# An assessment of the potential for food assistance to improve household food security in crisis situations: evidence from Mozambique

**by**

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## Abstract

Chronic food and nutrition insecurity in Africa persists amid high rates of poverty and malnutrition. The cumulative effect of protracted conflicts, economic decline, extreme weather events and the erosion of livelihoods and family-based support systems results in disruptions in food systems. Such disruptions result in systemic problems, depriving individuals and households of essential nutrition. Overcoming these disruptions requires purchasing power on the part of consumers and operational markets for supplying commodities. Both are often lacking in the contexts in which humanitarian agencies operate.

This study investigates the influence World Food Programme (WFP) cash and food transfers have on the diversity and quality of diets of recipient households in Mozambique, and discusses the implications of this for the design of systemic food assistance intentions. The food consumption patterns and precautionary behaviours of cash and food beneficiaries were compared with a counterfactual group of non-beneficiaries that were drawn from a national sample. Beneficiaries received either a cash transfer or a food basket of an equivalent local market value. Beneficiaries' preferences regarding the transfer modality were also investigated.

Understanding the context and severity of the food shortfall is crucial in designing the most suitable food security intervention to mitigate the negative precautionary strategies. Food transfers led to the adoption of fewer negative precautionary strategies than cash transfers. The frequency and sequencing of the adoption of precautionary strategies were found to be context specific.

Food transfers improved dietary diversity, whereas cash transfers led to the inclusion of more nutrient-dense foods in the diet. Cash was preferred over food transfers. However, the study showed that providing adequate rations with a cash portion could improve both dietary diversity and quality. A combination of the two modalities could stimulate demand for nutritious foods by addressing both income (purchasing power) constraints and stimulating demand for these foods. This demand could have a pull factor in terms of local food systems, which stimulates demand not only for food, but also for upstream and downstream food system services if there is a functioning market.

Such insight is essential to inform the design of crisis interventions. It also contributes more broadly to understanding the systemic food system influences that food assistance programmes can have in development contexts. This is important because the rapid evolvement of humanitarian interventions increasingly focuses on the need for rigorous data on the effectiveness and comparative performance of transfer modalities. Sound impact evaluations in emergencies are gradually being considered as an integral element of programmes. This thesis contributes to the generation of data for evidence-based interventions in emergencies. The study also contributes to reducing the wide gap between the conceptualisation of food security issues and the development of effective instruments to address these issues.

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## Declaration

I, Agatha Carol Zhou, declare that this thesis, which I hereby submit for a PhD in Rural Development at the University of Pretoria, is my own work. I have not previously submitted it for a degree at this or any other tertiary institution.

Signature:……..

Date: June 2018

## List of acronyms

| | |
|---|---|
| AIDS | Acquired Immune Deficiency Syndrome |
| ATM | Automatic Teller Machine |
| BRAC | Bangladesh Rural Advancement Committee |
| BWPI | Brooks World Poverty Institute |
| CAADP | Comprehensive African Agriculture Development Programme |
| CARE | Cooperation for Assistance and Relief Everywhere |
| CFPR | Challenging the Frontiers of Poverty Reduction |
| CFSVA | Comprehensive Food Security and Vulnerability Analysis |
| CSI | Coping Strategy Index |
| DFID | Department for International Development |
| FAFS | Framework for African Food Security |
| FAO | Food and Agriculture Organisation |
| FCS | Food Consumption Score |
| FEWS | Famine Early Warning System |
| FFS | Food Frequency Score |
| GDP | Gross Domestic Product |
| HDI | Human Development Index |
| HIV | Human Immunodeficiency Virus |
| HLPE | High-level Panel of Experts |
| HSD | honest significant difference |
| IASC | Inter-agency Standing Committee for Humanitarian Assistance |
| ICSSR | Indian Council of Social Science Research |
| IFAD | International Fund for Agriculture Development |
| IFPRI | International Food Policy Research Institute |
| ILO | International Labour Organisation |
| ILTPWP | Improving Livelihood through Public Works Programme |
| IMF | International Monetary Fund |
| INGC | *Instituto National de Gestao de Calamidades (*Institute of National Disaster Management*)* |
| KMO | Kaiser-Meyer-Olkin |
| NBSSS | National Basic Social Security Strategy |
| NEPAD | New Partnership for Africa`s Development |

| | |
|---|---|
| NGO | Non-governmental organisations |
| NRF | National Research Foundation |
| ODI | Overseas Development Institute |
| OECD | Organisation for Economic Cooperation and Development |
| PARAP | Programme of Action for the Reduction of Absolute Poverty |
| PCA | Principal Component Analysis |
| PDAs | Personal Digital Assistants |
| PRAF | *Programa de Asignación Familiar* (Family Allowance Programme) |
| PRAP | Poverty Reduction Action Plan |
| PROGRESSA | *Programa de Educación, Salud y Alimentación* (the Education, Health, and Nutrition Program) |
| PSNP | Productive Safety Net Programme |
| RHVP | Regional Hunger and Vulnerability Programme |
| RPS | *Red de Protección Social* (Network of Social Protection) |
| SARPN | Southern African Regional Poverty Network |
| SASSA | South African Social Security Agency |
| SDG | Sustainable Development Goal |
| SETSAN | Technical Secretariat for Food Security and Nutrition |
| SPSS | Statistical Package for the Social Sciences |
| TSFSN | Technical Secretariat for Food Security and Nutrition |
| UNCESCR | United Nations Committee on Economic, Social and Cultural Rights |
| UN | United Nations |
| UNESCO | United Nations Educational, Scientific and Cultural Organization |
| UNICEF | United Nations Children`s Fund |
| UNISDR | United Nations Office for Disaster Risk Reduction |
| USAID | United States Agency for International Development |
| WFP | World Food Programme |

# Chapter 1: Introduction

## 1.1 Background to the research problem

Poor people are extremely vulnerable to food insecurity (ODI Forum for Food Security 2004). Poor people's inability to gain access to sufficient food of adequate dietary diversity and quality due to flaws in food systems is one of the root causes of food insecurity in developing countries (NEPAD 2009, WFP 2017b). A food system comprises all the elements and activities that relate to the production, processing, distribution, preparation and consumption of food (WFP 2017b). Crises result in disruptions in food systems. Such crises are caused by the cumulative effect of poverty, protracted conflicts, economic decline, extreme weather events, irregular harvests and the erosion of livelihoods and family-based support systems. Disruptions in food systems result in systemic problems that deprive poor individuals and households of essential nutrition and other basic needs (WFP 2017b). Examples of systemic problems include a lack of household purchasing power, a lack of access to food markets or weak food transportation systems.

This thesis uses evidence from Mozambique to assess the potential for food assistance to improve household food security during crises. The study investigates the influence of the cash and food transfers of the World Food Programme (WFP) on the diversity and quality of the diet of recipient households in Mozambique, and discusses the implications of this for the design of systemic food assistance intentions. This understanding can generate useful evidence on whether or not food assistance has the potential to turn need into demand for nutritious food. This could help improve the design of programmes.

Systemic food assistance is provided in circumstances of widespread food insecurity. This food assistance seeks to improve food system performance by addressing systemic problems. It also aims to leverage food assistance interventions so that improvements in food systems are achieved. Overall improvement in the food system sustainability and performance that reduces poverty and hunger can bring about general benefits that go beyond support to direct beneficiaries (WFP 2017b). Direct systemic food assistance includes using instruments such as cash or in-kind food transfers to improve access to food of a given nutritional quantity, quality and value.

## 1.2 Food assistance and food systems

Functioning and efficient food systems support the delivery of sufficient, safe and nutritious food to people (Annan, Conway and Dryden 2015; FAO 2013; IFPRI 2016). Converting this need for sufficient, safe and nutritious food into market demand requires purchasing power on the part of the beneficiaries and the existence of operational markets for supplying commodities. Purchasing power and operational markets are often lacking in the contexts in which humanitarian agencies operate, which results in need, but no effective demand (WFP 2017b).

The challenges the poor face in taking advantage of economic opportunities causes persistent household poverty. For example, a lack of access to sufficient education, insufficient capital and/or poor health due to lack of access to adequate dietary diversity and quality prohibit poor people's ability to take advantage of economic opportunities (World Bank 2001). Poor households also experience many socio-economic, natural, physical and institutional shocks, such as droughts, sickness, death and stress due to high food prices. Such shocks determine and increase poor households' exposure to the risk of food insecurity (Christaensen and Boisvert 2000). These shocks affect the availability of household food, income and endowments. To mitigate food shortfalls, households adopt precautionary food consumption and income-smoothing behaviours (Morduch 1995). Such strategies seek to minimise dietary, economic and social costs to the household (Devereux and Jere 2008).

These negative strategies may allow poor households to cope in the short term, but they jeopardise their long-term wellbeing due to compromises in the quality and quantity of diets (ODI Forum for Food Security 2004). Inadequate dietary intake reduces productivity and health, which leads to perpetual poverty and hunger. These negative strategies also make it more difficult for households to recover long after the crisis has passed. This means that poor people do not only face the problem of being poor and having inadequate access to nutritious foods at a particular point in time, but poverty also makes them susceptible to worsening food insecurity over long periods (World Bank 2001. Consequently, while poverty could represent a state of deprivation at a particular point in time, resilience and sustainability are important, as they represent dynamic responses to changes in food insecurity circumstances over time

(World Bank 2001). Mitigating such detrimental responses to food insecurity and vulnerability is a top priority for governments (Barrientos 2010).

The three main functions of food assistance transfers are to protect basic consumption levels among the poor and prevent them from falling into poverty, to allow investment in productive assets and human capital such as education, and to facilitate a pathway out of their vulnerable circumstances (Barrientos 2010). Food assistance is a fundamental building block of humanitarian aid. Food assistance also builds resilient livelihoods and improves food insecurity in development contexts as part of the broader development goals (WFP 2017b).

Recently, the WFP has recognised that its food assistance programmes have unparalleled capacity to address hunger and food insecurity in ways that support national efforts to achieve Sustainable Development Goal (SDG) 2 of the United Nations (UN) (WFP 2017a). The WFP holds a unique position in that it interacts with commercial markets from which the organisation sources food. It also engages with food system services such as transport, storage and handling. This interaction, combined with the delivery of food assistance to beneficiaries, gives the WFP's initiatives the potential to drive change in food systems to overcome food system flaws, disruptions and breakages (WFP 2017a). However, this potential to drive changes in food systems can only be realised if engagements and investments in food assistance are demand driven, innovation based and capacity enhancing (WFP 2017b).

## 1.3 Statement of the research problem

Food insecurity is no longer considered to be a failure of countrywide or global agriculture production, but rather to arise from inadequate livelihoods that fail to guarantee present and future access to food at household and individual level (Maxwell 2001). Literature on poverty also acknowledges that access to or ownership of assets that can be converted into productive livelihood strategies is a way to provide the poor a pathway out of the poverty cycle (Moser 1998). The need for food assistance in Africa is driven by persistently high rates of poverty and malnutrition, volatile food prices, unpredictable weather patterns, wars and the erosion of livelihoods and family-based support systems by shocks such as the Acquired Immune Deficiency Syndrome (AIDS) epidemic (Oduro 2010).

While only 6% of global food assistance programmes have adopted a cash transfer modality, many countries are developing national social protection systems that use this modality (World Bank 2016).

The World Bank (2016) reports that cash transfers can facilitate links between humanitarian and development programmes, but in-kind transfers will still be important strategic elements of humanitarian assistance in the decades to come. However, little is known about the potential for systemic food assistance in the form of cash and food transfers to improve nutrition and create demand for nutritious food during crises (World Bank 2016). Most evidence of the comparative performance of transfer modalities is generated in non-emergency development contexts (World Bank 2016). Humanitarian interventions are often characterised by large-scale challenges and urgencies, which are different from development contexts (World Bank 2016). Such challenges include the physical inaccessibility of food markets due to compromised security, poor transport infrastructure, inadequate or destroyed telecommunication networks and inaccessible financial systems due to the disruption of the economy.

The increasingly complex nature of humanitarian interventions leads to a greater focus on the need for rigorous data on the effectiveness and comparative performance of transfer modalities, including sound impact evaluations in emergencies (World Bank 2016).

When food systems fail to function efficiently, humanitarian interventions manage to support the delivery of sufficient, safe and nutritious food to people (Annan et al. 2015; FAO 2013; IFPRI 2016). Disruptions to well-functioning food systems result in systemic problems that interrupt the provision of adequate food to households (WFP 2017b). When food systems are weakened by systemic problems, shocks can lead to emergencies that call for food assistance. The resilience and overall performance of the food systems hinge on how effectively cash and food transfers mitigate or fail to mitigate these systemic problems (WFP 2017b). Attaining better-performing food systems that sustainably provide foods of adequate nutritional diversity and quality to poor households remains a global food security challenge (WFP 2017b).

By improving the nutritional diversity and quality of the diet and resilience of poor households when faced with food shortfalls, this study aims to assess to what extent food assistance in targeted populations in Mozambique addresses systemic food problems.

## 1.4 Study objectives

The general objective of the study was to investigate whether the WFP's food assistance programme in Mozambique improves food security and drives food system change. The study was structured around four specific objectives:

**Specific objective 1:** Did the WFP's food assistance programme in Mozambique improve recipients' dietary diversity and quality?

**Specific objective 2:** Did the WFP's food assistance programme in Mozambique influence the precautionary strategies poor households adopted to mitigate food insecurity?

**Specific objective 3:** What transfer modality did recipient households prefer?

**Specific objective 4:** Can the WFP's food assistance programme in Mozambique drive the food system change to improve food insecurity?

## 1.5 Research hypotheses

This research investigated whether food assistance has the potential to drive food system change, and focused on the following hypotheses:

- Hypothesis 1: The WFP's food assistance programme in Mozambique did not improve recipients' dietary diversity and quality.
- Hypothesis 2: The WFP's food assistance programme in Mozambique did not influence the precautionary strategies poor households adopted to mitigate food insecurity.
- Hypothesis 3: The recipient households preferred cash transfers.
- Hypothesis 4: The WFP's food assistance programme in Mozambique overcame systemic problems causing food insecurity.

This study's systemic food assistance approach and its focus on operationalising the approach at policy level could help consolidate important aspects of food access and sustainable livelihoods, which improves progress towards the objectives of the SDGs.

## 1.6 The study's contribution to the knowledge gap

This study makes seven important contributions towards reducing the gap between conceptualising food security issues and the development of effective instruments to address these issues (Thomson 2001). First, this study contributes to the generation of data for evidence-based interventions for crises. The rapid evolution of humanitarian interventions leads to a greater focus on the need for the generation of rigorous data on the effectiveness and comparative performance of transfer modalities, including solid impact evaluations in emergencies (World Bank 2016).

Second, the evidence from this thesis contributes to understanding how the WFP's current programmes affect household dietary diversity and quality. The evidence is not only essential to inform the design of future programmes as part of the WFP's Strategic Plan for 2017 to 2021, but contributes more broadly to understanding the systemic food system influences of cash and food transfers that can happen in development contexts.

Third, this study looks at how food assistance can be leveraged to convert the need for safe and nutritious foods into effective demand to drive food system change.

Fourth, it is noted in literature that there is little consensus and evidence on whether cash or food transfers are more effective in discouraging poor households' adoption of negative food consumption precautionary strategies when faced with food shortfalls (Bailey 2013), even more so in emergency contexts. This study contributes to filling this knowledge gap.

Fifth, the study provides information that is directly relevant to WFP cash and food social transfer interventions in the Mozambican context. This is important because food assistance for food security programmes is context specific and not necessarily replicable (Gough and Wood 2004), which means that understanding design choices and implementation modalities

that best work for Mozambique will be best defined through research and assessments that are performed in specific Mozambican contexts.

Sixth, this thesis contributes to filling the knowledge gap on the research, evidence and response analysis agenda. Responses are not always based on evidence. This is understandable because "action cannot wait for evidence" (World Bank 2016:48) during emergencies. It may not always be practical to wait for research and response analysis to be completed during certain emergencies. However, seeing that emergencies seem to continuously evolve into chronic and protracted emergencies all over the world, there is an important case to be made to synchronise careful response analysis to compare the performance of alternative transfer modalities for maximum impact. A 2016 World Bank report prepared for the Inter-Agency Standing Committee for Humanitarian Assistance recommends that the development of a "global research strategy fills evidence gaps on the relative performance of transfer modalities, particularly beyond food security objectives …". (World Bank 2016:ix). While the report notes that there is large variance in the availability of comparative evidence on the relative performance of transfer modalities, there is limited comparative evidence on the nutritional impact of transfer modalities (World Bank 2016). The same report calls for a solid, applied research agenda to compare the performance of alternative transfer modalities. This thesis contributes to the evidence on the relative performance of cash or food transfers.

Seventh, this study may help agencies to make informed and objective choices on the most efficient and effective transfer modalities that are suitable for the local context. It is noted that donors and their partners implement food security interventions that are supported to varying degrees by contextual analysis, including beneficiary preference, gender concerns, safety and equality issues, as well as needs and risks of specific vulnerable groups. However, in many cases, the purpose of the contextual analysis is to validate the agencies' preferred options of transfer modality (Maunder et al. 2016). In most cases, the contextual analysis does little to inform an objective choice on the most efficient and effective transfer modality for the local context. An objective choice could adequately counter the localised systemic food system problems (Maunder et al. 2016). This thesis contributes to the understanding of why food security interventions need to be context specific.

Lastly, this thesis contributes to evidence based on a Southern African assessment. The global development of social transfer programmes has been driven and supported by an accumulation and sharing of evidence on the effectiveness of these programmes and recommended good practices from many sources (Arnold, Conway and Greenslade 2011). However, in terms of the robustness of the evidence, Latin America provides the most well researched and meticulous impact assessments, while analytical methodologies vary substantially across regions. These impact assessments frequently use randomised experimental and quasi-experimental designs that use propensity score matching and many other reliable methodologies (Arnold et al. 2011). Several credible African evaluations have taken place, for example, Ethiopia's Productive Safety Net Programme (PSNP) (Andersson, Mekonnen and Stage 2011) and Malawi's Improving Livelihood through Public Works Programme (Audsley, Halme and Balzer 2010). However, sub-Saharan Africa still has a significant gap in providing robust evidence on good practices, effectiveness and the impact of social transfers beyond South Africa (Arnold et al. 2011).

## 1.7 Outline of the thesis

The thesis is set out in eight chapters. Chapter 1 presents the background to the research problem, the statement of the research problem and the research hypothesis. Chapter 2 discusses the relevant literature on the topic. Chapter 3 sets out the methodology used in the study. Chapter 4 describes the samples and gives an overview of the Mozambican context. Chapter 5 answers the question of whether food assistance improves recipients' dietary diversity and quality in Mozambique. Chapter 6 further analyses whether food assistance influences the precautionary strategies that poor households adopted to mitigate food insecurity. Chapter 7 assesses beneficiary preferences for food or cash transfers. Chapter 8 argues whether the WFP's food assistance programme in Mozambique has the potential to drive systemic changes in the food system. It presents the conclusions and recommendations of the study, summarises the contribution of the study to global knowledge and makes recommendations for further research.

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# Chapter 2: Literature review

## 2.1 Food security, livelihoods, food systems and poverty

Food security is increasingly being understood in terms of livelihoods that are sufficient, robust and sustainable enough to supply adequate food to the household (Maxwell 2001). In this sense, a livelihood comprises the capabilities, assets and activities that are required to make a living (Serrat 2008). Depending on their particular prevailing context of socio-economic and political environment, regulatory framework, policies, history and agro-ecology, individuals combine these assets and capabilities into livelihood strategies that translate into sustainable livelihood outcomes (Scoones 1998). Food assistance is implemented in circumstances where livelihoods fail to provide food security. Food assistance empowers beneficiaries to access nutritious food, saving and protecting lives and livelihoods (WFP 2017). It includes cash transfers, in-kind food transfers and vouchers.

The WFP's new systemic food assistance approach seeks to leverage food assistance interventions for broad-based improvements in the food system that bring about general improvements beyond direct beneficiaries (WFP 2017). These wider benefits seek to improve overall sustainable food system performance in the long term, reducing poverty and hunger (WFP 2017). Among other attributes, efficient food systems should provide adequate nutrition for households (HLPE 2014). A food system comprises all the elements and activities that relate to the production, processing, distribution, preparation and consumption of food (FAO 2013).

Systemic food assistance is provided in situations where systemic problems leave individuals and households food insecure (WFP 2017). When the structure and functionality of food systems is disrupted, systemic food system problems manifest, leading to food shortfalls (WFP 2017). Systemic food assistance seeks to improve food system performance by addressing systemic problems that affect groups as a whole rather than individuals (WFP 2017). Systemic problems manifest in three forms: the "bad year" or "lean season" problem, the "last mile" problem and the "good year" problem (WFP 2017). The magnitude and nature of the systemic problem determines the volume and type of food assistance that is delivered

to counter food insecurity and hunger. Food assistance is largely synonymous with humanitarian assistance.

However, food assistance is not only a fundamental component of humanitarian assistance. Food assistance goes beyond the traditional view of "food aid" or transfers of food and cash parcels to hungry people. It encompasses interventions that prevent hunger and address the complex drivers and consequences of hunger (Omamo, Gentili and Sandström 2010). This implies a wide range of opportunities for humanitarian and development agencies, governments and non-governmental agents to leverage food assistance to address systemic problems by improving food system performance and contributing to the UN's 2030 Agenda (UN General Assembly 2014).

Recently, the WFP recognised that its food assistance programmes have unparalleled capacity to address hunger and food insecurity in ways that support national efforts to achieve the UN's SDG 2 (WFP 2017). The WFP plays a unique role at the intersection of commercial markets, from which the WFP sources food, food system services and the delivery of food assistance to beneficiaries. This unique position means that the WFP's initiatives could drive changes in food systems. This also means that the WFP's initiatives could overcome food system flaws, disruptions and breakages if engagements and investments are demand driven, innovation based and capacity enhancing (WFP 2017). Ensuring sustainable food systems through food assistance is important because well-functioning food systems improve access to food and reduce malnutrition among poor households (WFP 2017). Ensuring sustainable food systems is also in line with SDG Target 2.4, which seeks to ensure sustainable food systems by 2030 (UN General Assembly 2014).

A sustainable livelihood, which is inherently embedded in a food system, leads to a sustainable food security outcome when it can withstand and recover from stresses and shocks, while avoiding asset depletion and maintaining or enhancing its assets and capabilities (Serrat 2008). Sustainability introduces a prerequisite of certainty and assurance of future food security. A household is food insecure if individuals are worried about their future access to food or when individuals or households have limited or uncertain capability to acquire socially acceptable foods in socially acceptable ways (Serrat 2008). The fear of having insufficient food in the future could affect livelihood strategies today, which further compromises future food security (Hadley et al. 2011).

Poverty, being a lack of social capital and physical assets, compounded by negative physical, economic and social trends, is believed to be the root cause of food insecurity, which is exacerbated by unpredictable shocks such as floods, droughts or cyclones (ODI Forum for Food Security 2004). Rosen and Shapouri (2001) assert that food insecurity among lower-income groups is mainly due to poverty.

The study of Misselhorn (2005) in Southern Africa also showed poverty to be one of the major drivers of food insecurity. Poverty causes inadequate food access, even in circumstances of national or global abundance and availability. Poverty studies assert that the key to overcoming poverty lies in enabling access to or ownership of assets, which can be transformed into productive livelihood strategies (Moser 1998). This means that the range of resources, activities, capabilities and assets that individuals and households have access to determines the possible or viable choices of livelihoods that people can pursue. The range of available resources and assets includes the material and social assets that individuals can access and use. The range also determines the robustness of the chosen livelihood strategies (Serrat 2008). A wider range means that a household has several fall-back options in case some livelihoods are not viable at a particular point in time. Poor people have an inadequate asset base, which limits the available livelihood strategies (Barrientos 2012).

Poor people do not generally have access to conventional development instruments such as microfinance, agricultural investments and education (Barrientos 2012). They are at risk of being excluded from economic activities and formal employment (Barrientos 2012). Food security is about the capability and capacity to create a livelihood to meet food requirements. In situations of widespread poverty, income and assets are transferred to the poor to raise their capacities and capabilities to have access to adequate food. This builds a solid case for social assistance policies in the case of food insecurity during emergencies, and in livelihood protection and recovery interventions. Three approaches to social assistance are discussed in the next sections: vertically integrated programmes, cross-sectoral linkages and national systems (HLPE 2012). In developing countries, such as the Latin Americas, sub-Saharan Africa and South and East Asia, diverse designs abound in social assistance approaches. The wide differences across regions illustrate how social assistance approaches are context specific.

## 2.2 The case for social assistance, food assistance and food security

Formal social protection has three components: social assistance, social insurance and labour market regulations. Social assistance includes food assistance and it is usually needs-based and non-contributory. It may be in the form of cash, food, vouchers or subsidies and services, such as nutrition, maternal and child health programmes (Barrientos 2010). Interest in social assistance is supported by wide-ranging evidence that confirms the lifetime negative consequences of denying children access to basic nutrition, health and education.

Such negative consequences include lower earnings because of low education levels (Hoddinot and Quisumbing 2003) and malnutrition due to compromised quality and quantity of diets (Wagstaff and Watanabe 2000). Social insurance may involve contributions from employers and/or beneficiaries, for example health, life and asset insurance. Labour market regulations protect workers and their families from risks and shocks brought about by life-course contingencies such as old age, sickness, maternity, unemployment or accidents at the workplace, as well as a drop in income (Barrientos 2010).

High rates of poverty and malnutrition in Africa have resulted in the development of significant social assistance interventions (Oduro 2010). Traditionally, family-based support systems continue to be eroded by shocks such as the AIDS epidemic, volatile food prices, unpredictable weather patterns and political instability.

Throughout the world, there is growing evidence of the effectiveness of social assistance in low-income countries. Social assistance contributes to poverty reduction and improved health, nutrition and education, raising its prominence on the development agenda for many governments (Barrientos 2010). For many governments, social assistance is a key component of their development policy. It interacts with and complements other policies that are aimed at reducing poverty, improving food security, and managing risk and policies relating to health, education, financial services, and the provision of utilities, roads and infrastructure (Cook and Kaber 2009). Social assistance is not the only answer to reducing poverty and food insecurity. It is but one element of comprehensive approaches to development that is balanced with other social or poverty alleviation policies (Grosh et al. 2008).

### 2.2.1 Access to food as an impediment to food security

The capability to access food as a direct requirement for food security (Misselhorn 2005) is pivotal in the definition of food security. The Food and Agriculture Organisation's (FAO) definition of food security states that "Food security is a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (FAO 2003:6). Food security discourse has seen a paradigm shift since the 1974 World Food Conference, with food security no longer being considered only as a supply or production issue, but also as an access issue (Maxwell 1996).

The concluding statements from the 1974 World Food Conference emphasised the importance of access through reasonable food prices from increased food production, improved world food stocks and food aid (United Nations 1975).

This shift has been accredited to the work of Amartya Sen who brought the issue of food access, as the primary driver of food insecurity, to the forefront through his entitlement theory in 1981 (Maxwell 1996). Sen's entitlement theory asserted that one's "entitlement set" is the full range of goods and services that one can acquire by converting one's "endowments" (assets and resources, including labour power) through exchange entitlement "mappings", which is the process of exchanging the assets or resources with food or money equivalents. In other words, an individual's entitlement is related to the resources at their disposal (Sen 1981).

Food insecurity sets in when an individual's entitlement set does not provide sufficient food for adequate subsistence. In his essay titled "Poverty and famines: an essay on entitlement and deprivation", Sen (1981:8–15), argued that, contrary to conventional belief and understanding, food insecurity is not caused by food shortages alone. Droughts and floods that lead to harvest failure, as well as high food prices, poor governance and civil strife contribute to food insecurity. However, the most important elements are the social systems that are at play in society. These systems determine how the available food is distributed and how it is made available. Sen (1981) argued that food insecurity is not about food availability, but about those who are food insecure not being able to establish entitlement to

enough food. Sen (1981) argues that "if one person in eight starves regularly in the world, this is seen as the result of his inability to establish entitlement to enough food; the question of the physical availability of the food is not directly involved" (Sen 1981:8).

Social transfers increase an individual's endowments, which increases their entitlements. If food insecurity is caused by a decline in entitlements, the logical economic response would be boosting purchasing power and increasing entitlements through cash transfers or by increasing entitlements through directly making the food accessible by distributing it to individuals and households as food transfers (Maxwell 2001; Devereux 2010a).

### 2.2.2 Access to food and the right to food

Having adequate food and being free from hunger is not a privilege, but a basic human right (Mechlem 2004). Access to food, be it through physical or economic access, is fundamental to the realisation of this right, in addition to the availability of adequate crucial nutrients required for an adequate diet. In 1999, the United Nations Committee on Economic, Social and Cultural Rights (UNCESCR) clearly stipulated the fundamental access to food in realising the right to adequate food. This committee stated that the right to adequate food is realised when individuals or communities have physical or economic access to adequate food at all times or the means to procure it (UNCESCR 1999). Food insecurity sets in when there is failure to access food, even in circumstances of food abundance. Social protection systems can fill the food access gap, which arises due to chronic or transient poverty or due to various life cycle shocks, such as sickness, unemployment, old age or childbearing.

The right to adequate food and freedom from hunger is enshrined in the Universal Declaration of Human Rights that was adopted in 1948. The same right is affirmed in the International Covenant on Economic, Social and Cultural Rights, which was adopted in 1966. This stipulated the right to adequate food in Article 11.1 and the right to be free from hunger in Article 11.2 (Mechlem 2004). Social assistance is also a human right that is enshrined in articles 22 and 25 of the 1948 Universal Declaration of Human Rights (United Nations 1948), where everyone, as a member of society, has the right to social protection through national effort and international cooperation in accordance with the organisation and capabilities of each state.

One of these rights is each person's right to an adequate standard of living. This includes the right to adequate food and the right to required social assistance and insurance. Moreover, everyone has the right to social assistance in the event of unemployment, sickness, disability, widowhood, old age or other circumstances that result in livelihood deficiency beyond their control (United Nations 1948). The right to social assistance, through which the right to adequate food and freedom from hunger can be attained, reinforces and consolidates the linkages between social assistance and food security. Social assistance systems and policies do not operate in isolation, but function as components of a comprehensive system that addresses food insecurity, poverty mitigation and risk management.

Social assistance systems work best when they interact with and complement other policies and have strong linkages to other social and economic sectors such as health, education, agriculture, trade, financial services and the provision of utilities, roads and infrastructure (Grosh et al. 2008).

### 2.2.3 Access to food and the right to choice of food

The underlying question on the right to choice of food lies in the trade-off between providing choice and the consideration of other pertinent questions that arise in exercising this right to choice of food (Gentillini 2014). Such questions include whether the right to a choice of food can be exercised in situations where there is limited or no availability of food or food markets. In cases where nutritionally fortified food transfers are prescribed by the aid agencies and provided in anticipation of improved nutritional and food consumption outcomes, the question arises as to whether recipients of such food transfers have been denied their right to choice of which food to consume. (Magen et al. 2009). However, such in kind transfers are sometimes considered `paternalistic` (Gentillini 2014:5), because they limit the recipients` dietary options (Gentillini 2014).

On the other hand, cash transfer programmes give recipients the choice to purchase whatever they require, even beyond food (Farrington and Slater 2006). Additionally, it can also be asked whether the right to choice of food includes the freedom to freely dispose of a given

transfer (Gentillini 2014). The right to choice could be extended to whether the recipients could select to receive cash or food (Gentillini 2014).

While social transfers can be in the form of cash, vouchers or in-kind transfers, a distinctive feature of cash transfers is that they place greater choice in the hands of beneficiaries than either vouchers or in-kind transfers (Farrington and Slater 2006). Commodity-based vouchers entail the provision of coupons to purchase a fixed quantity of food, while value-based vouchers allow beneficiaries to purchase food for a fixed monetary value in selected stores (Stevenson and Gentilini 2008).

Some donors are reluctant to use cash transfers, as they imply handing over power from the agency to the beneficiary (Harvey 2007). These constraints are beginning to diminish and donors have started to revise their policies. They are becoming more receptive of cash-based responses (Harvey 2007). Even though the donor community is now more accepting of cash transfers than they were in the past, many donors still point out that pragmatic evidence of the impact of these transfers is still weak (Magen, Donovan and Kelly 2009). This means that, while cash transfers imply giving choice to the beneficiary, there is still a need for more research and analysis on the effects of cash transfers on markets, prices and intra-household dynamics on the success of such interventions towards sustainable livelihoods and food security (Magen et al. 2009).

### 2.2.4 Affordability of food

Inadequate purchasing power is a common cause of food insecurity. Irrespective of the country in which they live, the wealthy only go hungry when natural disasters or wars strike. This is because, as long as food is available, it is accessible to them (Rosen and Shapouri 2001). Food price increases affect the poor the most because the most impoverished people have limited or no capacity to adjust to sharp changes in food prices (Heady and Fan 2010). At household level, high food prices affect the poor and those who are food insecure the most (Jones et al. 2010), because poor people spend large portions of their household income on food (Bhanoji-Rao 1981).

### 2.2.5 Access to markets

One of the key determinants of access to food is the existence of a functioning food system (NEPAD 2009). The third pillar of the Comprehensive African Agriculture Development Programme (CAADP) recognises that efficient markets emerge where there is sustained demand (NEPAD 2009). The degree of involvement of poor people in agricultural and food markets varies considerably, depending on household assets and their location (IFAD 2011). Of the world's 1.4 billion extremely poor people, 70% live in rural areas (FAO 2009). Only between one- and two-fifths of rural poor people have access to agricultural and food markets and many households, especially in the very remote areas, may have little or no access to these markets at all (IFAD 2011). As access to food markets is determined by level of income and price, boosting incomes though social transfers should have a direct effect on market access for the poor.

Physical barriers to access markets include remote locations, inadequate infrastructure, such as roads, and high transport costs (IFAD 2003). However, research has shown that access to food markets is not as much a function of geographic distance between the household and the market, as a product of social systems or welfare networks that allow people to access transport to the markets (Coveney and O'Dwyer 2009). Therefore, provided that they include enough for transport expenses, social transfers can facilitate poor people's access to markets.

### 2.2.6 Access to financial services for the poor

Literature substantiates the fact that poor households face constraints in accessing financial services (Barrientos 2012). Such financial services include credit, savings and insurance products. Providing financial services for the poor poses challenges because of the inherent nature of their financial and credit profile. They have little or no collateral. Low savings, credit amounts or instalments make transactions costs per unit high (Zeller et al. 1997). Financial requirements for production and consumption are often not clearly defined because the production and consumption funds are usually inseparable in poor households (Zeller et al. 1997). Inevitably, the urgency of their consumption needs increases their likelihood to default on any loans given (Banerjee, 2005). Financial instruments such as savings, credit or

insurance allow poor households to manage and balance their investment and consumption requirements (Zeller et al. 1997).

Savings decrease disposable income and consequently consumption in the current period, but increase disposable income for the future. For poor households, savings in food, cash or other assets are crucial self-insurance against unexpected or anticipated incidences of food insecurity (Zeller et al. 1997). Conversely, credit increases current disposable income at the expense of future income. However, credit enables decisions to be made on investments in physical and human capital. Such investments may directly reduce current income shortfalls or improve future incomes, providing both current and future insurance to food security (Zeller et al. 1997).

Social transfers can alleviate constraints that the poor face in accessing financial services. Regular and reliable social transfers can encourage small-scale savings and investments that can serve as collateral, thereby improving the credit profile of the poor and facilitating access to credit (Barrientos 2012). There is evidence from a variety of social transfer programmes in several low- and middle-income countries that beneficiaries of social transfers can save a portion of their transfers and make some investments (Barrientos 2012).

This is evidenced by Ahmed et al. (2009b) and Rabbani, Prakash and Sulaiman (2006) in their research into Bangladesh's Challenging the Frontiers of Poverty Reduction (CFPR) programme, which is run by the Bangladesh Rural Advancement Committee (BRAC) (Ahmed et al. 2009b; Rabbani et al. 2006). The research demonstrated that programme participants improved their saving behaviour, and participation in the programme played an important role in expanding the asset bases of participating households (Ahmed et al. 2009b; Rabbani et al. 2006).

There is also evidence that social transfers improve access to credit (Barrientos 2012). Studies of a Brazilian social pension programme called *Previdencia Rural* showed that pensioners could access loans from financial institutions by producing the magnetic card that they used to collect their pension (Schwarzer 2000). A study of the same programme also showed significant incidence of investment in productive capital (Delgado and Cardoso 2000). By bridging the gap in access to financial services, social transfers allow poor

households access to investment and consumption financing, which improves sustainable livelihoods and food security.

## 2.3 Informal versus formal social assistance

The family is an important institution for informal social assistance (Oduro 2010). In most traditional societies, social assistance is offered as intra-household transfers that support resilience to shocks and threats, and alleviate the negative effects of hazards. However, in circumstances of widespread poverty, there is less to share and traditional transfers are affected, especially in times when shocks, such as drought, floods, conflict or widespread unemployment, affect all or many in society (Adato and Bassett 2008).

Informal social assistance is not always reliable and predictable, as family members may not be in a position to provide assistance at a crucial time (Oduro 2010). For example, research in post-war Mozambique found that conflict caused a deterioration in informal social assistance (Adato and Bassett 2008). Informal social assistance, based on traditional networks such as kinship or community ties, also becomes less effective with economic development, as it brings with it fragmentation of the community due to migration, population pressures and urbanisation (Coady 2004). For these reasons, predictable and reliable formal social assistance can complement informal social assistance. Such formal social assistance includes transfers to the poor provided by governments, non-governmental organisation (NGOs) and private institutions.

In both developed and developing countries, social assistance aims to ensure minimum levels of household consumption among the poor and those who are falling into poverty. In developing countries, social assistance is also expected to support the productive capacity of households through investment in human capital or physical assets. Such investment in human capital and physical assets can provide a means out of recurrent and intergenerational poverty (Barrientos 2010).

There are some major differences in the design, purpose, extent and size of social assistance programmes in developing countries when compared with developed countries. In developed

countries, the purpose of social assistance is mainly to provide income maintenance and protect living standards for everyone. In developed countries, public social assistance is a last resort. It acts as a safety net to protect only a small minority of poor households and individuals, where social insurance and labour market regulations have failed to protect them from poverty (Gough et al. 1997). However, social insurance in developing countries normally only covers a small portion of the population. Labour market regulations are not always easy to enforce and the prevalence of poverty and food insecurity is high. Consequently, social assistance is the first and often the only social protection instrument that is available against poverty and food insecurity.

Poor people do not have sufficient assets and capacities to meet livelihood needs, and this, combined with socio-economic exclusion, makes them even more vulnerable to livelihood shocks and threats, which can lead to chronic poverty. Even the small asset base may be disposed of in times of shocks to meet the day-to-day needs, leaving the poor even more vulnerable to food insecurity after the shock has passed. By providing income security through transfers, either in kind or in cash, the available asset base is protected, which breaks the vulnerability trap and stops the non-poor from falling into poverty. Income from transfers can build assets, reducing both the short-term and intergenerational transmission of poverty (Barrientos 2010).

## 2.4 Conditional or unconditional transfers and food assistance dependency

Cash and food transfer programmes can be implemented as conditional or unconditional programmes (Adato and Bassett 2008). Unconditional programmes imply that participants receive cash or food transfers without having to fulfil any obligations (Adato and Bassett 2008).

Conditional programmes require beneficiaries to comply with certain requirements, such as attending school, attending health care programmes or providing labour, in order to receive the cash or food transfers (Adato and Bassett 2008).

Conditional food transfers are usually provided in food-for-work programmes. Some researchers and governments are concerned that food-for-work programmes may discourage beneficiaries to invest in productive assets (Andersson, Mekonnen and Stage 2011). This is

because of the concern that the labour used in the food-for-work programme may leave no room for participation in other personal activities (Andersson et al. 2011). Another concern is that food-for-work programmes may reduce the incentive to save (Anderson et al. 2011). It is further argued that food aid could change the behaviour of beneficiaries by making them dependent on food transfers (Little 2008).

There is also a view among the international donor community that unconditional food aid brings about dependency (Farrington and Slater 2006). Similarly, some donors are concerned that food transfers may cause disincentives to work (Farrington and Slater 2006). In response to such arguments, some social assistance programmes in both emergency and developmental interventions in Africa have imposed work requirements on beneficiaries (Farrington and Slater 2006). However, studies on the Productive Safety Net Programme (PSNP) in Ethiopia found no evidence that involvement in the PSNPs led to disinvestment in productive activities (Andersson et al. 2011). In fact, in some cases, households increased their productive activities by participating in the PSNP. In other cases, there was no increase in productive activities, but this was due to other factors not related to dependency (Andersson et al. 2011). In spite of these concerns, 40 countries in Africa now have conditional food transfer programmes, as part of development-driven social assistance programmes (World Bank 2016).

On the other hand, conditional cash transfers offer cash transfers to poor families, subject to the condition that recipients fulfil specific conditions (Fiszbein et al. 2009). Such conditions may stipulate that individuals comply with actions such as school attendance or the regular use of preventive health care services such as post-natal or maternal check-ups or participation in vaccination programmes. Conditional cash transfers are usually targeted towards the poor through using a proxy for poverty, nutrition or poverty indicators or geographical targeting (Fiszbein et al. 2009).

Conditional cash transfers seek to directly address the various factors underlying poverty. For example, making attending health centres compulsory, can ensure better health and nutrition of the mothers and children. By enforcing school attendance through conditional cash transfers, children`s education can be improved. Educated children could earn higher future earnings, providing an escape route from poverty and inequality over the long term and

breaking the intergenerational transmission of poverty (Handa and Davis 2006). By incorporating access to a variety of basic services and improving the capabilities of poor people through education, conditional cash transfers can have dual objectives of short-term poverty alleviation and long term human capital development (Handa and Davis 2006).

Latin America provides the most well researched information on conditional cash transfers (Arnold et al. 2011). Prior to the 1980s, social assistance was provided in the Latin Americas in the form of subsidies applied to foods such as bread, sugar, milk or energy commodities such as kerosene or gas. Some small transfer programs were also in existence targeting vulnerable groups such as the disabled or children (Ferreira and Robalino 2010). Nevertheless, after the 1980s debt crisis, most Latin American governments introduced workfare programs, mainly as safety nets aimed to alleviate poverty through providing employment. In the 1990s, the prolonged debt crisis led to the introduction of social investment programmes such as public works on community projects (e.g. building schools or roads) in most Latin American (Ferreira and Robalino 2010).

Even after the implementation of social investment funds, social assistance remained biased towards formally employed civil servants and those in the formal private sector (Ferreira and Robalino 2010). With the emergence of democratic governments in Latin America in the early 1990s, governments turned their attention to addressing poverty and inequalities through the expansion of social assistance in the form non-contributory social insurance and conditional cash transfer programmes. To this day, these programs dominate social assistance programs in Latin America, with nearly every country having such a program (Barrientos and Hulme 2008). Similar large-scale programs are found in Bangladesh, Indonesia, Turkey, while pilot social insurance programs are found in Cambodia, Malawi, Morocco, Pakistan and South Africa, among others (Fiszbein et al. 2009).

The popularity and wide implementation of conditional cash transfer programmes in Latin America can be credited to the success of the Progressa conditional cash transfer programmes programme in Mexico, the Bolsa Escola conditional cash transfer programmes programme in Brazil and the Solidario programme in Chile in the 1990s. Bolsa Família conditional cash transfer programmes, roughly translated as “family pocket” are some of the largest conditional cash transfer programmes programs in the world (Ferreira and Robalino 2010).

Similar programmes have been implemented in 16 Latin American countries covering around 70 million people or 12 per cent of the population and continue to be increasingly popular in other regions (Ferreira and Robalino 2010). To this day, social insurance programs dominate social assistance programs in Latin America, with nearly every country having such a program (Barrientos and Hulme 2008). Similar large-scale programs are found in Bangladesh, Indonesia, Turkey, while pilot social insurance programs are found in Cambodia, Malawi, Morocco, Pakistan and South Africa, among others (Fiszbein et al. 2009).

Donors and governments have made significant investments in establishing the impact of conditional transfers, particularly on chronic nutrition (Bailey and Hedlund 2012). Compared to humanitarian contexts, research on conditional transfers in development contexts show positive and improved outcomes on nutrition, but results on impact are varied (Bailey and Hedlund 2012). Even though in some cases, some positive impacts of conditional transfers have been observed with regard to food consumption, nutrition and the uptake of health services, a gap in knowledge still remains concerning the precise role that conditionality has played in the achievement of these impacts (Bailey and Hedlund 2012). More so, there is acknowledgement that conditional transfers are more likely to achieve impact if they are implemented as part of an integrated set of programs that addresses household constraints to food, health and education (Bailey and Hedlund 2012).

## 2.5 Social assistance for food security, designs and methodologies of different approaches

Social assistance instruments that provide food assistance should not operate in isolation, but they should be implemented as components of a comprehensive social assistance system. Such a system combines social assistance with programmes in other social sectors, such as health and education, or economic sectors, such as agriculture, finance and trade policy, in order to meet the needs of food-insecure populations (HLPE 2012). The following sections discuss three such social assistance systems for food security, illustrating how several social assistance instruments and approaches can be designed to meet the food security requirements of individuals and communities at various stages of the life course.

Despite the different approaches to social assistance for food security and the apparent challenges with each approach, they are all built on the premise of social assistance being a powerful set of tools that can mitigate household food insecurity and, at the same time, contribute to poverty reduction and economic growth (Barrientos and Hulme 2008). Since social assistance strategies tend to be country specific, it is important to realise that an analysis of food security impacts outside the social, economic and political context of the country may be misleading if researchers ignore factors that are not readily analysed due to a lack of data or understanding of the importance of sectoral linkages (Gough and Wood 2004).

It is further emphasised that, when analysing social assistance systems for food security impacts, it is important to underline that impacts and outcomes are likely to be context specific and not necessarily replicable (Gough and Wood 2004). Such context specific indicators include the capacity of local markets, programme design and objectives as well as the `profile and initial condition` of beneficiaries (Gentillini 2014:6). Evaluations of social assistance interventions are now pointing towards debates around context-specific and rigorously tested results (Gentillini 2014). Such context-specific evaluations are becoming more relevant, in comparison to the extrapolations of evidence from individual programs which were implemented in diverse contexts and or designed for different impacts (Gentillini 2014).

### 2.5.1 Vertically integrated social assistance systems for food security

Different groups in a population will have different social assistance and food security needs at different times (Robalino, Rawlings and Walker 2012). Vertically integrated systems combine several social assistance instruments to meet the needs of diverse food-insecure groups at varying times (HLPE 2012). Robalino et al. (2012) argue that social assistance programmes could perform better if advantage was taken of common elements among them. In an integrated system, poor and vulnerable people are less likely to be excluded. This is because they will most likely benefit from at least one of the systems. When the poor and vulnerable are missed, they have no coverage for a given risk or fail to benefit from assistance. Programmes in an integrated system can complement each other and exploit synergies between the various instruments (Robalino et al. 2012).

Examples of vertically integrated social assistance systems for food security include Bangladesh's CFPR programme (Matin, Sulaiman and Rabbani 2008) and Rwanda's Vision 2020 Umurenge programme (Government of Rwanda 2007). In both these programmes, households with diverse food security needs receive different social assistance support. The Bangladesh CFPR programme integrates social assistance with productive and livelihood assets support (Matin et al. 2008), as illustrated in Figure 1. With a two-way approach, households can receive livelihood protection through social assistance combined with livelihood promotion through productive assets support to achieve food security.

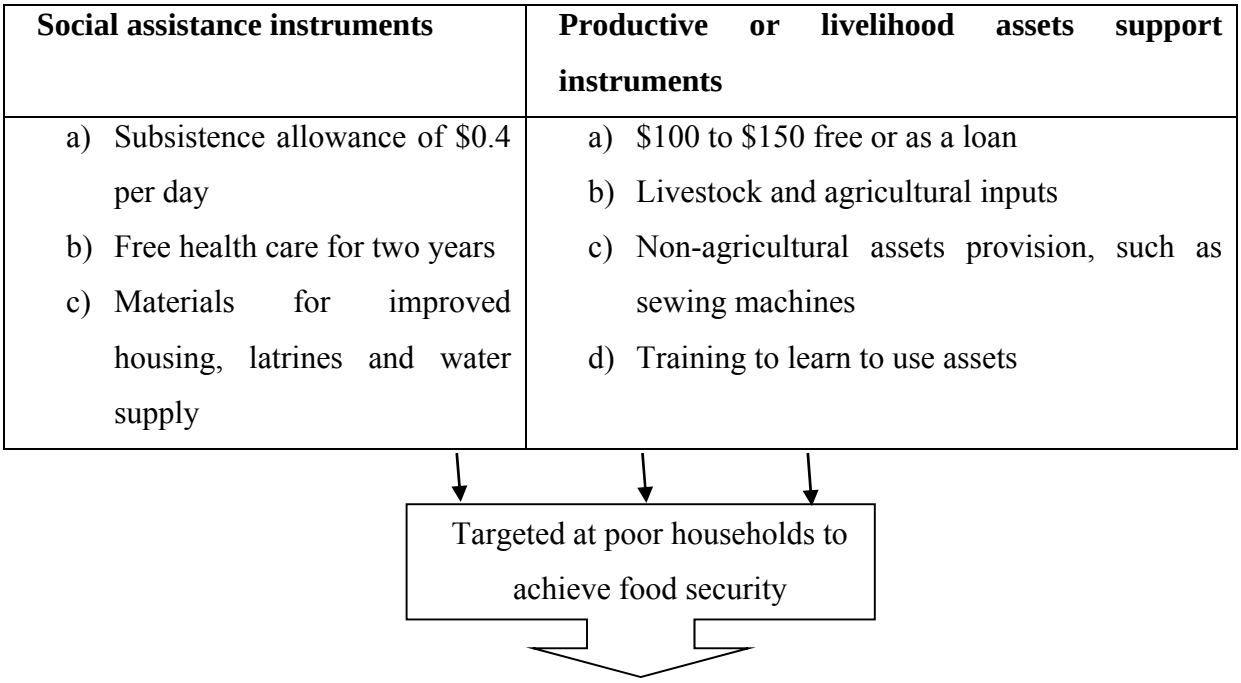


**Figure 1: Bangladesh's CFPR integrated approach**

Source: Matin et al. (2008).

Rwanda's Vision 2020 Umurenge programme (Government of Rwanda 2007) integrates three instruments: direct social assistance support through cash transfers to the poor without a prerequisite for labour, public works that provide cash transfers with a prerequisite for labour, and credit schemes that provide loans to poor households. These integrated programmes are illustrated in Figure 2.

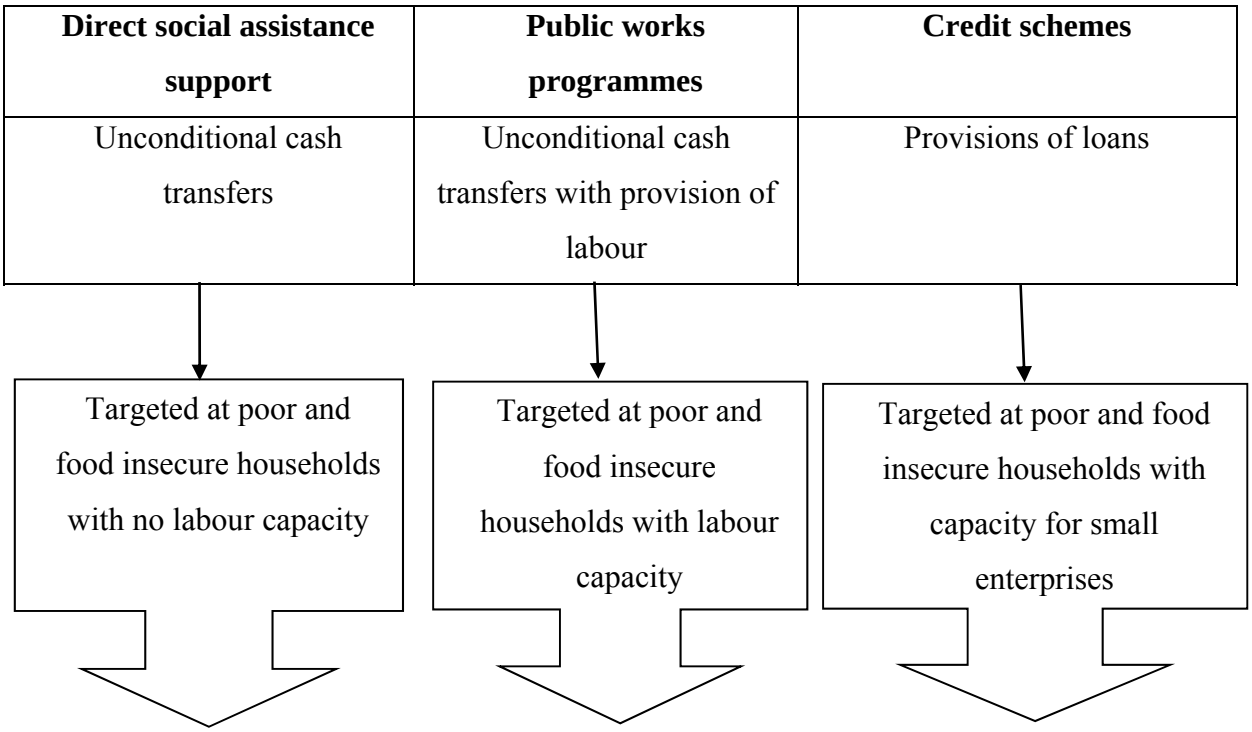


**Figure 2: Rwanda's Vision 2020 Umurenge integrated approach to achieve food security**

Source: Government of Rwanda (2007).

Direct social assistance payments target those who are unable to work for themselves. Public works target those who can physically work, thereby providing them with employment, while credit schemes targets those who can utilise credit schemes to generate their own employment. In this way, individuals with diverse levels of vulnerability receive appropriate social assistance support for food security (Government of Rwanda 2007). The drawback of such integrated systems is that all the components of the system should have sufficient capacity to meet the needs of the people (Robalino et al. 2012). The presence of deficits in one of the systems has the potential to become a weak link, which has the potential to render the whole system ineffective.

### 2.5.2 Linked cross-sectoral social assistance systems for food security

Whereas vertically integrated systems relate to various population groups who face different social assistance requirements, linked cross-sectoral social assistance systems for food security link social assistance to other sectoral programmes, such as health and education or other economic sectors, such as agriculture or trade. The rationale of cross-sectoral linkages is that achieving food security not only requires household or individuals' access to food, but also linkages to the health services, sanitation, clean water, education and skills training sectors (HLPE 2012). Achieving long-term food security also requires linkages to other sectors, such as agriculture, employment creation and infrastructure investment (HLPE 2012).

The Government of Botswana's multi-sectoral approach is an example of a linked cross-sectoral social assistance system for food security (HLPE 2012). Several ministries implement numerous social assistance programmes that provide social assistance to a multitude of poor and food-insecure groups (Freeland and Cherrier 2012). Table 1 illustrates the ministries, target groups and social assistance instruments that are used to address food security and social assistance needs. Linking social assistance to sectoral programmes such as health and education strengthens the impact of food security (HLPE 2012).

Social assistance programmes that are implemented without linkages to sectoral programmes run the risk of being unsustainable due to a lack of government ownership, especially if these programmes are externally financed or run by NGOs. Government accountability and programme sustainability in such circumstances are difficult to enforce, which is why government ownership is crucial (HLPE 2012). Without government ownership and in the absence of links to sectoral programmes, there is no incentive for governments to invest in sectors where transfers in return for labour in public works compensate for a lack of employment. Without government investment in services such as health, education and employment, the impact of social assistance for food security is reduced (UNICEF 2012).

**Table 1: Botswana's multi-sectoral approach to delivering social assistance**

| Ministry of local government | Department of Social Services | Ministry of Education | Ministry of Health |
|---|---|---|---|
| a) Public works programmes for the unemployed<br>b) Grants to remote dwellers | a) Cash and food transfers to the destitute<br>b) Old age pensions | School feeding programme | Vulnerable group feeding programme |

Source: Freeland and Cherrier (2012).

### 2.5.3 National social assistance systems for food security

The distinction of national social assistance systems from vertically integrated and linked cross-sectoral systems is that they are fiscally and politically sustainable because national systems are guaranteed by law (HLPE 2012). National social assistance systems for food security can be divided into the following three types (HLPE 2012):

- Integrated schemes that are permanent entitlements to eligible citizens and guaranteed by law
- Regular transfers of food or cash by government or NGOs in programmes that are not institutionalised and usually limited in time or scale
- Once-off transfers of food or cash, usually in emergencies or to boost livelihoods, for example giving agricultural inputs after a natural disaster

Examples of national systems of social assistance for food security can be found in Brazil, India and sub-Saharan Africa. In Brazil, food security is considered a strategic objective in public policy and the right to food is institutionalised as a state obligation (Rocha 2009). In 2006, Brazil passed the National Law on Food and Nutrition Security. This was followed by the creation of a National System on Food and Nutrition Security (Rocha 2009). The National System on Food and Nutrition Security is responsible for designing and implementing policies to fulfil requirements of the National Law on Food and Nutrition Security. Table 2 shows examples of national programmes in Brazil and the social assistance instruments that are used. Access to food is fundamental to the Brazilian national social assistance system.

National policies that are geared towards maintaining the production and distribution of food support the Brazilian national social assistance system to achieve sustainable food security (Rocha 2009).

**Table 2: National social assistance programmes for food security in Brazil**

| Programme | Social assistance instruments |
|---|---|
| Zero Hunger Programme | • Income transfers, school meals, raising minimum wages<br>• Supporting family farms |
| National School Meal Programme | School feeding programme with supplies sourced from family farms |
| Bolsa Familia | Conditional cash transfers |

Source: HLPE (2012).

The Indian social assistance system for food security also responds to social assistance as a right (Chakraborty 2010). India passed the National Food Security Bill in July 2011. It promises a legal right to cheap and affordable food to the poorest in the country (Chakraborty 2010). India's social assistance system is delivered through three strategies: first as cash transfers so that the poor can have access to food; second as food subsidies so that the food can be affordable to the poor; and third as programmes that protect households against shocks such as floods or hurricanes (HLPE 2012). Examples of India's programmes are illustrated in Table 3. The Indian system addresses many areas of food insecurity, but governance has been shown to be the critical weakness in the system (HLPE 2012).

National systems of social assistance for food security in sub-Saharan Africa vary in terms of their sources of funding and period of assistance (Nino-Zarazua et al. 2010). Forty countries in Africa now have unconditional cash transfer programmes (World Bank 2016). In middle-income countries such as South Africa and Namibia, contributory social assistance schemes exist alongside legislated and tax-funded social assistance schemes, such as social pensions and child benefits. In lower-income countries such as Malawi, contributory social assistance schemes occur less frequently because of the low levels of formal employment and increased dependence on international aid (HLPE 2012). Social assistance for food security in lower-income settings is usually implemented through public works and programmes that support

smallholder farmers with agricultural inputs, or support the poor with cash or food transfers. These programmes usually have limited budgets and run for short periods. NGOs or donor budgetary support usually funds these programmes (Nino-Zarazua et al. 2010). This is in contrast to the institutionalised systems, which become permanent entitlements for eligible individuals. Table 4 gives examples of programmes that are found in sub-Saharan Africa.

**Table 3: National social assistance programmes for food security in India**

| **Programme** | **Social assistance instruments** |
|---|---|
| Indira Ghandi Old Age Pension Scheme<br>Disabled Pension Scheme<br>Widows Pension Scheme<br>Free insurance cover for the poor against disability and accidents<br>Subsidised insurance for workers in unorganised sectors | Income transfers |
| Public Distribution System<br>Midday Meal Programme for School Children | Food subsidy programme |
| Public works | Conditional cash transfers |

Source: HLPE (2012).

Even though institutionalised systems may be preferable in terms of sustainability, once-off or short-term programmes, which could be financed externally, may still be inevitable in sub-Saharan Africa. This especially occurs during emergencies or short-term interventions. In such contexts, once-off or short-term programmes are consumption smoothing and a necessary boost to livelihoods and food security in stressful times (Slater and McCord 2009).

**Table 4: Models of social assistance programmes for food security in sub-Saharan Africa**

| Typology | | Country | Programme | Characteristics | Involved agencies and cost |
|---|---|---|---|---|---|
| Pure income transfers | Unconditional and regular | South Africa | Non-contributory old age pension | Means-tested categorical scheme. Started in 1928 and extended gradually to black population over the 1990s. Take-up is nearly universal among black people and covered two million beneficiaries in 2002. | Government of South Africa and provincial authorities. Scheme costs nearly 1.4% of the gross domestic product (GDP). |
| | | | Child support grant | Cash transfers were introduced in 1998 to poor children aged 13 and younger. These transfers also aimed to foster carers of children with mental disabilities. Programme covered 2.5 million by 2003. | Government of South Africa. Scheme costs nearly 0.7% of GDP. |
| | | Lesotho | Non-contributory pension scheme | Programme started in 2004 as a monthly transfer to older citizens from the age of 70. The programme covers around 70 000 beneficiaries of which 60% are | Government of Lesotho. Scheme costs nearly 1.4% of GDP. |

| Typology | | Country | Programme | Characteristics | Involved agencies and cost |
|---|---|---|---|---|---|
| | | | | women. | |
| | | Namibia | Non-contributory old-age pension | Categorical scheme. Programme extended to black population in the 1990s. About 96% of eligible individuals receive the pension although coverage is lower in the remote northern provinces and the likelihood of receiving the pension decreases when social worker posts are vacant. | Government of Namibia. Scheme costs nearly 2% of GDP. |

| Typology | | Country | Programme | Characteristics | Involved agencies and cost |
|---|---|---|---|---|---|
| Income transfers and service utilisation | Conditional on public works, but regular | South Africa | Zibambele | Provides permanent employment through labour-intensive road maintenance. Workers are employed on a part-time basis (eight days per month).<br><br>The contract is given to a household rather than an individual so that if the primary worker is unable to work, employment shifts to another household member. Programme covers 14 000 workers. | Provincial Department of Transport in KwaZulu-Natal. Budget in 2002/03 was R56 million. |
| | | | Gundo Lashu | Programme focused on employment creation and training for labour-intensive road rehabilitation. Period of employment ranges from less than one month to four months and | Roads Agency Limpopo, with financial support from the Department for International Development (DFID) and the International Labour |

| Typology | | Country | Programme | Characteristics | Involved agencies and cost |
|---|---|---|---|---|---|
| | | | | covers about 1 700 labourers on the basis of the Special Public Works Programme. | Organisation (ILO). Budget in 2003/04: R50 million. |

Sources: Barrientos and Hulme (2008); Nino-Zarazua et al. (2010); Devereux (2010a)

Many countries are developing national social assistance systems that adopt a cash transfer modality (World Bank 2016). The WFP's portfolio share that was allotted to cash transfers increased from 0.5% in 2009 to 19.16% in 2016 (WFP 2017). The ratio of cash-based to in-kind transfers in 2016 was 19.16 to 24.86 respectively (WFP 2017).

The World Bank (2016) reports that cash transfers can facilitate links between humanitarian and development programmes, but in-kind transfers will still be important strategic elements of humanitarian assistance for a long time. The bank recommends the development of a "global research strategy to fill evidence gaps on the relative performance of transfer modalities, particularly beyond food security objectives …" (World Bank 2016:ix).

In light of this, this study investigates the influence of the WFP's cash and food transfer social assistance programme on the diversity and quality of diets in Mozambique. It also investigates the implications of these social assistance programmes on the design of the WFP's systemic food assistance intentions. The findings contribute to understanding how the WFP's initiatives affect household dietary diversity and quality. This understanding is essential to inform the design of future programmes, not only as part of the WFP's Strategic Plan for 2017 to 2021, but these findings also contribute more broadly to understanding the systemic food system influences that cash and food transfers can have in development contexts.

### 2.5.4 WFP`s transition from food aid to food assistance and the link to building resilience

The WFP Mozambique country programme for the period 2012 to 2015, from which data for this study was obtained, pursued WFP`s transition from being a food aid to a food assistance organisation. The priorities of WFP Mozambique country strategy for the period 2012 to 2015, reflected this changing nature of food aid. The country strategy included traditional food distribution activities as well as non-traditional activities such as social development, market access and disaster risk management (WFP 2011). This transition marked a historic shift of food aid, from simply being the traditional distribution of food to food insecure beneficiaries, to food assistance, which encompassed a set of assistance tools,

aimed at responding to critical food security situations (WFP 2011). However, it is noted that, in all WFP programmes, the selection of transfer modalities, whether cash or food, must to follow WFP guidelines and principles of needs assessments and response analysis to identify beneficiary needs as well as the appropriate response plan (WFP 2016).

Where food is available, WFP is recognised as an important partner by governments and aid agencies in scaling up cash based transfers (WFP 2018). Over the past 10 years, the use of cash based transfers has consistently increased. WFP will increase the percentage of cash based transfers in its interventions from 37% in 2018 to 40% in 2019, with three billion worth of transfers in 68 countries (WFP 2018). WFP recognises that cash-based transfers can provide prospects of financial inclusion in the financial and market systems, apart from addressing food security and nutrition issues (WFP 2018).

As set out in the Article II of WFP's General Regulations, one of the purposes of WFP is to use food assistance to support economic and social development (WFP 2014). This is in line with the 2030 Agenda (UN 2015), which positions humanitarian efforts within a larger framework of human development and progress, accompanied by a strong obligation to leaving no one behind (UN 2015). WFP`s Corporate Strategic Plan of 2017 to 2021, presents a framework for WFP to make important contributions in humanitarian efforts in different contexts (WFP 2016). WFP`s Strategic Plan of 2017 to 2021 is founded on the back drop of evaluations undertaken by WFP in 2014 and 2015 (WFP 2016). Major evaluation findings indicated that WFP`s deliberate shift from food aid to food assistance was particularly important for sustainable solutions to end hunger and chronic malnutrition (WFP 2016). These findings were important in the transformation of WFP towards meeting targets of Agenda 2030 (WFP 2016).

By applying a development lens in its humanitarian response plans through partnerships with multi-stakeholders and implementing multi-year risk informed programmes, WFP works to strengthen the resilience of affected populations (WFP 2016). Using its mandate, WFP integrates its development tools with its humanitarian responses, enabling early recovery of communities affected by crises. These tools allow communities to build resilience. Even though resilience-building requires more financial investment than traditional general food distribution humanitarian responses, resilience building returns

reduce humanitarian costs in the long term (WFP 2018). Donors can expect to make a saving of up to three United States dollars in reduced humanitarian costs for very one United States dollar invested in resilience building interventions through the long-term impacts of resilience building interventions (WFP 2018).

The ability to analyse and measure what makes food systems and communities resilient to shocks and destabilising stressors can help inform food security investments. The same ability can inform the type of measures that are needed to build resilience. This can help avoid losses and damages due to shocks - both human and material - as well as lowering the costs of food aid in emergencies (Zamudio, Bizikova and Keller 2014).

The more the food system is able to maintain its functions and components after a disturbance, the greater the system`s resilience. When food systems are weakened by destabilization forces or disturbances, shocks can lead to emergencies that call for interventions against food insecurity. The resilience and overall performance of the food systems hinges on how effectively food security interventions by aid agencies succeed or fail to mitigate the resultant systemic food system problems (WFP 2017). WFP`s focus and interest on stability and resilience is based on the need to control risk and prepare households and communities against emergencies (Boukary, Diaw and Wunscher 2016, WFP 2016).

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# Chapter 3: Methodology

## 3.1 Introduction

This section discusses the study's research approach, methodology, assumptions, limitations encountered in the methodology and ethical considerations. The study used secondary data collected as part of other projects that the WFP in Mozambique and the Government of Mozambique had implemented. The sections on study population selection, sampling and data collection describe the process followed in collecting the data for these projects.

## 3.2 Research approach

Qualitative and quantitative approaches were used. The survey research drew on the WFP Mozambique Outcome Monitoring Surveys of 2013 and the Government of Mozambique's Food and Nutrition Secretariat 2011 survey data. The survey-based approach was considered appropriate for this study for the following three reasons:

- The survey research approach is known to be suitable to collect demographic data that describes the composition of the population (McIntyre, 1999).
- The research covered a wide range of variables and allowed a wide range of variables to be measured in a relatively short time (Pinsonneault and Kraemer 1993).
- The survey research approach could be developed and administered at a relatively lower level of investment compared to other research approaches (Bell 1996).

Table 5 summarises the key questions, data sources, tools used for data collection, data collected and the analytical method approach for each sub-problem.

**Table 5: Summary of methodological approach**

| Sub-problem | Data source | Tools for data collection | Analytical method approach | Specific approach | Variables |
|---|---|---|---|---|---|
| Sub-problem 1: Does food assistance improve recipients' dietary diversity and food quality in Mozambique? | WFP Outcome Monitoring Survey database for 2013 Government of Mozambique's Food Security and Nutrition Secretariat 2011 survey database and report | Survey using questionnaires and focus group discussions | Quantitative approach Qualitative approach | Descriptive statistics Analysis of variance Tukey honest significant difference (HSD) test Kaiser-Meyer-Olkin adequacy (KMO test) Principal Component Analysis (PCA) | Food Consumption Score (FCS) Food Frequency Score (FFS) |
| Sub-problem 2: Do cash or food transfers influence the precautionary strategies poor households adopt to mitigate food insecurity in Mozambique? | WFP Outcome Monitoring Survey database for 2013 Government of Mozambique's Food Security and Nutrition Secretariat 2011 survey database and report | Survey using questionnaires and focus group discussions | Quantitative approach Qualitative approach | Descriptive statistics Analysis of variance Tukey HSD test KMO test PCA | Coping Strategy Index (CSI) |
| Sub-problem 3: What transfer modality do recipient households prefer? | WFP Outcome Monitoring Survey database for 2013 | Survey using questionnaires and focus group discussions | Quantitative approach Qualitative approach | Descriptive statistics | Preferred transfer modality Reasons for preferred modality Use of cash and food transfers Satisfaction with beneficiary selection process |

## 3.3 Source of data for the study population

The first data set (beneficiaries of cash and food transfers) for this study was obtained from the WFP Mozambique Outcome Monitoring Survey that was carried out in January 2013. The survey covered operational areas where the WFP carried out interventions in the form of cash and food transfers in return for recipients who provided labour on public works and community projects between March 2012 and December 2012. The WFP in Mozambique periodically undertakes biannual outcome monitoring surveys in January and in June, which cover areas in which the WFP has intervention programmes. A team of evaluators periodically go out into the field to collect monitoring and evaluation data for these surveys.

Data for non-beneficiaries was obtained from household surveys conducted by the Mozambique Government's Food Security and Nutrition Secretariat in August 2011. The government conducts these household surveys just before the start of the lean season. The objective of the household surveys is to assess the severity and degree of food insecurity across the country and analyse the mitigation or coping strategies with regards to food insecurity at the individual or institutional level (Technical Secretariat for Food Security and Nutrition 2011). Data for non-beneficiaries was collected before the WFP lean season cash or food transfers started in October 2011. Only households with similar food consumption profiles and socio-economic criteria similar to a potential WFP beneficiary were selected to form the control group. Only data for participants from the same districts where both the Food Security and Nutrition Secretariat data and the WFP initiatives would be rolled out in the lean season (September to March) were selected to minimise inter-district variations. The data for the current study was drawn from the same districts in which the WFP had operated before and could implement transfers in the next lean season, but where transfer programmes had not yet been implemented. Only data for households with food consumption and socio-economic profiles that would qualify them as WFP beneficiaries were included in the sample for this study.

## 3.4 Selection of study provinces

The Government of Mozambique, in cooperation with the WFP, used geographic targeting based on vulnerability to natural hazards and food insecurity to select the provinces that warranted intervention (Figure 3). This resulted in the identification of six provinces in areas

prone to natural disasters that required food and cash assistance to mitigate food insecurity (WFP 2011).

Provinces that lie in regions most susceptible to floods, droughts, cyclones and earthquakes were selected. Provinces in the central region, such as Tete, Manica and Sofala, are prone to

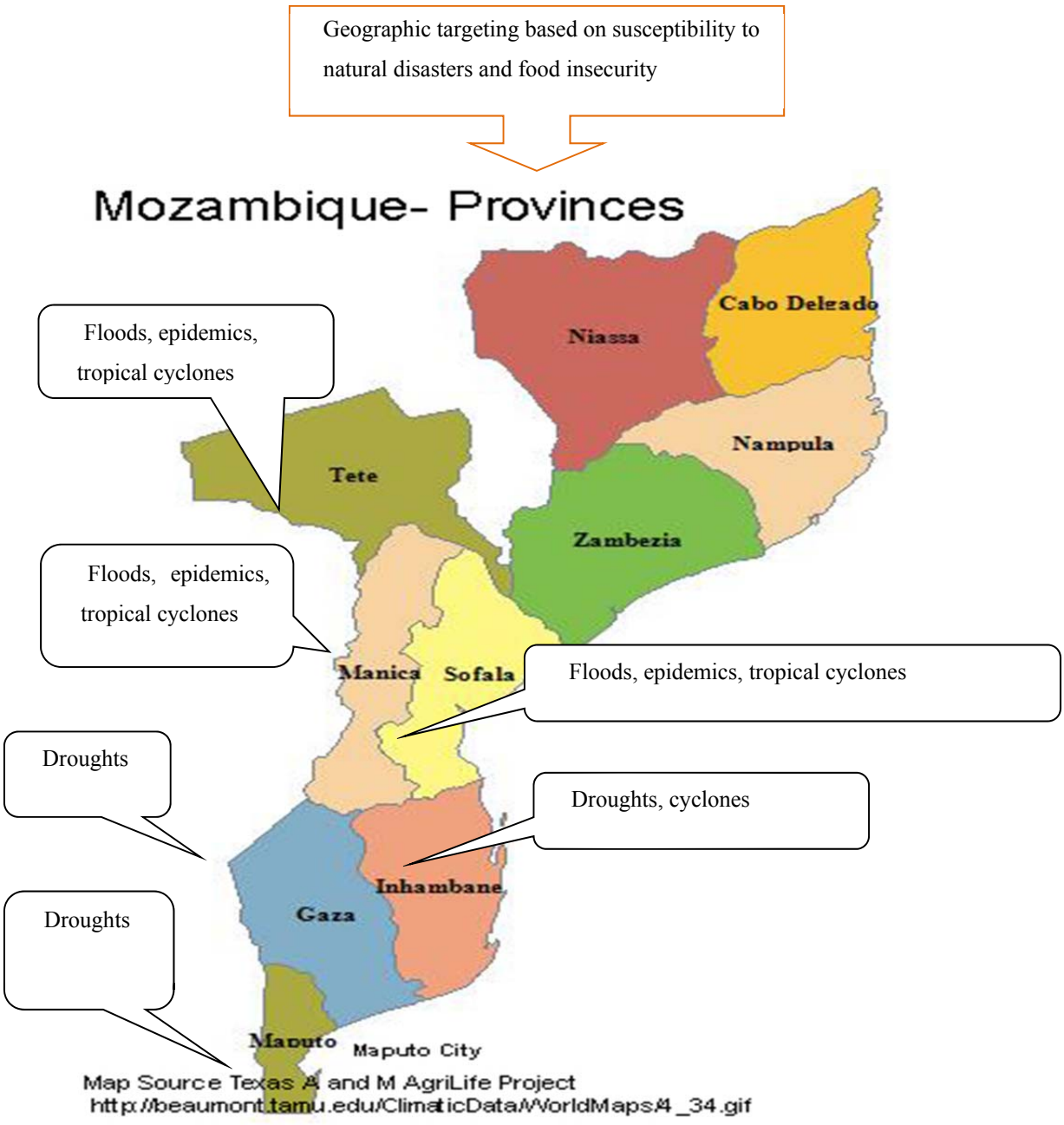


**Figure 3: The six provinces that were selected for cash and food social transfers based on vulnerability to natural disasters**

Source: WFP/TSFN/GAV (2010)

floods, epidemics and tropical cyclones (Van Logchem and Brito 2009). The southern provinces of Maputo, Gaza and Inhambane are prone to droughts and cyclones (Van Logchem and Brito 2009).

## 3.5 The selection of study districts

From the six selected provinces, 23 districts were selected for cash and food transfers. These selected districts are labelled in the legend of Figure 4 as priority districts. District selection was done through a wide range of assessments and analysis in order to identify hungry and food-insecure populations and to establish the underlying causes (WFP 2011). These assessments, which were carried out in the targeted provinces, encompassed an analysis of the abilities and inabilities of the resident populations to withstand the effects of hostile environments. Such hostile environments are caused by natural disasters and by underlying socio-economic processes that reduce the capacity of people to endure (WFP 2011).

These assessments culminated in vulnerability mappings (see Figure 4). Vulnerability is a measure of the exposure of the said populations to natural hazards and food insecurity, combined with the inability to cope (De Leon 2006). Vulnerability to natural hazards was used as an indicator to select districts for intervention. This was because the vulnerability that was portrayed in the targeted populations indicated the likelihood of a decline in food access or a reduction in consumption levels below minimum survival needs (De Leon 2006). These vulnerability assessments also produced information that was used to target specific localities in the districts, determine which people in these localities were vulnerable, and estimate how many beneficiaries reside in each locality and for how long food assistance was required.

## 3.6 Selection of study population

The study population consisted of beneficiaries and non-beneficiaries of the social transfers in the selected 23 districts. The study split the WFP data set into three groups: beneficiaries of cash transfers, beneficiaries of food transfers and non-beneficiaries. Since cash and food beneficiaries had already been selected because they were considered the poorest in the community, it was not appropriate to use the non-beneficiaries in the study population as a control group or baseline. This was because non-beneficiaries were already considered better

off in the communities when compared with beneficiaries because they were not selected as recipients of social transfers.

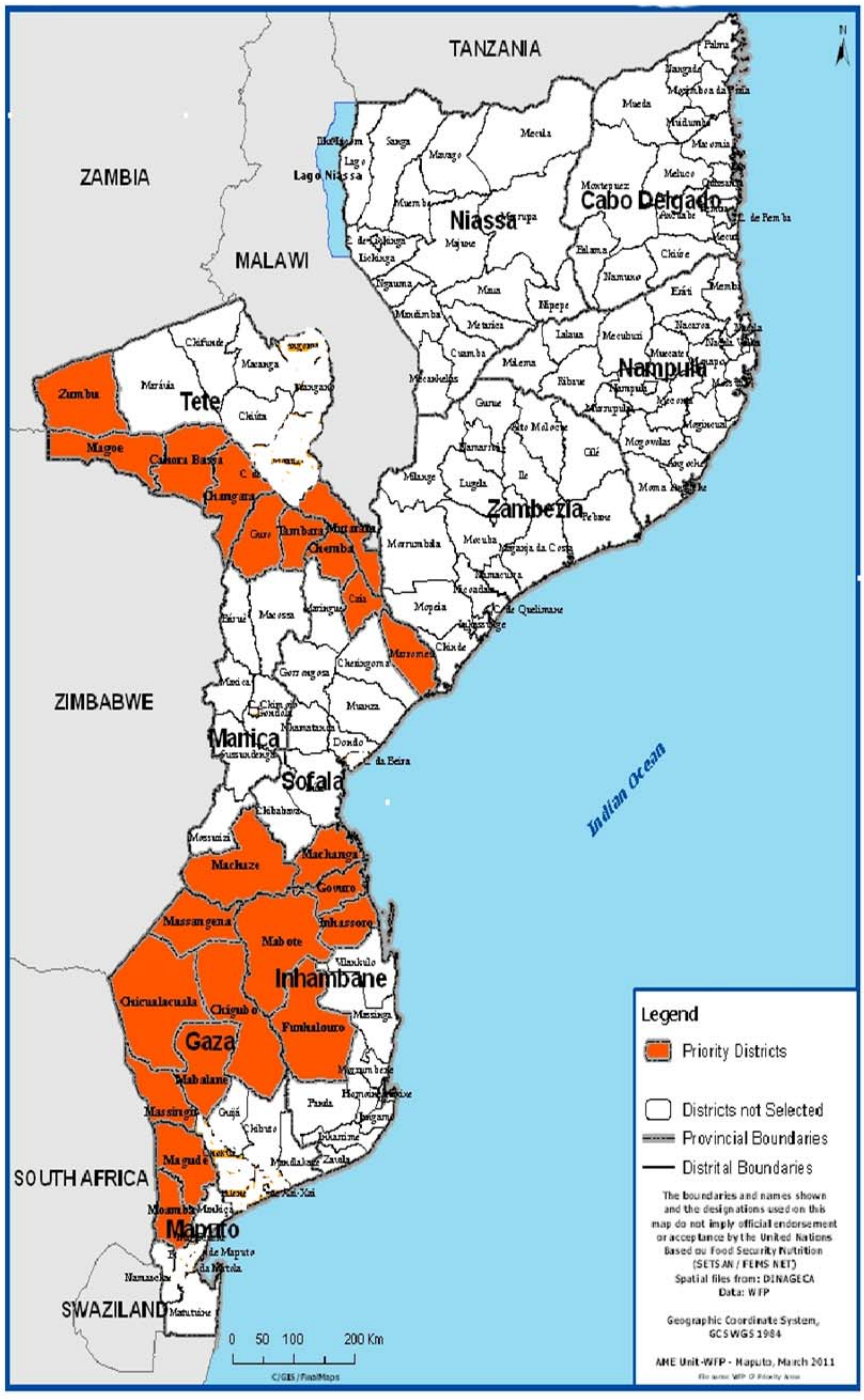


**Figure 4: The districts that were selected to receive cash and food transfers**

Source: WFP/TSFSN/GAV (2010).

This meant that beneficiaries and non-beneficiaries already had a different baseline in terms of some of the researched variables. Any difference between the beneficiaries and non-

beneficiaries in the study would therefore not be justifiably attributed to the social transfers. Comparing the two groups after the social transfers were made would produce incorrect results.

To counter this absence of a credible comparable baseline during the period of the survey, the August 2011 Mozambique National Food Security and Nutrition Secretariat household baseline data was used as reference comparison data that will be referred to as the National Food Security and Nutrition data. This data set was the most recent National Food Security and Nutrition Secretariat survey data at the time of the study (Technical Secretariat for Food Security and Nutrition 2011). This reference comparison group was considered appropriate since the tools and techniques that were used in the National Food Security and Nutrition Evaluation surveys (the second data set) were the same as those that were used by the WFP Mozambique Outcome Monitoring Survey that was carried out in January 2013 (the first data set) (Technical Secretariat for Food Security and Nutrition 2011).

## 3.7 Selection of beneficiaries for cash or food transfers

Community-based targeting was used to select the cash and food transfer beneficiaries. The process relied on local information, standards and circumstances and considered local interpretations of food insecurity and an inadequate standard of wellbeing. Community leaders and members used socio-economic criteria to identify the transfer recipients. These criteria included poverty-related characteristics such as household demographics (size of household and ages of the household members), human capital (enrolment of children in school), housing (type of roof or floor), ownership of durable goods, ownership of productive assets (land or animals), levels of income and food security, and nutrition indicators (number and frequency of meals). Selected beneficiaries were expected to engage in public works programmes. This, together with a low wage of $20 or the food equivalent of 45 kg of cereal, 9 kg of cowpeas and 750 ml of oil per month, encouraged self-selection as only those in real need would accept these conditions.

Self-targeting minimised the participation of those who were not really poor, as they would probably command better wages and returns elsewhere. Community-based targeting was an appropriate targeting method as it relied on local information and standards, and individual circumstances that were more accurate. Community-based targeting allowed for the

application of local definitions of food insecurity and an inadequate standard of wellbeing during the beneficiary selection process. Cash and food transfer beneficiaries were compiled from a community household list. The community household list was updated and confirmed in the presence of the food distribution committee. This committee comprised the head of the community and community members. The community heads could be traditional leaders or political appointees.

The communities selected community members to oversee the process of beneficiary selection and food assistance distribution. Using the updated community household list, beneficiaries were marked and the total number of beneficiaries was determined. Beneficiaries who received cash were distinguished from beneficiaries who received food.

Government enumerators, who visited households to ensure that participants met the specified socio-economic criteria for qualification into the programme vetted the list prepared by the communities. Potential beneficiaries who did not meet the specified criteria were sent back to the community for re-vetting.

## 3.8 Mitigating Type I and Type II errors

Considering that the intervention being studied was directed towards the poor and recognising that determining whether an individual was poor or not could be subjective, selecting beneficiaries could run the risk of Type I and Type II errors. Type I errors occur where qualifying poor households were excluded when they should have been included. Type II errors occur where the non-qualifying and non-poor households were included when they should have been excluded. The use of qualitative and quantitative methodologies, such as community-based targeting, self-selection and government enumerators' use of proxies to vet the community lists for beneficiary selection, were used to reduce Type I and Type II errors. Using multiple mechanisms increased accuracy. There is a positive correlation between targeting accuracy and the number of selection methods that are used in a programme (Coady 2004). Multiple methodologies also allow for the triangulation of results from the different mechanisms. If variances between two methodologies are found to be too big, the process can always be repeated until contradictions between the different mechanisms are minimised.

## 3.9 Sample selection and sampling technique of beneficiaries and non-beneficiaries

The WFP's Mozambique Outcome Monitoring Survey was undertaken in localities where the WFP had distributed cash and food transfers during the past 30 days to generate the sample data. Households were the primary sampling unit for the quantitative evaluation. The heads of the households or their spouses were the respondents.

Restricting the survey to beneficiaries who had received transfers during the past 30 days was important as some beneficiaries might have left the programme during the six-month period of the study because of an improvement in their household's food security or because of natural attrition. In addition, new beneficiaries might have joined the programme. The thirty-day window was important to include beneficiaries who had received transfers during the same period.

A systematic sampling technique was used to arrive at a representative sample of beneficiaries from the cash or food beneficiary populations. Samples were selected from each population list (sampling frame). In the systematic sampling, only the first sample was randomly selected, taking every household equally spaced thereafter. The advantage of using systematic sampling over simple random sampling was that it ensured that the population would be sampled evenly because household selection followed a predetermined interval and pattern, eliminating any possibility of clustering. This sampling methodology was selected as the most suitable because it facilitated fieldwork where population and beneficiary lists were readily available. This meant that the sample could be predetermined even before enumerators went into the field, simplifying the fieldwork. The sample size was based on tables for determining sample size as described in Bartlett Kotrlik and Higgins (2001).

Below are the steps that were followed to achieve a systematic random sample, where *n* was the number of beneficiaries who received cash or food transfers. Each beneficiary represented their household. A list of households was presented, and each household was allocated a number.

- *n* was the sample size, determined using Bartlett et al. (2001).
- K was the interval size, calculated by dividing N by n, which was equal to the interval size.

- An integer between 1 and k was randomly selected using the random number selector on a calculator.
- Every $k^{th}$ household was selected for the survey.

Once a household was selected to be in the sample, no substitutions with other households were allowed. If the head of a household or their spouse was absent for some reason, the enumerator returned for the interview at another time. If the head of a household or their spouse continued to be unavailable or refused to participate in the interview, the household was dropped from the list.

The 2011 Food Security and Nutrition Secretariat household counterfactual dataset comprised 3 443 households. In order to select respondents who were comparable to the participants in the WFP's Mozambique Outcome Monitoring Survey, propensity score matching was used to filter only respondents with a food consumption profile that would be applicable for someone to be selected into a WFP cash and food transfer programme. Participants in districts similar to those where the WFP food and cash transfer programmes were implemented were selected. In total, 407 non-beneficiaries *(n = 407)* were selected as the comparison control group for the study (see Table 6).

The WFP Monitoring Survey population comprised 9 805 beneficiaries of cash transfers and 5 867 beneficiaries of food transfers from the six provinces of Gaza, Maputo, Inhambane, Sofala, Manica and Tete. With the systematic sampling technique described above, a sample of 456 households was selected. Of these, 247 were recipients of cash transfers ($n$ = 247) and 209 were recipients of food transfers ($n$ = 209). The total sample size of beneficiaries of cash and food, as well as non-beneficiaries, was 863 (see Table 6).

**Table 6: The 2013 WFP Outcome Monitoring Survey sample size and population size**

| Type of transfers | Province | Sample size per province | Total sample per transfer type | Number of people per transfer type |
|---|---|---|---|---|
| **Cash for work** | Gaza | 48 | 247 | 9 805 |
| | Inhambane | 41 | | |
| | Manica | 33 | | |
| | Maputo | 35 | | |
| | Sofala | 48 | | |
| | Tete | 42 | | |
| **Food for work** | Gaza | 62 | 209 | 5 867 |
| | Inhambane | 25 | | |
| | Manica | 24 | | |
| | Maputo | 21 | | |
| | Sofala | 28 | | |
| | Tete | 49 | | |
| **No transfer** | Gaza | 55 | 407 | 3 443 |
| | Inhambane | 46 | | |
| | Manica | 41 | | |
| | Maputo | 89 | | |
| | Sofala | 91 | | |
| | Tete | 85 | | |
| **Grand total** | | 863 | 863 | |

## 3.10 Research instruments and tools

Respondents gave informed consent (Annex 1) to the interviews. The research instruments that were used included questionnaires (Annex 2), focus group discussions and key informant interviews. Teams of enumerators administered the questionnaires at household and community level through structured interviews. All enumerators used Personal Digital Assistants (PDAs) to record responses from the interviews with beneficiaries, and used paper questionnaires to record information from the focus group discussions and key informant

interviews. A PDA is a small, hand-held computer on which the information is recorded directly as it comes from the respondent.

The questionnaires had pre-coded responses and open-ended answers. Each team member was provided with the following information, equipment and material for fieldwork:

- PDA and electric charger
- Codes, districts, locations or sites to be covered
- Credentials and cover letter to present to local administrations and households to be interviewed
- Field manual and a PDA manual
- Notepad and pen
- Backpack

Small groups of four to six participants engaged in a facilitated focus group discussion on specific predetermined issues using an interview guide. A focus group was constituted for each locality. Focus group discussions took place at the district administration centres in each of the 14 districts where the WFP and national surveys were conducted. Community leaders decided who should constitute the focus group and invited individuals whom the community deemed helpful in providing relevant information on the issues under discussion. Key members of focus groups included at least a health worker, teacher, community leader, village committee members, religious leaders and representatives of women's and youth organisations. Key informant interviews were semi-structured, and included participants who were selected by the district administrators, with guidance from the enumerators' team leader. Key informants included the district administrator, agricultural extension worker, staff in the branch of the local bank where cash was collected, staff members of the WFP and staff from partner NGOs. These key individuals in the community were selected because they possessed specialised knowledge in specific areas such as district administration, community health, local agricultural activities, local financial institutions, as well as local non-governmental activities in the community. These individuals also had regular direct contact with the community.

The inclusion of people who do not directly receive food or cash transfers (such as women, youth organisation representatives and religious leaders) was useful in providing information on the local context and perspective. The discussion not only

gathered views or experiences at a communal level, but also encouraged debate, triggered ideas and recollections, and promoted the expression of opinions. Another objective was to evaluate differences in perceptions and attitudes with regard to cash and food transfers between and within groups (Department of Social Development, SASSA and UNICEF (2011).

With larger groups, retaining control and focus could be difficult and could result in people not expressing their opinions openly and freely. An advantage of small focus groups was that people are usually more comfortable discussing sensitive issues in small groups. Focus group discussions have time constraints and interviewers are unable to probe and fully investigate all the individual opinions and experiences (Department of Social Development, SASSA and UNICEF 2011).

Key informant interviews were conducted as semi-structured discussions with key individuals with specialised knowledge in specific areas in the community. The district administrators selected key informants with guidance from the enumerator team leader. Key people who were selected as informants were a district administrator, an agricultural extension worker, staff in the branch of the local bank where cash was collected, staff members of the WFP and staff from partner NGOs.

The interviewers had a checklist of queries, but interviewers could also probe responses for more information. The advantage of the key informant interviews was that they provided an outsider opinion, that is, an opinion of someone who was not a beneficiary or involved in the selection of beneficiaries. Data from the key informant interviews was used to cross check and validate the data obtained from the focus group discussions. This was done by going through the responses and looking for divergent answers between focus groups and key informants. Very divergent views could indicate a mistake in capturing the responses or could be a sign of an ambiguous question.

## 3.11 Data collection

For the collection of the WFP Monitoring Survey data, the WFP trained seven team leaders and 30 enumerators in the use of PDAs and questionnaires to collect the information in 23 districts in six provinces (see Figure 3). The training sessions took one week and covered the

use PDAs, communication with the community and government units, sample selection, conducting interviews and ethical requirements when working with beneficiaries. As every member of the team interacted with the community or with government units, training was a prerequisite to ensure appropriate levels of professionalism during these interactions.

Teams, comprising a team leader and three enumerators, collected the data. The team leader reported to the WFP supervisor and compiled the team report, indicating any problems that had been encountered during the interviews. The team leader coordinated the enumerators, contacted local district authorities, prepared interviews in each community and managed the selection of households.

The team leader was also responsible for facilitating focus group meetings in each community and gathering qualitative information. Before the interview and prior to visiting the community, the team made sure that the communities had already been contacted by the local government and that they had knowledge of the visit. It was also important that the objectives of the survey were unambiguous to the community prior to the team's arrival.

This was achieved through community meetings where the local leaders explained and clarified the objectives of the survey. Communities were informed that the survey's objective was to monitor the transfer interventions that were aimed at improving the food security of households in their communities. Another goal was to monitor programme implementation. In order to minimise bias in the responses and to ensure informed consent, it was important to inform the respondents that participation in this survey was voluntary and did not affect their eligibility for food or cash transfers in any way.

In almost all cases, the interviews were conducted in the local languages of Shangana, Ndau, Ronga and Chichewa or in the respondent's preferred language. If it was not possible to find an enumerator who spoke the language of the respondent among the team, an interpreter was used. However, it was important to minimise the use of interpreters, as they could distort questions and responses and the interview could take more time. It was also emphasised that teams should avoid using child interpreters, as they could be unreliable.

## 3.12 Data analysis techniques

Several steps were followed in conducting the analysis of data collected for each sub-problem. The 2013 WFP Outcome Monitoring database and the 2011 Mozambique Food Security and Nutrition Secretariat databases were loaded onto the Statistical Package for the Social Sciences (SPSS) (Version 20 Release 20.0) software package. Using SPSS, descriptive statistics, dimension reduction analysis and means comparison were run on the databases for the three groups: cash beneficiaries, food beneficiaries and non-beneficiaries, as follows:

- The number of participants in each group
- Foods consumed and the frequency of consumption
- Household food consumption patterns
- Shocks recently suffered by the household
- Household coping strategies
- Transfer type preferences and reasons for such preference
- Use of transfers
- Satisfaction with the beneficiary selection process

The specific methodologies used are detailed in each of the sections that follow.

## 3.13 Limits of the methodological approach

Data for the study came from a humanitarian intervention where it was not possible to deny transfers to beneficiaries in order to form a control group. This limitation was countered with the 2011 Food Security and Nutrition Secretariat data as reference comparison data. It was also countered by selecting only participants with food consumption profiles that were similar to a potential WFP beneficiary from the Food Security and Nutrition Secretariat data. Only participants from districts where both the Food Security and Nutrition Secretariat data and the WFP Outcome Monitoring Survey were undertaken were selected to minimise inter-district variations.

The survey research approach is prone to bias due to inaccuracies, misreporting from respondents or poor recall by respondents either intentionally or unintentionally (Bell 1996).

Inaccuracies or poor recall was minimised by limiting the study population to beneficiaries who had received transfers in the past 30 days, which was considered a reasonable period to allow for reliable recall (WFP/TSFSN/GAV 2010).

## 3.14 Assumptions of the methodological approach

The study used data from the WFP's Outcome Monitoring Survey and the National Food Security and Nutrition Secretariat. WFP personnel and government technicians administered questionnaires and focus group discussions at community and household levels in the 23 selected districts. The assumption was that questionnaires were always uniformly administered and that respondents were not influenced by the notion that certain answers could jeopardise or improve the chances of their communities or households receiving transfers. Misreporting was minimised by explaining that respondents were not going to receive or be denied benefits by virtue of participating in the survey (WFP/TSFSN/GAV 2010).

## 3.15 Study ethics

At the beginning of each interview, respondents were formally asked to give informed consent to the interviews and acknowledge that they understood that they were under no obligation to respond to the questions (Annex 1).

The Ethics Review Committee of the Faculty of Natural and Agricultural Sciences at the University of Pretoria approved the study protocol where this study was conducted. Formal authorisation was obtained from the WFP in Mozambique to use the survey data in this study and the author formally made a commitment to only use the data for the purposes of this study (Annex 3). Authorisation to use the 2011 Household Baseline Survey data and report in this study was also obtained from the Mozambican Government's Food Security and Nutrition Technical Secretariat (Annex 4).

The researcher was part of the WFP Mozambique country team implementing a social protection for food security program in Mozambique, from where the data for the study was derived. The participation of the researcher in the program provided an ideal opportunity for first-hand research and involvement with government units, non-governmental

organisations, implementing partners, communities, beneficiaries and non-beneficiaries. Participation in the operation of the program also offered the researcher an opportunity to study the transition from traditional food aid transfers to food and cash transfers. Direct involvement of the researcher in the program gave the researcher an in-depth understanding of the complex interaction of factors that impact on sustainable livelihoods and food security in the study areas. The official role of the researcher in the team was in operational design, implementation and cost analysis.

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# Chapter 4: Overview of the Mozambican context

## 4.1 Introduction

Mozambique has been considered the poorest country in the world since 1992 (Arndt et al. 2012). The country ranked 185th out of 187 countries in the 2013 Human Development Report (Malik 2013). The 2013 Human Development Report was the latest at the time of the survey for this thesis. In Mozambican urban areas, the major constraint to food security is income, especially in times of high food prices (Fidalgo 2011). In rural areas, where the majority of the Mozambican population lives, economic and physical access are the major constraints to food security. Challenges to physical access to food in the rural areas are caused by poor roads and market infrastructure, both of which were destroyed during the Mozambican civil war (Fidalgo 2011).

Mozambique was engaged in a 17-year-long civil war between 1975 and 1992 after gaining independence from Portugal. During the conflict, infrastructure and institutions were destroyed. More than 6.5 million people were displaced (World Bank 2006). Mozambique has enjoyed relatively strong economic growth since 1992, registering an average annual GDP growth of more than 6.5% between 2005 and 2010 (Mozambique National Directorate of Studies and Policy Analysis 2010). Growth in the Mozambican economy in 2010 was 6.5%. Assuming that this trend was to continue in following years, Mozambique could anticipate an average annual growth of around 7.7% between 2011 and 2014 (International Monetary Fund 2011).

Despite improvements in education, health and nutrition, high levels of poverty persist (Mozambique National Directorate of Studies and Policy Analysis 2010). Consumption poverty was reported as 54.7% in the third Mozambican national poverty assessment, published in 2010, which was the latest at the time of the surveys. Per capita consumption was estimated using information on purchases and own consumption to estimate the country's consumption poverty (Mozambique National Directorate of Studies and Policy Analysis 2010). While consumption poverty fell dramatically between 1996/97 and 2002/03 from 69.4% to 54.1% respectively, there were no big gains after 2002/03. Consumption poverty registered a 0.5% increase to 54.7% in the 2008/09 survey (Mozambique National Directorate of Studies and Policy Analysis 2010). This was contrary to the officially stated

national goal of attaining 45% consumption poverty by 2009 (Arndt et al. 2012). Causal factors that contributed to the lack of progress in national poverty reduction between 2003 and 2008 included changes in the macroeconomic environment caused by frequent fuel price increases between 2002 and 2008, in combination with reduced agricultural productivity growth, high international food prices and weather shocks (Mozambique National Directorate of Studies and Policy Analysis 2010).

Poverty is encountered in both Mozambique's rural and urban areas. Rural and urban poverty incidence rates were estimated at 55.3% and 51.5% respectively in 2002 and 2003. Rural poverty increased from 51.5% in 2002/03 to 56.9% in 2008/09, while urban poverty decreased slightly from 51.5% to 49.6%. Inequality, which is measured by the Gini coefficient, increased during the same period (2002/03 to 2008/09). This increase in inequality widened the gap between the rich and the poor (Arndt et al. 2012). The Gini coefficient, based on 2008/09 data, increased from 41.5 to 43.5, which represents about two points higher than the 2002/03 estimate (Arndt et al. 2012).

It was against this background that the Mozambican Government embarked on several poverty reduction programmes since 2000. The Mozambican Government's Poverty Reduction Strategy was referred to as the Programme of Action for the Reduction of Absolute Poverty (PARAP) (Government of Mozambique PARAP I 2000; Government of Mozambique PARAP I 2001; Government of Mozambique PARAP II 2006; Tvedten, Paulo and Rosário 2009). The Government of Mozambique set itself targets for its poverty reduction policy, as expressed in PARAP I of 2001 to 2005 and PARAP II of 2006 to 2009 (Government of Mozambique PARAP I 2000; Government of Mozambique PARAP I 2001; Government of Mozambique PARAP II 2006; Tvedten et al. 2009). From a reduction in the poverty headcount from 69% in 1996/97 to 54% in 2002/03, PARAP policies produced positive results (Tvedten et al. 2009).

The PARAP was structured around the three thematic pillars of governance, economic development and human capital, and one crosscutting pillar that included the environment, gender and Human Immunodeficiency Virus (HIV)/AIDS (Tvedten et al. 2009). Social protection was linked directly to the human capital thematic pillar of the Mozambican government's poverty-reduction strategy. The government's poverty-reduction strategy included extending social protection so that it covered a larger number of people who live in absolute poverty (Tvedten et al. 2009). The Poverty Reduction Action Plan (PRAP) of 2011

to 2014 aimed to reduce the incidence of poverty from an average of 54.7% in 2009 to 42% in 2014. The PRAP was a deliberate decision that government action must prioritise and promote "pro-poor" growth (International Monetary Fund. 2011:11). The Government of Mozambique had targeted a further reduction of the poverty headcount to 45% by 2010 (Government of Mozambique PARAP II 2006; Tvedten et al. 2009; International Monetary Fund 2011), but this remained at 54.7% in 2017 (World Bank 2017).

## 4.2 Mozambique, poverty and the Human Development Index ranking

According to the 2013 Human Development Report, 59.6% of the Mozambican population were living below the international poverty line of $1.25 per day. The same report indicated that 54.7% of the population was living below the national poverty line (Malik 2013). The proportion of people living below the international poverty line of $1.25 per day fell from 74% in the 2010 Human Development Report (Klugman 2010) to 54.7% in the 2013 report (Malik 2013). Even though the country recorded a decrease in the proportion of the population living below the international poverty line of $1.25, the proportion of people living below the national poverty line stagnated from the 55.2% of the 2010 report (Klugman 2010) to 54.7% reflected in the 2013 report (Malik 2013).

Statistics from the 2014 Human Development Report indicated that 68.7% of the population was living below the international poverty line of $1.90 per day. The same report showed that the proportion of people living below the national poverty line remained at 54.7%, similar to 2013 figure (Jahan 2016). Although Mozambique's Human Development Index (HDI) increased by 1.3% annually (from 0.195 to 0.284 between 1980 and 2010), the country's HDI has consistently remained below the average for sub-Saharan Africa (Klugman 2010). Mozambique's HDI for 2015 was ranked at 0.414 in the 2016 Human Development Report (Jahan 2016).

## 4.3 Food security

Despite good economic growth after the civil war, Mozambique continued to experience household food insecurity (WFP/TSFSN/GAV 2010). The Comprehensive Food Security and Vulnerability Analysis (CFSVA) report of 2009 showed that 34% of households continued to face chronic food insecurity, while 25% of the households faced acute food insecurity (WFP/TSFSN/GAV 2010). This analysis was done by applying the WFP's

corporate indicators of food access, where households were classified into food secure, acutely food insecure and chronically food insecure. Classification and analysis were done with three variables from household data: Food Consumption Score, Asset Score and Coping Strategy Index (WFP/TSFSN/GAV 2010).

A study by Arndt et al. (2008) concluded that Mozambican consumers were vulnerable to high world food prices due to the country's reliance on imported food and fuel, as well as its relatively high proportion of urban consumers who relied mainly on imported food. A similar study by the WFP (Sanogo 2009) also ranked Mozambique as one of the countries that was most susceptible to the negative impacts of high world food prices that lead to food insecurity. The Mozambican Ministry of Planning and Development and the International Monetary Fund's review of the impact of the 2008 global food price concluded that where populations purchased most of their food, food insecurity increased significantly as food prices increased due to lower purchasing power (Mozambique National Directorate of Studies and Policy Analysis 2010). One of the policy responses the Mozambican government considered in response to the high food prices in 2008 was to expand social protection programmes (Arndt et al. 2008). Mozambique already had an existing social protection programme that distributed cash to families that were poorer. Extending it further would place considerable pressure on administrative capacity. Even so, the programme would remain small from an economy-wide perspective (Arndt et al. 2008). This social protection programme will continue to provide the social transfers to address food security needs of the most vulnerable (Government of Mozambique 2012).

The levels of household food insecurity in Mozambique vary geographically depending on the levels of poverty, agro-ecology of specific areas, exposure and vulnerability to shocks such as droughts, floods and cyclones (USAID 2007). The 2011 Food Security and Nutritional Evaluation Report, prepared by the Technical Secretariat for Food Security and Nutrition (SETSAN), reported various levels of household food security and nutritional statuses in different parts of the country (WFP/TSFSN/GAV 2010). In the 2011 Food Security and Nutritional Evaluation Report, the northern parts of the country (Niassa, Cabo Delgado and Nampula provinces) registered high levels of food reserves, although nutritional deficiencies were reported. This is because the northern parts of the country are agro-ecologically favourable, which makes food production viable (WFP/TSFSN/GAV 2010). In contrast, the central (Zambezia, Tete, Manica and Sofala) and southern (Gaza,

Inhambane and Maputo) parts of the country, which have unfavourable agro-ecological environments, were reported to have 200 000 to 250 000 food-insecure people who were in need of food assistance in 2010 (WFP/TSFSN/GAV 2010). Crop production is difficult in the southern districts such as Gaza and Inhambane because of the sandy soils. In these districts, livelihoods are mainly based on migratory work in South Africa and livestock (WFP/TSFSN/GAV 2010). The central parts of the country are prone to floods, which contribute to food insecurity (WFP/TSFSN/GAV 2010).

## 4.4 Risk to simultaneous natural hazards

Mozambique is ranked as the African country that is third-most affected by recurrent and multiple weather-related natural disasters, as reported by the United Nations Office for Disaster Risk Reduction (UNISDR 2009). Mozambique is also considered to be one of the countries that is most at risk of climate change, which could inevitably increase both the regularity and gravity of natural disasters (UNISDR 2009). The country is prone to periodic droughts, floods, earthquakes, epidemics and cyclones, which result in loss of life and contribute to household food insecurity through the disruption of livelihoods and the inevitable damage to crops, food reserves and livestock. (WFP/TSFSN/GAV 2010). Almost 25% of the population is at risk of natural hazards (World Bank 2011). Figure 5 shows a mapping of combined natural hazards by districts. The centre and southern regions have the most districts with high (red) and moderate (orange) vulnerability to natural hazards. The central region is more prone to floods, epidemics and tropical cyclones, followed by the south and north (Van Logchem and Brito 2009). The south is more prone to droughts than the centre and the north (Van Logchem and Brito 2009). Figure 5 depicts the frequency with which multiple natural disasters overlap over the same period in Mozambique.

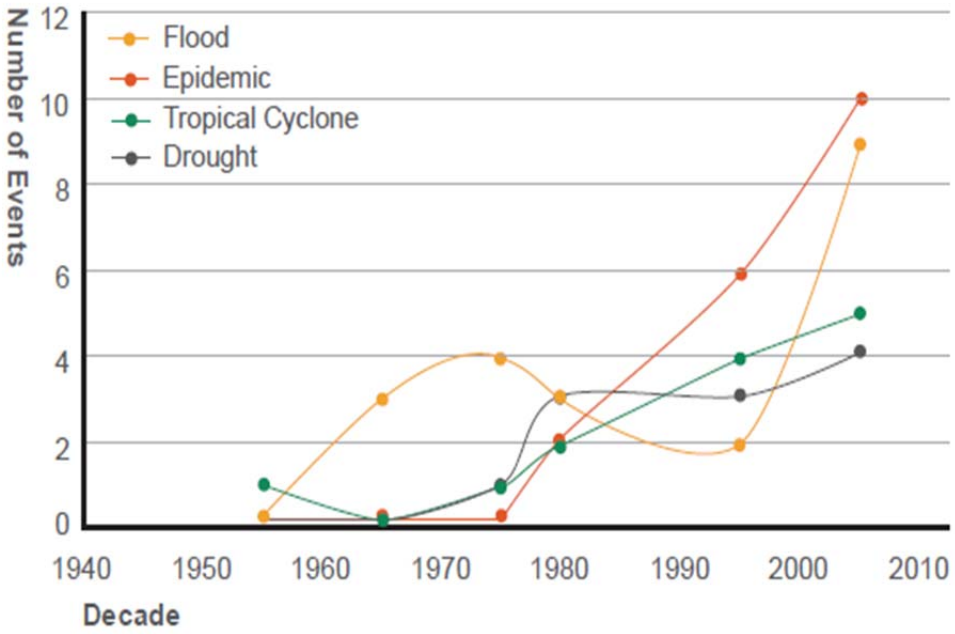


**Figure 5: Mapping of vulnerability to natural hazards by district**

Source: van Logchem and Brito (2009).

Mozambique has seen an increase in multiple natural disasters over the past three decades, as illustrated in Figure 6 (Queface and Tadross 2009). Floods, cyclones and epidemics are the most frequent natural disasters.

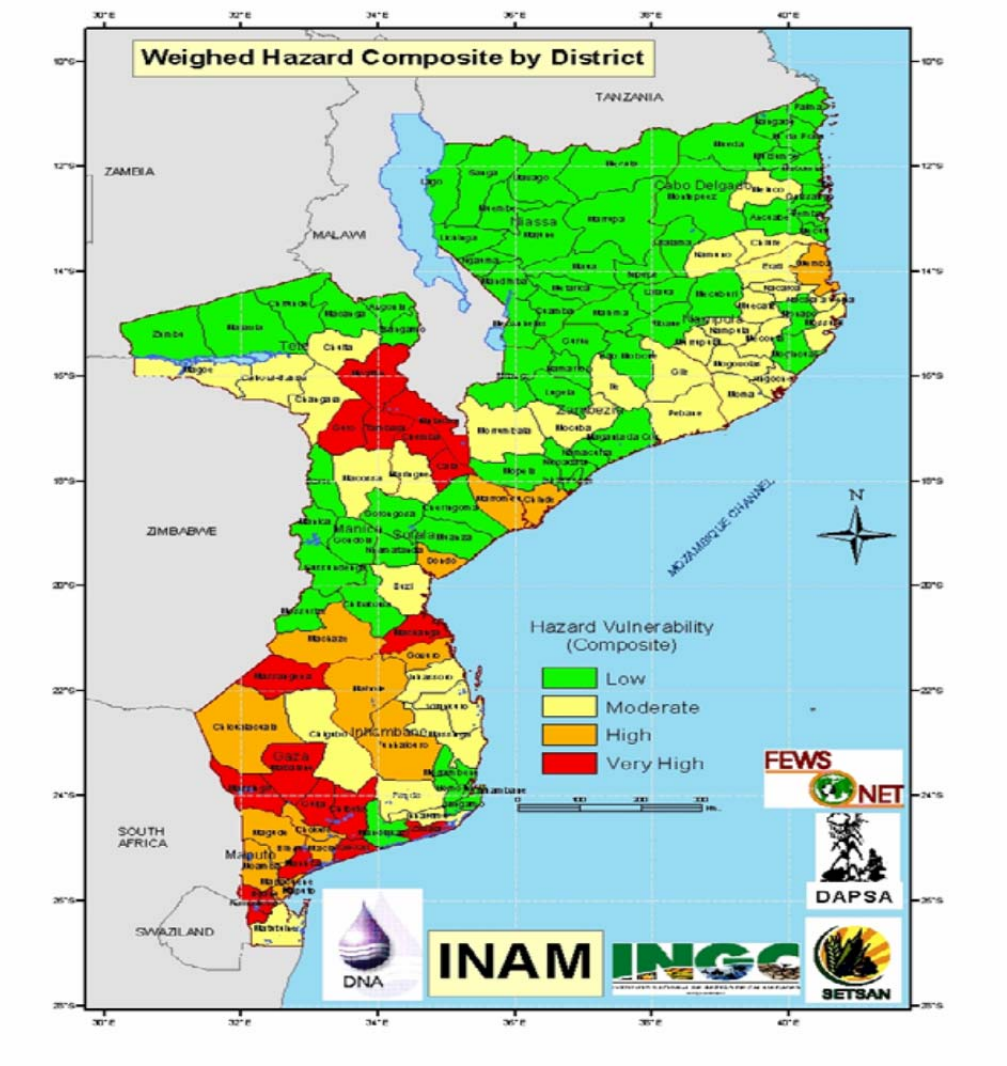


**Figure 6: The pattern and number of natural disasters in Mozambique from 1956 to 2008**

Source: Queface and Tadross (2009).

Droughts occur on average every seven to 10 years in the south and every four to 10 years in the north. Floods occur every two to three years along major river basins and low coastal plains. Cyclones also occur with frequencies of about one or two every four years, depending on the regions (Queface and Tadross 2009). Droughts affect the most people (see Table 7).

**Table 7: Impacts of natural disasters from 1956 to 2008**

| Number | Disaster type | Number of events | Total number of deaths | Total number of people affected |
|---|---|---|---|---|
| **1** | Drought | 10 | 100 200 | 16 444 000 |
| **2** | Flood | 20 | 1 921 | 9 039 251 |
| **3** | Tropical cyclone | 13 | 697 | 2 997 300 |
| **4** | Epidemic | 18 | 2 446 | 314 056 |
| **5** | Windstorm | 5 | 20 | 5 100 |
| **6** | Earthquake | 1 | 4 | 1 440 |

Source: Queface and Tadross (2009)

Between 2000 and 2010, there was an increased frequency of occurrence of multiple hazards (Figure 8). For example, multiple shocks directly affected the food security situation in Mozambique by early 2008. Such shocks included floods along the Zambezi, Buzi, Save and Licungo basins. During the same period, between January and March, Cyclone Jokwe hit the coastal Nampula and Zambezia provinces. Simultaneously, severe rainfall deficits and droughts were experienced in the south and central regions from January until the harvest season in April. By May 2008, about 302 664 people who had been affected by these multiple shocks were facing increased food insecurity and were in need of immediate humanitarian assistance (FEWS Net 2008).

Floods have also been frequent since 2000 and droughts have also been a common occurrence. The devastating floods of 2000, 2001, 2007 and 2008, and the persistent droughts of 2002/03, 2004/05, 2006/07 and 2007/08 are recent examples of this trend towards recurrence (FEWS Net 2008). The Mozambican coast is susceptible to cyclones (World Bank 2011). The cyclone period runs from November to April, which is also the main agricultural season. These cyclones cause loss of shelter, food reserves, crops and fruit trees, which leave the affected populations food insecure (FEWS Net 2008).

## 4.5 Formal social protection in Mozambique

Regardless of socio-economic progress made in Mozambique in the last decades, the Mozambican government has increasingly faced challenges in supporting the most poor and vulnerable people in attaining an acceptable standard of living and wellbeing (Tvedten et al. 2009).

The Mozambican government introduced the Social Protection Law (Number 4/2007) that was approved in February 2007 (Government of Mozambique 2007) with the objective of protecting the poor from vulnerability to shocks. The Social Protection Law specifies three pillars of protection: non-contributory basic social security, contributory or obligatory social insurance and complementary private insurance (Table 8) (Government of Mozambique 2012). The three-pillar legal framework provides a wide range of solutions for the expansion of social protection provision.

The regulations for the non-contributory basic social security subsystem were approved by Decree 85/2009, 29 (Government of Mozambique 2009). These regulations provide further details for the implementation of Law 4/2007 in relation to the basic social security subsystem. The approval of the regulations was followed by the endorsement of the National Basic Social Security Strategy (NBSSS) 2010 to 2014 by a Resolution of the Council of Ministers No 17/2010 on 27 May 2010 (Government of Mozambique 2010). The objective of the NBSSS was to develop a more efficient and effective social protection contribution to poverty reduction and socio-economic development. The NBSSS aimed to bring together and direct the efforts of various stakeholders in government, NGOs and the private sector in the planning and implementation of basic social protection. The strategy aimed to promote an integrated approach to social protection between different stakeholders, all of which had crucial and complementing roles to play in the provision of basic social protection in Mozambique (Government of Mozambique 2010).

The Council of Ministers approved the components of the basic social security interventions, which included direct transfers of cash or food, health, education and food-for-work programmes, in September 2011. Table 8 presents the pillars, coordinating ministries, interventions and people covered by the legal framework of social protection in Mozambique (Government of Mozambique 2012).

**Table 8: Pillars of social protection law in Mozambique**

| Pillar of social protection | Coordinating ministry | Areas of intervention | People covered | Intervention |
|---|---|---|---|---|
| Non-contributory basic social security | Ministry of Social Welfare and Women | Direct, health, education and productive social action | Older people, people with disabilities, the chronically ill, households with orphans and vulnerable children, transitory vulnerable, female-headed households, other people living in absolute poverty who can work | Social transfers (cash, food) to address the food security needs of the most vulnerable and address transitory food insecurity<br>Provide access to primary and basic health care<br>Promote enrolment in the educational system<br>Social transfers to address food insecurity through food-for-work programmes |
| Contributory or obligatory social security | National Institute of Social Security under the Ministry of Labour | Institutional arrangements | Workers and civil servants | Regulatory framework for social security schemes and pension funds, establishing minimum labour standards, and legislation such as minimum wage, maternity cover and breast feeding |
| Complementary private insurance | National Institute of Social Security under the Ministry of Labour | Private arrangements | Private arrangements | Private mechanisms that augment benefits at the compulsory level |

Source: Government of Mozambique (2012)

## 4.6 United Nations and World Food Programme contribution to the Mozambique food assistance strategy

Although the approval of the NBSSS was a very significant and progressive step towards the implementation of social protection in Mozambique, it also raised a major challenge considering the institutional capacity of the national organisations that were involved. The UN's contribution to the Basic Social Security Strategy was through its implementing agencies, the United Nations Children's Fund (UNICEF), the ILO and the WFP. The UN's contribution was carried out within the framework of supporting the Mozambican government and other partners to design and put social protection interventions in place, which are part of the basic package to address poverty and food insecurity in Mozambique through food assistance (WFP 2011). The food assistance programmes that were implemented by the WFP are a contribution to the Mozambican government's social protection initiative.

## 4.7 The World Food Programme's cash and food assistance initiative in Mozambique

Traditionally, cash transfers have not been a standard programming tool for the WFP (Stevenson and Gentilini, 2008). Food aid from the WFP has traditionally focused on the shipment of large quantities of food from countries with surpluses to countries with deficits with the aim of combatting food insecurity in disaster-affected areas (Harvey 2005). Although there is evidence that the WFP has been involved in cash and voucher interventions since the 1980s, the organisation made a definitive strategic decision in 2008 to implement voucher and cash-based interventions to complement the food aid programmes tool (Stevenson and Gentilini, 2008). Instruments such as in-kind food, voucher or cash transfers are included in the definition of WFP food assistance as tools to ensure access to food of a given quantity, quality or value (Omamo, Gentilini and Sandström 2010). Food assistance, which is distinguished from food aid, refers to such sets of interventions that give assistance during emergencies and recovery operations, and empowers the hungry to overcome food insecurity (Omamo et al. 2010).

The WFP's commitment is to work within country-led strategies to support governments to ensure that long-term solutions to hunger and food insecurity are adopted. This is in line with

the L'Aquila agreement of July 2009 (G8 Information Centre 2009). At the L'Aquila summit held in Italy on 8 and 9 July 2009, G8 heads of states, as well as leaders of major emerging economies and key international organisations agreed to a joint statement on global food security, which was launched as the L'Aquila Food Security Initiative (G8 Information Centre 2009). In the L'Aquila agreement, the summit participants endorsed a commitment to "take decisive action to free humankind from hunger and poverty through improving food security, nutrition and sustainable agriculture" (G8 Information Centre 2009:1).

Supporting country-led food security strategies is one of the summit's commitments towards fulfilling the L'Aquila Food Security Initiative (G8 Information Centre 2009). The programme for 2012 to 2015 also saw the WFP's transition from being a food aid agency to a food assistance organisation, marking a historical shift from traditional food aid tools to a set of assistance tools aimed at responding to critical food insecurity in both crisis and development situations (WFP 2011). The priorities of the WFP in Mozambique are social development, market access and disaster risk management (WFP 2011), which reflects the changing nature of food aid from being simply the distribution of food to beneficiaries. The country programmes aimed to support 1 447 000 people in 23 priority districts in the centre and south of the country (WFP 2011) from 2012 to 2015. The red and orange areas in Figure 7 represent the WFP intervention areas for the period 2012 to 2015.

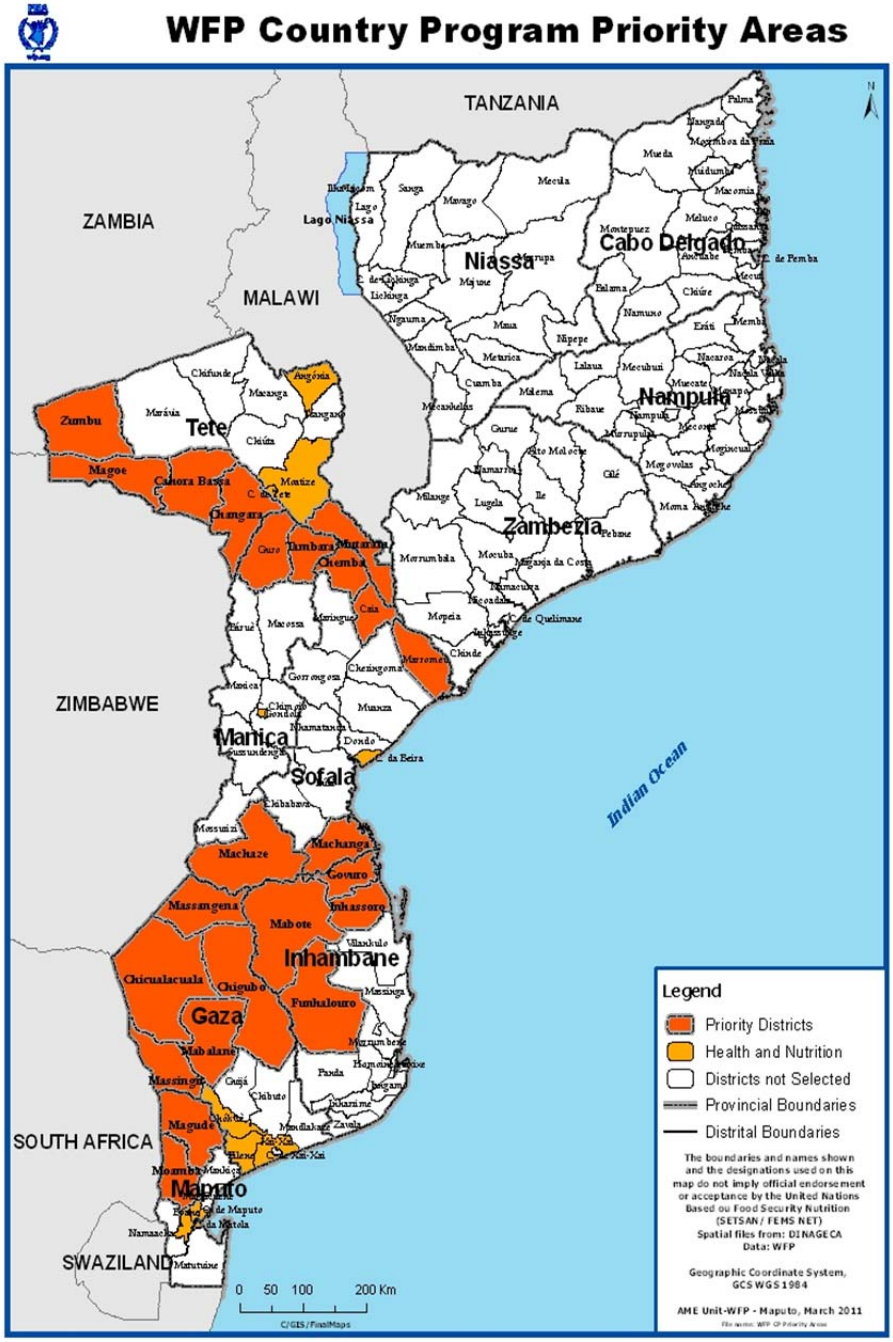


**Figure 7: The WFP country programme priority districts for interventions from 2012 to 2015**

Source: WFP (2011).

The country programmes have five components: school feeding, food assistance, nutrition, disaster reduction and market access (see Table 9). Food assistance is the component discussed in this thesis.

**Table 9: Beneficiaries by programme component**

| Programme component | Number of men or boys | Number of women or girls | Total beneficiaries |
|---|---|---|---|
| School feeding | 112 000 | 101 000 | 213 000 |
| Food assistance | 298 000 | 330 000 | 617 000 |
| Nutrition | 180 000 | 560 000 | 740 000 |
| Risk reduction | N/A | N/A | N/A |
| Market access | | | 30 000 *(a*)* |
| **Total beneficiaries** | | | 1 447 000 *(b*)* |

*a*: Smallholders benefitting from capacity-building support.*

*b*: Total beneficiaries only include people who receive food assistance in school feeding, social protection and nutrition.*

Source: WFP (2011).

In the food assistance component, food-insecure households received food rations at food distribution centres or monthly cash transfers into individual bank accounts in return for participating in public work schemes organised by the local government authorities. The households withdrew cash transfers monthly at the nearest branch of the bank with ATM cards. The food-for-work or food-for-cash activities were of a disaster-mitigating nature, such as digging small water reservoirs, building drainage systems, growing tree seedling nurseries or planting trees for windbreaks.

Districts and localities were assigned to cash or food transfers based on the WFP's available resources for cash or food distributions. A prerequisite for cash transfers was the availability of banking services in the district or locality.

Cash transfers were calculated with the caloric needs of the population, the minimum wage for workers in the agricultural sector and the national poverty line in mind. The value of the cash transfer was equivalent to US$20 and was also aligned to the value of transfers in government safety net programmes. The alignment served to remove a distinction within the community between beneficiaries of the WFP initiatives and beneficiaries of government programmes. A transport allowance was added to the social transfer amount, depending on

the distance beneficiaries needed to travel to the bank. Table 10 shows examples of districts where cash transfers were implemented and the varying cash transfer amounts when transport costs were included in the transfer value. A prerequisite for cash intervention was the availability of banking services in the district.

**Table 10: Examples of districts showing varying cash amounts transferred to cash beneficiaries, including transport cost**

| District | Cash transfer (Mozambican Meticais) | Transport (Mozambican Meticais) | Total transfer (Mozambicane Meticais) |
|---|---|---|---|
| Cahora Bassa | 750 | 100 | 850 |
| Caia | 650 | 100 | 750 |
| Magude | 850 | 100 | 950 |
| Moamba | 650 | 0 | 650 |
| Marromeu | 950 | 0 | 950 |
| Massingir | 650 | 100 | 750 |

Source: WFP (2011).

The food transfer basket was composed of 45 kg of cereal, 9 kg of cow peas and 750 ml of oil per month. The food rations reflected an approximate value of US$20, which was the prevailing value of the government's social transfers at the time, as well as the WFP's cash transfer value. The ration was based on the assumption that each household was composed of an average of five persons who would share the rations. These rations were given to the beneficiaries on a monthly basis for four to six months per year.

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# Chapter 5: Does food assistance improve recipients' dietary diversity and food quality in Mozambique?

## 5.1. Introduction

Food assistance is provided in situations where the flaws, disruptions and breakages in the food system deprive individuals and households of essential nutrition and other basic needs (WFP 2017). Food assistance may be provided in the form of cash or food transfers. Food assistance is not only a fundamental building block of humanitarian assistance, but is also an intervention to address vulnerability and food insecurity in emergency contexts (WFP 2017).

In a recent report, prepared by the World Bank for the Inter-agency Standing Committee for Humanitarian Assistance (IASC), it states that cash transfers can facilitate linkages between humanitarian and development programmes (World Bank 2016:ix). However, in-kind transfers will still be important strategic elements of humanitarian assistance for the foreseeable future. While only 6% of global food assistance programmes have adopted a cash transfer modality, many countries are developing national social protection systems that adopt a cash transfer modality (World Bank 2016). The share of humanitarian aid going to cash transfers was 5% to 6% in 2014 (ODI 2015). The Overseas Development Institute (ODI) (2015) reports that if sectors where cash is often less appropriate (health, water and sanitation) and not appropriate at all (mine action, coordination, security) are removed, then cash and vouchers were roughly 10% of the total. The ratio of cash-based to in-kind transfers in 2016 was 19.16 to 24.86 respectively (World Bank 2016). The World Bank report recommends the development of a global research strategy to fill evidence gaps on the relative performance of transfer modalities, particularly beyond food security objectives (World Bank 2016).

In an effort to address this gap, this chapter investigates the influence of the WFP's cash and food transfers on the diversity and quality of diets in Mozambique and assesses the implications of this for the design of the WFP's systemic food assistance intentions. The findings contribute to understanding how the WFP's current initiatives affect household dietary diversity and quality. Such insight is essential to inform the design of future programmes as part of the WFP's Strategic Plan for 2017 to 2021 (WFP 2016), but

contributes more broadly to understanding the systemic food system influences cash and food transfers can have in development contexts.

## 5.2. The relationship between food assistance and food systems

Food assistance empowers beneficiaries to access nutritious food, saving and protecting lives and livelihoods (WFP 2017). It includes cash transfers, in-kind food transfers and vouchers. Efficient food systems should provide adequate nutrition for households, among other attributes (HLPE 2014). The WFP uses both cash transfers and in-kind food transfers. The expression "cash transfer" means cash given directly to individuals or households. Cash transfers are intended to meet people's basic needs (for both food and non-food items, to buy assets and pay for services such as health and education), and to help them recover their livelihoods after a disaster (Herrmann 2009). "Food transfers" provide food directly to individuals or households, to fill food consumption gaps directly (Stevenson and Gentilini, 2008). However, the choice of instrument is context- and sector-specific, requiring a case-by-case analysis. For this reason, the WFP uses both cash and food transfers, informed by careful contextual analysis, including beneficiary preference, gender concerns, safety and equality issues, as well as consideration of the needs and risks of specific vulnerable groups in each situation.

## 5.3. Shifts in food assistance approaches

Until the global food price crisis of 2007 to 2008, the shipping of food aid from abroad to needy countries was a standard humanitarian response (Maxwell, Lentz and Barrett 2007). This crisis saw the lowest grain stock levels in more than two decades and high commodity and fuel prices, making it very expensive to transport goods. A global recession followed the crisis. Humanitarian agencies faced growing demand for food aid, but donor countries simply did not have the stocks or funds to ship food aid abroad (Jones et al. 2010). Even before the global food price crisis, the international humanitarian aid community was considering alternative responses such as social protection (HLPE 2012; Gentilini 2014). These deliberations focused on better targeting, local procurement and the use of ICTs to make cash transfers via mobile phones, vouchers and smartcards (Omamo, Gentilini and Sandström 2010).

The demand for alternative welfare systems to alleviate suffering and food insecurity in food emergency and non-emergency situations has grown as traditional informal social transfers decline (Oduro 2010; HLPE 2012). Informal social assistance from family members is not always dependable and is often not availed regularly, as family members may sometimes not have sufficient spare resources to help their relatives (Oduro 2010). Kinship and community assistance systems have long been important in traditional societies for providing relief from shocks and crises and filling temporary food consumption gaps (Oduro 2010), referred to as the "bad year" or "lean season" systemic problem (WFP 2017). However, these community assistance systems have been eroded by global influences such as unfavourable exchange rates, conflict, diseases such as HIV, recurring natural disasters, persistent rural poverty and migration (Barrientos 2010; Coady 2004).

Over the past decade, changing global and local contexts have raised awareness of the need for more efficient and large-scale rollouts of social transfers (HLPE 2012). Literature documents the benefits and advantages of cash and food transfers, outlining their advantages and disadvantages (HLPE 2012). Proponents of cash transfers argue that these are less stigmatised than food transfers. The handing over of food parcels is visible to all observers (Grosh et al. 2008). Cash transfers allow beneficiaries to choose their purchases (Farrington and Slater 2006), whereas providers decide the content of food parcels (Stevenson and Gentilini 2008). Proponents of food transfers argue that these overcome the problem of beneficiary inclusion errors; only those who are really in need will collect these parcels because of the stigma attached (Drèze 1990; Currie and Gahvari 2008). Food transfers may be more appropriate where the consumption of certain foods, such as fortified foods, is encouraged (Currie and Gahvari 2008). Cash transfers give beneficiaries the choice of what to buy, but cash transfers may not necessarily lead to sound nutritional choices (FAO 2002; Gentilini 2007). Indeed, there is little control over what beneficiaries purchase with the cash. They may indeed use it for procuring other essential non-food household requirements such as health services, schooling or agricultural inputs. The lack of control over the use of cash transfers may be the reason why some donors are reluctant to disburse cash and prefer instead to give food transfers (Harvey 2007; Audsley Halme and Balzer 2010).

However, Harvey and Bailey (2011) note that the following are among the issues humanitarian agencies consider when deciding which method to adopt:

- Can beneficiaries buy what they need at stable and appropriate prices in local markets?
- Can the cash be safely delivered and spent?
- Will food distribution be more cost-effective than transferring cash?

Very little research has been conducted on the nutritional benefits of these modalities (World Bank 2016). Such assessments are essential for clear, evidence-based guidance for different contexts and different target groups (Arnold, Conway and Greenslade 2011), and in determining the impact of these interventions on food systems.

## 5.4. Evidence of the influence of transfers on nutrition

While cash transfers are among the most rigorously evaluated fields in social sciences, the recent World Bank (2016) report to the IASC indicates that there is a gap in knowledge and evidence in terms of where and when cash transfers are better than other transfer modalities. Most of the existing evidence that compares transfer modalities is drawn from non-emergency contexts. In addition, there is a significant knowledge gap with regard to the influence of cash transfers on nutrition. Likewise, there has been very little research on the impact of in-kind transfers on local markets (World Bank 2016). This section of the thesis reviews available evidence of the influence of cash and food transfers on diets and diet quality.

Hoddinott and Wiesmann (2010) found that cash transfers resulted in an increase in energy intake of 5.6% in extremely poor households as a result of the Poverty Reduction Action Plan (PROGRESSA) in Mexico, a 6.9% increase as a result of the PRAF (*Programa de Asignación Familiar*) family allowance programme in Honduras and a 12.7% increase as a result of the *Red de Protección Social* (RPS) (Network of Social Protection) in Nicaragua. In all three cases, micronutrient intake and dietary diversity also increased. These findings have been confirmed by Hoddinott and Skoufias (2004), Caldes, Coady and Maluccio (2006), Molyneux (2007), Fiszbein et al. (2009) and De Brauw and Hoddinott (2011) in Mexico, Latin America, Brazil, Africa, Asia, South America, Latin America, the Caribbean and Mexico respectively. Rabbani, Prakash and Sulaiman (2006) found that beneficiary households spent more cash on food and consumed more foods from animal sources, significantly improving consumption quantity and quality among selected ultra-poor

households that benefit from cash and food transfers in the BRAC programme. Rabbani et al. (2006) and Matin, Sulaiman and Rabbani (2008) have confirmed these findings in other studies in Bangladesh.

Far fewer studies have been conducted on the impact of social protection on food insecurity in Africa, with the exception of Ethiopia (Arnold et al. 2011). Gilligan, Hoddinott and Taffesse (2008) and Andersson, Mekonnen and Stage (2011) have evaluated the impact of Ethiopia's PSNP cash transfers. Gilligan et al. (2008) found that the mean calorie intake increased among households that participated in the PSNP compared to the control group. Andersson et al. (2011) also found that the PSNP increased the long-term income-earning potential of households. Audsley et al. (2010) assessed cash and food transfers in Malawi's Improving Livelihood through Public Works Programme (ILTPWP) and found that food consumption and dietary diversity improved the most for the cash recipients and least for the food recipients. Devereux's (2010) assessment of South Africa's cash transfer programme provides evidence that the Child Support Grant reduced child hunger more in households that received the grants than in households that did not.

Intervention programmes must be context specific and are not necessarily directly replicable (Gough and Wood, 2004). Designing an appropriate food security intervention strategy requires an understanding of what will work best for a specific context. Evidence from Ecuador, Uganda, Niger and Yemen show that the relative effectiveness of the two methods, cash or food, depended on contextual factors such as the severity of food insecurity and the robustness of markets for grains and other foods (Hoddinott et al. 2013; Hidrobo et al. 2014).

Studies in developing countries have confirmed the positive relationship between dietary diversity and nutrient intakes (Ruel 2002). In the past, programmes were designed to ensure sufficient energy intake. Nowadays, they are increasingly being designed to improve dietary diversity and quality so as to remedy micronutrient deficiencies. Such improvements are especially relevant in developing countries where diets are typically starch-based and low in micronutrient content, the consumption of animal proteins is low, and consumption of fruit and vegetables is low or seasonal (Ruel 2002). Inadequate dietary intake leads to poor health and reduced productivity, perpetuating poverty and hunger from generation to generation (Wagstaff and Watanabe 2000; FAO 2002; Victora et al. 2008).

It is well documented in the development literature that, as household income increases, diets consisting largely of bland staple foods such as cereals, roots and tubers begin to include more micronutrient-rich foods, such as meat, fish, dairy products, and, to a lesser extent, fruit and vegetables (Heady and Ecker 2013). Humanitarian aid and food security programmes have begun to focus on improving nutrition to break the cycle of poverty and hunger, especially for mothers and young children (Barrientos 2010). However, we do not know whether cash and food transfers have similar influences on food consumption patterns during crises.

## 5.5 Study context

Despite good economic growth after the civil war, a large proportion of Mozambique's population continue to experience food insecurity (WFP/TSFSN/GAV 2010). At the time of the current study, the most recent CFSVA data (2009) showed that 34% of households continued to face chronic food insecurity, while 25% of the households faced acute food insecurity (WFP/TSFSN/GAV 2010). This analysis was done by applying WFP corporate indicators of food access, where households were classified into food secure, acutely food insecure and chronically food insecure based on an FCS, an Asset Score and the CSI (WFP/TSFSN/GAV 2010). Food insecurity levels in Mozambique vary geographically, depending on the levels of poverty, agro-ecology of specific areas, as well as exposure and vulnerability to shocks such as droughts, floods and cyclones (USAID 2007).

The situation presents what is termed the typical "bad year" or "lean season" problem where communities are affected by natural hazards, armed conflict, civil strife and economic shocks that overwhelm their abilities to cope (WFP 2017). The problem exists when large numbers of households with low incomes, poor purchasing power and few assets face severely constrained access to nutritious food. These communities often face periods of constrained access to food that lead to extreme hunger, termed the "lean season" (WFP 2017). The proportion of people living below the international poverty line in 2013 was 54.7% (Malik 2013). For this reason, the WFP implemented cash and food-for-work programmes in Mozambique to support chronically hungry households.

This chapter reports the findings of a study that evaluated the dietary impact of the programme against a counterfactual group.

## 5.6 Methodology

The methodology was described in Chapter 3 of this thesis. Data for this study was obtained from secondary data sourced from an Outcome Monitoring Survey carried out by the WFP and a National Food Security Survey conducted by the Mozambican government. The study included three groups of respondents: beneficiaries of the WFP Mozambique cash-for-work programme ($n$ = 247), beneficiaries of the WFP Mozambique food-for-work programme ($n$ = 209) and a counterfactual group of non-beneficiaries, drawn from the National Food Security survey sample ($n$ = 407).

In the three data sets, respondents were asked how many days in the past seven days had they consumed each of the 17 food types listed in Table 11. The Food Frequency Score was calculated from their answers. The FFS was used as an indicator of dietary diversity that measured the number of different foods consumed over the past seven days. The mean and mode numbers were determined using SPSS software (Version 20, Release 20.0) central tendency mean and mode statistics. The mean reflected the average number of days in the past week a household had consumed a food type and the mode reflected the most frequently encountered answer as to the number of days each type was consumed.

The FFS for each of the three groups (cash and food beneficiaries and non-beneficiaries) was analysed using principal component analysis to identify patterns in the food consumption frequencies. The PCA patterns were compared to determine whether cash or food transfers affected food type consumption frequency to compare the three groups' dietary diversity. The PCA classified the FFSs into three factors for each group (Yong and Pearce 2013). It was assumed that the factors accounted for the variance and that there was no error variance (Rietveld and Van Hout 1993; Field 2000; Bartholomew, Knotts and Moustaki 2011). These factors, although latent and unobservable and thus not directly measurable, are hypothetical concepts that represent variables (Cattell 1973). They make it easier to assess the frequency of consumption of the various food types and the diversity of the diet.

The FCS was used as a proxy for dietary quality and measured dietary diversity, and the frequency of consumption of nutrient-dense foods in the diet (WFP/FAO 2008). The FFS and FCS are widely used in Demographic and Health Surveys and the WFP's food security assessments (Heady and Ecker 2013). The WFP method was used to calculate the FCS (WFP/FAO 2008). Table 11 presents the consumption frequencies for eight consolidated food types: staples (maize, maize porridge, maize meal and other cereals), pulses (beans, peas, peanuts and cashews), vegetables (vegetables, green leafy vegetables and leaves), fruit (vitamin A fruit, bananas and other fruit), meat and fish (red meat, red meat products, offal, poultry, poultry products, eggs, fish and seafood), milk (milk, yoghurt and, dairy products), sugar (sugar and sugar products) and oil (fats, margarine and oil products). The FCS, being a composite score, was calculated from the respondents' answers to questions about which food types were consumed and the frequency of consumption in the seven days prior to the survey, taking into account the nutritional ranking of the food type in a diet. The calculation was based on the combination of the frequency of consumption of the eight food types (FFS) and an established weight of the food type in the diet, based on the WFP/FAO (2008) formula below:

$$FCSh = a_{staple}\,x_{staple} + a_{pulses}\,x_{pulses} + a_{vegetables}\,x_{vegetables} + a_{fruit}\,x_{fruit} + a_{meat\ and\ fish}\,x_{meat\ and\ fish} + a_{milk}\,x_{milk} + a_{sugar}\,x_{sugar} + a_{oil}\,x_{oil}$$

Where FCS is the household's food consumption score, $a$ is the weight of each food type and $x$ is the household's consumption frequency score, which is the number of days on which each food type was consumed during the seven days prior to the survey. Foods consumed were weighted as follows: cereals and tubers (2), beans, peas (3), vegetables (1), fruit (1), meat, poultry and fish (4), milk (4), sugar (0.5) and oil (0.5) (WFP/FAO 2008). An analysis of variance was used to compare the mean FCSs of the cash and food beneficiaries and the non-beneficiaries. A post-hoc Tukey HSD test was run on the FCS means at the 5% level of significance. The Tukey HSD test is a multiple comparison or post-hoc method, which is used to determine the existence of significant differences between multiple groups; in this case, the FCS means (Yong and Pearce, 2013).

The Monte Carlo method was used to determine the optimum number of factors to run the PCA. This identified three factors as the optimum number of factors, where n = 863 for 11 variables and 100 iterations (O'Connor 2000). The value of the KMO test was 0.602 for n = 247 (cash beneficiaries), 0.656 for n = 209 (food beneficiaries) and 0.709 for n = 407 (non-beneficiaries). A sample is considered adequate if the value of the KMO test is greater than 0.5 (Field, 2000).

The PCA factor analysis mathematical model (Yong & Pearce, 2013) was:

$$Xj = aj1\ F1 + aj2\ F2 + aj3\ F3 + ...ajm\ Fm + ej,$$

where Xj was the variable represented in the latent factors (where j = 1, 2, 3, …, p, P was the number of variables (X1, X2, X3, …, Xp) and m was the number of latent factors (F1, F2, F3, …, Fm)). The assumption in this model was that there are m latent factors. The factor loadings were aj1, aj2, …, ajm, which signified that aj1 was the factor loading of the jth variable on the first factor. The specific or unique factor is denoted by ej.

On the basis of this equation, food types were classified by the factor loadings on each variable (number of days each particular food type had been consumed in the past seven days). The factor loadings are an indication of the strength of the correlation between the factor and the variable (Kline 1994), showing how much the variable contributed to the factor. If the factor loading is higher, it means that the variable contributed more to that factor (Harman 1976). The first factor accounts for the maximum percentage of the variance, while the second and subsequent factors account for the remaining variance (Rietveld and Van Hout 1993).

**Table 11: Comparative food type consumption frequency loadings**

| Pattern matrix | | | | Pattern matrix | | | | Pattern matrix | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| a. Transfer method = non-beneficiary | | | | b. Transfer method = cash beneficiary | | | | c. Transfer method = food | | | |
| **Consumption frequency** | **Component/factor** | | | **Consumption frequency** | **Component/factor** | | | **Consumption frequency** | **Component/factor** | | |
| | **1** | **2** | **3** | | **1** | **2** | **3** | | **1** | **2** | **3** |
| Maize porridge | 0.756 | | | Poultry, poultry products and eggs | 0.837 | | | Sugar and sugar products | 0.907 | | |
| Sugar and sugar products | 0.714 | | | Fats, oils and margarine | 0.760 | | | Milk, yoghurt and other dairy Products | 0.829 | | |
| Other vegetables | 0.536 | | | Milk, yoghurt and other dairy products | 0.685 | | | Peanuts, almonds, cashews | 0.575 | | |
| Other cereals | 0.470 | | | Beans and peas | 0.337 | | | Fats, oils and margarine | | 0.677 | |
| Peanuts, almonds, cashews | 0.456 | | | Peanuts, almonds, cashews | | 0.699 | | Beans and peas | | 0.666 | |
| Fats, oils and margarine | 0.432 | | | Beef, offal and other red meat products | | 0.553 | | Fish and other seafood | | 0.544 | |
| Beans and peas | 0.402 | | | Fish and other seafood | | -0.563 | | Poultry, poultry products and eggs | | -0.489 | |
| Milk, yoghurt and other dairy products | | -0518 | | Vegetables and leaves | | | 0.672 | Vegetables and leaves | | | 0.668 |
| Dark green leafy vegetables | | 0.516 | | Maize porridge, maize meal, other cereals | | | 0.582 | Corn, maize porridge, maize meal, other cereals | | | 0.481 |
| Vitamin A fruits | | -0.402 | | Vitamin A fruits, bananas and other fruit | | | 0.600 | Vitamin A fruits, bananas and other fruit | | | -0.611 |
| Beef and other red meat | | -0.396 | | Sugar and sugar products | | | 0.531 | Beef, offal and other red meat | | | -0.492 |

| Pattern matrix | | | | Pattern matrix | | | | Pattern matrix | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| a. Transfer method = non-beneficiary | | | | b. Transfer method = cash beneficiary | | | | c. Transfer method = food | | | |
| **Consumption frequency** | **Component/factor** | | | **Consumption frequency** | **Component/factor** | | | **Consumption frequency** | **Component/factor** | | |
| | **1** | **2** | **3** | | **1** | **2** | **3** | | **1** | **2** | **3** |
| products | | | | | | | | | | | |
| Maize meal | | | 0.772 | | | | | | | | |
| Eggs | | | -0.647 | | | | | | | | |
| Poultry and poultry products | | | -0.570 | | | | | | | | |
| Offal | | | -0.436 | | | | | | | | |
| Other fruits including bananas | | | -0.368 | | | | | | | | |
| Fish and other seafood | | | -0.339 | | | | | | | | |

## 5.7 Results

Just over half (55%) of the survey respondents were female, as they represented 62% in the cash and food transfer group and 48% in the control group. The household size ranged from one to 17 members, with a mean of six per household and a median of four. The mean household size for cash and food beneficiaries was six members and the mode was the same. The mean household size for non-beneficiary households was six members and the mode was five. The mean and mode number of days the households consumed each food type are presented in Table 12.

Cash and food beneficiaries, as well as non-beneficiaries, generally consumed staple cereals and vegetables. As expected, these were the basic food basket for all the respondents. This was confirmed by the modes. However, both cash and food beneficiaries consumed fruit, poultry, milk, red meat, oils and sugar more often than non-beneficiaries did. This was confirmed by the means. Non-beneficiaries showed higher mode values than cash and food transfer beneficiaries for nuts, cashews and fish. However, the mean for nuts, cashews and fish was lower for non-beneficiaries than for cash or food transfer beneficiaries. This was because, even though there was a large proportion of cash or food transfer beneficiaries who did not consume nuts, cashews or fish, those who did, seemed to consume nuts, cashews or fish for more days than non-beneficiaries despite the fact that the non-beneficiary survey was conducted before the lean season.

**Table 12: Food consumption frequencies per food type**

| Food types consumed | Cash transfer (N = 247) | | Food transfer (N = 209) | | No transfer N = 407 | |
|---|---|---|---|---|---|---|
| | Mode | Mean | Mode | Mean | Mode | Mean |
| Maize, maize products and other cereals | 7 | 5.77 | 7 | 5.57 | 7 | 5.69 |
| Beans and peas | 0 | 0.46 | 0 | 1.41 | 0 | 0.81 |
| Nuts and cashews | 0 | 0.74 | 0 | 1.48 | 1 | 0.97 |
| Vegetables and leaves | 7 | 3.92 | 7 | 5.09 | 1 | 1.89 |
| Fruits | 0 | 1.34 | 0 | 1.82 | 1 | 1.04 |
| Red meat, offal and meat products | 0 | 1.06 | 0 | 0.40 | 0 | 0.30 |
| Poultry, poultry products and eggs | 0 | 1.35 | 0 | 0.54 | 0 | 0.38 |
| Fish and seafood | 0 | 0.68 | 0 | 1.42 | 1 | 0.82 |
| Milk, yoghurt and other dairy products | 1 | 1.10 | 0 | 3.16 | 0 | 0.58 |
| Sugar and sugar products | 0 | 1.88 | 0 | 2.61 | 0 | 1.37 |
| Oil, fats and margarine | 0 | 2.30 | 0 | 2.42 | 0 | 0.93 |
| | Cash transfer (N = 247) | | Food transfer (N = 209) | | No transfer N = 407 | |
| FCS | 35 | | 43 | | 21 | |
| Number of food types consumed | 11 | | 11 | | 11 | |

Table 11 shows three PCA pattern matrices, with each matrix representing a transfer method. Factor loadings indicate the strength of the correlation between the factor (principal component) and the variable (Kline 1994), which means that if the factor loading is high, the variable contributes more to the PCA outcome (Harman, 1976).

Food types that clustered together on primary factors in the analyses were more likely to be consumed together frequently and to constitute a significant part of the household's diet. Non-beneficiaries were more likely to consume beans, corn and maize porridge, fats, oils and margarine, other cereals, peanuts and cashews, peas, sugar and sugar products and vegetables (see Table 11). They were less likely to consume dairy products, and rarely consumed fruit, poultry, poultry products, eggs, fish, other seafood, red meat and meat products. Their diets lacked diversity and were typically high in starch, based on vegetables, and lacking in dairy products, meat, poultry and fruit, despite the fact that the non-beneficiary survey was conducted before the lean season.

Food transfer beneficiaries typically frequently consumed milk, yoghurt, dairy products, peanuts, cashews and sugar products together (see Table 11). They consumed beans, fish, other seafood, fats, margarine, oils and peas less frequently. They were less likely to

consume poultry, poultry products, eggs, red meat, meat products and fruit. Their diets were more diverse than those of non-beneficiaries, and included nutritious foods such as fish and dairy products, and, to a lesser extent, poultry and animal products.

Cash transfer beneficiaries' diets were more diverse than those of the non-beneficiaries. They were more likely to consume beans and peas, fats, margarine, oils, poultry, poultry products and eggs, milk, yoghurt and other dairy products. They consumed red meat and red meat products, and peanuts and cashews, albeit infrequently. However, these beneficiaries did not widely consume fruit, sugar products, fish and other seafood. Their diets contained more nutrient-dense foods than the food beneficiaries' diets, and their diets were more likely to include milk, dairy products, poultry, eggs, poultry products, and meat and meat products. Red meat was likely to be included more frequently in their diets than in those of the food transfer beneficiaries, who did not commonly consume red meat.

The FCS provided an indication of diet quality that considered the FFS as well as the weights of the consumed foods according to nutritional importance. As per the WFP/FAO (2008) classification, a FCS below 21 indicated "poor food consumption", between 21.5 and 35 indicated "borderline" (not poor but not adequate either) and above 35 indicated "adequate food consumption", sufficient to meet household dietary needs. The FCSs in this study confirmed the findings of the FFSs, showing that both cash and food transfers improved the diets of beneficiary households. The mean FCSs for cash transfer beneficiaries, food transfer beneficiaries and non-beneficiaries were 35, 43 and 27 respectively (see Table 13). On average, the non-beneficiaries' diets were found to be "borderline or inadequate", while those of the cash and food transfer beneficiaries were "adequate". The scores for the three groups were significantly different (see tables 14 and 15), indicating distinct consumption patterns for the three groups.

**Table 13: Food consumption score means**

| | N | Mean | Standard deviation | Standard error | 95% confidence interval for mean | | Minimum | Maximum |
|---|---|---|---|---|---|---|---|---|
| | | | | | Lower bound | Upper bound | | |
| **Cash** | 247 | 35.255 | 11.988 | .763 | 33.753 | 36.757 | 2.00 | 72.50 |
| **Food** | 209 | 42.966 | 15.529 | 1.074 | 40.848 | 45.083 | 10.50 | 91.65 |
| **None** | 407 | 27.134 | 5.455 | .270 | 26.602 | 27.666 | 12.00 | 46.00 |
| **Total** | 863 | 33.293 | 12.446 | .424 | 32.461 | 34.124 | 2.00 | 91.65 |

The fact that the cash beneficiaries' FCSs were lower than the food transfer beneficiaries' FCSs indicated that the cash beneficiaries' diets were less diverse than those of the food transfer beneficiaries, even though the cash transfer beneficiaries' diets contained more nutrient-dense foods than those of the food beneficiaries. It should be remembered that the FCS is a composite of the frequency of consumption of foods from diverse food groups and the nutritive importance of the foods that were consumed.

**Table 14: Analysis of variance FCS means**

| | Sum of squares | df | Mean square | F | Significance |
|---|---|---|---|---|---|
| **Between groups** | 35943.854 | 2 | 17971.927 | 158.370 | .000 |
| **Within groups** | 97593.065 | 860 | 113.480 | | |
| **Total** | 133536.920 | 862 | | | |

**Table 15: Post-hoc test for FCS means**

| Tukey HSD | | | | | | |
|---|---|---|---|---|---|---|
| **(I) Transfer method** | **(J) Transfer method** | **Mean difference (I-J)** | **Standard error** | **Significance** | **95% confidence interval** | |
| | | | | | **Lower bound** | **Upper bound** |
| **Cash** | Food | -7.710* | 1.001 | .000 | -10.061 | -5.361 |
| | None | 8.121* | .859 | .000 | 6.104 | 10.138 |
| **Food** | Cash | 7.710* | 1.001 | .000 | 5.360 | 10.061 |
| | None | 15.831* | .907 | .000 | 13.703 | 17.960 |
| **None** | Cash | -8.121* | .859 | .000 | -10.138 | -6.104 |
| | Food | -15.831* | .906 | .000 | -17.960 | -13.703 |

* The mean difference is significant at the 0.05 level.

## 5.8 Conclusions and recommendations

This chapter investigated the influence of the WFP's cash and food transfers on the diversity and quality of diets among chronically food-insecure households in Mozambique and the implications of this for the design of the WFP's systemic food assistance intentions. Distinct consumption patterns were found for these two groups and a counterfactual group, with important implications for food assistance. Food assistance has the potential to turn need into market demand (World Bank 2016). However, realising this demand requires purchasing power on behalf of the consumers, as well as the existence of operational markets for supplying commodities. Both are often lacking in the contexts in which the WFP operates. Understanding the potential for food assistance to generate demand for nutritious foods is a starting point. The findings of this study show that food assistance has the potential to turn need into demand.

Cash and food transfers improved dietary diversity and quality, but in different ways. FCSs showed that the diets of both cash and food transfer beneficiaries were nutritionally adequate. However, food transfers, although providing only basic staple foods, led to more improved dietary diversity than cash transfers. Food transfer beneficiaries received a basic food parcel of 45 kg of cereal, 9 kg of cowpeas and 750 ml of oil per month. This seemed to enable them to supplement their diets with milk, yoghurt and other dairy products, as well as fish and other seafood, generating demand for these nutritious foods. The non-beneficiaries' diets lacked these foods.

Although cash transfer beneficiaries had slightly lower dietary diversity than the food transfer beneficiaries, cash transfers led to more frequent consumption (and demand) for nutrient-dense foods such as milk, yoghurt and other dairy products, poultry, eggs and poultry products, red meat and meat products. Even though cash beneficiaries had access to, and were more readily able to purchase highly nutritious foods, they did not seem to consume as wide a range of food types with the same frequency as the food transfer beneficiaries (as indicated by the cash beneficiaries' lower FCSs). This may have been attributed to the small sum of cash they received that was not sufficient to purchase diverse foods. It is also possible that these funds were diverted to expenditure on non-food items. Both cash and food transfers have the potential to generate demand for a variety of nutritious foods in the communities investigated through this study. It appears that a nutritious food component improves diet quality, and should be considered when designing assistance programmes. Direct food provision leads to an improvement in dietary diversity, while cash enables beneficiaries to purchase more nutritious foods, which improves overall diet quality. Households could use the cash portion to buy foods of higher nutritive value such as dairy products, eggs, fish, meat and poultry.

A careful assessment of which foods are typically available in beneficiary households is recommended to avoid providing foods that are already available (such as starchy staples), but rather supplementing these with foods of higher nutritive value that are not regularly consumed. Providing adequate rations of basic food and a cash portion could improve both dietary diversity and quality, and stimulate demand for nutritious foods by addressing both income (purchasing power) constraints and stimulating demand for these foods. This demand could have a pull factor in terms of local food systems, stimulating demand not only for food, but also for food system services, both upstream and downstream.

However, a basic level of market functioning is a prerequisite for the effective provision of cash transfers and to enable local economic multipliers. As these interventions are typically implemented in areas where food systems are weak and localised, context analysis is necessary. Cash injections could result in price spikes and erode purchasing power. Private traders may also lack incentives to supply commodities, necessitating further interventions to support private sector partnerships to support humanitarian efforts.

This study contributes to evidence on how different transfer modalities improve the diets of food assistance beneficiaries. The findings contribute to understanding how the WFP's current programmes affect household dietary diversity and quality. Such insight is essential to inform the design of future programmes as part of the WFP's Strategic Plan for 2017 to 2021, but contributes more broadly to understanding the systemic food system influences that food assistance programmes can have in development contexts.

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# Chapter 6: The influence of food assistance on the precautionary strategies poor households adopt to mitigate food insecurity in Mozambique

## 6.1 Introduction

Mitigating negative and harmful responses to household food shortages is essential in selecting the most appropriate food security interventions for poor households facing chronic food shortages. Poor households experience many socio-economic, natural, physical and institutional shocks such as droughts, sickness, death, poverty, as well as stress from high food prices. Such shocks determine and increase poor households' exposure to the risk of food insecurity (Christaensen and Boisvert 2000). These shocks result in disruptions and breakages in food systems that affect the availability of household food, income and endowments. Such flaws in food systems result in systemic problems, leading to food shortfalls that deprive individuals and households of essential nutrition and other basic needs (WFP 2017).

To mitigate food shortfalls, households adopt precautionary food consumption and income-smoothing behaviours (Morduch 1995). Such strategies seek to minimise dietary, economic and social costs to the household (Devereux and Jere 2008). Chronic food shortages, protracted conflicts and the erosion of livelihoods and family-based support systems demand the large-scale rollout of social transfers using a modality appropriate to the context and prevailing circumstances. However, little consensus exists on whether cash or food transfers are more effective in supporting poor households against the adoption of negative food consumption-related precautionary strategies when faced with food shortfalls (Bailey 2013).

Precautionary strategies are actions taken by households to counter short-term food shortfalls. These strategies are often referred to in development and food security literature as the coping strategies households use in the face of inadequate access to food or amidst adversity such as famine or diseases (Aker 2013; Bailey 2013; Corbert 1988; Davies 1993; Devereux and Jere 2008; Devereux and Mhlanga 2008; Hoddinott Sandström and Upton 2014; Maxwell 1996; Maxwell and Caldwell 2008; Maxwell et al. 1999; Rugalema 2000).

While short-term precautionary strategies involve the short-term alteration of food consumption patterns, long-term precautionary strategies involve, for example, the alteration of livelihood strategies or the alteration of income-earning and food-production patterns (Aker 2013; Bailey 2013; Devereux and Jere 2008; Devereux and Mhlanga 2008; Hoddinott et al. 2014; Maxwell and Caldwell 2008; Maxwell et al. 1999). However, these can become long-term adaptive strategies that lead to permanent changes in the manner in which households acquire sufficient food or income (Davies 1993).

Generalising behaviour patterns in famine situations is problematic, as famines differ in their causes and duration. However, Corbert (1988) argues that households react differently when faced with food shortages in famine situations. Famines also affect different households differently and influence household behaviour (Corbert 1988). For example, there is evidence that food or cash in famine relief programmes did not necessarily lead to increased intakes of food because households prioritised purchasing assets to safeguard their future survival rather than increasing their food consumption levels (Corbert 1988).

The logic behind the sequence of adopting such precautionary strategies is based on their reversibility and level of commitment of household resources and endowments (Watts 1983). For example, dietary adjustments such as eating less-preferred foods or reducing portion sizes at meal times are easily reversible strategies that do not jeopardise the household's long-term prospects. However, strategies such as the sale of productive assets or migration indicate more serious long-term consequences for the household (Watts 1983). Literature also suggests that households are more likely to employ strategies that are less reversible when food shortages persist or worsen, leading to the adoption of more severe forms of precautionary strategies (Corbett 1988; Devereux 1993).

Increasing household income by selling productive assets may constrain future livelihood opportunities, making it more difficult for households to recover after a period of food adversity passes (Barrientos 2010). Engaging in unsustainably high levels of livelihood diversification to secure incomes or food is also a possible precautionary strategy (ODI Forum for Food Security 2004). Households may adopt strategies that reduce household

expenditure on non-food items in order to prevent a reduction in food expenditure. For example, they may avoid seeking health services when needed.
Such strategies have long-term detrimental effects on health and welfare. Another common long-term precautionary strategy used to reduce non-food expenditure is to take children out of school (Barrientos 2010). Poor education levels trap people in poverty and lower their income potential (Hoddinott and Quisumbing 2003).

Understanding the sequential phases of the adoption of precautionary strategies in any given context is important because interventions need to be appropriate for the stage of deprivation (Hendriks 2015). For example, timely food and cash transfers could counter household food rationing or the skipping of meals by making food available to the household.

Maxwell and Caldwell (2008) classified food consumption-related precautionary strategies adopted by households facing real or anticipated food shortages into four sequential phases. The first phase includes strategies comprising a variety of consumption-reduction actions, such as eating less-preferred or cheaper foods. In the second phase, households adopt strategies that seek to increase their food supplies. These include unsustainable, short-term strategies like buying food on credit, borrowing, begging, eating wild fruits or immature crops, and, in extreme cases, eating seed stocks.

If food shortages persist, households enter the third phase, and adopt strategies that seek to reduce the burden on the food available by, for example, sending household members to stay with relatives or neighbours, which reduces the number of mouths to be fed. Worsening food shortages can lead to the fourth phase of consumption-related precautionary strategies. In this phase, households start rationing food by drastically cutting meal sizes, reducing the number of meals, feeding certain household members or even going whole days without eating (Maxwell and Caldwell 2008). These strategies compromise the nutritional value of diets. Compromised dietary quality and quantity leads to malnutrition (Wagstaff and Watanabe 2000). Malnourished children are more prone to illness, weakness, lower education levels and lower cognitive ability than better nourished children (Wagstaff and Watanabe 2000).

Evidence from comparative studies seems to suggest that the receipt of cash and food transfers may affect the selection and combination of precautionary measures the households adopt. However, there is no consensus as to which transfer modality is more effective (Aker 2013; Bailey 2013; Devereux and Jere 2008; Devereux and Mhlanga 2008; Hoddinott et al. 2014; Maxwell and Caldwell 2008; Maxwell et al. 1999).

A pilot study conducted on a sample of 7 600 households in Swaziland compared the adoption of consumption-related precautionary strategies of households receiving food transfers and households receiving a combination of food and cash transfers in a drought response intervention. The study showed that there was no difference in the precautionary strategies adopted by the two groups (Devereux and Jere 2008). Rationing food by eating smaller portions or skipping meals was common. Increasing household income by borrowing money or seeking paid casual work was also common. Neither food transfers, nor food and cash transfers provided sufficient protection against the consequences of the drought in the Swaziland pilot study, since beneficiaries still adopted negative precautionary strategies (Devereux and Jere 2008).

A study of 252 displaced persons in a displaced people's camp in the Democratic Republic of Congo (Aker 2013) showed that both cash and food voucher transfers reduced beneficiaries' adoption of negative strategies. Both interventions influenced the combination of strategies adopted by the households. All beneficiaries reduced dietary diversity and rationed food by reducing the number of meals. Cash transfer beneficiaries were less likely to sell household assets, but were more likely to send household members away to look for opportunities to increase household income. Sending household members away also reduced the number of mouths to feed in the household. However, beneficiaries of both modalities increased household income by adopting short-term strategies such as engaging in casual labour. Beneficiaries of both programmes also increased available household resources by taking children out of school.

In a study of 4 670 cash and food transfer beneficiaries from the Zinder region in Niger, cash transfer beneficiaries were more likely than food transfer beneficiaries to report the adoption of negative precautionary strategies in the lean period (Hoddinott et al. 2014). Cash transfer beneficiaries adopted more negative strategies than food transfer beneficiaries, such

as buying food on credit, borrowing from relatives, neighbours or friends, defaulting on debt repayments, reducing portion sizes given to children and skipping meals. A pilot study of 2 676 vulnerable households in the Maseru and Mohale's Hoek District in Lesotho showed that food transfers provided slightly better defence against negative strategies than cash transfers (Devereux and Mhlanga 2008). The study found that cash transfer beneficiaries were more likely than food transfer beneficiaries to make dietary changes, migrate for work, take children out of school and engage in child labour. However, the cash and food transfer beneficiaries adopted similar strategies with regard to borrowing, begging, cutting non-food expenditure and selling assets.

Research has shown that the management of short-term consumption strategies is an accurate indicator of the food security status of the household (Coates et al. 2006; Bickel et al. 2000; Maxwell et al. 1999; Maxwell and Caldwell 2008). The studies summarised above highlight the importance of understanding the food insecurity context in identifying the most suitable transfer modality. Each food insecurity context should inform which transfer modality would be most effective in mitigating the adoption of negative precautionary strategies by poor households in a specific context (Bailey 2013).

This paper addresses the question of whether food or cash transfers affect the –consumption-related precautionary strategies adopted by households faced with chronic food shortages. It reports the findings of a study that evaluated the consumption-related precautionary strategies adopted by beneficiaries of a WFP cash and food-for-work programme in Mozambique against a control group. This study compared the food consumption precautionary behaviour of food transfer beneficiaries and cash transfers beneficiaries with non-beneficiaries. The WFP's objective was to support sustainable livelihoods and food security among chronically poor households in Mozambique. Cash-for-work beneficiaries received the equivalent of $20 per household per month. Food-for-work beneficiaries received 45 kg of cereals, 9 kg of cowpeas and 750 ml of oil per month. The food transfer was estimated to be equivalent to $20 at the time of the study.

## 6.2 Methodology

The methodology is described in Chapter 3 of this thesis. Data for this study was from secondary data sourced from an Outcome Monitoring Survey carried out by the WFP and a National Food Security Survey conducted by the Mozambican government. The study included three groups of respondents: beneficiaries of the WFP Mozambique cash-for-work programme, ($n$ = 247), beneficiaries of the WFP Mozambique food-for-work programme, ($n$ = 209) and a counterfactual group of non-beneficiaries drawn from the National Food Security Survey sample ($n$ = 407).

The strategies listed in Table 16 were discussed with the local communities to determine the local perceptions of the severity, using the methodology of Maxwell and Caldwell (2008). Severity levels were an indication of the degree of food insecurity suggested by the precautionary strategy. Focus group discussions and key informant interviews were conducted to establish the severity levels.

Discussions of precautionary strategies with the studied community were important and necessary to capture strategies that were applicable to the studied context. This is because poor households adopt precautionary strategies that are relevant to the local contexts, local perceptions, local cultures and the local living standards (Delbaere 2009). Additionally, strategies and their severity are location specific (Maxwell and Caldwell 2008). For example, consuming seed as a coping strategy would not be perceived as severe by an urban community, whereas in a rural African community, such behaviour constitutes a very severe coping strategy, as it compromises future crop production for the household.

Four to six people participated in a facilitated discussion. For each discussion, focus group questions, as listed in Table 16, were discussed (Maxwell and Caldwell 2008). Any precautionary strategies that were not applicable to local practices were removed and any precautionary strategies that were not on the list of Maxwell and Caldwell (2008), but applicable to local practices, were added. The precautionary strategies from the 14 focus group discussions were classified into four categories: dietary change, increase food supplies, reduce number of people to feed, and rationing food (Maxwell et al. 1999; Maxwell and Caldwell 2008).

The focus groups ranked each behaviour from 1 to 4 according to increasing degrees of severity, with lowest being least severe and highest being most severe (Delbaere 2009). To make the grouping easier, focus groups were asked to identify the most severe and least severe strategies first and were then asked to classify the intermediate strategies in relation to the most severe and the least severe strategies. The focus groups also identified certain precautionary strategies that were considered as sources of shame for the household and therefore stigmatised by the communities. The final severity weight of each strategy was the average of the focus group rankings for that strategy. Table 16 shows the average weights for each strategy.

Survey respondents were asked how many days in the past seven days they had adopted any of the 12 strategies listed in Table 16, either individually or in combination. PCA was used to identify patterns in the adoption of the strategies, and was also used to classify the strategy frequencies into three factors for each group. It was assumed that the factors accounted for the variance and that there was no error variance (Bartholomew, Knotts and Moustaki 2011; Field 2000; Rietveld and Van Hout 1993). These factors, although latent and unobservable, and thus not directly measurable, are hypothetical concepts that represent variables (Cattell 1973). They make it easier to assess how often precautionary strategies are adopted and evaluate the difficulty with which the household is mitigating food shortages.

The consumption-related CSI was used as a tool to measure the severity of respondents' precautionary behaviours when faced with food shortfalls. The CSI has been widely used in food security assessments in Africa, in the Middle East and in Asia to measure households' behaviours when faced with food shortages (Maxwell and Caldwell 2008).

The CSI measures household behaviour in the context of not having enough food (Maxwell and Caldwell 2008). Maxwell and Caldwell (2008) discuss two types of CSI measures: the context-specific CSI and the "reduced" CSI. The "reduced" CSI looks at a subset of behaviours that can be generalised across different contexts. The context-specific CSI uses a set of coping strategies that are location-specific or group-specific behaviours (Maxwell and Caldwell 2008).

**Table 16: Consumption-related precautionary strategies and perceived severity levels as discussed with the local communities**

| Maxwell and Caldwell's (2008) progression of consumption-related strategies | Focus group question | Focus group discussion responses | |
|---|---|---|---|
| | **In the past seven days, how many days did your household adopt the following precautionary strategies to have access to food?** | **Average strategy severity weights[1] as scored and perceived by focus groups** | **Severity level[1] categories as perceived by focus groups perceptions** |
| Dietary change (1) | Eating less-preferred food or cheaper foods | 1 | Least severe |
| | Eat food that has been thrown away or hunt for uncommon foods | 2 | Moderately severe |
| Increase food supplies (2) | Buy food or borrow on credit | 1 | Least severe |
| | Borrow food or request help from family or friends | 2 | Moderately severe |
| | Send household members to beg | 3 | Moderately severe and defined by community as stigmatised |
| | Collect unripe and immature crops Dispose of unproductive and productive assets | 4 | Most severe |
| | Depend on casual labour | 4 | Most severe |
| Reduce number to feed (3) | Send household members away | 3 | Moderately severe |
| Rationing food (4) | Limit quantities of food at mealtimes | 1 | Least severe |
| | Reduce number of meals per day | 1 | Least severe |
| | Spend the whole day without eating | 1 | Least severe |
| | Reduce quantities of food given to adults to give to the children | 3 | Moderately severe |

[1] The average of severity weights from the focus groups is 1 to 4. The weights are an indication of the community perception of the severity of the coping strategy: 1 is the least severe and 4 is the most severe; 2 and 3 are intermediate.

This chapter looks at context-specific CSI in households that experienced chronic food shortages during a lean season in Mozambique between October 2011 and March 2012. The use of the context-specific behaviours in this thesis allows for a better understanding of the food security situation in the studied population, as well as a better formulation of the subsequent recommendations. The CSI, being a composite score, was calculated from the respondents' answers to questions about which precautionary strategies they adopted and the frequency of adoption in the seven days prior to the survey, considering the severity weighting of the strategy, as ranked by the respondent communities. Following the methodology of Maxwell and Caldwell (2008), the calculation was based on the

combination of the frequency of adoption of the 12 precautionary strategies and the community-established strategy weight (see Table 11). A higher CSI indicated that the household was facing greater difficulties as per the following formula:

$$\text{CSI}h = a_{\text{strategy1}}x_{\text{weight1}} + a_{\text{strategy2}}x_{\text{weight2}} + a_{\text{strategy3}}x_{\text{weight3}} + a_{\text{stretegy3}}x_{\text{weight3}} + a_{\text{strategy4}}x_{\text{weight4}} + a_{\text{strategy5}}x_{\text{weight5}} + a_{\text{strategy6}}x_{\text{weight6}} + a_{\text{oil}}x_{\text{oil}}$$

(Maxwell and Caldwell 2008)

Where CSI*h* signifies the CSI of the household, *a* represents the weight of precautionary strategy that was adopted and *x* represents the frequency with which the household uses the adopted strategy, which is the number of days that each strategy was adopted in the past seven days.

An analysis of variance was used to compare the mean CSI of the cash transfer beneficiaries, food transfer beneficiaries and non-beneficiaries. A post-hoc Tukey HSD test was run on the CSI means at 5% level of significance. The Tukey HSD test is a multiple comparison or post-hoc method that is used to determine the existence of significant differences between multiple groups, which are the CSI means in this case (Yong and Pearce 2013).

The Monte Carlo method identified 3 as the optimum number of factors for the PCA (O'Connor 2000), where n = 863 for 12 variables and 100 iterations (O'Connor 2000). The value of the KMO test was 0.602 for n = 247 (cash transfer beneficiaries), 0.656 for n = 209 (food transfer beneficiaries) and 0.709 for n = 407 (non-beneficiaries). A sample was considered adequate if the value of the KMO test was greater than 0.5 (Field 2000). The PCA factor analysis mathematical model is presented in Equation 1 below.

Equation 1:

$$X_j = {}_{aj1}F_1 + {}_{aj2}F_2 + {}_{aj3}F_3 + \ldots\ldots\ldots\ldots {}_{ajm}F_m + e_j$$

(Yong and Pearce 2013).

Where $X_j$ is the variable represented in the latent factors (principle components) where *j = 1, 2, 3 …..p, P* indicates the number of variables *($X_1$, $X_2$, $X_3$, ……$X_p$)*, and *m* indicates the

number of underlying factors *($F_1$, $F_2$, $F_3$……$F_m$).* The assumption in this model is that there are *m* latent factors (principal components). The factor loadings are *a j1, aj2,…,ajm,* which signifies that *aj1* is the factor loading of the $j^{th}$ variable on the first factor. The specific or unique factor is denoted by *ej*.

On the basis of this equation, strategies were classified by the factor loadings on each variable (number of days each precautionary strategy had been used in the past seven days). The factor loadings are an indication of the strength of the correlation between the factor and the variable (Kline 1994), showing how much the variable contributed to the factor. If the factor loading is higher, it means that the variable contributed more to that factor (Harman 1976). The first factor accounts for the maximum percentage of the variance, while the second and subsequent factors account for the remaining variance (Rietveld and Van Hout 1993).

## 6.3 Results

Some 53% of cash transfer beneficiaries were female compared to 71% of food transfer beneficiaries and 32% of non-beneficiaries. Household size ranged from one to 17 household members. The mean and mode household size for cash transfer beneficiaries was six, while the mean for food beneficiary households was six members and the mode was five. Mean household size for non-beneficiary households was five members, with a mode of four.

Respondents were also asked if their household had experienced any shock or unusual situation that affected their capacity for self-sustenance, consumption patterns or sale of assets in the past 12 months. Examples of such shocks provided by the respondents were droughts, floods, cyclones and hailstorms. Unusual situations provided by respondents were loss of employment or deaths in the family. The information on shocks and unusual situations experienced by households provided an understanding and background to some of the circumstances that led to these households experiencing food shortages. The frequencies with which households had experienced these shocks and unusual situations were computed for all respondents. Table 17 shows the specific shocks reported by respondent households in the six months prior to the survey. Drought was the most frequent shock reported by all

respondents. This was to be expected, as the areas targeted by this study were prone to droughts. Loss of employment was not a frequently cited shock for all respondents, probably because these were poor households and levels of unemployment were high.

**Table 17: Most frequent recent shocks or unusual situation suffered by households**

| Type of shock | Transfer modality | | |
|---|---|---|---|
| | **Cash beneficiaries** | **Food beneficiaries** | **Non-beneficiaries** |
| Experienced a shock or unusual situation in the past six months | 46% | 40% | 21% |
| Drought | 30% | 50% | 49% |
| Floods, hailstorms, cyclones | 7% | 10% | 14% |
| Loss of employment of employed members of the household | 4% | 11% | 3% |
| Death of a breadwinner | 42% | 53% | 36% |

Respondents in the study did not classify the precautionary strategies in the same progression as Maxwell and Caldwell (2008). As illustrated in Table 16, respondents classified food rationing strategies as primary strategies, whereas these were classified as the last to be adopted by Maxwell and Caldwell (2008). Sending household members away was classified by the respondents as a last resort and a very severe strategy, whereas Maxwell and Caldwell (2008) classified this strategy as third in the progression. Similarly, the respondents classified collecting unripe fruits and relying on casual labour as a very severe, last-resort precautionary strategy, whereas Maxwell and Caldwell (2008) only classified them as second on their progression of strategies. The respondents considered sending household members to beg as very severe and highly stigmatised, whereas Maxwell and Caldwell (2008) considered them only in second place in the progression.

Table 18 shows the mean number of days each household adopted a precautionary strategy. All strategies under consideration in the study were adopted, with Table 18 illustrating a mean greater than zero days for all precautionary strategies. Respondents also reported the regular application of the following strategies: eating less-preferred foods, limiting quantities of food at mealtimes, reducing the number of meals per day and reducing

quantities given to adults to give to children. This result validates focus group rankings (see Table 16), which also categorised the above-mentioned four strategies as those primarily adopted by households in response to food shortages.

**Table 18: The frequencies of the adoption of food consumption precautionary strategies per food group**

| | | **Mean number of days precautionary strategy was used** | | |
|---|---|---|---|---|
| **Maxwell and Caldwell's (2008) progression of food consumption precautionary strategies** | **In the past seven days, how many days did your household adopt the following precautionary strategies to have access to food?** | **Food transfer beneficiaries** | **Cash transfer beneficiaries** | **Non-beneficiaries** |
| 1. Dietary change | Eating less-preferred food or cheaper foods | 2.4 | 2.24 | 2.53 |
| | Eating food that had been thrown away or hunting for uncommon foods | 1.41 | 0.54 | 0.53 |
| 2. Increase food supplies | Buying food or borrowing on credit | 1.41 | 0.33 | 0.32 |
| | Borrowing food or requesting help from family or friends | 1.45 | 0.48 | 1.12 |
| | Sending household members to beg | 1.21 | 0.03 | 0.04 |
| | Collecting unripe and immature crops | 1.55 | 0.43 | 0.34 |
| | Depending on casual labour | 1.63 | 0.72 | 0.75 |
| 3. Reduce number to feed | Sending household members away | 1.11 | 0.08 | 0.15 |
| 4. Rationing food | Limiting quantities of food at meal times | 1.65 | 1.11 | 2.08 |
| | Reducing the number of meals per day | 1.85 | 1.21 | 2.21 |
| | Spending the whole day without eating | 1.14 | 0.22 | 0.36 |
| | Reducing quantities of food given to adults to give to the children | 1.58 | 1.33 | 2.21 |

The CSI scores for the three groups were significantly different (see Table 19), indicating distinct patterns for the three groups. The post-hoc Tukey HSD tests showed a significant difference in CSI scores between the cash transfer beneficiaries as opposed to the food transfer beneficiaries and non-beneficiaries at 5% level of significance (see Table 19). However, there was no significant difference in the CSI scores between the food transfer beneficiaries and the non-beneficiaries.

**Table 19: Tukey HSD analysis for CSI scores**

| (I) Transfer modality | (J) Transfer modality | Mean difference (I-J) | Standard error | Significance | 95% confidence interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower bound | Upper bound |
| **Cash** | Food | 19.636* | 2.614 | .000 | 13.497 | 25.776 |
| | None | 15.890* | 2.370 | .000 | 10.3227 | 21.458 |
| **Food** | Cash | -19.636* | 2.614 | .000 | -25.776 | -13.497 |
| | None | -3.746 | 2.324 | .241 | -9.204 | 1.711 |
| **None** | Cash | -15.890* | 2.370 | .000 | -21.458 | -10.322 |
| | Food | 3.746 | 2.324 | .241 | -1.711 | 9.204 |

A higher CSI, in comparison with the control group, indicated that the households were adopting more severe strategies more frequently than the control group. The mean CSI for cash transfer beneficiaries, food transfer beneficiaries and non-beneficiaries was 55.46, 35.83 and 39.57 respectively. This meant that the benefit group facing greater coping difficulties was the cash transfer beneficiaries, followed by non-beneficiaries and lastly food transfer beneficiaries. This result indicated that cash transfer beneficiaries were worse off than either food transfer beneficiaries or non-beneficiaries. This could be because the cash received by cash transfer beneficiaries was not sufficient to cater for both food and non-food household requirements, such that the cash transfer was spread so thinly that there was not enough money to cushion households against food shortages. On the other hand, households that

received food transfers could directly consume the food transfers and so adopted fewer negative precautionary strategies.

Table 20 shows three PCA pattern matrices, each matrix representing a transfer method. Factor loadings indicate the strength of the correlation between the factor (principal component) and the variable (Kline 1994), which means that if the factor loading is high, the variable contributes more to the PCA outcome (Harman 1976). Precautionary strategies that clustered together on primary factors in the analyses were more likely to be adopted together frequently and to constitute a significant part of the household's strategies when facing food shortfalls.

The pattern matrices indicate that households seem to adopt multiple strategies simultaneously. Cash and food transfer beneficiaries generally adopted six of the 12 investigated strategies. Food transfer beneficiaries did not generally buy food on credit or borrow food from friends. The food parcels may have reduced the need to borrow food. Cash transfer beneficiaries did not often depend on casual labour. Both cash and food transfer beneficiaries ate less-preferred foods, collected unripe foods and ate hunted or uncommon foods, but to a lesser extent than non-beneficiaries. Food transfer beneficiaries depended on casual labour less often than non-beneficiaries. According to the focus group discussions, this strategy took labour away from cultivating fields and gardens, compromising future food availability, and was therefore not practised. Depending on casual labour was an important strategy for non-beneficiaries, as they did not have access to either food or cash transfers.

**Table 20: Principal component analysis pattern matrices**

| Pattern matrix – non-beneficiaries | | | | Pattern matrix – cash transfer beneficiaries | | | | Pattern matrix – food transfer beneficiaries | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Coping strategy adopted | Component | | | Coping strategy adopted | Component | | | Coping strategy adopted | Component | | |
| | 1 | 2 | 3 | | 1 | 2 | 3 | | 1 | 2 | 3 |
| Limit meal quantities | .863 | -.111 | .153 | Reduce number of meals | .959 | -.017 | .012 | Reduce number of meals | .891 | -.074 | .337 |
| Reduce number of meals | .847 | -.163 | .080 | Send household members to beg | .947 | -.044 | .058 | Send household members to beg | .875 | -.078 | .334 |
| Spend whole day without eating | .744 | -.056 | .010 | Send household members away | .942 | .008 | -.010 | Send household members away | .871 | -.068 | .318 |
| Eat less-preferred foods | .626 | .262 | .126 | Limit meal quantities | .859 | .119 | -.007 | Limit meal quantities | .868 | .084 | -.311 |
| Reduce adult food give to children | .612 | .125 | -.161 | Spend whole day without eating | .845 | .132 | -.017 | Spend whole day without eating | .865 | .074 | -.321 |
| Lost and found food or hunt uncommon foods | .468 | .334 | -.022 | Reduce adult food give to children | .754 | .034 | .181 | Reduce adult food give to children | .636 | .286 | -.206 |
| Collect unripe or immature crops | -.157 | .893 | .124 | Buy food or borrow on credit | .603 | -.078 | -.113 | Eat less-preferred foods | .005 | .982 | .072 |
| Depend on casual labour | .285 | .675 | -.057 | Eat less-preferred foods | .006 | .993 | -.002 | Collect unripe or immature crops | -.005 | .977 | .046 |
| Send household members to beg | .063 | -.092 | .721 | Collect unripe or immature crops | -.010 | .992 | .000 | Lost and found food or hunt uncommon foods | .017 | .968 | .080 |
| Send household members away | -.005 | .084 | .600 | Lost and found food or hunt uncommon foods | .028 | .977 | -.018 | Depend on casual labour | -.118 | .171 | .591 |
| Buy food or borrow on credit | .002 | .042 | .578 | Depend on casual labour – emergency | .008 | -.015 | .990 | Buy food or borrow on credit | .199 | .029 | .470 |
| Extraction method: PCA. Rotation method: Oblimin with Kaiser normalisation. | | | | | | | | | | | |

Non-beneficiaries generally adopted six precautionary strategies, three of which were similar to those adopted by cash and food transfer beneficiaries: limiting meal quantities, reducing the number of meals and spending the whole day without eating. The other three primary strategies non-beneficiaries adopted were eating less-preferred foods, reducing meal quantities of adults to make more food available for the children and eating hunted or uncommon foods. Interestingly, two strategies non-beneficiaries did not adopt were begging and sending household members away. In contrast, cash transfer beneficiaries often adopted these strategies.

Focus group discussions indicated that these strategies carried stigmas of shame in the communities and were only adopted when a household had no other options available to mitigate food shortages. However, it seemed that since cash and food transfer beneficiaries were already known and accepted by the communities as the most poor, they could overcome the stigma and adopted these practices regardless of community opinion. Similarly, non-beneficiaries very seldom turned to buying food on credit or borrowing from friends. This could be because lenders were unwilling to offer credit to non-beneficiaries as there was no guarantee that they would receive cash or food from an established source to make the repayment. Another possibility could be that lenders tended to exploit transfer beneficiaries by easily agreeing to offer credit and immediately cashing in the transfers once the transfer beneficiaries received their cash or food parcels.

Cash transfer beneficiaries were the only group that could use borrowing as one of the primary precautionary strategies. This was possibly because of the assurance given to lenders by the predictable cash transfers the cash transfer beneficiaries would receive.

Collecting unripe foods was not frequently adopted by cash transfer beneficiaries, food transfer beneficiaries or non-beneficiaries. Consuming unripe or immature crops would irreversibly undermine future household food security and the community considered it a severe emergency strategy. Even though Maxwell and Caldwell (2008) ranked the eating of uncommon foods as one of the initial strategies to be adopted by households, in this study, only non-beneficiary households adopted this measure as a primary strategy. This study indicates that food and cash transfer beneficiaries did not adopt this strategy as a primary

strategy, probably because the availability of cash and food from the transfers prevented households from adopting this strategy.

## 6.4 Conclusions

The aim of this part of the study was to determine whether cash and food transfers influenced consumption-related precautionary strategies that households adopted when faced with food shortfalls brought about by flaws and disruptions in the food systems. Using non-beneficiaries as a comparison control group, the findings showed that, despite receiving cash and food transfers, beneficiaries adopted precautionary strategies to cushion households from food shortfalls.

The households in this study did not necessarily follow Maxwell and Caldwells' (2008) sequential four-phase adoption of consumption-related precautionary strategies. The variance from Maxwell and Caldwell (2008) that was observed in this study clearly demonstrated that the frequency and sequence of the adoption of precautionary strategies are context specific.

It can be concluded that cash and food transfers influenced the precautionary strategies that households adopted to mitigate food consumption shortfalls. Food transfer beneficiaries had less difficulty in coping with food shortages than either cash transfer beneficiaries or non-beneficiaries. However, cash transfer beneficiaries faced greater difficulties in coping with food shortages than non-beneficiaries. It is concluded that the food and cash transfers were not sufficient to cushion beneficiaries sufficiently to prevent the adoption of negative precautionary strategies. However, the sufficiency of the cash or food transfer should be studied further.

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# Chapter 7: Recipient households' preferred transfer modality

## 7.1 Introduction

This chapter discusses the preferences of targeted households that received cash or food transfers in certain districts of Mozambique. The reasons why beneficiaries prefer cash or food are also analysed and discussed. This chapter also looks at how beneficiaries use the cash and food transfers and if beneficiaries are satisfied with the beneficiary selection process.

Respondents' preferences and reasons for these preferences were analysed to determine the participants' preference for either cash or food. The respondents' satisfaction with the selection process and use of cash and food transfers were used to assess the preference and acceptability of cash and food transfers in the areas under study. Discussions were also held with focus groups and key informants to triangulate the responses from the cash and food beneficiaries.

## 7.2 Beneficiaries' preferences for cash or food

Of the respondents receiving food assistance, 42.7% preferred cash to food transfers (see Table 21). Some 19% of respondents preferred to receive both food and cash, and 38.3% preferred to receive transfers in the form of food.

**Table 21: Beneficiary preference for cash or food transfer**

| Preference | Frequency | Percentage |
|---|---|---|
| Food | 155 | 38.3% |
| Cash | 173 | 42.7% |
| Both food and cash | 77 | 19% |

Food transfer beneficiaries preferred the food transfer modality as it solved household food shortfalls immediately (see tables 22, 23 and 24). The second-most frequently cited reason for preferring the food transfer modality was that food was a better option for the children, as illustrated in Table 22.

**Table 22: Reasons for preferring food transfers**

| Primary reasons for preferring food transfers | Preference for food (percentage) |
|---|---|
| It resolves the lack of food in the household. | 51% |
| It is difficult to steal food. | 3.9% |
| Prices of agricultural commodities are high. | 3.9% |
| It is better for the children. | 20.6% |
| It is much easier to share with family and friends. | 13.5% |
| Women are better at managing food. | 3.9% |
| Prices vary. | 1.3% |
| It is difficult to access markets. | 1.9% |
| Total percentage | 100% |

The majority of respondents who preferred cash (see Table 23) reported that it could be used to buy food, but the cash was also spent on school expenses, agricultural inputs and medical expenses.

**Table 23: Reasons for preferring cash transfers**

| Primary reasons for preferring cash transfers | Preference for cash (percentage) |
|---|---|
| The household can buy food and other products. | 50.3% |
| The household can buy products at much lower prices. | 2.9% |
| The household can buy different food products. | 10.4% |
| It is easy to transport and costs less. | 2.3% |
| The household can save some of the cash. | 3.5% |
| The household can buy agricultural inputs. | 9.2% |
| The money can be used for other expenses. | 21.4% |
| Total percentage | 100% |

Those who preferred to receive a combination of cash and food reported that it enabled households to resolve consumption difficulties in that the cash transfer allowed the households to meet non-food needs and the food transfer allowed them to meet food needs.

The second major reason for preferring both cash and food was that receiving both food and cash allowed households to meet seasonal requirements (see Table 24), such as the procurement of agricultural inputs using cash transfers.

**Table 24: Reasons for preferring a combination of cash and food transfers**

| **Primary reasons for preferring a combination of cash and food transfers** | **Preference for part cash and part food (percentage)** |
|---|---|
| It can satisfy seasonal requirements. | 29.9% |
| The household can buy products at much lower prices. | 2.6% |
| The household can buy different food products. | 1.3% |
| It has better capacity to resolve difficulties. | 66.2% |
| Total percentage | 100% |

Fewer than 10% of beneficiaries reported that they exchanged the cereals or pulses they received as food transfers. The majority of respondents consumed the food transfers, although Table 25 illustrates that the cash transfers were used for a variety of purposes. While 86.9% of respondents said that the cash transfers were used to purchase food, it is also interesting to note that some of the food recipients reportedly sold or exchanged the food, which demonstrated that some households preferred to convert the food transfers into cash to meet their non-food needs.

**Table 25: Use of cash and food transfers**

| **Did you sell or exchange cereals?** | | | **Did you sell or exchange pulses?** | | | **For what did you use the cash you received last time?** | |
|---|---|---|---|---|---|---|---|
| | | **Percentage** | | | **Percentage** | | **Percentage** |
| | No | 91.2% | | No | 92.2% | Food | 86.9% |
| | Yes | 8.8% | | Yes | 7.8% | School expenses | 6.8% |
| | Total | 100% | | Total | 100% | Medical expenses | .5% |
| | | | | | | Agricultural inputs | 5.8% |
| | | | | | | Total | 100% |

Food transfer recipients recorded a higher percentage (83%) of respondents who recorded that they were very satisfied with the beneficiary selection process (see Table 26). Only 5% of respondents in each of the beneficiary groups recorded dissatisfaction with the beneficiary

selection process. Favouritism, where selection of beneficiaries was perceived not to follow the set criteria, was recorded as one of the major reasons for dissatisfaction with the beneficiary selection process (6% of respondents cited this reason).

**Table 26: Satisfaction with beneficiary selection**

| **Are you satisfied with the selection process of beneficiaries?** | **Cash recipients (percentage)** | **Food recipients (percentage)** |
|---|---|---|
| Very satisfied | 78% | 83% |
| A little satisfied because there was favouritism | 8% | 4% |
| A little satisfied because there was political interference | 4% | 2% |
| A little satisfied because people who should have been selected were not considered and were left out | 2% | 3% |
| A little satisfied because people who should not have been selected received food | 3% | 2% |
| Dissatisfied | 5% | 5% |
| Total percentage | 100% | 100% |

## 7.3 Discussion

The majority of beneficiaries preferred cash transfers to food transfers, the main reasons being that cash could be used for a wider variety of household requirements. Even though the cash was mostly used to buy food, households also used cash for medical and school expenses, as well as to purchase agricultural inputs. The cash was used to build livelihoods in cases where agricultural inputs were purchased. This also indicated the building of human capital, where some of the cash was used to pay school and medical expenses. To some extent, building human capital and livelihoods guarantees future income, providing some assurance against future food insecurity.

Discussions with focus groups and key informants also revealed that beneficiaries preferred cash transfers as these allowed recipients access to commodities in local and other markets. Because beneficiaries of cash transfers in remote areas also received a transport allocation, they were able to reach otherwise inaccessible markets in distant cities or towns. Some focus group discussions also revealed that since the cash transfers were processed through the

formal banking system, the cash transfer intervention provided opportunities for some participants to open bank accounts and enter the financial sector for the first time.

## 7.4 Conclusion

Participants preferred cash transfers over food transfers because cash transfers allowed them to meet food and other household requirements. Cash transfers facilitated linkages to financial systems for the poor, an opportunity that they might not have had in the absence of cash transfers. Cash transfers also facilitated access to markets with more competitive prices.

Embracing and exploiting digital technology is crucial to alleviate issues of dissatisfaction with the targeting and selection process of beneficiaries. For example, the use of smart identification cards is essential in the verification of beneficiary identities, the targeting of entitlements and the evaluation of defaults in the collection of entitlements. Digital technology can offer more transparent, efficient and personalised food assistance by ensuring that the correct amount or quantity of transfers goes to the right person.

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# Chapter 8: The ability of the WFP's food and cash transfers to leverage improvements in food system performance

## 8.1 Introduction

Using evidence from Mozambique, this thesis assessed the potential for food assistance to improve household food security during crises. The assessment was based on investigating the following three research questions:

**Sub-problem 1:** Does food assistance improve recipients' dietary diversity and food quality in Mozambique?

**Sub-problem 2:** Do cash or food transfers influence the precautionary strategies poor households adopt to mitigate food insecurity in Mozambique?

**Sub-problem 3:** What transfer modality do recipient households prefer?

**Concluding question:** Can the WFP's food assistance programme in Mozambique drive the food system change to improve food insecurity?

Having addressed the first three sub-problems in Chapters 5 to Chapter 7, the general objective of the study under investigation is discussed: Can the WFP`s food assistance programme in Mozambique leverage improvements in the food system?

The global food security challenge to improve the functioning and quality of food systems is directly linked to SDG Target 2.4. Well-functioning food systems can improve access to food and reduce malnutrition among poor households. Systemic food assistance could play a role in ensuring sustainable food systems. Food assistance interventions could help address systemic problems in food systems, such as the "last mile", "bad year" and "good year" problems.

## 8.2 Systemic food system problems and the potential leverage from cash and food transfers

As reported in Chapter 5, distinct consumption patterns were found between cash and food transfer beneficiaries and the counterfactual group, with important inferences for addressing the "lean season" problem. The "lean season" can create a demand for nutritious foods that can be met if markets can move foods to where the demand is and if consumers have the purchasing power to buy what they are not able to produce in this period. Cash transfers could provide this purchasing power by turning need into market demand. Providing adequate rations of basic food alongside a cash portion could improve both dietary diversity and quality, and stimulate demand for nutritious foods other than the supplied staple foods. These findings lead to the rejection of the first hypothesis: that the WFP's food assistance programme in Mozambique did not improve recipients' dietary diversity and food quality.

Although food transfer beneficiaries enjoyed slightly better dietary diversity than the cash transfer beneficiaries, cash transfers led to the more frequent consumption (and so too, demand) for nutrient-dense foods such as eggs, poultry and poultry products, red meat and meat products, yoghurt, milk and other dairy products. Even though cash beneficiaries had access to – and were more readily able to – purchase highly nutritious foods, they did not consume as wide a range of food types as frequently as the food transfer beneficiaries, as indicated by the cash beneficiaries' lower FCS. This may have been because the small sum of cash they received was not enough to purchase diverse foods. On the other hand, this may have been due to the diversion of the cash to non-food expenditure, including the procurement of agricultural inputs. The procurement of agricultural products using cash transfers implied that households could be engaging in agricultural activities to produce food. Inferences towards the stimulation of the production pillar of the food system can be derived from such agricultural expenditure.

Food transfers, although providing only basic staple food, enabled households to enjoy more diversified diets than cash transfer beneficiaries. Food transfer beneficiaries received a basic food parcel of 45 kg of cereal, 9 kg of cowpeas and 750 ml of oil per month. Fulfilling the basic needs seemed to enable these households to supplement their diets with milk, yoghurt and other dairy products, as well as fish and other seafood, to some extent. Therefore, food

transfers generated demand for these nutritious foods. The non-beneficiaries' diets lacked these foods.

The findings showed that direct food provision led to an improvement in dietary diversity, while cash enabled beneficiaries to purchase more nutritious foods that improved diet quality. A careful assessment of which foods are typically available in beneficiary households is recommended to avoid providing foods that are already available, such as starchy staples, but rather supplementing these with foods of higher nutritive value that are not regularly consumed, such as meats, dairy products, fruits and eggs.

These findings support the WFP's assertion that food assistance has some potential to mitigate the "lean season" systemic problem, even in the cash- and market-constrained contexts in which the WFP operates. This knowledge helps in the design of interventions in which generating the demand for nutritious foods can lead to beneficial nutrition.

The provision of in-kind food assistance during "non-lean seasons", when agricultural production is high and food is potentially widely available, can lead to the "good year" systemic problem. The "good year" problem is characterised by food surpluses that depress commodity prices. This discourages farmers' future production investments, which generates wastage and spoilage, and results in seasonal price increases that reduce consumer spending power. By inference, cash transfers can play a role in curtailing surplus, reducing waste and preventing commodity price fluctuations. This creates a demand for nutritious foods and provides incentives for food production and transformation.

Chapter 6 looked at how the WFP's food assistance programme in Mozambique influenced the precautionary strategies that poor households employ to mitigate food shortfalls and smooth consumption in "bad year" or "lean season" situations. These periods are characterised by periods of severely constrained access to nutritious food. Cash transfer beneficiaries adopted more severe coping strategies than food transfer recipients and non-beneficiaries. The sequencing of these strategies was not always similar among the three groups. The frequency and sequence of the adoption of precautionary strategies was context specific. Understanding the context and severity of food shortfalls is crucial in designing appropriate, timely and adequate complementary transfers of both cash and food assistance to

mitigate the negative precautionary strategies that households undertake to combat the "lean season" or "bad year" phenomenon.

Physical access to food in the rural areas under study was caused by poor road and market infrastructure, both of which were destroyed during the Mozambican civil war. This scenario typifies the "last mile" systemic problem. The "last mile" systemic problem manifests through the hungry poor who are hard to reach and can only reach out themselves at great cost. This results in low-return, subsistence-oriented livelihoods in rural areas. These poor and marginalised rural households do not have enough resources to meet their food needs and lack the purchasing power to meet their food and nutrition needs. Even though such households eventually develop strategies to mitigate bad years that are characteristic of the "last mile" phenomenon, their diets are largely based on starchy staples at the expense of more expensive nutrient-dense foods. By inference, if these hungry poor are hard to reach, it is most likely that markets also find these people hard to reach, as markets are most likely to refrain from making "last mile" investments where markets face uncertain demand. Therefore, food assistance could address the "last mile" problem, as it reaches beneficiaries directly through food distribution points. In the case of cash transfers, beneficiaries were provided with a transport allowance to collect their cash transfer from the nearest cash points. Food assistance mitigates the "last mile" problem by directly closing the food gap. On the other hand, while providing access to nutritious foods for the hungry and poor, cash transfers could create demand for nutritious foods, which encourages marketers to invest in these "last mile" areas.

Chapter 6 concluded that food transfer beneficiaries coped better with "bad year" and "lean season" problems than either cash transfer beneficiaries or non-beneficiaries. Cash transfer beneficiaries engaged in more erosive coping strategies than non-beneficiaries. Therefore, the second hypothesis (that the WFP's food assistance programme in Mozambique did not influence the precautionary strategies poor households adopted to mitigate food insecurity) is rejected. Chapter 7 concluded that participants preferred cash rather than food transfers. The third hypothesis (that the recipient households preferred cash transfers) is therefore accepted.

Therefore, it is proposed that both cash and food assistance could increase the demand for nutritious foods in situations such as those of Mozambique. This type of assistance can

improve food system performance over the longer term. This demand could have a pull factor in terms of local food systems, not only stimulating a demand for food, but also for food system services such as food markets, food processing services, such as milling, and services for food storage and handling.

These findings lead to the acceptance of the fourth hypothesis (that the WFP's food assistance programme in Mozambique has the potential to overcome systemic problems that cause food insecurity).

## 8.3 Conclusions

This study makes five conclusions. Firstly, the study investigated whether food assistance improved recipients' dietary diversity and food quality in Mozambique. The findings lead to the conclusion that food assistance has the potential to turn need into demand and simultaneously address the "lean season" and "last mile" systemic problem. From the distinct consumption patterns that were found between cash or food transfer recipients in comparison to a counterfactual group of non-recipients, the study concludes that the WFP's food assistance programme in Mozambique improves recipients' dietary diversity and food quality. Food assistance directly addressed the systemic problem of the "lean season". Food assistance has the potential to turn need into market demand, provided that purchasing power is guaranteed through cash transfers and operational markets supply commodities.

Even though both purchasing power and markets are often deficient in the contexts in which the WFP operates, manifesting the "last mile" problem, food assistance improves purchasing power that can generate demand for nutritious foods, providing an incentive for market responses.

The second conclusion of this study is that cash and food transfers improved dietary diversity and quality in different ways. Although providing only basic staple foods, food transfers led to more improved dietary diversity than cash transfers. Even though cash beneficiaries had access to, and were more readily able to purchase highly nutritious foods, leading to improved diet quality, they did not seem to consume as wide a range of food types with the same frequency as the food transfer beneficiaries. This may have been

attributed to the small sum of cash they received, which was not sufficient to purchase diverse foods, or the cash transfer may have been diverted to non-food expenditure.

The study's third conclusion is that cash and food transfers influenced the consumption-related precautionary strategies that households adopted when faced with food shortfalls. These food shortfalls were brought about by flaws and disruptions in food systems, manifesting as "lean season" and "last mile" systemic problems.

Despite receiving cash and food transfers, households still adopted precautionary strategies to cushion themselves from food shortfalls, although the precautionary strategies adopted were influenced by the modality of transfer that the households received. Food and cash transfers could not sufficiently cushion beneficiaries and prevent the adoption of negative precautionary strategies. However, food transfer beneficiaries had less difficulty in coping with food shortages than either cash transfer beneficiaries or non-beneficiaries. Cash transfer beneficiaries faced greater difficulties in coping with food shortages than non-beneficiaries. The frequency and sequence of adoption of precautionary strategies were context specific. This understanding is crucial in designing the most appropriate food security interventions for the specific context and stage of deprivation.

The fourth conclusion of this study was that recipients preferred cash transfers over food transfers because cash transfers allowed them to meet other household requirements. Cash transfers facilitated linkages to financial systems and markets with more competitive prices in other locations. Their distance from markets did not alter beneficiaries' preference for cash if transport costs were factored into the cash transfer value. Cash transfers, in addition to being the recipients' preferred modality, also effectively addressed the "good year" systemic problem in enabling cash transfer recipients to access markets and purchase their food requirements from the markets.

Lastly, in demonstrating how cash and food transfers mitigate systemic problems (the "good year", "lean season" and "last mile" problems), the WFP's food assistance programme in Mozambique has the potential to overcome systemic problems that caused food insecurity. It can be concluded that the WFP's food assistance programme in Mozambique could drive food system change to improve food insecurity during crises in Mozambique. In view of the

relevance of context-specific rather than extrapolated evidence, such a context-specific conclusion is particularly important and applicable in informing the debate on food assistance in crisis situations in Mozambique.

## 8.4 Recommendations

It is recommended that transfers include both cash and food components. A mix of food and cash transfers could improve both dietary diversity and quality. Direct food provision improved dietary diversity, while cash enabled beneficiaries to purchase more nutritious foods that improved diet quality. It is recommended that the Mozambican government, in collaboration with the WFP and local universities, undertakes a careful assessment of the typical local diets to guide the composition of the food transfer portion. This assessment should also be accompanied by seasonal food calendars that indicate foods that are easily available to poor households during the course of the year.

The in-kind and cash transfer portion should be determined according to the typical local diet and the seasonal food availability calendar to mitigate the "good year" systemic problem. For example, during periods when food is readily available, the cash proportion could be proportionally higher than the in-kind portion so that households can buy food from the markets, absorbing food surpluses and preventing food prices from dropping to unprofitable levels for producers. Likewise, when food is scarce, either because of the season or because of the inaccessibility of markets, the in-kind portion could be raised proportionally to the cash portion to mitigate the "last mile" problem.

Improved food availability at the household level may not guarantee improvements in individual diets. This is because individuals in the household may have different dietary requirements and preferences depending on factors such as age, gender or whether they are pregnant or lactating. It is recommended that the WFP provides food assistance using food baskets that are tailor-made to individual household requirements, instead of providing a standard in-kind food basket to all beneficiaries. Some of the foods in a standard food transfer basket may not be appropriate in addressing the nutrient gaps of individual household members. Providing an appropriate in-kind food basket could be achieved by

using commodity vouchers, which are redeemable from local markets. The commodity vouchers would allow beneficiaries to access the specific food items that the individuals in the households require. For example, households with children under five years of age would receive commodity vouchers for high-nutrient foods such as eggs, milk, meat, peanut butter and fruit.

It is also recommended that the WFP assesses which foods are typically available in beneficiary households to avoid only providing in-kind foods that are already available, such as starchy staples. The in-kind food transfer basket should be supplemented with foods of higher nutritive value that are not regularly consumed or are required, depending on the household demographics. The transfer food baskets should not only provide starchy foods, but should also include more micronutrient-rich foods than starchy staples.

Households could use the cash portion to buy foods of higher nutritive value, such as dairy products, eggs, fish, meat and poultry. These foods are usually obtained in markets. However, most poor households live in rural areas where the markets for these foods are not available due to the low demand in these areas.

In most areas, there are small shops (locally called tuck shops or spaza shops), albeit without the wide variety of nutritious foods as these foods require capital to stock up on them. The Mozambican government, in collaboration with the WFP, could embark on assisting these small shops so that they can obtain licenses. Once licensed, these small businesses could access short-term lines of credit from larger wholesalers, based on the guaranteed purchasing power from people who receive cash transfers. Poor households in remote areas can then buy nutritious foods from their local markets, mitigating the “last mile” systemic problem.

Similar studies in other areas of Mozambique are recommended where the WFP has programmes to investigate whether the same responses to food assistance exist and whether local markets indeed have the ability to respond to increased demand for nutritious foods. Systematic review and assessment in other countries is also recommended to test the potential of systemic food assistance to improve nutrition among beneficiaries in development contexts, while simultaneously enhancing the performance of food systems to leverage broad-based and inclusive development.

It is also recommended that the Mozambican government prioritises telecommunications technology infrastructure development in these remote rural areas. This will facilitate easier transfers of cash to poor households in remote areas by food assistance organisations such as the WFP.

The study recommends complementary humanitarian interventions of timely and adequate food transfers to mitigate the adoption of negative strategies and non-food transfers to meet the non-food needs of the beneficiaries. This suggests that if relief intervention is made available early enough, households may use it to avoid reaching the final stage of consumption-related precautionary strategies. Delayed interventions may lead to the adoption of irreversible and undesirable nutritional consequences. Understanding the context and severity of the food shortfall is crucial in designing the most appropriate food security intervention to ensure that support is made available early enough to avoid reaching the final stage of consumption-related precautionary strategies. It is recommended that the WFP and the Mozambican government engage local and community authorities to design seasonal food shortfall calendars, which can assist food assistance agencies in ascertaining the appropriate time for providing food assistance to communities. It is also recommended that the WFP undertakes a comprehensive seasonal food gap analysis to determine the best timing for providing food assistance, as well as to determine the appropriate levels of food assistance to be provided at any point in the seasonal food shortfall calendar.

Although food assistance is a fundamental building block of humanitarian assistance in emergencies, it is also an intervention to address vulnerability and food insecurity in development contexts. Context analysis is recommended before opting for either cash only or food only interventions, as the two modalities complement each other, and implementing either one separately may not achieve the desired levels of dietary diversity and/or quality. Such insight is essential to inform the design of future programmes as part of the WFP's Strategic Plan for 2017 to 2021, but contributes more broadly to understanding the systemic food system influences food assistance programmes can have in development contexts.

## 8.5 Contribution to global knowledge

This study makes the following eight important contributions to reducing the gap between the manner in which food security issues are conceptualised and the development of effective instruments to address them:

1. It contributes to the generation of data for an evidence-based intervention design for crises.
2. The evidence from this thesis contributes to understanding how the WFP's current programmes affect household dietary diversity and quality.
3. It contributes knowledge on the potential for food assistance to convert the need for safe and nutritious foods into effective demand to drive food system change.
4. It contributes knowledge in an area of the paucity of evidence on whether cash or food transfers are more effective in supporting poor households against the adoption of negative food consumption-related precautionary strategies when faced with food shortfalls in emergency contexts. The study contributes to understanding how different transfer modalities contribute to improving the diets of food assistance beneficiaries.
5. It provides information that is directly relevant to the WFP's cash and food social transfer interventions in the Mozambican context. This study shows how different transfer modalities contribute to improving the diets of food assistance beneficiaries in Mozambique. Understanding the behaviours and precautionary strategies adopted by households in specific emergency contexts, such as in this study, is crucial in designing the most appropriate food security interventions that are suitable to the specific context and stage of deprivation.
6. It shows the importance of research and evidence in the design of emergency responses.
7. It helps agencies make informed and objective choices on the most efficient and effective transfer modalities that are suitable for the local context.
8. It contributes evidence on a Southern African assessment, considering that most prior evidence on this topic is drawn from North American contexts.

## 8.6 Recommendations for further research

Similar studies are recommended in different parts of Mozambique to determine variations by geographic area. This is especially crucial for a humanitarian organisation like the WFP,

which is undergoing a strategic shift to implement voucher and cash-based interventions to complement the food aid programme tool. Additional studies are recommended to relate individual dietary diversity and quality to household dietary diversity and quality to ascertain possible underlying intra-household factors that could influence individual access to the household's food.

More research on different cultures and contexts is recommended. This is because dietary habits and food preferences may vary across different cultures and contexts. Households' receipt of cash or food transfers may result in a wide range of dietary responses, depending on the culture and context. Similarly, more research is recommended during seasons other than the lean season. Poor households consume varying foods in different seasons and the availability of different types of foods during the season in question also determines the diet. Household diets may be impacted on differently when cash or food transfers are provided, depending on the prevailing range of foods and availability of foods at the time.

Instead of using snapshot data that was collected at a particular point in time to study coping mechanisms, as is the case in this study, further research is recommended by targeting individual households and tracking their coping mechanisms before and after receiving cash or food transfers. This would provide a comprehensive detailed narrative, giving more insight into the role of intra-household dynamics in individual food availability. Improved food availability at the household level may not guarantee improvements in individual diets. Such research is necessary to understand how intra-household allocation affects food allocation and decisions regarding the adoption of precautionary strategies by households in situations of chronic food insecurity.

# APPENDICES

**Annex 1: Informed consent form**

CODES

0.1. Province _____|__|__| ( 1-11)

0.2. Name of district_____

**0.3.** Code of district |__|__||__|__|__|__|

0.4. Code of cluster _____|__|__|

**0.5.** Name of cluster_____

0.6. Cluster assisted through 1=CFW; 2 = FFW 3 = Not assisted

0.7. Sex of interviewee 1– Masculine 2– Feminine

**0.8. The household is a WFP beneficiary of which programme? 1=CFW; 2 = FFW 3 = Not a beneficiary**

0.9. Code of team |__|__|

0.10. Name of interviewer_____

0.11. Name of supervisor _____

**0.12.** Code of questionnaire **|__|__|**

0.13. Name of interviewee _____

Script of presentation by interviewer and the purpose of the interview:

- My name is _____ and I am doing this work for the WFP.
- Your household was randomly selected for this interview. The objective of the interview is to get information on the following:

(i) Your food security situation and that of other households in this community, village or population

(ii) The benefits to their household of the community assets that were built with the support of the WFP

- This information is crucial because it helps us to understand what the communities most need and their problems so that we can better plan interventions that most benefit them.
- The survey is voluntary and the information you provide is confidential. The information will be used to produce reports, but will not indicate your name or name of any other person interviewed. There will be no way of knowing who provided any certain information.
- Therefore, would you avail about 45 minutes of your time for the interview?
  **Important for the interviewer:** NEVER suggest that the household will profit by being interviewed. The respondent should be the head of household or their spouse.

**Annex 2: Survey questionnaire**

# Section A: Household demographic information

| | | | |
|---|---|---|---|
| **A1** | Total N$^{o}$ members in the household | | \|__\|__\| |
| **A2** | Total no members less than 15 years? | | \|__\|__\| |
| **A3** | Total no men more than 59 years? | | \|__\|__\| |
| **A4** | Total no women more than 54 years? | | \|__\|__\| |
| **A5** | Total no men 15 to 59 years? | | \|__\|__\| |
| **A6** | Total no women 15 to 54 years? | | \|__\|__\| |
| **A7** | Total no disabled men 15 to 59 years? | | \|__\|__\| |
| **A8** | Total no disabled women 15 to 54? | | \|__\|__\| |
| **A9** | Total no men 15 to 59 years who have been sick for three or more months? | | \|__\|__\| |
| **A10** | Total no women 15 to 54 years who have been sick for there or more months? | | \|__\|__\| |
| **A11** | Head of household is a: | | 1 = Man<br>2 = Woman |
| **A12** | The head of household is: | 1 = Child (less than 18 years)<br>2 = Old (more than 59 years for men and more than 54 years for women)<br>3 = Adult who has been sick for three or more months (15 to 54 years for women and 15 to 59 years for men)<br>4 = Adult who is disabled (15 to 54 years for women and 15 to 59 years for men) | |

| | | | | |
|---|---|---|---|---|
| **A13a** | Has any member of your family died in the last six months? | 1 = Yes | 0 = No | |
| **A13b** | The member who died was a | Man | Woman | |
| **A13c** | The member who died was | 1 = A child less than 18 years old | 2 = Older person (more than 59 years for men and more than 54 years for women) | 3 = Adult who had been sick for more than three months (15 to 54 years old for women and 15 to 59 years old for men) |
| **A13d** | Did the family member who died suffer from a chronic illness for t months or more before they died? | 1 = Yes | 0 = No | |
| **A13e** | Was the member who died one of the breadwinners of the household? | 1 = Yes | 0 = No | |

## Section B: Agricultural production

| | | | |
|---|---|---|---|
| **B1** | Compared to last agricultural season (2011/12), the area cultivated by this crop this year (2012/13) is greater or smaller? | | 1= Bigger<br>2 = The same<br>3= Smaller |
| **B2** | What is the main reason for having cultivated a smaller area? | | \|__\|__\| |
| **codes for B2** | 1= Planned fallow | 5= Lack of fertilizers | 9= Sickness in the household |
| | 2= Climatic problems | 6= Lack of or insufficient labour | 10= Lack of mechanical or animal draught power/lack of money to rent a tractor |
| | 3= Did not have physical access to land | 7= Crop pests and diseases | 11 = Because I participated in the construction of community assets that were recently constructed |
| | 4=Lack of planting seed | 8= Rented to another person | |

## Section C: Household income

| ~~C1~~Please complete the table, per activity, using the income codes. | | **C1a.** In the last six months, what were the three most important sources of income in your household? *(Use the codes for sources of income up to three sources)* | **C2.** Please estimate the relative contribution of each source of income **(%)** |
|---|---|---|---|
| A | **The most important** | \|__\|__\| | \|__\|__\| |
| B | **Second** | \|__\|__\| | \|__\|__\| |
| C | **Third** | \|__\|__\| | \|__\|__\| |

**Codes of sources of income:**

1 = Remittances/offers
2 = Production/sale of produced food crops/sale of vegetables
3 = Production of cash crops
4 = Casual labour (ganho-ganho)
5 = Asking for loans
6 = Production/sale of animals
7 = Small business/sale of crafts
8 = Sale of wood, charcoal
9 = Retired/pension
10= Salary *(except recipients of CFW)*
11 = Fishing
12 = Mining exploration
13 = Production of alcoholics
14 = Food aid (in food)
15 = Food aid (in cash)
98 = No other source

## Section D: Household expenses

| | | |
|---|---|---|
| D1 | In the last 30 days, what was the percentage of all your expenses for acquiring food for your household | \|__\|__\| |
| D2 | In the last 30 days, what was the percentage of all your expenses for acquiring non-food items for your household | \|__\|__\| |

## Section E: Assets and livestock of the household

**1.** What quantities of the following productive assets does the head of household or any member of your household possess? **(If an asset does not apply, write 0.)**

| | | | | | |
|---|---|---|---|---|---|
| | \|__\| | | \|__\| | cc. Bank account | |
| | \|__\| | | \|__\| | ff. Water collection system | \|__\| |

| | | | | | |
|---|---|---|---|---|---|
| | |__| | |__| | |__| |
| | |__| | |__| | |__| |
| | | | | | |__| |

| | | | | | |
|---|---|---|---|---|---|
| | |__| | |__| | |__| |
| **19.** What quantities of the following productive assets does the head of household or any member of your household possess? **(If an asset does not apply, write 0)** | | | | | |
| | |__| | r. Manual grinder | | | |__| |
| m. Rowing or motor powered-canoe/ boat | |__| | u. Bicycle | |__| | | |

| | | | | | |
|---|---|---|---|---|---|
| | \|__\| | v. Motorbike | \|__\| | | \|__\| |
| | \|__\| | j. Sewing machine | \|__\| | ee. Fruit trees | \|__\| |

| | | | |
|---|---|---|---|
| | ***2. How many of the below animals does your household possess at the moment?*** | | |
| | a. Bovine \|__\|__\| | c. Swine \|__\|__\| | d. Equine (donkey/horse \|__\|__\| |
| | b. Caprine/ ovine\|__\|__ \| | e. Birds \|__\|__\|__\| | |

## Section F: Reserves and sources of food

| | | | |
|---|---|---|---|
| **F1** | In the last two months, what was your principal source of cereals? | 1. Own production | 2. Seasonal casual labour (ganho-ganho) |
| | | 3. Borrowings | 4. Gifts |
| | | 5. Purchased | 6. Food assistance (food aid) |
| | | 7. Exchange | |
| **F2** | How many reserves do you have | 1 = None | 2 = Enough for the next |

| | | | |
|---|---|---|---|
| | from your own production? ***(if for 2, 3 and 4 -go to J)*** | | month |
| | | 3 = Enough for the next two to three months | 4 = Enough for the next four months or more |
| **F3** | If you no longer have any reserves, how much of the finished reserves was from your own production? | | Number of days \|__\|__\| |

## Section G: Food consumption

| | | |
|---|---|---|
| G1 | How many meals did adults (18+) of this household have yesterday? | **\|__\| Number of meals** |
| G2 | How many meals did children (5–17) of this household have yesterday? | **\|__\| Number of meals** |

| ***G3. In the last seven days, how many days did you consume the following products? And what was its primary source?*** | | |
|---|---|---|
| | Number of days ***(0 to 7)*** | ***Source(s)*** |
| a. Maize grain, Sadza, mealie meal porridge | \|__\| | \|__\| |
| b. Other cereals (rice, sorghum, millet, etc.), bread e (spaghetti) | \|__\| | \|__\| |
| c. Roots and tubers (cassava, yams, potatoes etc. ), potatoes, sweet potatoes | \|__\| | \|__\| |
| d. Sugar or sugar products | \|__\| | \|__\| |
| e. Beans and peas | \|__\| | \|__\| |
| f. Ground nuts and cashew nuts | \|__\| | \|__\| |
| g. Vegetables/leaves | \|__\| | \|__\| |
| h. Fruits | \|__\| | \|__\| |
| i. Beef, goat, other red meats (cow, pig) | \|__\| | \|__\| |
| j. Birds (chicken, etc.) and eggs | \|__\| | \|__\| |
| k. Fish | \|__\| | \|__\| |
| l. Cooking oil/fats/margarine | \|__\| | \|__\| |
| m. Milk/yoghurt/other dairy products | \|__\| | \|__\| |
| n. CSB+ (mixture of mealie meal and soya) | \|__\| | \|__\| |

| **Codes for source of** | 1. Own production | 2. Seasonal casual labour (ganho-ganho); |
|---|---|---|
| | 3. Borrowing | 4. Gift |

| | | |
|---|---|---|
| **product:** | 5. Purchase | 6. Food assistance (food aid) |
| | 7. Exchange | 8. Begging/lost and found/fishing |

## Section H: Shocks

| | | | |
|---|---|---|---|
| **H1** | In the last 12 months, did your household suffer any unusual situation out of the ordinary that affected your capacity for self-sustenance or ability to eat like you usually do or retain the assets you had? | 1 = Yes | 0 = No |
| **H2 a, b, c** | If yes, what problems did your household encounter? Ask what was the worst and follow on insisting if there were any other problems that affected the household. Do not read the options, but insist: "Did your household encounter any other problems that affected the household?" | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | \|__\| | A. Drought/lack of rains/ irregular rains | \|__\| | B. Floods | \|__\| | C. Erosion in lands owned by household | \|__\| | Q. Cyclones |
| | \|__\| | P. Hailstorm/ hail | \|__\| | D. Levels higher than normal of crop pests and diseases | \|__\| | E. Epidemics and animal diseases | \|__\| | H. Increase in the prices of agricultural products (seed, pesticides, etc.) |
| | \|__\| | I. Loss or reduction of employment of employed members of the household | \|__\| | J. Loss or reduction of money/ income of members of the household | \|__\| | K. Increases in prices of food commodities | \|__\| | G F. Epidemics and serious diseases in people (such as cholera, malaria, diarrhoea) |
| | \|__\| | Serious chronic sickness of a household member(s) | \|__\| | L. Death of head of household | \|__\| | M. Death of a member of the household | \|__\| | N. Theft or loss of belongings, assets and resources |
| | \|__\| | | \|__\| | | | | | |

## Section I: Coping strategies

| | In the last seven days, how many days did your household resort to the following coping strategies in order to have access to food? | |
|---|---|---|
| | | Frequency (0 to 7 days) |
| **11** | Eating less-preferred and cheaper foods | |
| **I2** | Borrowing food or asking for help from friends or family | |
| **13** | Limiting meal quantities | |
| **14** | Reducing consumption of food by adults to give children | |
| **15** | Reducing number of meals per day | |

| In the last 30 days, how many times did your household resort to one or more of the following coping strategies in order to be able to have access to food? | | | |
|---|---|---|---|
| **I6** | Spending the whole day without eating | 1 = Yes | 2 = No |
| **I7** | Purchase/borrow food on credit | 1 = Yes | 2 = No |
| **I8** | Lost and found/hunt uncommon types and quantities of forest products or hunting | 1 = Yes | 2 = No |
| **I9** | Collect unripe or immature food crops (such as green maize) | 1 = Yes | 2 = No |
| **I10** | Send members of the household to live elsewhere | 1 = Yes | 2 = No |
| **I11** | Send members of the family to beg | 1 = Yes | 2 = No |
| **I12** | Depend on casual labour to obtain food | 1 = Yes | 2 = No |
| **I13** | | 1 = Yes | 2 = No |

## Section J: Food assistance: cash or food

| | | | |
|---|---|---|---|
| **J1** | What type of assistance did you receive? | 2 = food | 3 = cash |
| **J2a** | When did the programme start? | | |
| **J2b** | When did your household receive the food or | August 2012 \|__\| | November 2012 \|__\| |
| | | September 2012 | December 2012 \|__\| |

| | | | |
|---|---|---|---|
| | cash ration in the last six months? | \|__\| | |
| | | October 2012 \|__\| | January 2013 \|__\| |
| **J3** | What was the gender of the person who collected the last cash or food ration? | 1 = Masculine | 2 = Feminine |
| **J4** | Who in the household decides on the use of the food or cash assistance? | 1 = Man | 2 = Woman \| 3 = Both |
| **J5** | Did you sell or exchange or give away any part of the ration that you received in the last month? | a = Cereals<br>1 = Yes 0 = No | B = Beans/peas<br>1 = Yes 0 = No |
| **J6** | How long did the last cereal ration that your household received last? | ***Number of days*** \|__\|__\| | |
| **J7** | How did you spend the money that you last received? | 1= Food | 2 = Payment of school expenses |
| | | 3 = Payment of medical expenses | 4 = Purchase of agricultural inputs |
| | | | |

| | | | |
|---|---|---|---|
| **J8** | Who chose the beneficiaries? | 1 = Members of the community | 2 = Leaders of the community |
| | | 3 = NGOs | 4 = Everyone was involved |
| | | 88 = I don`t know | |
| **J9** | In your opinion were the most vulnerable people in the community selected? | 1 = Yes, all | 2 = Yes, the majority |
| | | 3 = Yes, some | 4 = Yes, but only a few |
| | | 0 = No | |
| **J10** | How would you classify your satisfaction in relation to the process of selection and registration of beneficiaries (select only one)? | 1 = Very satisfied | 2 = A little satisfied because there was favouritism |
| | | 3 = A little satisfied because there was political interference | 4 = A little satisfied because people who should have been selected were not considered and were left out |
| | | 5 = A little satisfied because people who | 6= Dissatisfied |

| | | | |
|---|---|---|---|
| | | should not have been selected received food. | |

## Section K: Preference of type of assistance

| | | | | | |
|---|---|---|---|---|---|
| **K1** | If you were to choose between food and cash assistance or a combination of both, what would you prefer? | 1 = Food (Go to O2.) | 2 = Cash (Go to O3.) | ) | 4 = Both (Go to O5.) |
| **K2** | Indicate your primary reasons for preferring food. (Up to three options.) | **a.** \|__\| | **b.** \|__\| | **c.** \|__\| | |
| 1 = Resolves the lack of food in the household. | 2 = It is difficult to steal food. | 3 = Prices of agricultural commodities are high. | | | |
| 4 = Prices of food are unpredictable. | 5 = It is better for the children. | 6 = It is much easier to share with family and friends. | | | |
| 7 = Food is better managed by women. | 8 = Prices vary. | 9 = It is difficult to access markets. | | | |
| 10 = Others (specify) _____ | | | | | |
| **K3** | What are your primary reasons for preferring cash. (Up to three options.) | **a.** \|__\| | **b.** \|__\| | **c.** \|__\| | |
| 1 = The household can buy food and other products. | 2 = The household can buy products at much lower prices. | 3 = The household can buy different food products. | | | |
| 4 = It is easy to transport or costless. | 5 = The household can save some of the cash. | 6 = The household can buy agricultural inputs. | | | |
| 7 = Can be used for other expenses | 8 = Because there are markets in the area | | | | |
| | | | | | |
| **K5** | What are your primary reasons for preferring both (Up to three options.) | **a.** \|__\| | **b.** \|__\| | **c.** \|__\| | |
| 1 = We can satisfy seasonal | 4 = Better capacity to resolve | | | | |

| | | |
|---|---|---|
| requirements. | difficulties. | |

## Section L: Community assets constructed

| | | | | |
|---|---|---|---|---|
| **L1** | Has your household already benefitted from the works or assets recently constructed in this village in which the head of the household or a member of the household participated? | Yes | No | They are not yet functioning |

**Annex 3: World Food Programme Mozambique ethics approval form**

Fighting Hunger Worldwide

WFP
World Food Programme | Programme Alimentaire Mondial | Programa Mundial de Alimentos | برنامج الأغذية العالمي
wfp.org

**Dated: 23 April 2013**

**Memorandum of authorisation for Agatha Zhou to use WFP data in preparing a dissertation towards the fulfillment of her PhD studies**

This memorandum serves as authorisation to Agatha Zhou, a Logistics officer with WFP Mozambique, to be provided with access and use of WFP data, for the preparation of her dissertation in Food Security and Social protection, towards the fulfilment of her PhD studies.

The views and opinions expressed in her dissertation are those of the author, Agatha Zhou and do not in any way represent the policies or position of WFP or any of its partners. Assumptions made within the analysis do not in any way reflect the position of WFP or any of its partners.

This memorandum also serves as a disclaimer on the part of WFP and absolves WFP of any errors or omissions in the dissertation. Errors or omissions remain the responsibility of the author, Agatha Zhou.

Lola Castro
WFP Representative and Country Director

Date: 23.04.2013.

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Fighting Hunger Worldwide

WFP
World Food Programme | Programme Alimentaire Mondial | Programa Mundial de Alimentos | برنامج الأغذية العالمي
wfp.org

**Dated: 25 April 2013**

MOZAMBIQUE

**Memorandum of agreement between Agatha Zhou and WFP on the use of WFP data in preparing a dissertation towards the fulfilment of Agatha Zhou`s PhD studies**

I, Agatha Zhou, am pursuing PhD studies in Food Security and Social protection. I have requested WFP management for the provision, access and use of WFP data and information, for my research towards the fulfillment of the said PhD studies. This memorandum, signed by me, serves as an undertaking by myself that:

1. The WFP data and information will be used only for my research studies and for no other purpose.
2. I will not disseminate the WFP raw data or information to any other party.
3. I will keep the WFP information confidential for my research.
4. I will not disseminate the results of my research on WFP data to any party other than for the purposes of the studies.
5. I will share my research with WFP before publishing and accept comments.
6. I will acknowledge WFP as a source of data and information in my research dissertation.
7. The views and opinions expressed in my dissertation will be mine and will not in any way represent the policies or position of WFP or any of its partners. Assumptions made within the analysis will not in any way reflect the position of WFP or any of its partners.
8. WFP has no liability of any errors or omissions in my dissertation. Errors or omissions in my research dissertation remain my sole responsibility.

Signed by
Agatha Zhou

Signature----------

Maputo 25.04.2013

Accepted by
Lola Castro. Representative and Country director

Signature----------

Maputo 25.04.2013

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**Annex 4: Government of Mozambique ethics approval form**

**7 October 2013**

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**Memorandum of agreement between Agatha Carol Zhou and SETSAN to use SETSAN Food Security and Nutrition survey information and data in preparing a dissertation towards the fulfillment of Agatha Zhou's PhD studies**

I, Agatha Carol Zhou, am pursuing PhD studies in Food Security and Social protection. I am requesting SETSAN management for the provision, access and authorisation of use of SETSAN data and information, for my research towards the fulfillment of the said PhD studies.

This memorandum, signed by me, serves as an undertaking by myself that:

1. The SETSAN data and information will be used only for my research studies and for no other purpose.
2. I will not disseminate the SETSAN raw data or information to any other party.
3. I will keep the SETSAN information confidential for my research.
4. I will not disseminate the results of my research on SETSAN data to any party other than for the purposes of the studies.
5. I will share my research with SETSAN before publishing and accept comments.
6. I will acknowledge SETSAN as a source of data and information in my research dissertation.
7. The views and opinions expressed in my dissertation will be mine and will not in any way represent the policies or position of SETSAN or any of its partners. Assumptions made within the analysis will not in any way reflect the position of SETSAN or any of its partners.
8. This memorandum also serves as a disclaimer on the part of SETSAN and absolves SETSAN of any errors or omissions in the dissertation. Errors or omissions remain the responsibility of the author, Agatha Carol Zhou.

Signed by me

Agatha Carol Zhou
Maputo 7 October 2013

Marcela Libombo
Eng Marcela Libombo
SETSAN