National Market Situation Analysis to Inform Food Security Response Options for the 2015/16 MVAC Response Programme

Volume I- Main Report_ Final Report

A Study Report Submitted to:

The Malawi Vulnerability Assessment Committee
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Acronyms

ADMARC   : Agricultural Development and Marketing Co-operation

AMIS   : Agriculture Market Information System

APES   : Agricultural Production Estimates Survey

CSB   : Corn Soya Blend

DADO   : District Agriculture Development Officer

DoDMA   : Department of Disaster Management Affairs

EPA   : Extension Planning Area

FAO   : Food and Agriculture Organization of the United Nations

FEWSNET   : Famine Early Warning System Network

GIEWS   : Global Information and Early Warning System

GoM   : Government of Malawi

GTPA   : Grain Traders and Processors Association

MT   : Metric Tonnes

MVAC   : Malawi Vulnerability Assessment Committee

NFRA   : National Food Reserve Agency

SPSS   : Statistical Package for Social Scientists

ST   : Secretary to the Treasury

TA   : Traditional Authority

ToR   : Terms of Reference

WFP   : United Nations World Food Programme

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Executive Summary

Motivation of the Study

The 2015 National Market Assessment Study was commissioned by the Malawi Vulnerability Assessment Committee to bring out an understanding of how markets will function in 27 districts in the country from August 2015 up to March 2016. The specific objectives include: (a) determination of the physical accessibility to markets affected by the long dry spells, early cessation of rains and floods; (b) determination of stocks of the staple cereals, pulses and cooking oil available at markets, and current and projected market prices in the major markets serving each affected TA; (c) review price information for key commodities on local markets and how the prices will most likely change as the consumption period progresses to the lean period; (d) outlining challenges faced by traders and other market players to supply key food commodities to markets in the affected areas; (e) assessing the expandability of food[i] market systems in relation to the large scale demand (which may be caused by cash transfers) in the affected districts; (f) determining any potential inflationary risks associated with increased local demand arising from the use of market based interventions; (g) assessing the appropriateness of market based and in-kind food assistance in the affected areas and recommend the appropriate response option for each affected TA (Market based or food); (h) determining the level of competition and price setting behaviours of market participants; (i) determining the physical and economic factors that may affect the smooth movement of food commodities along the supply chain.

Analysis Methodology

The study is largely based on collection and analysis of data from private traders involved in staple food commodity marketing. To this effect, the field survey was undertaken between 9th and 27th June 2015, followed by development of a Matrix of Recommendations on transfer modality options for the Humanitarian assistance per TA; and data entry and analysis which informs this report. The private sector field surveys covered 27 districts of the country, leaving out only Likoma district owing to logistical challenges of reaching the district. In the 27 districts covered during the study, all the key trading centres were identified and visited. Thus, a total of 901 staple food commodity traders found in 264 trading centres, mostly located in 214 Traditional Authorities were visited during the study. Besides primary data from the field, the study collected data from institutions such as National Food Reserve Agency and Grain Traders and Processors Association as well as other secondary data sources on regional and national food security situation.

Study Findings

(a) The regional food insecurity challenges further complicate the national food security situation:

(i) The climate change induced disasters facing Malawi have also affected other countries within the Southern African region, with regional food production reduction being estimated to be 26 percent less that of last year. While some countries such as Zambia and Tanzania are reportedly having some surplus stocks for both formal and informal exports, their marketed surpluses are not enough to meet regional demand emanating from countries such as Malawi, Zimbabwe and South Africa which have had significantly reduced production levels.

(b) The 2015 multiple disasters have had multiple local economy wide effects:

(i) A combination of delayed onset of rains and early cessation of rains, floods, and prolonged dry spells has not only affected the food security situation of the affected households, but also their general livelihoods. This means that while the humanitarian assistance is required to address the food security and nutritional needs of the affected households, such assistance will not be adequate in restoring the livelihoods conditions of the affected households.

(ii) Reduced farmers income levels means reduced effective demand for the private traders' food commodities. As such private traders' business growth objectives are being affected.

(c) Food Stocks in the Market

(i) The current food stocks coupled with planned purchases for the 2015/16 consumption season seem to be adequate to meeting MVAC food demand needs. At the time of the study, NFRA had 46,600 MT of maize, and had embarked on additional purchase of 55,000 MT. ADMARC was reported to be purchasing 35,000 MT. Thus, in total, the country was being assured of having 161,200MTof maize, against an MVAC requirement of 124,183MT.

(ii) In addition to public stocks, at the time of the study (end June 2015) the Grain Traders and Processors Association indicated to be stocking about 29,576 MT, and from this study, the private traders reported to have 4,700 MT of maize. Furthermore, the private traders reported that they were planning to purchase an additional of 87,800 MT of maize, thus implying that the country could have a total of 117,376 MT of private stocks for the 2015/16 season.

(iii) The study investigations found that on average, most stable traders have been in staple food trade business for about 10 years, with others having 36 years of business experience. This implies that the country has some reliable private traders who can be considered as reliable partners in food trade business, and act as role models for those that want to be food trade enterprises.

(d) Physical Accessibility of Markets

(i) Much as the country's rural roads are in bad shape, most traders do not consider the road conditions as impassable, as evidenced by the fact that more than 90 percent of the traders reported that the roads are good and passable during the harvest period and during the lean/rainy period.

(ii) In spite of the current road conditions, some traders travel up to 700km in search of food commodities- and this involves travelling into rural areas;

(f) Market Structure and Competition

(i) The analysis finds that the number of traders at a given market centre depends upon whether it is a market day or not. On a non- market day, one may find very few traders, whereas on a market day at the same place it could have as high as 60 traders dealing in one commodity. Market days attract a number of buyers hence effective demand for the

various staple food commodities. They also serve the small private traders- they buy in bulk from big traders for latter on sales.

(ii) In most places, ADMARC depots were not functional at the time of the study. Where ADMARC was functional, there was active competition amongst traders themselves and between traders and ADMARC. Private trader-ADMARC competition was more pronounced with respect to commodity purchase from the farmers, as there were minimal sales to consumers by ADMARC.

(iii) Despite competition amongst traders, they do support each other in different ways, including joint setting of market prices, assistance in transportation of the produce from source markets to the selling markets, and sharing of customers. Very few traders indicated to acknowledge any form of government support, with minimal dealings with ADMARC and NFRA.

(f) Current food price situation and projections into the 2015/16 lean period

(i) The analysis finds that at the time of the study, average maize market prices were at MK117/kg, which is above the MK105 or MK102 for, respectively, 2014/15 and 2013/14 seasons.

(ii) The private traders project maximum maize prices of MK250/kg for the 2015/16 season compared to maximum prices of MK200/kg obtained in the past two marketing seasons. The anticipated 2015/16 higher maximum prices will be due to high demand against low food commodity supply. However, the highest statistical price projections for key markets in 2015/16 are MK160 per kg, implying that isolated instances astronomical high prices would be stabilized with market integration process.

(h) Expandability of Food Marketing Systems

(i) Private traders have the capacity to increase marketed volumes in response to increased demand, to the extent that some male traders indicated to have capacity to increase traded volumes up to 300% of their current traded volumes. Capacity to expand traded volumes also applies to female traders who have demonstrated capacity to keep up with the trade. However, limited marketed surplus for most staple food commodities as well as low effective demand from the disaster affected populace negate the private traders capacity.

(ii) Given an opportunity of increased effective demand, 72 % of the traders indicated that they would be able to deliver the required food commodities within one week.

(iii) In response to the perceived food demand, most traders indicated to be planning to stock amount of food commodities that would meet the demand in the lean period. On average, maize private traders, on average indicated to be planning to stock 21 metric tonnes of maize, with the maximum stated amounts to be up to be 31,000 metric tonnes of maize for the 2015/16 coming season. This on the expectation of profit maximization owing to the expected high market price increases.

(iv) However, considering the marketing challenges which the private traders are facing, there are possibilities that such stocking plans may not be fully realized.

(g) Potential inflationary effects due to demand increases

(i) *In the event of increased staple food demand, 65% of the traders expressed readiness to absorb such increased induced effective demand. They are ready to travel long distances to source the required food items for re-sale to consumers with demand.*

(ii) *With the stated capacities to respond to food markets, there are mixed private traders projections of possible price adjustments in response to induced increased effective demand. In fact, most traders (57%) expect decline in staple food commodity price during the critical lean period of January-March 2016, compared to 37% expecting price increases during the same period.*

(i) Private sector challenges

(i) *Private traders challenges, as enumerated in the study include: inadequate own capital, high transport costs, deficient levels of demand and supply.*

(ii) *Private traders prefer own capital to credit from lending institutions due to the fact that attainment of formal credit seems almost impossible - many traders do not have any connection with credit institutions.*

(iii) *High transport costs, caused by unstable and high fuel prices in the country, are negatively affecting the traders' food commodity businesses*

(iv) *As a result of the numerous challenges in the staple food trade business, there is disproportionately low women participation in staple food commodity trade. The low women participation is more pronounced in the category of large food trade enterprises.*

(v) *Despite national low national women participation in food trade, there are a few exceptional districts such as Ntcheu, Chikwawa, and Blantyre where significantly large proportions of women are actively engage in staple food commodity trade.*

(h) Appropriateness of market based humanitarian assistance delivery approaches

(i) *The large numbers of 2015/16 food insecure populace, estimated to be around 2,833,212 provides a food demand opportunity for the traders. However, the private traders' capacity to meet market demand is being affected by a number of capacity constraints. As such, it is estimated that 31% of the affected population can effectively be served by cash transfer mechanisms through private traders' private traders, while 69% shall be served by in-kind food assistance.*

(ii) *A few traders appreciate the cash transfer mechanism; however, there is very limited private trader knowledge and experience with the voucher system with 99% of the interviewed traders indicating to have never had an experience with vouchers.*

(iii) *Notwithstanding the current limited voucher use knowledge, a good proportion of traders (67%) indicated willingness to participate in the programme if given an opportunity to do so.*

Study Recommendations

(a) **Timely regional food purchases in view of regional shortages**: The widespread food security risks affecting the Southern African region and the subsequent increased competition for maize and other food crops from the countries with some surplus means that Malawi needs to take timely regional food purchase actions. As we progress into the lean season within the region, there are likely to be food export bans from the current exporting countries.

(b) **Coordinated multiple interventions needs besides humanitarian assistance:** Since the devastating effects of the different disasters that affected rural households in the country cannot be adequately addressed with humanitarian assistance alone, a broad range of social support actions are needed to build and restore the livelihoods of the affected households.

(c) Strengthening of both public and private market institutions to handle food security issues is a must.

(i) Since the country is most likely to continue facing similar disaster in the coming years, there is urgent need for a sustained conducive policy environment that effectively supports both public and private sector institutions so that they effectively serve national and household food security objectives.

(ii) In spite of the reduced role of ADMARC as a price leader in some locations, ADMARC's presence in certain localities is still recognized as a price stabilizer and a reliable source of maize at reasonable price. In view of this, Government need to strengthen ADMARC by amongst others, avoiding the well known fundamental challenges that end up perpetually putting the Cooperation in perpetual loss making condition. These include avoiding the contradictory policy directions to the organization, as reported in the Government's Annual Economic Reports.

(iii) National efforts to promote private sector as a partner in meeting food security and nutrition objectives should be gender sensitive by ensuring equal participation of women traders. The current limited female trader participation in big food commodity trading calls for deliberate policy measures to strengthen active female participation in food trading in line with the national economic empowerment policy objectives.

(iv) Private sector development initiatives should draw lessons from the traders who have been in food trade business for some years such as those that reported to have had 10 years or more business experience.

(c) Delivery of Humanitarian Assistance:

(i) Humanitarian assistance to the affected households be delivered through both in-kind food assistance (for 69 percent) and cash transfer (for 31 percent);

(ii) Programming of market based humanitarian assistance options such as cash transfers should take into account market days of a given locality. This would minimize situations where households would spend cash transfer meant for food security on other un- related household needs because food may not be available on non-market days.

(iii) Notwithstanding the current low levels of private sector experience with vouchers as a humanitarian assistance delivery option, the approach has great potential of succeeding if stakeholders are well sensitized.

1.0   INTRODUCTION

1.1   Background

Immediately after the declaration of the State of Disaster by the Head of State on 13th January, 2015, the MVAC conducted a food security assessment that found a total of 616,776 people food insecure in 17 districts of Chikwawa, Nsanje, Blantyre, Thyolo, Mulanje, Phalombe, Chiradzulu, Zomba, Balaka, Machinga, Mangochi, Ntcheu, Salima, Dedza, Karonga, Mzimba and Rumphi requiring assistance between March and July 2015. Based on the February 2015 MVAC food security assessment, a rapid market assessment was commissioned in April 2015 which identified the geographical areas that are suitable for in-kind food assistance or cash transfer as humanitarian assistance options.

However, the February 2015 MVAC assessment and the subsequent April 2015 Market Assessment did not cover the food requirements emanating from the prolonged dry spells across the country. In fact, during the 2014/2015 agricultural production season, most districts in the country experienced prolonged dry spells coupled with early cessation of rains when maize and other crops were at flowering stages. Maize in many fields dried up before producing cobs while in other fields, maize had poor grain filling (forced maturity). A combination of these disasters has significantly reduced food and agricultural production to the lowest levels for the past decade.

The Ministry of Agriculture, Irrigation and Water Development (MoAIWD) third round Agricultural Production Estimate Survey (APES) results showed that the country will produce a total 2,776,277 MT suggesting a 30.2 percent reduction in maize production compared to the previous year, 2013/14. This means that the country has a shortfall of maize production of 223,723 MT against the annual requirement of 3 million metric tons. In this regard, the MVAC conducted its regular annual food security assessment from the second week of June 2015 to determine the affected areas and required needs across the country. The assessment has come up with the actual numbers of affected people being 2,833,212, their locations and the number of food deficit months requiring humanitarian assistance for the affected households.

However, in order to determine the mode of assistance to the affected families, that is, whether in-kind food assistance or cash transfer as market based intervention, the MVAC commissioned this national market assessment study, which ran in parallel with the annual food security assessment study. The market assessment output is expected to identify geographical areas that would be most suitable for the adoption of in-kind food assistance or market-based response during the intervention period.

1.2 Purpose and Objectives of the Study

The purpose of this market assessment is to bring out an understanding of how markets will function in 27 districts in the country from August 2015 up to March 2016. The assessment seeks to identify Traditional Authorities (TAs) that are suitable for market based intervention (e.g., cash transfer programming) and those where in kind food

assistance will be more appropriate. This is expected to inform appropriate decisions by the Humanitarian Response Committee, Humanitarian Agencies and donors on whether (and where) to implement market based interventions or in-kind food assistance to help the people who are at risk of missing food entitlements due the effects of the long dry spells, early cessation of rains and floods.

Specific objectives of the study include the following:

- To determine the physical accessibility to markets affected by the long dry spells, early cessation of rains and floods;

- To determine the stocks of the staple cereals, pulses and cooking oil available at markets, and current and projected market prices in the major markets serving each affected TA;

- Review price information for key commodities on local markets and how the prices will most likely change as the consumption period progresses to the lean period

- To understand challenges faced by traders and other market players to supply key food commodities to markets in the affected areas;

- To assess the expandability of food[ii] market systems in relation to the large scale demand (which may be caused by cash transfers) in the affected districts;

- To determine any potential inflationary risks associated with increased local demand arising from the use of market based interventions;

- To assess the appropriateness of market based and in-kind food assistance in the affected areas and recommend the appropriate response option for each affected TA (market based or food assistance);

- To determine the level of competition and price setting behaviours of market participants;

- To determine the physical and economic factors that may affect the smooth movement of food commodities along the supply chain for the reference period. These could include currency exchange regime, inflation, transport costs, road/rail conditions, import/export bans, etc.

1.3 Organization of the Report

The study report is organized as follows: the second chapter outlines the methodology of the study, while the third chapter discusses insights from literature review focusing on regional food security situation and national economic context. The fourth chapter introduces the findings from field survey by discussing general private trader business characteristics, followed by the fifth chapter on private sector business operations. The

sixth chapter market competition and structure while the seventh chapter highlights the projected market dynamics for the 2015/16 season. The eighth and ninth chapters respectively discuss private sector response capacity to market changes, and private trader efficiency in food stock replenishment. The tenth chapter is dedicated to unveiling market integration situation, with the eleventh chapter outlining the mode of commodity sales by traders. Conclusions and recommendations are presented in chapters in eleven and twelve respectively.

1.4 Limitations of the Study

The study had a few challenges encountered during the course of the work.

First, the time for field work was tight such that within set eighteen days (18) of field work, the study could not cover all the trading/market centres in the 27 districts, nor was it adequate for interviewing all the traders found at the market. This was especially the case considering that the Market Assessment teams had to visit some market centres outside the disaster affected Extension Planning Areas (EPAs) and TAs as long as such markets are critical food source or destination markets. In fact, this virtually meant that the study teams had to visit all the key trading centres in a given district, hence a time challenge to finish trader interviews in all the market centres within a given district.

Second, in some market centres, the study teams could not find the relevant staple food commodity private traders as they would only be available during designated market days, which could be on days different from the day of the study team visits.

Third, some traders and transporters refused to grant the researchers interviews arguing that they see no benefit in such endeavours. In fact, in some market centres, the study teams were mistaken for officials from Malawi Revenue Authority (MRA) who had been inspecting some traders in some markets. Hence, the tension amongst traders in such market centres resulted in refusal of traders' to be interviewed.

In general, market chairpersons were quite helpful in addressing the setbacks related to reluctance or non- compliance by the private traders found at a market centre. Notwithstanding the few challenges encountered, the study was able to collect significant amount of reliable data which informs this study.

2.0 STUDY METHODOLOGY

A combination of study tools were used to collect data for this study. These include: a review of literature on theoretical and empirical frameworks, secondary data collection and analysis using different quantitative methods, and primary data collection and analysis from staple food commodity traders and transporters in 27 districts. The details of the specific methods are discussed in the proceeding sections:

2.1 Literature Review

A review of literature was conducted to bring out theoretical as well empirical insights on staple food commodity market behaviour as well as to identify the economic theory and empirical foundations shaping stakeholder policy decisions on food assistance transfer options, namely, in-kind food assistance and social cash transfer. The reviews helped in predicting the agents' optimization behavior under in-kind food assistance or cash transfer options, and conditions under which each of the transfer options can be effective.

2.2 Secondary data collection and analysis

The secondary data utilized in the study was the one obtained from institutions such NFRA and Grain Traders and Processors Association. In addition, the study benefited from the Malawi Government official publications such as Annual Economic Reports, and Agricultural Production Estimates. Publications by institutions such as FAO and FEWSNET on the regional food security situation also provided useful background information for the study.

2.3 Primary Data and Collection Processes

As already indicated, primary data collection, entry and analysis were the main sources of data used in this market assessment. The primary data collection started with the development of data collection tools, namely structured questionnaires and checklists for the staple food commodity traders and transporters, respectively. Once the data collection tools were approved by the MVAC Secretariat, training of research assistants and field supervisors followed. The training session took place at Cross Roads Hotel in Lilongwe City on 4- 6 June, 2015 and included the pre-testing of the data collection tools at Mitundu, Nsundwe, Mpingu trading/ market centres in rural parts of Lilongwe district. The training session was followed by fieldwork conducted from 9th to 27th June, 2015. Thus, the team had eighteen (18) days of field work. A three (3) member team of MVAC Market Assessment Task Force members comprising World Food programme (WFP), Oxfam and Ministry of Finance, Economic Planning and Development participated in both training and data collection.

2.3.1 Sampling and Identification of Market Centres

Trading or marketing centres with staple food commodity traders were the primary centres for field data collection activities. Officials from the District Agriculture Development Offices guided the study teams in terms of market centres with staple food commodity traders in line with the study objectives. In this regard, all the major trading centres were targeted and visited during the study, thus covering a total of 264 trading centres in 214 TAs.

At each market centre, the field supervisors were introduced to the market chairpersons by either a market enumerator responsible for that particular market center or an officer from an EPA (mostly AEDO/AEDC). The Market Chairpersons, in turn introduced the study team members to various established staple food commodity traders operating at the trading centre. The market chairpersons also helped to introduce the study team members to the transporters who were also interviewed during the study.

2.3.2 Private Traders dealing in Staple Food Commodities

Data collection from the identified staple food commodity traders was done using a structured questionnaire. The private sector questionnaire covered the following issues: demographic characteristics of the private traders; nature of business; quantities of food commodities; price patterns of traded commodities; competition practices in the markets; capacity to respond to increased demand; food commodity sources and transportation costs; and food storage capacities. For each of the key variables, respondents were asked to provide a panel data over a three year period, that is, from the current 2015/16 season back to 2013/14 season. Details on the specific contents of the private trader questionnaire are in Volume 2 of the report.

2.3.3 Food Transporters

Data collection from the transporters was done using a checklist of questions. The major issues covered in interviews with transporters include: experience in food transportation; road conditions to the market area; transport costs before and after the 2014/15 disasters; factors they consider when charging transport costs; amongst others. Details on checklist for Transporters are in the Volume 2 of the study report.

2.3.4 Primary Data Entry, Cleaning and Analysis

Upon completion of field work, the structured private sector questionnaire was entered into Statistical Package for Social Scientists (SPSS) by data entry clerks during the period 13th – 25th July, 2015. This was followed by data cleaning and analysis. Data analysis comprised two major aspects, namely: (i) descriptive statistics relating different variables of interests; (ii) econometric analyses on impact of market risks on the private trader capacity as a reliable food source.

2.4 Report Writing

The study report writing process started with the compilation of a matrix of recommendations for TAs to be under in-kind food assistance, or cash transfer options. This matrix was presented and adopted by the MVAC Market Assessment Task Force. The main report compilation was done upon the completion and presentation of the matrix of assistance options recommendations. As already indicated, private trader data were the main source of information for the report, though complimented by secondary market data analysis that also forms a good part of the report.

3.0 REVIEW OF REGIONAL AND NATIONAL FOOD SECURITY SITUATION

The food security situation in Malawi is strongly linked to the regional food security situation as well as the general economic conditions of the country. In recognition of these facts, the study undertakes a review of the regional food security situation and economic conditions as informed by the available literature.

3.1 Regional Food Security Situation

According to FAO Global Information and Early Warning System (GIEWS)(2015), the Southern Africa region is facing covariate food security risk since cereal output is expected to decline by 26 percent over the 2014 bumper harvests or 15 percent lower than the 5 year average. The bulk of the decline is mainly due to the significant drop in South Africa, the sub region's main producer and exporter. The decline is largely due to erratic weather conditions, characterized by a late start of seasonal rains in November/December, flooding in parts in early 2015 and a severe dry spell during February and early March 2015, a critical month for crop growth.

According to FEWSNET (2015), the Southern Africa food security alert reports that national maize harvests in South Africa and Malawi are expected to be the lowest in more than five years. However, as a result of above-average carry-over stocks from the 2014/15 marketing year, aggregate regional supply is expected to be near average. Countries with significant production deficits this year, including Malawi and Zimbabwe, will likely experience an early start of the lean season and limited food access for poor households.

FAO (2015) further points out that with the expected decrease in production in the 2014/15 agricultural season, the number of food insecure people may rise, reversing the strong gains recorded in the previous season. Furthermore, cereal prices are already increasing in some countries of the sub region as a result of the poor production outlook.

The decline in food crop production in the Southern Africa region has implications for trade and marketing conditions in the 2015/16 marketing season. In this respect, FEWSNET (2015) reports that countries experiencing significant deficits this year such as Malawi and Zimbabwe may need to compete for Zambian and Tanzanian maize with higher income consumers from structurally deficit countries in East Africa.

Besides trade flow implications of the 2015 disasters, there are livelihood or welfare implications. As such, the FEWSNET (2015) Southern Africa food security alert points outs that in flooded areas of Malawi and Mozambique, many displaced households completely lost their livelihoods. Similarly, many rural poor households in drought-

affected areas are having a decline in their incomes due to very limited wage labor income that typically comes from better-off households. This, therefore, means that in the absence of humanitarian assistance, food security is likely to decline further for both drought- and flood-affected households over the coming months.

3.2 National Economic and Food Security Situation

3.2.1 National Economic Conditions

Malawi's economy is expected to grow by 5.4% in 2015 down from 6% in 2014. The economic slowdown is due to a number of factors including reduced agricultural production owing to adverse weather conditions such as late onset of rains, floods, and dry spells experienced in many parts of the country (Government of Malawi (GoM), Annual Economic Report, 2015). GoM (2015) further observes that the slowdown in agricultural sector is expected to translate into reduced growth rates in other sectors that are linked to the sector, and these include manufacturing and trading sectors. This is evidenced by the fact that in 2015, agricultural sector growth rate is expected to decline to 5.4 percent down from 6.3 percent in 2014. The GoM (2015) further reports of optimism on stable fuel prices, lower inflation rates, a stable exchange rate and foreign exchange reserves are expected to spur economic growth in 2015. However, the recent macro-economic developments such as local currency depreciation and subsequent inflationary pressures are defeating the Government's macro policy objectives.

Table 3.1: Selected National Food Production Estimates for 2015

Crop	Production Levels (MT)		
	2013/14	2014/15	% age change
Maize	3,978,123	2,776,277	-30.2
Cassava	5,102,692	5,012,763	-1.8
Pulses	716,163	711,354	-0.7
Beans	195,048	188,745	-3.2
Pigeon Peas	318,885	335,165	5.1
Cattle	1,316,799	1,398,376	6.1
Goats	5,882,106	6,545,306	11.3
Chicken	68,177,602	78,121,449	14.6

Source: Ministry of Agriculture, Irrigation and Water Development; 3rd round Agricultural Production Estimates, 2015

From Table 3.1, most food crops, except for pigeon peas, have registered production declines in 2015 compared to 2014 with maize having the highest production decline of over 30 percent. Despite the poor performance of the crops sub-sector, the livestock sub-sector has had positive growth rates for most species, namely cattle, goats, and chicken. The mixed growth rates situation in Table 3.1 explains the above GoM (2015) assertion that agricultural growth rate in 2015 is expected to decline to 5.4 percent compared to 6.3 percent in the previous year.

The poor agricultural growth has food security implications such that over the 2015 MVAC food security assessment report projected that 2,833,212 households will be food insecure for periods between 3 to 8 months. While the compromised household self-sufficiency condition is expected to be addressed through food markets operations, the situation becomes more complex when coupled with weak institutional frameworks in the same sector. For instance, the GoM (2015) reports that the Agricultural Development and Marketing Cooperation (ADMARC) which acts as buyer and seller of last resort in most parts of the country, continues to perform poorly over a number of years. This is due to the fact that "even though ADMARC no longer receives subventions from the national budget that used to beef up its working capital, Government still requires it to continue providing social functions through pan territorial and pan seasonal marketing services in all parts of the country thereby worsening the situation" (Ibid). However, it is encouraging to note that the Malawi Government is committed to restructuring of the Company to ensure it is profitable and self-sustaining.

3.2.2 National Food Stock Situation

Notwithstanding the challenges faced by ADMARC, the National Food Reserve Agency and private sector as represented by the Grain Traders and Processors (GTPA) have food stocks which can meet household and national food security needs. In the case of NFRA, the maize stock details are as in Table 3.2 below:

Table 3.2: NFRA Maize Stocks

Stock of Maize	Location of NFRA Stocks, as of end June 2015						
	Lilongwe	Mangochi	Mzimba	Mzuzu	Limbe	Bangula	National
Current stocks (MT)	46,299.456	135.106	168.953	11.30	3.0	-	46,617.815
% share	99.32	0.29	0.36	0.02	0.01		100.00
Planned purchases in 2015/16 (MT)	33,000	5,000	2,000		10,000	5,000	55,000
% share	60.00	9.09	3.64	0.00	18.18	9.09	100.00
Total							101,617.815

Source: National Food Reserve Agency, July 2015

Table 3.2 shows that at the time of the study, the NFRA had 46,617.815 metric tonnes of maize 99.3 percent of which was at Lilongwe Silos complex, with few quantities spread across the different storage facilities across the country. Since most of the affected populations are in the South, this means that considerable transport costs shall be incurred to transport the maize to the required destination centres. However, in recognition of challenges related to food stocks distribution, much as 60 percent of the planned stock purchases will be held in Lilongwe, NFRA intends to spread the help stocks

in different parts of the country with 20,000 metric tons to be in the different locations in the Southern Region. Most of the stocks are held in the Central Region because that is where districts with marketed surplus stocks are found, and these include Dedza, Mchinji, Dowa, Ntchisi and also Lilongwe, amongst others.

The process of release of the maize from the Strategic Grain Reserves (SGR) in the NFRA is guided by clearly laid down procedures based on the annual MVAC food security assessment reports on affected populations and their locations. The NFRA drawdown procedures are as follows: (a) a party responsible for supporting replenishment costs (a donor), who is a credible sponsor, has to be identified; (b) identification of a credible sponsor has to be followed up by identification of a credible distributor of the maize stocks; and all these have to be presented and discussed at the SGR and Commercial Maize Committee Meetings (c) the SGR draw downs is done through the Ministry of Agriculture, Irrigation and Water Development by the way of a signed communiqué (through an SGR draw down Authorization Memorandum) which is supposed to be signed by the Secretary to the Treasury (ST), Secretary for Agriculture, Irrigation and Water Development, Chief Executive Officer for NFRA and Principal Secretary for the Department of Disaster Management (DODMA), (d) upon receipt of SGR drawdown Authorization Memo, NFRA releases maize to the distributor/beneficiary through its Authority to collect (ATC) documents.

The Grain Traders and Processors Association (GTPA) an association of private traders also holds maize stocks which are also spread across the country. Table 3.3 below has the details.

Table 3.3: GTPA Stocks, end June 2015

Location	Quantity (MT)	% share
Lilongwe	10,000	33.81
Kasungu	150	0.51
Dedza	3,060	10.35
Mchinji	3,066	10.37
Balaka	1,000	3.38
Mulanje	10,000	33.81
Mzuzu	500	1.69
Dowa	1,000	3.38
Ntchisi	500	1.69
Blantyre	300	1.01
Total	**29,576**	**100.00**
Planned additional purchases	100,000	

Source: GTPA Secretariat

Table 3.3 shows that by the end of June 2015, private traders had about 29.6 thousand metric tons of maize stocks. Lilongwe and Mulanje districts had the highest stock levels, amounting to about 34% of the private held stocks. The other districts with noticeable

private sector held maize stocks include Dedza and Mchinji with each having 10.4% of the private stocks. Central Region is having more private stocks because most districts in the region relatively had minimal disaster incidences during the farming season.

In addition to the already held stocks, the private sector indicated that they intended to purchase an additional 100,000 MT of maize. The locations of the planned purchases were not available at the time of the study, but most likely most of the purchases were to be done in the Central Region where marketed surplus were available at the time of the study.

The study was not able to obtain data on ADMARC stocks (both actual and planned). However, media reports indicate that the cooperation is planning to purchasing 30,000MT of maize from Zambia. The ADMARC stocks will be distributed to different satellite deposits across the country.

Based on the foregoing institutional details of maize stocks, we observe that in total, in 2015/16 marketing season, the country's food public and private sector institutions will have 161,200 MT of maize, against an MVAC projected maize equivalent food requirement of 113,864 MT. The challenge now is the timely distribution of the food stocks to the affected populations.

3.3 Summary of the Review of Regional and National Food Security Situation

The climate change induced disasters facing Malawi have also affected other countries within the Southern African region, resulting in significant food production and availability across the region. This means increased competition for maize and other food crops from the countries with some marketed surplus stocks such as Zambia and Tanzania. As such, a timely public and private food import from these countries is a natural commendable action.

The fact that the 2015 disaster affected households in Malawi have had broad livelihood impacts besides food insecurity challenges, this means that humanitarian assistance required for the affected will not be adequate in terms of meeting the livelihoods needs of the affected households. A broad range of humanitarian assistance strategies besides food security needs are required if the livelihood of the affected households is to be fully restored and their resilience built.

Both public and private sector national food security institutions have a big role in addressing both household and national food security needs in the wake of compromised household self-sufficiency situation. As such, *ceteris paribus*, in 2015/16 marketing season, the country's food public and private sector institutions are expected to have 161,200 MT of maize, against an MVAC projected maize equivalent food requirement of 124,183 MT. With this stock position, effective and timely food stock distribution mechanisms are key for ensuring household access to food within the 2015/16 marketing season.

4.0 GENERAL PRIVATE TRADER BUSINESS CHARACTERISTICS

In order to understand the private sector behavior, we interrogated the general characteristics of the traders involved in staple food commodities. In particular, we sought to appreciate the nationality of the traders, years of food commodity businesses, distance from place of origin to the current business place, and demographic characteristics such as education and marital status of the traders. These basic characteristics of traders are worth exploring because they have significant bearing on their profit maximization and business operation activities.

4.1 Trader Sample Distribution

Gender of the staple food commodity trader was one of the key factors recorded during the study. This was done to establish the proportion of different gender groups that participate in food commodity trading activities. Table A.1 in the Annex has the details.

According to Table A.1, the survey covered 901 private traders in 27 districts of the country. There were variations in terms of numbers of the private traders found in the different districts of the study. A good number of districts had over 50 private traders interviewed during the study (representing over 5.0% of the total sample), and these include Mzimba, Lilongwe, Dedza, Mchinji and Balaka. On the other hand, some districts such as Neno and Ntchisi had very few traders (about 5 - 8) at the time of the study. Interestingly, the traditionally districts prone districts of Chikhwawa and Nsanje did not have the highest number of traders at the time of the study, possibly due to the fact most them were out in search of commodities for sale during the lean period.

A gender characterization of traders shows that of the 901 traders, 78% (705) were male while 21.6% (195) were female, with one (1) being a group comprising both male and female members. Notwithstanding the low national female participation of women in food commodity trading, Table 4.1 shows that in Ntcheu district there were more female staple food commodity traders than their male countries, such that 57.4% of the 47 total district traders were females. Other districts with significant proportions of female traders include: Chikhwawa (45.2%), Blantyre (38.3%) and Mzimba (35.3%). The low women participation in staple food commodity marketing enterprises calls for deliberate policy measures to encourage female participation in national economic empowerment drive.

4.2 Nationality of Business Owners

Nationality of the private traders was one of the issues investigated in the study. This was done to establish whether all the traders were indeed Malawians as expected, or there

are some foreign citizens operating staple food commodity trading activities in the rural trading centres. Figure 4.1 below has details.

Figure 1: Nationality of Business Owners

According to Figure 1, the study findings show that 98.2% of the 901 private traders found participating in food commodity trading in different parts of the country were Malawians, with 1.8% (16) traders being non- Malawian. The fact that non- Malawians are able to participate in the staple food commodity traders in Malawi reflects not only the trade liberation policy, but also that food commodity trade is a viable business activity that is able to attract foreign participation. The study did not inquire why these foreign traders are participating in staple food commodity trade, nor the legality of their business operations. All in all, the involvement of different players is good to induce competition in the output trade which offer the opportunity for farmers to get better prices for their products.

4.3 Traders Business Experience

Interrogations in the trader characteristics also involved inquiries into the years of business operation experience for the traders. Details are in Table 4.2 below.

Table 4.2: Year of Business Experience

Gender of the trader	Sample size	Minimum	Maximum	Mean	Std. Dev
Male	690 (78.0)	1.00	36.00	9.5	6.65776
Female	194 (21.9)	1.00	36.00	10.3	6.94368
Total	**884 (100)**	**1.00**	**36.00**	**9.7**	**6.72325**

Figures in parentheses are percentages

According to Table 4.2, there is no difference between male and female traders in terms of years of experience in food commodity trading. This is evidenced by the fact that both gender groups have traders with a maximum of 36 years of experience, and almost similar standard deviation. The fact that some female traders have been in food commodity trade business for 36 years means that some traders started their business in the late 1970s way before the liberalization agenda was formally adopted as a national policy position. It also shows that while there could be challenges in such business enterprises, opportunities for excelling do exist for both gender groups. Needless to say, this also implies that there are both male and female role models to follow for those that want to earnestly pursue the food commodity trade enterprises.

4.4 Distance from original place to the current business place

Trader commitment to staple food commodity business can be gauged through a number of criteria, and distance from the place of origin to the current business operation location is one such factor. In this regard, each of the trader respondents was asked to indicate the place/ district of origin, and estimate the distance to the current place of business investment. Table 4.2 below has the details.

Table 4.2: Distance from the original place to current business place (km)

Gender of the trader	Nationality	Sample size	Distance from Original Place to the Current Place (km)			
			Min	Max	Mean	Std. Dev
Male	Malawian	521	0.00	500.00	31.96	72.37
	Foreigner	6	0.00	6692.00	1424.00	2607.25
Female	Malawian	183	0.00	650.00	35.00	78.28

Table 4.2 above shows minimal differences between the mean distances between male and female traders. With maximum distances of 500 km and 650 km for male and females, respectively, this shows that traders are able to take advantage any business opportunities at any part of the country as long as they see opportunities. Of course, the study did not inquire whether a trader's migration from their place of origin to the current business place was purely driven by staple food commodity business interests or other socio-economic factors. Some of the foreign traders found during the study indicated to be from the Far East, hence the maximum distances of about 6,700 km were recorded. Just like the national traders, the study did not investigate the other motives for the foreign traders' presence in Malawi.

4.5 Distance from Homesteads to the Business Operation Locations

Further to an inquiry into the distance from the place of origin to the current business location, the study interrogated the distances being covered on a daily basis from homesteads to the business locations. Details of study results are in Table 4.3 below.

Table 4.3: Distance from the homestead to current business place (km)

Gender of the trader	Sample size	Distance from homestead to business place			
		Minimum	Maximum	Mean	Std. Dev
Male	689	0.00	40.00	1.5737	3.53915
Female	194	0.00	30.00	2.1907	4.06336
Total	**883**	**0.00**	**40.00**	**1.7093**	**3.66726**

According to Table 4.3, the study found that while some traders' homesteads are within the business location premises (thus 0 km travel), for others they have to travel as long as 40 km to their business places. This reflects commitment to the business investments but

also improved transport services that are able to facilitate such movements. In fact, it was noted that most traders that reported travelling long distances do so to the mobile markets, such as Dedza boma to Mua market.

4.6 Demographic Characteristics of Private Traders

4.6.1 Age of the Traders

Age of the trader was one of the issues invested. Such inquiries sought to establish the extent of economic participation of different age groups in staple food commodity trading, that is, whether most traders are young or old. Table 4.4 below has the details.

Table 4.4: Age of the Private Trader

Gender of Trader	Sample size	Age of Trader			
		Minimum	Maximum	Mean	Std. Dev
Male	690	18.00	78.00	35.97	9.11
Female	192	18.00	69.00	36.35	9.44
Total	**882**	**18.00**	**78.00**	**36.05**	**9.18**

Analysis results in Table 4.4 shows similarities in the minimum age for the private traders in the study was 18 years for both male and female traders, while notable variations were reported for maximum age. Interestingly, amongst both male and female traders, there are those who are above the productive age group of 64 years. In any case, the study results show that both young and aged citizens are participating in staple food commodity trading activities.

4.6.2 Trader Marital status

The study collected data on the marital status of the traders as part of the drive to appreciate the social conditions affecting their operations. In particular, the need for marital status data was motivated by the realization that a trader's family life or lack of has implications for household labour that supports his or her investments activities, besides the socio-economic burden that comes with it. Figure 4.2 below has details of marital status of traders in the study.

From Figure 4.2, it is evident that most private traders are married (86.4%) which means that they have family labour supporting their activities. Married traders mean that they are having family labour supporting their business activities, but it also means that they have immediate family members they are obliged to meet their socio-economic needs. A few traders (6.6%) reported to have been never married, and most of them were the youths (both male and female).

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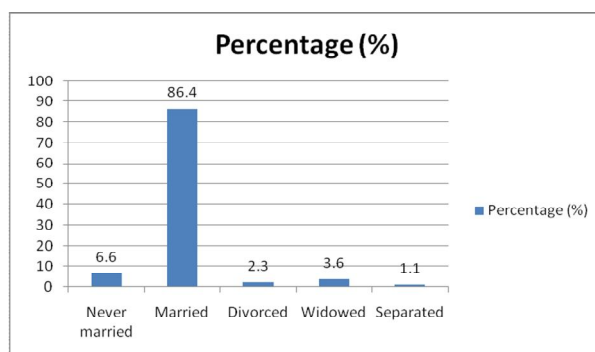
While some traders are divorced, widowed and separated, the study did not proceed to investigate the trading implications of their marital status condition, that is, this could be an issue of further research.

4.6.3 Educational Status of the Trader

Inquiries into the educational status of the traders were done to find out the extent of educational levels of the traders. In particular, the study sought to examine whether educations status of a trader has implications on the scale of business investments for the gender groups. Table 4.5 below has the results details.

Table 4.5: Years of schooling by gender and type of business

Type of business	Gender	Years of education of the trader (2015/16)				
		Sample	Minimum	Maximum	Mean	Std. Dev
Wholesaler	Male	41	0.00	12.00	7.88	3.15
	Female	8	7.00	15.00	11.38	3.11
Retailer	Male	322	0.00	17.00	8.16	3.20
	Female	119	0.00	12.00	7.61	3.19
Wholesaler and retailer	Male	318	0.00	18.00	9.19	3.04
	Female	62	0.00	12.00	7.29	3.07

Table 4.5 shows that some traders in wholesale and retail businesses have had no educational exposure. The statistical findings confirm the statements by some traders to the effect that much as they have had no education, they are successful in business endeavours. Table 4.5 further shows that there are no variations in the educational levels for male and female staple food commodity traders.

4.6.4 Household size and Business Operations

Interrogations into the household size were motivated by the realization of the dual effects of household size, being a labour source as well as drain on the economic resources. Details are in Table 4.6 below.

Table 4.6: Household size by Business Scale and Gender

Type of business	Gender	Sample	Household size			
			Minimum	Maximum	Mean	Std. Dev
Wholesaler	Male	43	2.00	15.00	6.14	2.22
	Female	8	1.00	7.00	4.75	2.05
Retailer	Male	308	2.00	17.00	5.70	2.12
	Female	121	1.00	13.00	5.63	1.95
Wholesaler and retailer	Male	309	1.00	23.00	6.28	2.73
	Female	60	2.00	19.00	6.93	3.07

According to Table 4.6, there are no noticeable differences in the average household sizes for wholesalers, retailers, and wholesaler and retailer, and by the gender groups. The maximum household sizes reported by some respondents as recorded in table 4.6 above are larger than what is expected for the normal household sizes, the respondents insisted that they were keeping many family members including orphans. Possibly such larger family members also provide labour for the business operations, hence the motivation for keeping them.

4.7 Summary of Findings on General Private Trader Business Characteristics

The trader characterization finds disproportionately low female participation in staple food commodity trade such that only 22 % of the 901 traders were female. This notwithstanding, in some districts such as Ntcheu, Chikhwawa, Blantyre and Mzimba, significant proportions of women do engage in staple food commodity trade. In any case, the low women participation in staple food commodity trading calls for deliberate policy measures to encourage female participation the national economic empowerment drive.
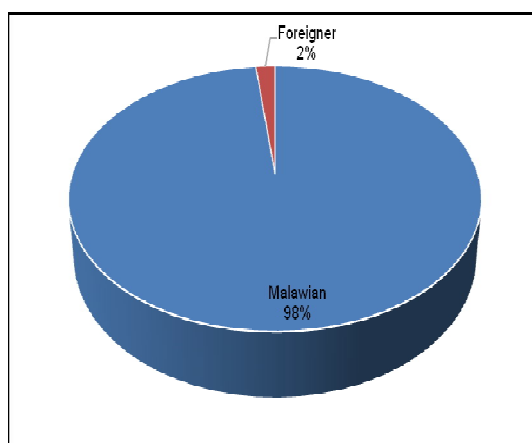
In terms of years of business operation, the study finds no difference between male and female traders. With 36 years of business experience reported by some traders, this means that they started way before the market liberation era. This also implies that the country has both male and female role models to follow for those that want to earnestly pursue the food commodity trade enterprises.

Some traders operate their businesses within the locality while others have to travel as far as 30-40 km to do their businesses. Long distance travels usually involves those traders who usually undertake their businesses in the mobile markets in response to the high effective demand conditions in such markets.

There are age variations amongst the traders with some being as young as 18 years of age and others being beyond the economically active age group of 64 years. This implies that citizens of different age groups are participating in staple food commodity trading activities. In terms of marital status, the findings show that that most private traders are married which means that they have family labour supporting their activities.

With respect to education, the study finds that some traders in wholesale and retail business operations have had no education though they are successful in business endeavours.

5. PRIVATE SECTOR BUSINESS OPERATIONS

In order to gain an informed appreciation of the private sector behavior, the study interrogated the general information on traders agribusiness involved in staple food commodities. This was done to obtain insights on issues such as scale of business operations, number of outlets by traders, main commodities being traded, means of business capitalization, factors determining the traders' decision on opening of new businesses and the factors that affect the changes in prices of the commodity.

5.1 Scale of Business Operations

The scale of business was one of the factors examined in the study to provide insights on the structure of the market and also the expandability of the business. Staple food commodity traders were asked whether their businesses were wholesale only, a combination of wholesale and retail, or retail only, and responses were analyzed according to their gender. Details of the findings are in Tables 5.1 and 5.2 below.

Table 5.1 Scale of business operation

Gender	Scale of business	Frequency	Percentage (%)
Male	Wholesaler	43	6.1
	Retailer	328	46.7
	Wholesaler and retailer	332	47.2
	Total	**703**	**100.0**
Female	Wholesaler	8	4.1
	Retailer	123	63.1
	Wholesaler and retailer	64	32.8
	Total	**195**	**100.0**
Group	Wholesaler and retailer	1	100.0

Table 5.1 above shows that most of the wholesaler scale business were male traders (43) as compared to the females (8). The findings further show that most of the female traders were on retailer scale business (63%) as compared to the male counterparts (47%). In addition, the findings show that there was a slight difference in gender of traders involved both the wholesaler and retailer scale business. This, therefore, means that if the affected people are to be given cash assistance, then most of the traders who will participate in meeting the beneficiary food security needs through the social cash transfer option are the male traders.

Table 5.2: Number of outlets and gender of the food commodity trader

Gender	Sample	Minimum	Maximum	Mean	Std. Dev
Male	697	1.0	65.0	1.4	3.21
Female	193	1.0	11.0	1.2	1.04
Total	**890**	**1.0**	**65.0**	**1.3**	**2.88**

According to Table 5.2 above, while there are significant differences between average number of business outlets by male and female traders, there is a difference in terms of

the maximum number of outlets. As such, some male traders are having a maximum of 65 outlets compared to female traders having maximum of 11. The fact that male traders have more outlets than female traders means that male traders are expanding more than the female traders.

5.2 Commodities being traded

The study further interrogated the main food commodities being traded by the traders, and this was motivated by the realization that there are gender differences in terms of commodities traded by male and female entrepreneurs.

Table 5.3: Food commodities by gender of the trader

Commodity	Gender of the trader		Total
	Male	Female	
Maize	1474 (55.0)	446 (53.4)	1920 (54.6)
Pigeon peas	69 (2.6)	29 (3.5)	98 (2.8)
General beans	481 (18.0)	268 (32.1)	749 (21.3)
Cow peas	52 (1.9)	26 (3.1)	78 (2.2)
Cooking oil	600 (22.4)	66 (7.9)	666 (19.0)
CSB	3 (0.1)	0 (0)	3 (0.1)
Total	**2679 (76.2)**	**835 (23.8)**	**3514 (100)**

Figures in parentheses are percentage responses

According to Table 5.3; most traders (55%) were in maize commodity trading business with no significant differences between male and female traders. Besides maize, general beans was second most important commodity with more traders (21% out of 749 responses). Apparently, food commodities such as pigeon peas, cow peas and CSB were the least traded items. Since maize and beans are the most traded commodities, this means that the traders involved in such commodities are most likely to benefit from increased demand of social cash transfer beneficiaries.

5.3 Factors Affecting Private Traders Pricing Decisions

In order to gain deeper understanding of the business sector operations, the study interrogated factors affecting the private traders' pricing decisions to determine their price setting behaviours.

Table 5.4: Factors Affecting Private Traders Pricing Decisions

Factor	Responses	
	Sample	Percentage (%)
Price in source markets	803	55.8
Transportation costs	309	21.5
Demand and supply of the commodity	211	14.7

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Storage costs	10	0.7
Labour costs	34	2.4
Competitor price	31	2.2
ADMARC prices	7	0.5
Government set prices	7	0.5
Joint price setting	23	1.6
Quantity of the commodity	5	0.3
Total	**1440**	**100**

Table 5.4 shows that traders decide on prices based on a number of factors, most of which include source market prices (56% of the responses), transport costs (22%), demand of the commodity (15%), amongst others. Contrary to the wide expectation that ADMARC prices influence private traders pricing behavior, the study finds that very few traders recognized ADMARC prices as a benchmark for their own market prices. This possibly is due to the fact that ADMARC is having minimal market leadership role in most market centres.

5.4 Factors Driving Private Sector Decisions to Open Food Trading Business

Factors driving private sector decision to open food trading business was also investigated in the study to gauge expandability of food market system. Details are in Table 5.5 below.

Table 5.5 Factors Driving Private Sector Decisions to Open Food Trading Business

Business Operating Factor	Responses	
	Frequency	Percentage (%)
Demand and supply of the commodity	668	50.7
Road infrastructure/accessibility	120	9.1
Security of the place	172	13.1
Availability of competitors	67	5.1
Amount of capital	106	8.0
Storage facilities	4	0.3
Local prices	109	8.3
Others	72	5.5
Total	**1318**	**100**

According to Table 5.5, the leading factors for traders' decisions to open a new staple food business include: demand and supply of the commodity (51% responses), security of the place (13%) road accessibility, amount of capital and storage facility. Availability of storage facility was considered the least deciding factor when opening a new business implying that most traders, in their cost minimization drive, do not care about food safety issues.

5.5 Capitalization of Business Enterprises

The study inquired on sources of business capital as part of the drive to understand the drivers of business expandability. Findings on private traders' responses are in Table 5.6 below.

Table 5.6: Major source of business capital

Source of capital	Frequency	Percentage (%)
Profit from same/other business (recapitalisation)	438	70.6
Farming (crop sales)	102	16.5
Savings from salary/wage	24	3.9
Loan	35	5.6
Remittances	13	2.1
Sale of assests/goods	6	1.0
Livestock sale	2	0.3
Total	**620**	**100.0**

According to Table 5.6, the major source of food trade business was revenues from other business enterprises (71% responses), followed by farming (17%). Other sources of business capital reported by the traders include savings from salary, loan, remittances, with least source of capital being livestock sale (0.3%). The low responses on loans as business capital source confirms the financing capital challenges which entrepreneurs face in Malawi.

5.6 Summary of Insights on Private Traders Business Operations

On scale of business operations, the study finds that most of the sole wholesale businesses were by male traders compared to the females, and that most of the female traders were on retailer scale business.

The most popular traded food commodities are maize, beans and cooking oil. This means that in the event of a cash transfer programme being implemented in an area, the traders dealing in such commodities are the ones most likely to benefit from such an intervention.

In terms of market price determinants, the analysis shows that the major factors include price in the source markets, transports costs and demand and supply conditions in the markets. ADMARC pricing behavior was amongst the least factors private traders consider as a factor when setting their own prices. The findings run counter to the general expectation that ADMARC prices influence private traders pricing behavior, and this is possibly due to the fact that ADMARC's presence is being less felt in most parts of the country.

Demand and supply condition of a commodity is not only a critical factor in affecting pricing decisions but also in influencing the setting up of business in a new place. Other factors on new business setting up include security of the place and road accessibility.

With respect to sources of food trade business capital, the findings show that the major sources include own revenues from other business enterprises, farming incomes, savings from salary, as the major sources. Low responses on loans as business capital source confirms the financing capital challenges which entrepreneurs face.

6.0 MARKET COMPETITION AND STRUCTURE

Further to investigations into private trader business operations, the study inquired into market structure conditions such as the extent of competition, how they support each other, and how the private trader institutions interact with public food security institutions such as ADMARC and NFRA. Details are in the section below.

6.1 Number of Traders in different Commodities

At each trading centre, the study sought to assess the market structures by inquiring on the number of traders dealing in different staple food commodities. This was part of the trader capacity assessment mechanism in terms of ability to respond to changes in demand conditions. Details of trader population at market centres are in Table 6.1 below.

Table 6.1: Number of traders at the market centre by food commodity

Food commodity	N	Maximum	Minimum	Mean	Std. Dev
Maize	465	1.00	60.00	10.04	9.20
Beans	262	1.00	50.00	10.26	9.98
Cowpeas	33	1.00	40.00	7.91	8.14
Pigeon peas	18	1.00	20.00	5.78	5.39
vegetable oil traders	233	1.00	50.00	10.28	9.09

According to Table 6.1, market centres visited had at least one trader in each of the major staple food commodities with maximum numbers reaching as far as 60 per trading centre for maize commodity. The large numbers of private traders at a market centre were usually found during market days with high effective demand for all commodities. It must the pointed out that in some market centres, one may virtually found no trader on non-market day, especially if the market day is at a nearby trading centre.

6.2 Competition and Support amongst Private Traders

Traders at different market centres do not only compete in their businesses but also do support one another in various ways. In this recognition, the study inquired into how the traders support each other. This inquiry sought to establish the extent of social capital amongst the traders for different staple food commodities. Details are in Figure 6.1 below:
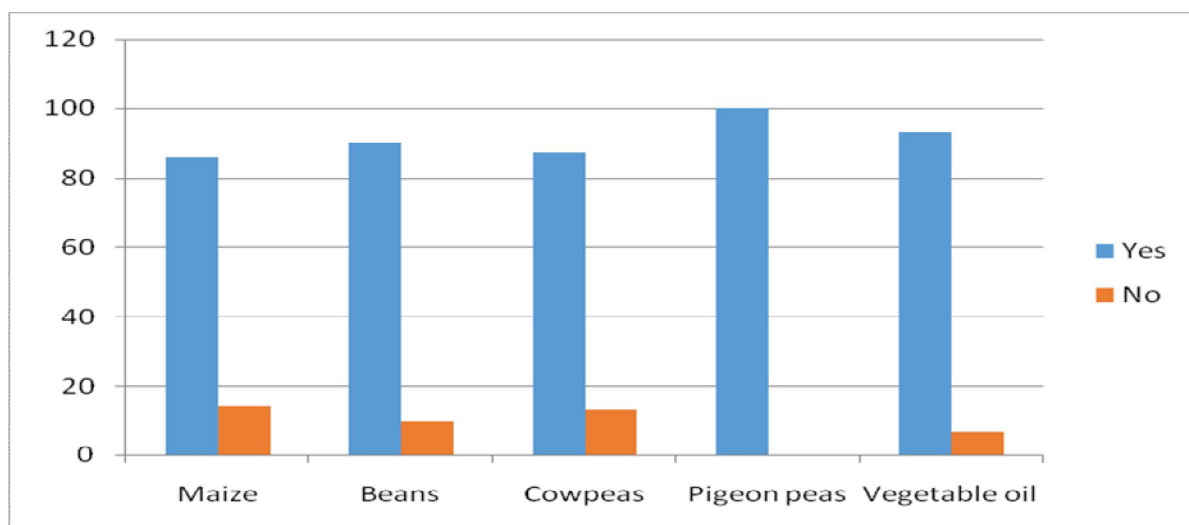
Figure 6.1: Existence of Competition amongst Traders by Food Commodity

Figure 6.1 shows that most traders dealing in staple food commodities indicated to be having some form of support from each other. The existence of social capital amongst the traders is able to assist them in sustaining their business investments. In this regard, the study further inquired on the type of exact support the traders do provide each other. Table 6.2 below has the details.

Table 6.2: How maize traders support each other in Business

Type of Support	Responses	
	Sample	% age
Joint setting of selling prices	279	34.1
Assisting each other in transportation of produce	130	15.9
Storage security of produce in the market place	12	1.5
Sharing customers	115	14.1
Borrowing money from each other	97	11.9
Selling on each other's' behalf	43	5.3
None	128	15.7
Others	13	1.6
Total	**817**	**100**

Table 6.2 above shows that the most common types of support the trader offer each other include joint setting of market prices, which is market collusion (34%); assistance in transportation of the produce from source markets to the selling markets (16%); sharing of customers (14%). Of course, some 16% of the respondents indicated to have had no support from each other.

6.3 Private Sector Interactions with Public Institutions

6.3.1 Government- Private Sector Interactions

Figure 6.2 shows that only 25% of the respondents indicated to have had some interactions with government institutions. This indicates the minimal support the private traders obtain from government.

For the few traders who indicated to have had some interactions or support from government institutions, the study inquired on the type of received. Table 6.3 below has the details.
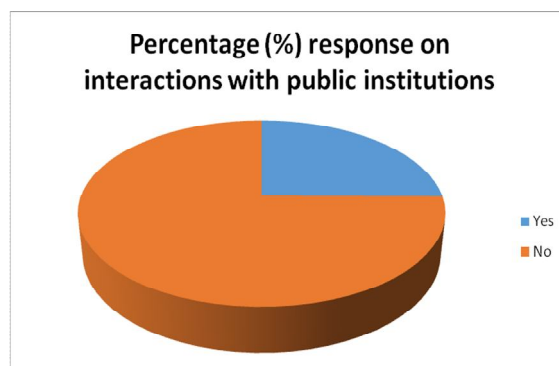
Figure 6.2: Responses on Interactions with Public Institutions

Table 6.3: Type of support maize commodity traders received from Government

Support type	Frequency	Percentage (%)
Market information	24	20.0
Training	4	3.3
Sanitation facilities at the market center	73	60.8
Security	18	15.0
Others	1	0.8
Total	**120**	**100.0**

Table 6.3 confirms that only 120 out of the 901 traders interviewed during the study indicated to have had some form of support from Malawi Government. Of those that have had Government support, 61 percent referred to provision of sanitation facilities at the trading centres, while market information (20%) and security (15%) were the other important types of support received from Government.

6.3.2 Maize purchases from and Sales to ADMARC

Specific inquires were made about possibilities of interactions between private traders and ADMARC or NFRA. In particular, the traders were asked to indicate whether they have bought maize from NFRA and ADMARC for resell in 2015/16 season, and if so the amounts involved.

Table 6.4: Ever bought Maize from ADMARC and NFRA for resell in 2015/16 season

Institution	Whether the Trader has ever bought from ADMARC or NFRA	
	Yes	No
ADMARC	2 (0.4)	464 (99.6)
NFRA	2(0.5)	436 (99.5)

Table 6.4 shows that at the time of the study in mid to end June 2015, very few traders had bought maize from ADMARC and NFRA to resell in their businesses. This was so because the study was conducted at the time when both the private traders and the public institutions were purchasing maize from farmers, and the public institutions had virtually put on hold maize sales, particularly to traders.

6.3.3 Purchases from Sales to ADMARC and NFRA

Further to inquiries on purchases on purchases from ADMARC and NFRA, the study also interrogated the traders on their commodity sales to the two institutions. Refer to Tables 6.5 below for details.

Table 6.5: Did Private Traders ever sold maize to ADMARC and NFRA in 2015/16 marketing season

Name of Public Institution	Yes		No	
	Sample	%age	sample	%age
ADMARC	9	1.8	483	98.2
NFRA	7	1.5	475	98.5

According to Table 6.5, still very few traders had ever sold to ADMARC and NFRA. The reasons for the limited sales to ADMARC and NFRA include limited knowledge of the marketing opportunities being offered by the two institutions and for those that are aware, uncompetitive low price offers were a limiting factor.

6.4 Summary of Findings on Market Structure and Competition

The analysis of market structure condition finds that the numbers of traders at each market centre varies with the market days. While during non-market days, one may find very few traders, during the market days with expected high effective demand conditions, one could find even 60 traders per marketing centre dealing in one commodity such as maize. This means that effective demand for staple food commodities is a key driver for the existence of market structures.

In terms of support provision, the analysis finds that traders usually do support each other in different ways, namely joint setting of market prices, assistance in transportation of the produce from source markets to the selling markets, and sharing of customers. When asked about Government support and interactions, very few traders indicated to

acknowledge any form of government support, with minimal dealings with ADMARC and NFRA.

7. PROJECTED MARKET DYNAMICS FOR THE 2015/16 SEASON

Further to investigations into market competition and private sector interactions with public institutions, the study also inquired on the private traders' traded volumes, stocks held and selling prices with a particular focus on projected volumes. The specific details of the analysis are below.

7.1 Current and Previous Marketing Situation

7.1. 1 Commodity Volumes Traded per Month

Prior to obtaining private projections on traded volumes and prices for the remaining months of the 2015/16 consumption season, the study inquired on the actual monthly commodity flows. Results are Table 7.1 below.

Table 7.1: Volume of maize traded per month in 2015/16 (kgs and litres)

Food commodity	Sample	Min	Max	Mean	Std. Dev
Maize (kgs)	388	1.0	3,000,000.00	2,8913.8	16,6753.93
Beans (kgs)	245	2.0	40,000.00	1,817.9	4,497.86
Cowpeas (kgs)	30	4.0	8,625.00	909.5	2,005.55
Pigeon peas (kgs)	16	4.0	5,000.00	750.6	1,250.34
Vegetable oil (litres)	236	2.0	126,000.00	2,803.8	9,719.74

Private sector capacity to meet effective demand is demonstrated in Table 7.1. For maize trade, on average traders were selling about 2.9 metric tonnes per month, with the maximum being 3,000 metric tonnes per month (for the big traders). The sold volumes are determined by demand factors at each market centres and supply conditions from the where the commodities are sourced. This means that the equilibrium volumes change according to the market conditions. The high standard deviations for marketed volumes shown in Table 7.1 imply that there are large differences in the sales behaviour for the traders across the country's different market centres.

7.1.2 Current Private Sector's Stocks and Selling Prices

Table 7.2: Current stocks available by commodity (Kg and Litres)

Commodity	Sample	Min	Max	Mean	Std. Dev	Total Stocks (MTs)
Maize (kgs)	461	0.0	425,000.00	1,0401.4	38065.72	4,675.15

Beans (kgs)	248	0.0	100,000.00	1,290.9	6799.49	320.152
Cowpeas	34	0.0	6,000.00	4,59.4	1069.02	15.62
Pigeon peas (kgs)	20	0.0	9,999.00	1,254.6	3017.88	5.112
Vegetable oil (litres)	239	0.0	8,000.00	493.8	1090.18	117.507 (metric litres)

According to Table 7.2, the sum of maize stocks held by all the maize traders was only about 4,700 MT and 320 MT of general beans held by beans traders. The analysis in Table 7.2 further shows that some traders at the time of the study had no stocks while others had up of 425 metric tonnes of maize, and 100 metric tonnes of beans. For cowpeas and pigeon peas, the maximum reported stocks held were less than 10 metric tonnes.

A comparison of Tables 7.1 and 7.2 shows that at the time of the study, traders were selling more volumes of staple food commodities than the volumes being stocked. For instance, the average maize sales volumes were at 2.9 metric tonnes while average stock volumes were just above 1 metric tonne. This reflects availability of market demand even during the harvest period. Besides traded and stored volumes, the study also collected prevailing market prices for the commodities. Details are in Table 7.3 below.

Table 7.3: Current selling prices for the Staple Commodities (MK/Kg and MK/Litre)

Food commodity	Sample	Min	Max	Mean	Std. Dev
Maize (MK/Kg)	453	65.00	168.00	116.79	19.63
Beans (MK/Kg)	250	250.00	1000.00	527.1	124.01
Cowpeas (MK/Kg)	32	150.00	600.00	354.38	122.45
Pigeon peas(MK/Kg)	17	200.00	720.00	354.12	143.96
Vegetable oil (MK/Litre)	235	300.00	1040.00	666.63	94.50

Table 7.3 shows that the average maize prices at the time of the study were at MK117 per kg. The minimum maize price was MK65/kg, far below the Government recommended minimum price of MK100/Kg, while the maximum sales price was MK168/kg. A further analysis of price situation by district shows that the maximum price of MK168/Kg was in Chikwawa district (see Table A.2 in the Annex). Other districts with quite high maximum selling maize prices of MK150/kg or more were Nkhotakota, Zomba, Phalombe, Thyolo and Blantyre.

7.1.3 Past Developments in Staple Food Prices

Further to current commodity prices, the study inquired on the market prices for the past two seasons, that is, 2015/15 and 2013/14. Details are in Table 7.4 below.

Table 7.4: Food commodity prices during the 2014/15 and 2013/14 Consumption Years

2014/15 Year					
Food commodity	**Sample**	**Min**	**Max**	**Mean**	**Std. Dev**
Maize (MK/kg)	444	45.00	200.00	104.7	26.21
Beans (MK/kg)	238	150.00	850.00	505.9	141.00
Cowpeas(MK/kg)	30	180.00	900.00	335.9	135.92
Pigeon peas (MK/kg)	18	130.00	600.00	311.4	114.70
Vegetable oil(MK/litre)	211	100.00	1020.00	669.1	112.17
2013/14 Year					
Maize(MK/kg)	405	35.00	200.00	102.32	33.54
Beans (MK/kg)	213	100.00	900.00	450.67	157.25
Cowpeas (MK/kg)	25	130.00	700.00	305.80	118.64
Pigeon peas (MK/kg)	15	120.00	450.00	276.87	100.97
Vegetable oil(MK/litre)	178	130.00	1000.00	628.28	132.11

Information on previous price situation in Table 7.4 shows that the country's average maize market prices offered by the private traders have been slightly above MK100/Kg. However, the maximum maize prices have ever gone up to MK200/Kg in both 2013/14 and the 2014/15 seasons. The high maximum prices were obtained during the leans periods of December to March. Details of district distribution of market prices for 2014/15 season are in the Table A.3 in the Annex.

7.2 Demand and Price Projections for the 2015/16 Marketing Season

The market and price situation analysis at the time of the study provides the foundation for projected future situations for the 2015/16 marketing season, that is, for the months of July 2015 to March 2016. Private traders were asked to state their projections of the market demand situation for the 2015/16 season for the July-September 2015, October-December 2015, and January-March 2016. Inquiries into private sector projections on market sales volumes were obtained because they have implications on their market response decisions. Details of the private sector's responses are Figure 7.1 below.
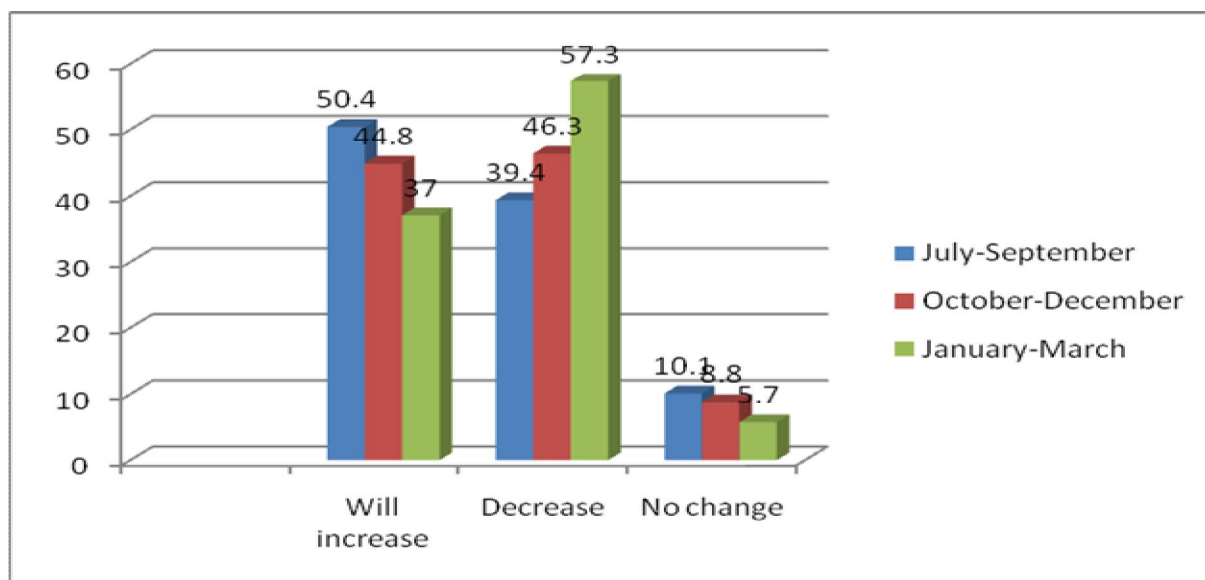
Figure 7.1: Projected Maize Quarterly Demand Changes (Sales Volumes)

Figure 7.1 confirms the general fears of increased in market demand volumes for staple food commodities. For the period July-September 2015, about 50% of traders projected increases in demand for commodities compared to 39% expecting decline. Interestingly, however, 57% of the responses indicated to expect a demand decline between January and March 2016, owing to the expected government market interventions coupled with private sector stock releases to take advantage of the lean period. A few responses indicated that they did not expect any significant demand changes in the coming marketing season.

7.3 Ownership and use of Food Storage Facilities

7.3.1 Traders with own Storage Facilities

Ownership of storage facilities among private food commodity traders is of paramount importance as among others, it affects the ability of private traders to absorb increased demand in disaster affected market. In addition, it also provides security of food commodities especially from theft, which is one of the key factors that private traders consider when opening a business in a new place. Good storage facilities are also critical in preserving the form, quality and quantity of food commodities in different time periods.

Table 7.7: Ownership of a storage facility among private food traders

	Frequency	Percentage (%)
Yes	163	18.8
No	706	81.2
Total	**869**	**100.0**

Results in Table 7.7 show that few private traders own storage facilities. Of the 869 private food traders, 163 reported that they have their own storage facilities representing 18.8 % as compared to 706 (81.2%) private traders who don't have their own storage facilities.

For the private traders who do not have their own storage facilities, the study further inquired where they keep their food commodities. Table 7.8 presents the various storage facilities used by private food commodity traders. The table shows that the majority of the traders (365) use their dwelling house while 109 of the traders are renting storage facilities and 130 of them use an open ground representing 52%, 18.8% and 15.7 %, respectively. This implies that most commodity food traders are constrained by storage facilities as vindicated by the poor storage facilities they are using which are not specially designed and furnished as standard storage facilities.

Table 7.8: Types of storage facilities used

Storage facility	Frequency	Percentage (%)
Rented storage facility	109	15.7
Dwelling house	365	52.7
None (open ground)	130	18.8
Others	89	12.8
Total	**693**	**100.0**

7.3.2 Total stored amounts and Rentals

Food quantities under storage are critical in predicting future behavior of the market as they affect the demand and supply of commodities. Table 7.9 indicates that on average, traders are storing 28 MT of maize in the visited districts with a minimum of 0.015 MT and maximum of 500 MT. Other commodities under storage are pigeon peas, general beans cowpeas and cooking oil.

Table 7.9: Quantity of stocks stored by commodity in 2015/16 (kg)

Food commodity	N	Minimum	Maximum	Mean	Std. Dev.
Maize	134	150.00	500000.00	28036.06	74508.45
Pigeon peas	1	200.00	200.00	200.00	.
General beans	23	40.00	5000.00	980.00	1229.70
Cow peas	1	1000.00	1000.00	1000.00	.
Cooking oil	15	100.00	72000.00	12952.67	24527.84

7.3.3 Storage Facility Rentals

The study also sought to find out whether private food traders support each other by renting out storage facilities to fellow traders. The study found out that there is minimal renting out of storage facilities to fellow traders. As presented in Table 7.10, only 4 (2.0%) of the traders were able to rent out their storage facilities to others. This may be so because most of the traders do not have storage facilities.

Table 7.10: Leasing out own storage facility in 2015/16 season

	Frequency	Percentage (%)
Yes	4	2.0
No	197	98.0
Total	**201**	**100.0**

7.4 Commodity Prices at the time of Stocking and Release

One of the major factors affecting food prices is demand and supply which also vary from time to time. Table 11.5 below shows the prices of maize at the time of stocking which usually takes place during harvest season when maize is "plentiful" and at the time of release also called the lean period when maize is in short supply.

Table 7.10: Maize Commodity Prices at the time of Stocking and Release (MK/kg)

Period	N	Minimum	Maximum	Mean	Std. Dev
Time of stocking	143	60.00	140.00	103.34	16.94396
Time of release	122	40.00	200.00	115.55	33.49925

The table indicates that the average maize price at the time of stocking is relatively lower (MK103.34/kg) than the price during the time of release (MK115.55/kg). As earlier pointed out, the price differential reflects demand and supply dynamics during the different two periods. This is not surprising as it is customary for maize traders to hold the maize when prices are low and release the maize during the lean period when the prices are relatively higher so that they make profits.With the maize market outlook for this year (high speculation) owing to the country wide disasters, it was reported that maize traders are likely to make more money

7.5 Stocks and Quarterly Price Projections

Further to the sales volume projections for the coming months, the study applied two major approaches, namely (i) interrogated the traders' projected optimal stocking and pricing decisions in the context of their perceived marketing conditions and operational constraints; (ii) statistical forecasting using Holt winters seasonal time series.

In the case of traders' price projections, details for the case of maize are in Table 7.11 below.

Table 7.11: Projected Quarterly Maize Stocks and Prices: July 2015 – March 2016

Variable	Sample	Min	Max	Mean	Std. Dev
Total Planned stocks (kg)	422	100.00	31,000,000.00	20,8019.65	1549037.95
Expected stocks July-Sept (kgs)	384	75.00	11,000,000.00	77,936.34	588035.58
Expected selling price July-Sept (MK/kgs)	420	75.00	250.00	139.23	28.32
Expected stocks Oct-Dec	384	80.00	10,000,000.00	6,3471.51	513878.54
Expected selling price Oct-Dec (MK/kgs)	421	40.00	250.00	161.00	34.70
Expected stocks Jan-March (kgs)	373	10.00	10,000,000.00	6,1314.82	519734.84
Expected selling price Jan-March (MK/kg)	417	75.00	250.00	179.71	35.43

Table 7.11 shows that on average, private traders intend to stock 21 metric tonnes of maize, with the maximum planned stocks being 31,000 metric tonnes. In the case of price projections, there are expectations that prices can go up as high as MK250/kg though lowest expected prices of MK40/kg were still expected in some places. The MK250/kg price expectation is above the MK200/Kg experienced in the past two marketing seasons confirming the general reduced production and subsequent low maize marketed surplus volumes.

The traders' price projections were complimented by Holt winters seasonal forecasting method using Agriculture Market Information System (AMIS) monthly time series data obtained from the Ministry of Agriculture, Irrigation and Water Development for the period January 2013 through June, 2015. This forecasting is for the period of 9 months from the time of the study, ie from July 2015 to March 2016. The projection results are in Figures 7.2 below
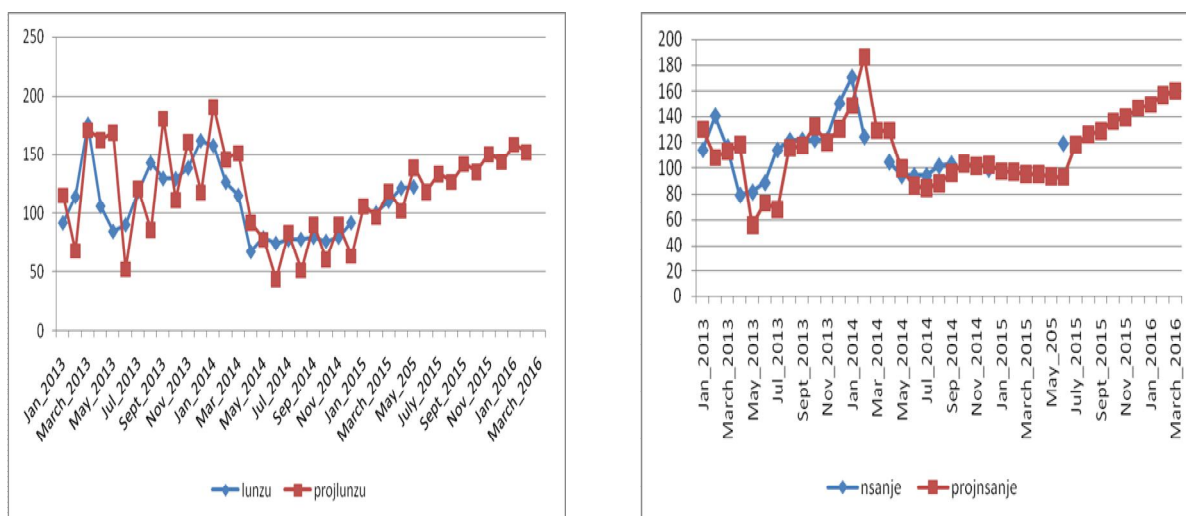
Figure 7.2: Maize price projections for Lunzu (left) and Nsanje (right) markets: July 2015- March 2016

Figure 7.2 presents maize price projections for the period July 2015 to March 2016 for Lunzu and Nsanje markets. These are the major staple food markets in Southern Region. The price forecasts show modest price increases during the lean period, with the maximum prices for both Lunzu and Nsanje being about MK160 per Kg. This is contrary to high traders' price projections which reach as high as MK250 per kg. The differences in the results is due to the fact the time series forecasting is based on standardized weakly prices while the traders' projections include isolated price instances. In any case, the implication of the modest price increases under time series price data forecasts is that the expected astronomical price increases in some places, will over time, be stabilized with market integration forces.

Traders dealing in different commodities had projections of the stock purchases in the 2015/16 season. Table 7.12 below presented the total projected national stocks of different commodities.

Table 7.12: Total Planned Purchases for the 2015/16 Season (MT)

Commodity	Current stock at the time of the study (MT)	Planned Stock Purchases (MT)
Maize	4675.15	87,784.29
Beans	320.152	3,965.151
Cowpeas	15.62	349.5
Pigeon peas	5.112	1,34.956
Cooking oil	117.507	11,203.41

Vegetable oil figures are metric litres

From Table 7.12 below, it is evident that while the total stocks held at the time of the study were quite minimal, the traders had ambitious plans of stocking significant quantities of staple food commodities. For instance, in terms of maize, the analysis shows that traders projected to stock about 87,800 MT against the current stocks of only 4,700 MT. Similarly significant variations also exist between current and projected stocks for general beans, cow peas, pigeon peas and cooking oil.

7.3 Summary of the Analysis on Commodity Storage and Price Projections

The marketing situation analysis shows that at the time of the study, all the traders involved in maize trading had only 4,700 MT and 320 MT of maize and general beans respectively in their storage. Planned stocks for the 2015/16 season were at 87,800 MT and 4,000 MT for maize and beans, respectively.

An examination of trader activities shows that most traders were largely selling whatever they were procuring than stocking for latter on sales. In the case of maize, the average monthly maize sales volumes per trader were at 2.9 metric tonnes while average stocking volumes were just above 1 metric tonnes, reflecting availability of market demand even during the harvest period.

The current average maize prices are at MK117/kg, above the MK105 or MK102 for, respectively, 2014/15 and 2013/14 seasons. It is, therefore, not surprising that projected maize maximum prices of MK250/kg are expected for the 2015/16 season compared to the maximum prices of MK200/kg obtained in the past two marketing seasons.

Private sector response to the perceived market demand increases in the wake of reduced marketed commodity supply conditions in the lean period is reflected in stocking plans. As such, on average, maize private traders, on average indicated to be planning to stock 21 metric tonnes of maize. In fact, some big traders reported planning of stocking up to 31,000 metric tonnes of maize for the 2015/16 coming season on the expectation of profit maximization owing to high market price increases. However, considering the marketing challenges which the private traders are facing, there are possibilities that such plans may not be fully realized. In addition, since more volumes of maize were being sold than being stocked at the time of the study, this may also compromise the stocking plans are outlined by the traders.

Interestingly, while the traders indicated commitment to increase their stocks, the assessment has established that few of the private food traders have their own specialized storage facilities and most of them use their own dwelling houses to keep various commodities they are trading in. Further the analysis reveals that maize prices are higher at the time of release than at the time of stocking as affected by demand and supply forces. This is deemed profitable for private food traders but hurt consumers whose purchasing power is low during the same period. Thus the study recommends that there is need for more market friendly government interventions that would see price stability

during the lean period. Effective market friendly interventions through use of ADMARC and NFRA would be advisable.

8. PRIVATE SECTOR RESPONSE CAPACITY TO MARKET CHANGES

This section examines capacity of private traders to respond to market dynamics particularly changes in demand of commodities. Traders' capacity to absorb demand is critical for appreciating their role in market based humanitarian assistance or social support interventions.

8.1 Private sector perspectives on Market Changes

A private sector capacity assessment involves inquiries into how they perceive market changes, hence traders were asked their opinion on whether sale price of commodities would increase, decrease or remain the same if demand of commodities increased. The results are in Table 8.1 below.

Table 8.1: Trader Expectations of on Market Changes to Demand Changes

Commodity	Increase	Decrease	No change
Maize	307 (67.0)	12 (2.6)	139 (30.3)
Beans	148 (59.0)	16 (6.4)	87 (34.7)
Cowpeas	12 (38.7)	2 (6.5)	17 (54.8)
Pigeon peas	10 (43.5)	3 (13.0)	10 (43.5)
Cooking oil	67 (27.5)	23 (9.4)	154 (63.1)

Figures in parentheses are percentages

According to study results in Table 8.1, maize is a food commodity whose price would increase the most if its demand was to increase. This is evidenced by the fact 67% of the responses indicating that if demand increased market sales price would increase. In the case of beans, 59% of the responses indicate that they expect an increase in sales price would increase if demand increased, while 34.7% replied the price would not change. Responses on cowpeas and pigeon peas were somewhat different in that there was split in opinion between those expecting no price changes and those expecting price increases

The response patterns were different in the case of cooking oil as 63.1% of the traders replied that the sale price of vegetable oil would not change with an increase in demand, whereas 27.5% were of the expectation of a price increase.

8.2 Private Sector Readiness to Meet Increased Market Demand

Having established the traders' expectations on market demand changes in the wake of market demand changes, it is essential to establish trader capacity to sustain demand if it were to increase taking into consideration the possible volume changes and the time frame within which the trader would respond the demand changes. This is done to assess the efficiency to respond to market based humanitarian assistance interventions so that the intended beneficiaries do not use the money on alternatives. The delivery time is also crucial to consider as a delay in the delivery would give the household much time to contemplate right use of the assistance. Maize was selected to be the main focus as it is viewed as the commodity that is the most affected by demand. Figure A.1 in the Annex gives an overview of traders' views.

Figure A.1 shows that 65% of the traders replied they would be able to absorb increased demand while 35% stated they would not. When asked how they would meet increased demand in the wake of low supply levels, most of them indicated that should they see increased demand, they are ready to travel long distances to find maize to be sold to households.

When asked to state the percentage increase in the marketed volumes the traders are able to being to the market in response to increased demand, various responses were obtained. The results are shown in table 8.2 below.

Table 8.2: % age changes in Market Volumes in Response to Increased Demand

Type of business	Gender	Sample size	Minimum	Maximum	Mean	Std. Dev
Wholesaler	Male	23	10.00	100.00	56.17	36.15
	Female	3	20.00	100.00	56.67	40.41
Retailer	Male	101	1.00	100.00	43.50	29.47
	Female	26	5.00	100.00	34.69	25.13
Wholesaler and retailer	Male	152	5.00	300.00	54.32	39.20
	Female	24	9.00	100.00	55.46	32.31

The results in Table 8.2 show that male traders who are into both wholesale and retail are capable of increasing traded volumes up to 300% of their current traded volumes followed by the rest who registered a maximum of 100%. Female traders registered a slightly higher minimum percentage of volumes to be increased in the category of retail traders. This shows that women trading in maize are capable of keeping up with the trade.

8.2.1 Time frame for delivering Maize if demand increases by 50%

Further trader capacity and efficiency assessment involved inquiring from traders about the time the time frame within which they would be able to deliver. See table 8.3 below for details.

Table 8.3: Time frame for responding to a 50% demand increase

Period	Frequency	Percentage (%)
Within one week	263	72.7
Within two weeks	53	14.6
Within one month	27	7.5
Longer than one month	8	2.2
Can't promise	8	2.2
Don't know	3	0.8
Total	**362**	**100.0**

According to results in Table 8.3, the majority of the traders were of the view that they would deliver within a week. This is evidenced by the 72.2% that replied to being able to provide within one week.

8.3 Constraints for Private Sector Growth

Private traders are prone to a number of constraints which may affect their capability to deliver required volumes of commodities. Without considering these constraints, participation by the private sector in the assurance of food security for the vulnerable will be restricted. Thus, the issue was investigated in the study. In this regard, private traders were asked to state constraints hindering their capacities to expand their existing business. The results were depicted in Figure 8.1 below.
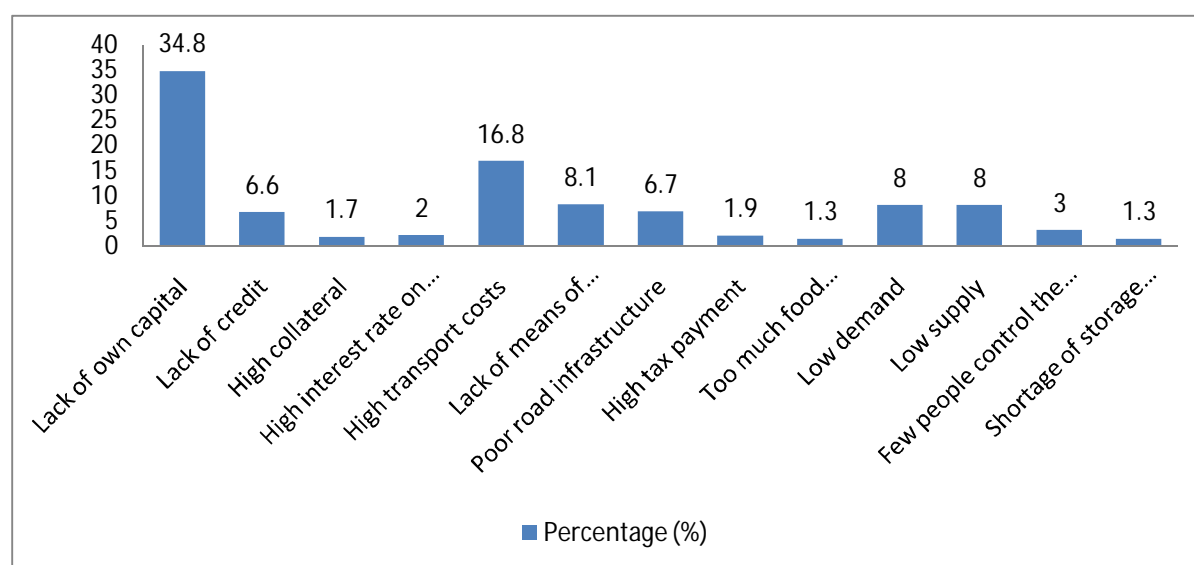
Figure 8.1: Constraints to food commodity traders business expansion

From the results, private traders businesses face a number of challenges including lack of own capital, high transport cost, lack of means of transport, deficient levels of demand and supply. Lack of capital emerged most significant challenges as the traders believe ensures capacity to endure risks. Private traders prefer own capital to credit due to the fact that attainment of credit seems almost impossible with credit as traders seem to not have any connection with credit institutions. High transport costs, caused by unstable and high fuel prices in the country, are negatively affecting the traders' food commodity businesses. In addition, low effective demand owing to the general unfavourable economic conditions is also recognized as an important challenge affecting the traders business. The concern of low effective demand is more pronounced in areas where households have been badly hit by the climate related disasters in the 2014/15 agricultural season, thus eroding the livelihood of the communities. The constraints of demand and supply are mostly applied to small traders who cannot afford to travel long distances especially in the wake of high transport costs.

8.4 Requisite Support for Private Sector Growth/ Expansion

In view of the stated constraints for private sector development, the study further inquired on the specific recommended interventions that can be put in place to support the traders. The suggestions from the traders themselves are summarized in Figure 8.3 below.
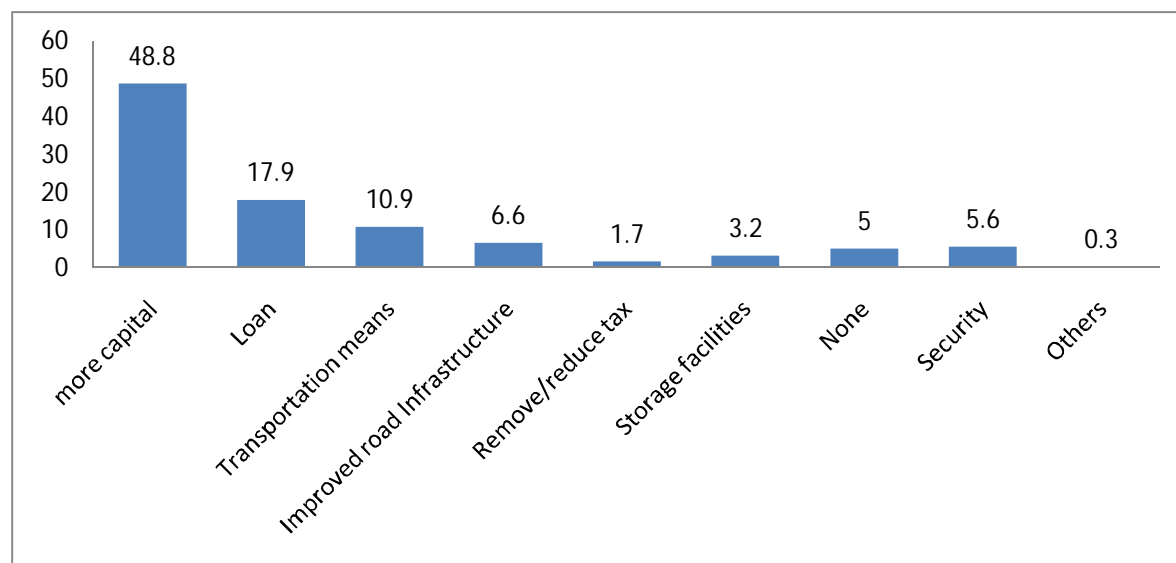
Figure 8.2: Support the Traders Require for Business growth/ expansion

From Figure 8.3, it is evident that for private traders to play a role in the goal of attaining food security they would require more capital, available loans, improved road infrastructure ,provision of transportation means and security. Interestingly, there were few responses on removal of tax and provision of storage facilities as strategic actions for

supporting private traders businesses. Minimal responses on storage facilities are due to the fact most small private traders simply buy and sell with minimal storage, while the bigger traders have own storage facilities. With respect to tax breaks, most traders have turn over that is below the taxation requirement hence tax was a non- issue to them

8.5 Summary of issues on Trader capacity and Constraints

Any possibility of demand increase is likely to induce price increases at least in the short term. In the long term, traders indicated that are ready to increase market supply in response to demand increases even if it means travelling long distances to source the required food commodities. In fact most traders are of the view that given an assurance of effective demand increases in their market areas, they can undertake to meet demand within a week.

The traders' assurances to meet increased food demand must be considered with caution as they face a number of challenges which can affect their capacity to respond to market demand. These challenges include lack of capital, high transport cost, lack of means of transport, low levels of demand and supply.

While the challenge of low effective demand is a general economic phenomena, it is more pronounced in disaster affected areas where households livelihoods have been badly hit by disasters in the 2014/15 agricultural season. Thus humanitarian or social support interventions would be instrumental in livelihood restoration in the disaster affected areas.

9.0 TRADER EFFICIENCY IN FOOD STOCK REPLAINSHMENT

Having examined private traders' capacity to respond to market demand changes, the study proceeds to confirm the traders' capacity by interrogating the specific details relating to trader efficiency in commodity stocking. These specific details include trends of stock depletion, frequency of stock replenishment, the time taken to replenish the stocks, and volumes of maize purchase per restocking trip.

9.1 Months of stored stock depletion

The traders were asked individually to report on the months of the year when they often run out of stock. Figure 9.1 below presented the months when private traders run out of own stored maize stocks.

Figure 9.1 shows that most traders (about 32%) run out
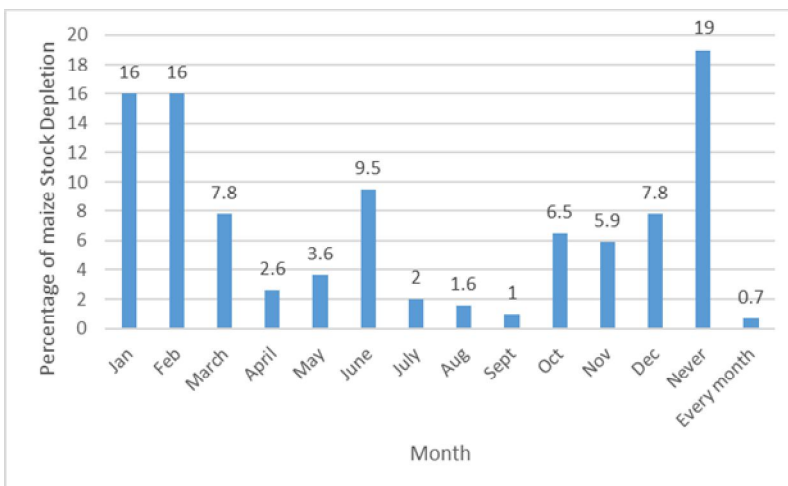
of staple food in the months of January (16%) and February (16%). These are the months when maize is in high demand, hence supply tends to be small.

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Figure 9.1: Months when Traders run out of Stocks

Figure 9.1 further shows that depletion of stocks is lowest during the months of July to September. Traders reported that in these months, most of them hoard their stocks waiting for the prices to rise in the lean periods of the year.

Interestingly, 19% of the interviewed traders, particularly the big ones, reported to never run out of stock. They reported that they always buy in large quantities and while selling they restock before their stocks run out.

9.2 Replenishment Capacities

In an effort to further investigate the capacity of the traders, the study asked the traders to elaborate the frequency of their staple food stock replenishment tendencies. Table 9.1 below provides the details of the responses.

Table 9.1 Frequency of stock replenishment

Replenishment	Frequency	Percentage (%)
Daily	130	35.4
Once a week	112	30.5
Twice a week	57	15.5
Once a month	25	6.8
Twice a month	12	3.3
Others	31	8.4
Total	**367**	**100.0**

Table 9.1 above shows that 35% of the traders interviewed were able to replenish their stock daily. These are largely traders who operate in source market centres with high food demand. The other most reported restocking frequency was once every week, with 31% of the responses. Table 9.1 also shows that 7% of the traders do not frequently replenish their stocks, as they replenish once every month while 3% of the traders replenish the staple food stock twice every month.

The relationship between the frequency of maize replenishment and the number of traders is that the markets in which more traders are able to replenish more frequently

have high demand of food commodities. This also implies chances of trader expandability.

9.2.2 Time Lag for Stock Replenishment

The time taken for a trader to get the staple food stock replenished determines their capacity to service people demanding the commodity. Table 9.2 below has the details.

Table 9.2: Number of days taken to replenish maize stocks by gender and type of business

Type of business	Gender	N	Minimum	Maximum	Mean	Std. Dev
Wholesaler	Male	20	1.00	10.00	2.80	2.42
	Female	2	1.00	2.00	1.50	0.71
Retailer	Male	123	1.00	30.00	3.24	4.21
	Female	33	1.00	14.00	2.58	2.56
Wholesaler and retailer	Male	149	1.00	20.00	2.18	2.48
	Female	30	1.00	20.00	4.17	5.02

Table 9.2 shows the days taken for maize stock to be replenished in respect to gender of the trader and the scale of business in which they are operating. For wholesalers, male traders on average would take more days **(3 days)** to replenish their stock than female traders (**2days)** while for both Wholesaler and Retailer category, female traders take more days on average to replenish the maize stock than the male traders. The situation is different for those in wholesale and retail category where female traders were found to take 4 days to replenish their stocks compared to 2 days for the male traders. These results show mixed picture of gender efficiency for traders in terms of meeting consumer demand needs.

9.2.3 Replenishment Volumes

Further inquiries into trader capacity involved investigations into volumes of the staple food commodity purchases per each restocking trip a trader undertakes. Findings are in Table 9.3 below.

Table 9.3: Volume of maize purchase per restocking trip in 2015/16 (kg)

Type of business	Gender	N	Minimum	Maximum	Mean	Std. Dev

Wholesaler	Male	23	60.00	30000.00	9356.96	8749.46
	Female	0	.	.	.	.
Retailer	Male	138	50.00	63000.00	3048.14	6925.84
	Female	46	40.00	16000.00	955.43	2378.48
Wholesaler and retailer	Male	164	100.00	100000.00	6990.18	10488.89
	Female	31	80.00	17500.00	3061.94	4311.45

As presented in the Table 9.3, on average, male traders operating in the maize business purchase larger amounts of food commodities such as maize per restocking trip relate to their female counterparts and this applies to all business categories. Limitations in capital for bigger volume purchases were cited as one of the reasons given for the lower female volumes per restocking trip. In any case, this means that based on the principle of economies of scale, female traders are being less cost efficient in their business operations. But in terms of the minimum amounts per purchase, Table 9.4 shows that there minimal difference between male and female traders on maize stock purchases per restocking trip.

9.3 Summary Conclusions of Food Stock Replenishment Practices

The study's investigations into efficiency of business operations started with inquiries months when traders do run out of commodities for sale. The results show that, as expected, most traders run out of staple food in the months of January and February which are months of high food demand but generally low supply.

An analysis of time taken to replenish stocks when the run out, as an indicator of efficiency in undertaking business, presents a mixed efficiency picture for male and female traders across the different categories. In any case, both gender groups seem to realize the important of being efficient in meeting consumer expectations and undertake to be efficient with respect to stock replenishment.

In terms of volumes per restocking trip, the analysis finds that on average, male traders tend to purchase larger amounts of food commodities per restocking trip than their female counterparts. This means that male traders are able to make use of economies of scale thus being relatively more efficient than their female counterparts.

10.0 MARKET INTEGRATION

Market integration is key for addressing household and national food security and nutrition objectives. In the context of this study, market integration reflects the ease with which food commodities move from source (surplus) markets to destination (deficit) market places. The study, therefore, investigates commodity prices at the source markets,

transport costs incurred to move commodities from source to the market places, sources of demand in the current market places, distance to the further destination markets where the traders sell their commodities.

10.1 Commodity Prices in Source Markets and local Markets

Commodity price differentials between the source market and destination markets where the commodities are being sold was one of the issues investigated in the study. The price differentials are indicative of the extent of market integration between two markets, and in this case between source and destination markets. Analysis results are in Table 10.1 below.

Table 10.1: Market Prices in Source Markets and local Markets by commodity

Food commodity	Source market	Local market	Price Differential (%)
Maize	101.43 (450)	117.38 (446)	15.57
Beans	412.02 (257)	525.53 (245)	27.55
Cowpeas	257.14 (28)	340.39 (200)	32.38
Pigeon peas	202.71 (14)	305.00 (14)	50.46
Vegetable oil	226 (577.83)	658.68 (200)	191.45

Figures in parentheses are sample sizes (n)

Table 10.1 shows that price differential between source and local markets for legumes range between 28% and 50% and for vegetable oil, the price differential is more than 190%. While the price differentials are not an indicative of the price margins, the results in Table 10.1 show that traders get price higher price differential on legumes and cooking oil compared to maize with only 16% price differentials. The lower price differentials for maize could mean that maize markets are more integrated than the other commodities.

In terms of profitability, this implies that traders are likely benefiting more from selling other commodities other than maize, holding other factors constraint. While the price differential for maize may be low, but given the high demand for the commodity, it may actually have higher turnover than the other commodities with reported higher price differentials. This is especially the case considering that in the face of household budgetary constraints, most consumers may not afford cooking oil and other grain legumes, hence traders keep large stocks of maize and are likely to break even.

10.2 Disaster Effects on Source Markets and its effect on Demand for the commodities

In trying to understand the whether disasters also affected the source markets for different products, the study inquired from the traders whether they perceived changes in source markets that could be attributed to any of the disasters. Table 10.2 has the analysis results.

Table 10.2: Disaster Incidences in Sources Markets

Food commodity	Has the source market been affected by any of the disasters (%)	
	Yes	No
Maize	376 (82.8)	78 (17.2)
Beans	212 (81.9)	47 (18.1)
Cowpeas	22 (75.9)	7 (24.1)
Pigeon peas	13 (81.0)	3 (19)

According to the results in Table 10.2, all commodities were affected by disasters that had affect on the supply of the food commodities. For example, more than 80 percent of responses indicated the occurrence of the disasters in the source market had affected the maize prices.

This has affected the demand for the different commodities. As shown in Figure 10.1, more than 80% of the traders reported that the disaster in the source markets affected the demand for the commodities particularly maize.
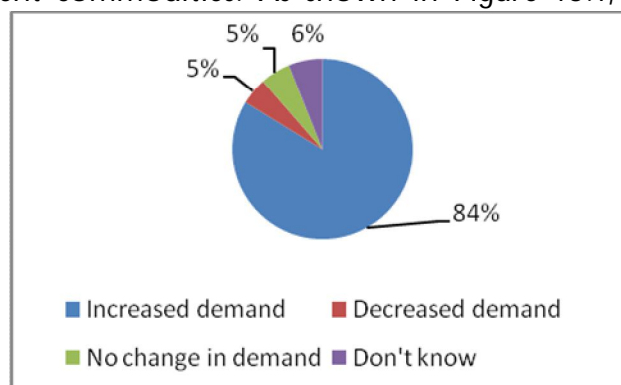
Figure 10.1: The impact of the disasters on demand for maize

10.3 Source and Mode of Transport for Food Commodities from Source Markets

The study also collected data on transportation of food commodities from source markets and the distances covered. Details of responses are in Table 10.3.

Table 10.3: Location of maize source market

Location	Frequency	Percentage (%)
Within the market	144	32.6
Within the district	153	34.6
Outside the district	145	32.8
Total	**442**	**100.0**

As shown in Table 10.3 owing to the varying levels of capabilities, some traders purchase their food items for resale from farmers and big dealers within the markets while others source from markets within the districts and others from outside the district. Further to source locations, the study inquired on exact distances covered. Results are in Table 10.4 below.

Table 10.4: Maize Distance to the Source Market by type of transport used

Transport type		Distance			
	Sample	Minimum	Maximum	Mean	Std. Dev
Vehicles	236	0.200	700.000	83.91	104.96
Oxcart	9	0.500	10.000	5.78	3.79
Bicycle	33	0.004	45.000	10.81	11.07
Head	9	0.030	5.000	0.77	1.60

Table 10.4 shows that on average, big traders who can afford vehicles, they source their maize some 80 km away. During the interviews with big maize traders in Mangochi, it was reported that some of the maize is sourced from Mchinji in the Central Region, others travel all the way to the Northern Region, hence the indications of 700 km as maximum distance covered. Some traders use oxcart to procure maize over a distance of around 6 kilometres and others use bicycles to purchase maize over a 10 kilometre distance. Those that purchase from within the market travel less than a kilometre on foot.

10.3.1: Transport Costs from Source to Destination Markets

The cost of transportation varies depending on the distances as well as the mode of transport used. Where the source markets are located farther from the local market, 66% of the traders use vehicles as shown in Figure 10.2. More than 20 percent of the traders do not actually go out to buy the maize but the sellers bring them to their selling points. Some traders (9%) use bicycles to carry maize from the source markets, others use oxcarts (2%) and on head (3%).
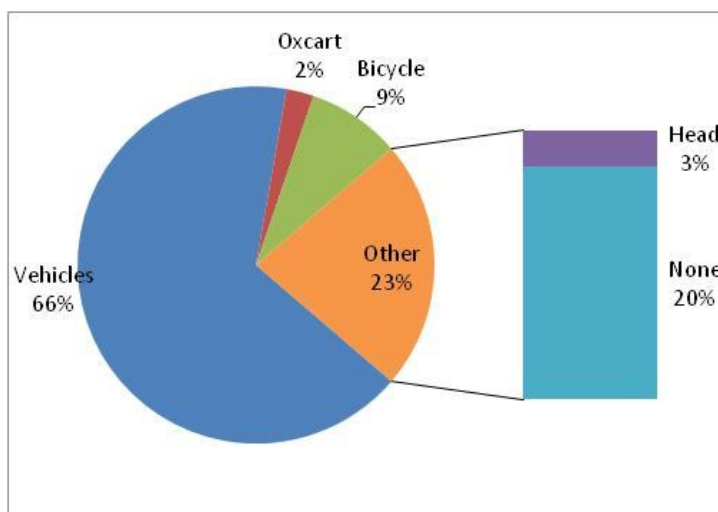
For the transporters that use vehicles, the study collected data on actual transports incurred. Details are in Table 10.5 below.

Table 10.5: Transport Costs from Source to Destination Markets by type of transport used

Type of Transport	Sample	Transport Costs (MK/ trip)			
		Min	Max	Mean	Std. Dev
Vehicles	252	300.00	510,000.00	56,671.03	87152.81
Oxcart	11	500.00	80,000.00	11,409.09	23852.52
Bicycle	26	300.00	48,000.00	7,698.46	11752.10
Head	9	30.00	5,000.00	750.00	1611.03

Table 10.5 shows that those using vehicles incur huge transport costs ranging between MK300 and MK510,000 per trip depending on the distances and the capacity of the vehicle used. The average cost per trip for vehicle users is around MK56,700. Table 10.5 further shows that for those traders using the oxcarts, the average cost per trip is around MK11,000 and the average cost per trip for those using bicycles and on foot is MK8000 and MK750, respectively. The differences in the transport costs per trip are also reflective of the volumes of commodities transported per trip with vehicle users transporting larger volumes of commodities than the other transport modes.

10.4 Physical Accessibility of Markets

One of the critical factors affecting availability of food commodities on the markets is the physical conditions and accessibility of the road infrastructure. The study, therefore, presents some of the findings on the physical accessibility of the markets.

10.4.1 Accessibility of Source and Demand Markets

The study findings show that, in general, most source markets are reported to be passable both during the harvest period as well as during the lean/rainy period as shown in Figure 10.3 below. More than 90 percent of the traders reported that the roads are good and passable during the harvest period and during the lean/rainy period, 82% of the traders reported that the roads are passable. However, nearly 14% of the traders reported that the roads are impassable during the harvest period compared to only 2.8% during the

	Harvest period	Lean/rainy period	Harvest period	Lean/rainy period
	Source Markets		Demand Markets	
Good (passable)	94.7	82.4	96	90
Poor (Impassable)	2.8	13.7	3	8.3
Passable with difficulties	2.5	3.9	1	1.7
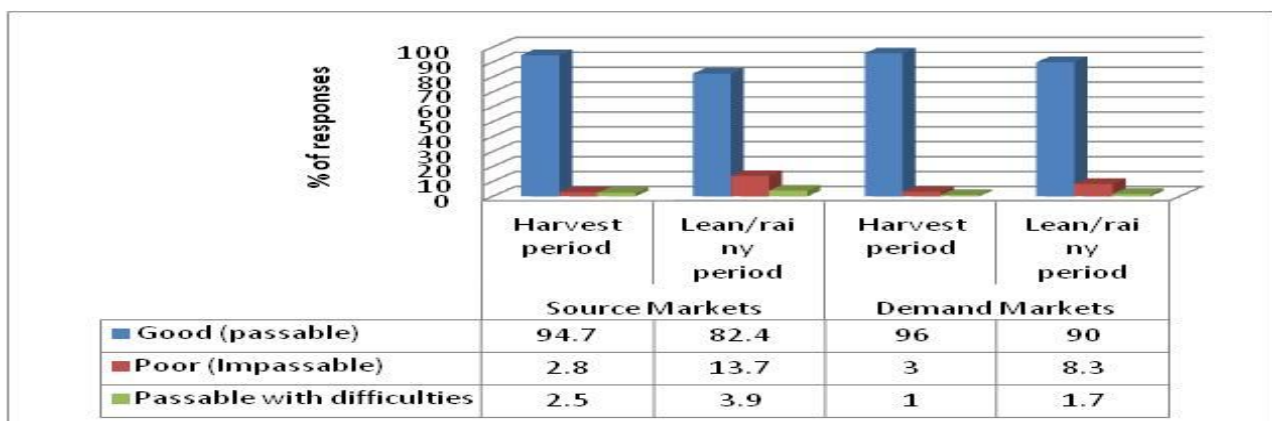
harvest period.

From the perspective of traders, a good passable road is the one which even it rains and they have to wait for four(4) hours and then proceed with their journey. Road where it can take a whole day and more for the traders to pass through after rains were considered as impassable. For traders, the good roads conditions imply that they can replenish their stock during harvest period and be able to move the commodities to deficit areas. The fact that most roads were considered passable save for a few, is important for designing interventions where commodities could be shipped from the areas of high production to areas of deficit during the lean period. During the fieldwork, it was reported that most roads are maintained by the local people themselves.

10.5 Sources of Demand for Maize and Locations

Further investigations into market assessment involved collection of data that traces the customers of maize traders from the market places to the further destination markets or consumption points. Results are reported in Table 10.6 below.

Table 10.6: Major Buyers from Private Traders

	Major buyers (%)	
	Harvest period	**Rainy period**
Local people	558 (68.6)	555 (69.8)
Fellow traders/vendors	157 (19.3)	145 (18.2)
Schools	18 (2.2)	17 (2.1)
Restaurants	46 (5.7)	45 (5.7)
Hospitals/clinics	13 (1.6)	12 (1.5)
Others (orphanage, prisons, e.t.c)	21 (2.6)	21 (2.6)
Total	**813 (100)**	**795 (100)**

Figures in parentheses are percentages based on responses

The study results in Table 10.6 show that in general, more than 60 percent of the traders reported that their main customers are the local people and 20 percent reported that fellow traders/vendors are their customers and the remaining 20% of the traders supply to institutions such as restaurants, schools and prisons. This reported demand structure confirms the earlier study findings which showed that shows that demand for commodities is the major driver for traders to set up their business in a new place as well as in deciding selling prices.

10.5.1 Distance Travelled by Major Buyers

Further inquiries into demand systems involved asking traders the types of buyers for their commodities, and whether they know the distance from which their customers come from. See Table 10.7 for the results.

Table 10.7: Distance to destination (demand) markets by type of buyers

Period	Type of buyers	N	Minimum	Maximum	Mean	Std. Dev
Harvest period	Local people	385	0.00	124.00	8.74	16.66
	Fellow traders/vendors	32	0.10	433.00	83.55	89.88
	Schools	7	0.20	25.00	5.46	8.77
	Restaurants	2	5.00	30.00	17.50	17.68
	Hospitals/clinics	4	0.10	2.00	1.28	.91
	Others	5	1.00	143.00	65.80	62.20
Lean/rainy period	Local people	389	.00	280.00	10.06	24.39
	Fellow traders/vendors	28	.10	433.00	75.25	82.80
	Schools	8	.20	64.00	12.78	22.23
	Restaurants	1	30.00	30.00	30.00	.
	Hospitals/clinics	3	.10	2.00	1.03	.95
	Others	4	1.00	143.00	81.00	60.16

The study results in Table 10.7 show that during harvest period, the majority of buyers come from areas within or surrounding the market center within 5km. however, during the lean period, buyers tend to be both from the local community as well as those from far away places travelling long distances of up to 81kms. The majority of buyers during the lean period are mainly institutions that cover the longer distances compared to the local people or fellow traders.

10.7 Summary of Findings on Food Market Integration

Market integration is critical for ensuring that food commodities can be moved from the surplus producing areas to deficit areas. The analysis has shown that big traders travel as long as 700 km round trip to fetch maize on vehicles. With well integrated markets, what matters most is the road conditions as traders are able to fetch maize from long distances.

Further, the study has shown that the road conditions are fairly passable both during the harvest and lean period. This implies that at harvest, the traders are able to purchase the maize for safe storage to be sold during the lean period. The analysis in this assessment has shown that most traders are not worried about the road conditions as they are

reported to be passable to both source and destination markets in both harvest and lean/rainy season. This implies that policies that will make road to be accessible throughout the year will enable traders to supply maize to the deficit areas sourced from long distances.

In terms of years of customers, the study finds that the main customers for the maize traders are the local people and institutions such as schools, hospitals and prisons and other institutions. This means that the local people may not face hunger and starvation due to scarcity of maize, but rather due to their inability to raise money although the commodity is available at the market. During the lean period, deliberate initiatives that could help to economically empower the people to enable them purchase the maize will certainly help to reduce hunger-related deaths.

11. MODE OF FOOD COMMODITY SALES READINSESS FOR MARKET BASED HUMANITARIAN ASSISTANCE

Market based humanitarian assistance delivery options include cash transfer and voucher systems. These options require the role of private traders to meet the beneficiaries' demand. In this regard, the study investigated the readiness of the private traders to effectively participate in such systems. The investigations involved asking trading whether they have ever sold food commodities on credit or vouchers, and whether the traders would accept to sell food commodities using vouchers or not.

11.1 Sales on Credit

To understand the traders' sales patterns, the study inquired whether the traders have ever sold their commodities on credit. Tables 11.1 and 11.2 provide the summary of the responses obtained.

Table 11.1: Food commodity traders' response on the sale on credit

	Frequency	Percentage (%)
Yes	326	36.7
No	563	63.3
Total	**889**	**100.0**

According to Table 11.2, 563 out of 889 traders (63%) of the traders indicated that they do not sell their commodities on credit. This is understandable considering that most traders considering the access to capital constraints they face, hence always operating under instant cash marketing policy. This notwithstanding, in the spirit of customer sustainability in the context of market competition, 37% of the respondents indicated to be selling on credit to their customers.

Sales on credit are sometimes between big and small traders, an arrangement in which big traders provide food commodities to smaller traders (known as *mponda* in local language). Terms and conditions for big-small trader credit arrangements vary from place to place.

Further inquires were made on the extent of the food commodity sales on credit by asking the traders on the value of their credit sales during the past month. Table A.4 in the Annex explains.

According to Table A.4, the mean value of credit sales are about MK40,000 with the maximum going as far as MK1,350,000. This, therefore, reflects the trust that the parties involved have for each other in this credit sales arrangement.

11.2 Sales using Vouchers

Further to credit sales, the study investigated the food commodity traders' knowledge on vouchers, and their personal experience on the same. Figure 11.1 provides a summary of the traders' responses.

where trader has ever sold to consumers with vouchers

9, 1%

892, 99%
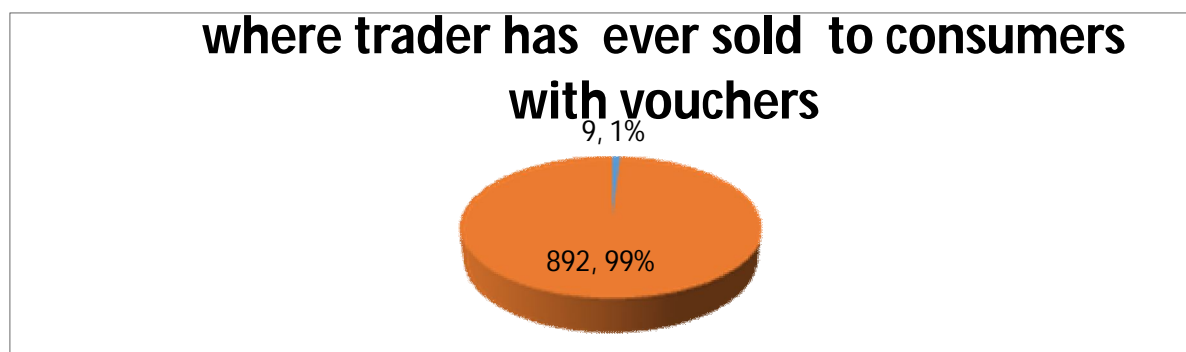
Figure 11.1: Whether trader has ever sold Maize commodity using cash vouchers

Figure 11.1 shows that 99 percent of the traders (892 of the total sample of 901) have never sold to customers by voucher. This shows that the voucher subsystem is yet to become a popular food assistance delivery mechanism in the country, and any actions to use the system has to involve careful planning approach with significant sensitization of the trader participants.

11.3 Acceptability of Cash Vouchers

The study further inquired on whether the traders would accept the voucher system or not and the reasons for their position on the issue. Tables 11.4 and 11.5 below have the details.

Table 11.4: Whether the trader accept to sell commodities using cash vouchers or not

	Frequency	Percentage (%)
Yes	499	60.7
No	323	39.3
Total	**822**	**100.0**

Table 11.4 shows that despite the fact that few traders have ever participated in voucher sales, about 61% of them are willing experiment with the arrangement. This, therefore, voucher systems, though not yet popular with traders, cannot be completely ruled out in the humanitarian assistance delivery mechanisms.

For those that cannot accept the voucher system, the study inquired on the reasons for their position. Figure 11.2 provides a recording of responses.
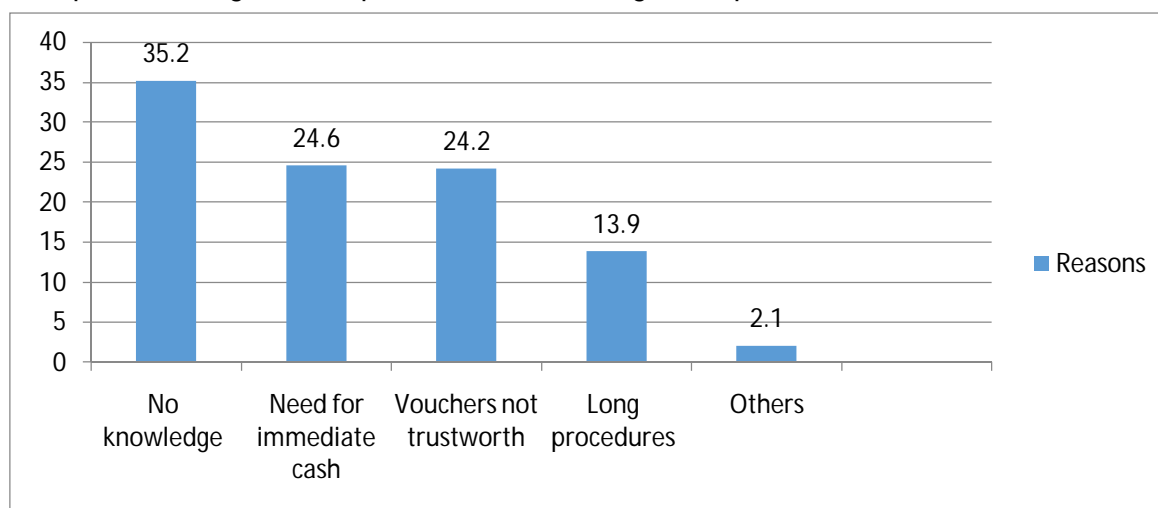
Figure 11.2: Reasons for not accepting the voucher system

From Figure 11.2, it is apparent that lack of knowledge on how the voucher systems was the major reason for saying no to the system, and this also explains responses relating to vouchers being untrustworthy. The other equally important reasons include: the need for immediate cash since voucher redemption may take time, while others are simply afraid of the procedures that may be involved.

In any case, the findings in Figure 11.2 confirm the earlier finding that a serious introduction of a voucher system would require awareness campaigns involving concerned traders.

11.4 Options for Delivery of 2015/16 Humanitarian Assistance

Analyses of private trader selling practices together with trader capacities in the previous chapters provides useful information for humanitarian assistance delivery options to the 2015/16 disaster affected populace. To this effect, based on the assessment of private trader capacity, physical accessibility of markets, stock replenishment and storage

capacity, market structures, and traded volumes, the study has made TA specific humanitarian assistance delivery options.

The humanitarian assistance recommendations are in Volume 2 of the Study, which largely comprises a Matrix of Recommendations for each TA. The summary of the recommendations is in Table A.5 in the Annex which is summarized into Table 11.5 below:

Table 11.5: Summary distribution of affected population by region and Humanitarian Response Option

Region	Total	CASH	Percent	FOOD	Percent
North	390,515	135,095	35%	255,420	65%
Centre	727,381	512,719	70%	214,662	30%
South	1,715,320	235,121	14%	**1,480,199**	**86%**
Grand Total	**2,833,216**	**882,935**	**31%**	**1,950,281**	**69%**

Table 11.5 shows that 31% of the total disaster affected populations should be provided with humanitarian assistance through cash transfer mechanism, while 69 % should be provided with in-kind food assistance. The lower proportion on cash transfer is largely due to the limited market (private sector) capacity to serve the food insecure households as explained in the analyses above.

11.5 Summary of Findings on Mode of Food Commodity Sales

Most private traders (63%) do not sell their food commodities on credit. While many factors explain the traders cash marketing strategy, immediate cash needs for most food commodity traders is the major reason for avoiding credit sales. However, the few other traders are compelled to sell on credit as part of their marketing strategy to maintain customers in light of market competition. Credit sales arrangements sometimes take place between big and small traders, with varying terms and conditions which are beneficial to both parties.

On use of the vouchers, the study finds very limited private traders participation as evidenced by the fact that only 1 percent of the sampled traders indicated to have ever participated in such an arrangement. Interestingly, however, when asked whether they are willing to participate in a voucher system, 67% of the traders indicated willingness to

participate. In any case, the study findings that there is need for effective sensitization of the voucher systems if it is to be adopted as serious humanitarian assistance delivery option in Malawi.

12. STUDY CONCLUSIONS

The climate change induced disasters facing Malawi have also affected other countries within the Southern African region, resulting in significant reduction in food production and availability across the region, estimated to be about 26% less last year's production. This means increased competition for maize and other food crops from the countries with some marketed surplus stocks such as Zambia and Tanzania. As such, a timely public and private food import from these countries is a natural commendable action.

The multiple climate change induced disasters experienced in the country in 2015 have had broad livelihood impacts besides food insecurity challenges, this means that while humanitarian assistance is required to address the food security and nutritional needs of the affected households, such assistance will not be adequate in restoring the livelihoods conditions of the affected households. The study findings show that high effective demand conditions of a commodity are critical elements in private trader pricing decisions as well as in influencing the setting up of business in a new place. Equally worth noting is the fact that even the traders rely on own farm incomes as one of the trading business financing sources, besides other sources.

Public and private sector national food security institutions are two major pathways for addressing both household and national food security needs in the wake of compromised household self-sufficiency situation. As such, *ceteris paribus*, in 2015/16 marketing season, the country's food public and private sector institutions are expected to have 161,200 MT of maize, against an MVAC projected maize equivalent food requirement of 124,183 MT.

Analyses of private trader activities finds disproportionately low (22%) women participation in staple food commodity trade. Notwithstanding this national picture, in certain places and districts, significant proportions of women are actively engage in staple food commodity trade. Further investigation show that a larger proportion of the sole wholesale businesses were owned by male traders compared to the females, and that most of the female traders were on retailer scale business.

Years of business experience are critical in the development of business acumen, and an indicator of perseverance in business. The study investigations find that on average, most traders have been in business for about 10 years though others have had 36 years of business experience. This also implies that the country has both male and female role models to follow for those that want to earnestly pursue the food commodity trade enterprises.

While ADMARC is still recognized as a player in staple food commodity markets, most traders reported that they do not take its pricing decisions as a benchmark for their pricing decisions. This is especially the case considering that in most places, ADMARC depots are weakly or not functional at all. The key drivers of private traders' price decisions include costs of commodities at the source markets, competition from each other, transports costs, amongst others.

The most popular traded food commodities are maize, beans and cooking oil. This means that in the event of a cash transfer programme being implemented in an area, the traders dealing in such commodities are the ones most likely to benefit from such an intervention. Of course, the exact nature of commodity demand patterns emerge from cash transfer programmes could be best established from a dedicated household demand analysis.

With respect to market structure, the analysis finds that the number of traders at a given market centre depends upon whether it is a market day or not. On a non- market day, one may find very few traders, whereas on a market day at the same place it could have as high as 60 traders dealing in one commodity. Market days attract a number of buyers hence effective demand for the various staple food commodities.

An examination of trader activities shows that most traders were largely selling whatever they were procuring compared to stocking for latter on sales. As such, the study established that in total all the traders involved in maize trading had only 4,700 MT of maize and for those involved in beans trading had 320 MT of beans. This notwithstanding, the traders are planning to buy 87,800 MT of maize, and 4,000 MT of beans to meet the perceived demand for beans. On average, maize traders indicated to be planning to stock 21 metric tonnes of maize, though some individual big traders reported planning of stocking up to 31,000 metric tonnes of maize within the 2015/16 coming.

Average maize market prices at the time of the study, June 2015, were at MK117/kg, which is above the MK105 or MK102 for, respectively, 2014/15 and 2013/14 seasons. Not surprisingly, projected maximum maize prices of MK250/kg are expected for the 2015/16 season compared to maximum prices of MK200/kg obtained in the past two marketing seasons.

Market integration analyses show that though traders express concern about the transports costs to food source markets, most traders do not consider the road conditions as impassable. They indicated that the road conditions in different parts of the country passable during both harvest and lean/rainy seasons. In spite of the current road conditions, some traders travel up to 700km in search of food commodities.

Owing to the private sector limitations, the study recommends that 31% of the total disaster affected populations should be provided with humanitarian assistance through cash transfer mechanism, while 69 % should be provided with in-kind food assistance.

With respect to use of vouchers for humanitarian assistance delivery, the study finds very limited private traders experience with the system. 99% of the interviewed traders indicated to have never had an experience with vouchers. This notwithstanding, a good proportion of traders (67%) indicated willingness to participate in the programme if given an opportunity to do so.

13 STUDY RECOMMENDATIONS

Based the diverse insights obtained from the analyses, the following recommendations apply:

In view of the widespread food security risks affecting the Southern Africa region, and the subsequent increased competition for maize and other food crops from the countries with some marketed surplus stocks such as Zambia and Tanzania, Malawi needs to take timely regional food purchase actions. This is so because as progress deep into the 2015/16 marketing season with growing regional food demand against low supply levels, the exporting countries are likely to face deficits and curtail food exports.

The multiple livelihood effects of the 2015 disasters necessitates multiple and complimentary strategic actions besides the immediate humanitarian food security assistance. A broad range of social support actions are needed to build and restore the livelihoods of the affected households.

The climate change induced food security challenges the country is facing are likely to remain for the coming years. In view of this recognition, there is need for a sustained conducive policy environment that effectively supports both public and private sector institutions so that they effectively serve national and household food security objectives. The need for a supportive policy environment is more pronounced considering the various challenges being faced by private traders which compromise their effective participation in staple food markets- hence rendering their food security role unreliable.

An effective private sector role in addressing national food security needs should be gender sensitive by ensuring equal participation of women traders. The current limited female trader participation in big food commodity trading calls for deliberate policy measures to strengthen active female participation in food trading in line with the national economic empowerment policy objectives. While further investigations can be undertaken to determine the specific women trader support activities, some of possible kinds of support as enumerated in this study include: access to business capital, improvements in road infrastructure and transport infrastructure.

Admittedly, staple food commodity trading needs strong business skills. With most traders having in the business for 10 years and other up to 36 years, there is need for strategies of utilizing business experiences for inspiring the upcoming young entrepreneurs.

Since the study findings show that supply of staple commodities is more reliable during market days, there is need to consider relating timing of delivery market based humanitarian assistance options in a given area to the market days. This would minimize situations where households would spend cash transfer meant for food security on other un- related household needs.

Much as the study results show that at national level, private traders no longer consider ADMARC as a price leader, its presence in certain markets is still recognized as a price stabilizer and a reliable food security provider. In view of this, Government need to strengthen ADMARC by amongst others, avoiding the well known fundamental challenges that end up perpetually putting the Cooperation in perpetual loss making condition. These include avoiding the contradictory policy directions to the organization, as reported in the Government's Annual Economic Reports.

Humanitarian assistance for the disaster affected populace has to be provided in two major ways, namely cash transfer and in-kind food assistance. It is recommended that 69% of the total disaster affected populations should be under in-kind food aid, with 31% under cash transfer.

Despite the current low levels of private sector experience with vouchers as a humanitarian assistance delivery option, the approach has great potential of succeeding if well administered. Strong sensitization campaigns involving traders on how the system work would help mobilize support for the concept as well clear any misconceptions of the system.

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Annexes

TORs for Market Situation Analysis to Inform Food Security Response Options as part of the 2015 MVAC Response Programme

DRAFT

25 May 2015

1. Background

Malawi continues to face numerous challenges that are negatively affecting the general food and livelihood security status amongst the poor and vulnerable households in the country. Extreme weather patterns, from floods to prolonged dry spells have been affecting crop harvests for the past decade or so. Reduced crop harvests coupled with the prevailing economic crisis characterized by high food inflation and high fuel and transportation costs have resulted in surges in food and general commodity prices. This has resulted in increased livelihood vulnerability and food insecurity amongst the general population.

In particular, the 2014/2015 agriculture season was characterized by delayed onset of effective planting rains by almost a month in most parts of the country and then heavy and continuous stormy rains since the beginning of January flooding most parts of the southern region. The situation prompted the President of the Republic of Malawi to declare a State of Disaster on 13 January in 15 districts (out of a total, 28). The Malawi Vulnerability Assessment Committee (MVAC) conducted a food security assessment in February that found a total of 616,776 people

to be food insecure in 17 districts of Chikwawa, Nsanje, Blantyre, Thyolo, Mulanje, Phalombe, Chiradzulu, Zomba, Balaka, Machinga, Mangochi, Ntcheu, Salima, Dedza, Karonga, Mzimba and Rumphi requiring assistance from March to July 2015.

In addition, most of the districts in the country experienced prolonged dry spells and then early cessation of rains when maize and other crops were at flowering and cobing stages during the 2014/2015 agricultural production season. Maize in many fields dried up before producing cobs while in other fields had poor grain filling resulting in forced maturity. The production this year has significantly reduced to the lowest for the past decade.

The Ministry of Agriculture, Irrigation and Water Development (MoAIWD) second round Agricultural Production Estimate Survey (APES) results show that the country will produce a total 2,876,660 MT suggesting a 27.7 percent reduction in maize production compared to the previous year. The country has realized a shortfall production by 123,340 MT against the annual maize requirement estimated at 3 million MT.

MVAC plans to conduct its annual food security assessment in the country starting from the second week of June 2015 to determine the affected areas and required needs. The assessment will come up with the actual numbers of affected people, their locations and time when assistance is required. However, there is need to determine modalities of transfer regarding in-kind food assistance or market based intervention.

The MVAC, thus, seeks to undertake a market assessment, which is expected to bring out an understanding on how markets will behave during the recommended assistance period in the affected areas. This market assessment will assist in identifying areas that would be most suitable for the adoption of a market based response1 or in-kind food based during the intervention period. Consideringthe tight schedule of MVAC activities to carry out HEA food security assessment and also updating the baselines for livelihood zones, MVAC seeks to engage services of a consultant as an individual or a firm to carry out the market assessment. The consult will report to and be supervised by MVAC Secretariat.

2. Purpose and Key questions of the Market Assessment

The purpose of this market assessment is to bring out an understanding of how markets will function in 27 districts in the country from August 2015 up to March 2016. The assessment will identify Traditional Authorities (TAs) that are suitable to implement food assistance and those suitable for implementation of market based interventions. This is expected to help inform appropriate decisions of the Humanitarian Response Committee, Humanitarian Agencies and donors on whether (and where) to implement market based interventions or

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[1]Market based responses include an array of response mechanisms which can include direct cash transfers, vouchers (cash or commodity vouchers), support to market players such as traders for them to supply key products to remote areas, cash for work etc.

in-kind food assistance to help the people who are at risk of missing food entitlements due the effects of the long dry spells, early cessation of rains and floods.

3. Objectives of the assessment

The main purpose of the assessment is to determine market functionality and analyze potential market based interventions such as cash transfers to assist food insecure people in 27 affected districts (all districts in Malawi except Likoma). The assessment will focus on large, medium and small capacity traders (wholesalers and retailers) of maize grain, pulses and cooking oil, herein referred to as 'food commodities'. The assessment team will also discuss with market actors at national level. Specific objectives include the following:

- To determine the physical accessibility to markets affected by the long dry spells, early cessation of rains and floods;
- To determine the stocks of the staple cereals, pulses and cooking oil available at markets and current market prices in the major markets serving each affected TA;
- Review price information for key commodities on local markets and how the prices will most likely change as the consumption period progresses to the lean period
- To understand challenges faced by traders and other market players to supply key food commodities to markets in the affected areas;
- To assess the expandability of food[iii] market systems in relation to the large scale demand (which may be caused by cash transfers) in the affected districts;
- To determine the preference of mode of assistance, whether cash or in-kind food assistance, amongst the affected populations;
- To determine any potential inflationary risks associated with increased local demand arising from the use of market based interventions;
- To assess the appropriateness of market based and in-kind food assistance in the affected areas and recommend the appropriate response option for each affected TA (Market based or food);
- To determine the level of competition and price setting behaviours of market participants
- To determine the physical and economic factors that may affect the smooth movement of food commodities along the supply chain for the reference period. These could include currency exchange regime, inflation, transport costs, road/rail conditions, import/export bans etc.

4. Methodology for the Market Assessment

- The MVAC Secretariat will coordinate the market assessment with support from the task force through the engagement services of a consultant.

- Desk review of key information regarding market profiles, market functionalities, food assistance and market based interventions will be undertaken by the consultant.

- A review of previous market based and food interventions implemented by different stakeholders in the country will be undertaken and lessons learnt considered.

- Development of appropriate check lists to interview different key actors that contribute to market functionality. Interviews with key informants such as traders of food commodities (wholesalers, retailers and growers selling their own produce) buyers of the food commodities from the affected areas, Grain Traders and Producers Association; District Agriculture Development Officers, transport operators ferrying food commodities among others at the markets in the affected areas. Interviews will also be conducted in selected key source markets. In addition, geographic positioning of markets will be captured using GPS units.

- The assessment will be conducted in 27 mainland districts ofthe country. Within the district, key markets serving populations in all or expected affected Traditional Authorities (TA) as guided by the DADO offices will be selected. The unit of analysis will be the Traditional Authority (TA). Thus the sampling methodology falls in the broad category of non-probability sampling. The assessmentteam will be instructed to check with local sources which markets are most used by the affected population of each district, recognising that the most important market for the population may not be the local market but a market farther away. One key market per TA will be sampled however if there are numerous key markets that operative in a given TA, at most two key markets will be sampled.

5. **Roles and responsibilities of different players in the assessment**

   a) **MVAC Secretariat**
   - Providing overall coordination of the assessment.
   - Facilitating dissemination of the assessment report to the Humanitarian Response Committee and other foras.

   b) **Consultant**
   The consultant will be responsible for development assessment tools, data collection, analysis and reporting. Specifically the consultant will perform the following tasks:
   - Conducting a desk review
   - Preparing market assessment tools;
   - Presenting the tools to the task force members;
   - Identifying research team and training them on the tools for data collection
   -
   - Field data collection;
   - Data analysis and presentation of key findings in tabular form and recommendations.
   - Report writing and recommendation of TAs that should implement food assistance or market based interventions;
   - Disseminating results of the assessment to the MVAC and the Humanitarian Response Committee.

   c) **Task Force**

The main role of the Task Force is to provide technical support to the consultant in the delivery of the market assessment. Specifically, they will perform the following tasks:

- Briefing the consultant on the methodology and tools
- Reviewing the assessment tool developed by the consultant
- Reviewing the preliminary findings and recommendations

6. Areas of focus

1. *The data collection in the market surveys will be focussed on the following category areas of data:*

- Supplies of key food commodities available in the market with the focus on commodities that are in the food ration for humanitarian assistance such as maize grain, pulses, vegetable oil and corn soya blend;
- Number of different types of traders in the local market;
- Volumes of the specific food commodities traded in the market;
- Price and quality of goods available; as well as price projections;
- Sources of food commodities-whether from within the area/district or from other neighbouring or distant districts;
- How integrated the local markets are to main supply markets and the potential capacity of the source markets to adequately supply the increased demand in the local markets;
- Ability and willingness of traders to respond to increased demand;
- Capacity of traders to expand the supply to meet the increase in demand created by large scale CTPs;
- Potential impact of local purchases of food on the market;
- Potential barriers for transporting commodities to the affected areas;
- Potential impact of direct food assistance from potential food aid projects on the local markets / local traders

2. *Secondary information requirements*

- Regional staple cereal supply outlook
- Maize and pulses price data from Ministry of Agriculture for the past five to ten years
- Market flow map for normal year
- HEA and Nutrition reports for the past 3 years
- CPI, GDP and Exchange rate data for the past 5 years
- ADMARC purchase and Selling prices for the current year and past five years
- ADMARC plans for the remainder of the consumption year
- Informal and import data from FEWSNET/ACTESA since 2009
- Government import and export restrictions on food commodities-taxes, bans, quotas and licensing requirements.

7. Expected Outputs

a) Presentation of the inception report
b) Data collection tools
c) Data collected and processed;
d) Presentation of the preliminary findings and recommendations to MVAC task force
e) Presentation of the findings and recommendations to MVAC members
f) Presentation of the assessment findings to the Humanitarian Response Committee;
g) Final report produced and shared with all relevant stakeholders and handing over the raw data to MVAC secretariat.

8. Time Schedules

Table 1: **Time frame for activities**

No	Activity	May	June				July	
		Wk 4	Wk 1	Wk2	Wk3	Wk 4	Wk 1	Wk 2
1	Development of Concept Note and TORs	x						
2	Engagement of the Consultant	x						
3	Preparation of Assessment tools		x					
4	Recruitment of Enumerators		x					
5	Training of assessment team		x					
6	Data collection			x	x	x		
7	Data Analysis and report writing					x		
8	Presentation of Preliminary results						x	
9	Final report submitted and disseminated							x

Table A.1: Sample size distribution by District

District	Male	Female	Group	Total
Chitipa	23 (79.3)	6 (20.7)	0 (0)	29 (3.2)
Karonga	24 (77.4)	7 (22.6)	0 (0)	31 (3.4)
Rumphi	16 (66.7)	7 (29.2)	1 (4.2)	24 (2.7)
Nkhatabay	6 (54.5)	5 (45.5)	0 (0)	11 (1.2)
Mzimba	33 (64.7)	18 (35.3)	0 (0)	51 (5.7)
Kasungu	28 (90.3)	3 (9.7)	0 (0)	31 (3.4)
Dowa	25 (96.2)	1 (3.8)	0 (0)	26 (2.9)
Ntchisi	8 (100)	0 (0)	0 (0)	8 (0.9)
Mchinji	28 (93.3)	2 (6.7)	0 (0)	30 (3.3)
Lilongwe	50 (90.90	5 (9.1)	0 (0)	55 (6.1)
Salima	38 (90.5)	4 (9.5)	0 (0)	42 (4.7)
Nkhotakota	14 (87.5)	2 (12.5)	0 (0)	16 (1.8)
Dedza	49 (92.5)	4 (7.5)	0 (0)	53 (5.9)
Ntcheu	20 (42.6)	27 (57.4)	0 (0)	47 (5.2)
Balaka	41 (75.9)	13 (24.1)	0 (0)	54 (6.0)
Machinga	35 (92.1)	3 (7.9)	0 (0)	38 (4.2)
Mangochi	31 (93.9)	2 (6.1)	0 (0)	33 (3.7)
Zomba	22 (71.0)	9 (29.0)	0 (0)	31 (3.4)
Phalombe	36 (81.8)	8 (18.2)	0 (0)	44 (4.9)
Chiradzulu	24 (80.0)	6 (20.0)	0 (0)	30 (3.3)
Blantyre	29 (61.7)	18 (38.3)	0 (0)	47 (5.2)
Thyolo	34 (82.9)	7 (17.1)	0 (0)	41 (4.6)
Mulanje	31 (93.9)	2 (6.1)	0 (0)	33 (3.7)
Chikwawa	23 (54.8)	19 (45.2)	0 (0)	42 (4.7)
Mwanza	11 (61.1)	7 (38.9)	0 (0)	18 (2.0)
Neno	3 (60.0)	2 (40.0)	0 (0)	5 (0.6)
Nsanje	23 (74.2)	8 (25.8)	0 (0)	31 (3.4)
Total	**705 (78.2)**	**195 (21.6)**	**1 (0.1)**	**901 (100)**

Figures in parentheses are percentages

Chart Title

■ Yes ■ No

35%

65%
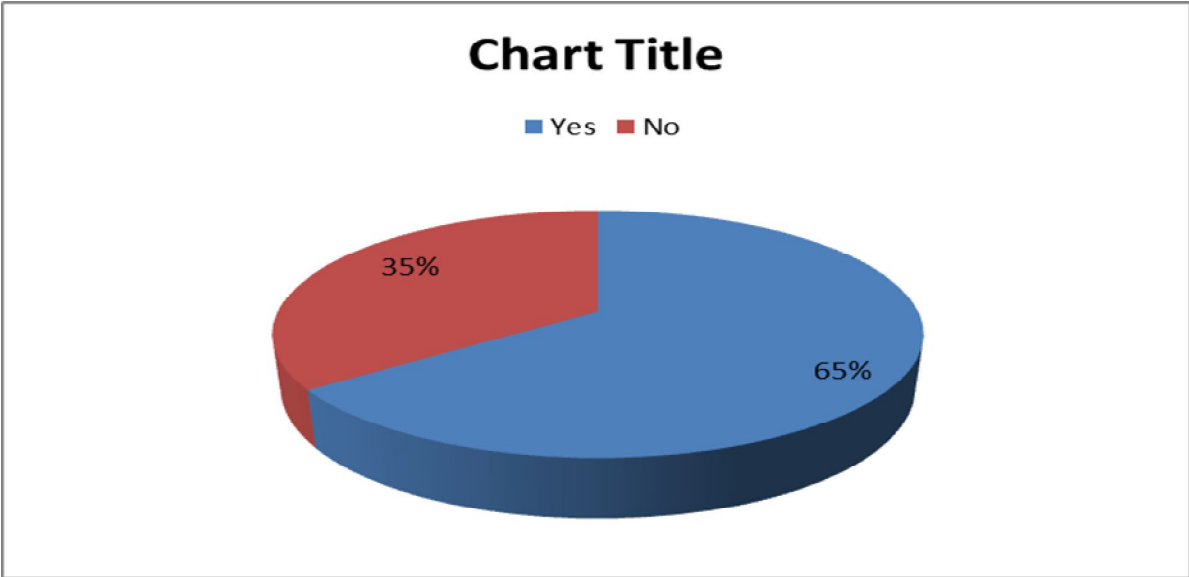
Figure A.1: Whether private traders are ready to meet increased demand

Table A.2: Current (2015/16) Private Traders' Selling prices by commodity and District

District	Food commodity	N	Minimum	Maximum	Mean	Std. Deviation
Chitipa	Maize	22	65.00	108.00	80.0	10.79735
	Beans	10	300.00	600.00	445.5	97.08101
	Cowpeas	0				
	Pigeon peas	0				
	Vegetable oil	4	650.00	800.00	701.5	68.57356
Karonga	Maize	15	85.00	110.00	96.7	7.71517
	Beans	9	300.00	400.00	345.6	44.96140
	Cowpeas	0				
	Pigeon peas	0				
	Vegetable oil	7	300.00	1000.00	692.9	214.91970
Rumphi	Maize	11	75.00	140.00	117.3	19.79440
	Beans	11	400.00	600.00	506.8	93.60216
	Cowpeas	0				
	Pigeon peas	0				
	Vegetable oil	8	640.00	1040.00	803.1	147.42886
Nkhatabay	Maize	3	100.00	140.00	121.7	20.20726
	Beans	7	400.00	600.00	488.6	79.04188
	Cowpeas	0				

	Pigeon peas	0				
	Vegetable oil	1	700.00	700.00	700.0	.
Mzimba	Maize	26	80.00	120.00	98.5	10.56118
	Beans	16	300.00	4000.00	715.6	882.17888
	Cowpeas	0				
	Pigeon peas	1	200.00	200.00	200.0	.
	Vegetable oil	10	650.00	800.00	703.5	58.88076
Kasungu	Maize	19	80.00	115.00	95.8	9.16866
	Beans	6	300.00	700.00	475.0	183.71173
	Cowpeas	0				
	Pigeon peas	0				
	Vegetable oil	7	400.00	700.00	628.6	106.36863
Dowa	Maize	18	90.00	120.00	104.9	8.68042
	Beans	8	300.00	500	378.8	81.31728
	Cowpeas	1	150.00	150.00	150.0	.
	Pigeon peas	0				
	Vegetable oil	6	600.00	800.00	686.7	92.01449
Ntchisi	Maize	5	100.00	110.00	103.0	4.47214
	Beans	1	330.00	330.00	330.0	.
	Cowpeas	0				
	Pigeon peas	0				
	Vegetable oil	2	680.00	700.00	690.0	14.14214
Mchinji	Maize	24	90.00	130.00	102.0	8.22763
	Beans	4	300.00	600.00	475.0	150.00000
	Cowpeas	1	150.00	150.00	150.0	.
	Pigeon peas	0				
	Vegetable oil	6	700.00	1000.00	816.7	98.31921
Lilongwe	Maize	40	80	120.00	103.7	7.60070
	Beans	11	250.00	600.00	454.6	105.95883
	Cowpeas	1	300.00	300.00	300.0	.
	Pigeon peas	0				
	Vegetable oil	11	600.00	1000.00	745.1	139.74652
Salima	Maize	23	80.00	140.00	112.2	12.50692
	Beans	15	400.00	700.00	550.0	98.19805
	Cowpeas	5	180.00	500.00	356.0	121.16105
	Pigeon peas	1	650.00	650.00	650.0	.
	Vegetable oil	11	650.00	800.00	681.8	46.22081
Nkhotakota	Maize	13	100.00	150.00	124.2	14.55538
	Beans	1	700.00	700.00	700.0	.
	Cowpeas	1	150.00	150.00	150.0	.
	Pigeon peas	0				
	Vegetable oil	2	600.00	700.00	650.0	70.71068
Dedza	Maize	36	100.00	135.00	118.3	10.20873
	Beans	9	250.00	600.00	394.4	125.51007
	Cowpeas	0				
	Pigeon peas	0				
	Vegetable oil	14	550.00	800.00	634.3	67.33547

Ntcheu	Maize	16	100.00	140.00	118.4	8.89171
	Beans	18	360.00	750.00	513.9	109.44453
	Cowpeas	0				
	Pigeon peas	0				
	Vegetable oil	12	600.00	700.00	620.0	32.75252
Balaka	Maize	19	100.00	150.00	134.4	13.62681
	Beans	19	400.00	1000.00	600.5	161.60561
	Cowpeas	2	400.00	600.00	500.0	141.42136
	Pigeon peas	1	350.00	350.00	350.0	.
	Vegetable oil	23	400.00	850.00	651.7	84.61959
Machinga	Maize	9	120.00	150.00	137.8	10.63929
	Beans	7	500.00	600.00	585.7	37.79645
	Cowpeas	2	600.00	600.00	600.0	.00000
	Pigeon peas	1	300.00	300.00	300.0	.
	Vegetable oil	8	580.00	700.00	630.0	46.59859
Mangochi	Maize	12	120.00	160.00	137.1	12.87322
	Beans	5	500.00	700.00	610.0	74.16198
	Cowpeas	0				
	Pigeon peas	0				
	Vegetable oil	4	600.00	700.00	625.0	50.00000
Zomba	Maize	7	100.00	160.00	140.0	19.14854
	Beans	11	500.00	750.00	613.6	77.75252
	Cowpeas	1	400.00	400.00	400.0	.
	Pigeon peas	2	200.00	400.00	300.0	141.42136
	Vegetable oil	14	545.00	800.00	680.0	102.48827
Phalombe	Maize	23	100.00	150.00	133.9	12.33588
	Beans	11	460.00	600.00	578.2	49.35953
	Cowpeas	5	300.00	400.00	380.0	44.72136
	Pigeon peas	1	300.00	300.00	300.0	.
	Vegetable oil	15	600.00	700.00	640.0	50.70926
Chiradzulu	Maize	16	115	150.00	132.6	9.32291
	Beans	7	400.00	600.00	521.4	69.86381
	Cowpeas	2	220.00	400.00	310.0	127.27922
	Pigeon peas	1	250.00	250.00	250.0	.
	Vegetable oil	9	600.00	800.00	666.7	66.14378
Blantyre	Maize	21	110.00	150.00	136.1	9.07902
	Beans	14	300.00	700.00	559.5	96.04706
	Cowpeas	2	300.00	400.00	350.0	70.71068
	Pigeon peas	0				
	Vegetable oil	13	550.00	750.00	643.8	56.20475
Thyolo	Maize	20	100.00	150.00	130.5	11.45931
	Beans	10	400.00	600.00	550.0	66.66667
	Cowpeas	2	400.00	600.00	550.0	66.6667
	Pigeon peas	3	300.00	400.00	350.0	50.00000
	Vegetable oil	13	560.00	700.00	631.9	42.40374
Mulanje	Maize	15	100.00	145.00	129.3	10.49943
	Beans	7	300.00	600.00	461.4	93.17163

	Cowpeas	1	350.00	350.00	350.0	.
	Pigeon peas	1	300.00	300.00	300.0	.
	Vegetable oil	12	600.00	700.00	619.2	32.32177
Chikwawa	Maize	23	115.00	168.00	134.1	11.69659
	Beans	10	500.00	750.00	607.0	79.16930
	Cowpeas	3	300.00	450.00	366.7	76.37626
	Pigeon peas	2	350.00	450.00	400.0	70.71068
	Vegetable oil	8	560.00	700.00	628.1	55.54519
Mwanza	Maize	5	120.00	140.00	134.0	8.94427
	Beans	11	460.00	700.00	610.9	83.60078
	Cowpeas	0				
	Pigeon peas	0				
	Vegetable oil	2	575.00	600.00	587.5	17.67767
Neno	Maize	0				
	Beans	4	700.00	750.00	712.5	25.00000
	Cowpeas	0				
	Pigeon peas	0				
	Vegetable oil	1	800.00	800.00	800.0	.
Nsanje	Maize	12	120.00	140.00	127.7	8.52092
	Beans	8	480.00	700.00	622.50	75.92289
	Cowpeas	3	200.00	300.00	246.7	50.33223
	Pigeon peas	3	200.00	720.00	406.7	275.92269
	Vegetable oil	12	400.00	800.00	671.7	105.29900

Table A.3: Food commodity prices during the 2014/15 consumption year by District

District	Food commodity	N	Minimum	Maximum	Mean	Std. Deviation
Chitipa	Maize	20	60.00	150.00	100.9	26.62389
	Beans	9	150.00	500.00	351.7	105.88909
	Cowpeas	0				
	Pigeon peas	0				
	Vegetable oil	3	600.00	700.00	633.3	57.73503
	Valid N (listwise)	0				
Karonga	Maize	15	60.00	160.00	111.7	26.70384
	Beans	9	250.00	433.00	325.9	68.83575
	Cowpeas	0				
	Pigeon peas	0				
	Vegetable oil	6	700.00	1000.00	808.3	120.06942
	Valid N (listwise)	0				
Rumphi	Maize	11	72.00	160.00	124.3	27.61916
	Beans	11	375.00	615.00	474.1	78.79778
	Cowpeas	0				
	Pigeon peas	0				
	Vegetable oil	8	630.00	1020.00	781.3	127.88806
Nkhatabay	Maize	3	100.00	120.00	110.0	10.00000

	Beans	7	325.00	650.00	502.1	134.84118
	Cowpeas	0				
	Pigeon peas	0				
	Vegetable oil	1	650.00	650.00	650.0	.
Mzimba	Maize	27	65.00	150.00	110.6	25.88188
	Beans	16	271.00	800.00	525.1	133.23937
	Cowpeas	0				
	Pigeon peas	1	225.00	225.00	225.0	.
	Vegetable oil	10	620.00	1000.00	735.0	106.48422
Kasungu	Maize	18	70.00	130.00	98.1	15.06251
	Beans	6	400.00	700.00	521.7	111.43010
	Cowpeas	0				
	Pigeon peas	0				
	Vegetable oil	7	520.00	750.00	652.9	69.93194
Dowa	Maize	18	60.00	180.00	100.7	28.61098
	Beans	7	220.00	600.00	413.6	143.89563
	Cowpeas	1	180.00	180.00	180.0	.
	Pigeon peas	0				
	Vegetable oil	4	600.00	800.00	725.0	95.74271
Ntchisi	Maize	5	60.00	120.00	96.0	25.09980
	Beans	2	310.00	335.00	322.5	17.67767
	Cowpeas	0				
	Pigeon peas	0				
	Vegetable oil	2	500.00	680.00	590.0	127.27922
Mchinji	Maize	23	65.00	120.00	89.1	18.44230
	Beans	4	350.00	600.00	487.5	131.49778
	Cowpeas	0				
	Pigeon peas	0				
	Vegetable oil	5	650.00	900.00	820.0	115.10864
Lilongwe	Maize	36	62.00	165.00	107.9	23.47445
	Beans	9	350.00	700.00	514.4	107.60008
	Cowpeas	1	400.00	400.00	400.0	.
	Pigeon peas	0				
	Vegetable oil	9	400.00	1000.00	650.0	158.11388
Salima	Maize	23	50.00	200.00	100.8	35.84050
	Beans	14	400.00	800.00	562.6	122.39508
	Cowpeas	5	180.00	400.00	316.0	97.62172
	Pigeon peas	0				
	Vegetable oil	12	600.00	750.00	683.3	38.92495
Nkhotakota	Maize	13	50.00	104.00	79.8	20.86526
	Beans	1	850.00	850.00	850.0	.
	Cowpeas	1	900.00	900.00	900.0	.
	Pigeon peas	0				
	Vegetable oil	2	630.00	650.00	640.0	14.14214
Dedza	Maize	32	60.00	200.00	103.8	28.17851
	Beans	9	300.00	600.00	369.4	105.96121
	Cowpeas	0				

	Pigeon peas	0				
	Vegetable oil	12	450.00	800.00	645.0	89.08627
Ntcheu	Maize	14	70.00	144.00	91.7	21.34850
	Beans	15	200.00	750.00	446.7	157.46504
	Cowpeas	0				
	Pigeon peas	0				
	Vegetable oil	9	505.00	667.00	611.7	47.92964
Balaka	Maize	19	70.00	190.00	109.6	30.34124
	Beans	16	300.00	750.00	526.6	137.07320
	Cowpeas	3	200.00	450.00	355.7	135.81728
	Pigeon peas	3	170.00	600.00	406.7	218.25062
	Vegetable oil	20	400.00	800.00	664.5	95.50282
Machinga	Maize	14	45.00	160.00	91.8	35.76672
	Beans	9	300.00	800.00	550.0	158.11388
	Cowpeas	1	200.00	200.00	200.0	.
	Pigeon peas	1	200.00	200.00	200.0	.
	Vegetable oil	5	500.00	700.00	650.0	86.60254
Mangochi	Maize	10	70.00	140.00	114.0	28.75181
	Beans	3	375.00	600.00	458.3	123.32207
	Cowpeas	0				
	Pigeon peas	0				
	Vegetable oil	5	600.00	650.00	620.0	27.38613
Zomba	Maize	7	70.00	140.00	100.0	25.81989
	Beans	9	300.00	800.00	555.6	150.92309
	Cowpeas	1	250.00	250.00	250.0	.
	Pigeon peas	0				
	Vegetable oil	12	525.00	900.00	668.8	112.71696
Phalombe	Maize	25	60.00	160.00	106.5	27.64827
	Beans	10	450.00	700.00	561.0	92.43015
	Cowpeas	4	250.00	400.00	350.0	70.71068
	Pigeon peas	1	300.00	300.00	300.0	.
	Vegetable oil	12	500.00	800.00	633.3	91.28709
Chiradzulu	Maize	16	80.00	150.00	116.6	19.80898
	Beans	7	400.00	650.00	521.4	96.20786
	Cowpeas	2	200.00	340.00	270.0	98.99495
	Pigeon peas	1	130.00	130.00	130.0	.
	Vegetable oil	9	600.00	900.00	710.6	102.39154
Blantyre	Maize	22	98.00	160.00	113.0	16.11115
	Beans	14	275.00	750.00	550.6	123.84768
	Cowpeas	2	300.00	375.00	337.5	53.03301
	Pigeon peas	0				
	Vegetable oil	13	450.00	800.00	636.5	110.32876
Thyolo	Maize	19	50.00	200.00	103.0	31.66491
	Beans	12	400.00	700.00	570.4	100.68986
	Cowpeas	2	375.00	400.00	387.5	17.67767
	Pigeon peas	3	300.00	375.00	341.7	38.18813
	Vegetable oil	13	520.00	800.00	659.6	67.59134

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Mulanje	Maize	15	100.00	130.00	114.0	9.67323
	Beans	7	300.00	600.00	377.1	121.88988
	Cowpeas	1	250.00	250.00	250.0	.
	Pigeon peas	3	210.00	300.00	248.3	46.45787
	Vegetable oil	10	500.00	700.00	642.5	79.97395
Chikwawa	Maize	23	80.00	135.00	107.9	14.54868
	Beans	10	420.00	650.00	547.0	79.44949
	Cowpeas	3	300.00	400.00	366. 7	57.73503
	Pigeon peas	2	400.00	400.00	400.0	.00000
	Vegetable oil	7	500.00	750.00	628.6	90.63270
Mwanza	Maize	5	90.00	145.00	123.0	20.49390
	Beans	10	400.00	800.00	620.0	115.85431
	Cowpeas	0				
	Pigeon peas	0				
	Vegetable oil	2	590.00	650.00	620.0	42.42641
Neno	Maize	0				
	Beans	4	650.00	800.00	712.5	75.00000
	Cowpeas	0				
	Pigeon peas	0				
	Vegetable oil	1	800.00	800.00	800.0	.
Nsanje	Maize	11	60.00	150.00	107.4	30.33899
	Beans	8	350.00	750.00	555.0	124.67100
	Cowpeas	3	200.00	300.00	253.3	50.33223
	Pigeon peas	3	260.00	400.00	320.0	72.11103
	Vegetable oil	12	100.00	900.00	624.2	211.76567

Table A.4: Sales of food commodities on credit for last month (MK)

Sample	Minimum	Maximum	Mean	Std. Deviation
272	200.00	1,350,000.00	39, 592.3897	112551.86298

Table A.5: Summary Matrix of Recommendation for Humanitarian Assistance Delivery Options

DISTRICT	TA	AFFECTED POPULATION	RECOMMENDED INTERVENTION
NORTHEN REGION			
CHITIPA	Mwabulambya	31,848	Cash transfer
	Nthalire	12,497	Food aid
	Mwenemisuku	7,967	Food aid
	TA Kameme	5,314	Food aid

	TA Mwenewenya	5,898	Cash transfer
KARONGA	Kyungu	32,133	Cash transfer
	Mwirang'ombe	12,433	Food aid
	Wasambo	18,155	Cash transfer
RUMPHI	Mwahenga	3,902	Food aid
	Chikulamayembe	26,655	Food aid
	Katumbi		Cash transfer
	Mwankhunikira	7,314	Food aid
	Mtwalo	57,277	Food aid
	Jalavikuba Munthali	9,188	Food aid
	Chindi	47,061	Cash transfer
	Mpherembe	20,080	Food aid
	M'mbelwa	35,575	Food aid
	Kampingo Sibande	3,672	Food aid
	Mzikubola	23,503	Food aid
	Mzukuzuku	10,466	Food aid
	Khosolo	6,104	Food aid
MZIMBA	Mwabulabo	13,473	Food aid
NKHATA BAY	Vilakoma		Food aid
	Mkumbira		Cash transfer
	TOTAL NORTH	**390,515**	100%
	POPULATION (CASH)	**135,095**	35%
	POPULATIO (FOOD AID)	**255,420**	65%
	CENTRAL REGION		
KASUNGU	Simulemba	10,263	Food aid
	Mnyanja	10,713	Food aid
	Kaluluma	14,561	Cash transfer
	Chisemphere	-	Cash transfer
	Chisikwa	176	Cash transfer
	Kaomba	1,507	Cash transfer
	Wimbe	16,780	Cash transfer
	Chitanthamapira		Cash transfer
	Santhe	26,399	Cash transfer
	Nyaza		Cash transfer
	TA Chulu	6,999	Cash transfer
	SC Kawamba	9,681	Cash transfer
	TA Kapelula	679	Cash transfer
	Chaima	-	Cash transfer
Dedza	Kachindamoto	30,870	Food aid
	SC Chilikumwendo	12,332	Cash transfer
	Tambala	3,937	Cash transfer

	Kaphuka	17,061	Cash transfer
	Pemba (Kachere)	23,821	Cash transfer
	Chauma		Cash transfer
	Kamenyagwaza		Food aid
	Kasumbu	7,299	Cash transfer
Dowa	Msakambewa	8,210	Cash transfer
	Chakhaza	23,784	Cash transfer
	Kayembe	21,400	Cash transfer
	Dzoole	10,723	Food aid
	Mponera	10,626	Cash transfer
	Mkukula	20,135	Cash transfer
	Chiwere	17,373	Cash transfer
Lilongwe	Chitekwere		Cash transfer
	Mazengera	1,763	Cash transfer
	Tsabango	967	Cash transfer
	Chimutu	4,673	Food aid
	Mbang'ombe		Food aid
	Chitukula		Food aid
	Kabudula	8,171	Food aid
	Maliri	21,311	Cash transfer
	TA Kalumba	4,920	Cash transfer
	Kalolo		Cash transfer
	TA Mtema	13,621	Food aid
	TA Njewa	8,008	Cash transfer
	Masumbankhunda		Cash transfer
	Masula		Cash transfer
	Chiseka	21,587	Cash transfer
	Chadza	4,183	Cash transfer
Mchinji	Mkanda	26,663	Cash transfer
	Mduwa	25,909	Cash transfer
	TA Mlonyeni	13,879	Cash transfer
	Kapondo		Cash transfer
	Dambe	17,474	Cash transfer
	Simphasi		Cash transfer
	Zulu	26,448	Cash transfer
	Mavwere	28,812	Cash transfer
Nkhotakota	Malingachanzi		Food aid
	SC Mwansambo	10,945	Cash transfer
	Mphonde		Food aid
	Mwadzama	28,869	Food aid
Ntchisi	Nthondo		Cash transfer
	Malenga		Cash transfer

	Kalumo		Cash transfer
	Chilowoko		Cash transfer
Salima	Kalonga		Food aid
	Kambwiri	2,773	Food aid
	Kuluunda		Food aid
	Maganga		Food aid
	Pemba	4,363	Food aid
	Ndindi	17,435	Food aid
	Khombedza	18,834	Food aid
	Mwanza	9,590	Cash transfer
	Msosa	2,716	Cash transfer
	Kalonga		Food aid
	Kambalame	6,589	Food aid
Ntcheu	Champiti	7,721	Food aid
	Makwangwala	27,792	Cash Transfer
	Ganya	30,787	Food aid
	Kwataine	14,624	Cash Transfer
	Masasa	8,257	Food aid
	Phambala	970	Cash Transfer
	S.T.A Tsikulamowa		Cash Transfer
	S.T.A Nkutumila		Cash Transfer
	Mpando	1,398	Cash Transfer
	Njolomole		Food aid
	TOTAL	**727,381**	**100%**
	CASH	**512,719**	**70%**
	FOOD	**214,662**	**30%**
SOUTHERN REGION			
Balaka	Kachenga		Food aid
	Sawali		Food aid
	Nsamala	107,188	Food aid
	Chanthunya		Food aid
	S.T.A Matola		Food aid
	Amidu		Food aid
	Mkaya		Food aid
	Kalembo	77,381	Food aid
Machinga	Liwonde	28,645	Food aid
	Nsanama		Food aid
	Sitola	21,341	Cash Transfer
	S.T.A Mkula		Cash Transfer
	Kapoloma		Food aid
	Ngokwe	10,277	Food aid
	Chikwewo	13,105	Food aid

	SC Chiwalo	3,943	Food aid
	SC Mlomba	14,620	Food aid
	TA Nyambi	2,298	Food aid
	Kawinga		Food aid
	Chamba	11,951	Food aid
	Mposa	7,734	Food aid
Mangochi	Nakumba	36,154	Food aid
	Mponda	29,546	Food aid
	Chimwala		Food aid
	Chilipa		Food aid
	Chowe	38,971	Food aid
	Namavi	14,305	Food aid
	Makanjila	21,959	Cash Transfer
	Katuli		Cash Transfer
	Chimwala	23,679	Food aid
	Katuli	14,767	Food aid
	Bwana Nyambi	6,108	Food aid
	Jalasi	21,677	Cash Transfer
	Bwana nyambi		Cash Transfer
Mulanje	Njema	9,507	Cash Transfer
	Mabuka	31,380	Cash Transfer
	Chikumbu		Cash Transfer
	Mabuka		Cash Transfer
	Nthilramanja		Cash Transfer
	Nkanda	29,366	Food aid
	TA Chikumbu	10,162	Cash Transfer
	TA Nthiramanja	23,051	Food aid
	Juma		Food aid
Phalombe	Genala		Food aid
	Kaduya		Food aid
	Nkhumba	84,596	Food aid
	Chiwalo	15,350	Food aid
	Nazombe	20,680	Food aid
	Nkhulambe		Food aid
	Genala		Food aid
Zomba	Mwambo	52,418	Food aid
	Malemia	13,159	Food aid
	Mulumbe	47,427	Food aid
	Chikowi	17,782	Food aid
	Mbiza	40,769	Food aid
	Mkumbira	2,284	Food aid
	Kumtumanji	31,574	Food aid

Blantyre	Kuntaja	37,275	Food aid
	Kunthembwe	21,681	Food aid
	Lundu	13,382	Food aid
	Chigaru	21,673	Food aid
	Machinjiri		Cash transfer
	Kapeni	1,437	Cash transfer
	Nsomba	10,757	Food aid
	Makata	632	Cash transfer
Chikwawa	Maseya	15,701	Food aid
	Mlilima		Food aid
	Kasisi	17,104	Food aid
	Katunga	14,546	Food aid
	Makhuwira	37,979	Food aid
	Mgabu	83,586	Food aid
	Chapananga	50,053	Food aid
	Lundu	18,648	Cash transfer
Chiradzuru	Mkalo	16,793	Food aid
	Kadewere	27,914	Food aid
	Likoswe	1,956	Food aid
	Mchema	11,350	Food aid
	Mpama	8,444	Food aid
	Chitera	4,232	Food aid
Mwanza	Kanduku	7,690	Food aid
	Nthache	14,494	Food aid
Neno	Chekucheku	4,262	Food aid
	Mulauri	17,567	Food aid
	Dambe	10,225	Food aid
	Saimon	25,609	Food aid
Nsanje	Mlolo	30,098	Food aid
	Chimombo	5,812	Food aid
	Ndamera	15,096	Food aid
	Tengani	18,893	Cash transfer
	Mbenje	17,330	Food aid
	Malemia	10,525	Food aid
	Nyachikadza	2,066	Food aid
	Makoko	3,795	Food aid
	Mgabu	6,326	Cash transfer
Thyolo	Nanseta		Cash transfer
	Chimaliro	30,743	Cash transfer
	Nkalo		Cash transfer
	Ngolongoliwa		Cash transfer
	Bvumbwe	25,719	Cash transfer

	Thomasi	10,545	Food aid
	Phuka	16,587	Food aid
	Changata	12,113	Food aid
	Thukuta	4,953	Food aid
	Nsabwe	11,084	Food aid
	Khwethemure	14,956	Food aid
	Mbawera	13,336	Food aid
	Mchiramwera	18,499	Food aid
	Kapichi	16,696	Cash transfer
	TOTAL	**1,715,320**	100%
	CASH	235,121	14%
	FOOD	1,480,199	86%

Summary of Disaster Affected Traditional Authority by Humanitarian Response option

Region	Total (TAs)	Percent	CASH	Percent	FOOD	Percent
North	24	11%	7	8%	17	13%
Centre	82	38%	**56**	**64%**	26	20%
South	**108**	**50%**	24	28%	**84**	**66%**
Total	**214**	**100%**	**87**	**100%**	**127**	**100%**

Summary distribution of affected population by region and Humanitarian Response Option

Region	Total	CASH	Percent	FOOD	Percent
North	390,515	135,095	35%	255,420	65%
Centre	727,381	512,719	70%	214,662	30%
South	1715,320	235,121	14%	**1,480,199**	**86%**
Grand Total	**2,833,216**	**882,935**	**31%**	**1,950,281**	**69%**

[i] The Food basket includes Maize, Pulses, Cooking oil and CSB.
[ii] The Food basket includes Maize, Pulses, Cooking oil and CSB.
[iii] The Food basket includes Maize, Pulses, Cooking oil and CSB.