people doing *ganyu* fall short in time to work on their own fields and are thus falling into the 'non-productive' farmer category. Particularly women may be caught in a vicious circle due to their additional work chores besides crop cultivation (Hirschmann & Vaughan 1983; see also Mandala 2005). It might therefore be of use to distribute food to people during the hunger season as well as supporting them with subsidies, so that they have sufficient food to eat while they are still able to work on their own fields.

[25] World Bank (1996). 69 percent among those who receive cash remittances fall below the 40th percent cutoff compared to 48 percent for those who do not receive remittances.

[26] In Chilimampunga's (2006) case study, 44.9 percent of interviewed household heads responded that increased vulnerability among households with migrants was predominantly caused by limited or no application of fertiliser, because it was too expensive, not available on local markets or not received as remittance (32.7 percent named poor rains and 6.8 percent said shortage of arable land as main cause).

[27] Peters (pers. comm. 2009). Peters stresses that *ganyu* does not necessarily mean that the poor are doing agricultural work for the rich, but it includes any casual temporary non permanent wages.

7.6 Sustainability and transferability of the programme

Turning back to my initial argument, Minot and Benson (2009) state that: "It is not realistic to expect, however, that a single program can succeed in achieving multiple objectives in a sustainable way. Prioritized objectives are needed for any input voucher program (p. 6)."

I agree that running an input subsidy programme should be productively more efficient and less costly than having to bring in food aid (Chinsinga & O'Brien 2008; Potts pers. comm. 2009). But, the size of the programme (with a cost increase from about 5.6 percent of the national budget in 2005/06 to about 13.5 percent in 2008/09) has resulted in significant budget overruns. Costs for fertiliser have almost tripled, whereas the volume of fertiliser declined in 2008/09. Exit strategies are moreover difficult to implement due to political pressures for the extension of subsidy programmes (Dorward et al. 2008a/b; Dorward & Chirwa 2009).

Potts (pers. comm. 2009) argues that the whole issue of sustainability is a huge drawback for the very poor, because there will always be the poorest who will need some redistribution of the wealth from the rest of society. However, instead of just giving them money or food, we may better try to help them to produce as much as possible with their own assets (see also Swidler & Cotts Watkins 2009). Generally, promoting rural economies as basis for economic growth in Malawi can only provide a medium-term strategy (IMF 2007). Certainly, in the short term development is about trying to protect people from the worst of food shortages and lack of livelihood opportunities, which needs to be dealt with on the agricultural side. But, long-term goals need to take into consideration that ultimately Malawi cannot be a nation of smallholders due to increasing land pressures. What is needed are much larger productive sectors (Peters pers. comm. 2009).

Malawi's fertiliser subsidy programme is also a highly politicised topic. In particular, the issue of corruption is a very important matter (Robson pers. comm. 2009; Peters 2006) although it is not dealt with in detail in this paper. My aim is to assess certain categories of people *who* should receive government support and to give reasons for *why* this may not be compatible with the programme's objectives and targeting criteria. The next step would be to find solutions on *how* the intended beneficiaries are able to receive subsidised fertiliser by avoiding elite capture.

There is wide-ranging agreement that the subsidy model that is being used in Malawi could also be applied elsewhere. From an anthropological point of view, the issue of contextualisation is central to any development intervention. That is, we need to take into account communities' different cultural contexts which determine their different value and belief systems in terms of food production and people's experiences of hunger (Hastrup 1993). Different geographical locations and ecosystems influence distinct patterns in agricultural production. Variations in languages and ethnic groups may cause problems in communicating the programme's procedures and possibly raise conflicts and/or exclude minority groups. Different household patterns and gender relations (e.g. gendered division of labour as well as male or female decision making power and control) require different designs of targeting and communication on the household level. In some regions war and civil conflicts may fuel political tensions that can build obstacles for development interventions. In sum, applying Malawi's model to other societies requires a holistic approach built upon cross-cultural understanding of specific contexts (see also Vaughan 1987). The last point in particular emphasises the value of anthropology in development as a 'bottom up' grassroots level approach.

8. Conclusion

The primary issue of the programme seems to be its need to define its objectives and targeting criteria very carefully. I doubt that the programme is actually designed to directly benefit the poorest of the poor among smallholders in rural Malawi. I strongly believe that we must not be taking capitalist ideas and economic paradigms for granted. Instead, we need to examine the effects of fertiliser subsidies on the household level. There is no 'one-size-fits-all' formula for poverty reduction in Malawi. If the programme is going to continue in its current mode, marginalised groups will always be excluded. In terms of local power structures it is therefore crucial to understand the workings of different kinship patterns regarding roles of traditional authorities, intra-household gender relations and social support networks with regard to the most vulnerable groups within a given community. The programme is not a long-term solution for alleviating poverty in Malawi due to a range of unsustainable preconditions. Hunger and poverty mean different things to different people. An anthropological approach offers a socio-cultural analysis that is needed to contextualise cultural elements in order to gain a holistic understanding of the 'local's point of view'. Subsidising fertiliser has certainly been beneficial for some Malawian smallholders, but there

is more to development than boosting the economy. In the end it is micro-scale decisions on the household level that decide upon a development project's success or failure. Thus, we need to get on a personal level with people and understand the complexities of their societies. In addition, fertiliser subsidies can only contribute to poverty reduction in combination with other development processes. Though, if considered on its own, we should at least ensure to create a situation where those farmers who are the poorest of the poor can in any event produce as much as possible and have a little less vulnerability.

9. Appendix

Key Informant Interviews

Chirwa, E. 10.07.2009, Institute of Development Studies (IDS) University of Sussex, Brighton, United Kingdom, semi-structured face-to-face interview

Devereux, S. 09.07.2009, Institute of Development Studies (IDS) University of Sussex, Brighton, United Kingdom, semi-structured face-to-face interview

Dorward, A. 30.06.2009, School of Oriental and African Studies (SOAS), University of London, United Kingdom, semi-structured face-to-face interview

Peters, P. 04.08.2009, Harvard Kennedy School, Cambridge, United States of America, semi-structured telephone interview

Potts, D. 30.06.2009, King's College London, United Kingdom, semi-structured face-to-face interview

Robson, E. 04.08.2009, University of Malawi, Zomba, Malawi, semi-structured interview by email

Tiba, Z. 09.07.2009, Institute of Development Studies (IDS) University of Sussex, Brighton, United Kingdom, semi-structured face-to-face interview

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Poverty and hunger have become buzzwords in today's development discourse while chronic food insecurity has increased in many parts of the world over the last couple of years, especially in Sub-Saharan Africa. Even a country like Malawi, traditionally much better off in term of food security than many of its neighboring countries, has been sucked into a vicious circle of poverty and hunger aggravated by drought, HIV/AIDS, poor agricultural policies, and macroeconomic developments. The introduction, in 2005/2006, of an Agricultural Input Subsidy Programme (AISP), which included subsidies of fertilizer, by the Malawi government following severe famines has received much attention as it showed positive results by helping to boost maize production. This paper analyses the successes and shortcomings of this subsidy programme by reviewing the respective literature and by interviewing key informants. Within the broader scope of the subject matter, this study focuses on fertilizer input, maize production and poor smallholder farmers. It presents the reader with a different perspective on the issue and confirms that there is no "one size fits all" approach to alleviating poverty.

Theory and Practice

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