

have arisen (Box 5). The development of a National Resilience Strategy presents an opportunity to harness and increased coordination among various interventions to achieve maximum and long-term impacts.

#### Box 4: The Enhancing Community Resilience Programme

Since 2011, a consortium led by Christian Aid Malawi has implemented the Enhancing Community Resilience Programme (ECRP) in 11 districts of Malawi. Other key consortium members are Care International Malawi, ActionAid Malawi, and the Centre for Environmental Policy and Advocacy (CEPA). The six-year program (August 2011 to 2017) targeted 820,000 direct beneficiaries to improve food security, reduce vulnerability, and strengthen their resilience to natural disasters and climatic hazards. The program is funded by the United Kingdom's Department for International Development (DFID), Norwegian Ministry of Foreign Affairs, and Irish Aid.

The goal of the ECRP is to eradicate extreme poverty and hunger while contributing to the Sustainable Development Goals. The major objective of the program is to increase resilience of vulnerable communities to climate variability and change. The ECRP promotes a variety of interventions that link resilience to development. These include village savings and loan associations (VSLAs), disaster risk reduction (DRR) and early warning systems, conservation agriculture, agroforestry, small-scale irrigation, and small-scale livestock development, among others.

A review of the ECRP shows that the initiative has been very effective in linking development work with resilience building to ensure that households are food secure as well as resilient to future food insecurity and livelihood shocks. This is so not only because the project activities have been well received by beneficiary communities, but also because of the positive food security and livelihood improvement outcomes being realized.

*Source: Makoka and Mbendela 2017.*

**Inputs for assets and public works programs have also gained momentum toward reducing vulnerability and improving household resilience.** Inputs for assets programs provide access to inputs (maize seeds and fertilizer) in exchange for labor delivered to improve productive assets. This creates jobs while simultaneously repairing and restoring community infrastructure as well as indirectly improving households' resilience. Such assets mainly include small irrigation schemes, feeder roads, soil and water conservation, forestry, and water supply as prioritized by district councils. In some limited instances, cash for work has also been used. Development partners, including the World Bank, provided significant support in this area. For instance, two current projects (floods and drought) are reaching 380,000 vulnerable households in drought- and flood-affected districts (US\$29 million). This builds on previous support from the Irrigation and Rural Livelihoods Agriculture Project (closed in 2015, with an approximate investment of US\$40 million toward inputs for assets). Figure 16 depicts an example of assets restored as part of a public works program that led to improved connectivity to various points, including agricultural markets.<sup>12</sup>

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<sup>12</sup> Similar recovery interventions have been supported by various donors; e.g. DFID, Irish Aid, Norway, African Development Bank, USAID, WFP, FAO, and the European Union.

Figure 16: Katole Bridge in Thyolo district before and after a public works program

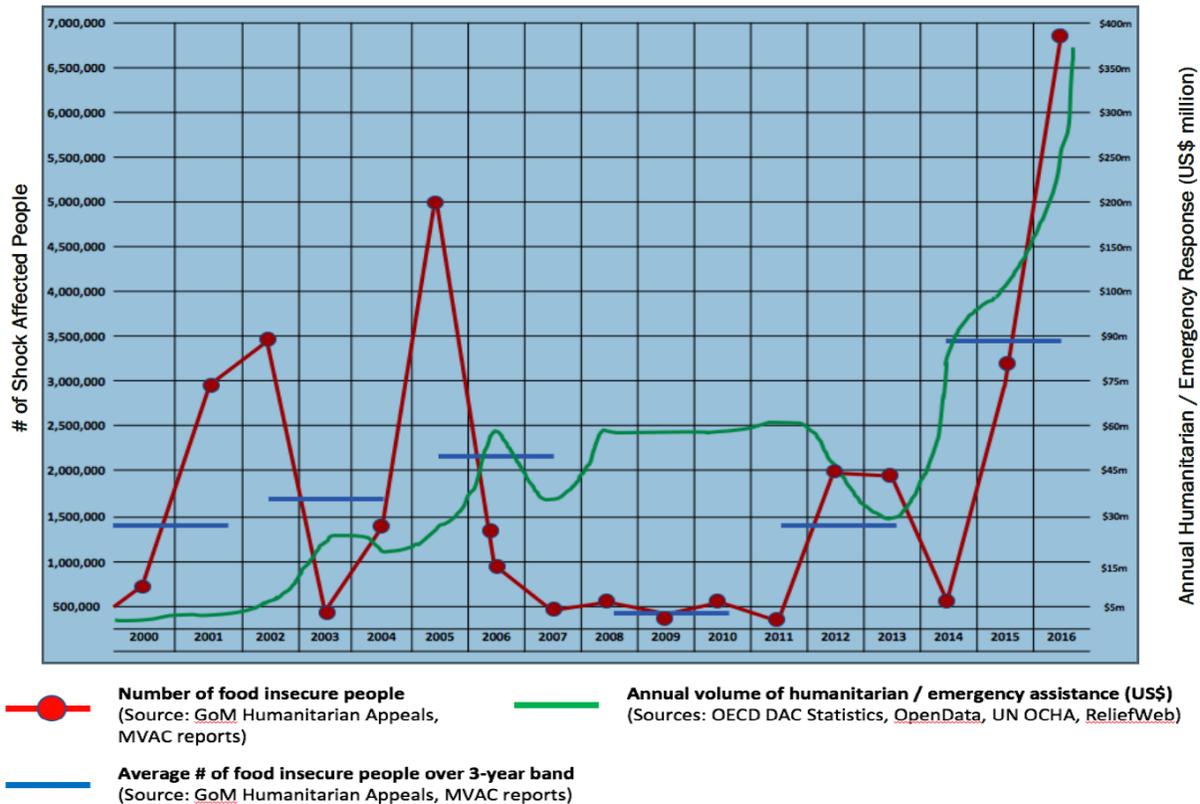


**Evidence from previous public works programs shows significant impacts on jobs created, as well as improved agricultural productivity among participating households.** The key lesson learned is the need to improve the quality of community assets created through public works programs, as well as to ensure that the assets created meet sector norms and standards, while ensuring sustainability. This can be improved by ensuring that adequate capacities are available at the local level to support project implementation, and ensuring that standards and frameworks are provided to guide implementation.

#### **4.5 Analysis of Humanitarian Response Costs**

**The severity and occurrence of natural disasters has increased over time, posing a threat to Malawi's economy as resources are diverted to support emergency operations at the expense of other critical priorities.** At the macroeconomic level, El Niño reduced the country's GDP by 2.8 percent and increased inflation as a result of high cereal prices (World Bank 2016). Figure 17 shows the humanitarian costs incurred over the past 17 years.

Figure 17: Humanitarian costs incurred in Malawi, 2000–2016



**Both vulnerability and costs of responses have spiraled upward.** Both reached their highest level in 2016/17 (after the worst El Niño in the history of Malawi), with another peak in 2015 due to heavy floods. Most of the costs (approximately 77 percent) were supported by various donors – for instance, in 2016/17, donors funded approximately US\$303 million out of the US\$395 million. The remaining 23 percent came from the GoM and other direct support from various NGOs. Lead time in the response to the emergency appeal has been good, at approximately two months. As part of response delivery, WFP played a key role in distributing food assets (using local and international NGOs on the ground), while the INGO Consortium led the cash-based response.

**In response to the 2015 floods, which affected 1,150,000 people, displaced 336,000, and killed 104, the GoM requested the World Bank to conduct a comprehensive Post Disaster Needs Assessment (PDNA) for floods, in partnership with UNDP and the European Union.** On this basis, the Malawi Floods Emergency Recovery Project (MFERP) was designed and approved (US\$80 million) to restore immediate needs following devastating floods. Following the subsequent drought in 2016, the PDNA for drought was developed, resulting in approval of the Malawi Drought Recovery and Resilience Project (US\$104 million), aimed to address early recovery and resilience. Other development partners (notably the African Development Bank, the International Monetary Fund, China, DFID, USAID, Norway, WFP, and Japan) contributed with cumulative support of US\$230 million.

## 4.6 Political Economy Perspectives to Disaster Planning and Responses

Disaster prevention and response occur in a political space and the relevant actors work in a political space. This section analyzes the political economy of disaster response in Malawi to assess the extent to which the response has been influenced by the interrelationship between politics and the economy.

### 4.6.1 Development Partner Interests and Perspectives

**The disaster management space is dominated by several active external actors that include: multilateral donors like the UN agencies and the World Bank; key bilateral donors (USAID, DFID, and Irish Aid); and INGOs (Save the Children, Goal Malawi, ActionAid, Concern Worldwide, and Malawi Red Cross).** The role of clusters in the humanitarian response has also been important to ensure wide consultations and inputs from various stakeholders. Donors support approximately 77 percent of the humanitarian response, actively ensuring that the response is carried out effectively. In view of high resource dependency, donors also play an active role in implementation of the Food Insecurity Response Plan (FIRP), including decisions on purchases of maize and other food stuffs, procurement modalities, and the use of various NGOs to implement the response. For instance, donors have influenced procurement modalities such as the use of commodity exchanges, NRFA, Purchase for Progress (P4P), and at times importing from other countries (through WFP). Some have influenced the use of nonstate actors to channel their support toward the response.

**The Humanitarian Country Team (HCT) has been influential in its ability to mobilize resources and ensure coordination for disaster response in Malawi.** UN agencies and other members have been influential in directing disaster responses in partnership with DODMA. For instance, during the flooding in Karonga in April 2017, UNICEF, working with DODMA, employed drones to survey flood-affected areas and verify the extent of crop and infrastructure damage (UNICEF 2017). WFP routinely leads in the implementation of food-based responses (on behalf of DODMA). In this pursuit, additional resources are mobilized to support operations/twinning costs as well as include oils, pulses, and super cereal (in addition to normal maize), in line with international humanitarian best practices.

### 4.6.2 Government Interests and Perspectives

**The Office of the Vice President provides the political will that is instrumental in disaster response.** The GoM recently advocated to mainstream resilience within the humanitarian response, as guided by the National Resilience Strategy, and to adopt shock-responsive safety nets. The disaster response is coordinated through the National Disaster Preparedness and Relief Committee, which comprises cabinet ministers, principal secretaries, senior Malawi Defense Forces, police officials, and leading NGOs (such as World Vision and Malawi Red Cross Society). This ensures strong governmental leadership at the highest level to coordinate the response. The police and army also play an important role in disaster response in Malawi. During the 2015 floods, the Malawi Police held sensitization meetings targeting displaced people in camps. The sensitization focused on prevention of gender-based violence in camps, child protection and safety, and general security issues in camps. Likewise, the military provided rescue services to flood-affected communities.

### 4.6.3 Civil Society and Other Non-Public Interests and Perspectives

**NGOs are very influential in disaster response in the disaster-prone districts of Malawi.** But the strong presence of NGOs that focus on disaster response creates a potential moral hazard – if the GoM anticipates that actors on disaster response will spend more on response, then it will be less willing to allocate its own resources on preparedness and response (Bussell and Fayaz 2017).

Levels of disaster preparedness are usually higher when more disaster-oriented NGOs are present (Bussell and Fayaz 2017). In districts such as Nsanje, Chikwawa, Karonga, and Phalombe, many CSO actors are focusing their efforts on disaster preparedness, including capacity building of civil protection structures, flood early warning systems, and other initiatives to promote community preparedness. Discussions with various district stakeholders showed a tendency for many NGOs, churches, and other group to appear only during flood disasters and to disappear soon afterwards. For example, in the TAs of Mkhumba (Phalombe) and Ngokwe (Machinga), participants questioned why many institutions only show interest during the time of response to floods. Based on resource availability, some NGOs play an active role in district-level responses, and in determining the extent of response mechanisms. This occurs when the GoM does not have sufficient budget at district level for such roles.

#### 4.6.4 Analysis of Levels of Power

The Power Cube Framework, as described by Gaventa (2005), presents a dynamic understanding of how power operates. The framework was used in this study to group the actors involved in contingency planning processes in Malawi according to the levels of power they hold (Table 7).

Table 7: Stakeholder matrix for power influence at national and district level

		LEVEL OF POWER			
		LOW		HIGH	
INFLUENCE	LOW	National	District	National	District
				Civil Protection Committees (Village, Area-level)	
	HIGH	National	District	National	District
	DODMA INGOs MoAIWD FEWS NET Department of Climate Change Research Institutions	Government departments Political leadership (Members of Parliament, Ward councilors) Traditional leaders	Office of Vice President UN (WFP, UNDP, UNICEF) Donors (DFID, USAID, Irish Aid, World Bank) Political leaders	District Executive Committee (Director of Planning, DODMA Officers) District Civil Protection Committee NGOs	

Source: Authors' analysis based on Gaventa 2005.

The Power Cube Framework distinguishes the degree of power in three categories: (i) visible power (conventional understanding of power negotiated through formal rules and structures, institutions, and procedures); (ii) hidden power (actual controls over decision making and the way powerful people/institutions maintain their influence and often exclude concerns of other less powerful groups); and (iii) invisible (internalized) power (influences how people think of their place in society and explains why some are prevented from questioning power relations).

The results show that at national level, the Office of Vice President, UN agencies (WFP, UNDP, and UNICEF), donors (DFID, USAID, the World Bank, and Irish Aid), and political leadership have high influence and power. On the other hand, key technical stakeholders facilitating implementation have high influence but low power (e.g., DODMA, government ministries). At district level, the stakeholders that have more power and influence include the District Executive Committee (particularly the District Commissioner, Director of Planning and Development, DODMA DRM Officers), District Civil Protection Committees, and NGOs. The sector departments, political leaders and traditional leaders have more influence but less power.

**While DODMA has a lot of influence and power on disaster planning and response at the district level (through DRM/Desk Officers), this key institution on contingency planning does not seem to have a lot of power at the national level.** Although it is highly influential, DODMA's power is limited by its dependence on financing from external sources. As this report proposes, DODMA must be able to operate without dependence on external support to effectively coordinate disaster processes in Malawi.

## Chapter 5: Trade and Market Implications of Extreme Weather Events

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This chapter analyzes the effect of El Niño on trade and commodity prices. The direct effect of extreme weather, droughts, and floods is to reduce the production and supply of grain, which ideally leads to increased producer prices. Maize, the country's staple food, has been the hardest hit, with repercussions on household vulnerability, increased inflation, and reduced GDP. Economic productivity is suppressed after disasters. For instance, projected growth in Malawi's GDP was revised from 5 percent to 2.8 percent following the 2015 floods (World Bank 2016). In view of this, the GoM has put in place various interventions on the market, mostly in a bid to reduce price volatility and achieve food security. This section analyzes the effects of such interventions to provide options for the GoM to better respond to El Niño through the market.

### 5.1 Domestic Maize Market Policy Developments and Implications

**High climate variability conditions such as erratic rainfall conditions, delayed onset of rains, prolonged dry spells, and floods have had not only production effects but also food marketing policy implications.** Given the resultant low food production conditions seen during the years of poor weather conditions, the GoM intervened in the grain market to stabilize prices and supply on the market. The GoM's use of food price stabilization policies is based on a longstanding concern about the effects of price instability and, particularly, high food prices on poor rural and urban consumers (Jayne 2012). A market study by Edelman (2016) on the impact of export bans and minimum farm gate prices calculated measures of volatility for two discrete periods of 2004 to 2015: (i) months during which Malawi did not have a maize export ban; and (ii) months when such a ban was in place. The results showed that in 8 out of 12 Malawian markets, prices were more volatile when export bans were in place compared with when they were not. The conclusion was that for Malawi, export bans are not strongly associated with more stable prices (Edelman 2016).

**Maize prices in Malawi are more variable compared to those in neighboring countries (Figure 18), and significantly lower (Figure 19).** The GoM deployed the military at the borders to enforce the export ban and deter informal exports, resulting in depressed producer prices. Their gradual decline created a big outcry from smallholder farmers as well as the private sector.

Figure 18: Variability in maize prices (avg. 2005–2016)

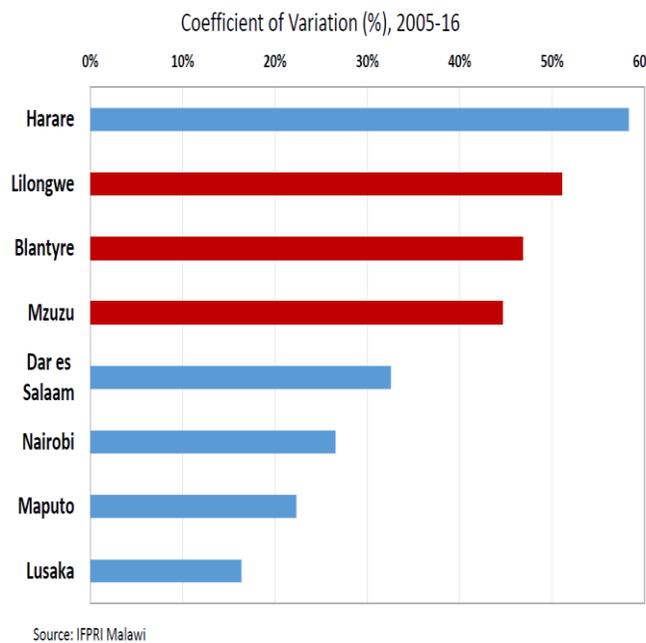
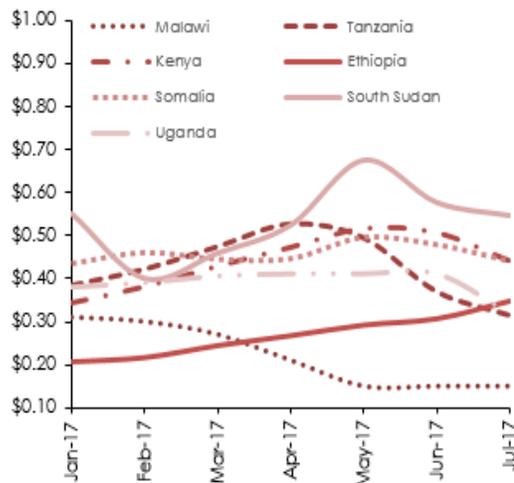


Figure 19: Maize prices in Malawi and neighboring countries

Maize prices (US\$/kg) in Malawi significantly lower compared to neighbours



## 5.2 The GoM's Role in Maize Marketing through Parastatal Organizations

The GoM's intervention in the maize market is now largely focused on stocking and drawing down grain from ADMARC and the National Food Reserve Agency. The limited role of the GoM in maize marketing is due to implementation of Structural Adjustment Programs starting in the early 1980s that had significant market reforms. These included commodity price decontrols, removal of agricultural input subsidies, and permission for private sector participation in agricultural markets besides ADMARC. Given these reforms, some positive gains were realized in the economy in terms of private sector participation. Jayne (2012) found that private traders are the main buyer of maize from smallholders, accounting for roughly 75 percent of all maize sold, while intravillage sales accounted for 17 percent and ADMARC for 8 percent. The funding ADMARC receives from the GoM following the adjustment agenda is either for purchase of government maize or is payment for facilitating FISP activities.

### Box 5: Stabilizing maize prices in the midst of a food crisis

**Malawi is increasingly affected by susceptibility to adverse weather conditions that trigger food shortages.**

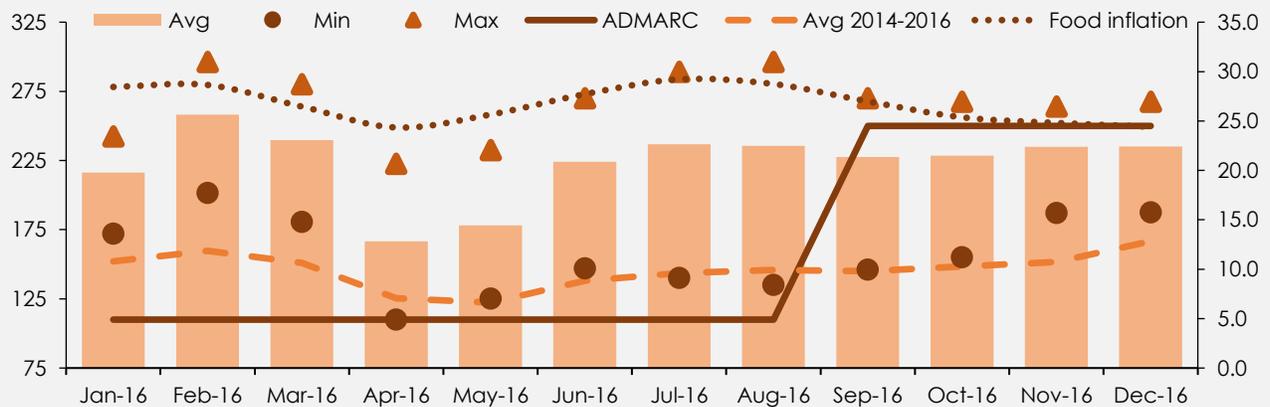
Its heavy reliance on rainfed agriculture is often aggravated by poor policy responses in times of food crisis. It has become customary for the GoM to intervene in the maize market during food crises through ADMARC and the National Food Reserve Agency to buy, distribute, and sell maize throughout the country. The GoM often sets a maximum price for all agricultural products, including maize, sold in ADMARC depots. Other public sector interventions intended to address food insecurity include the Farm Input Subsidy Programme (FISP), the promulgation of minimum farm gate prices to encourage maize production and to restrict maize exports.

**Despite these interventions, Malawi’s maize market remains extremely thin, with few buyers and sellers relative to the number of producers.** Only about 8.5 percent of farmers are outright sellers of maize, 8.9 percent operate as buyers and sellers, and 55.3 percent purchase maize only to supplement their own stocks. When markets are thin, small disruptions and interventions in supply and demand can result in large movements in market prices. Thus, the GoM’s interventions often have the opposite of the intended effect, undermining its own objective of stabilizing prices and improving food security.

**Recent maize market intervention measures produced very different results.** During the 2015/16 lean season, the GoM intervened by setting the price for maize sold through ADMARC facilities at MWK 110/kg, two-and-a-half times cheaper than the prevailing market price. However, the unavailability of the commodity at ADMARC depots demonstrated ADMARC’s challenges to support its price, and higher market prices prevailed. This also impeded domestic trade, as market participants were exposed to the risk of ADMARC undercutting them by selling at a price below cost. In addition, much of the subsidized maize sold by ADMARC ended up in the hands of traders, who then sold it at much higher market prices. Thus, this intervention was largely ineffective in terms of its stated goal of providing relief to the food insecure during this critical period.

Figure 20: Maize prices more stable in 2016/17 lean season compared to 2015/16

Maize prices, MWK /kg (LHS); food price inflation, percent (RHS); monthly data during 2016



**In contrast to this ineffective measure, during the 2016/17 lean season, there is evidence that the humanitarian crisis triggered some behavioral changes among public institutions, with a subsequent positive response by the private sector.** In the face of considerable political pressure, ADMARC committed to a published retail price of MWK 250/kg of maize. While this was a substantial increase from the price of MWK 110/kg established in the previous season, it was set at a level that balanced the institution’s need to recover

costs with the risk that a higher price would drive a greater number of consumers to seek humanitarian relief. Private trade in maize from neighboring countries, especially Mozambique and Zambia, was very active, in addition to the parallel market that exists throughout East and Southern Africa to circumvent maize export bans.

**Thus, breaking with recent historical practice, ADMARC's prices were close to the market rate, which left the wider market uninterrupted.** An analysis of the average price of maize over the past three years shows that ADMARC prices have been consistently set below the three-year average. For the first part of 2016, prices were also set below the minimum price across the various markets (Figure 19). When the GoM sets a price that is lower than the prevailing market price and has the stock, vendors tend to buy out the maize from ADMARC for resale, equalizing the market prices, at the expense of the intended beneficiaries. On the other hand, when the GoM sets a price without appropriate stock levels and when the market is aware of this, the market is unresponsive.

**The market intervention price set by ADMARC during the 2016/17 lean season was in line with market forces, ensuring price stability and subsequently a deceleration in the rate of inflation.** A substantial increase in the ADMARC price to MWK 250/kg not only brought its price above the average market price, the price was also closer to the maximum price offered in the various markets. This resulted in a sustained fall in maize prices, which has been a significant factor driving the ongoing declining trend in food inflation since September 2016 and consequently the deceleration in the headline inflation rate.

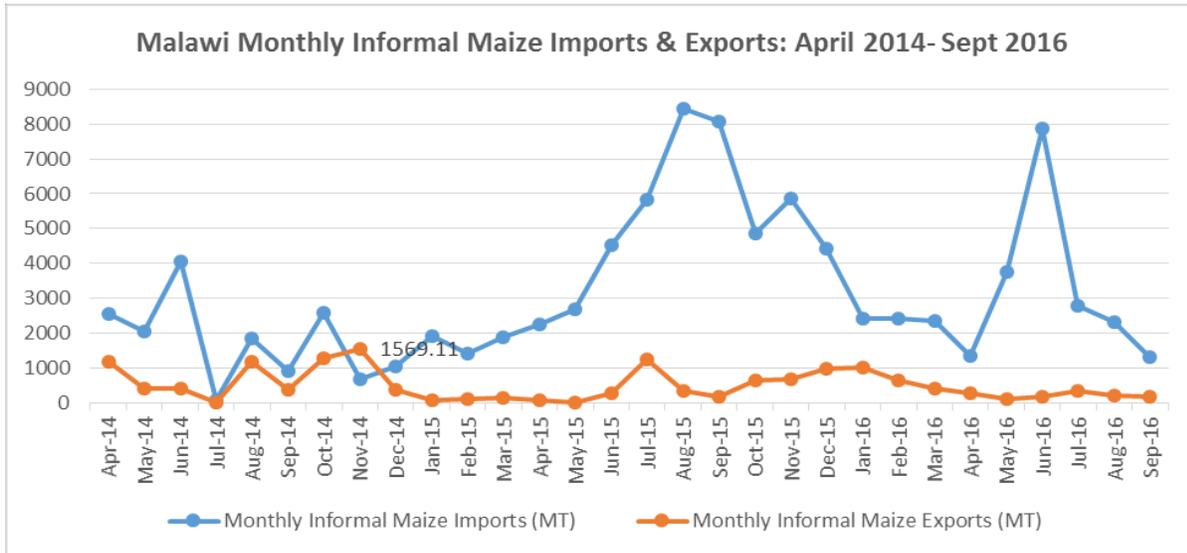
**Unless Malawi diversifies its crop production, maize production will remain critically important to the achievement of food security.** Therefore, improving the availability of this commodity and the performance of maize markets is crucial to the achievement of food security in the context of rainfed agriculture and natural disasters. Producers need to be encouraged to engage and invest in maize production and marketing. However, this can only be achieved once producers are assured of a reasonable degree of stability and predictability in maize markets; the most critically important measure to achieve this is the minimization of distortions to the market.

*Source: World Bank 2017a.*

### 5.3 Informal Maize Imports and Exports

**Irrespective of the trade restrictions that the GoM has put in place over the past years, the flow of maize in and out of Malawi is bi-directional, with imports exceeding exports.** Informal maize imports are high during the harvest months of May–August because the period coincides with harvest time in neighboring countries such as Mozambique, Zambia, and Tanzania, particularly the southern part. Figure 21 shows the informal exports and imports of maize.

Figure 21: Trends in informal maize imports and exports by month, 2014–2016



Source: Msiska 2016.

**During the period April 2014 to September 2016 Malawi had more informal maize imports than exports; this means that sometimes the country’s positive food security conditions are the result of maize inflows from neighboring countries that complement domestic production (Box 6).** This implies that if neighboring countries, which also periodically impose maize export restrictions, were to strongly enforce their own maize export restriction into Malawi, the country’s food security conditions would be negatively affected. In some years, Malawi gets more than 40,000 MT of net maize imports, which contributes to its national food security outcomes (Msiska 2016).

#### Box 6: Malawi's bi-directional informal trade of maize with neighboring countries

Key informant interviews with traders and other stakeholders during the study revealed that at the border area of Mkanda in Mchinji district, maize moves into Malawi from Zambia. In fact, maize traders from Malawi conduct an open maize market operation where traders buy maize in bulk from Zambia at Sawala. According to discussions with some sellers from Zambia, most farmers in Zambia do not apply chemical fertilizers and use low-cost technologies, including local maize varieties. As such, most maize is sold to Malawi, a high-cost producer of maize.

On the other hand, in the TA Ngokwe in Machinga, a Village Civil Protection Committee vice chairperson who is also a Child Protection Officer for the area told the study team that cross-border trade occurs between Malawi and Mozambique. During normal circumstances (good harvest), people from Malawi cross the lake to sell produce in Mozambique, including maize and legumes. During food insecurity, people cross the lake to buy produce (maize and legumes) from Mozambique. People from Malawi always cross the lake to buy farm inputs in Mozambique, where they are said to be cheaper and more accessible. No ADMARC or any agro-dealer operates near the area. During Farm Input Subsidy Programme (FISP) coupon redemption, people usually fail to buy inputs due to longer distances; thus vendors come to buy coupons from them. In 2016, 75 percent of over 1,000 coupon recipients did not redeem their coupons and strangers came in multitudes to buy the coupons. Fertilizer coupons were sold at prices ranging from MWK 8,000 to MWK 12,000.

*Source: Field case study.*

**The informal maize trade flow statistics confirm that regional trade in food commodities is an inevitable solution to climate change-induced food insecurity outcomes in East and Southern Africa (ESA).** However, experience has shown that ESA member states impose maize export bans each time they have surplus or notice deficits in neighboring countries that threaten their own food security situations. This defeats the spirit of the regional integration agenda, in which free flow of goods and services, including food commodities, is the desired outcome. The current policy behavior by ESA member states, including Malawi, is rather surprising considering that each time an ESA member state faces a food crisis, the solution usually lies in securing imports from neighboring countries on which they ban exports when they have their own surplus production.

## Chapter 6: Conclusion and Recommendations

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Malawi is highly exposed to multiple hazards that cause widespread shocks, with climate and weather risks the most significant. The country was the third most affected in the world in the Climate Risk Index for 2015. In recent years, the country faced successive and compounding climatic shocks – from the worst flood in 50 years in 2015 to the strongest El Niño event in 35 years, which prompted declaration of a state of emergency and left 39 percent of the country at risk of food insecurity during the 2016/17 consumption period. ENSO is the most important driver of climatic variability in Malawi. Climate and weather predictions indicate increased severity in the future, meaning that “business as usual” is not an option.

This analytical work was designed to provide a critical review/reflection of how the country responded to these recent extreme weather events and to draw lessons for future response planning. Key messages and recommendations are as follows.

### 6.1 Key Messages

The key messages arising from the study are summarized as per categories below:

#### **Ever increasing vulnerability, in magnitude and costs**

1. The costs of unmanaged risks are high, and will likely go higher with the absence of concerted and coordinated actions to address the gaps, as temperatures and heat waves are projected to increase. The 2016 El Niño was the highest in terms of magnitude, vulnerability, and ultimately cost. Donors provide significant resources toward the humanitarian response (at least 77 percent), with relatively low funding from national governments.
2. Malawi is seemingly becoming more vulnerable, and the high humanitarian costs are a drain on critical resources that could otherwise be invested in adapting agricultural food systems to climate change and increasing absorptive capacity against climate change variability. The current attitude seems to be “business as usual” and reactive, with significant resources devoted to maize purchases (approximately 50 percent of the agriculture sector budget), thereby offering limited options to achieve agricultural transformation, as stipulated in the National Agriculture Policy.
3. The peak periods of food insecurity consistently relate to the occurrence of extreme weather shocks. In turn, this directly reduces agricultural production, agricultural growth, and ultimately overall economic growth. Extreme weather shocks have often lead to downward adjustment of national growth targets.

#### **Increased political will, policy evolution trends, but fragmented, with outdated DRM legal framework**

4. Policy trends have evolved in response to the increased prevalence of extreme weather events. Climate change is strongly integrated and prioritized within Malawi’s medium-term strategy and is mainstreamed within various sector policies (including agriculture), as well as in the development of specific policy frameworks (e.g., the national climate change policy). These policies are also significantly aligned with international frameworks. This notwithstanding, the policies are fragmented, sector-specific, inadequately funded, ad hoc, and broadly framed, offering limited scope for addressing the complexity of disaster events.
5. The country still relies on the Disaster Preparedness and Relief Act (DPRA) of 1991, which is outdated and not aligned with Malawi’s international commitments. The experience of 2015-

2016 necessitated development of a single “National Resilience Strategy” that offers hope to address fragmentation gaps, while shifting the focus toward resilience.

6. High political will exists in terms of leading coordination efforts, as is the functionality of various disaster risk management institutional structures. However, the GoM’s funding is unable to keep pace with the increased needs, amidst weak structures at district and community level to translate results. No specific emergency or NRM funds are in place to facilitate timely response to disasters. Despite the draft Agriculture Risk Management Strategy (ARMS), the agriculture sector lacks champions to effectively integrate disaster issues as a core issue within its work.

### **Inadequate connectedness of early warning, disaster preparedness instruments**

7. Preparedness and early warning instruments are insufficiently connected and institutionalized to effectively contribute to decision making. Early warning systems remain weak and are not well integrated within the agriculture sector. Agricultural production estimates are routinely calculated using more traditional approaches, instead of integrated, modern techniques that improve accuracy and prediction efficiencies. The Food Balance Sheet, which is informed by agricultural production estimates, weights maize calories relatively high, does not include other cereals, roots, and tubers, and underestimates food opening balances (particularly due to lack of an informed private stock assessment), thereby offering imprecise information for planning. Agricultural insurance has not been successfully scaled up due to design flaws and stakeholders’ lack of awareness.
8. Acute gaps exist at district level, where contingency plans are rarely updated and are supported in an ad hoc manner.

### **Resilience, diversification and social protection reduces vulnerability**

9. Increased evidence suggests reduced vulnerability if resilience is integrated within the humanitarian response, with more focus on shock-responsive safety nets. Given the high political will and donors’ good will, expanding social cash transfers to all districts offers a large potential to ensure households’ resilience to disasters induced by extreme weather shocks.
10. Upscaling resilience and diversification also offers a good option to reduce vulnerability. Where efforts for joint resilience programming are in place, coordination has been good and household vulnerability to extreme weather events has reduced.

### **Unpredictable public interventions on the market increase vulnerability and price volatility**

11. Unpredictable GoM interventions on the market have created information asymmetry, which has fueled increased maize price volatility, leading to depressed producer prices and disincentives for private sector commercial investments.
12. When Agricultural Development and Marketing Cooperation (ADMARC) improves its transparency on its maize operations, the result is early purchase of maize from farmers (soon after harvest), correct price setting (cost recovery), increased market stability, and less price volatility. This not only increases private sector confidence and participation on the market, but also reduces anticipated losses by ADMARC, a drain on public resources when it needs to be bailed out.

## 6.1 Recommendations

In view of the above findings, the GoM, the World Bank, and other stakeholders might consider the following recommendations:

### **Strengthen policy and legal framework, with sufficient funding on DRM activities**

1. Department of Disaster Management Affairs (DODMA should expedite the review of the DPRA, and ensure that it is aligned with the Sendai Framework for Disaster Risk Reduction and in line with existing and emerging climatic shocks.
2. DODMA/Ministry of Finance, Economic Planning and Development should set aside an emergency fund or DRM budget line that can be used to respond to disasters, rather than overreliance on donors' good will.

### **Strengthen/improve connectedness among early warning, forecasting and disaster preparedness tools**

3. DODMA should strengthen early warning systems by developing comprehensive hazard maps and risk profiles (up to community level in disaster hotspots), and ensure that they are updated and communities are well-informed, while allocating adequate funding for this activity. The Ministry of Agriculture, Irrigation and Water Development (MoAIWD) should integrate early warning as part of agricultural extension advisory services, and ensure that it positions itself to implement and mainstream disaster preparedness and adaptation.
4. DODMA/MoAIWD should adopt use of geospatial tools, including satellites, to inform early warning (as informed by agricultural meteorological assessments such as use of geospatial tools). Appropriate capacity and partnerships should be developed at various levels to operationalize such tools.
5. MoAIWD should improve the methodology used for the agricultural production estimates by incorporating use of remote sensing and automated data capture/transmission, and improve yield estimation (as guided by recommendations from pilots executed in 2014/15). In the Food Balance Sheet, estimation of the food gap should be informed by an elaborate assessment of public and private stocks and a better measure of postharvest losses; caloric consumption weights should be broadened to reflect other key cereals, roots, and tubers.

### **Deepen support to resilience, social protection while rebalancing investments to promote diversification**

6. MoAIWD should ensure appropriate resource balance, guided and aligned with the National Agriculture Investment Plan (NAIP), while deepening resilience, as opposed to the current overemphasis on maize. The development of the National Resilience Strategy and Implementation can guide in such endeavour.
7. The GoM and development partners should scale up support toward resilience and diversification (already a strong feature in the NAIP), while ensuring coherent and joint programming. The National Resilience Strategy can offer an opportunity to guide such efforts. In the same vein, integration of resilience within the humanitarian response should be scaled up in all districts. Social protection programs (as led by the Ministries of Gender and Finance, Economic Planning and Development) should prioritize promotion of shock-responsive safety nets, which have proved to significantly reduce vulnerability against shocks.

### **Strengthen institutionalization of DRM within mainstream agriculture sector**

8. MoAIWD should identify champions within its structures to lead in mainstreaming DRM within agriculture at all levels, while coordinating with district DRM desk officers. Funding to facilitate such work will be needed. The ARMS offer a proper guide and should be adopted to inform this.
9. MoAIWD should lead in the implementation of the National Resilience Strategy and Implementation Plan, ensure that resources are mobilized accordingly, and align coordination structures with the existing ones.

### **Improve transparency, predictability of market interventions and enabling environment for agriculture**

10. The Ministry of Trade, Industry and Tourism should improve the enabling environment as it relates to GoM interventions on the market. Review of the Control of Goods Act needs to be expedited to guide this endeavor to improve transparency, consultation, and predictability on market interventions.
11. ADMARC should routinely provide information on its marketing plans (prices, volumes to be bought or sold) ahead of the crop selling season, and ensure cost recovery prices to avoid any anticipated losses (risk-based). Based on this, ADMARC should enter the market soon after the maize harvest to ensure smallholder farmers receive a price above the minimum price set by the GoM.

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