



USAID
FROM THE AMERICAN PEOPLE

USAID OFFICE OF FOOD FOR PEACE
FOOD SECURITY COUNTRY FRAMEWORK
FOR MALAWI FY 2014–FY 2019

SEPTEMBER 2013



This report is made possible by the generous support of the American people through the support of the Office of Food for Peace, Bureau for Democracy, Conflict and Humanitarian Assistance, and the Office of Health, Infectious Diseases, and Nutrition, Bureau for Global Health, U.S. Agency for International Development (USAID), under terms of Cooperative Agreement No. No. AID-OAA-A-12-00005, through the Food and Nutrition Technical Assistance III Project (FANTA), managed by FHI 360. The contents are the responsibility of FHI 360 and do not necessarily reflect the views of USAID or the United States Government.



Recommended citation: Murphy, Emmet; Erickson, Kali; and Chima, James. 2013 *USAID Office of Food For Peace Food Security Country Framework for Malawi (FY 2014–FY 2019)*. Washington, D.C.: FHI 360/FANTA.



Food and Nutrition Technical Assistance III Project (FANTA)
FHI 360
1825 Connecticut Avenue, NW
Washington, DC 20009-5721
T 202-884-8000
F 202-884-8432
fantamail@fhi360.org
www.fantaproject.org

Contents

Acronyms and Abbreviations	i
Executive Summary	iii
Geographic Priorities for Title II Programs in Malawi	iii
Program Priorities for Title II Programs in Malawi	iv
1. Introduction	1
2. Country Context	2
2.1 Political Landscape	2
2.2 Socioeconomic Landscape	2
2.3 Health Sector	3
2.4 Land	4
2.5 Gender	4
2.6 Environment and Climate	5
2.7 Natural Disasters	6
2.8 Food Security Information Context	7
3. Food Security Context in Malawi	8
3.1 Food Availability	8
3.1.1 Land Availability and Access	8
3.1.2 Production Systems, Levels, and Trends	9
3.1.3 Gender and Agricultural Production	11
3.1.4 Livestock	12
3.1.5 Fishing and Aquaculture	13
3.1.6 Cereal Availability, Agricultural Trade, and National Food Stocks	13
3.2 Food Access and Consumption	13
3.2.1 Food Consumption and Poverty	13
3.2.2 Agricultural Trade and Smallholder Marketing	14
3.2.3 Food Purchase	15
3.3 Food Utilization/Health	15
3.3.1 Trends in Child Health and Nutritional Status	15
3.3.2 Trends in Maternal Health and Nutritional Status	20
3.3.3 Water, Sanitation, and Hygiene	22
3.3.4 Gender and Nutrition	22
3.3.5 HIV	23
3.4 Regions and Populations Vulnerable to Food Insecurity	23
3.5 Coping Capacities and Strategies of Populations Vulnerable to Food Insecurity	24
4. Current Policies, Strategies, and Programs	26
4.1 Government of Malawi Policies, Strategies, and Programs	26
4.2 U.S. Government Policies, Strategies, and Programs	27
4.2.1 USAID/Malawi Country Development Cooperation Strategy	27
4.2.2 FY 2010–FY 2014 Title II Development Program in Malawi	27
4.2.3 Other U.S. Government and USAID Policies, Strategies, and Programs	28
4.3 Other Strategies and Programs	28
5. Recommendations for Title II Development Programs in Malawi	30
5.1 Objectives and Desired Outcomes	30
5.2 Recommended Geographic Priorities	30
5.3 Recommended Program Priorities	32
Program Priority 1: To reduce chronic malnutrition among children under 5	33
Program Priority 2: To increase income levels of food-insecure households	40
Program Priority 3: To increase household resilience to climate change and other shocks ..	46

5.4	Key Design and Implementation Considerations.....	49
5.5	Strategic Partnerships.....	54
	References.....	56
	Appendix 1. Map of Malawi.....	64
	Appendix 2. Malawi Economic and Poverty Indicators	65
	Appendix 3. Gender Inequities in Malawi, Disaggregated by Sex	66
	Appendix 4. Malawi Agricultural Production.....	67
	Appendix 5. Malawian Food Consumption and Poverty	69
	Appendix 6. Current Policies, Strategies, and Programs Relevant to Food Security in Malawi	73

Tables

Table 1.	Trends in Child Health and Nutritional Status in Malawi.....	19
Table 2.	Nutritional Status of Women in Malawi, by Age Grouping	20
Table 3.	Women’s Health and Nutrition in Malawi.....	21
Table 4.	Recommended District Targeting and Criteria for New Title II Development Programs in Malawi, FY 2014–FY 2019	31
Table 5.	Recommended USAID/FFP Title II Development Program Priorities and Activities in Malawi	32
Table 6.	Percentage of Children Under 5 Who Are Stunted, by Age Group	34

Figures

Figure 1.	Food Security Indicators by Wealth Quintiles	14
Figure 2.	Nutritional Status of Malawian Children by Age.....	17
Figure 3.	Coping Strategies and CSI Values of Malawian Households, by Food Consumption Groups and Wealth Quintiles.....	25

Acronyms and Abbreviations

ACE	Agricultural Commodity Exchange
ACPC	Area Civil Protection Committee
ADMARC	Agricultural Development and Marketing Corporation
AFIDEP	African Institute for Development Policy
AHCX	AHL Commodity Exchange
AIDS	Acquired Immunodeficiency Syndrome
ANDI	Aggregate Nutrient Density Index
ARCC	African and Latin American Resilience to Climate Change
ASWAP	Agriculture Sector Wide Approach
AU	African Union
BMI	body mass index
CA	conservation agriculture
CAADP	Comprehensive African Agriculture Development Programme
CDCS	Country Development Cooperation Strategy
CFSVA	Comprehensive Food Security Vulnerability Analysis
CRS	Catholic Relief Services
CTC	Community Therapeutic Care
DADO	District Agricultural Development Offices
DCCMS	Department of Climate Change and Meteorological Services
DCPC	District Civil Protection Committee
DFID	Department for International Development
DHS	Demographic and Health Survey
DISCOVER	Developing Innovative Solutions with Communities to Overcome Vulnerability through Enhanced Resilience project
dL	deciliter
DODMA	Department of Disaster Management Affairs
ECRP	Enhancing Community Resilience Programme
EHP	Essential Health Package
ENA	Essential Nutrition Actions
EPA	Extension Planning Area
EU	European Union
EWS	Early Warning System
FAO	Food and Agriculture Organization of the United Nations
FEWS NET	Famine Early Warning Systems Network
FISP	Farm Input Subsidy Program
FFP	Office of Food for Peace
FSCF	Food Security Country Framework
FTF	Feed the Future
g	gram(s)
GDP	gross domestic product
GHI	Global Health Initiative
GOM	Government of Malawi
GVH	Group Village Headman
ha	hectare(s)
HIV	human immunodeficiency virus
HSSP	Health Sector Strategic Plan
IFPRI	International Food Policy Research Institute
IHS3	Third Integrated Household Survey

INVC	Integrating Nutrition into Value Chains (FTF program)
kg	kilogram(s)
km	kilometer(s)
L	liter
LNS	lipid-based nutrient supplement
m	meter(s)
mm	millimeter(s)
MCHN	maternal and child health and nutrition
MDG	Millennium Development Goal
MGDS	Malawi Growth and Development Strategy
MK	Malawi Kwacha
MOAFS	Ministry of Agriculture and Food Security
MOH	Ministry of Health
MT	metric ton(s)
MUAC	mid-upper arm circumference
MVAC	Malawi Vulnerability Assessment Committee
NACAL	National Census of Agriculture and Livestock
NACS	nutrition assessment, counseling, and support
NAPA	National Adaptation Programme of Action
NAPF	National Agriculture Policy Framework
NDV	Newcastle disease virus
NEPAD	New Partnership for African Development
NFRA	National Food Reserve Agency
NGO	nongovernmental organization
NMS	National Micronutrient Survey
NSO	National Statistical Office
NPK	nitrogen, phosphorus, potassium (fertilizer)
OPC	Office of the President and the Cabinet
OVC	orphans and vulnerable children
PAI	Population Action International
PEPFAR	U.S. President's Emergency Plan for AIDS Relief
PM2A	Prevention of Malnutrition in Children under 2 Approach
PMTCT	prevention of mother-to-child transmission of HIV
ppm	parts per million
SBCC	social and behavior change communication
SGR	Strategic Grain Reserve
SUN	Scaling Up Nutrition
µg	microgram
U.N.	United Nations
UNDP	United Nations Development Programme
USAID	U.S. Agency for International Development
VASP	Voluntary Aflatoxin Sampling Plan
VCPC	Village Civil Protection Committee
VSL	village savings and loans
WFP	World Food Programme
WHO	World Health Organization

Executive Summary

The goal of the U.S. Agency for International Development Office of Food for Peace (USAID/FFP) Food Security Country Framework (FSCF) for Malawi is to provide programming guidance to current and potential USAID food security partners on the development of Title II development programs for the period FY 2014–FY 2019. To achieve this goal, the FSCF summarizes data on the causes and distribution of chronic food insecurity in Malawi; identifies the most at-risk population groups; describes existing policies, strategies, and programs; and presents key program objectives, priority activity areas, and considerations for program design to sustainably reduce food insecurity and strengthen resilience in targeted areas of Malawi.

Two million people, 13% of the Malawi population, currently face extreme food insecurity. Production shortfalls caused by climate change, population growth, and environmental degradation make many households vulnerable to food shortages (MVAC 2012). A recent study notes that half of all Malawians are food energy deficient and have inadequate food consumption due to a heavy reliance upon maize as a primary food source (WFP 2012). Agricultural production serves as a source of income, but increasingly erratic weather conditions and skyrocketing food prices have made smallholder farming households vulnerable to food insecurity. Lack of crop diversification, poor yields, and dependence on rain-fed farming are key factors in worsening food security in recent years. Unbridled population growth of 2.8% per annum further contributes to increasing pressure for poor households to cultivate marginal and less fertile lands, particularly in densely populated districts in the south where food insecurity is the worst (GOM NSO 2008). The toll of food insecurity in Malawi manifests itself most significantly in the poor nutritional status of its children. Nearly half of Malawian children under 5 years of age are stunted, indicating a high level of chronic malnutrition.

Malawi's government has placed a high priority on addressing child malnutrition in its National Nutrition Policy and Strategic Plan, as well as rolling out community nutrition interventions under the Scaling Up Nutrition initiative.

Geographic Priorities for Title II Programs in Malawi

New programs in Malawi may consider targeting vulnerable households in **Balaka, Blantyre (rural), Chikwawa, Chiradzulu, Machinga, Mulanje, Nsanje, and Phalombe districts** in the Southern Region. These districts were selected based on 1) high proportion of food energy-deficient households, 2) high percentage of the population living on less than US\$1 per day, 3) very high stunting prevalence in children under 5, 4) high HIV prevalence in the south, 5) geographic concurrence with other U.S. Government programming, and 5) exposure to natural disasters.

The USAID/FFP Title II development food assistance programs will encompass two distinct geographic areas. Applicants may apply for only one geographic area or both geographic areas, but a separate application would be required for each area. One award will target Balaka and Machinga, current FTF priority districts, and applicants are expected to work in close coordination and collaboration with other activities under the Country Development Cooperation Strategy and Feed the Future (FTF) Integrating Nutrition into Value Chains program activities in particular. Final selection of traditional authorities will be made in consultation with USAID/Malawi, to ensure complementarity with the areas covered by FTF.

The other award will expand the FTF zone of influence and focus on the districts in Southern Malawi with high levels of food insecurity and historic need for humanitarian assistance, specifically the districts of Nsanje, Chikwawa, Blantyre (rural area), Phalombe, Mulanje, and Chiradzulu. USAID/ FFP expects intensive and integrated activities in the selected districts, rather than covering a broad geographic area with less intense programming. Therefore, applicants should select no more than three of the six districts

listed above, and the districts selected should be contiguous. Optimally, selected districts should be covered in their entirety, but if similar food security programming is already being implemented in some traditional authorities, these traditional authorities may be omitted. Targeting should be based on prevalence of stunting, historical needs for food assistance, population demographics, and livelihood zones.

In all cases, applicants should clearly state how they will work in coordination with other USAID projects present in these districts for maximum impact over the life of the program. Prospective applicants should work closely with district authorities and collaborate with the Ministries of Agriculture and Food Security, Health, and Disaster Management Affairs (Office of the President) and the Malawi Vulnerability Assessment Committee to contribute to an integrated national Early Warning System.

Program Priorities for Title II Programs in Malawi

The overall goal of the Title II program in Malawi should be “to reduce chronic malnutrition and food insecurity among vulnerable populations.” Addressing undernutrition in the first 1,000 days of life, from conception to age 2, can protect the cognitive and growth potential of children and maximize the positive benefits for communities and the nation through increased future productivity. Title II programs are well-placed to address the multisectoral causes of undernutrition through supporting proven maternal and child health and nutrition approaches, built on a sound understanding of the local context and well-integrated with livelihoods, agriculture, and other programming.

Table A. Recommended USAID/FFP Title II Development Program Priorities and Activities in Malawi

Overall goal: To reduce chronic malnutrition and food insecurity among vulnerable populations.		
Program Priority 1: To reduce chronic malnutrition among children under 5	Program Priority 2: To increase income levels of food-insecure households	Program Priority 3: To increase household resilience to climate change and other shocks
<p>Priority Activity Area 1.1: Prevention of chronic malnutrition among children under 2</p> <p>Priority Activity Area 1.1a: <i>Children under 2 are fed appropriately for their age</i></p>	<p>Priority Activity Area 2.1: Households increase their agricultural, livestock, and aquaculture/fishing production</p>	<p>Priority Activity Area 3.1: Enhanced community- and district-level capacity to mitigate and respond to shocks</p>
<p>Priority Activity Area 1.2: Pregnant women and mothers of children under 2 seek preventive care and treatment for illness</p>	<p>Priority Activity Area 2.2: Households diversify their livelihoods through rotating village savings and loans programs</p>	<p>Priority Activity Area 3.2: A sustainable early warning system that benefits communities and the national government</p>
<p>Priority Activity Area 1.3: Promote healthy family size and reduce adolescent pregnancy</p>	<p>Priority Activity Area 2.3: Improved market linkages and information access</p>	<p>Priority Activity Area 3.3: Climate change impacts are mitigated through watershed</p>

Overall goal: To reduce chronic malnutrition and food insecurity among vulnerable populations.		
Program Priority 1: To reduce chronic malnutrition among children under 5	Program Priority 2: To increase income levels of food-insecure households	Program Priority 3: To increase household resilience to climate change and other shocks
Priority Activity Area 1.4: Households have access to improved water and sanitation and practice appropriate hygiene behaviors		management and other disaster risk reduction interventions
Key Design and Implementation Considerations: Gender integration; good governance; geographic and beneficiary targeting; monitoring and evaluation; development approach, sustainability, and exit strategy; programmatic integration; environmental monitoring and mitigation; technology; formative research and social and behavior change communication; operations research; and strategic partnerships.		

USAID/FFP anticipates that funds and commodities will be available for development food assistance programming in Malawi in FY 2014. The total anticipated USAID/FFP funding is US\$30 million in Title II and US\$60 million in community development funds over a 5-year period to support up to two awards, subject to the availability of funds and commodities. Applications can include variable annual funding levels over the life of the activity. This FSCF supplements USAID/FFP's FY 2014 Request for Applications. Both documents must be used for developing an application for submission.

1. Introduction

In the face of climate change, growing poverty, HIV/AIDS, rampant inflation, the sudden death President Bingu wa Mutharika, and the subsequent leadership change in 2012, Malawi has remained surprisingly stable politically. However, the strength of Malawi’s agriculture-oriented economy has been eroded and high malnutrition rates and HIV/AIDS prevalence place Malawi among the world’s worst and further threaten food security (UNDP 2013a). Efforts to enact corrective government policies have been largely unsuccessful due to limited capacity and resources and strategies that are often at odds with cultural and legal limitations. Globally, the objectives of the U.S. Agency for International Development Office of Food for Peace (USAID/FFP) Title II development food assistance programs are “to target the underlying causes of hunger and malnutrition, reduce chronic malnutrition among children under 5 years of age and pregnant and lactating women, increase and diversify household income, and strengthen and diversify agricultural production and productivity to build resilience and reduce the need for food assistance” (USAID 2013a).

The goal of the USAID/FFP Food Security Country Framework (FSCF) for Malawi is to provide programming guidance to current and potential USAID food security partners on the development of Title II-funded development programs for the period FY 2014–FY 2019. The FSCF draws from secondary data, interviews with staff implementing the current Title II program in Malawi, and representatives from USAID/Malawi, Government of Malawi (GOM) ministries, the private sector, donors, and bilateral agencies such as the United Nations (U.N.) and the World Bank. The FSCF also draws from discussions with program participants in current Title II interventions, as well as former participants under the Title II I-LIFE program, which ended in 2009.

Using information gleaned from a review of current Title II programs, secondary data, and meetings with key stakeholders in Malawi, the FSCF aims to provide insight to prospective bidders for the upcoming Title II-funded non-emergency request for applications (RFA). The document underwent review by USAID/FFP, USAID/Malawi, and the broader community of stakeholders via a public review process. All comments were considered for the revision of the FSCF, which was finalized in October 2013.

The FSCF draws on USAID’s Policy Determination 19, which states that “Food security exists when all people at all times have both physical and economic access to sufficient food to meet their dietary needs for a productive and healthy life.” The definition of food security focuses on three distinct but interrelated elements, all three of which are essential to achieving food security:

- **Food availability:** having sufficient quantities of food from household production, other domestic output, commercial imports, or food assistance
- **Food access:** having adequate resources to obtain appropriate foods for a nutritious diet, which depends on available income, distribution of income in the household, and food prices
- **Food utilization:** proper biological use of food, requiring a diet with sufficient energy and essential nutrients; potable water and adequate sanitation; knowledge of food storage, processing, basic nutrition, and child care and illness management (USAID 1992).

This document uses the above definition of food security and concepts of risk and vulnerability as a framework to describe the context and determinants of food insecurity in Malawi, and the programmatic actions necessary to reduce food insecurity in the country. See **Appendix 1** for a map of Malawi for reference.

2. Country Context

Catholic Relief Services (CRS) and its partners implement the current Title II development program in Malawi, known as Wellness and Agriculture for Life Advancement (WALA), which aims to improve food security for 214,974 chronically food-insecure households in seven districts of Southern Malawi by 2014. As the current Title II Program in Malawi draws to a close, prospective applicants for new Title II development assistance programs for the period FY2014 –FY2019 should consider the following contextual information that provides an overall picture of food security in Malawi. See **Appendix 2** for select poverty and economic indicators for Malawi.

2.1 Political Landscape

Malawi is classified as an electoral democracy (Matlosa 2008) wherein the governance system has undergone transition from dictatorial rule and embraced a multiparty democratic rule. Nonetheless, the country tends toward electoralism, wherein elections are held but key elements of rule of law are absent. Although Malawi’s political system is occasionally marked by political turbulence, especially around election time, the political system is generally stable.

The country is divided into three administrative regions and 28 districts. The Southern Region has 13 districts, the Central Region has 9, and the Northern Region has 6. As part of the move toward decentralization, 34 local councils comprise 4 city councils, 2 municipal councils, and 28 district councils. The first and only local government elections, which elected these councils, were held in November 2000. Local government elections, along with Presidential and Parliamentary elections, are envisaged to be part of the tripartite elections in 2014, as a result of the Tripartite Elections Bill passed in May 2013. However, the transfer of authority to the councils has been a slow process and the capacity of the councils to manage responsibilities within their areas needs development. In practice, there are no elected councilors and the administration’s effectiveness is constrained by an acute lack of human resources.

In the authoritarian era (1964–1994) of rule by Hastings Kamuzu Banda, development indicators improved because the patrimonial system emphasized development for the state and its citizens as well as to benefit his patron and client network. This period contrasted with the following rule by Bakili Muluzi (1994–2004) and the introduction of a multiparty democracy. Political and civil freedoms increased, but social and economic development declined. During the 2004–2009 period of Bingu wa Mutharika’s first term, the administration appeared once again to serve a development vision, due in part to support from a minority government in the legislature. After his reelection in 2009, Mutharika’s party won a large parliamentary majority. A variety of political missteps and mismanagement led to a worsening of the economy, eroding many of the gains of his first term.

After Mutharika’s death in April 2012, a constitutional order was upheld to ensure the smooth transition of power by swearing in then-Vice President Joyce Banda to succeed him. President Banda found herself in conflict with civil society organizations, facing accusations of corruption and embracing patronage. In her efforts to realize economic reform, she has introduced new legislation and replaced a large number of staff in the ministries. The upcoming tripartite elections are likely to bring significant change.

2.2 Socioeconomic Landscape

Following significant growth of the Malawian economy in the mid-2000s, the economy has slowed down considerably from 2010. A slump in tobacco production, and shortages and suspension of donor support to the national budget, led to a 49% devaluation of the Malawi Kwacha (MK) currency in 2012 and 36% inflation by April 2013 (GOM NSO 2013). As a result, the economy grew by only 2% in 2012, compared to growth of 4.3% in 2011 and 6.2% in 2010 (African Economic Outlook 2013). The outlook for 2013

appears optimistic, with an expected growth rate of 5.5%, as a result of higher tobacco production and reduced control of foreign exchange by the Central Bank. The Tobacco Control Commission reported just 3 weeks after opening the season that auction sales of tobacco reached 156 million kg—double the sales from the entire 2012 season—and prices increased by 23% (Nyasa Times 2013). The country expects tobacco revenues to reach US\$300 million for the 2013 season.

Apart from tobacco earnings, agriculture as a whole plays a critical role for the national economy and the majority of Malawi's largely rural population. Agriculture comprises 30% of the economy's gross domestic product (GDP), and 80% of Malawians rely upon this sector for income (GOM NSO 2011a). Maize is a key driver of the country's domestic income and food security, though only 10% of Malawian maize producers are net sellers of maize, while 60% are net buyers of maize (School of Oriental and African Studies 2008). As a result, the poorest households are heavily affected by high maize prices. Several development aid donors and nongovernmental organizations (NGOs) promote crop diversification to reduce reliance on maize and tobacco income and as a measure toward climate change adaptation, dietary diversity, and expanding domestic and international markets for groundnuts, soy, pigeon peas, chili peppers, and paprika. Following agricultural income, wholesale/retail trade and manufacturing account for 20% and 11% of GDP, respectively (GOM NSO 2011a). Since Paladin Energy's Kayelereka uranium mine in the district of Karonga began mining operations in 2009, income from this sector has grown substantially. The mine employs 100 people. The mining sector is expected to grow over the medium to long term, with projected growth of 14% in 2013 (Mining in Malawi 2013).

2.3 Health Sector

In the past decade Malawi has made notable achievements on several key health indicators and is likely to achieve Millennium Development Goal (MDG) 4¹ related to decreasing child mortality. However, the overall health and nutrition situation in the country remains extremely poor. The infant mortality rate is 58/1,000, and the under-5 mortality rate is 92/1,000, which is the 30th highest under-5 mortality rate in the world (UNICEF 2013b).

The 2010 Malawi Demographic and Health Survey (DHS) found that nearly 47% of Malawian children under 5 are stunted,² placing the country in the highest classification given by the World Health Organization (WHO) for very high stunting prevalence (above 40%) (GOM NSO and ICF Macro 2011). Despite minor regional variation, all 28 districts have stunting prevalence of nearly 40% or higher, with highest levels concentrated in the Southern and Central regions. Almost one-fifth of children are severely stunted, with highest prevalence in the Southern Region. Wasting, an indicator of acute malnutrition, is 4% nationally, falling into WHO's "low" category. Severe wasting is 1.5%,³ with higher prevalence concentrated in the Southern and Central regions.

Regarding women's health vulnerability, the 2010 DHS found that 9% of Malawian women are undernourished, as indicated by a body mass index (BMI) less than 18.5.⁴ However, pockets of higher prevalence are found in several southern districts. While HIV prevalence is 11% nationally, women face dramatically higher risk than men, as women 15–34 years of age have nearly double the HIV prevalence of men of a similar age grouping. Nearly a third of young women 15–19 years are pregnant or have at least one child. Early childbearing contributes to Malawi's elevated total fertility rate of almost 6 children

¹MDG 4: Reduce under five child mortality by 2/3 by 2015.

²Height-for-age Z score < -2 SD.

³Data for the 2010 DHS was collected from June to November 2009, thus most of these months do not encompass the "hungry season" in Malawi. Since acute malnutrition is sensitive to short-term food insecurity, prevalence of acute malnutrition is likely to be higher from November through March.

⁴BMI is calculated by dividing weight in kilograms by height in meters squared (BMI = kg/m²). Source: NSO and ICF Macro 2011.

per woman, among the highest in the region. Maternal mortality is alarmingly high at 675 per 100,000 live births, with almost 1 in 36 (World Bank 2013b) women dying due to complications associated with pregnancy and childbirth. A significant unmet need for family planning (26%) spurs the high fertility rate, placing severe stress on the nation's ability to meet its needs for food, water, and social services (African Institute for Development Policy [AFIDEP] and Population Action International [PAI] 2012).

2.4 Land

Malawi is the smallest but most densely populated country in the Southern Africa region, with a population of about 13 million (as of the 2008 census) and a population density of 139 persons /km² (GOM NSO 2008). Estimated at almost 16 million in 2012 (World Bank 2013a), the population is projected to be 20.8 million by 2020 with overall national population density exceeding 220 persons/ km² (Food and Natural Resources Policy Analysis Network 2003). Rapid population growth and the large number of estates held by elites have created increasing pressure for land among smallholder farmers.

Malawi adopted a National Land Policy in 2002 that reflects changing economic, political, and social circumstances in the country. The policy seeks to provide a sound institutional framework for democratizing management of land and introduces procedures for protecting land tenure rights, land-based investments, and management of development at all levels (GOM 2002). Most farmers' landholdings are based on customary land tenure, but the lack of a legal statute to manage its governance has been a source of conflict in Malawi (Silungwe 2009). A formal land market with proper titles has been growing over the years, but to the detriment of the poor.

The history of agrarian reform in Malawi has been one of increasing landlessness. In May 2013, Parliament reviewed the Customary Land Bill (2012), which seeks to give power to communities to manage customary land, unlike the current situation whereby chiefs and local leaders are custodians of customary land. Customary land administration under local leaders has lent itself to corrupt practices, alienating most of the poor farming households from land parcels that have belonged to them for generations. The Customary Land Bill seeks to put in place new legislation on the management and regulation of customary land as advocated by the National Land Policy. The creation of a trust concept over customary land may help, although the challenge remains to develop macroeconomic strategies that complement security of customary land tenure and harmonization of other land-related laws.

2.5 Gender

In Malawi, evidence shows that the failure to meet many MDG targets underscores gender inequities (GOM 2012e). Malawian women are prone to serious disadvantages in almost all aspects of development (see **Appendix 3** for a sample of gender inequities). Under the Constitution and the new Gender Equality Bill passed in early 2013, women have the right to full and equal protection by law and may not be discriminated against on the basis of sex or marital status (GOM 2012d). However, in practice, discrimination against women is pervasive, and women do not have opportunities equal to those available to men. This negatively impacts women's food security and increases their vulnerability.

The political and economic disadvantages of women in Malawi are compounded by women's low levels of literacy and educational attainment. Starting in mid-primary school, the dropout rate for girls increases relative to boys (14.1% vs. 9.5%). Studies indicate that girls drop out of school due to early marriage, pregnancy, responsibilities at home, lack of suitable clothing to wear to school, sexual harassment by teachers, and a lack of role models (Munthali 2003).

A review of gender differences in agricultural productivity by the International Food Policy Research Institute (IFPRI 2005) found that differences in agricultural yield between male and female farmers were

associated with inequitable access to agricultural inputs. The World Bank (Kilic 2013) reports that poverty remains widespread and persistent in Malawi, particularly among female-headed households. Based on the data from the Second Integrated Household Survey (IHS2) 2004/05 and the Third Integrated Household Survey (IHS3) 2010/11, the national absolute poverty rate of 52.4% declined only marginally to 50.7%. The trends in rural poverty followed a similar pattern: a rate of 55.9% in 2004/05 vs. 56.6% in 2010/11. While the absolute poverty rate among male-headed households was estimated at 49% in 2010/11, the comparable figure among female-headed households was 57%.

Political power has traditionally been exercised mainly by men, but women more than doubled their representation in Parliament in 2009. The increased participation of women in politics was facilitated in part by the 50:50 Campaign, which aimed to help women have equal participation in politics. When Joyce Banda became the country's first female vice president in 2009 and later became the country's first female president in 2012, she strategically used her political positions to put issues affecting women and girls higher on the national agenda. Despite advances, multiple factors conspire to limit women's voices in politics, including entrenched cultural beliefs about women's role being focused on the home, lack of sufficient education and training, and lack of support from family, other women, or Malawian society in general (Kamlongera 2008).

2.6 Environment and Climate

Malawi is a narrow elongated plateau with rolling plains, rounded hills, and varying elevations, from 50 m in the Shire Valley to 3,000 m in the southern district of Mulanje. Although Lake Malawi takes up about 20% of the total land and has the potential to irrigate vast areas surrounding the lake and provide livelihoods for fishermen, there is limited irrigation infrastructure in place and fishing communities cite a decline in the fish catch in the 1962–2008 period (World Fish 2012). Average annual rainfall throughout the country is 1,200 mm, but annual totals can be as low as 900 mm in the Shire Valley. The rainy season is November to April, but farmers report increasingly erratic rains and more frequent drought as a result of climate change, which is expected to worsen over the coming decades. Under the current rain-fed agriculture system, rural farm households are adversely affected by drought that affects crop yields, pasture for livestock, forest reserves, and fishing. Low rainfall levels also affect turbine capacity in hydro-electricity plants, the country's primary energy source.

Deforestation for charcoal production and encroachment on national parks for agricultural production has been contributing to environmental degradation for the past several decades. An estimated 41% of forest cover was lost between 1972 and 1994 (Centre for Environmental Policy and Advocacy 2012). Between 1991 and 2010, the country lost 3,345 km² of forests to farm production, and the Shire Valley lost 25% of its forests (World Bank & LTS International 2010). The two poorest districts in the Southern Region—Chikwawa and Nsanje, located in the lower Shire River Basin—have been adversely affected by the deforestation in the Upper Shire Watershed. These districts also face flash floods during the rainy season from the unpredictable, altering banks of the Shire River and extreme drought in the dry season.

In 1996, Malawi enacted the Environmental Management Act to provide a coordinating framework to effectively manage the environment and natural resources. A later revision included reference to climate change with subsequent activities, practices, and measures to reduce or eliminate its effects. The National Forest Policy adopted in 1996 recognizes the importance of Malawi's forest reserves and their role in providing watershed protection and enhancing water resources. Unfortunately, the policy does not include strategies or financial resources to protect critical watersheds (Centre for Environmental Policy and Advocacy 2012).

2.7 Natural Disasters

Drought and flooding are the primary natural disasters that Malawians face, in addition to animal disease outbreaks, cholera, and earthquakes in seismically active zones. The frequency of drought has increased due to climate change. The prolonged drought from 2001 to 2005 in the Southern Africa region affected millions of Malawian rural households that required relief interventions to avoid widespread famine. Further, the 2011–2012 growing season marked the fourth consecutive year of poor rainfall with adverse effects for practically all districts in the Southern Region. Districts surrounding lakeshores and the lower Shire Valley, such as Karonga, Salima, Zomba, Chikwawa, and Nsanje, are subject to both flooding and drought. Communities interviewed in the zones where the Title II-funded WALA program is currently implemented said that flooding is an annual event.

Animal disease epidemics are also a significant problem in Malawi. Newcastle disease virus (NDV) affects chickens, which serve as important assets and bolster food security for rural households. Seasonal epidemics can cause up to 100% mortality in unvaccinated flocks. Other diseases include foot and mouth disease, a new outbreak of “East Coast fever” that affects cows, and African swine fever, which is responsible for the deaths of large numbers of pigs in Rumphi and Nkhata Bay.

A series of four earthquakes ranging from 5.3 to 5.9 on the Richter scale struck Karonga in northern Malawi in December 2009. The earthquakes resulted in four deaths, 300 people injured, and nearly 1,000 collapsed houses. In 2012, a 4.6 earthquake occurred in Phalombe district in southern Malawi.

Cholera is endemic in Malawi, with seasonal outbreaks during the wet season from September/October to April/May each year. The largest outbreak occurred from October 2001 to April 2002, and affected 26 of the 28 districts (WHO 2011).

Currently, cholera case notifications are submitted to the Ministry of Health (MOH) Cholera Surveillance Unit. This unit conveys this information to the National Epidemiology Unit, which produces and distributes weekly cholera reports. The cholera surveillance system has challenges related to timely dissemination of cholera reports to trigger appropriate response (Khonje 2012). Several southern districts, including Blantyre, Thyolo, and Chikwawa, and districts bordering Lake Chilwa, including Machinga, Zomba, and Phalombe, experience cholera outbreaks more commonly during the wet season, and also experience outbreaks during the dry season. Recent efforts to contain cholera have reduced the frequency of outbreaks. However, because problems with water quality persist and prevention and preparedness measures remain inadequate, further cholera outbreaks are likely to occur in the future.

Climate change adaptation and disaster risk reduction have become a priority for GOM, as reflected in the National Adaptation Programme of Action (NAPA 2006) and the National Disaster Risk Reduction Framework (2012). The NAPA identifies and ranks a number of ways that vulnerable communities can adapt to climate change. The top priorities include improving resilience through sustainable livelihoods, restoring forests in the Shire Watershed, promoting the climate-smart agriculture approach, improving capacity to cope with droughts and floods, and enhancing climate monitoring (Khonje 2012). The Ministry of the Environment is currently working on a National Climate Change Policy to include policy actions that must be taken to mitigate the impacts of climate change. A National Climate Change Investment Plan, currently in draft form, will guide investors related to priority investment areas linked to climate change (Kamperewera 2013).

GOM is also currently drafting a National Disaster Risk Management policy as a follow-up to the framework released in 2012. The overall goal is to reduce the impact of natural disasters through integration of policies, enhanced monitoring systems, and increased awareness of risks and mitigation. The Department of Disaster Management Affairs (DODMA) under the Office of the President and Cabinet oversees this initiative. Planning and post-disaster assessments occur in conjunction with District

Civil Protection Committees (DCPCs) composed of various departments such as agriculture and health. The DCPCs coordinate with similar committees at the traditional area and village level known as Area Civil Protection Committees (ACPCs) and Village Civil Protection Committees (VCPCs).

2.8 Food Security Information Context

Various key stakeholders in Malawi with specific roles to perform contribute to famine early warning:

- **The Ministry of Agriculture and Food Security (MOAFS)** provides crop estimates, the food balance sheet, and farm gate prices.
- **The Ministry of Economic Planning and Development** provides economic data and inflation and GDP projections, as well as facilitates and coordinates implementation of Malawi Vulnerability Assessment Committee (MVAC) activities.
- **The Department of Disaster Management Affairs** avails information on recently disaster-affected areas and coordinates response.
- **The National Statistical Office (NSO)** generates economic data, population figures and breakdowns, and geo-mapping information.
- **The Department of Climate Change and Meteorological Services (DCCMS)** in the Ministry of Environment and Climate Change Management provides weather data.
- **UNICEF, the World Food Programme (WFP), Food and Agriculture Organization of the United Nations (FAO),** and Bunda College undertake nutrition assessment and nutrition-socio-economic correlations.
- **WFP** produces the Comprehensive Food Security Vulnerability Analysis (CFSVA) annually.
- **The Famine Early Warning Systems Network (FEWS NET)** provides price data and a quarterly Food Security Outlook Update for Malawi.
- **Concern Worldwide/Action Against Hunger/MOH/MOAFS** manage and coordinate the Nutrition and Food Security Surveillance System.
- **NGOs** assist in MVAC activities and provide financial and technical assistance

Currently, Malawi has a reactive approach to flood and drought disaster management. While various efforts are underway, a functioning and integrated national Early Warning System (EWS) is not yet in place. UNDP (2013b) observes that the generation of weather and climate data and accurate and timely forecasts in Malawi is limited by:

- Obsolete and poorly maintained hydro-meteorological observation networks with geographic coverage biased to the western parts of the country
- Limited data and information management systems
- Limited technical forecasting capacity
- Lack of trained personnel to operate and maintain climate information and early warning system observation infrastructure.

Although efforts to improve the early warning systems at the national level have been ongoing, the process and participation of district key stakeholders is minimal, and the membership is mostly centralized.

3. Food Security Context in Malawi

Malawi's growing population, widespread deforestation, high rates of malnutrition, and decreasing agricultural yields contribute to an urgent need for addressing current and future food security. Given that Malawi is one of the most densely populated countries in the world and that chronic undernutrition afflicts almost half of its children under 5, the high fertility rate of nearly 6 children per woman is fueling concern about the country's future resources for land, food, and water. The current population of almost 16 million is expected to nearly triple by 2050, and could reach 85 million by 2100 (U.N. 2012).

As a predominantly rural and agrarian society, Malawians depend on agricultural production for both income and household food security. National food production has been in decline for the past decade. The 2012 cereal harvest was 3,618,699 MT, the lowest in the past 3 years and less than 7% of the previous harvest. A 2012 MVAC report predicted that 1,972,993 people in 16 districts would be food-insecure in early 2013, with a projected maize deficit of 75,394 MT (GOM 2012a).

Lack of crop diversification, poor yields, and dependence on rain-fed farming are key factors in worsening food security in recent years. Because maize has a low drought tolerance, has fairly low market value, and is ill-adapted to increasingly depleted soils, overreliance on maize has proven to be disastrous. Growth in tobacco production in the 1990s and 2000s for both estates and smallholders mostly benefitted smallholder farmers with larger plots of land in the Central and Northern regions (Droppelmann 2012). The conversion of forests for agricultural production from 1991 to 2010 was mostly for smallholder cultivation of maize and tobacco. Such deforestation contributes to climate change because forest soils are moist and perpetuate the water cycle by returning water vapor into the atmosphere. Lack of tree cover quickly dries out the soil and changes agro-climatic characteristics. With an annual population growth of 2.8%, there is increasing pressure for poor households to cultivate marginal and less fertile lands, particularly in densely populated districts in the south where food insecurity is the worst.

3.1 Food Availability

3.1.1 Land Availability and Access

Land use and availability in Malawi is influenced by the evolution of strict delineations of land usage during the colonial era (1891–1964) and Hastings Kamuzu Banda era (1964–1994) and lack of land due to overpopulation. During the colonial era, the British administration prioritized the development of estates for tea, tobacco, cotton, and coffee managed by European landholders with Malawian laborers. Banda continued this policy using an agricultural export-led growth policy favoring estate production. By 1998, estates occupied 1.18 million ha, a 15-fold increase from 1970 (Orr 1998). Presidents Bakili Muluzi (1994–2004) and Bingu wa Mutharika (2004–2009) sought to improve support to smallholders through schemes such as the Farm Input Subsidy Programme (FISP). Nonetheless, land distribution continues to be unequal and overcrowded land often juxtaposes vacant lease-held land. A 1996 land utilization study estimated that about 2.6 million ha (about 28%) of suitable agricultural land under estate and customary tenure remain uncultivated or underutilized (Ibid.).

The Southern Region comprises 45% of the population with 185 people/km², compared to the national average of 139 people/km² (GOM NSO 2008). The population pressure on cultivable land is so severe that 40% of the smallholder farming population has a landholding size of less than 0.6 ha per capita—and only 0.2 ha per capita in the Southern Region (School of Oriental and African Studies 2008). This likely contributed to the increased migration in the 1990s from the Southern to the Central and Northern regions, with poor families seeking jobs on tobacco estates and parcels of land in these less densely populated areas (Droppelmann 2012).

The pattern of land ownership in Malawi is largely skewed in favor of large plantation owners who hold the best agricultural land, while many Malawians remain either landless or occupy plots that are too small and marginal to be viable for farming (Sahley 2005). The poorest group of landholders (30%) hold less than 1 acre of land that is mostly dedicated to maize and a portion to pulses, with no production of tobacco or export-oriented crops. The combined effects from poor soil fertility, erosion, and continuous cropping result in low crop yields for these farmers. Another 38% of farmers hold 1–2 acres of land and practice more diverse cropping patterns, allocating some land to export-oriented crops such as tobacco. Households headed by a male cultivate more land (4 acres) than female-headed households (2 acres) (GOM NSO 2011b).

3.1.2 Production Systems, Levels, and Trends

The primary crops grown by smallholders in Malawi are maize, pigeon peas, groundnuts, tobacco, beans, sorghum, rice, and cassava (GOM NSO 2011b). Maize dominates agricultural production as a key staple used to prepare *nsima*. During the 2004/2005 agricultural season, 97% of farmers nationally grew maize (Dorward n.d.). With the opening of the tobacco auction floors to smallholders in the late 1990s, farmers in the Central and Northern regions began to grow tobacco in larger numbers. Farmers tend to favor a mono-cropping system, especially for maize and tobacco. Given small landholdings in the Southern Region, 58.7% of farmers intercrop compared to 20.6% and 10.3% in the Northern and Central regions, respectively (GOM NSO 2011b). Production levels vary annually due to erratic weather patterns and smallholders farming on increasingly marginal lands, particularly in the Southern Region. Estates continue to be active as high input and productive units growing tobacco, coffee, tea, and sugar. The planting season generally begins in October/November with harvest in April/May. The lean season, also called the hunger season, is November through March. See **Appendix 4** for the annual crop calendar and more data on food and cash crop production for Malawi.

For the 2013 harvest, GOM placed an official ban on maize exports. This was in response to poor weather conditions in February and March 2013, which were expected to negatively impact crop production and raised concern about the maize supply available for domestic consumption. However, based on a second round of crop forecasts, the country is now expected to have sufficient maize from the 2013 harvest to cover national food requirements, estimated at approximately 2.7 million MT for the 2013/14 marketing year (April/May), allowing for feed and industrial use requirements (FAO GIEWS 2013).

USAID carried out a vulnerability assessment under the African and Latin American Resilience to Climate Change (ARCC) initiative in 2012–13. The study’s goal was to understand current and projected climate change impacts in central and southern Malawi, and to explore to what extent national and district government entities, rural communities, and households are equipped to adapt to those impacts. The research will also inform USAID’s climate change investments and food security programming decisions. Using a range of data to assess both climate variability and change through participatory rural appraisals, historic rainfall and temperature data from 1997–2011, and other secondary sources, the study concluded that there is clear evidence of rising temperatures and erratic and decreasing rainfall levels, which are projected to worsen by 2060 (USAID 2013b).

Many have touted the MOA’s FISP as a contributing factor to Malawi’s economic recovery in the late 2000s and improvement in food security following years of drought. In the 2012–2013 cropping season, the FISP provided inputs to 1.544 million people, including primarily maize seeds (85% hybrid maize seed and the balance in open pollinated variety) and 150,000 MT of fertilizer (50% urea and 50% NPK). The subsidy also included a very small portion of legume seeds, such as groundnuts, soya, cowpeas, and pigeon peas (Mtambo 2013). Agents from the District Agricultural Development Offices (DADO) are responsible each year for identifying voucher recipients who have land but lack financial resources to buy inputs. The vouchers are supposed to be distributed on a timely basis and contain security features to

reduce forgery. The exercise comprises more than 10% of the national budget, and district representatives interviewed for this FSCF stated that it takes up to half their time to manage the program. An evaluation of the program found that the FISP constrains input and maize market development, discourages diversification out of maize into other agricultural and non-agricultural activities, and exposes rural people to shocks when poor weather occurs. Broadly, the evaluation found that the program has not led to lower maize prices and the production gains have been overstated (Dorward n.d.).

Crop yields tend to be quite poor due to low soil fertility, pests, disease, and drought. The average maize yield for smallholder farmers is 1.3 MT/ha. The practice of improved crop management through conservation agriculture (CA), proper fertilizer applications, and use of hybrid seed could generate yields up to 8 MT/ha (Msarmo 2000). WALA-trained farmers who have adopted CA techniques such as maximum soil coverage, minimum tillage, and crop rotation and mixture noted increased yields and a diminished need for fertilizer after 2–3 years. Unfortunately, fertilizers and seeds provided through the FISP do not take soil types or agro-ecological zones into consideration.

Aflatoxins are toxic fungi that are potent liver carcinogens associated with immune and growth suppression and that grow easily on crops in humid climatic zones such as Malawi (Khlungwiset et al. 2011). In 2009 ICRISAT and NASFAM completed a comprehensive study on aflatoxin prevalence in groundnuts and maize throughout Malawi and identified significant contamination among samples from household stocks, local markets, shops, and supermarkets. Contamination of groundnut was a greater problem than maize samples from similar sources, as results revealed aflatoxin contamination in groundnut samples ranging from 0–3871 ppb, and 0–335 ppb in maize. Groundnut powder had the highest proportion of highly contaminated samples: 73% of groundnut samples had levels above the European Union (EU) acceptance.⁵ The drought-prone districts of Chikwawa and Salima had some of the highest contamination levels (Monyo 2009).

Despite the tremendous potential for irrigation along the shores of Lake Malawi in Karonga and Nkhosakota-Salima, the Lake Chilwa Plain, the Lower Shire Valley and the flood plain of the Limphasa River in Nkhata Bay, only 92,000 ha are irrigated. The food-insecure districts of the Lower Shire Valley could greatly benefit from irrigation development based on fertile soils and adequate water resources from the Shire River. President Mutharika began the Greenbelt Initiative to expand irrigation to 1 million ha throughout the country. The initiative is aligned with the MOAFS’s policy known as the Agriculture Sector Wide Approach (ASWAP). The MOAFS plans to expand 200,000 ha over the next 5 years and have pilot sites in Karonga (1,000 ha), Salima (6,293 ha), Mangochi (500 ha), and Chikwawa (500 ha). The Salima site will set aside 530 ha for smallholders (< 1.5 acres each) and 1,500 ha for medium-sized landholders (1.5–20 acres each). The rest of the land will be leased to an Indian sugar company who will install a sugar factory as a joint venture with GOM (Kanyoma 2013). Apart from this large-scale initiative, numerous donors and NGOs promote small-scale irrigation, including the Title II-funded WALA program in the south. Some challenges related to expanding irrigation coverage include inadequate funding, significant costs to install new irrigation systems, and the need to train smallholder farmers to maintain such systems. Smallholder agricultural production faces a myriad of challenges, including:

High production costs. Many smallholders do not benefit from the FISP due to program budget constraints and inefficiencies. As such, many cannot afford improved seed, tools, and fertilizer. In addition, labor costs are high, which constrains smallholders’ ability to cultivate more land.

⁵ The EU tolerance limit for aflatoxins is 4 ppb for “groundnuts and other oilseeds and processed products thereof, intended for direct human consumption or use as an ingredient in foodstuff.” The EU tolerance limit for aflatoxins is 15 ppb for “groundnuts and other oilseeds to be subjected to sorting, or other physical treatment, before human consumption or use as an ingredient in foodstuffs” (EU 2006, p.9).

Rainfall. Given Malawi's primarily rain-fed agricultural production system, erratic rainfall over the last decade has exacerbated the food insecurity situation for Malawi's growing population. Irrigation coverage is extremely limited and lack of crop diversification (away from water-intensive crops such as maize and tobacco) further intensify the problem.

Land access/tenure. The 2011 IHS3 indicates that 30.3% of Malawian farmers cultivate less than 1 acre. In the heavily populated Southern Region, 39.5% cultivate less than 1 acre compared to 23% in the Northern and Central regions (GOM NSO 2011b). Poverty studies in Malawi find that increasing cultivated area per capita increases per capita food consumption by 13–17% (Mukherjee 2003). Further, Malawian smallholder farmers occupy land under customary tenure, on which rights to cultivate and transfer land are conferred by traditional chiefs. Since property rights are not well defined under this modality, studies show that ownership tends to be insecure and act as a disincentive to improved farming or other investments (Chirwa 2004).

Agronomic practices. The limited scale and adoption of intercropping, crop diversification, key CA techniques, and water and soil conservation methods all contribute to low smallholder yields.

HIV/AIDS. Although HIV/AIDS prevalence has declined over the last decade, the figure remains high (10% of the population) and affects available labor and overall output (UNICEF 2013a). The epidemic has also led to the expansion of child labor due to the reduced capacity of individuals with tuberculosis and HIV within households, especially for high risk groups between 18–35 years, and a general reduction in available labor due to mortality. In the rural south, 10.5% of the population reported to have chronic tuberculosis or HIV, compared to the national average of 8.8% (GOM NSO 2011b).

Marketing. Smallholders tend to receive poor prices for their produce. They rarely are organized to take advantage of bulk marketing or have access to storage that would allow them to postpone the sale of their produce for higher prices. Farmers lack cold-chain storage for their highly perishable goods, such as vegetables and milk.

Crop disease. Lack of knowledge and of access to pesticides to control crop diseases results in significant losses during the production and post-harvest periods. Farmers are affected by cassava mealy bug, banana bunchy top, army worms, and aflatoxins caused by high moisture content post-harvest in maize and groundnuts, among other crop diseases.

Insufficient agricultural extension. The MOAFS reports that 50% of its agricultural extension agent posts are vacant due to a lack of budget and difficulty in finding candidates to work in remote rural zones. The problem is compounded by low salaries, lack of housing, and limited training for agents.

Storage loss. Nationally, the average storage loss for maize is 13.68%, with the highest level of loss in Mulanje at 19.34% (Jayne 2010). This is caused by improper drying and storage.

3.1.3 Gender and Agricultural Production

Women farmers are the pillars of agriculture in Malawi, as they are responsible for growing, selling, buying, and preparing food for their families. However, they have a limited voice in the development of agricultural policies designed to improve their productivity, marginalized in business relations, and have minimal control over access to land, improved seeds and fertilizer, and credit and technology. Agricultural programs are rarely designed with women's needs in mind, with the low female literacy rate (49.8%) (Sibanda 2011) contributing as a limiting factor.

In the Northern Region, 83% of land is customary land, compared to 76% in both the Central and Southern regions (GOM NSO 2010).⁶ The majority of land is inherited, owned, and operated by men (Ibid.),⁷ despite the Constitution and the National Land Policy (adopted in 2002) that afford equal rights to men and women on joint property and land ownership. The National Land Policy promotes tenure reforms that guarantee security and equitable access to land for all Malawian citizens without gender bias and discrimination. It calls for changes in inheritance laws to allow the remaining spouse, children, and especially orphans to inherit the property of the deceased even without a will. To void the inequities often associated with property inheritance, and to confer equal rights to men and women, the policy's priority is to promote the registration of individual and family titles to customary land. One of the policy's main guiding principles is a gender-sensitive approach (FAO 2010). In 2011, the Deceased Estates Act (Wills, Inheritance and Protection Act) was passed by Parliament. This new Act protects spouses' and children's share of the deceased's estate in cases where they were not included in the will.

3.1.4 Livestock

Livestock such as cattle, goats, and poultry comprise roughly 12% of Malawi's total value of agricultural productivity and serve as an important resource for food security within the household (see figures for national livestock production in **Appendix 4**) (Kachule 2011). Nationally, 79.3% of households own agricultural land, and 59.8% of households own farm animals (GOM NSO and ICF Macro 2011). Most smallholders (64.5%) tend to have chickens. Only 10.95% have cows, and the bulk of these farmers are in the Central and Northern regions (Chintsanya 2004). The livestock sector has declined over the years due to an inadequate number of improved breeds, an increase in disease and parasites, the high cost of feed, and livestock theft. Small-scale farmers on 6.1 million ha keep an estimated 80% of livestock population. Large-scale farmers on 1.2 million ha raising various livestock species under semi or intensive production systems keep the remaining 20% of the livestock population (Ibid.).

From 1999 to 2012, Land O'Lakes received funding from USAID and other donors to improve dairy production and the cold chain in the Central and Northern regions. The organization worked with milk bulking groups to improve handling and installed cooling facilities. Over the years, Land O'Lakes identified a number of lessons learned (Mullen 2013):

- Strengthening milk buying groups pays huge dividends within communities.
- Nutrition and hygiene training on milk handling is critical.
- Combining rotating savings schemes within groups can reap significant dividends.
- Promote women in leadership roles in bulking groups.
- Address gender issues within bulking groups related to household control of assets.
- Work with the Malawi Revenue Authority to increase the tax base.
- Include an environment stewardship component and spray cows for ticks.
- Train dairy farmers to build their understanding of and trust in contract farming.
- Dairy is input-intensive and not ideal for the poorest households, though poorer households can benefit from crossbreeds.
- Any dairy intervention must be preceded by a thorough market analysis and strategy that must address issues of fodder, medicine, and markets.
- Link groups to low-interest credit facilities and livestock insurance schemes.

⁶ Customary land is all land that is held, occupied, or used under customary law but does not include public land.

⁷ According to the 1993 Agricultural Census, the percentage of female landholders in 1993 was 32%.

3.1.5 Fishing and Aquaculture

With an abundance of fresh-water resources including the third largest lake in Africa (Lake Malawi), many Malawians depend on fishing as their primary livelihood and source of protein. Other key water bodies include Lake Malombe, Lake Chilwa, Lake Chiuta, the Ruo River, and the Shire River. Fish makes up 60% of the overall population’s animal protein intake, with even higher levels in the lake regions. The sector employs roughly 400,000 people directly and indirectly, including fishermen and ancillary businesses such as fish drying/smoking, marketing, boat construction, net making, and engine repair. Small-scale fishermen dominate the sector, but there are also a handful of large-scale commercial fishing enterprises on Lake Malawi. Fishermen use a variety of rudimentary nets and long-lines from on- and off-shore using boats and dugout canoes. Their annual collective catch is approximately 45,000 MT and composed of large/small ciclids, *usipa*, and catfish (GOM 2007). Commercial fishermen use trawlers for small ciclids primarily in the southern part of Lake Malawi and bring in roughly 5,600 MT/year. Many fishermen have noticed a decline in the fish catch and size of fish in recent years as a result of overfishing, poor water governance, and watershed deforestation, which contributes to low water levels in the lake and alterations in minerals deposited by dwindling tributaries from higher elevations.

3.1.6 Cereal Availability, Agricultural Trade, and National Food Stocks

Crop production in Malawi is extremely variable from year to year due to weather extremes and a generally inefficient smallholder farming system. Simply put, the country faces a “feast or famine” scenario largely dictated by the weather and continually worsened by high population growth. While the FISP has improved the situation to some degree, the maize-oriented subsidy is hampered by poor rainfall in any given year, whereby bumper harvests in 1 year can be followed by widespread crop failure (see chart showing year-on-year variation of food production in **Appendix 4**). Most households produce sufficient pulses for consumption, and pulses are available on the market year-round with practically no importation from neighboring countries. Rice production is concentrated in the Northern Region but primarily directed to urban markets.

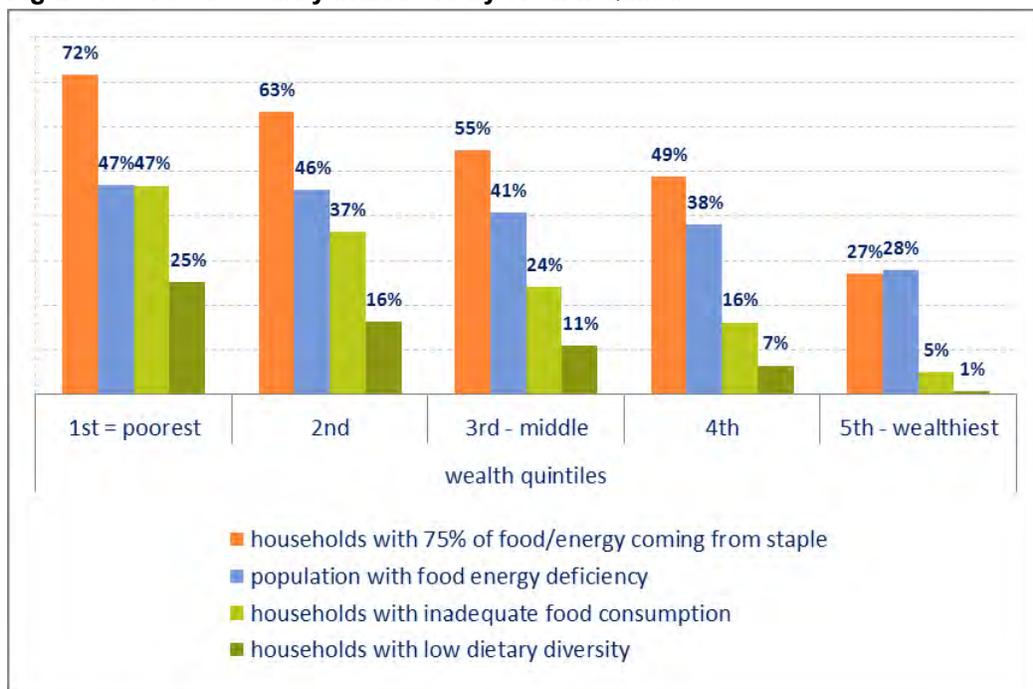
GOM closely monitors and manages national maize production using DADO for crop forecasts and maintains a Strategic Grain Reserve (SGR) in storage throughout the country. In poor production years, Malawi must rely on imports from neighboring countries to bolster its reserves. Following a bad harvest, poor families can buy maize at subsidized prices. Once GOM forecasts a poor harvest, it can place a ban on maize exports (such a ban has been enacted this season due to poor weather conditions in February and March 2013). Regrettably, storage facilities are poorly managed by the National Food Reserve Agency (NFRA), as evident in the recent loss of 32,222 MT of maize caused by poorly sealed silos during heavy rains. This led to an increase in maize prices and required the importation of 35,000 MT of maize from Zambia to make up the shortfall (FEWS NET/Malawi 2013).

3.2 Food Access and Consumption

3.2.1 Food Consumption and Poverty

Poverty is a primary determinant of food insecurity in Malawi. The 2011 IHS3 found that poorer households were more likely to be food energy deficient and have low dietary diversity and poor food consumption. Likewise, children in poor households had worse nutritional status (GOM NSO 2011b). **Figure 1** shows the links between wealth and food security.

Figure 1. Food Security Indicators by Wealth Quintiles



Source: WFP 2012.

Nationally, 28% of Malawian households were found to be “ultra-poor” in 2011 and by definition unable to afford even a minimum food bundle to meet their food energy requirements. Food energy deficiency, as well as poverty, is highest in the Southern Region. Nationally, food energy deficiency affects 49% of the population in rural areas and 34% in urban areas. It is highest in the rural south (51%), compared to the rural center (41%) and rural north (42%). More than 55% of households were food energy deficient in the Southern districts of Phalombe, Chikwawa, Nsanje, Machinga, and Mulanje, while the Central districts of Lilongwe (63%) and Mchinji (57%) also had high levels of food insecurity (WFP 2012). The poor also face decisions related to balancing the quantity of food for consumption with the quality/diversity of their food. The national diet is based 74% on maize, and with increasing poverty, households are less likely to consume meat, fish, eggs, fruit, dairy, oil, and sugar (Ibid.). See **Appendix 5** for additional data related to Malawian food consumption and poverty.

Food consumption patterns are seasonal with a notable decrease in food energy consumption from September to March—a vulnerable time for diets, particularly in the Southern Region. The poorer a household, the higher its use of stressful coping strategies, such as switching to less desirable foods, decreasing portion size, and limiting the number of meals eaten in a day.⁸ The highest rates of coping strategies are found in the Southern districts of Nsanje, Thyolo, Chikwawa, and Mwanza (Ibid.).

3.2.2 Agricultural Trade and Smallholder Marketing

The purchasing power and influence of the GOM’s commodity buying agency—Agricultural Development and Marketing Corporation (ADMARC)—is diminishing, and the influence of private sector grain traders are increasingly driving market prices, especially for maize. ADMARC was originally established by GOM in 1971 to sell seeds, fertilizer, and pesticides to smallholders and to purchase their

⁸ The coping strategy index (CSI) is an indicator of transitory food insecurity looking at families’ coping behaviors when faced with impediments to access, availability or utilization of food.

surplus production after harvest at preset prices. Grain purchases are stored in silos throughout Malawi and contribute to the country's SGR. The World Bank's push to increase prices for cash crops such as tobacco through liberalization, combined with ADMARC's failure to increase production for food crops, has led to an increase of traders who purchase from farmers at farm gate from the late 1980s to present (Droppelmann 2012). ADMARC has further lost out to traders due to its inability to access sufficient funds from GOM on a timely basis following harvest. As a result, ADMARC is no longer a price setter and is unable to access sufficient supplies for the SGR (Gourlay 2012).

The majority of maize growers produce for their own consumption and only 10%–15% of producers are able to sell excess grain. Roughly 7%–10% of households are both maize buyers and sellers who tend to sell grain shortly after harvest but must buy grain during the lean season. Using extrapolated data for the 2003–2009 period, researchers determined that the quantity of maize from domestic production ranged from 200,000 to 450,000 MT from the smallholder sector, and 70,000 to 200,000 MT from the estate sector, depending on the rain pattern and input utilization. Judging from the amount of maize that ADMARC was able to buy during the period, the agency was only able to secure an average of 8% of the total maize produced, a further indication of ADMARC's diminishing purchasing power compared to private traders (Jayne 2010). Annual shortfalls spur informal imports, which have been between 50,000 and 100,000 MT, from Mozambique, Zambia, and Tanzania, depending on the season. Paradoxically, most of the imported maize originates from within Malawi and is smuggled to these countries, only to be purchased back. In 2012, the MOAFS conceded that over 140,000 MT of maize is smuggled through porous borders to the neighboring countries.

Maize prices in Malawi are the most volatile in Southern Africa as a result of the small amount marketed each year. Whereas the normal tendency is for prices to be low after the March/April harvest, the seasonal patterns are very unpredictable and can vary drastically from year to year. Price spikes occurred in years of drought such as 2001 and 2005, but inexplicably in 2007 and 2008 as well, despite good harvests. This could possibly have been linked to the international economic crisis that caused high commodity prices.

3.2.3 Food Purchase

Both urban and rural households are heavily reliant on the market to buy maize and other food commodities. Even in the best harvest, up to half of the household requirement is purchased, and up to 85% of rural households purchase maize when the harvest is poor (Jayne 2010).

Pulses are the second most important commodity for household consumption. Pulses such as beans and pigeon peas are generally available on the market year-round throughout the country, and rural households are generally self-sufficient. Since the Central and Northern regions have a comparative advantage in bean and pigeon pea production, prices tend to be lower in these areas compared to the Southern Region. Although rice is grown in significant quantities in the Northern Region, few rural households consume rice since it is expensive and tends to be more favored by urban denizens. Due to limited local artisanal production of edible oils, households rely upon the market for imported cooking oil.

3.3 Food Utilization/Health

3.3.1 Trends in Child Health and Nutritional Status

Chronic malnutrition is rampant in Malawi and is the predominant nutritional problem (see **Table 1**). Forty-seven percent of Malawian children under 5 are stunted, placing the country in the WHO highest classification for public health alert for very high stunting prevalence. Stunting has been an intractable problem for Malawi, as it remained nearly stagnant from 56% in 1938 for about 60 years (GOM Department of Nutrition, HIV, and AIDS 2009). Recent improvements have been realized, as the stunting

prevalence fell from 53% in the 2004 Demographic and Health Survey (DHS) to 47% in the 2010 DHS.⁹ Although the highest prevalence of stunting is found in the Central (47%) and Southern (48%) regions, high stunting is pervasive throughout Malawi with only a few districts with stunting prevalence under 40%. Stunting over 50% is found in the Central districts of Dedza (51%), Dowa (52%), and Mchinji (54%) and the Southern districts of Chiradzulu (57%), Mulanje (52%), Mwanza (56%), and Neno (55%). Six other Southern districts are approaching 50% stunting. Nearly one-fifth of children under 5 are severely stunted, with little regional variation among the Southern Region (20.2%), Central Region (19.4%), and Northern Region (18%). The highest prevalence of severe stunting among children under 5 is found in the Southern districts of Neno (30%), Mulanje (26%), Mwanza (26%), and Chiradzulu (26%), as well as the Central district of Dedza (29%).

More boys than girls are stunted (51% vs. 43%), underweight (14% vs. 12%), and wasted (4.2% to 3.8%), a typical distribution found in most sub-Saharan African populations (Wamani 2007) related to the fact that boys in the earliest stage of growth are more vulnerable to malnutrition than girls (Tanner 1989).

Underweight affects 13% of Malawian children under 5, showing a decrease from 17% in the 2004 DHS. There is limited regional variation with 11% prevalence indicated in the Northern Region, 14% in the Central Region, and 13% in the Southern Region. Several districts in the Southern and Central regions have significantly higher prevalence than the 13% national average, such as Neno (25%), Nsanje (20%), Thyolo (19%), and Ntcheu (18%). Underweight peaks in children 12–17 months (16%) and 18–23 months (15%), when children have increasing nutritional needs and face greater exposure to pathogens due in part to their increased mobility (GOM NSO and ICF Macro 2011).

The prevalence of acute malnutrition (indicated by the percentage of children 6–59 months of age who are wasted) is 4% nationally, declining from 6% in 2004. The Northern Region is slightly lower, with a prevalence of 2%. Wasting is not nationally distributed with the same pattern as stunting, as there are some districts with higher wasting but lower stunting (such as Nsanje with 39% stunting and 8% wasting, and Ntcheu with 42% stunting and 10% wasting). Districts with a prevalence of 5%–9% wasting include Lilongwe (6%) and Ntcheu (10%) in the Central Region and Nsanje (8%), Machinga (6%), Mulanje (6%), Mangochi (6%), and Balaka (6%) in the Southern Region. Nationally, severe wasting is 1.5%, with the Southern and Central regions (1.4% and 1.8%, respectively) having higher levels than the Northern Region (0.5%). Given that HIV prevalence is also higher in the Southern Region, HIV status may be a contributor to the poor nutritional status of children, particularly to the prevalence of wasting (GOM NSO and ICF Macro 2011).

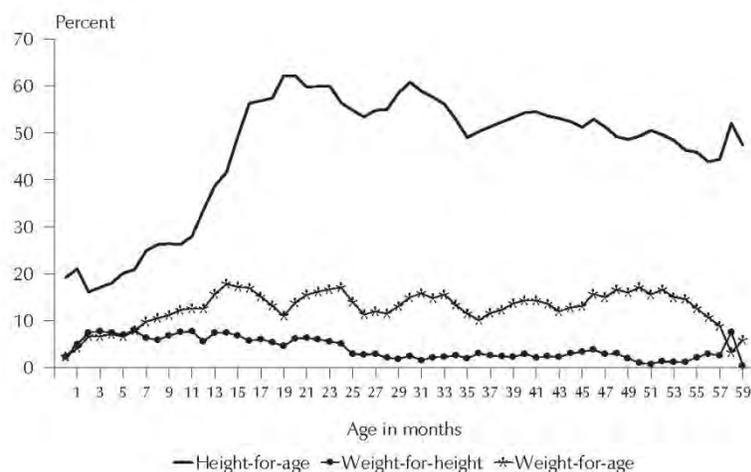
The 1,000-day period from conception to 2 years of age is a crucial period for linear growth and development, but 14% of Malawian infants reportedly begin life with a low birthweight below 2500g, indicating inadequate nourishment of their mothers during pregnancy (National Statistical Office and UNICEF 2008). **Figure 2** shows that by 6 months of age, 17% of children are stunted, with stunting prevalence reaching a plateau of 61% at the age of 18–23 months, suggesting that poor infant and young child feeding practices up to the age of 2, as well as repeated infections and illness, are major concerns in Malawi.

The high total fertility rate of nearly 6 births per woman of childbearing age adversely impacts children's nutritional status, shown by the fact that inadequate birth spacing and frequent births are clear risk factors for chronic malnutrition in Malawi. Stunting is highest in children born less than 24 months after a previous birth and lowest among children born 48 months after a previous birth (47% vs. 39%) (GOM NSO and ICF Macro 2011). High fertility rates and closely spaced births likely reduce the time mothers have to provide optimum care to each young child. Nearly one-third of girls 15–19 begin childbearing during adolescence, and babies born to Malawian adolescent mothers are at greatest risk of infant and

⁹ After re-analysis of DHS 2004 results, using the 2006 WHO Growth Standards.

under-5 mortality (GOM NSO and ICF Macro 2011). Therefore, frequent and closely spaced births, as well as early childbearing, should be recognized as important factors contributing to poor child health and nutrition.

Figure 2. Nutritional Status of Malawian Children by Age



Source: GOM NSO and ICF Macro 2011.

Micronutrient Status

Children’s diets in Malawi do not provide enough iron, which is necessary for cognitive development, immune function and growth. Nationally, less than half (45%) of children 6–23 months consume foods rich in iron. For infants 6–8 months in rural areas of the Southern and Central regions, the percentage is only 21% (DHS 2010). Lack of adequate intake of iron contributes to high levels of anemia for children under 5 (55%), especially for children 6–11 months (81%) and 12–23 months (70%) (Department of Nutrition, HIV and AIDS in the Office of President and Cabinet et al. 2011). Despite the significant problem, there are signs of improvement in recent years. For example, from 2001 to 2009, anemia in children 6–36 months decreased from 80% to 65%, along with a related indicator of iron deficiency anemia¹⁰ which fell from 60% to 34% in children 6–36 months (Department of Nutrition, HIV and AIDS in the Office of President and Cabinet et al. 2011). Periodic deworming can lead to better nutritional status, including lower prevalence of anemia, by reducing the burden of helminthes, which cause blood loss and poor absorption of nutrients. According to the 2010 DHS, 69% of children 6–59 months were dewormed in the past 6 months (GOM NSO and ICF Macro 2011).

An adequate level of vitamin A is required for proper functioning of the immune system and the epithelial tissue of the body. The 2010 DHS showed that three-quarters of children under 5 consumed foods rich in vitamin A, but the figure fell to only 40% for children 6–8 months, with the prevalence increasing with age (GOM NSO and ICF Macro 2011). In addition to efforts to promote consumption of vitamin A-rich foods, periodic vitamin A supplementation in Malawi reaches 92% of children under 5 (Department of Nutrition, HIV and AIDS in the Office of President and Cabinet et al. 2011).¹¹

Iodine deficiency is associated with stunting, as well as various cognitive and developmental impairments. The 2009 National Micronutrient Survey (NMS) (Department of Nutrition, HIV and AIDS

¹⁰ In the 2009 Micronutrient Survey, iron deficiency anemia was assessed by examining iron deficiency as TfR levels >8.3mg/L, plus low hemoglobin <11g/DL.

¹¹ DHS shows 86% for vitamin A supplementation in the past 6 months for children under 5, but lower for children 6–8 months (69%).

in the Office of President and Cabinet et al. 2011) found iodine present in 94% of salt tested, with 17% below the recommended 15–40 ppm of iodine.¹² Young children’s urinary iodine levels were not collected in the survey, but school children, non-pregnant women, and men had levels within WHO recommendations indicating optimal iodine nutrition.

Infant and Young Child Feeding

Appropriate feeding practices in infancy are critical for ensuring adequate nutritional status throughout a child’s life. Breastfeeding in particular confers numerous nutritional, immunological, and developmental benefits for the child. Optimal practices include early initiation of breastfeeding within 1 hour of birth, exclusive breastfeeding throughout the child’s first 6 months of life, and continued breastfeeding through 23 months, along with nutritious complementary feeding beginning at 6 months of age.

In Malawi, several breastfeeding practices provide an excellent start to infant nutrition, while additional support is needed to maximize others. Breastfeeding is nearly universal in Malawi and begins early, as 95% of children are put to the breast within the first hour of life, an increase from 70% in 2004. Few infants receive a prelacteal feed (3%) or are bottle fed (2%). The national prevalence of exclusive breastfeeding through 6 months has increased from 53% in 2004 to 71% in 2010 (see **Table 1**), largely due to the decrease in giving plain water to infants under 6 months. For infant under 2 months, 93% receive only breast milk. However, by 4–5 months of age, the practice of exclusive breastfeeding declines to 41%. The median duration of exclusive breastfeeding is 3.7 months nationally, 2.3 months lower than the recommended 6 months of exclusive breastfeeding.

There are only slight differences in the breastfeeding patterns of boys and girls in Malawi. Early initiation within the first hour is 94% for boys and 95% for girls, while the median duration of exclusive breastfeeding for boys and girls is 3.6 months vs. 3.9 months, and the mean duration of breastfeeding is high for both, at 24 months for boys vs. 23.4 months for girls.

When children are ill with diarrhea, two key recommended practices are to give them increased fluids and continued feeding.¹³ However, only 15% of Malawian children under 5 benefit from both of these practices (GOM NSO and ICF Macro 2011).

Appropriate feeding of infants continues with the introduction of solid and semi-solid foods at the age of 6 months and sound complementary feeding practices thereafter (see **Table 1** for complementary feeding practices for Malawian children 6–23 months). Among breastfed infants 6–23 months, only 20% are fed a minimally acceptable diet that encompasses both sufficient dietary diversity (GOM NSO and ICF Macro 2011) and frequency of feeding.¹⁴ Meal frequency is low (around 50% with some variation for age groups), as is dietary diversity (assessed by consuming foods from four or more food groups out of a total of seven food groups). Dietary diversity is lowest for children 6–8 months at 12% and 33% for children 12–23 months. There is little regional variation in the prevalence of breastfed children fed an acceptable diet, but the prevalence in urban areas (27%) is higher than in rural areas (19%).

Of particular concern are the diets of non-breastfed children, due to lack of protection from breast milk and the often inadequate alternative sources of protein, fat, calcium, vitamin A, and other nutrients that are available. Just under 5% of non-breastfed children have a minimally acceptable diet, meeting criteria of at least two milk feedings, foods from at least four food groups in addition to milk, and being fed four

¹² 2010 DHS reported 97% of salt was iodized, slightly higher than the 2010 NMS.

¹³ “Continued feeding practices” includes children who were given more, the same as usual, or somewhat less food during the diarrhea episode. *Source:* NSO and ICF Macro 2011.

¹⁴ Meal frequency is expected to be solid or semi-solid food at least twice per day for 6–8 months and at least three times per day for 9–23 months.

or more times in a day. Non-breastfed boys are more likely to be fed a minimum acceptable diet than non-breastfed girls (6% vs. 3%) and non-breastfed children in urban areas are more likely to be fed a minimum acceptable diet (7%) than non-breastfed children in rural areas (3%). Again, all components of the minimally acceptable diet were problematic, as only 14% consumed two or more servings of milk or milk products, 45% consumed the minimum number (4) of food groups, and 33% had adequate frequency of feeding. Orphans, in particular, are more likely to suffer from poor nutritional status (Mishra 2006).

Disease

Endemic across 95% of the country, malaria is the nation's number one direct cause of morbidity and mortality and a central priority within the MOH's Essential Health Package (EHP). The Malaria Strategic Plan 2011–2015 estimates 6 million cases each year, with apparent doubling of malaria case rates from 2005 to 2009, contributing about 40% to the national burden of illness. In the 2009 NMS, 22% of children under 5 were found to have malaria parasitemia. Since 2004, household ownership of mosquito nets has increased markedly from 42% to 67% (GOM NSO and ICF Macro 2011).¹⁵ The 2010 DHS found that 47% of children under 5 sleep under a mosquito net, although children under 6 months were most likely to sleep under a net.¹⁶ National Strategic Plan approaches include provision of long-lasting insecticide-treated nets for prevention, widespread use of Rapid Diagnostic Tests, and strengthening access to and quality of treatment (National Malaria Control Programme and Malawi MOH n.d.). Still, the percentage of under-5 children with fever who took appropriate artemisinin combination therapy within 24 hours was only 24% (GOM NSO and ICF Macro 2011).

Diarrheal disease is also a primary contributor to illness, malnutrition, and under-5 mortality, with 18% of children under 5 experiencing a diarrheal episode in the 2 weeks prior to the 2010 DHS.

Table 1. Trends in Child Health and Nutritional Status in Malawi

	National	Northern	Southern	Central
<i>Prevalence of Malnutrition in Malawian Children</i>				
Percentage of children under 5 stunted	47	45	48	47
Percentage of children under 5 underweight	13	11	13	14
Percentage of children 6–59 months who are wasted	4	2	4	4
<i>Anemia and Micronutrient Nutrition of Children</i>				
Anemia (Hb<11g/dL) (6–59 months) *	55			
Received deworming treatment in the past 6 months (6–59 months)	69			
Living in a house with iodized salt (6–59 months) *	94			
Received vitamin A supplement in the past 6 months (6–59 months) *	92			
<i>Child Nutrient-Rich Food Consumption (6–23 months)</i>				
Percentage of children consuming iron-rich foods (6–23 months) in last 24 hours	45	48	46	43
Percentage of children consuming vitamin A-rich foods in the past 24 hours (6–23 months)	77	79	77	76
<i>Infant and Young Child Feeding</i>				
Percentage of exclusive breastfeeding through 6 months	71			
Median duration (months) of exclusive breastfeeding	3.7	3.9	3.9	3.5

¹⁵ However, the 2010 Malawi Malaria Indicator Survey (MMIS) reported that households with at least one insecticide-treated net increased from 38% in 2006 (found in the Multiple Indicator Cluster Surveys) to 58.1% in 2010.

¹⁶ Again, the 2010 MMIS found that 56% of children slept under an ITN the previous night, up from 25% in 2006.

	National	Northern	Southern	Central
Percentage of children 6–8.9 months who are consuming solid, semi-solid, or soft foods in the previous day	87			
Percentage of children given increased fluids and continued feeding during diarrheal episode	15	11	16	15
Percentage who continued feeding and were given ORT and/or increased fluids during diarrheal episode	48	40	49	48
Complementary Feeding Practices among Breastfed and Non-Breastfed Children 6–23 Months (National-Level Data)				
Breastfed				
Percentage with minimum diet diversity	28	31	26	29
Percentage with minimum feeding frequency	56	57	57	54
Percentage with minimum acceptable diet	20	20	18	21
Non-Breastfed				
Percentage consuming milk or dairy	14	10	14	17
Percentage with minimum diet diversity	45	42	48	43
Percentage with minimum feeding frequency	34	28	33	36
Percentage with minimum acceptable diet	5	7	5	5
Illness Prevalence and Prevention				
Prevalence of diarrhea among children under 5	18	15	16	20
Prevalence of fever among children under 5	35	29	32	38
Percentage of children under 5 who have slept under an insecticide-treated net the past night	39	37	41	39
Percentage of households with access to an improved source of drinking water	80	84	84	74
Percentage of households with access to improved, non-shared sanitation	8	5	9	8

Sources: GOM NSO and ICF Macro 2011; GOM 2011c.

3.3.2 Trends in Maternal Health and Nutritional Status

Maternal anthropometry and nutritional status are important predictors of child malnutrition. Maternal undernutrition¹⁷ affects 9% of Malawian women nationally. However, among all age groups, adolescent girls 15–19 years of age have more than twice the prevalence of undernutrition, placing them and their children at increased risk if a pregnancy occurs (see **Table 2**). Prevalence is higher in the Southern (10%) and Central (9%) regions than in the Northern Region (6%) (see **Table 3**).

Table 2. Nutritional Status of Women in Malawi, by Age Grouping

Age grouping	Percentage with BMI <18.5 (total thin)
15–19	16%
20–29	7%
30–39	7%
40–49	7%

Source: GOM NSO and ICF Macro 2011.

As mentioned, childbearing starts early in Malawi, as almost 30% of young women 15–19 are pregnant or have already had at least one child (GOM NSO and ICF Macro 2011). Early childbearing contributes to

¹⁷ Maternal undernutrition is defined as having a body mass index (BMI) < 18.5. BMI is calculated by dividing weight in kilograms by height in meters squared (BMI = kg/m²).

Malawi's elevated total fertility rate of almost 6 children per women, among the highest in the region. The 26% unmet need for family planning spurs the high fertility rate as well as the alarmingly high maternal mortality ratio of 675 per 100,000 live births, with almost 1 in 36 women dying due to complications associated with pregnancy and childbirth (GOM NSO and ICF Macro 2011, World Bank 2013b). Although use of skilled birth attendants grew from 54% in 2004 to 74% in 2010 (Ibid.), serious gaps remain regarding the quality of maternal care overall and particularly access to obstetrical emergency services (Kongnyuy 2009). Improved access and use of family planning services is a crucial factor to addressing maternal health, especially for younger couples. The Malawi DHS 2010 finds that contraceptive use is 46% among currently married women of childbearing age, an increase from 33% reported in the DHS 2004. Contraceptive use is lowest among married adolescents 15–19, which supports the finding that only 5% of women reported using contraception until after the birth of their first child (despite the fact that adolescent girls' bodies are still maturing and they face increased risks from a birth). Also, only 16% of women age 15–19 reported ever discussing family planning with a field worker or at a health center, while older women were more likely to have received family planning support through one of these channels (GOM NSO and ICF Macro 2011).

Nationally, 38% of pregnant women are anemic (GOM NSO and ICF Macro 2011).¹⁸ For non-pregnant women 15–49 years of age, 28% have some anemia, but there is considerable district variation, with the Southern district of Mangochi (51%) as the highest and the Northern district Chitipa (17%) as the lowest. Among pregnant women, mild anemia predominates, but 18% have moderate anemia and 0.2% have severe anemia. More moderate anemia is found in the Central and Southern regions (Ibid.). More than half of pregnant women have urinary iodine falling below 150µg/L, indicating insufficient intake of iodine (GOM 2011c).

Regarding antenatal and postnatal care (see **Table 2**), most women mentioned difficulties accessing health services (82%), with greatest challenges around concern about the availability of drugs (61%), distance to a health facility (56%) and having sufficient money for treatment (52%). Coverage of Intermittent Preventative Treatment for malaria reached 55% of women during their last pregnancy, while the 2010 Malaria Indicator Survey found that the percentage of pregnant women who slept under an insecticide-treated net improved from about a quarter (26%) in 2006 to half in 2010.¹⁹ Coverage of vitamin A supplementation within the first 2 months post-partum is reported as 57% (Ibid.).

Table 3. Women's Health and Nutrition in Malawi

	National	Northern	Southern	Central
Percentage of women 15–49 who are undernourished ²⁰	9	7	10	9
Percentage of non-pregnant women 15–49 who are anemic	28	25	29	28
Percentage of women who took deworming medication during pregnancy of last birth	27	25	32	24
Among women with a live birth in the last 5 years, the percentage who during the pregnancy of their last birth took iron tablets or syrup	91	95	91	92
Percentage of women 15–49 using any modern method of birth control	42	39	41	45
Percentage of women 15–49 receiving antenatal care from a skilled provider	95	96	95	94
Percentage of births delivered by a skilled provider	71	79	72	69

¹⁸ The cut-off level for anemia in pregnant women is < 11.0g/dL.

¹⁹ The 2010 DHS found that 43% of pregnant women reported sleeping under a net, while 56% of younger pregnant women 15–19 years old slept under a net if one was owned by the household.

²⁰ BMI > 18.5

	National	Northern	Southern	Central
Percentage of pregnant women who received 2+ doses of SP/Fansidar ²¹ as Intermittent Preventive Treatment for malaria during antenatal care	55	50	50	59
Percentage of pregnant women who slept under a treated bed net the previous night	35	36	38	32

Source: GOM NSO and ICF Macro 2011.

3.3.3 Water, Sanitation, and Hygiene

Safe water, sanitation infrastructure, and good hygiene practices are essential to prevent infections and create an environment that supports the growth and development of children. Even with optimal infant and feeding practices and an adequate diet, recurring infections lead to loss of nutrients, and a chronic state of infection can lead to impaired absorption of nutrients and stunting in children (Humphrey 2009). Malawi has invested in increasing access to improved water sources²² and is poised to achieve the Millennium Development Goal water target. However, USAID’s 2013 Malawi Country Development Cooperation Strategy notes that water-related and waterborne diseases are still responsible for at least 50% of illness in rural areas (USAID/Malawi 2013). More than three-quarters (77%) of rural households have access to an improved water source, most commonly a borehole or tubewell (59%) or public tap/standpipe (10%), with only 2% using water piped to the home (GOM NSO and ICF Macro 2011). Access to improved water sources is lower in the Central and Southern regions than the Northern (World Bank 2013a). Most water still must be carried and stored in the household, and only about a third of households appropriately treat their water,²³ and 42% spend at least 30 minutes per day on water collection, a time burden that may cause water rationing and less use of good hygiene practices. In terms of sanitation, only 8% have a latrine or toilet that is not shared (GOM NSO and ICF Macro 2011).

3.3.4 Gender and Nutrition

Malawian women play a fundamental role in supporting nutrition and food security for their families, as they are the principal meal preparers and caregivers for their children, and they have the responsibility for acquiring and/or producing food. The primary burden of water collection also falls on women, as women age 15 or older carry out the principal water collection in 80% of rural households, in comparison to men carrying out these activities in 4% of households (GOM NSO and ICF Macro 2011). The water burden is considerable, given that 42% of Malawian households report spending 30 minutes or more on daily water collection, therefore increasing women’s caloric needs and eroding the time available for agriculture, child care or other household needs (GOM NSO and ICF Macro 2011).

The combination of early childbearing, high fertility levels, women’s lack of control over resources and decision-making, together conspire to adversely affect the situation of Malawian women and their children. Forty percent of married women in Malawi report that their husband mainly controls how their income is spent, and among younger married women, 71% reported that husbands made most spending decisions (GOM NSO and ICF Macro 2011). Malawian men are involved in making decisions not only around the use of resources, but also access to health care and visiting family and friends (GOM NSO and ICF Macro 2011). In-depth studies of DHS data from Malawi suggest that women’s greater control over household decisions, including use of resources, is associated with better nutritional status for women (Kishor 2005).

²¹ Sulfadoxine and pyrimethamine.

²² According to the 2010 DHS, improved water sources include a piped water to the dwelling, a public standpipe, tubewell or borehole, protected dug well, and protected spring or rainwater.

²³ Despite coming from an improved water source, water is often contaminated by the time it is used at the household and can benefit from appropriate treatment before drinking (GOM NSO and ICF Macro 2011, p. 18).

About 28% percent of women in Malawi report experiencing domestic violence in their lifetimes, and pregnant adolescents are more likely to experience violence during pregnancy, as opposed to older pregnant women (GOM NSO and ICF Macro 2011). Violence at home undermines women’s empowerment and further reinforces their lack of control over resources and decision-making power. Considering that Title II program activities seek to empower women’s decision-making concerning food purchases, seeking health care, and investing in agriculture and other livelihoods, this is an important consideration for the design and implementation of program activities to support food insecurity.

Female-headed households also face challenges, given that a higher percentage are poor (65% vs. 55% for male-headed households). Female-headed households are also more likely to have inadequate food consumption and low dietary diversity and to face food shortages (GOM NSO 2011b). Female-headed households are also four times as likely to be caring for orphans, which makes households less likely to have adequate food consumption (WFP 2012).

3.3.5 HIV

Malawi is considered 1 of the 10 most HIV-affected countries in the world, with more than 900,000 people living with HIV, including an estimated 170,000 children under 14 years of age (Joint U.N. Special Programme on HIV/AIDS 2011). National prevalence among adults 15–49 years old has stabilized at 11%, with prevalence in the Southern Region (15%) twice the burden as in the Northern (7%) and Central (8%) regions (GOM NSO and ICF Macro 2011). Urban areas (17%) have nearly double the prevalence of rural areas (9%), while women 15–34 years have an HIV prevalence nearly twice as high as that of men of the same age. Contributors to women’s heightened vulnerability to HIV include gender inequality that prevents women from exerting influence over their sexual relationships, social norms around the acceptability of men’s multiple and concurrent partnerships, gender-based violence, and women’s difficulty accessing HIV and AIDS services without family approval (GOM Department of Nutrition, HIV, and AIDS 2011). The HIV and AIDS epidemic has also resulted in approximately 600,000 orphans in Malawi (GOM MOH 2012). A household caring for orphans is more likely to exhibit poor food consumption among members of the household, linked to a higher dependency ratio for these households. For households with an ill family member, food security is also impacted (WFP 2012).

Malawi’s HIV response has been comprehensive, including current guidelines to provide lifelong antiretrovirals for HIV-positive pregnant women and children under 2 (GOM MOH 2011). However, Global Funds expire in 2014 and due to uncertain future funding, there are delays with scale-up of future programming for various interventions, including early infant diagnosis (WFP 2012).

3.4 Regions and Populations Vulnerable to Food Insecurity

Recent nationwide surveys carried out by GOM shed light on the concentration of food insecurity in Malawi (see **Table 3**). The NSO conducted the IHS3 in 2010–2011 and the DHS in 2010 to pinpoint areas vulnerable to food insecurity on the basis of income, livelihoods, production, malnutrition, and other health indicators. The IHS3 revealed that 25% of households were “ultra-poor” (GOM NSO 2011b). Individuals are considered ultra-poor if they earn less than 37,002 MK/year and their minimum food consumption portion of this figure is less than 22,956 MK/year (WFP 2012). While this trend has worsened in rural areas, there has been slight improvement in urban areas. Malawi has one of the lowest urbanization rates in the world at only 15% of the population. Rural areas of the Southern Region have the highest concentration of poor in the country at 63.3%, with 34.2% considered ultra-poor.

According to the CFSVA report from late 2012, key factors that make certain households more vulnerable to poverty and subsequently food-insecure include:

- Households headed by a woman
- Households with a high number of dependents and those with an orphaned child
- Households headed by an elderly person (over 64 years of age)
- Households with a member who is chronically sick
- Households with inadequate sanitation and drinking water facilities
- Households with an uneducated head
- Agricultural workers and those dependent on *ganyu* (daily labor) for income
- Households that have lower crop yields

Nearly half of Malawians nationwide have insufficient daily caloric intake. Low dietary diversity is another symptom of food insecurity, as households seek belly-filling staples rather than more expensive fruits, vegetables, and sources of plant and animal protein. Nationally, three-quarters of food energy comes from maize, with an average of 130 kg of *nsima* (thick maize porridge) consumed per person per year. The percentage of Malawians consuming 75% or more of their caloric intake from staples has increased since 2004, although the number of food groups consumed also continues to increase, especially in urban areas (Ibid.). Vegetable or animal protein is not commonly consumed. For young children, *nsima* fills the stomach but lacks caloric density and needed fat, protein, and critical micronutrients. Lack of a nutrient-dense and diverse diet containing animal-source foods is likely one of the main contributors to the high stunting prevalence in Malawi.

For the 2012–2013 growing season, limited rainfall in February and March is likely to reduce maize crop yields for poor rural households in parts of Southern Lake Shore, Kasungu-Lilongwe Plains, Mzimba, and Western Rumphu-Mzimba. Vulnerable household food stocks will likely be depleted, forcing these households to pay high prices for food in local markets (FEWS NET/Malawi 2013).

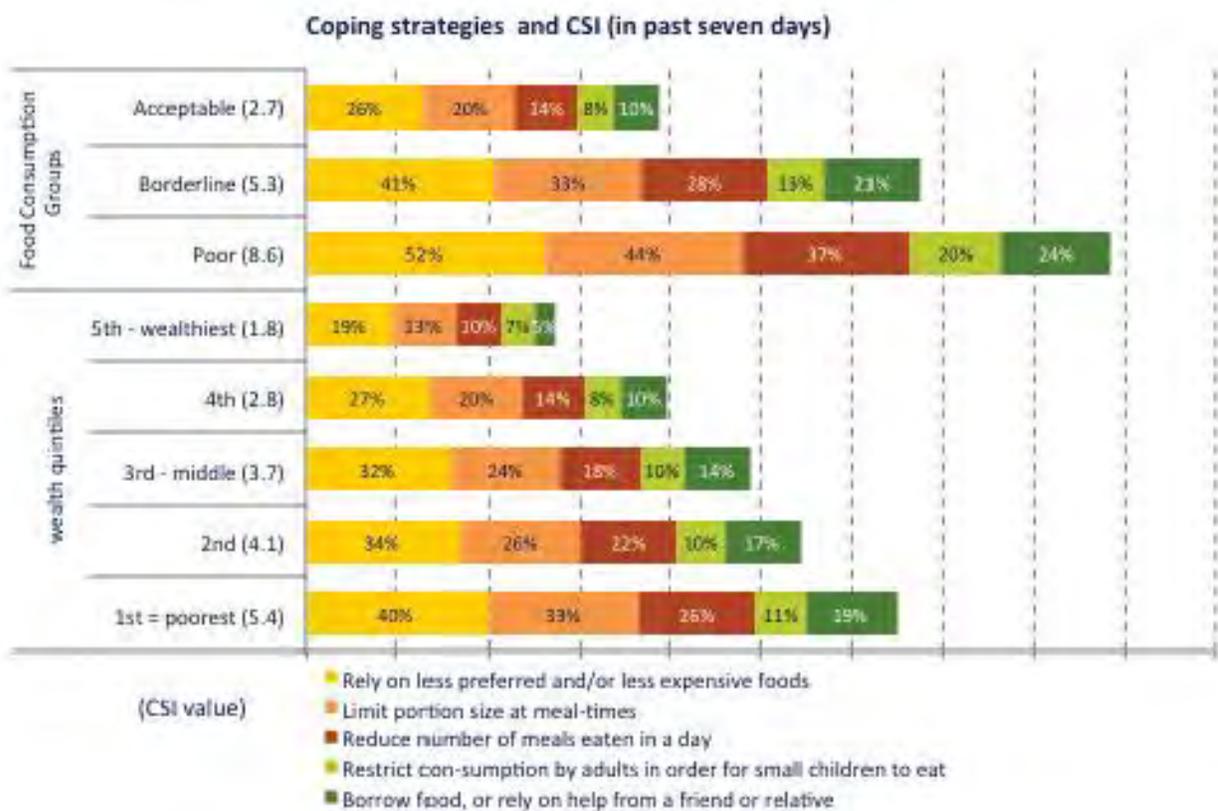
3.5 Coping Capacities and Strategies of Populations Vulnerable to Food Insecurity

The IHS3 collected information pertaining to the causes of household food shortage and the proportion of the population that faced food shortfalls throughout the 12 months prior to the survey. Nationally about 49% of the population had insufficient food in the preceding year, especially in the rural areas (52%) vs. urban areas (30%). Female-headed households reported a higher prevalence of food shortage at 57% vs. 47% of male-headed households. Households in the Southern Region tended to report the highest level of food shortage at 54% compared to the Central and Northern regions at 48% and 38%, respectively. Some disaster-prone areas such as Nsanje and Chikwawa reported figures above 80% (GOM NSO 2011b).

Vulnerable households use coping mechanisms to attempt to mitigate the effects of stresses or shocks to food security. Districts where households required using the most coping strategies included the Southern districts of Thyolo, Nsanje, Chikwawa, and Mwanza (see **Figure 3**). Current Title II programming collects similar coping strategy data in intervention communities and administers the Household Hunger Scale, a practical field survey to measure food availability, access, and consumption (Ballard 2011). Some coping mechanisms can be detrimental to future food security. For example, prior to the 2012 planting season, there was a significant currency devaluation that drove up input prices and negatively impacted

the amount of land that was planted—ultimately contributing to low harvests. Household members also migrate in search of employment, turn to informal labor, or borrow money from relatives. The increasing frequency of shocks such as drought and floods has begun to erode these traditional safety nets.

Figure 3. Coping Strategies and CSI Values of Malawian Households, by Food Consumption Groups and Wealth Quintiles



Source: WFP 2012.

4. Current Policies, Strategies, and Programs

This section provides an overview of the policies, strategies, and programs that synergize with food security and are critical to assuring the effectiveness and sustainability of Title II programming. See **Annex 6** for a map showing major food security programs currently operating in Malawi.

4.1 Government of Malawi Policies, Strategies, and Programs

In 2012, GOM launched the Malawi Growth and Development Strategy (MGDS) II (2011–2016), which serves as the national development blueprint and aims to promote wealth creation and poverty reduction through sustained and inclusive growth. GOM has also developed the National Agriculture Policy Framework (NAPF 2010) which provides focus for national agricultural development and addresses national goals for agriculture and food security.

ASWAP (2010–2014) focuses on food security and risk management, agri-business and market development, and sustainable land and water management (GOM 2012c). It is based on the priority agricultural elements of the MGDS I and II and is consistent with the Malawi Comprehensive African Agriculture Development Programme (CAADP) under the New Partnership for African Development (NEPAD).²⁴

The NAPA (2006), prepared by the Department of Environmental Affairs, outlines the GOM’s policy and strategies to combat climate change. The Ministry of Development Planning and Cooperation manages the National Climate Change Program, chairs the National Climate Change Steering Committee, and ensures that various ministries incorporate key elements of climate change within their interventions. DCCMS provides data on climate (USAID 2013b).

The Malawi Health Sector Strategic Plan (HSSP) 2011–2016 provides the framework for the GOM’s objectives related to the health sector. Current priorities are improving coverage and quality of the EHP through increased staffing and improvements in provision of basic supplies, training, and infrastructure, as well as reducing health risks through behavior changes and reduced exposure to disease (such as vector control and disaster mitigation).

The National Nutrition Policy and Strategic Plan (2007–2012), approved in 2009 and still in effect, remains the overarching document defining nutrition objectives, targets, priority groups, resource needs, and stakeholder roles. Title II programming closely aligns with the focus on most vulnerable populations, promotion of Essential Nutrition Actions (ENA), and improved coverage and quality of nutrition services. The Office of the President and the Cabinet (OPC) leads Malawi’s strong commitment under the Scaling Up Nutrition (SUN) 1,000 Special Days initiative. The National Nutrition Education and Communication Strategy 2011–2016 is the guiding document for SUN 1,000 Special Days, describing the key interventions, policy advocacy activities, behavior change messages and capacity building actions, all directed toward reducing stunting and mortality (GOM 2012). Within SUN, Malawi is introducing a scaled-up model for promoting community health and nutrition through Care Groups, based on lessons learned and materials developed under the I-LIFE and WALA Title II projects.²⁵ Under the purview of the Ministry of Gender, Children, and Social Welfare, Malawi supports 9,000 community-based childcare

²⁴ NEPAD is a vision and strategic framework for pan-African socioeconomic development in the 21st century. NEPAD is spearheaded by the African Union (AU) and African leaders to address critical challenges facing the continent: poverty, development, and Africa's marginalization.

²⁵ SUN key messages and other resources: http://scalingupnutrition.org/wp-content/uploads/2013/03/Malawi_IYCN_KeyMessages-for-1000-Special-Days.pdf.

centers, where children 3–5 years of age attend a volunteer-run half-day program and receive a meal of corn-soy blend porridge.

The Malaria National Strategic Plan 2011–2015 aggressively targets universal malaria education, treatment, and prevention, with particular focus on pregnant women and children under 5 and interventions that Title II programming can reinforce at the community level. The National HIV and AIDS Policy 2011–2016 and the Malawi National HIV/AIDS Strategic Plan 2011–2016 build on successes reducing HIV prevalence and expanding testing and treatment. Priority areas that align with Title II programming include locally tailored approaches to promote prevention, testing, and treatment, as well as care, support, and empowerment for those infected with HIV, and their families and communities.

4.2 U.S. Government Policies, Strategies, and Programs

4.2.1 USAID/Malawi Country Development Cooperation Strategy

USAID recently released its 5-year Country Development Cooperation Strategy (CDCS) for 2013–2017. The strategy is closely aligned to the U.S. Strategy Toward sub-Saharan Africa and the Malawi MGDS II released by GOM in 2010. To increase overall aid effectiveness, U.S. Government assistance is also linked to other development partners' objectives and adheres to the Busan Partnership for Effective Development Cooperation (2011) and similar preceding treaties. Coordination is enhanced through regular meetings between senior and technical personnel to enhance development and monitoring that supports the Sector Wide Approach mechanism. The CDCS will support integrated programming that concentrates resources geographically to improve Malawians' quality of life. The new "3C Approach" will co-locate interventions where feasible, coordinate with other development partners and USAID interventions, and collaborate with other agencies to improve results toward long-term sustainability (USAID/Malawi 2013).

4.2.2 FY 2010–FY 2014 Title II Development Program in Malawi

In 2009, USAID/FFP awarded Catholic Relief Services (CRS) a 5-year Title II Multi-Year Assistance Program known as Wellness and Agriculture for Life Advancement (WALA) to prevent and mitigate food insecurity in southern Malawi. CRS leads a consortium of international and local NGOs that include ACDI/VOCA, Africare, Emmanuel International, Project Concern International, Total Land Care, Save the Children, World Vision, and the Diocese of Chikwawa. WALA aims to achieve improved food security for 214,974 chronically food-insecure households in 39 traditional authorities within 5 livelihood zones in southern Malawi by 2014.

WALA reduces food insecurity through activities that:

- Strengthen human capacity by improving maternal, child, and neonatal health and nutritional status at the community level.
- Improve the livelihood status of households and communities by increasing productivity through a lead farmer approach, CA, market linkages, water management, and post-harvest storage.
- Improve community resilience by strengthening safety nets (through commodities distribution), preparedness, and mitigation of natural disasters and good governance.

A team of three consultants conducted a mid-term evaluation in January/February 2012, which found that WALA has made significant achievements based on proposed activities to achieve the original objectives and that subsequent interventions remained relevant to the needs of the targeted population. The strongest components of the program include the health and nutrition promotion activities of Care Groups, supplemental feeding, village savings and loans (VSL), and safety net food distributions.

4.2.3 Other U.S. Government and USAID Policies, Strategies, and Programs

USAID is also investing in improved food security in Malawi through the Feed the Future (FTF) program Integrating Nutrition into Value Chains (INVC) (2012–2015), FTF’s flagship value chain program which is implemented by DAI with Save the Children and Michigan State University. The 3-year, US\$24.6 million project aims to reduce rural poverty and improve nutrition through increased competitiveness of key value chains (e.g., soy, groundnuts, and dairy), improved soil productivity, reduced chronic undernutrition, and enhanced local capacity through a grants program.

Malawi is a Global Health Initiative (GHI)-Plus country, benefiting from prioritized U.S. Government support to reach key health objectives. Focus areas under GHI include 1) improving health services to reduce maternal, neonatal, and child mortality and morbidity, 2) reducing unintended pregnancies, and 3) reducing new HIV infections. The overarching GHI approach in Malawi is a systems strengthening approach to support human resource capacity, infrastructure, leadership, management, and use of financial resources (GHI Strategy Document 2011). As part of a national effort to improve health services, USAID/Malawi is supporting a major health systems strengthening project called Support for Service Delivery Integration (2011–2015), covering 15 focal districts. Three implementing partners provide strategic support to develop health services, strengthen communication strategies, and build systems capacity.

Malawi is a President’s Malaria Initiative focus country and has received high priority for HIV/AIDS through the U.S. President’s Emergency Plan for AIDS Relief (PEPFAR) and the Global Fund to Fight AIDS, Malaria, and Tuberculosis to scale up and strengthen HIV prevention, treatment, and care. Title II interventions should harmonize with approaches being supported by the U.S. Government, under national guidelines. See **Appendix 6** for a table listing key U.S. Government and USAID programs.

4.3 Other Strategies and Programs

In 2011, Malawi received roughly US\$1 billion in aid from a range of donors including USAID, the Global Fund, the Department for International Development (DFID), the EU, the United Nations, the World Bank, and the governments of Norway, Japan, Germany, and Ireland. China is also an active player in the country, providing loans for infrastructure projects. The U.S. Government remains the largest donor through project support, which averages 36% of all support provided to Malawi (USAID/Malawi 2013). USAID/Malawi’s new country development strategy urges improved coordination among donors supporting food security interventions.

Climate change adaptation features prominently on the donor priority list, given increasingly erratic weather patterns. DFID, the Norwegian Ministry of Foreign Affairs, and Irish Aid are funding an initiative to reduce the occurrence and recurrence of poverty and hunger through improved climate change adaptation within communities, enhanced early warning for climate-related disasters, and advocacy for improved disaster risk reduction and climate change policy. The World Bank recently embarked on a decade-long effort to improve the impacts of environmental degradation in the upper and lower Shire Valley watershed. One major component, the Shire River Basin Management program (2012–2018), aims to improve management of the volatile Shire River, improve infrastructure and planning, provide early warning for floods, target environmentally degraded areas to improve the overall watershed, and create alternative livelihoods for charcoal producers. The World Bank’s second component is a disaster risk reduction effort to assist GOM with better baseline data, improved coordination, and enhanced data management. The Shire River Valley Irrigation Project is slated to begin in 2017 to expand irrigation in the lower Shire Valley to 40,000 ha from its current 12,000 ha.

Norwegian Aid focuses primarily on improved livelihoods and focused in the Shire Valley and the Northern lakeshore. They support NASFAM’s development efforts to export groundnuts to the United

Kingdom to improve quality control and test for aflatoxins. They work with ICRISAT to develop aflatoxin control methods and training support to extension agents working with smallholder farmers.

WFP is also active in Malawi with food and cash distribution and local purchase programs. Under its current Protracted Relief and Recovery Operation (2012–2016), WFP implements school feeding, nutrition support, and disaster risk reduction programs for targeted schools and vulnerable households and communities. WFP quadrupled its purchase of local food from 2008 to 2012, purchasing over 40,000 MT in 2012 (USAID/FFP 2013). The Purchase for Progress program funded by USAID and the Bill and Melinda Gates Foundation has allowed WFP to increase local purchase using new mechanisms, such as buying the bulk of commodities (maize, pulses, and other cereals) through the Agricultural Commodity Exchange’s trading mechanism, a collaboration that has significantly boosted the exchange’s viability and levels the playing field for farmers selling into the exchange. See **Appendix 6** for a table showing policies, strategies, and programs of key multilateral and bilateral stakeholders in Malawi.

5. Recommendations for Title II Development Programs in Malawi

5.1 Objectives and Desired Outcomes

This FSCF guides targeting and programming of Title II resources to reduce food insecurity and strengthen the economic status of poor and vulnerable populations while also investing to connect producers to markets, strengthen national government and private sector institutions, and improve local food security governance. The Title II development program in Malawi will complement bilateral and multilateral development resources in country that promote development through growth-oriented infrastructure and governance investments.

The program will contribute to improving food availability, access/consumption, and utilization and to reducing the vulnerability to food insecurity of individuals, households, and communities. It will also enhance resiliency among food-insecure households by increasing their skills and assets, diversifying their livelihoods, and expanding beneficiaries' ability to recover from the shocks that most frequently compromise food security and lead to persistently high levels of chronic malnutrition.

Outcomes and intermediate results for each applicant program should derive from the results framework proposed in the application. The overall Title II program priorities and priority activity areas discussed below can be arranged into a range of different results frameworks depending upon how the applicant chooses to organize project activities. The program priorities and priority activity areas in this FSCF represent a roadmap to a strategic and evidence-based approach that, if implemented well, should bring about sustainable reductions in food insecurity and malnutrition in target communities and enable the Title II development program to achieve its goal in Malawi.

5.2 Recommended Geographic Priorities

The USAID/FFP Strategic Plan 2006–2010 placed an emphasis on reducing food insecurity among vulnerable populations.²⁶ Therefore, USAID/FFP Title II development programs focus on the most food-insecure countries globally and target the most vulnerable populations within these countries. USAID/FFP has also identified the need to reduce risk and vulnerability to shocks, decrease the damage caused by shocks when they occur, and enhance household resilience to shocks. In addition, the new USAID/Malawi Country Development Cooperation Strategy seeks to concentrate resources geographically and integrate programs to the greatest extent possible.

These USAID/FFP priorities and the following factors were used to guide the identification of geographic priorities for the next Title II development program in Malawi:

- Recent data on district poverty levels from the 2010 Malawi DHS and IHS3
- Districts with very high stunting prevalence higher than 40% (with one district at almost 40%)
- Areas prone to shocks caused by droughts and floods, given the importance of climate change in the Malawian context and the recent release of USAID/Malawi's CDCS 2013–2017

Additionally, the Southern Region faces increased vulnerabilities due to having twice the HIV prevalence of the Central and Northern regions (15% vs. 8% and 7%, respectively). Shocks due to illness befall

²⁶ “**Vulnerable populations** are people that are at risk of food insecurity because of their physiological status, socioeconomic status, or physical security; also people whose ability to cope has been temporarily overcome by a shock.”

individual families as the Southern Region's elevated HIV prevalence leads to higher costs to care for ill family members and fewer working adults to contribute to family income, which is linked to a higher dependency ratio and inadequate food consumption (WFP 2012).

Therefore, the recommended criteria for district-level targeting include:

- Percentage of population with food energy deficiency, with criteria of 40% or higher
- Percentage of population living on less than US\$1 per day, with criteria of 30% or higher
- Percentage of children under 5 who are stunted, with criteria of 40% or higher
- Higher HIV prevalence in the Southern Region. Note: Population-level HIV prevalence for individual districts is not available.
- Concurrence with other U.S. Government programming
- The district is prone to floods, drought, or earthquakes

Due to high rates of poverty and malnutrition across Malawi, data suggest that there are many areas that could potentially be selected for Title II programming. However, a subset of 8 districts meets the criteria described above²⁷: **Balaka, Blantyre (rural), Chikwawa, Chiradzulu, Machinga, Mulanje, Nsanje, and Phalombe** in the Southern Region (see **Table 4**).

The USAID/FFP Title II development food assistance programs will encompass two distinct geographic areas. Applicants may apply for only one geographic area or both geographic areas, but a separate application would be required for each area. One award will target Balaka and Machinga, current FTF priority districts, and applicants are expected to work in close coordination and collaboration with other activities under the Country Development Cooperation Strategy and Feed the Future (FTF) Integrating Nutrition into Value Chains program activities in particular. Final selection of traditional authorities will be made in consultation with USAID/Malawi, to ensure complementarity with the areas covered by FTF.

The other award will expand the FTF zone of influence and focus on the districts in Southern Malawi with high levels of food insecurity and historic need for humanitarian assistance, specifically the districts of Blantyre (rural area), Chikwawa, Chiradzulu, Mulanje, Nsanje, and Phalombe. USAID/ FFP expects intensive and integrated activities in the selected districts, rather than covering a broad geographic area with less intense programming. Therefore, applicants should select no more than three of the six districts listed above, and the districts selected should be contiguous. Optimally, selected districts should be covered in their entirety, but if similar food security programming is already being implemented in some traditional authorities, these traditional authorities may be omitted. Targeting should be based on prevalence of stunting, historical needs for food assistance, population demographics, and livelihood zones.

In all cases, applicants should clearly state how they will work in coordination with other USAID projects present in these districts for maximum impact over the life of the program. Prospective applicants should work closely with district authorities and collaborate with the Ministries of Agriculture and Food Security, Health, and Disaster Management Affairs (Office of the President) and the Malawi Vulnerability Assessment Committee to contribute to an integrated national Early Warning System.

²⁷ Although Chiradzulu and Blantyre (rural) do not meet the first two established criteria, Chiradzulu is recommended due to extremely high stunting and vulnerability to drought and Blantyre (rural) is recommended because disaggregated data for the rural portion of the district exhibits high levels of stunting and poverty.

Table 4. Recommended District Targeting and Criteria for New Title II Development Programs in Malawi, FY 2014–FY 2019

District	% of population undernourished (food energy deficiency) ^a	% of population earning <US\$1/day (ultra- poor) ^a	% of children 6–59 months who are stunted (>-2 SD) ^b	USAID Mission Integration (CDCS 2013–2017) ^c	Prone to shock ^a
Balaka	49%	33%	45%	FTF	Drought
Blantyre (rural)	37%	14%	41%	Health	Drought
Chikwawa	62%	59%	49%	Health	Flood, drought
Chiradzulu	35%	13%	57%	Health	Drought
Machinga	56%	37%	48%	FTF	Drought
Mulanje	58%	52%	52%	N/A	Drought
Nsanje	61%	56%	39%	Health	Drought, flood
Phalombe	59%	42%	49%	N/A	Drought, earthquake

Sources: a = WFP 2012. b = GOM NSO and ICF Macro 2011. c = USAID/Malawi 2013.

5.3 Recommended Program Priorities

The overall goal of the next Title II program in Malawi should be “to reduce chronic malnutrition and food insecurity among vulnerable populations.” This goal will be met through the integration of the recommended program priorities, as illustrated in **Table 5**.

Table 5. Recommended USAID/FFP Title II Development Program Priorities and Activities in Malawi

Overall goal: To reduce chronic malnutrition and food insecurity among vulnerable populations		
Program Priority 1: To reduce chronic malnutrition among children under 5	Program Priority 2: To increase income levels of food-insecure households	Program Priority 3: To increase household resilience to climate change and other shocks
Priority Activity Area 1.1: Prevention of chronic malnutrition among children under 2 Priority Activity Area 1.1a: <i>Children under 2 are fed appropriately for their age</i>	Priority Activity Area 2.1: Households increase their agricultural, livestock, and aquaculture/fishing production	Priority Activity Area 3.1: Enhanced community- and district-level capacity to mitigate and respond to shocks
Priority Activity Area 1.2: Pregnant women and mothers of children under 2 seek preventive care and treatment for illness	Priority Activity Area 2.2: Households diversify their livelihoods through rotating village savings and loans programs	Priority Activity Area 3.2: A sustainable early warning system that benefits communities and the national government
Priority Activity Area 1.3: Promote healthy family size and reduce adolescent pregnancy	Priority Activity Area 2.3: Improved market linkages and information access	Priority Activity Area 3.3: Climate change impacts are mitigated through watershed

Overall goal: To reduce chronic malnutrition and food insecurity among vulnerable populations		
Program Priority 1: To reduce chronic malnutrition among children under 5	Program Priority 2: To increase income levels of food-insecure households	Program Priority 3: To increase household resilience to climate change and other shocks
Priority Activity Area 1.4: Households have access to improved water and sanitation and practice appropriate hygiene behaviors		management and other disaster risk reduction interventions
Key Design and Implementation Considerations: Gender integration; good governance; geographic and beneficiary targeting; monitoring and evaluation; development approach, sustainability, and exit strategy; programmatic integration; environmental monitoring and mitigation; technology; formative research and social and behavior change communication; operations research; and strategic partnerships.		

Program Priority 1: To reduce chronic malnutrition among children under 5

Almost half of children under 5 in Malawi are stunted. This is indicative of chronic, intergenerational malnutrition and has dire consequences for the development of affected children, their community, and the country overall. It is well established that stunted children have a greater risk of morbidity and mortality, decreased schooling, and decreased earnings later in life (Black 2008). As the causes of malnutrition are multifaceted, the greatest potential to improve the nutritional status of children comes through integrated programming that addresses its various determinants for individual families and entire communities.

Malawi has taken coordinated steps to address pervasive nutrition problems, despite continuing challenges regarding human and financial resources. The National Nutrition Policy and Strategic Plan (2007–2011) operationalizes the nutrition priorities defined in the MGDS II and presents the high-impact, low-cost interventions to be implemented at scale, defines the nutritionally vulnerable groups that should be reached, and sets forth the financial and logistical parameters for implementation. The SUN 1,000 Special Days provides the platform for Malawi’s strategic actions at the national, district, and community levels. While the health sector targets increased quality of health facility services, the nutrition sector has prioritized community-level preventive nutrition interventions, with linkages to facility-level nutrition and health services. Title II programming is well-positioned to support both of these initiatives through its presence as a community implementer and as a technical partner at the district and national levels. Preventive maternal and child health and nutrition (MCHN) activities should be implemented that support and complement the GOM’s nutrition strategies being rolled out at the district and community levels under the SUN 1,000 Special Days. Synergy can be created through active participation in national and district nutrition committees, use of common activities and materials,²⁸ and sharing training and field experiences with nutrition partners across Malawi.

Priority Activity Area 1.1: Prevention of chronic malnutrition among children under 2

Focus on the first 1,000 days. As seen in **Table 6**, in Malawi significant growth faltering occurs during the first 2 years of life, peaking between 18 and 23 months. Therefore, efforts at preventing growth faltering and chronic malnutrition should be focused on the first 2 years of life as well as the pregnancy period (known in Malawi as the “1,000 Special Days”), in addition to the pre-conception period. Given

²⁸ National SBCC materials have largely been adopted and adapted from previous Title II projects under I-LIFE and WALA, which illustrates how Title II partners can contribute practical tools and experiences to national initiatives.

that in Malawi longer birth intervals are linked to lower prevalence of chronic malnutrition, improved access to family planning is also crucial.

Strategies to prevent malnutrition have been used successfully in Title II programs in Malawi in the past. However, there is an opportunity to further strengthen activities and integrate MCHN approaches with agriculture and income-generation activities. A preventive MCHN program should include the following elements:

- Social and behavior change communication (SBCC) to promote key nutrition and health behaviors
- Promotion of use and quality of health services, particularly antenatal care and birth care, prevention and treatment of child illness, HIV services, deworming, growth monitoring and promotion, immunizations, and micronutrient supplementation
- Support for healthy family size, particularly supporting adolescents and younger couples to delay first pregnancy, prevent HIV, and develop skills to support optimal caring practices for children and women
- Promotion of optimal infant and young child feeding practices
- Support for clean water, sanitation infrastructure, and hygiene behaviors
- Malaria prevention and control
- A conditional preventive food ration for the mother and child during the 1,000 days and a protective household ration, which may be seasonally targeted. This intervention must be designed with the Department of Nutrition, HIV & AIDS.

Table 6. Percentage of Children Under 5 Who Are Stunted, by Age Group

Age in months	Percentage of children stunted
<6	17
6–8	25
9–11	28
12–17	46
18–23	61
24–35	56
36–47	52
48–59	48

Source: GOM NSO and ICF Macro 2011.

Local determinants of malnutrition. Before the Title II program is implemented in any community, awardees are strongly encouraged to conduct community-based formative research to better understand the causes of malnutrition in their areas of intervention. This research should include qualitative data collection that seeks to capture current health and nutrition practices, as well as understand the motivations and constraints related to specific key practices.²⁹ Qualitative data collection could include interviews with key informants (mothers, fathers, grandmothers, health services assistants, and health center-based staff). Previous knowledge of the local determinants of malnutrition is helpful in guiding the formative research but should not replace an awardee’s own efforts to conduct focused data collection to inform programming. Awardees might discover that determinants of malnutrition vary widely across districts and are likely to require varying SBCC strategies and coordination with other sectors (e.g.,

²⁹ For example, for sub-optimal complementary feeding practices, it’s helpful to understand whether sub-optimal practices relate to lack of knowledge, scarcity of resources, cultural beliefs, or other factors.

involving agriculture support to increase availability of key foods for children, coordination with health centers to assure timely care for infections). Awardees should adapt SBCC messages to the local context and the results of their formative research.

Essential Nutrition Actions. USAID and its partners have developed a series of seven ENA, which are proven interventions to reduce child malnutrition, centered on the 1,000-day window of opportunity:

1. Promotion of optimal nutrition for women
2. Promotion of adequate intake of iron and folic acid and prevention and control of anemia for women and children
3. Promotion of adequate intake of iodine by all members of the household
4. Promotion of optimal breastfeeding during the first 6 months
5. Promotion of optimal complementary feeding starting at 6 months with continued breastfeeding to 2 years of age and beyond
6. Promotion of optimal nutritional care of sick and severely malnourished children
7. Prevention of vitamin A deficiency in women and children (Guyon and Quinn 2011)

Malawi's National Nutrition Policy and Strategic Plan and the SUN movement have adopted the ENA, and it is recommended that Title II programs adopt and promote the ENA.

A life-cycle preventive approach to addressing malnutrition starts with ensuring adequate nutrition in the mother, prior to conception. A third of Malawian adolescents have already begun childbearing, placing them and their children at higher risk of malnutrition, as well as adverse pregnancy outcomes. Given that nearly 30% of adolescents begin childbearing at this young age, nutrition services that address their special needs are important to prevent malnutrition in their children. Title II programs are well-placed to promote adequate pre-conception nutrition and delaying first pregnancies until the mother's body is ready for childbearing. Programming should also promote optimal child spacing for a 36-month separation between siblings, which can have positive health effects for mothers, newborns, and siblings (Rutstein 2008).

To maximize the effectiveness of MCHN programming and synergize with other Title II activities, such as VSL and agriculture activities, approaches should involve key community leaders (e.g., village chiefs, members of village health committees and orphans and vulnerable children committees) as well as representatives from other sectors (e.g., education and water committees). While recognizing that women are the predominant providers of childcare, Title II programming can achieve greater results through integrating men and other family members (like grandmothers) into MCHN activities. This approach can alleviate mothers' workloads, more effectively address issues for which other family members are decision-makers, and support males in addressing the nutritional well-being of their families.

Several cycles of Title II programming in Malawi have successfully used Care Groups as a vehicle to reach families of young children with health promotion messages and activities. In fact, these Title II Care Group experiences were adopted as the model for community-based programming to be nationally scaled up under SUN. It's expected that Title II development programs will continue the Care Group community-based outreach approach by supporting government-formed Care Groups or initiating Care Groups in new communities. Title II programs should continue the best practice of supporting and contributing to GOM strategies and models, as well as innovating on such models when possible.

Priority Activity Area 1.1a: Children under 2 are fed appropriately for their age

Title II programming can support and build on several extremely favorable breastfeeding practices in Malawi, including timely initiation of breastfeeding and continued breastfeeding. Exclusive breastfeeding

is improving, with 71% of infants under 6 months exclusively breastfed in 2010. The predominant challenge to exclusive breastfeeding is early introduction of food between 4–6 months (GOM NSO and ICF Macro 2011).

Given extremely poor complementary feeding practices in Malawi and the significant effect on stunting, this area requires prioritization by Title II programs. The 20% of children 18–23 months who receive no breast milk are of particular importance. Quantity of food and portion size should be an area of focus, possibly using standardized feeding bowls or utensils to demonstrate appropriate portion sizes for young children (PATH/IYCN 2011). Formative research should look individually at key complementary feeding behaviors, such as diversity, quantity, and quality of food, including nutritional density, which is often overlooked (Van Haeften 2013). The constraints to optimal complementary feeding should also be fully explored in formative research addressed in interventions, including time constraints and fuel, which suggest the need for easy, portable, and hygienic complementary foods (PATH/IYCN 2011). Kitchen gardens, using time and resource-saving methods for cultivation, may be used to increase availability of nutrient-rich foods for young children's diets. (This activity is described in greater detail under **Priority Activity Area 2.1**). Additionally, promotion of dairy foods presents an opportunity for collaboration with the livelihood sector, particularly for children who are no longer breastfeeding.

Anemia is extremely prevalent in Malawian children, peaking at 81% for children 6–11 months. Complementary foods typically given to Malawian children are low in iron content, as well as protein, fat, zinc, vitamin A, and other micronutrients. Promotion of complementary foods should include promotion of high-nutrient density foods, such as animal-source foods. It may be useful to collect data on consumption of animal-source foods, including milk, and to coordinate approaches with animal production activities and VSL programs (which may promote use of savings for purchasing nutrient-rich foods). Emphasis should be placed on children 6–11 months, who are at highest risk of anemia. Where dietary solutions are not feasible, or not possible in all seasons, Title II programming may consider alternative strategies such as micronutrient powders or fortified foods. Title II programming should work within existing GOM policies, or collaborate with GOM to pilot or conduct operations research on these strategies. To combat anemia, Title II programming should also support and work in coordination with existing services for malaria prevention and treatment, as well as deworming.

The 2010 DHS reported that 7% of children under 5 are considered orphans and vulnerable children (OVC) due to being orphaned or affected by the illness of a household member. In addition to that group, children born to HIV-positive women also require extra support for optimal breastfeeding and adequate complementary feeding, as they are more likely to be subject to curtailed breastfeeding (Lunney 2008). Other young OVC include HIV-infected children. All of these children face an increased risk of malnutrition, particularly if they are not breastfed. The Malawi National Nutrition Policy and Strategic Plan does not specifically target an approach to avoiding malnutrition in the most vulnerable young orphans, who often become acutely malnourished and therefore qualify to receive a food supplement from the GOM Supplementary Feeding Program several times before the age of 5. Title II programs may choose to propose a specific approach for promoting or supporting the appropriate feeding of young OVC, particularly those under 2, collaborating with GOM to document and share programmatic experiences.

Food aid. In food-insecure environments with high prevalence of child malnutrition, there is evidence that a preventive food ration can be an effective complement to preventive MCHN programming. The Prevention of Malnutrition in Children under 2 Approach (PM2A) is a package of health and nutrition interventions for all pregnant women, children 0–23 months, and caregivers of children under 2, including targeted preventive food rations for children 6–23 months and pregnant and lactating women, independent of nutritional status (Food and Nutrition Technical Assistance III Project [FANTA] 2010). Preventive food rations have been shown to be more effective at reducing stunting, when compared with recuperative

supplementary feeding (similar to the existing Supplementary Feeding Program in Malawi) (Ruel et al. 2008).

PM2A includes three core services provided to MCHN beneficiaries:

- Preventive food rations provided for the individual woman and child, conditional on participation in MCHN services. An additional household ration may also be provided, to accommodate for sharing. (In the Malawi context, given the preference of the GOM, this could be a protective seasonal ration).
- Preventive and curative health and nutrition services for children and women, according to national protocols.
- SBCC, generally through community-level participation in MCHN-focused activities.

The following box highlights considerations for implementing PM2A in Malawi.

Where Can PM2A Be Fully Implemented?	
PM2A is appropriate in food-insecure communities with:	Situation in highly food-insecure areas of Malawi
1. High levels of stunting or underweight	✓ Yes
2. An accessible minimum package of maternal and child health services	✓ Malawi supports quality and coverage of the Essential Health Package
3. Relative political and social stability	✓ Yes
4. Limited in- and out-migration	✓ Yes
5. Capacity to absorb the food without distortions to markets (BEST analysis)	✓ Yes, in several areas, according to BEST analysis (June 2013)
6. Host-country government support for PM2A	✓ Targeting of vulnerable groups expressed in GOM nutrition policy and SUN 1,000 Special Days strategies

In Malawi, a focus on the first 1000 days including food supplementation is likely to be an appropriate fit in the Southern Region, particularly where high population density, small land parcels, low yields, and climate shocks cause a regular need for donor food aid. Fortified food products would be especially useful, given that available foods are generally unable to meet the nutritional needs of women and children during the critical 1,000-day period. The GOM is extremely committed to the SUN 1,000 Special Days and has made strides in defining how it will address chronic malnutrition during the 1,000 days. Although the GOM is focused on preventing chronic malnutrition, the GOM has concerns related to the sustainability of programs that use food aid to prevent chronic malnutrition in the first 1,000 days. However, given the prevalence of chronic malnutrition in highly vulnerable areas of the country, it is very likely that to achieve the intended targets of preventing malnutrition in the 1,000-day window, food assistance would be needed. To balance both the concerns of the GOM and yet achieve the intended impact of Title II programs on preventing chronic malnutrition, a preventive lipid-based nutrient supplement (LNS) for children 6–23 months and pregnant and lactating women could be considered for direct distribution during the 1,000 days. This type of fortified food supplement would meet the enhanced nutrient needs of children 6–23 months and women during pregnancy and lactation, but would not replace the base diet of the household. Small-scale prior experiences in Malawi suggest that supplementation with LNS is effective at reducing chronic malnutrition in young children (Phuka et al. 2008). Additionally, a large group of collaborators including the GOM, is testing the effectiveness of LNS on a whole host of maternal and child health, nutrition and development outcomes (US National Institutes of Health 2013). Preliminary findings are suggestive of positive effects on birth outcomes. Title II programs may

collaborate with the GOM to pilot this approach, conditional on participation in MCHN programming. There is an opportunity in the later years of the program to locally procure the LNS.

One mechanism to support sustainable community benefits is to ensure that families with children under 2 are involved in Title II activities that build their skills, expand access to credit, and increase their assets for long-term improvements to their food security situation. Families with young children who “graduate” from food supplementation will be positioned to continue to reap sustainable benefits from Title II interventions.

Other uses for food aid resources. Given the household food deficits in-between harvest cycles, from roughly October to April, an additional seasonal household food ration may be provided as a social safety net during the months of greatest deficit between harvest cycles. Also, Title II partners may consider piloting early childhood development activities for children under age 3 at existing community-based childcare centers for children 3–5 years of age, including a nutritious snack during programming, in line with the current programming for children 3–5 years. Another need for food exists within the GOM Supplementary Feeding Program designed for recuperation of moderately acutely malnourished children and pregnant/lactating women, due to a lack of sufficient corn-soy blend products to meet national needs. Additionally, in terms of social safety net food aid for extremely vulnerable families, these rations are provided to beneficiaries in the WALA project, such as grandparents raising OVC or chronically ill individuals who require food to regain their strength and return to productive activities. If food aid is used this way, targeting mechanisms should use evidence-based criteria and best practices for selecting beneficiaries, and assure that beneficiaries are linked to livelihoods activities to support future self-sufficiency.

Priority Activity Area 1.2: Pregnant women and mothers of children under 2 seek preventive care and treatment for illness

Diarrhea, respiratory infections, and parasitic infections have a detrimental effect on children’s growth, and their treatment requires access to health services. However, the use and quality of health services is suboptimal in Malawi (GOM 2011b). Stock-outs of medicines are extremely common (Mueller 2011) and are reported as one of the major constraints, along with distance to reach the health facility and money to pay for treatment (GOM NSO and ICF Macro 2011). Identifying solutions to these and other obstacles requires joint efforts with actors in various technical fields, and could include input from livelihoods activities (e.g., road rehabilitation) and SBCC interventions (e.g., to increase awareness among women and men about the importance of seeking timely care for mothers and children).

Coordination with health programs. The U.S. Government supports health systems strengthening on a large scale through the Support for Service Delivery Integration Project, with separate components for systems, services, and communications. Title II programs may identify valuable opportunities to collaborate within these three components, particularly through supporting community approaches that complement health services and through piloting and documenting community-facility linkages or other approaches. Title II activities should support and harmonize with HIV prevention, treatment, and support interventions, including the PEPFAR-supported nutrition assessment, counseling, and support (NACS) approach and prevention of mother-to-child transmission of HIV (PMTCT).

Scale-up of Care Groups. Under the SUN 1,000 Special Days, Malawi is rolling out Care Groups nationally, with different donors supporting a number of districts. New Title II programming should support and harmonize with the national rollout, documenting and sharing new approaches. The new model for Care Groups relies on Health Services Agents to form and support the Care Groups, in contrast to the proven model which includes a paid community-based health promoter. Title II programming may contribute to this national approach by piloting the new Care Group model, adapting it to sustainably integrate the role of promoter, or provide the health promoter to assure the quality of Care Groups.

Recuperation of acutely malnourished children. Despite preventive efforts, some children may become moderately or severely acutely malnourished. When Health Services Agents conduct growth monitoring, national protocols dictate that mid-upper arm circumference (MUAC) is used to screen underweight children for moderate and severe acute malnutrition.³⁰ Children identified as severely acutely malnourished with complications must be admitted for treatment into the Nutrition Rehabilitation Unit. Children who are severely acutely malnourished without complications should be referred to Community Therapeutic Care (CTC)³¹ for treatment with ready-to-use therapeutic food. Children identified as moderately acutely malnourished receive 4 months of a corn-soy blend food ration under the Supplementary Feeding Program, with food provided by WFP or USAID/FFP (in Title II districts).³² Title II awardees may consider strengthening the capacity of screening and treatment services, including piloting community-level monitoring of MUAC during droughts or floods, as well as preventive food supplementation for children 6–23 months before they become malnourished.

Priority Activity Area 1.3: Promote healthy family size and reduce adolescent pregnancy

Given Malawi's high fertility rate and its impact on young child nutrition, it will be important for the next Title II program to work toward strengthening the family planning service delivery system in partnership with the GOM in the targeted geographic area of coverage. Title II partners should work in coordination with the GOM and other implementing partners to improve access to family planning services and support an effective referral system so women participating in program activities can access family planning services through the government health system or other implementing partners. Increasing knowledge, access, and use of contraceptive methods should be emphasized through a multi-layered SBCC approach that targets audiences at multiple levels to provide men and women with information on family planning methods and improve linkages to services with the aim of improving knowledge of these methods and of promoting a healthy family size.

Given the prevalence of early pregnancy in Malawi and the additional health risks facing adolescent mothers and their children, program efforts should place a special emphasis on meeting the health needs of adolescent girls and boys to access tailored health and nutrition programming to delay first pregnancy. Title II activities should use well-designed formative research to understand and address the barriers that adolescents face in accessing family planning services and acquiring the knowledge and skills to adopt related positive health behaviors. Programming may consider youth-focused programming in spaces and at times that are convenient for young people. In addition to family planning, programming should address issues such as adolescents' nutritional needs, HIV prevention, and other topics that influence the health, safety, and nutritional status of adolescents, such as communication skills for healthy relationships, parenting and childcare skills, and involvement in VSLs and other livelihood activities. Such programming must be especially sensitive to the low cultural status of adolescent girls and the common practice of male partners being significantly older than their wives/partners.

Priority Activity Area 1.4: Households have access to improved water and sanitation and practice appropriate hygiene behaviors

Water and hygiene are critical issues in Malawi and fundamentally important for Title II programming to address undernutrition. Where water is not readily available to households, women's time is invested in collecting water, rather than in caring for children or carrying out productive activities for the household.

³⁰ Current criteria for SAM is MUAC <11 cm, but new cutoffs will be introduced in 2013–2014.

³¹ In Malawi Community Therapeutic Care (CTC) is the equivalent of Community-Based Management of Acute Malnutrition (CMAM).

³² Currently, corn-soy blend (CSB) rations are insufficient to meet the needs of those who qualify under the Supplementary Feeding Program. CSB provided by USAID/FFP is an important support in districts where Title II programs operate.

USAID implementing partners noted that when communities lack an accessible household water source, some families collect household water from agricultural irrigation channels, risking water contamination from fertilizer, animals, or other sources. Where feasible, pour-flush toilets are most effective for household sanitation (Van Haeften 2013). Future Title II programming should use a community-based approach to improve households' access to safe water supplies, use of water treatment, and safe storage, as well as access to and use of sanitary facilities. Water point development plans for household and garden use should be established, to be managed by water management committees elected by communities. Awardees should consider partnering with other organizations intervening in this domain, and involving local partners and leaders for the construction and maintenance of water and sanitation infrastructure. Optimally additional donor funding could be made available to install water points, rehabilitate wells, or support water catchment in communities where Title II will intervene. In addition to infrastructure, SBCC activities should promote key hygiene practices for the entire family, such as handwashing behaviors at critical moments, household water treatment, and construction and use of latrines. Household sanitation activities can link with livelihood activities to promote animal sanitation through use of corrals, management of animal dung for fertilizer, and appropriate disposal of diseased animals.³³

Program Priority 2: To increase income levels of food-insecure households

The overall approach to increasing income levels should be to guide and train communities within food-insecure zones in the most viable and profitable ventures on a comparative advantage basis. Applicants should take into account a myriad of elements when designing new programs, such as agro-ecological and livelihood zones, market potential, rainfall patterns, average landholding size of target beneficiaries, soil types, access to markets, existing livelihoods, and viable market chains with untapped potential. Furthermore, strategies to reduce food insecurity should provide households with numerous options adapted to the challenging conditions they face, such as climate change, illness, or limited resources. In the Southern Region where the new Title II development program will continue to focus, improved farm production alone may not be sufficient to move households out of poverty, due to land scarcity. Because a vast majority of rural households derive their livelihoods from agricultural production, the focus should be on how to increase the value of output from limited resources and broaden off-farm income through innovative solutions.

Another critical component of program design will be to understand and account for gender dynamics that shape income generation, decision making, and control of assets within the household. Women grow crops for home consumption to a greater extent than men, who are more likely to cultivate cash crops. Tobacco, the most important cash crop, is predominantly a “male” crop, as is tea. Cotton, groundnuts, and paprika are regarded as “female” crops and consequently do not benefit from market research and promotion like tobacco and tea do. In male-headed households, men make almost all the decisions related to crops when the purchase of inputs (fertilizer, seeds, and pesticides) is required, so women's involvement in decisions is largely limited to crops that do not require fertilizer application and harvested seed that can be replanted. Men are more likely than women to use higher-yielding maize hybrid strains requiring fertilizer. Further, women get advice from agricultural extension services much less often than men. Women work more hours than men, but spend considerably less of their working time on income-generating activities. Awardees should undertake a gender analysis early on in the program to understand these issues and barriers for change so that training and technical assistance can be oriented to bring about behavior change and enhance women's access to inputs.

³³ Diseased animals, such as chickens, may be consumed

Priority Activity Area 2.1: Households increase their agricultural, livestock, and aquaculture/fishing production

Agricultural production. Increasing agricultural production should be a priority for the next Title II development program in Malawi, and awardees should have a grasp of the economics related to proposed changes from current practices. Prior to intervening and guiding farmers to adopt new techniques such as CA and hybrid seeds, it should be clear that added investment in inputs and labor will show sufficient returns using existing research and value chain analysis.

Awardees should coordinate with MOAFS and NGOs targeting food-insecure households. Effective coordination will allow a variety of actors to use resources collectively to have a greater impact and learn from each other in the process. Key informants interviewed for this FSCF repeatedly noted that there is poor coordination with the relevant sector Ministries and even among NGOs working in the same zone.

Challenge: High production costs

Hybrid seeds, fertilizers, pesticides, and labor are expensive for most smallholder producers and their small landholdings, especially in the Southern Region, making the economics of agricultural production quite challenging. Though FISP is meant to address this constraint through annual subsidies for primarily maize seed and fertilizers, coverage is insufficient and does not promote crop diversification. A Seed System Security Assessment conducted in 2011 concluded that while seed availability is generally good, it is heavily weighted to maize and farmers lack the funds to buy these seeds (Sperling 2011). To improve efficiency and reduce costs on small plots, farmers could be trained in multiplication and selection of improved seed varieties adapted to the agro-ecological zone following seed trials. Such training would localize seed access among farmers and also raise yields. CA techniques that promote no-tillage, permanent organic soil cover and crop diversification to enhance soil nitrogen fixing can address some of these challenges, given the reduced costs for weeding and declining need for fertilizer over time. These techniques are proven to save time and increase yields per gross margin analyses. Benefit/cost ratio analyses performed in Balaka in 2011 clearly show the potential for higher profitability (Concern Universal 2011).

Challenge: Land access

Increasing land access for farmers in congested areas such as the Southern Region is problematic, but there are some ways to address this constraint. Some households were able to expand their landholdings through loans from VSL groups. In some areas, donors such as the World Bank support the reallocation of leasehold land to landless families. Targeted zones could be assessed prior to implementation to determine if such opportunities exist. The Customary Land Bill (2012), which is meant to improve land access and rights, should also be considered in the planning stage. In many cases, it will not be possible to help poor households increase land access, therefore efforts should be made to ensure that they are able to maximize productivity and profits from what they do have and diversify into other profitable activities.

Challenge: Rainfall

Erratic rainfall and prolonged droughts can and must be managed more effectively to reduce food insecurity. Under the current maize-dominated agricultural system, yields will continue to decline based on recent rainfall patterns and soil degradation. Malawian farmers should be encouraged to increase crop rotation, diversify their crop production toward drought-resistant varieties, and adopt early-maturing varieties. Crop sequences and rotations alone improve water and nutrient content in the soil via the distribution of more diverse root structure. Crop diversification has already been encouraged under the current Title II development program in Malawi, but this initiative could be supported further through a comprehensive analysis of agro-ecological zones for the most appropriate and profitable drought-resistant

varieties and finding ways to increase farmer adoption rates of CA. Several elements of CA also increase soil moisture retention and include in-field water harvesting technologies such as planting basins and pits, tied ridges, dead level contours, and infiltration pits (Ibid.).

Small-scale irrigation interventions undertaken during the past two Title II development programs under I-LIFE and WALA have been transformational for recipient communities and should continue under future programs. Only a limited number of locations will benefit from irrigation based on their proximity to perennial water sources. The most successful irrigation projects have been those that ensured that poorest households in the target communities would also benefit from the irrigation systems (and not just the land owners and participants trained to manage and maintain systems). One lesson learned from WALA is that project targets should be more conservative so that community training receives equal attention from staff to ensure long-term sustainability of the irrigation infrastructure. In addition, the schemes should be paired with appropriate agronomic packages, watershed management, and marketing elements to bring higher returns to participants, which is ultimately tied to its ongoing function.

Challenge: Poor agronomic practices/crop disease

Poor agronomic practices and plant disease also contribute to low agricultural yields. Soil degradation in some overused and marginal lands has led to nearly negligible harvests without fertilizer application. Biological and physical conservation practices can produce higher yields, such as intercropping, rotation, use of crop residues, correct plant population, terraces, bunds, wetland management, vegetative barrier such as vetiver grass, and contour marker ridges. The application of these practices and structures can improve soil and water retention, drainage, and reduce run-off. Despite significant efforts to propagate CA techniques using demo plots, adoption has been low. As previously noted, farmers are economic actors who must see the financial benefits of adopting such changes. Training should incorporate information on the costs and returns of new techniques. For example, CA promotes high organic content in the soil through maximum coverage and no tillage, which reduces labor costs.

A variety of crop diseases contribute to losses, but many farmers lack knowledge and inputs to control pests. Best practices from integrated pest management techniques should be used to control vectors once they have been identified in targeted zones. Awardees should work closely with MOAFS and research institutions such as Chancellor College and Bvumbwe Research Station.

Applicants should work with farmers to reduce aflatoxin contamination in maize and groundnuts through field extension agents. They should promote low-cost efforts to reduce moisture content in harvested grain through improved storage methods such as the “Mandela’s cork,” whereby shelled nuts are piled in a dome and allowed to dry and construction of maize cribs. Recent research and pilot studies on aflatoxin control such as *aflasafe* and other initiatives in West Africa supported by the Gates Foundation should be adopted as feasible. Efforts should be made to implement a Voluntary Aflatoxin Sampling Plan (VASP) for smallholders within the program.

Challenge: Insufficient agricultural extension

Agricultural extension officers can be the arbiters of change to bring new techniques to smallholder farmers, however many areas lack this assistance. The Permanent Secretary for MOAFS noted that there is a 50% vacancy rate for extension agents due to budget constraints, lack of housing, and the difficulty in recruiting qualified staff for remote rural areas. Further, training for new agents is underfunded. Food security programs such as WALA have helped to address this shortfall through a community-based extension system using agricultural extension officers who work with Farmer Extension Facilitators and community-selected Lead Farmers. This approach has worked well, and the agricultural extension officers have brought rigor to the technical training component. In future programming, awardees should work

closely with MOAFS to fill in gaps where necessary and include government extension workers in training.

Challenge: Storage loss

With post-harvest and storage losses as high as 20% in some locations, much can be done to reduce losses. Reducing post-harvest loss through proper handling and storage adds product value and reduces food insecurity by minimizing loss and ensuring safety and availability of food for the lean season. Appropriate technologies can reduce the cost and improve the effectiveness of storage, drying, and handling processes. Farmers should be trained in improved drying, threshing, sorting, and processing to ensure quality and command better prices. Interventions may include improved drying methods (e.g., carbon dioxide-producing barrels with organic material, drying cribs) to 1) prevent mold growth in grain and to attain an ideal moisture level (10–12%), and 2) reduce susceptibility to pests. Farmer groups may also be assisted in the construction of storage facilities such as maize cribs using a cost-share approach.

The advent of commodity exchanges such as the Agricultural Commodity Exchange (ACE) and the more recent AHL Commodity Exchange (AHCX) also offer farmers a secure and well-managed option to store commodities and sell them at higher prices. This is discussed in greater detail under **Priority Activity Area 2.3**.

Kitchen gardens. To bolster household nutrition, it is recommended that awardees consider a small-scale kitchen garden component using improved techniques such as bucket drip irrigation and CA using demo plots with community volunteers. Programs should consider the promotion of crops which provide protein, fat or micronutrients that are often missing from the standard diet, particularly plant-based protein or fat from legumes or seeds. Also, crops such as squash, watermelon, tomatoes, kale, and peppers have a high range of micronutrients, including vitamins, minerals, phyto-chemicals, and antioxidant capacities, based on the Aggregate Nutrient Density Index (ANDI).^[1] As part of establishing model homes, Care Group volunteers can train their peers and simultaneously promote methods that safeguard the environment, such as water conservation and soil protection. Links and cross-training opportunities for livelihoods and health staff should be encouraged to support and monitor these complementary activities for maximum program integration.

Livestock. Mixed crop and livestock farming is an integral part of food security and sustainable livelihoods, but a number of constraints to the livestock sector such as poor genetic stock, animal disease, and limited pasture constrain production and expansion. Many households have poultry and goats throughout Malawi, with cows and pigs more widely held in the Northern and Central regions and among more prosperous families in the Southern Region. While there have been efforts to introduce exotic breeds, lack of proper cross-breeding policies and strategies jeopardize indigenous breeds. Animal diseases such as foot and mouth disease in hoofed animals, tick-borne disease in ruminants, Newcastle disease in poultry, and African Swine Fever in pigs are also common and contribute to significant livestock mortality. Applicants should determine the availability and quality of government-supported paravets in proposed areas of implementation. Where possible, programs should consider training new paravets as an income-generating activity whereby local communities pay for vaccination, de-worming, and other services. They should also build upon WALA's efforts to support the GOM's paravets through the development of livestock training materials in Chichewa. New programs should work closely with the Department of Animal Health and Livestock Development, the Department of Agricultural Research Services, and other NGOs to determine the best approaches for crossbreeding programs and disease control. Efforts should also be made to maximize income from livestock sales to ensure that farmers earn

[1] An ANDI score shows the nutrient density of a food on a scale from 1 to 1000 based on nutrient content. (See Whole Foods website, <http://www.wholefoodsmarket.com/healthstartshere/andi.php#green-vegetables>.)

more for the animals they manage. Livestock markets should be assessed to understand barriers to entry for pastoralists with small herds to sell in bulk and enhance access to livestock price information.

Aquaculture. Where applicable, new Title II development programs should work with fishing communities and others with access to fish ponds to increase production and enhance protein access. In some of the proposed intervention areas such as Machinga and Phalombe districts, which border Lake Chilwa, households depend on fishing as their primary livelihood. However, low rainfall levels have had a serious impact on lake levels and overfishing, thereby worsening vulnerability. There is also a need for a better understanding of the fish value chain and actors involved to create interventions that will raise incomes and reduce vulnerability to climate change. Institutions such as World Fish based in Zomba have closely studied the situation, introduced monitoring mechanisms, and improved fishing and drying techniques that merit replication (World Fish 2012). In the Lake Chilwa basin, which includes new target districts of Machinga and Phalombe, a comprehensive analysis of the fish value chain found that men are primarily involved in fishing, and women (27% of those interviewed for the study) are involved in fish processing. In particular, these women sun-dry small fish such as matemba, and to a lesser degree also participate in the more valuable smoked catfish and tilapia market. The study found that women are not well-represented in community fishing committees and have limited access to credit, technical assistance, and other resources for improved fishing (Ibid.). Awardees should propose ways to increase female representation on committees, propose improved smoking techniques that reduce firewood use, and establish VSL programs targeted to women within fishing communities.

Improved fish pond management and marketing may also bolster household income where applicable. Some small-scale irrigation projects implemented with Title II funding over the last decade included the construction of fish ponds through Food for Work, although community fish ponds have only rarely been shown to work successfully. As another option, communities that will benefit from irrigation infrastructure can be introduced to the possibility of creating fish ponds on their own plots and receive appropriate technical and marketing training.

Priority Activity Area 2.2: Households diversify their livelihoods through rotating village savings and loans programs

In practically every case, VSL programs that mobilize community participation and financial resources have proven to be successful in Malawi. Under WALA, community agents train communities on how to create a VSL group along with bookkeeping skills to manage community savings and loan funds. This VSL program was built upon earlier success from the I-LIFE program and illustrates that VSLs can be catalysts for economic change where financial services are totally absent and can serve as critical community safety nets. The program's success is evident years later in the Central Region where groups formed over 4 years ago by CARE under I-LIFE have not only thrived but expanded into thousands of new self-forming groups into villages deep into Mozambique.³⁴ As of May 2013, WALA's community agents, who have now become paid private service providers, formed 7,178 groups with accumulated savings of US\$1.4 million (CRS/Malawi 2013).

Some critical achievements linked to VSLs in WALA include:

- 75.6% of loans are for productive purposes.
- Small businesses started with VSL loans are providing some income to purchase food.
- Share-outs between October and December provided for as much as 2 months of food needs.
- Some groups used their social fund to bulk-buy maize.

³⁴ Conversation with participants of CARE Malawi I-LIFE program in Masumba-Thumbwi, Central Region, May 9, 2013.

- Some farmers take loans against the promise of the share-out (Ibid.).

The data above clearly indicate that VSL programs can make a significant contribution to expanding livelihood diversification, especially for landless, vulnerable households. Similar to promoting improved agricultural production techniques, identification of potential income-generating activities must be grounded in economics and specific returns on investment. Once the most appropriate activities have been short-listed based on the intervention zone, they could be paired with membership in VSLs to furnish start-up capital to launch the venture. Lessons learned from other Title II programs globally also indicate that trainings for the most disadvantaged households should consider literacy training for women as part of their business management training activities (Van Haeften 2013).

Priority Activity Area 2.3: Improved market linkages and information access

Market assessments. Comprehensive value and market chain analyses prepared at the outset of development interventions serve as a guide to potentially profitable ventures for food-insecure households. Assessments of multiple Title II interventions globally reveal that the most successful interventions involved farmers and farmer groups during the research phase, since they will ultimately be responsible for implementing the recommendations (Ibid.). Such involvement in the process provides farmers a familiarity with the key actors in the value chain and understanding of buyer requirements. Fortunately, Malawi has profited from a wealth of research on market function and value chain analysis on specific crops such as maize, rice, groundnuts, as well as livestock and fish. Studies funded by MOAFS, donors, FAO, and NGOs shed significant insight on value chains along with gross margin analyses, including the pros and cons of CA, and should be useful for programs designing new food security and livelihood efforts.

Market information analysis and dissemination. Innovation in mobile technology provides new means to furnish smallholder farmers with relevant market information in a cost-effective manner. USAID/Malawi supports ACDI/VOCA's Market Linkages Initiative, which uses the *Esoko* market information platform to push relevant data to thousands of smallholder farmers on a regular basis. Recently, market agents from ACE took over the market price collection process to provide clients trading on the exchange with up-to-date commodity prices throughout the country. This change is vital to making a market information system sustainable. Awardees should propose ways in which they can support ACE to collect pertinent data in intervention zones and disseminate information to smallholder farmers. Another effort funded by FICA and implemented by Agribusiness Services International sends agronomic training modules, market information, and weather/crop forecasts to field extension agents and lead farmers.

Market linkages. The potential for the nascent commodity exchange and increase in bulk sales by WALA-supported farmers point to the tremendous potential for farmers to obtain higher margins for their production. Since ACE's launch in 2006, the exchange has slowly built up a regional base of rural warehouses used to collect and store commodities and subsequently sell to competing buyers via an electronic exchange, not dissimilar to the Chicago Board of Trade. In 2012, ACE introduced warehouse receipts so that farmers who choose to store at ACE are able to borrow against stored commodities. Though the smallholder participation in this program is small at the moment, it has the potential to grow with further outreach and assistance from other actors who can encourage farmers to bulk their goods, maintain high quality standards (such as appropriate moisture content), and thereby benefit from higher prices months after the harvest. Early in 2013, Auction Holdings Limited, the tobacco auction floor, launched its own competing exchange – AHCX – in partnership with ADMARC to buy and sell agricultural commodities apart from tobacco. AHCX sees significant potential for the pigeon pea market in India whereby buyers overseas can bid on stocks in remote warehouses via the electronic exchange. To date, traders have begun to use the exchange, as has WFP for its local purchase program. The existence of

these exchanges provides awardees a unique opportunity to work with vulnerable and viable groups to sell excess production to the exchange.

Apart from encouraging farmers to sell on the commodity exchange, initiatives to connect buyers to dependable markets have been fruitful and should be expanded in the future. WALA partners formed 25,000 farmers into 247 marketing clusters to collectively sell their commodities, purchase inputs, and access business services. In particular, they have promoted birds-eye chilies, pigeon peas, cassava, soya, and cotton. Marketing fairs facilitated buyer transactions such as commodity sales and seed/input purchases, selling 120 MT of smallholder chilies to processors such as Nali and exporters such as Exagris valued at MK 64 million. These are good examples of what can be done in a fairly short amount of time and most importantly, the willingness of farmers to participate once a profitable venture has been clearly demonstrated.

Applicants should also aim to increase farmer skills in farm management and business planning to create for decision-making. This would include working with farmers to develop the optimum combination of food from their own production, income from sale of high value crops, value-added processing, off-farm income, and other income sources. Training should also incorporate basic literacy/numeracy as part of the package to enable farming households to become better farm managers and businesspersons. Special emphasis could be placed on tracking costs of production to engender a better understanding of return on investment and profit.

Program Priority 3: To increase household resilience to climate change and other shocks

The magnitude, frequency, and impact of disasters in Malawi have been increasing due to climate change, population growth, and environmental degradation. These aspects have contributed to increasing food insecurity in Malawi. The recently completed ARCC vulnerability assessment asserts that households will face increasing problems related to climate change, such as heavier and less predictable rains, higher temperatures, and extended dry periods. These elements will make farmers' decisions regarding planting and harvesting more difficult, and some crops such as maize will be heavily affected compared to more resilient crops such as sorghum and soybeans. Worsening weather conditions have and will continue to affect pasture for livestock. Fishing households surrounding Lake Malawi and Lake Chilwa have also been affected by the change in climate due to declining water levels, stronger winds that endanger fishermen, and increased cloud cover that complicates the fish drying process (USAID 2013b). Other shocks include those related to disease, inflation, and natural disasters such as earthquakes. The trends noted above will serve to reduce household income earnings and lead many to turn to negative coping mechanisms such as livestock and asset sales, charcoal production, and prostitution. Apart from donor-supported interventions, the GOM has developed various policies and is working to strengthen disaster risk management coordination mechanisms, develop an integrated national EWS, and implement mitigation measures in disaster-prone areas.

Priority Activity Area 3.1: Enhanced community- and district-level capacity to mitigate and respond to shocks

Proposed target districts face frequent shocks, thus new Title II development programs should build upon successful approaches to build the capacity of VCPCs and their linkages to district and national levels. WALA trains communities at the Group Village Headman (GVH) level in disaster risk management to reinforce community resiliency to external shocks and to build coping capacities caused by changing weather patterns and rising prices for staple food. Communities create Participatory Capacity Vulnerability Assessments (PCVA) to identify context specific hazards, vulnerabilities and capacities based on mapping and identification of historical disaster events. They were also introduced to early warning including trigger indicators, protection of assets during crises, coping capacities and

identification of safe zones (CRS/Malawi 2012). The program has also worked at the district level to develop and operationalize disaster contingency plans.

While both VCPCs and DCPCs note that coordination and functionality has improved, there is room for improvement required for actual disaster response. Even with strong structures in place, VCPCs are constrained by lack of funds pre or post disaster to either mitigate risks or respond to emergencies. DCPC representatives interviewed for this Framework cited a lack of resources and inability to pre-position supplies in areas that flood annually. At the VCPC level, Awardees should consider a small-grant fund to be used for both disaster mitigation and response. Food for Work can be used for some mitigation and response efforts. This was done on a limited basis for mitigation projects such as planting natural woodlands near eroding embankments, but to date, Food for Work has not been used post-disaster in Malawi. To pre-position supplies in at-risk areas, Awardees should advocate with the DCPC at the national level, DODMA, U.N. agencies such as WFP, UNICEF, and WHO, and others to access supplies prior to the rainy season which would be stored at the Extension Planning Area (EPA) level. The mid-term evaluation also noted a need for evaluation post-disaster to assess the relevance and rapidity of the response.

These proposed livelihood and health interventions will also serve to mitigate the negative impacts of climate change. Climate-smart agriculture practices such as crop selection and conservation agriculture will mitigate the impacts to vulnerable households. The ARCC vulnerability assessment provides various scenarios that households are likely to face if they adopt improved practices or choose to plant sorghum and soybeans instead of maize and other vulnerable crops (USAID 2013b). Livelihood diversification will also contribute to a broader income base for households through the development of non-agriculture revenue streams. Concerted efforts to reduce household size through family planning practices such as birth spacing and the promotion and increased use of birth control will also reduce consumption requirements within households and land pressure.

Priority Activity Area 3.2: A sustainable early warning system that benefits communities and the national government

The current early warning systems in Malawi are not functioning as optimally as they could to effectively support adaptive capacity of local communities and key sectors. This restricts long-term planning and the country's ability to mitigate the impacts of drought, price inflation of key commodities, and signs of malnutrition. As previously noted in **Section 2.8**, there are many agencies involved in various aspects of early warning, but MVAC is central to this process as it coordinates the Nutrition and Food Security Surveillance System, along with numerous GOM agencies, U.N. bodies, donors, and NGOs. FEWS NET provides monthly food security updates, quarterly food security updates, monthly price bulletins, and cross-border trade analysis and participates in collaborative food security assessments with MVAC.

A successful EWS should be based on credible, reliable, and consistent disclosure of information among stakeholders. Traditionally, indicators have included market prices, rainfall, and low MUAC prevalence for children under 5. It is recommended that new Title II development programs identify pertinent indicators along with district agencies and community members that would provide useful information consistently over time. They should also liaise with the DCCMS at the national level to determine if the department requires assistance to collect rainfall data in zones where Title II programs will operate. WALA collected data using the Household Hunger Scale using mobile phones as a means to rapidly assess situations post-emergency. Once there is consensus from the target communities and engagement in collecting this data, awardees should engage directly with the DCPC, DCCMS, and MVAC to propose a pilot EWS for a single district. This process should involve key district representatives from health and agriculture who are already collecting some of this data. Other key partners in this effort will be other

civil society organizations such as Christian Aid and Concern Universal that are working with nearly 100 communities to strengthen community-based early warning systems.

Community-based organizations can also play a crucial role in climate change and disaster risk reduction through vulnerability assessment. Their involvement can reinforce national and sub-national entities to monitor climate change and to generate reliable information, including forecasts using other environmental and socio-economic data to improve evidence-based decision-making for early warning and adaptation responses.

Priority Activity Area 3.3: Climate change impacts are mitigated through watershed management and other disaster risk reduction interventions

Land use trends over the past 20 years point to severe environmental degradation, as forests have been converted to agricultural production for tobacco and maize. High population growth and density in the Southern Region has contributed to this trend as desperate farmers encroach on protected areas and farm on marginal lands. Environmental protection should not take a back seat to agricultural production, as food insecurity could rise dramatically as maize-dominated agricultural practices produce ever smaller yields and unabated charcoal production decimates the last remaining forest reserves. Improved watershed development and environmental management must be an integral part of any food security intervention to bolster household resilience to avoidable environmental destruction.

Experience from Malawi Title II development programs show that watershed improvement initiatives can have significant impact if well designed. The Indian Watershed Trust served as a technical partner to WALA to design specific interventions to improve degraded watersheds through Food for Work using techniques such as contour continuous trenches, stone bunds, infiltration pits and trenches, gully plugs, and reforestation. Communities who have benefited from such interventions have observed reduced soil erosion and flooding, higher moisture retention in gardens, increases in harvests, and future income from grafted fruit tree varieties planted in the watershed. Best practices from numerous Title II programs globally note that the use of Food for Work for public good initiatives, such as restoring degraded watersheds, is the best practice. Moving forward, it is recommended that the entirety of Food for Work activities in Malawi is devoted solely to restoring watersheds. Furthermore, watershed improvement interventions should be linked to small-scale irrigation where feasible to ensure that these investments can have a long-term impact.

Awardees should borrow from well-documented best practices and resources available when designing new programs. During the development of its Shire River Basin Management project, the World Bank developed digital elevation models and accessed satellite imagery, flood hazard maps, land use maps, and global datasets to target hotspots as part of its strategic design. These datasets are available to NGOs who should wish to use such data when designing projects to ensure that proposed work can have the most impact. Interaction with the Ministry of the Environment and Forestry is also vital to project design. Much can also be accomplished with the promotion of improved cook stoves to reduce charcoal use. The ECRP and DISCOVER projects funded by DFID have set up an innovative initiative in which improved cook stoves fabricated by local women's groups are eligible for carbon credits and recorded in a database for random monitoring. See the box below for more recommendations related to implementing infrastructure activities.

Suggested Principles for Implementing Infrastructure Activities in a Title II Development Program

- Give priority to (1) the creation of assets rather than the generation of temporary employment, (2) productive assets rather than social assets, and (3) community assets (public goods) rather than private assets.
- Involve communities in the identification, design, and implementation of the infrastructure, recognizing that communities are more likely to contribute to and maintain assets they recognize as having an economic value.
- Enhance the likelihood of sustainability by (1) ensuring quality, (2) building in appropriate environmental mitigation measures, and (3) strengthening local commitment and capacity to operate and maintain any infrastructure that is constructed.
- Avoid selecting activities or implementing activities in ways that are likely to distort participants' economic incentives in perverse ways and/or have adverse effects on local labor and product markets (e.g., by setting wage rates below the locally prevailing rates).

Sources: Malawi Food Security Programming Strategy FY 2008–FY 2014; Bangladesh Food Security Country Framework FY 2010–FY 2014.

5.4 Key Design and Implementation Considerations

Gender integration in programming design and implementation. The USAID Gender Policy clearly identifies gender integration as a mandatory consideration in all USAID programming. The USAID Gender Policy can be found at <http://www.usaid.gov/what-we-do/gender-equality-and-womens-empowerment/addressing-gender-programming> (USAID 2013c). Gender integration requires identifying and addressing, in all policies and programs, gender differences and inequalities, as well as the roles of women and men. The goal of gender integration is to promote gender equality and improve programming and policy outcomes. Applicants are required to explain explicitly how gender issues (such as identifying and understanding the causes of gender inequalities; the differences in roles, responsibilities, and needs of men and women; and the relationships between men and women, within the same sex, and between older and younger men and women) are linked to the three dimensions of food security and how gender will be integrated into all program elements.

A gender analysis must be completed within the first year of the new program and can be undertaken in tandem with the formative research that will be conducted to strengthen program design. Gender analysis refers to the systematic gathering and analysis of information on gender differences and social relations to identify and understand the different roles, divisions of labor, resources, constraints, needs, opportunities/capacities, and interests of men and women (and girls and boys) in a given context. The objective of the gender analysis is to provide a deeper understanding of current gender issues at the community and household levels in program target areas, and this analysis should extend beyond a review of aggregate national level data on gender. At the community level, gender issues are dynamic and can change in positive or negative ways—promoting or undermining gender equality. The gender analysis should seek an understanding of current issues and changing trends that may affect program implementation. A better understanding of the influence of gender in program target areas— particularly in the ways that gender issues affect access to program interventions, decision making, and behavior change or program uptake—is important for achieving program nutrition and food security objectives.

Title II development programs must ensure a gender-sensitive program design by including such approaches as providing women entrepreneurs with access to financial services, encouraging women's

and girls' involvement in decision making at the community level, improving access and control over health care, and involving women in all conflict resolution and peace-building activities. Malawian women face significant disadvantages, as they have lower literacy rates and less access to land and improved inputs for farming than men. In addition, women tend to have a higher share of the labor burden within the household. Although GOM is trying to rectify some inequities such as land inheritance through pending legislation, cultural factors that form gender roles and attitudes are not easy to change. Nonetheless, Title II non-emergency programs can ensure a gender-sensitive program design by encouraging VSL groups to elect female leaders, providing female women entrepreneurs with access to financing to create or expand business opportunities via VSLs, encouraging women's and girls' involvement in decision making at the community level, improving access and control over health care, and involving women in conflict resolution and peace-building activities. Identifying and addressing the current gender constraints will be extremely important to ensure that programs reach their objectives. Some lessons learned from recent Title II development programming in Malawi reveal that:

- Gender must be core to project design.
- Localization and careful timing of activities, including skills building, allow easy participation by women.
- A group approach is more attractive to women than men and provides peer support and learning for women.
- Given the skewed workload between men and women, new agriculture and irrigation approaches should aim to reduce the labor burden on women.
- Male involvement in MCHN should be mainstreamed through training and relevant materials.
- Implementers should have a strong understanding of gender and decision-making dynamics around use of income from agribusiness and VSL.

Integrating gender into a Title II development program does not mean that the program must be exclusively or even primarily focused on women. Integrating gender is about sufficiently understanding the social context in the program area to create an enabling environment at the community level so that men and women can interact, participate, and gain equitably from program efforts in nutrition and food security.

The revised version of the Automated Directives System (ADS) 205, issued in July 2013,³⁵ provides guidance on how to implement USAID's gender equality and female empowerment policy. Applicants applying for the next Title II program in Malawi should note the requirements in ADS 201, 202, 203, and 205 for integrating gender equality and women's empowerment into all phases of programming, budgeting, and reporting. ADS 205 defines what a gender analysis is and explains how program offices and technical teams must incorporate the findings of the gender analysis throughout the program cycle, including in country strategies and projects.

Promote good governance at the community level. Title II development programs can make a significant contribution to good governance at the community, district and national levels during the implementation process. At the community level, well designed programs can foster change through training programs aimed at village committees such as the VCPCs and VSL programs that address issues such as transparency, female leadership, bookkeeping, and conflict resolution. Consideration should also be given to educating vulnerable communities to their rights under new land tenure provisions currently in Parliament. New programs can benefit from established relationships at the district level for health and agricultural programs and disaster risk reduction managed by the DCPCs. The interaction between local, district, and national governments related to disaster response can also be improved so that communities

³⁵ ADS 205 can be found at <http://www.usaid.gov/ads/policy/200/205>.

habitually affected by disaster are able to demand more immediate and appropriate assistance post-crisis from elected officials.

Geographic and beneficiary targeting. Title II resources target the poorest countries in the world and the most food-insecure regions within these countries. Prospective applicants are encouraged to use the guidance in **Section 5.2** to select Malawian districts for potential interventions. Within these districts, specific traditional authorities should be selected based on need and in consultation with the district authorities and existing donor/NGO interventions in the area.

Applicants should develop an integrated rural development program that targets entire communities. Within this program, the focus population for various component activities may be different. Applicants are encouraged to use a household economy analysis approach³⁶ to develop a strategic plan for working with individual communities.

The smallholder farmers targeted in the FTF INVC value chain flagship program are the “poor with assets”—in Household Economy Analysis this is most often the “middle” group in a livelihood zone. This constitutes the wealth group a layer or two above the smallholders that should be targeted in Title II development programs. It is important to understand that not all “poor” farming households, as defined by living under US\$1.25 per day per person, are equal. Some are poorer than others, and some have more opportunity or more resources than others. Often dependency ratio is the distinguishing factor—e.g., a poor household with one adult and five children under the age of 8 has less labor to produce more food and income than a household with two adults and three children. While the primary target of the Title II development program in Malawi should be the poor, some DRR and resilience activities should also engage the very poor, middle, and better-off wealth groups (i.e., the entire community). In addition, some Title II value chain activities focused on the poor members of farmer organizations can and should also engage with association members who are in middle or even better-off wealth groups, as they can serve as valuable role models or mentors for the newer members of an association.

To maximize nutrition impacts, households with children under 2 and pregnant and lactating women should be prioritized for both MCHN and food security activities. In addition to reducing chronic malnutrition, this targeting will facilitate sustainable reductions in food insecurity, which is a major underlying cause of chronic malnutrition. Recognizing that productive activities may represent a significant time burden for women and cause reduced time for young children’s care and feeding, program approaches should be chosen to mitigate this effect. Beneficiary targeting should also place special emphasis on involving young adults (approximately aged 14–24), as they make up a large percentage of the population and will likely become parents during the life of the Title II program, but are often marginalized. Due to extreme food insecurity and vulnerability, the following groups identified in the CFSVA may also be targeted: female-headed households, HIV-affected households, and those with land holdings under ½ ha.

Monitoring and evaluation. As is the case for every Title II development program, applicants should develop an effective monitoring and reporting system that is responsive to internal management needs, USAID’s Evaluation Policy,³⁷ and the reporting requirements of USAID/FFP, the Mission, and the U.S. Department of State. Program success at impact and higher-level outcome levels will be measured by the collection of baseline and final evaluation indicators. These will be collected either by awardees or by an external contractor supervised by USAID/FFP (USAID/FFP will make a determination on who should collect the data for each award). Baseline and final evaluation indicators will examine changes in

³⁶ Applicants should be familiar with the household economy analysis approach described in Malawi Livelihood Baseline profiles for Malawi (2005 and to be updated in 2013/2014), which breaks the population into wealth groups (very poor, poor, middle, and better off) and provides relative rankings for the specific livelihood zone.

³⁷ The USAID Evaluation Policy can be found at <http://www.usaid.gov/evaluation/policy>.

economic status and household access to food, as well as children's and women's nutritional status. Some of these indicators are contextual only. In addition, awardees must collect USAID/FFP annual monitoring indicators. Several of the annual monitoring indicators are "Required"; all programs must collect them. Others are "Required if Applicable" and must be collected by all programs implementing relevant program interventions. "Standard" indicators make up the third category. These are not required, but USAID/FFP strongly recommends their collection for programs implementing relevant interventions. Finally, awardees are responsible for planning and implementing a mid-term evaluation approximately halfway through the life of each program. Applicants should refer to the current set of USAID/FFP indicators for clarification on USAID/FFP baseline/final evaluation and annual monitoring indicators.

Development approach, sustainability, and exit strategy. USAID/FFP seeks to implement effective models, build capacity, and create an enabling environment adapted to the Malawi context. Therefore, applicants must provide an overall development strategy that seeks to create, wherever possible, self-financing and self-transferring models that will continue to spread under their own momentum both during and after the project. It is the expectation that these models will be adopted and adapted by a significant proportion of the population. Many examples of this type of intervention exist, but one particularly successful example of this type of model is the Farmer-Managed Natural Regeneration system that is spreading in Niger.³⁸

Sustainability of impact of the Title II development program in Malawi is most likely to happen in areas where the following factors exist:

- Recognition by community members of activities' proven value and their visible outcomes
- Ownership and commitment to continue activities on the part of the community, community group, or government
- Empowerment of individuals, communities, and service providers to demand quality services
- Extent of transfer to community members, groups, and service providers of the skills and knowledge needed to generate desired outcomes
- Institutional capacity of community-based organizations and health facilities is strengthened, as is the capacity of key individuals in those organizations
- Adaptability of community-based organizations and health facilities in the face of unpredictable political, environmental, and social changes
- Explicit plans for resource generation when consumable supplies (e.g., medicines and immunizations, agro-inputs, food) are needed to sustain impact (Rogers, B.L. and Macías, K.E. 2004)

The sustainability of program results can be improved by well-implemented integrated programming, as well as through the use of community participatory approaches. Community participatory approaches focus on ensuring community ownership and responsibility from the beginning of program implementation, with communities helping to establish the program objectives and engaging in the program planning process.

Livelihood activities should be designed to build community members' capacity to earn higher incomes to reduce food insecurity in the future. A market-based approach should be used rather than subsidies, which cannot be sustained. Applicants should look for means to enhance market chains by improving product quality and bringing buyers and sellers together in a mutually profitable manner.

³⁸ A paper describing this system can be found here: <http://www.ifpri.org/publication/agroenvironmental-transformation-sahel>.

During project design, applicants should interview local and national government, and private and community stakeholders to ensure any program proposal works toward mutually supported goals. Rather than build a parallel health or agricultural extension system, applicants should work closely with MOH, MOAFS, and MVAC to build the technical, managerial, and administrative capacity of their field teams, which will be useful in the long run.

Part of a Title II development program's ability to achieve sustainability of program impacts depends on well thought-out and implemented exit strategies. An exit strategy is a plan describing how the program intends to withdraw its resources while assuring that the achievement of development goals is not jeopardized and that progress toward these goals continues. An exit strategy may use graduation from specific project areas as steps toward the eventual total withdrawal of resources, or exit may take place at one time across the entire program area. In both cases, the underlying goal of an exit strategy is to ensure sustainability of program impacts after a program ends. Steps to help establish a successful exit strategy include:

- Establish a clear but flexible timeline linked to the program funding cycle.
- Incorporate exit plans from the beginning of program implementation.
- Implement exit plans in a gradual, phased manner.
- Consider an exit timetable that allows sequential graduation of communities and/or components.

Programmatic integration. The cross-cutting nature of food security programs offers an ideal conduit to bring about change through improved health, livelihoods, and resiliency to shocks within households. However, beneficiary participation in multiple programmatic activities offered by awardees should evolve naturally rather than be mandated by field staff. Participants need to see the added-value for themselves, especially given their time constraints.

To encourage program integration within a Title II program, awardees should focus attention first on integrated staff training. Project field extension officers will have a greater proclivity to promote integration if they have a foundation in all program elements. Awardees should provide cross-training in the fundamentals of MCHN, improved agricultural production, VSL formation, and watershed enhancement. Field managers should also monitor the evolution of field team cooperation to provide recommendations or suggest visits to other sites where integration is more pronounced.

Environmental monitoring and mitigation. The identification and prevention of potential detrimental environmental impacts of USAID Title II assistance is critical to ensuring that interventions do not harm the intended beneficiaries or general environment. USAID's Regulation 216 has a range of procedures and tools to assess and mitigate potential environmental impacts of U.S. Government-funded activities.

Mitigation and management of potential environmental impacts must be an integral part of program design. Upon identification of environmental impact management actions in the planning stage, awardees can integrate these activities throughout the course of the project. Programmatic integration will ensure more consistent management of potential and identified environmental impacts. Applicants should prepare an Environmental Mitigation and Monitoring Plan providing guidance on how technical assistance will be used to mitigate impacts throughout the project and should reference the Environmentally Sound Design and Management Capacity Building for Partners and Programs in Africa toolkit (USAID 2013d).

Technology. Awardees should consider using improved technology to enhance program monitoring, management, and promotion within target communities. There are numerous ongoing initiatives in Malawi to send market prices and other pertinent information to farmers, such as *Esoko*. Title II awardees are encouraged to provide details on technologies that are currently available and how project participants

could benefit. For monitoring and registration systems, awardees should propose innovative solutions for improving data collection linked to server-supported databases. The strategy for developing early warning systems should promote a regular means to track remote data such as rainfall, market prices, Household Hunger Scale, and MUAC, in collaboration with MVAC.

A cross-cutting aspect of the USAID/Malawi strategy is to increase the use of technology and innovation. Each of the development objectives should “contain activities that test, evaluate, and scale up promising technology applications...[to] reinforce both the availability and quality of services and empower individuals to hold service providers accountable” (USAID/Malawi 2013). Applicants should familiarize themselves with technology applications already in use in Malawi, such as mobile application data collection for health indicators, dissemination of market prices via SMS, mobile bank transfers, and radio broadcasts of key messages.

Formative research and SBCC. As food insecurity is a complex problem requiring interventions that are relevant and feasible in the local context, it is imperative that solid formative research create the basis for building Title II development program actions. A myriad of tools and approaches exist, but the key aspect is that program design is informed by a deep knowledge of the intervention areas and that views and information are sought from a range of stakeholders (younger and older women and men, those engaged in different livelihoods, mothers and fathers, religious and community leaders, as well as invaluable perspectives from community-based organizations such as people living with AIDS and producer groups, and multiple sectors from local government). Strategies, activities, and SBCC will depend on quality information optimally collected by project staff. It is also essential that qualitative research be carried out when interventions are not effective (for example, to provide insight into why farmers are not adopting new technologies, similar to what would be gleaned in formative research for MCHN).

Operations research. Operations research enables programs to identify problems in service delivery and to test programmatic solutions to solve those problems in program implementation. It provides program managers and policy decision makers with the information they need to improve existing services. There are five basic steps in the operations research process: 1) identify the problem in service delivery or implementation, 2) identify a solution or strategy to address the problem, 3) test the solution, 4) evaluate/modify the solution, and 5) integrate the solution at scale.

By incorporating well-designed operations research as a key part of program activities, programs can continuously examine the quality of their implementation and identify constraints to delivery, access, and utilization of program activities, adjusting as necessary. Operations research is an iterative process that may be conducted at the beginning of the project and repeated during the life of the activity to ensure continued quality in service delivery and program implementation. Done well, operations research can increase the likelihood that the project will attain its stated objectives.

5.5 Strategic Partnerships

To maximize impact in targeted areas, awardees should form strategic partnerships with national and district government entities, the private sector, and other USAID-funded projects and NGOs working in the same zone. District and national government officials interviewed for this FSCF felt that NGOs in general do not collaborate effectively with GOM or inform GOM about what they are doing. Nevertheless, WALA appears to have succeeded in forming strong working relationships with district authorities. Rather than create a parallel structure for agriculture and health extension, awardees should work closely with district authorities and field agents based on best practices from over 10 years of Title II interventions in Malawi. At the national level, building the relationship with MVAC will be critical to participate in the creation and evolution of a functioning EWS. Effective partnerships at the local and national levels are essential building blocks for strengthening capacity for the program’s ultimate exit strategy.

Future Title II development programs should place a heavy emphasis on the importance of economics as the basis for household decisions related to improved livelihoods. The private sector can play a role in this change, and awardees can serve as the link between the target communities and entities with a clear business interest. WALA has proven that the organization of agribusiness development groups and linkages to buyers are mutually profitable and likely to continue after the project's closure. The nascent commodity exchange also offers an unparalleled opportunity in Africa to alter the paradigm of smallholder exploitation following harvest. Awardees must seek ways for target farmers to work toward participation once their production levels have increased, allowing them to sell excess produce.

USAID/Malawi's "3C" approach places an emphasis on collaboration and coordination among USAID-funded project working in the same zone (co-location). Opportunities for successful collaboration in key practices areas such as economic growth, education, health, and democracy and governance should be explored by applicants. Applicants should propose evidence-based improvements to the integrated rural community development approach as it is currently implemented in Malawi through WALA. These proposed improvements should include more explicit integration with FTF and other Mission programs, including PEPFAR programming, SSDI and with USAID's Agency Water Strategy implementation, with BFS centrally funded programs (especially Africa Rising, AGRA Scaling Seeds and Technologies Partnership, the FTF Innovation Labs implemented by Title XII Universities (formerly known as Collaborative Research Support Projects), with other development partners programs, and with government and host country systems, by means of the 3C approach and with all programs proactively promoting such integration. For example, INVC is incorporating the Title II care group model, now adopted by GOM, into its activities in five of the districts in the FTF Zone of Influence where Title II programs are not currently operating. INVC is also encouraging continuation of the VSLs and community capacity in disaster risk management that previous Title II programs launched. Similarly, applicants should explore ways to collaborate with the numerous NGOs supported by a variety of donors active in the Southern Region, with several partners identified in **Section 4.2.3**.

Key partnerships with GOM include MOH, MOAFS, MVAC, and the Department of Disaster Management Affairs. New programs may also collaborate with NGOs such as Christian Aid and Concern Universal managing climate change activities; the ECRP and DISCOVER projects funded by DFID; Irish Aid and Norwegian Aid; and the World Bank's Shire River Valley project. Potential U.N. partners include WFP (for emergency response and early warning), FAO (for training and extension services for smallholder producers), and UNICEF (for nutrition). Potential private sector partners include Nali, Exagris, Rab Processors, ACE, AHCX, and NASFAM. Several academic institutions in Malawi (Bunda College and Chancellor College, among others) have an abundance of technical experience and resources and collaborated with WALA.

References

- AFIDEP and PAI. 2012. "Population, Climate Change, and Sustainable Development in Malawi," Nairobi and Washington, DC: AFIDEP and PAI.
- African Economic Outlook. 2013. "Malawi." Accessed on June 24, 2013. <http://www.africaneconomicoutlook.org/en/countries/southern-africa/malawi/>.
- Atuyambe, L.F.; Mirembe, N.M.; Tumwesigye, J. et al. 2008. "Adolescent and adult first time mothers' health seeking practices during pregnancy and early childhood in Wakiso district, Uganda." *Reproductive Health*. 5: 13.
- AU/NEPAD. 2010. CAADP Post Compact Review: *Malawi Technical Review Report*. Lilongwe, Malawi.
- Ballard, T.; Coates, J.; and Swindale, A. et al. 2011. *Household Hunger Scale: Indicator Definition and Measurement Guide*. Washington, DC: FHI 360/FANTA.
- Black, R.; Victora, C.; and Walker, S. et al. 2013. "Maternal and child undernutrition and overweight in low-income and middle-income countries." *The Lancet*. Published online June 6, 2013. [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(13\)60937-X/fulltext](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(13)60937-X/fulltext).
- Centre for Environmental Policy and Advocacy. 2012. "Policy Framework for Climate Change Adaptation and Disaster Risk Management in Malawi: A Review of Key Policies and Legislation," August 2012.
- Chintsanya, N.C.; Chinombo, D.O.; Gondwe, T.N. et al. 2004. "Management of Farm Animal Genetic Resources in the SADC Region." FAO & MOAFS.
- Chirwa, E. 2004. "Access to Land Growth and Poverty in Reduction in Malawi." University of Malawi, Chancellor College.
- Concern Universal. 2011. "Conservation Agriculture Research Study."
- CRS/Malawi. 2012. "Annual Results Report FY'12 for Title II Program in Malawi." November 2012.
- CRS/Malawi. 2013. "WALA Overview" PowerPoint presentation. Title II WALA Program, May 2013.
- Department of Animal Health and Livestock Development. 2008. .
- Dorward, Chirwa and Jayne, T.S. n.d. "Malawi Agricultural Input Supply Program 2005/5 & 2008/9."
- Droppelmann, K.; Makuwira, J.; and Kumwenda, K. 2012. "All Eggs in One Basket: A Reflection on Malawi's Dependence on Agricultural Growth Strategy." April 2012, IFPRI.
- EU. 2006. Commission REGULATION (EC) No 1881/2006 as of 19 December 2006: "Setting maximum levels for certain contaminants in foodstuffs." Accessed on September 6, 2013. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:364:0005:0024:EN:PDF>.
- EU, AU, FAO, and Global Soil Partnership for Food Security. 2013. "Soil Atlas of Africa." EU.
- FANTA. 2010. Title II Technical Reference Materials. *TRM-01: Preventing Malnutrition in Children under 2 Approach (PM2A): A Food-Assisted Approach*. Revised November 2010. Washington, DC: FHI 360/FANTA.

FAO. 2010. Gender and Land Rights Database.

FAO GIEWS. 2013. “Country Brief Malawi 13 May 2013.” Accessed on June 22, 2013.

<http://reliefweb.int/report/malawi/giews-country-brief-malawi-13-may-2013>. FEWS NET/Malawi. 2013. “Malawi Food Security Outlook: April to September 2013,” April 2013.

Food and Natural Resources Policy Analysis Network. 2003. “Food and Natural Resources Policy Analysis Network Policy Brief No. 3: Review of Malawi National Land Policy.” Accessed on June 4, 2013. http://www.fanrpan.org/documents/d00030/Policy_Brief3_2003.pdf.

GHI Strategy Document. 2011. Accessed on June 4, 2013.

<http://www.ghi.gov/documents/organization/158919.pdf>.

GOM. 2002. National Land Policy. Lilongwe, Malawi: GOM.

———. 2007. “The Fish Sector and its Importance in Malawi.” Prepared by GOM for the Commonwealth Secretariat. Presented at ESA Meeting on Trade and Sustainable Approaches to Fisheries Negotiations under WTO/EPA, Mauritius, May 2–4, 2007.

———. 2011a. “Integrated Household Survey 2010–2011: Household Socio-economic Characteristics Report.”

———. 2011b. “Malawi National Health Sector Strategic Plan 2011–2016.”

———. 2011c. *A Report for the National Micronutrient Survey 2009*. Accessed on June 20, 2013.

<http://www.moafsmw.org/ocean/docs/Nutrition%20Docs/D%20FINAL%202009%20MALAWI%20MICRONUTRIENT%20REPORT%20cleared%20July%202011%2031%2010%2011.pdf>.

———. 2012a. “2012 Resilience Strategy for Food Security in Malawi.” GOM & Office of the U.N. Resident Coordinator.

———. 2012b. “Developing Innovative Solutions w/Communities to Overcome Vulnerability through Enhanced Resilience & Enacting Community Resilience Program: Policy Framework for Climate Change Adaptation & Disaster Risk Reduction in Malawi: A Review of Key Policies & Legislation.”

———. 2012c. Global Agriculture and Food Security Programme Support to Malawi’s Agricultural Sector Wide Approach (ASWAP) *Proposal from Malawi Government*. Lilongwe, Malawi: GOM.

———. 2012d. Malawi Gender Equality Bill, 2012. Accessed on June 14, 2013. <http://www.scotland-malawipartnership.org/documents/37-GenderEqualityBill2012.pdf>.

———. 2012e. “Malawi Growth and Development Strategy II.” Lilongwe, Malawi: GOM.

GOM Department of Nutrition, HIV, and AIDS. 2009. *National Nutrition Policy and Strategic Plan*. March 2009. Accessed on May 10, 2013.

<http://www.standardsfacility.org/Files/EconAnalysis/Malawi/18%20Malawi%20National%20Nutrition%20Policy%20Strategic%20Plan%202009.pdf>.

———. Department of Nutrition, HIV, and AIDS. 2011. *Malawi National HIV and AIDS Strategic Plan* January 2012– December 2016. Final Draft December 31, 2011.

———. Department of Nutrition, HIV and AIDS, MOH, NSO, UNICEF and CDC. 2011. *The National Micronutrient Survey 2009*. Lilongwe, Malawi: MOH, UNICGOM 2EF, Irish Aid, and CDC

- GOM MOH. 2011. 1st Edition of the Malawi Guidelines for Clinical Management of HIV in Children and Adults.
- . MOH. 2008. HIV and Syphilis Sero-Survey and National HIV Prevalence and AIDS Estimates Report for 2007. August 2008. Accessed on August 31, 2013.
<http://www.k4health.org/toolkits/malawi-hivaids/sentinel-surveillance-report-2007>
- . MOH. 2012. “HIV and Syphilis Sero-Survey and National HIV Prevalence and AIDS Estimates Report for 2010.” Lilongwe, Malawi: MOH.
- GOM Ministry of Lands and Housing. 2002. “Malawi National Land Policy 2002.” Lilongwe, Malawi: GOM. January 17, 2002. Accessed on July 21, 2013.
http://cepa.org.mw/documents/legislation/policies/Malawi_National_Land_Policy_2002.pdf.
- GOM NSO. 2008. “2008 Population and Housing Census Preliminary Report.” Zomba, Malawi: GOM NSO.
- . 2010. The National Census of Agriculture and Livestock (NACAL) 2006/07, main report.
- . 2011a. “GDP Estimates 2007–2010, GDP Flash 2nd Edition.” April 28, 2011.
- . 2011b. Malawi Third Integrated Household Survey (IHS3) 2010–2011. Lilongwe, Malawi: GOM NSO.
- . 2012. SUN 1,000 Special Days National Nutrition Education and Communication Strategy 2011–2015. Lilongwe, Malawi: GOM OPC/Department of Nutrition, HIV and AIDS.
- . 2013. “Malawi Consumer Price Indices (CPI) Dashboard.” Accessed on June 18, 2013.
<http://www.nsomalawi.mw/index.php/latest-publications/consumer-price-indices.html>.
- GOM NSO and ICF Macro. 2011. *Malawi Demographic and Health Survey 2010*. Zomba, Malawi, and Calverton, Maryland, USA: NSO and ICF Macro.
- Gourlay, D. 2012. “Market Situation Analysis for Districts of Malawi Affected by Food Deficits during the 2012/2013 Consumption Year.” MVAC, August 2012.
- Guyon, A.B. and Quinn, V.J. 2011. Booklet on Key Essential Nutrition Actions Messages, January 2011. Washington, DC: CORE Group.
- Helen Keller International. 2006. “Female decision-making power and nutritional status within Bangladesh’s socio-economic context.” *Nutritional Surveillance Project Bulletin No. 20*. August 2006.
- Humphrey, Jean. 2009. “Child undernutrition, tropical enteropathy, toilets, and handwashing.” *The Lancet*. Vol. 374, pp. 1032–35.
- IFPRI. 2005. “Women: Still the Key to Food and Nutrition Security.” Washington, DC: IFPRI.
- Jayne, T.S.; Sitko, N.; and Ricker-Gilbert, J. et al. 2010. “Malawi’s Maize Marketing System,” for Agricultural Input Subsidy Programme funded by DFID.
- Johnson, F.C. and Rogers, B.L. 1993. “Children’s nutritional status in female-headed households in the Dominican Republic.” *Soc Sci Med*. 1993 Dec.;37(11):1293-301.

- Joint U.N. Special Programme on HIV/AIDS. 2011 data. Accessed on June 25, 2013.
<http://www.unaids.org/en/regionscountries/countries/malawi/>
- Kachule, R.N. 2011. "Performance of Agriculture Sector in Malawi." Lilongwe, Malawi: Malawi Agricultural Sector Investment Program, Bunda College of Agriculture.
- Kamlongera, A.P. 2008. "Malawian women's participation in State politics: What are the constraints?" *Gender and Development*, Vol. 16, No. 3, pp.471 - 480, UK.
- Kamperewera, Dr. Aloysius. 2013. Director, Ministry of Environment & Climate Change Management, Environmental Affairs Department. May 7, 2013. Personal communication.
- Kanyoma, Edwin. 2013. Deputy National Coordinator, Greenbelt Initiative, Office of the President and Cabinet. May 7, 2013. Personal communication.
- Kerr, R. B. 2005. "Food Security in Northern Malawi: Gender, Kinship Relations and Entitlements in Historical Context." *Journal of Southern African Studies*, March 2005, Volume 31, Number 1.
- Khlangwiset, P.; Shephard, G.S.; Wu, F. 2011. "Aflatoxins and growth impairment: A review." *Critical Review of Toxicology*. 2011 Oct;41(9):740-55.
- Khonje, A. 2012. "Cholera outbreak in districts around Lake Chilwa, Malawi: Lessons learned." *Malawi Medical Journal*. June 2012. 24(2): 29–33.
- Kilic, T. et al. 2013. Caught in a Productivity Trap: A Distributional Perspective on Gender Differences in Malawian Agriculture. World Bank Policy Working Research Paper 6381. Washington, DC: World Bank.
- Kishor, Sunita, Ed. 2005. "A Focus on Gender: Collected Papers on Gender Using DHS Data". Calverton, Maryland, USA: ORC Macro. Accessed August 27, 2013.
<http://www.measuredhs.com/pubs/pdf/OD32/6.pdf>.
- Kongnyuy, E.J.; Hofman, J.; Mlawa, G. et al. 2009. "Availability, utilisation and quality of basic and comprehensive emergency obstetric care services in Malawi." *Maternal Child Health Journal*. 2009 Sep.13(5):687-94.
- Lunney, Kevin M.; Jenkins, Alison L.; and Tavengwa, Naume V. et al. 2008. "HIV-positive poor women may stop breast-feeding early to protect their infants from HIV infection although available replacement diets are grossly inadequate." *Journal of Nutrition*. February 2008, Volume 138, Issue: 2, pp. 351–357.
- Matlosa, K. 2008. Consolidating Democratic Governance in the SADC Region: Transitions and Prospects for Consolidation. Johannesburg: EISA.
- Mining in Malawi. 2013. "Mining to Play an Important Role in Malawi's Economic Growth African Economic Outlook 2013." Published online May 29, 2013.
<http://mininginmalawi.com/2013/05/29/mining-to-play-an-important-role-in-malawis-economic-growth-african-economic-outlook-2013/>.
- Mishra, Vinod and Simona Bignami-Van Assche. 2008. "Orphans and Vulnerable Children in High HIV Prevalence. Countries in Sub-Saharan Africa." *DHS Analytical Studies No. 15*. Calverton, Maryland, USA: Macro International Inc.

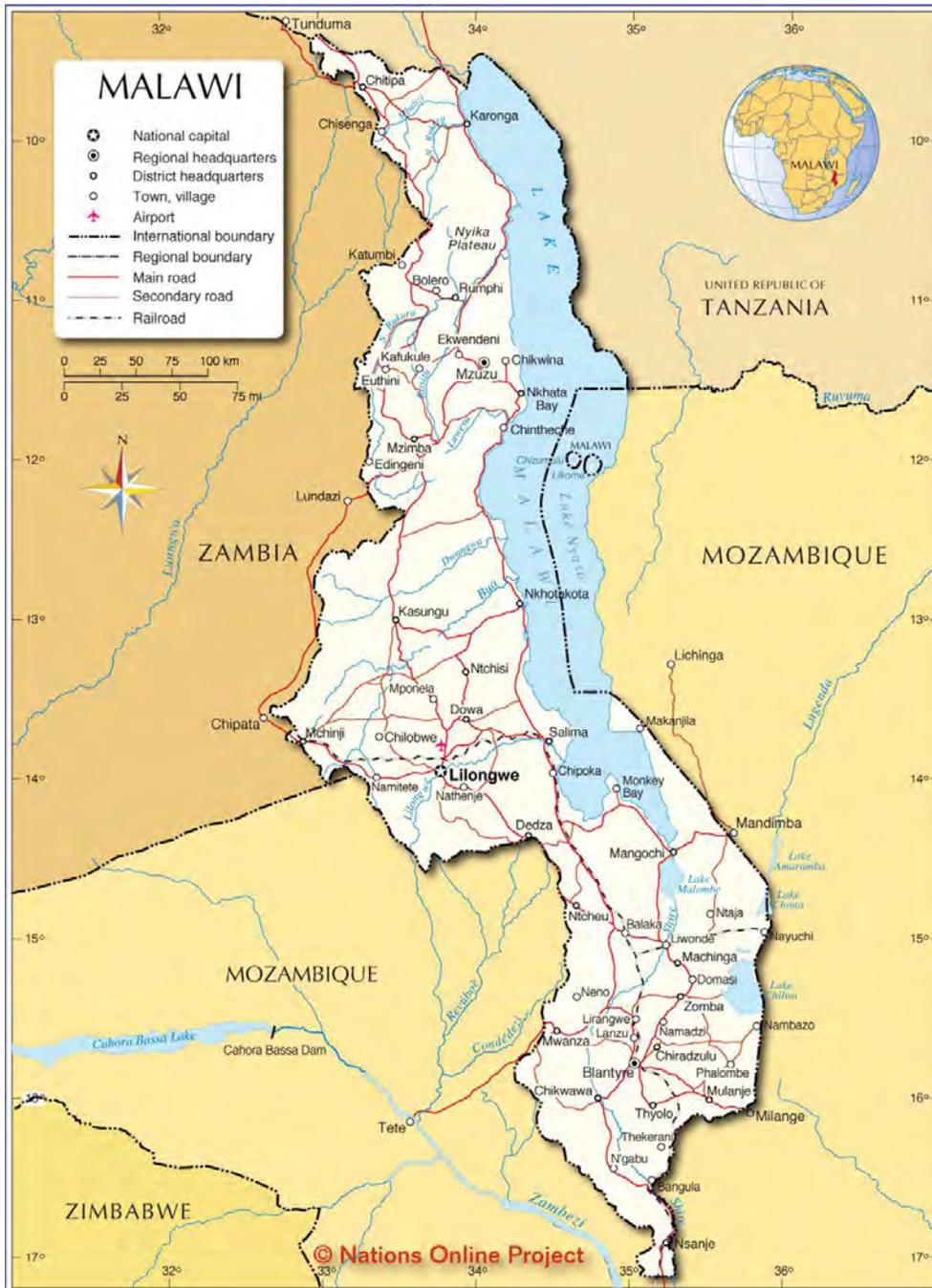
- Monyo, E., 2009. “Assessing Occurrence and Distribution of Aflatoxins in Malawi” funded by ICRISAT. 2009. Prepared by ICRISAT & NASFAM funded by The McKnight Foundation, p. 4
- Msarmo, K. and Mhango, W. 2000. “Yields of Maize as Affected by Fertiliser Application Practices.” Bunda College of Agriculture.
- Mtambo, Ms. Christine. 2013. Farm Input Subsidy Programme Coordinator, MOAFS. May 7, 2013. Personal communication.
- Mueller, D.H.; Lungu, D.; and Acharya, A. 2011. “Constraints to implementing the Essential Health Package in Malawi.” *PLoS ONE* 6(6): e20741. doi:10.1371/journal.pone.0020741.
- Mukherjee and Benson. 2003. “The Determinants of Poverty in Malawi 1998.” *World Development*. Volume 31, Number 2, February 2003, pp. 339-358.
- Mullen, Derek. 2013. Chief of Party, Land O’Lakes Malawi. May 10, 2013. Personal communication.
- Munthali, A. C. 2003. “Hunger, Public Policy and Child Labour: Case Study of Malawi.” Zomba: Centre for Social Research.
- MVAC. 2012. “Malawi Vulnerability Assessment Committee: October 2012 Update.” Bulletin No. 8, Volume 2, Oct. 2012.
- National Malaria Control Programme and ICF International. 2012. *Malawi Malaria Indicator Survey (MIS) 2012*. Lilongwe, Malawi, and Calverton, Maryland, USA: National Malaria Control Programme and ICF International.
- National Malaria Control Programme and Malawi MOH. n.d. *National Malaria Strategic Plan 2011–2015: Toward Universal Access*. Lilongwe, Malawi: National Malaria Control Programme.
- Nations Online. Accessed on May 1, 2013. <http://www.nationsonline.org/oneworld/map/malawi-administrative-map.htm>.
- National Statistical Office and UNICEF. 2008. Malawi Multiple Indicator Cluster Survey 2006, Final Report. Lilongwe, Malawi: National Statistical Office and UNICEF.
- Nyasa Times. 2013. “Malawi Tobacco Sales Register Success Amid Challenges.” Published online April 5, 2013. <http://www.nyasatimes.com/2013/04/05/malawi-tobacco-sales-register-success-amid-challenges-tcc/>.
- Orr, B.; Eiswerth, B.; and Finan, T. et al. 1998. Public Lands Utilization Study: Final Report. Tucson, AZ University of Arizona.
- PAI. 2012. Accessed on June 27, 2013. <http://populationaction.org/wp-content/uploads/2012/09/Malawi-Brief.pdf>.
- PATH/Infant and Young Child Nutrition Project. 2011. Consulting with Caregivers: Formative research to Determine the Barriers and Facilitators to Optimal Infant and Young Child Feeding in Three Regions of Malawi. February 2011. Washington, DC: Infant and Young Child Nutrition Project. Accessed on June 25, 2013. <http://iycn.wpengine.netdna-cdn.com/files/Consulting-with-Caregivers-Report.pdf>.

- Phuka, J.C.; Maleta, K.; Thakwalakwa, C. et al. 2008. "Complementary feeding with fortified spread and incidence of severe stunting in 6- to 18-month-old rural Malawians." *Archives of Pediatric and Adolescent Medicine*. 162:619-26.
- Rogers, B.L. and Macías, Kathy E. 2004. Program Graduation and Exit Strategies: Title II Program Experiences and Related Research. Washington, DC: FHI 360/FANTA.
- Ruel, M.; Menon, P.; and Habicht, JP et al. 2008. "Age-based preventive targeting of food assistance and behavior change and communication for reduction of undernutrition in Haiti: A cluster randomised trial." *The Lancet*. Vol. 371, No. 9612, pp. 588–595.
- Rutstein, S. 2008. Further Evidence of the Effects of Preceding Birth Intervals on Neonatal, Infant, and Under-Five-Years Mortality and Nutritional Status in Developing Countries: Evidence from the Demographic and Health Surveys. Washington, DC: USAID.
- Sahley, C. et al. 2005. The Governance Dimensions of Food Security in Malawi. Washington, DC: USAID.
- School of Oriental and African Studies, Wadonda Consult, Overseas Development Institute, and Michigan State University. 2008. "Project Information Document for Community Based Land Development Project Evaluation of the 2006/7 Agricultural Input Supply Programme, Malawi: Final Report." March 2008. London: School of Oriental and African Studies.
- Sibanda, L.M. 2011. "Women Farmers: Voiceless Pillars of African Agriculture." Pretoria: Food and Natural Resources Policy Analysis Network. Accessed on June 16, 2013. <http://www.trust.org/item/?map=women-farmers-voiceless-pillars-of-african-agriculture>.
- Silungwe, C.M. 2009. "Customary land tenure reform and development: A critique of customary land tenure reform under Malawi's National Land Policy." *Law, Social Justice and Global Development Journal*. Accessed June 1, 2013. <http://www.questia.com/library/1G1-207350771/customary-land-tenure-reform-and-development-a-critique>.
- Smith, L. et al. 2003. "The Importance of Women's Status for Child Nutrition in Developing Countries." Research Report 131. Washington, DC: IFPRI.
- Sobkoviak, R.M.; Yount, K.M.; and Halim, N. 2012. "Domestic violence and child nutrition in Liberia." *Soc Sci Med*. 2012 Jan;74(2):103-11. doi: 10.1016/j.socscimed.2011.10.024. Epub 2011 Dec 6. PubMed PMID: 22185910.
- Sperling, L. et al. 2011. "Seed System Security Assessment Southern Malawi," USAID OFDA, Oct. 2011.
- SUN. 2013. "Malawi Scaling Up Nutrition (SUN)." Accessed on June 20, 2013. <http://scalingupnutrition.org/sun-countries/malawi>.
- Tanner, J.M. 1989. *Fetus into Man*. 2nd ed. Ware: Castlemead Publishing.
- U.N. 2012. Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2012 Revision. Accessed on June 9, 2013. <http://esa.un.org/unpd/wpp/index.htm>.
- UNDP. 2013a. "Malawi Country Profile: Human Development Indicators." Accessed on June 8, 2013. <http://hdrstats.undp.org/en/countries/profiles/MWI.html>.

- . 2013b. “Strengthening climate information and early warning systems in Malawi for climate resilient development and adaptation to climate change.” GEF-funded project.
- UNICEF. 2013a. “Malawi Basic Indicators.” Accessed on June 18, 2013.
http://www.unicef.org/infobycountry/malawi_statistics.html.
- . 2013b. “State of the World’s Children 2012, Under Five Mortality Rankings.” Accessed on June 21, 2013. <http://www.unicef.org/sowc2012/pdfs/UNDER-FIVE-MORTALITY-RANKINGS.pdf>.
- USAID. 1992. Policy Determination 19, Definition of Food Security. April 1992.
- . 2013a. USAID’s Development Programs. Accessed on September 10, 2013.
<http://www.usaid.gov/what-we-do/agriculture-and-food-security/food-assistance/programs/development-programs>.
- . 2013b. “Africa and Latin American Resilience to Climate Change: Malawi Vulnerability Assessment Final Report.” July 2013. Arlington, VA: Tetra Tech.
- . 2013c. “Addressing Gender in Programming.” Accessed on June 16, 2013.
<http://www.usaid.gov/what-we-do/gender-equality-and-womens-empowerment/addressing-gender-programming>.
- . 2013d. USAID’s Environmental Capacity Building Program (ENCAP). Accessed on June 15, 2013. www.encapafrika.org.
- USAID/FFP. 2013. “Draft Malawi USAID BEST-Analysis Malawi.” May 2013. Washington, DC: Fintrac Inc.
- USAID/Malawi. 2013. Country Development Cooperation Strategy 2013–2017. March 2013.
- US National Institutes of Health. 2013. “Supplementing Maternal and Infant Diet With High-energy, Micronutrient Fortified Lipid-based Nutrient Supplements (LNS) (iLiNS-DYAD-M)” Accessed on September 13, 2013.
<http://clinicaltrials.gov/ct2/show/NCT01239693?term=NCT01239693&rank=1>
- Van Haeften, R.; Anderson, M.A.; and Caudill, H. et al. 2013. *Second Food Aid and Food Security Assessment (FAFSA-2)*. Washington, DC: FHI 360/FANTA.
- Wamani, H.; Nordrehaug Åstrøm, A.; and Peterson, S. et al. 2007. “Boys are more stunted than girls in Sub-Saharan Africa: A meta-analysis of 16 demographic and health surveys.” *BMC Pediatrics*, 7:17 doi:10.1186/1471-2431-7-17.
- WaterAid. 2013. “Women and WaterAid: Issue Sheet 1.” Accessed on June 16, 2013.
http://www.wateraidamerica.org/includes/documents/cm_docs/2008/w/women_and_wateraid_2006.pdf.
- Webb, P.; Rogers, B.L.; and Rosenberg, I. et al. 2011. *Improving the Nutritional Quality of U.S. Food Aid: Recommendations for Changes to Products and Programs*. Boston, MA: Tufts University.
- WFP. 2012. *Comprehensive Food Security Vulnerability Analysis (CFSVA) Malawi*. October 2012.
- WHO. 2008. *Indicators for assessing infant and young child feeding practices: Conclusions of a consensus meeting held November 6–8, 2007, in Washington, DC*.
http://whqlibdoc.who.int/publications/2008/9789241596664_eng.pdf.

- . 2011. “Cholera Country Profile 2010: Malawi, 5 July 2011.” Accessed on June 24, 2013. <http://www.who.int/cholera/countries/MalawiCountryProfile2010.pdf>.
- . 2013. “Indicators for Assessing Infant and Young Child Feeding Practices: Part 1, Definitions.” Accessed on June 10, 2013. http://whqlibdoc.who.int/publications/2008/9789241596664_eng.pdf.
- Whole Foods website. “Top Ten ANDI Scores.” Accessed on June 1, 2013. <http://www.wholefoodsmarket.com/healthstartshere/andi.php#green-vegetables>.
- World Bank. 2013a. Data 2010–2012 provided on metadata website. Accessed on July 20, 2013. <http://data.worldbank.org/country/malawi>.
- World Bank. 2013b. “Under 5 Mortality Rate.” Accessed on June 13, 2013. <http://data.worldbank.org/indicator/SH.DYN.MORT>
- World Bank. 2013c. “Lifetime Risk of Maternal Death.” Accessed on July 10, 2013. <http://data.worldbank.org/indicator/SH.MMR.RISK>.
- World Bank. 2013d. “Improved Water Source.” Accessed on June 26, 2013. <http://data.worldbank.org/indicator/SH.H2O.SAFE.ZS>.
- World Bank & LTS International. 2010. “Climate Smart Agriculture: An Assessment of Integrated Land Use Options in Malawi.”
- World Fish. 2012. “The Structure & Margins of the Lake Chilwa Fisheries in Malawi: A Value Chain Analysis.”

Appendix 1. Map of Malawi



Source: www.nationsonline.org/oneworld/map/malawi-administrative-map.htm

Appendix 2. Malawi Economic and Poverty Indicators

Indicator	Value	Source
Population		
Population	15.91 million	2012 WB
Gross Domestic Product		
GDP	4.264 billion	2012 WB
Poverty		
Poverty headcount ratio at national poverty line (% of population)	50.7	2010 WB
Human Development		
GNI per capita, Atlas method (current US\$)	360	2011 WB
Percentage of households with electricity	9	2010 DHS
Education		
Received no education (%)	Men: 11.4 Women: 18.9	2010 DHS
Median years of schooling completed	Men: 3.5 Women: 2.5	2010 DHS
Percentage of women age 15–49 and men age 15–54 who can read	Men: 81 Women: 68	2010 DHS
Age at marriage and first birth		
Median age at first marriage for women age 25–49 (years)	17.8	2010 DHS
Median age at first birth for women age 25–49 (years)	18.9	2010 DHS
Life expectancy, fertility and mortality		
Life expectancy at birth, total (years)	54	2011 WB
Births per woman	5.7	2010 DHS
Under-5 mortality (deaths per 1,000 live births)	112	2010 DHS
Child mortality (deaths per 1,000 live births)	50	2010 DHS
Infant mortality (deaths per 1,000 live births)	66	2010 DHS
Malnutrition		
Prevalence of stunting in children under 5 years of age (%)	47	2010 DHS
Prevalence of underweight children under 5 years of age (%)	13	2010 DHS
Undernourished population (wasted) (%)	4	2010 DHS
HIV		
Ever been tested for HIV and received results of the last test (women/men) (%)	72/51	2010 DHS
HIV prevalence (women/men) (%)	12.9/8.1	2010 DHS
Water and sanitation		
Improved water source, rural (% of rural population with access)	78.9	2010 DHS
Population using an appropriate water treatment method (%)	32.6	2010 DHS
Households using an improved (not shared) latrine (%)	8.2	2010 DHS

Sources: World Bank 2013a; GOM NSO and ICF Macro 2011.

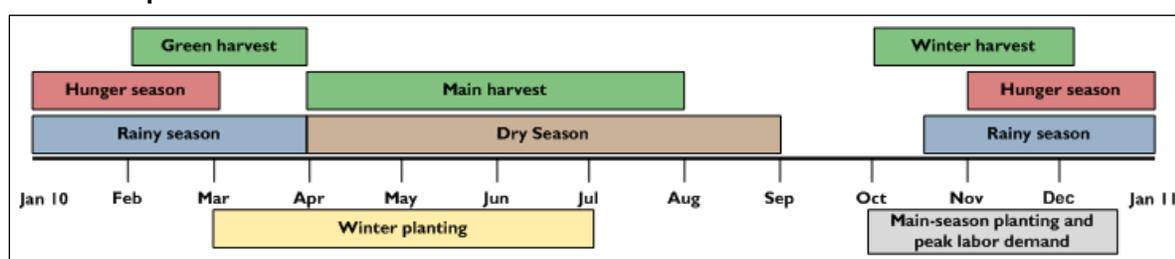
Appendix 3. Gender Inequities in Malawi, Disaggregated by Sex

	Women	Men
Percentage of adults who are literate	68	81
Maternal mortality ratio (per 100,000 live births)	675	
Prevalence of HIV (15–49 years of age) (%)	12.9	8.1
Percentage of women who experienced physical violence in last 12 months	14.2	
Percentage who experienced physical violence since 15 years of age (women 15–49 years of age)	28	
Ever experienced physical or sexual violence committed by a husband/partner (ever-married women 15–49) (%)	31	
Percentage of parliament members	40 (2009)	
Percentage of households headed by females	28	
Percentage of women who are main decision makers on spending the income they earn	36.6	
Ratio of women's wages to men's wages		0.74
Gender Inequality Index, value		0.573

Sources: GOM NSO 2011; Genderlinks.org; UNICEF 2013b; UNDP 2013a.

Appendix 4. Malawi Agricultural Production

Malawi Crop Calendar



Source: FEWS NET/Malawi 2013.

Major Food and Cash Crop Production (MT), 2007–2012

Crop	2007	2008	2009	2010	2011	2012
Maize	3,444,655	2,777,438	3,767,408	3,419,409	3,895,181	3,625,924
Pulses	415,551	396,868	499,933	470,489	531,967	581,373
Groundnuts	273,757	260,573	293,948	297,487	325,215	368,081
Cotton	63,290	76,761	72,664	29,165	52,456	221,198
Rice	113,166	114,905	135,988	110,106	117,733	110,405
Tobacco	117	160	208,155	172,973	174,928	72,551
Cassava	N/A	3,491,180	3,823,240	4,000,990	4,259,300	N/A
Sorghum	63,698	61,999	60,025	53,932	73,330	67,709
Millet	32,251	31,869	26,866	24,495	32,911	33,198
Wheat	4,605	2,491	2,746	2,341	1,850	1,901

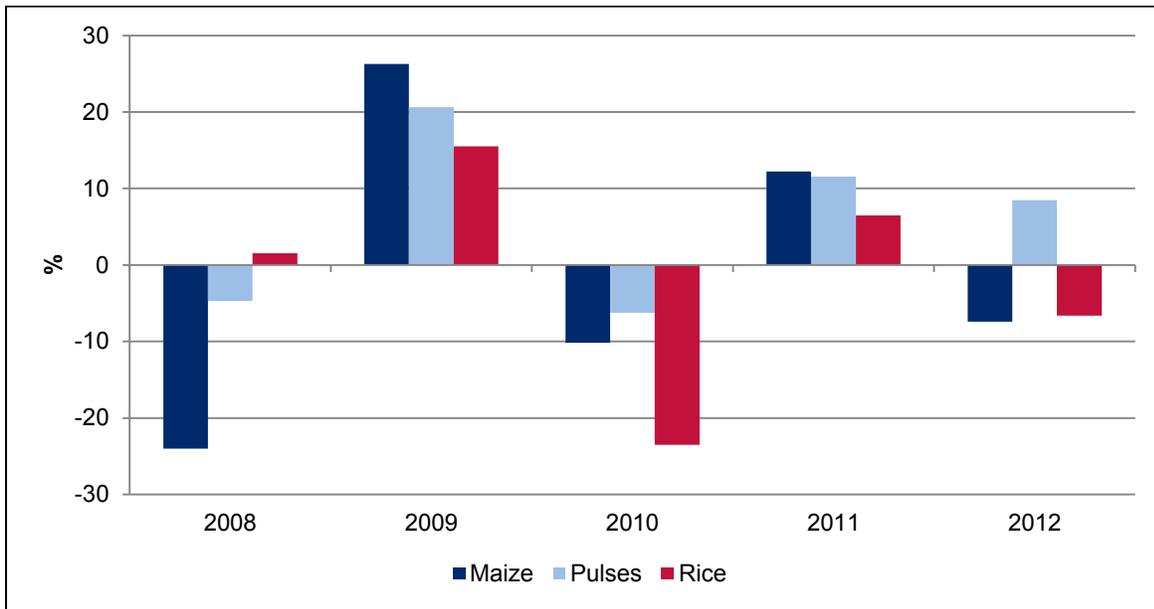
Source: USAID/FFP 2013.

National Livestock Production

Species	Production (2003)	Production (2005)	Production (2007)	Production (2008)
Cattle	781,747	791,962	880,597	889,734
Sheep	104,450	156,809	188,609	188,520
Goats	1,716,822	1,961,080	2,720,126	3,106,271
Pigs	435,257	555,372	928,952	1,229,468
Poultry	8,871,625	13,528,815	19,524,671	44,049,155

Source: Department of Animal Health and Livestock Development 2008.

Major Food Production Year-on-Year Variation in Malawi (%), 2008–2012



Source: USAID/FFP 2013.

Appendix 5. Malawian Food Consumption and Poverty

Diet Quantity, Diet Quality, and Vulnerability, by District in Malawi

Location	Diet Quantity		Diet Quality								Vulnerability	
	1	2	3	4	5	6	7	8	9	10	11	12
	Daily food energy consumption per capita	Population with food energy deficiency	Food energy from staples	Household with very high share of energy from staples	Household with poor food consumption	Household with borderline food consumption	Household with inadequate food consumption	Food consumption score	Diet diversity	Households with low dietary diversity	CSI	Poorest and second wealth quintiles
	mean kcal	%	%	%	%	%	%	mean	mean (0-7)	%	mean	%
MALAWI	2129	46.8	73.9	53.2	3.5	22.2	25.8	48.0	5.1	29.2	3.4	40.0
ZONE												
Urban	2497	34.4	65.2	25.9	0.4	6.4	6.9	61.8	6.0	7.9	2.3	7.9
Rural	2063	49.0	75.5	58.2	4.1	25.2	29.3	45.5	4.9	33.1	3.6	45.9
Rural North	2224	41.6	68.5	46.6	1.7	25.3	27.0	46.8	5.0	32.2	3.3	33.6
Rural Center	2057	49.5	77.8	63.3	5.1	25.9	30.9	45.5	4.9	35.7	2.9	51.3
Rural South	2021	50.8	75.4	57.1	3.9	24.5	28.5	45.2	5.0	31.2	4.2	44.6
REGIONS AND DISTRICTS												
North	2266	39.8	67.8	43.2	1.7	22.9	24.6	48.2	5.2	29.1	3.1	29.6
Chitipa	1810	59.0	72.7	54.8	1.2	34.9	36.1	41.9	5.0	31.3	1.6	26.5
Karonga	2034	47.5	64.1	29.0	1.8	26.6	28.4	44.9	5.1	28.6	2.4	22.8
Nkhata Bay	2203	49.4	46.3	9.3	0.2	4.5	4.7	60.0	5.4	15.0	3.2	15.6
Rumphi	2496	34.8	59.6	18.4	1.1	6.2	7.3	59.4	5.6	13.6	2.8	20.4
Mzimba	2353	33.5	76.1	63.5	2.1	30.5	32.7	43.3	4.9	39.8	4.0	43.3
Mzuzu City	2641	25.9	64.6	27.0	3.1	8.1	11.2	56.8	5.9	10.1	1.7	6.0
Central	2095	47.7	75.9	57.3	4.3	22.7	27.1	47.8	5.1	31.7	2.7	45.0
Kasungu	2177	45.1	76.2	59.1	2.0	21.4	23.4	50.4	5.2	27.2	3.2	39.5
Nkhotakota	2464	35.8	75.6	59.9	0.8	11.5	12.3	55.0	5.2	28.1	2.4	36.7
Ntchisi	2518	29.7	81.8	74.2	1.6	23.1	24.7	48.5	5.0	32.3	3.3	61.7
Dowa	2014	49.4	78.8	66.7	5.8	27.6	33.4	45.9	4.9	37.7	2.9	56.7
Salima	2395	39.0	76.5	57.5	7.6	22.7	30.2	48.5	5.1	29.5	4.2	49.5
Lilongwe	1762	62.9	77.3	59.7	7.2	28.6	35.9	43.2	4.7	42.6	2.3	51.4

Diet Quantity, Diet Quality, and Vulnerability, by District in Malawi

Location	Diet Quantity		Diet Quality								Vulnerability	
	1	2	3	4	5	6	7	8	9	10	11	12
	Daily food energy consumption per capita	Population with food energy deficiency	Food energy from staples	Household with very high share of energy from staples	Household with poor food consumption	Household with borderline food consumption	Household with inadequate food consumption	Food consumption score	Diet diversity	Households with low dietary diversity	CSI	Poorest and second wealth quintiles
	mean kcal	%	%	%	%	%	%	mean	mean (0-7)	%	mean	%
Mchinji	1891	57.2	77.1	60.5	4.7	28.4	33.2	42.8	4.8	41.5	2.8	46.4
Dedza	2129	42.4	76.7	62.1	6.1	28.1	34.2	42.2	4.8	35.8	3.0	62.3
Ntcheu	2244	42.4	77.9	65.1	2.7	22.3	24.9	48.5	5.3	21.7	3.2	43.7
Lilongwe City	2226	39.4	66.5	27.1	0.5	7.3	7.8	58.5	5.8	11.9	1.4	11.6
South	2121	48.0	73.7	52.3	3.3	21.6	25.0	48.2	5.1	27.1	4.1	38.5
Mangochi	1950	53.7	73.6	52.5	2.2	25.4	27.6	45.4	4.8	34.6	1.8	49.3
Machinga	1859	56.0	75.9	59.6	3.7	26.3	30.0	43.6	4.7	37.9	2.2	59.1
Zomba	2066	50.1	74.4	53.1	1.8	18.5	20.3	47.0	5.3	20.1	3.2	38.3
Chiradzulu	2403	35.2	72.3	48.4	1.0	21.5	22.5	49.0	5.4	17.9	3.0	40.9
Blantyre	2400	37.0	73.1	49.8	1.7	15.7	17.4	53.1	5.4	18.1	2.5	37.1
Mwanza	2162	45.2	76.8	63.8	0.7	17.2	17.9	48.9	5.2	24.1	6.7	45.4
Thyolo	2444	34.9	69.9	43.4	2.3	15.7	18.0	49.0	5.3	19.9	6.2	25.3
Mulanje	1830	57.8	77.3	62.0	6.5	28.8	35.3	41.8	4.8	37.1	3.7	42.5
Phalombe	1756	59.1	77.7	63.7	9.2	32.1	41.3	39.9	4.6	42.6	3.4	54.5
Chikwawa	1721	61.9	79.3	65.3	9.1	31.8	40.9	41.2	4.6	42.4	8.5	54.5
Nsanje	1867	61.4	78.4	64.1	6.4	27.0	33.4	42.6	4.7	39.7	8.3	46.3
Balaka	2031	48.6	79.4	70.7	2.1	31.5	33.5	45.2	5.0	30.7	4.5	42.0
Neno	2074	45.6	79.5	68.3	2.1	26.4	28.5	43.9	4.8	36.8	6.6	52.4
Zomba City	2413	38.1	63.1	22.7	0.5	8.1	8.6	62.1	6.1	6.2	1.6	5.3
Blantyre City	2779	31.2	64.3	24.7	0.0	4.5	4.5	66.7	6.1	4.4	3.8	1.6
SEX OF THE HOUSEHOLD HEAD												
Male	2119	46.6	73.1	51.1	2.8	20.2	23.1	49.3	5.2	26.3	3.1	35.5
Female	2170	47.4	76.4	59.9	5.8	28.7	34.4	44.0	4.8	38.5	4.4	54.2
WEALTH QUINTILES												
1 st (poorest)	1881	54.2	80.8	71.7	8.2	38.6	46.8	38.1	4.4	52.3	5.1	100.0

Diet Quantity, Diet Quality, and Vulnerability, by District in Malawi

Location	Diet Quantity		Diet Quality								Vulnerability	
	1	2	3	4	5	6	7	8	9	10	11	12
	Daily food energy consumption per capita	Population with food energy deficiency	Food energy from staples	Household with very high share of energy from staples	Household with poor food consumption	Household with borderline food consumption	Household with inadequate food consumption	Food consumption score	Diet diversity	Households with low dietary diversity	CSI	Poorest and second wealth quintiles
	mean kcal	%	%	%	%	%	%	mean	mean (0-7)	%	mean	%
2 nd	1950	53.5	77.9	63.3	5.2	31.3	36.5	41.5	4.7	39.3	3.9	100.0
3 rd (middle)	2060	47.5	74.1	54.7	2.8	21.4	24.2	45.8	5.0	28.6	3.4	0.0
4 th	2178	46.4	71.5	48.9	1.2	15.0	16.2	50.6	5.3	20.3	2.7	0.0
5 th (wealthiest)	2507	34.6	65.1	27.0	0.2	4.9	5.1	64.3	6.1	5.4	1.8	0.0
POPULATION WITH FOOD ENERGY DEFICIENCY												
No	2840	0.0	73.3	51.4	2.0	15.2	17.2	52.2	5.4	20.5	3.0	35.7
Yes	1321	100.0	74.7	55.9	5.9	32.8	38.7	41.8	4.6	43.2	4.1	46.5
FOOD CONSUMPTION												
Acceptable	2294	39.9	70.1	43.4	0.0	0.0	0.0	54.9	5.5	14.2	2.6	31.4
Inadequate	1650	66.9	84.6	80.8	13.7	86.3	100.0	28.4	3.8	72.2	5.6	64.7

Source: WFP 2012.

Kcals (per capita): kilocalories consumed per household divided by # of household members. Mean constructed at different population levels.

1 Below 2050 is very low. >3000 very high, based on IFPRI 2007.

FED (people): Population with daily energy consumption below daily energy requirements (based on age/sex/activity level of HH members). According to FAO 2004.

2 Recommendation for light activity (see IFPRI 2007).

3 Percentage of food coming from staples (cereals, grain, tubers and roots).

4 Very High Staple (HH): 75%+ of food energy from staples (cereals and grains).

5 PFCS: percentage of households with poor food consumption (FCS 21 or less).

6 BFCS: percentage of households with borderline food consumption (FCS greater than 21 and less than 35).

7 Percentage of households with poor and borderline food consumption (FCS less than 35).

8 mean food consumption score

9 Diet Diversity: Number of food groups (1 to 7) consumed by household during 7-day reference period.

10 LDD proportion of household with low diet diversity. Household consumes 4 or less food groups over 1 week.

11 Coping strategy index reduced

12 first and second wealth quintiles

Percentage of Households with Poor or Limited Food Consumption

Location	Poor food consumption (% HH)	Borderline food consumption (% HH)	Inadequate food consumption (% HH)	Low dietary diversity (% HH)
National	3.5	22.2	25.8	29.2
Northern	1.7	22.9	24.6	29.1
Southern	3.3	21.6	25.0	27.1
Central	4.3	22.7	27.1	31.7

Source: WFP 2012.

Lead organization	Dates	Sector	Program
Land O'Lakes	2011–2015	Agriculture	USDA Food for Progress
Jhpiego	2011–2015	Health	Support for Service Delivery Integration (SSDI-Services)
Johns Hopkins Bloomberg School of Public Health	2011–2015	Health	The SSDI-Communication project
Abt Associates	2011–2015	Health	SSDI-Systems
WFP	2010–2013	Education	McGovern-Dole International Food for Education and Child Nutrition Program

Policies, Strategies, and Programs of Key Multilateral and Bilateral Stakeholders in Malawi

Lead organization	Dates	Sector	Program
ASI	Jan. 2013 – 2014	Agriculture	Technology for Extension to Smallholder Farmers
Christian Aid/CONCERN Universal	August 2011– June 2016	Climate Change/Early Warning	ECRP & DISCOVER
Oxfam	2011–2015	Agriculture, DRR, HIV	Multifaceted program to improve the quality of life and sustainable livelihoods, especially for women.
World Bank	October 2012 –Jan. 2018	Environment	Shire River Basin Program
World Bank-CIDA	2012–2017	Health, Nutrition & HIV	Nutrition and HIV/AIDS Project

U.S. Agency for International Development
1300 Pennsylvania Avenue, NW
Washington, DC 20523
Tel: (202) 712-0000
Fax: (202) 216-3524
www.usaid.gov