FEWS NET
FAMINE EARLY WARNING SYSTEMS NETWORK

ZIMBABWE FOOD SECURITY BRIEF

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FROM THE AMERICAN PEOPLE

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The FEWS NET Zimbabwe Food Security Brief is drawn from various reports and tools, including the ZimVAC and other food security-related documents. The annual ZimVAC process has replaced earlier CFSAM/CFSVA reports in Zimbabwe and is supported by organizations including the GOZ, FAO, WFP, and USAID.
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ABOUT FEWS NET

Created in response to the 1984 famines in East and West Africa, the Famine Early Warning Systems Network (FEWS NET) provides early warning and integrated, forward-looking analysis of the many factors that contribute to food insecurity. FEWS NET aims to: inform decision-makers and contribute to their emergency response planning; support partners in conducting early warning analysis and forecasting; and provide technical assistance to partner-led initiatives.

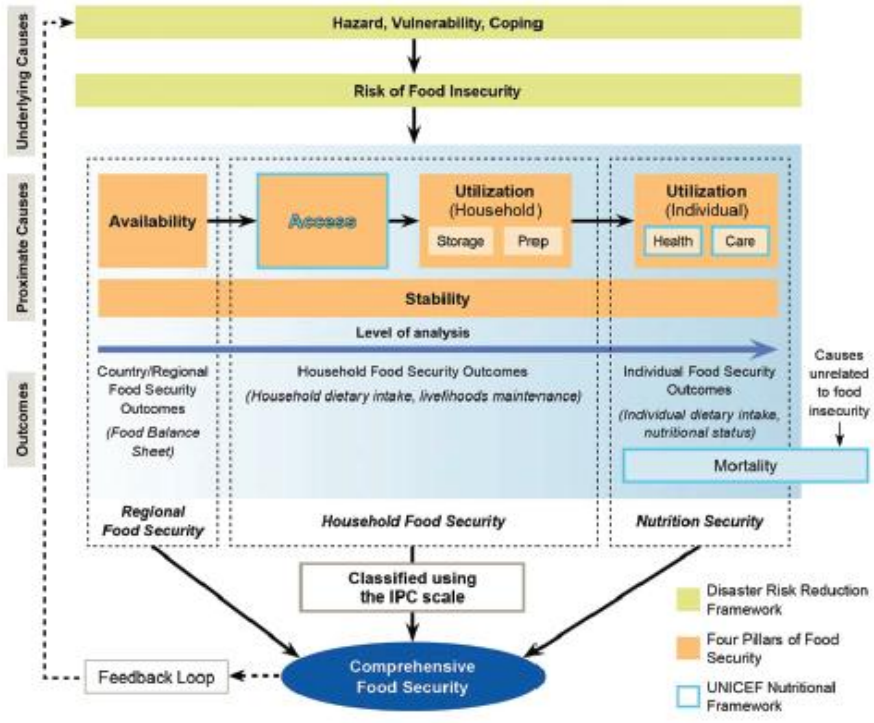
Introduction

This Food Security Brief is a starting point for anyone seeking a deep understanding of the range of factors influencing food security in Zimbabwe. It draws on decades of FEWS NET data and information on livelihoods, household vulnerability, nutrition, trade, and agro-climatology, as well as an array of other sources. It provides an overview of the food security context, the main determinants of chronic and acute food insecurity, and areas at most risk of food insecurity.

The brief is organized around the FEWS NET Household Livelihoods Analytical Framework (Figure 1), which looks at underlying and proximate causes of food insecurity as a means to anticipate outcomes at regional and household levels. FEWS NET's approach integrates aspects of the Disaster Risk Reduction Framework, the Four Pillars of Food Security, and the UNICEF nutritional framework.

At the core of this analysis is an understanding of livelihoods—that is, the means by which households obtain and maintain access to essentials such as food, water, shelter, clothing, health care, and education—both in good years and in bad. Using the Household Economy Approach, or HEA, FEWS NET brings a livelihoods perspective to its analysis of household vulnerability to shocks and coping capacity.

Figure 1. FEWS NET Household Livelihoods Analytical Framework



Source: FEWS NET

The following definitions guide the analysis of the Food Security Brief:

- *Food security:* a situation where all people, at all times, have physical and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for an active and healthy life.[1] These conditions are underpinned by the "four pillars" of food security: availability, access, utilization, and stability. Availability, access, and utilization are hierarchical, in that food availability is necessary but not sufficient for access, and access is necessary but not sufficient for utilization.[2] Chronic food insecurity is typically due to a complex combination of some or all of the four pillars, resulting in long-term lack of sufficient food in quantity or quality.

- *Food availability:* The supply side of food security, food availability refers to the physical existence of food, from a household's own production or from markets, including commercial food imports and food aid. Adequate availability is a prerequisite for people to meet basic food needs, but often the mere presence of food does not ensure access to "sufficient, safe, and nutritious food."

- *Food access:* Related to demand, food access refers to a household's ability to obtain foods for a nutritious diet though a combination of production, purchase, gifts, and transfers. Access is influenced by physical access (infrastructure), sociopolitical access (e.g., traditional rights to common resources), and economic access (ability to generate income, purchasing power, and the evolution of real incomes and food prices). Additional factors include access and control of productive resources, such as land, seed and water; governance; legal and regulatory frameworks; the macroeconomic environment; gender dynamics; HIV/AIDS and other diseases; and emergencies and conflicts.[3]

- *Utilization:* refers to how well individuals utilize the food they access, including sufficient energy and nutrient intake and the ability to absorb nutrients. These factors are influenced by care and feeding practices, food preparation, the diversity of the diet, and intra-household distribution of food. Nutrient absorptive capacity can be influenced by factors including sanitation and hygiene conditions and disease.

- *Stability:* underpins the other three pillars and captures the level of uncertainty or vulnerability to future disruptions in food security. Risks to stability include climatic change, conflict, price shocks, and disease, among other factors.

Most sections of this report identify related "Key FEWS NET Resources." For additional FEWS NET resources on Zimbabwe, including FEWS NET Outlook reports and Outlook updates, visit the FEWS NET Zimbabwe page.

Executive Summary

Food security in Zimbabwe is directly connected to domestic agricultural production, the impact of poverty on access to food and basic services, drought/flooding, related shifting climate patterns, and changing demographics connected to HIV and migration. This Brief explores some of the major factors affecting the key food security pillars of availability, access, utilization, and stability in Zimbabwe.

CONTEXT AND DEMOGRAPHICS

Zimbabwe's population is 13 million people, of which 41 percent are under 15 years of age. Those among the working-age population frequently migrate to urban areas and to neighboring countries for income-earning opportunities. Economic migration has augmented the HIV epidemic (current 14.7 percent prevalence rate)[4], and is still a significant challenge for the country's economy and health care system. Another challenge is that the country is landlocked and therefore must import and export goods through neighboring countries.

Zimbabwe's economy has grown slowly in recent years (less than three percent per year from 2012-2014), due to lack of capital and other complex factors. Though the country has recovered from the rampant hyperinflation of 2006-8, through dollarization in 2009, the use of foreign currency for exchange has meant that the government has less fiscal policy tools at its disposal to manage the economy. Maintaining macroeconomic growth, increasing access to capital, reducing the trade deficit, and combating corruption at both national and local levels remain key challenges.

AVAILABILITY

Zimbabwe's agricultural sector is a key component to its overall economic development, the main source of food availability at the national level, and a primary source of food and income for most households. However, only 11 percent of the total national land area is arable. Agriculture further accounts for about 20 percent of Gross Domestic Product (GDP), and 66 percent of the national labor force. Even with agriculture's contributions to the economy, the country has a structural domestic maize production deficit. Cereal production in-country is generally highest in the three Mashonaland provinces, and is highly rainfall-dependent. If drought or irregular rains occur, agricultural production (especially maize) is negatively impacted. Increased production of more drought-tolerant small grains (sorghum and millet) would help mitigate the dependence on regular rainfall, especially in the more marginally productive areas of the country. Also, increasing numbers of smallholder farmers are primarily growing tobacco, contributing to the structural maize production deficit. These households tend to be more dependent on market availability for their household food security. Therefore, Zimbabwe relies on regional maize imports to make up this structural cereal deficit. Cereal imports have been steady in recent years, driven by decreased domestic production, population increases, and urban migration.

Agricultural development also continues to be hindered by numerous challenges including input access and availability, vulnerability to weather-related shocks (droughts and floods), pests/diseases, poor soil quality (especially in communal

SELECTED FEWS NET ZIMBABWE RESOURCES

FEWS NET Zimbabwe Outlook reports and Outlook updates

FEWS NET Zimbabwe Special Reports

Zimbabwe Livelihood Descriptions

FEWS NET Zimbabwe Price Bulletins

FEWS NET Production and Trade flow maps

ZimVAC (Vulnerability Assessment Committee) Annual Reports: 2013.

FEWS NET/FAO/WFP Cross-Border Trade Bulletins

Southern Africa Seasonal Monitors

areas), and lack of credit. Furthermore, unresolved land tenure issues resulting from Fast-Track Land Reform (FTLR) over a decade ago have led to challenges in land tenure/management/improvement in many regions of the country. Finally, the potential impact of climate change in the near term will pose a challenge to agricultural productivity, as the frequency of drought could increase both in intensity and extent.

ACCESS

In Zimbabwe, about 75 percent of the country's population lives below the national poverty line. According to the most recent 2013 ZimVAC, rural poverty was the highest in the provinces of Matabeleland North and Mashonaland Central.

Data further shows that Zimbabwe is ranked very low on the UN Human Development Index (172 out of 186 countries). This shows how widespread poverty is in-country, notably in rural areas and especially in the aftermath of Zimbabwe's macroeconomic decline and hyperinflation in the middle of the previous decade (~2006-8).

Rural Zimbabweans purchase 65 percent of their maize from other local households, and additionally, food purchases for rural households make up 56 percent of overall expenses.[5] Overall, Zimbabweans spend significant shares of their incomes on maize and food overall, leaving less funds for costs such as housing, transport, health and education.

The formal employment sector within Zimbabwe is only an estimated five percent of the national work force. Therefore, many Zimbabweans work informally, either within the country or in neighboring countries. Because the formal sector is so small, increasing pressure on heads of households and adults of productive ages leads to increasing migration for employment opportunities. This is most likely to occur to urban areas within the country (e.g. Harare, Bulawayo, Mutare, Masvingo, or Gweru) or large urban areas in neighboring countries (Johannesburg, Pretoria, Gaborone, Francistown, Livingstone, and Lusaka).

UTILIZATION

Malnutrition continues to be a chronic problem in Zimbabwe. Maize still accounts for half of national caloric intake, and this 'mono-diet' contributes to recent national measurements of undernourishment from 30 to 39 percent of the total population.[6]

Malnutrition can be due to factors such as insufficient caloric intake, inadequate diversification of food production and consumption (with maize dependence), poor care/feeding practices, a high disease burden (especially HIV/AIDS), a lack of potable water, and improper hygiene. Overall, malnutrition has decreased slightly between the two most recent DHS surveys completed in Zimbabwe, from 2005/6 to 2010/11. This improvement is small but notable, considering the overall macroeconomic and livelihood deterioration over the same time period nationally.

In the most recent Zimbabwe 2010/11 DHS, nationally 33 percent of children under-five are stunted (low height-for-age) and three percent of children under-five are wasted (weight-for-height). Stunting rates are highest nationally in Mashonaland East province, while wasting and underweight statistics are both highest in Matabeleland North province. Notably, boys are likelier to be more malnourished than girls.

Acute malnutrition is worst nationally in the provinces of Mashonaland West and Masvingo per the 2013 ZimVAC. In both provinces, the rate is above the five percent threshold. Additionally, the national HIV adult prevalence rate is 14.7 percent and malaria remains a problem in many lower-lying parts of the country.

STABILITY

Drought in Zimbabwe is the most common climate-related factor to impact agricultural production, with related effects on livelihoods, income and food security. Drought is a chronic threat in parts of Matabeleland North and South, Masvingo and Midlands provinces, and other drier parts of the country. Expected climate change is likely to exacerbate these conditions, and could also have an increasing impact on food supply stability and the ability of households to cope with varying income levels in the coming years.

Price instability, especially during lean seasons, can affect households' capacity to access food on markets. Zimbabwean markets are also impacted by prices and access to large markets in neighboring countries, especially South Africa, Botswana and Zambia. The supply of imported goods from these neighboring countries may fluctuate depending on production levels and the state of common transport corridors, secondary and tertiary road accessibility, and border controls. Other factors impacting price stability include dependence on maize as a staple crop, the effects of droughts/floods, pest and diseases, political insecurity, and other factors.

Civil conflicts over resources, including access to and ownership of land, livestock, and minerals, are issues that can hinder overall access to food and income, and disrupt the stability of the food supply. For example, conflict has significantly increased in the past few years over diamond resources in eastern Zimbabwe, and over land with the advent of Fast Track Land Reform (FTLR), mostly in formerly commercial areas over a decade ago. These conflicts can disrupt livelihood activities and lead to displacement and loss of assets for affected households.

Country Context

DEMOGRAPHIC CONTEXT

Zimbabwe's population is estimated at 13 million, with a 2.2 percent rate of natural increase.[7] Forty one percent of the total population is 15 years of age or under, and 39 percent of the people live in urban areas. Population flows between rural and urban areas, and to neighboring countries (as temporary or more permanent economic migrants) add a significant degree of variability to the above statistics. These movements are primarily due to factors at the macro-level, such as economic insecurity, food insecurity, and political instability.

Figure 2. Zimbabwe Political Map

Source: www.ezilon.com

Zimbabwe is a landlocked country in Southern Africa and therefore depends on neighboring countries' transport routes for trading goods. The country is also maize-dependent, like its neighboring countries. Maize generally grows best in the central, northern and eastern parts of the country, and the drier and less arable southern and western parts of the country are more appropriate for sorghum, millet and livestock. Overall, Zimbabwe is usually a net importer of maize during most years, and maize is the most important staple food. Zimbabwe's population is also concentrated in the more arable and higher-elevation central, northern and eastern parts of the country, as well as the large urban centers of Harare and Bulawayo.

Zimbabwe's mobile population creates challenges to accurate measurement of national food insecurity levels and actual numbers of at-risk people at any one time. It is estimated that there are 1-2 million Zimbabweans working in South Africa and other regional countries, under varying degrees of permanence. Many of these individuals are heads of household and would split their time between living in Zimbabwe and neighboring countries throughout a calendar year. This is primarily due to absent heads of household, and how much and when resources/remittances are being sent from these diaspora or 'temporary migrant' Zimbabweans back to Zimbabwe.

HIV continues to impact significantly Zimbabwe's economy. There are an estimated 1.4 million Zimbabweans living with HIV.[8] The prevalence rate for adults between 15-49 years old is 14.7 percent and orphans aged 0-17 due to AIDS are estimated nationally at 890,000. The prevalence rate has declined over the past decade. However, HIV will continue to negatively impact families' and individuals' livelihoods for both rural and urban populations for the near and longer-term.

Zimbabwe's food insecurity is generally seen as a rural issue, but it also impacts peri-urban and urban areas within the country. Zimbabwe is generally more at risk of drought or irregular rainfall in the rural, drier southern and western parts of the country. However cyclical droughts can affect the whole country through availability and access, including densely-populated areas around Harare, Bulawayo, Chitungwiza, Mutare, Masvingo, and other urban/peri-urban areas. Significant

numbers of Zimbabweans remain migratory and mobile between rural, peri-urban and urban areas. This makes it more of a challenge for the government and the international community to target those populations that suffer from acute and chronic food insecurity. As a result, both rural and urban areas should be monitored in the near term in Zimbabwe for food insecurity. Further, land tenure and the government's role in this process, remains a key challenge in determining overall food security levels for Zimbabweans.

POLITICAL AND ECONOMIC CONTEXT

Zimbabwe's economy contracted roughly 40 percent over a decade ago due to macroeconomic decline linked to FTLR, poor and irregular rains, natural disasters, lack of capital investment, and economic sanctions. Zimbabwe's economic growth has modestly improved since the 2009 dollarization, but the country still remains very poor. The economy decreased by 15 percent over 2008-9, and the implementation of dollarization in early 2009 effectively ended hyperinflation and provided much-needed stability for the rest of that year. Since 2009, the Zimbabwean economy has continued to rebound and grow, but its GDP per capita (2012) of $714 is now less than half of neighboring Zambia's GDP per capita.[9]

Zimbabwe's weak economic performance is attributed to a number of factors. These factors include an agricultural sector that is rainfall-dependent, other climate-related factors, the legacy of hyperinflation on markets and market actors, governance, lack of adequate land tenure systems, lack of investment and capital, a trade deficit and large national debt, ineffective management in the natural resource sector, and corruption.[10] Transparency International ranks the country globally at 157/177 countries for 2013, and corruption continues to depress real economic growth and institutions within the country.[11] All of these factors contribute to diminish Zimbabwe's recorded positive economic growth since 2010. Currently, Zimbabwe still ranks as one of the poorest countries in the world—the 2013 UN Human Development Report ranks it at 172/186 countries measured.[12]

Production of tobacco– historically a significant cash crop – has rebounded. Production peaked at 237,000 MT in 2000, and then significantly declined to 48,000 MT in 2008 due to much less commercial farm production as a result of FTLR actions.[13] National tobacco production has notably rebounded since 2008, and reached 167,000 MT in 2013. This was produced by a mix of a small group of commercial farmers and between 60,000-100,000 smallholder farmers.[14] The tobacco crop is mostly for export, with China the largest buyer. Smallholder farmers have benefitted from these changes in the tobacco sector, but some smallholder farmers that are now primary tobacco growers may be more dependent on market availability for their household food security levels.

Post-July 2013 elections challenges create uncertainty. National elections were held in July 2013, and returned President Mugabe and his ZANU-PF party to power. However, there was no international consensus regarding the fairness of these elections. Zimbabwe's resulting relations with western countries remains strained. President Mugabe resumed sole executive authority after these elections, which succeeded an unstable coalition with Prime Minister Tsvangirai and the opposition MDC party over the previous 5 years. This limited re-engagement by the GOZ with the international community decreases potential budgetary support, at a time when government revenue collection is constrained. Challenges related to the implementation of policies such as the indigenization of major economic sectors could also further impact macroeconomic issues. All of these above factors will affect the government's ability to provide the required support to agriculture and will have an impact on food security issues for the current 2013/14 cropping season and future seasons.

AGRO-CLIMATOLOGY CONTEXT

Agro-ecological zones

Zimbabwe's agro-ecological zones can be categorized into five broad regions. The originally designated regions are based on rainfall, soil quality and vegetation, and generally decline in land resource quality from Natural Region I down to Natural Region V.[15] The following Natural Region classifications refer to the following first, original map from 1960:

Natural Region I*:* This region, in the eastern highlands, covers rainfall of >1,000 mm/year and is the smallest of the five regions, at 7,000 km^2, or 2 percent of Zimbabwe's land area. It is characterized by specialized and diversified farming, and best suited for dairy farming, forestry, tea, coffee, fruit, beef and maize production.

Natural Region II: This region has rainfall from 750-1,000 mm/year and includes a significant proportion of the three Mashonaland Provinces, at 58,600 km^2 or 15 percent of Zimbabwe's land area. The region is appropriate for intensive farming, typically for maize, tobacco, cotton and livestock.

Natural Region III: This mid-altitude region has rainfall from 650-800 mm/year, and covers 72,900 km^2, or 19 percent of the land area. The moderate rainfall and occasional dry spells translate into marginal growing conditions for maize, tobacco or cotton, and better for livestock and cash crops.

Natural Region IV: This low elevation region has rainfall from 450-650 mm/year, and covers 147,800 km^2, or 38 percent of the land area. As rainfall is erratic and low, agricultural production focuses on drought-resistant staples, fodder crops, and livestock.

KEY FEWS NET AGRO-CLIMATOLOGY RESOURCES

Southern Africa Seasonal Monitors

FEWS NET / National Oceanic and Atmospheric Administration (NOAA) Climate Prediction Center

U.S. Geological Survey (USGS) FEWS NET Data Portal

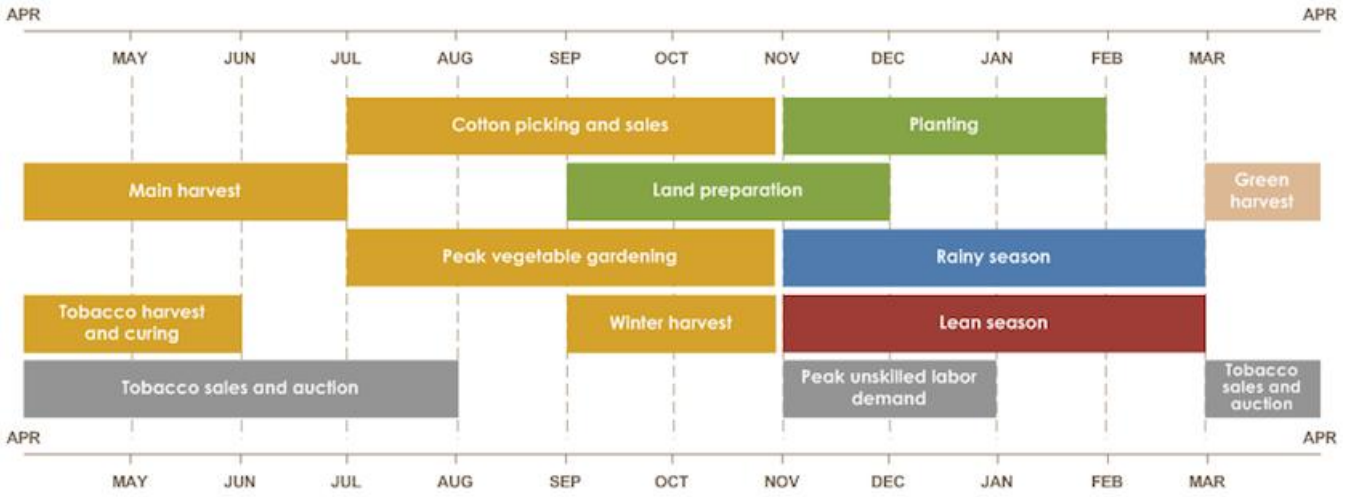
Natural Region V: This region is the driest, with rainfall of <450 mm/year. It includes approximately 27 percent of Zimbabwe's land area, mostly in the southwestern part of the country. Appropriate farming targets cattle/game ranching and grazing natural pasture.

Mugandani's remapped Natural Regions from 2013, per the previous revised, second national map, show notable changes in natural region sizes from the original first map (1960) to the revised second map (2013), likely attributed to climactic changes. These changes can be categorized specifically as follows: Region 1 increased 106 percent; Region 2 decreased 49 percent; Region 3 decreased 14 percent; Region 4 increased 6 percent; and Region 5 increased 23 percent. Because the more arable Regions 2 and 3 decreased nationally, and the drier Regions 4 and 5 increased nationally, this could lead overall to increased national food insecurity, especially if climate-appropriate adaptive farming approaches or other mitigating agricultural production steps are not undertaken[16]

Seasonal calendar and typical events

The seasonal calendar (Figure 3) presents the major rainy season, harvests, livestock migration periods, and the lean season in a typical year. Zimbabwe, like other Southern African countries, has a unimodal rainy season. Generally, the rainy season runs from October/November until April, with the dry season lasting from May until October, with slight variations within the country.

Figure 3. Zimbabwe Seasonal Calendar



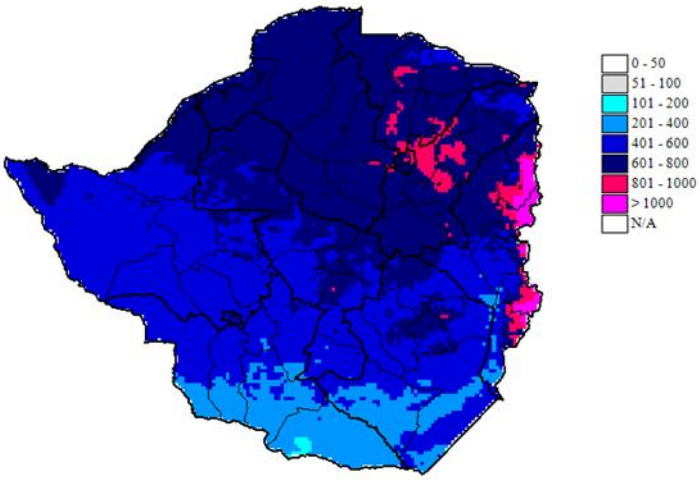
Source: FEWS NET

Rainfall and temperature patterns

Variations in altitude and land – from roughly 500 to 2,500 meters – create contrasts in the country's climate. Parts of the Eastern Highland regions receive over 1,000 mm annually and the low-altitude southern and western areas receive less than 600 mm annually (Figure 4).

Zimbabwe's rainy season typically occurs from October/November to April, and the dry season occurs from May to September. Zimbabwe's regions that receive the heaviest rainfall are in the eastern and central parts of the country (Figure 4).

Figure 4. Zimbabwe Average Annual Rainfall, 1981-2012



Source: USGS/UCSB

Livelihood Zones

The 2010 Zimbabwe Livelihoods Zone Profiles divides the country into 24 livelihood zones, and is based on the 2004 Zimbabwe Livelihoods Zones Report. The Zimbabwe Vulnerability Assessment Committee (ZimVAC) led this process, in collaboration with other stakeholders.

As a general rule, the most food insecure zones within Zimbabwe are primarily the lowveld (lower elevation) areas, and secondarily the midveld (medium elevation) areas. Highveld (higher elevation) areas generally correspond to higher levels of rainfall and agricultural production, and therefore improved food security levels. The sections below provide general information on these various livelihood clusters.

KEY FEWS NET LIVELIHOODS RESOURCES

Zimbabwe Livelihood Zone Map

Zimbabwe Livelihood Descriptions

Zimbabwe Vulnerability Assessment Committee (ZimVAC) 2013 and preceding years

LIVELIHOOD ZONES OVERVIEW

Zimbabwe's 24 livelihoods zones are briefly summarized below and depicted in the following Figure 5. The Zimbabwe Livelihoods Profiles document provides more details.

Agrofishers

Livelihoods in this zone are characterized by fishing and related activities, supplemented by rain-fed agriculture and animal husbandry. There is a distinct gender division of labor whereby men spend most of the year in fishing camps along the lakes (Lake Kariba and Lake Chivero) while the women and children live further inland where they practice some limited agriculture and animal husbandry.

Beitbridge and South-Western Lowveld Communal

This is a semi-arid, agro-pastoral zone although formal employment is also a key source of food and cash income. Proximity to southern commercial estates and job markets around the border with South Africa and Botswana provides employment opportunities. Sorghum cropping, mopane worm sales, and gold panning supplement wage earnings of the poor.

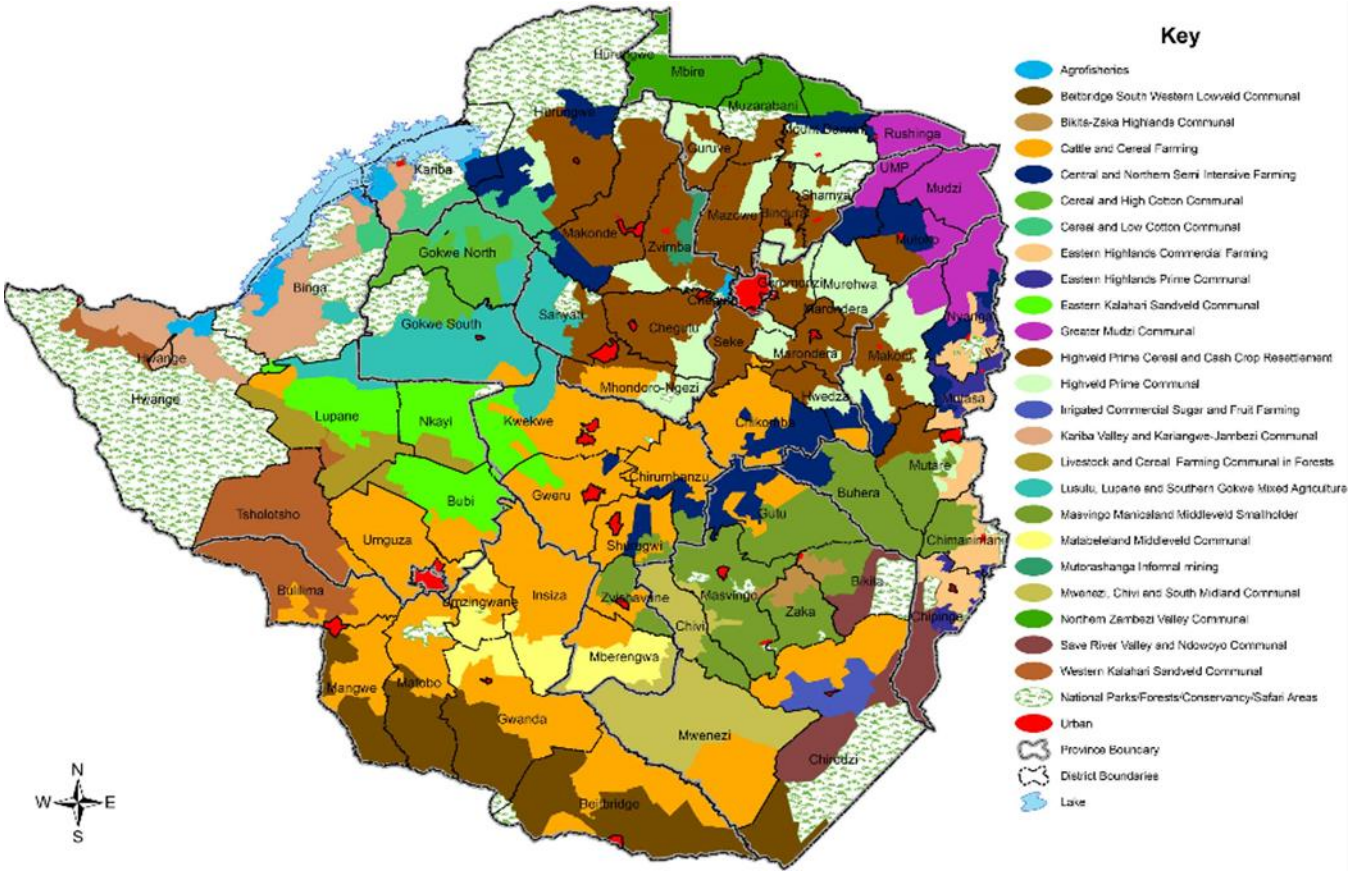
Bikita-Zaka Highland Communal (former name: Greater Zimbabwe/Bikita Middleveld Communal)

Intensive farming of maize and groundnuts on this relatively high potential land provides better-off farmers with a stable food and income source. Land in this zone is densely populated and farm sizes are small. The poor mix maize cultivation with (limited) gold panning and local employment (such as in the Bikita mines).

Cattle and Cereal Farming (Matabeleland Resettled) (former name: Matabeleland Commercial Ranches)

An area deeply affected by land reform, the new owners of sub-divided former beef and wildlife ranches have introduced more mixed agriculture (mainly maize and cattle production). The zone is typically food secure and good incomes can be earned from cattle sales. Poor households (including ex-commercial farm workers) depend on seasonal farm labor – found on productive old resettlement and small-scale commercial farms – as well as opportunistic gold panning.

Figure 5. Zimbabwe Livelihood Zones



Source: Zimbabwe Livelihood Profile, ZimVAC 2010.

Central and Northern Middleveld Communal

Maize and small grains are the dominant crops in this agricultural zone, providing both food and income. Better-off households are reasonably self-sufficient in cereals but poor households depend on own crops, daily wages, and gold sales.

Cereal and High Cotton Communal (former name: Greater Northern Gokwe High Cotton Communal)

Livelihoods are characterized as primarily agricultural, centered on growing maize for food and cotton for cash. The other pillar of rural income is animal husbandry (namely cattle, goats, and poultry). Poor farmers purchase much of their food, generating income through casual labor (e.g., on cotton fields) or through gold panning.

Cereal and Low Cotton Communal (former name: Siabuwa & Nebiri Low Cotton Communal)

Located in the dry Kariba Valley, livelihoods in this zone can be described as a mixed economy of cash and food cropping combined with animal husbandry. Cotton production spread into the Kariba Valley from Gokwe and provides needed–albeit unpredictable – income. In addition, many of the poor go in search of work in the high cotton producing areas of Gokwe. Households also supplement income with livestock sales and seasonal wild fruits.

Eastern Highlands Commercial

This high potential zone produces many crops for export including fruit, vegetables, flowers, tea, and coffee. Timber is another important industry in this rugged, forested highveld zone. Both the commercial farms and sawmills offer important labor opportunities to poor farmers as well as to farm-workers (who often need to pick up additional seasonal work to supplement on-farm income).

Eastern Highlands Prime Communal

This high potential mountain zone is characterized by intensively farmed, small plots of mixed food and cash crops. Maize is primary but crop diversity is a key feature here (cereals, root crops, fruits, tea/coffee, tobacco and so on). Poor farmers find wage work locally in the commercial agriculture or forestry sector.

Eastern Kalahari Sandveld Communal

Livelihoods in this zone are built around agriculture, animal husbandry and labor (local and migratory). Sorghum and maize farming is widespread but production is unreliable as the zone is semi-arid. Livestock and remittances are key safety nets for the better off. For the poor, income earned from local work, forest products and/or gold panning is their mainstay.

Greater Mudzi Communal

This lowveld zone is characterized by extensive rain-fed cultivation of maize, small grains, and groundnuts supplemented by income earned through cotton production, gold panning, animal husbandry and labor. Whilst better-off farmers meet most of their food needs through own-crop production, poor households rely on a more diverse mix of food and income sources.

Highveld Prime Cereal and Cash Crop Resettlement

(former name: Mashonaland Commercial) This zone covers prime (resettled) agricultural land. In general, it is a food secure zone with the potential to produce surplus. The major crops are maize, tobacco, soya beans and groundnuts which are gown for both food and cash and supplemented by livestock production. There are several distinct population groups in the zone. Whereas the A1 farmers and commercial farm owners are typically food secure, the (ex-commercial) farm workers are highly mobile and often at risk of food insecurity.

Highveld Prime Communal

Livelihoods in this prime agricultural zone center around the rain-fed production of both cash and food crops. Maize is the predominant food crop but cultivation overall is highly diversified and includes groundnuts, paprika, millet, sorghum, bambara nuts, cow peas, sweet potatoes, soya beans, tobacco and cotton.

Irrigated Commercial Sugar and Fruit Farming

This arid south-eastern zone includes households who live and work permanently on the irrigated commercial sugar and fruit estates in Triangle and Hippo Valley, as well as some small-holder (A1) resettled farmers. Commercial farm workers depend on wage earnings and petty trade income to secure food needs. Some workers have access to gardening land.

Kariba Valley and Kariangwe Jambezi Communal

A dry, remote and resource-poor area, this zone suffers from chronic problems of food insecurity. Cultivation - mainly millet and sorghum - is unreliable and wild foods are seasonal. Goat sales are the most common source of cash income but local wage work, craft and beer sales must also be pursued. Close proximity to Hwange provides some work opportunities on commercial farms for the poor, as well as access to the tourist craft market near Hwange, Kariba and Victoria Falls.

Livestock and Cereal Resettled Farming in Forests

Livelihoods in this forested western zone are built around three main activities: livestock (mainly cattle), cereal cropping, and the exploitation of forest resources. Crop yields are reasonable most years; livestock sales are a key safety net; and the poor find casual work either on farms or in the timber industry, as well as sell some honey.

Lusulu, Lupane and Southern Gokwe Mixed Agriculture Communal

This middleveld zone is relatively favorable for mixed crop and livestock production. Livelihoods are centered around maize,

groundnuts and cotton cultivation with animal husbandry providing supplementary food and income. Daily wage work for poor farmers is still essential much of the year when food stocks run low.

Masvingo, Manicaland Middleveld Communal

Livelihoods in this middleveld zone are characterized by cereal agriculture supplemented by cash cropping (groundnuts, round nuts and cotton), animal husbandry and remittances from migratory labor. Other income sources help the poor make ends meet including: sales of wild fruits and vegetables, gold panning, legal gold mining, sales of beer and handicrafts, and casual labor. Fishing is also opportunistically practiced in the rivers and streams, as is some cross- border trade.

Matabeleland Mid/Highveld Communal

Livelihoods in this zone are characterized by (mainly) cattle husbandry and the rain-fed cultivation of maize and small grains. Poor households subsist partly on their own-crop production but, more importantly, on cash income earned from employment, beer brewing or gold panning on the various rivers.

Mutorashanga Informal Mining Communities

Mutorashanga is the collective name given to the poor mining communities on the Zvimba side of the Great Dyke in Mashonaland West. Most households carry out informal chrome mining, supplemented by on-farm casual work, petty trade, garden vegetables sales and maize cultivation (typically eaten green).

Mwenezi, Chivi and South Midlands Lowland Communal

Households in this zone combine some cereal and cash cropping (a precarious venture in such a semi-arid area) with livestock production and market purchases. Casual work opportunities are found on plantations, estates and mines within the zone as well as further afield. A number of rivers provide gold panning and some fishing opportunities. Nonetheless, this is an area of chronic poverty and food insecurity.

Northern Zambezi Valley Communal

Bordering Mozambique, this hot, northern valley region supports extensive small grain, groundnut and cotton production together with animal husbandry. Due to a number of production constraints, local, seasonal employment on better-off farmers' cotton fields helps generate needed income.

Save River Valley & Ndowoyo Lowveld Communal (former name: Chipinge and Save River Valley/Eastern Chiredzi Communal +Ndowoyo Communal + Mutema and Muskowa Communal)

This dry, lowland area is primarily agricultural. Households grow mainly small grains (sorghum and millet) as well as maize and groundnuts. The zone boasts good soil but cropping is limited by erratic rainfall. Consequently, cash income earned through seasonal casual work, petty trading and the sale of handicrafts, goats and some cotton is fundamental to the food economy. Remittances are also increasingly important to household income.

Western Kalahari Sandveld Communal

In general, livelihoods in this zone are based on the rain-fed cultivation of sorghum and millet mixed with animal husbandry, and supported by cross-border labor migration. This low-lying, dry land zone has the advantage of proximity to labor markets in South Africa and Botswana. Thus an important aspect of the household economy is having someone working elsewhere and who remits money home.

As mentioned above, the lowveld and midveld areas within Zimbabwe historically have the higher rates of food insecurity within the country. Within the above, more specific, 24 livelihood zone descriptions, those that cover the southern and western parts of the country would also reflect higher rates of food insecurity. Specifically, this would include the drier, less arable regions of Matabeleland North, Matabeleland South, Masvingo and Midlands Provinces.

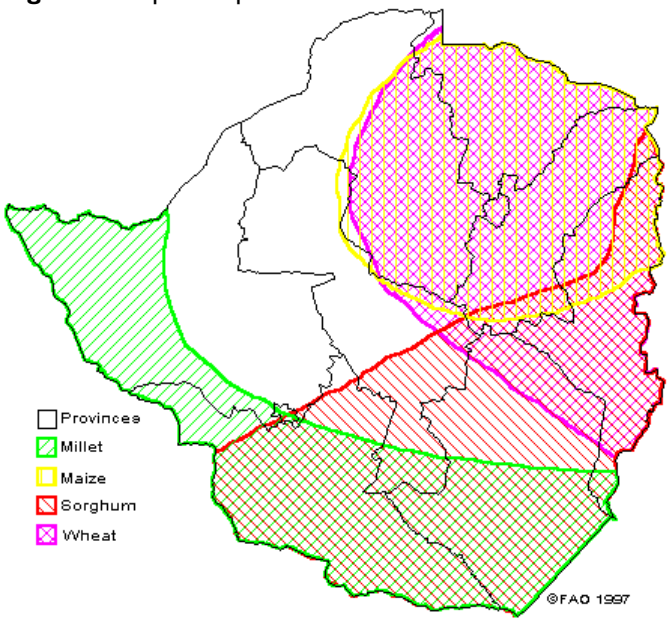
Availability

NATIONAL FOOD SUPPLY

Domestic agricultural production

Agriculture is the key to the Zimbabwean economy, contributing 20 percent directly to GDP and comprising 66 percent of the national labor force.[17] However, only 11 percent of Zimbabwe's land is arable, and this land is concentrated in the northern and eastern parts of the country, in close proximity to Harare.[18] Zimbabwe's main agricultural products are maize, sorghum, millet, wheat, cassava, cotton, tobacco, coffee, sugarcane, peanuts and livestock. The more arable parts of the country represent the main crop zones for maize and wheat, and the less arable parts of the country in the southern and western zones mostly grow sorghum and millet (Figure 6).

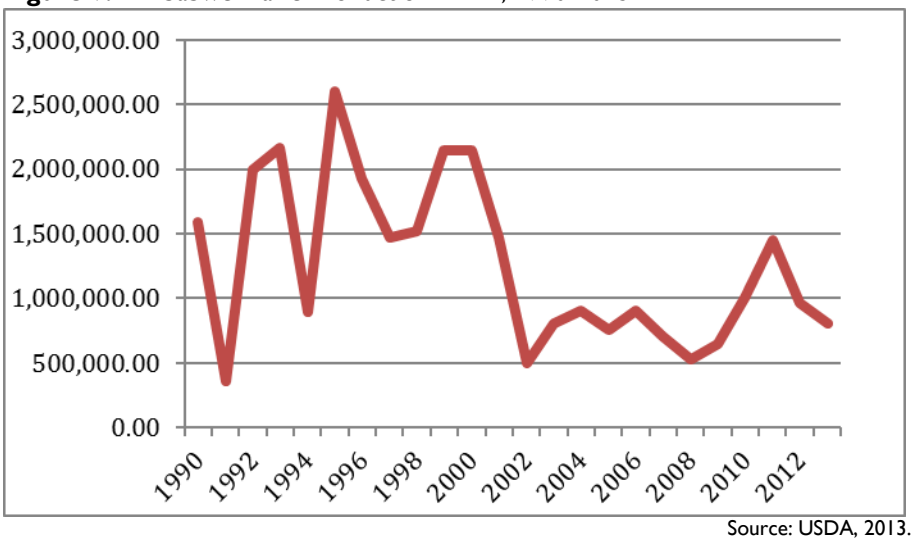
Figure 6. Staple Crop Zones



Source: USDA/FAS

Zimbabwe's agricultural production and national diet is dominated by maize, and production has declined over roughly the past decade (Figure 7). Maize typically accounts for 80-90 percent of domestic staple production, with sorghum and millet accounting for the minor staples (small grains) within the country. Maize production has declined since 2001 and never fully recovered since that year. Improved cropping harvests were recorded in 2004, 2006, and 2011, but Zimbabwe has not produced over 2 million MT of maize since 2000. This long-term decrease in maize production has contributed to the current maize structural deficit. Furthermore, agricultural production declined from roughly 1.4 million MT in 2010/2011 to 800,000 MT in 2012/2013. The decline has been attributed to poor and irregular rainfall, lack of adequate investment in the agricultural sector, unclear land tenure issues, some smallholder farmers switching from maize production to tobacco production, deteriorating transport infrastructure, and other factors. Wheat production has also significantly declined, from 260,000 MT produced over a decade ago to 16,000 MT in 2012 and an estimated 31,000 MT in 2013.[19] Note that production figures for both maize and wheat should be viewed as approximate totals, due to difficulties in obtaining exact figures.

Figure 7. Zimbabwe Maize Production in MT, 1990-2013



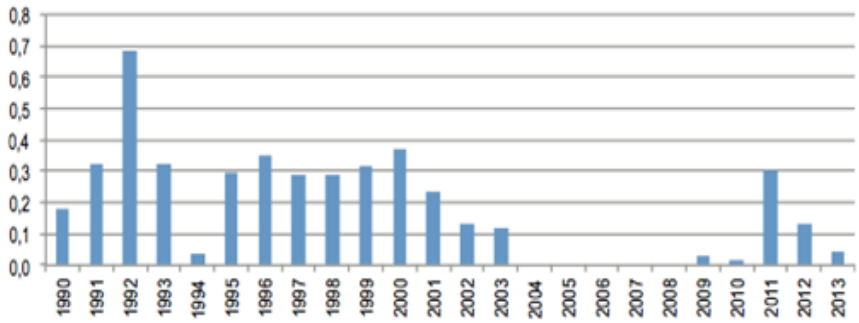
Source: USDA, 2013.

National staple cereal production is highest in the provinces of Mashonaland West, Central, and East. National staple cereal production is on average 346

kg/household, breaking down into 321 kg/household of maize and 25 kg/household of small grains.[20] The three Mashonaland provinces significantly outperform the national average and other provinces for staple cereal production. Factors contributing to this increased production include higher soil quality, more regular rainfall and increased access to inputs. Additionally, maize is the largest staple food produced in the 3 Mashonaland Provinces.

Figure 8 shows that Zimbabwe has had little maize stock left over for the past 10 years, except for the outlier situation in 2011 where 30 percent of maize stocks were available for Zimbabwe's estimated annual use of 1.6-1.8 million MT of maize. Additionally, this graphic shows that Zimbabwe has had to become more reliant on neighboring country maize production over the past decade as a source for its own national consumption, due to its own decreased production. The stock-to-annual use ratio for 2013 is 4.5 percent.

Figure 8. Maize Stock-to-Annual Use Ratio, 1990-2013



Source: USDA, as adapted from WFP/Zimbabwe VAM newsletter, 2013

An increase in drought-tolerant, small grains production can be an alternative to maize production. Maize is the dominant staple within Zimbabwe, as it also is in the neighboring countries within the Southern Africa region. However, maize in Zimbabwe is grown in many marginal areas that are drier, less arable and more appropriate for the drought-tolerant sorghum and millet varieties, the most common small grains grown in-country. Some reasons as to why small grain production has generally not increased include the fact that small grain production is labor-intensive, small grains are prone to pest damage, there are less milling facilities for small grains, and it is also generally harder to market small grains as compared to maize.[21]

Constraints and opportunities in agricultural production

There are many challenges to increasing overall agricultural production. These challenges include lack of adequate investment in agriculture, unclear land tenure policies, irrigation, diseases/pests, high fuel costs, poor soil quality—especially in communal areas, and decreased access to and availability/affordability of inputs. Zimbabwe is vulnerable to irregular rainfall, drought and/or flooding. Promotion of more drought-resistant sorghum and millet would likely increase food availability nationally.

Declining soil fertility

Soil loss through erosion and other contributing factors is significant. Most of the decline in soil fertility, especially in communal areas, is attributed to continued periods of maize cropping and less than ideal land management practices. In resettled, ex-commercial areas, incentives to maintain soil fertility for individual farmers could be stronger if land titling was formalized. Short-term, unsustainable land management practices in both communal and ex-commercial areas have degraded natural resources and led to decreasing harvest yields.

Land tenure and untapped agricultural potential

Land tenure policy is unclear in many areas of the country. As a result of Fast-Track Land Reform (FTLR) over a decade ago many commercial farms in areas with high farming potential, which used to be owned by white minority farmers, were taken over by indigenous black Zimbabwean farmers. This was a redistribution exercise led by the GOZ, and many of these cropping areas within formerly commercial farming areas still have unsettled land ownership issues for individual farmers cultivating those areas. Some of these commercial farms remained the same size, while others were subdivided to create opportunities for more black, small-holder farmers, roughly classified as A1 and A2 schemes. Overall, due to the indefinite ownership status and potential changes in longer-term GOZ land policy, it is difficult for many individual farmers to obtain formal credit from Zimbabwe's established banking sector for agricultural investments, which hinders long-term planning.

Limited use of irrigation

Irrigation has declined over the past 15 years, but has the potential to increase agricultural production. Although there are significant perennial water sources and dams in the country, irrigation has declined over the past 15 years primarily due to poor maintenance or damaged infrastructure, and lack of new investment.

Low Input Use

Fertilizer consumption in Zimbabwe was estimated at 27.4 kg/ha in 2009, and 25.9 kg/ha in 2010.[22] This low usage rate is similar to neighboring Zambia and Malawi, but is only roughly half the rate of consumption in South Africa, where the agricultural sector is much more developed. Increased access to fertilizer would increase overall agricultural production in Zimbabwe.

Post-Harvest Losses

FAO estimates post-harvest losses within Zimbabwe consistently at 20-30 percent for storage alone for crops, and up to 40 percent when including other causes such as in the field, transport, handling and processing, [23] mostly due to pests, processing methods and moisture.

Livestock production

Livestock production is a significant component of agricultural production and food security. Approximately 40 percent of households owned livestock in 2013[24] Cattle, sheep, and goats (shoats) are found throughout the country, but are concentrated in the drier southern and western parts of the country. For example, Matabeleland South and North Provinces are well-suited for livestock production and have the highest proportion of individual households who own 5 or more shoats (sheep or goats). Related to food availability, the most common reason for households to sell cattle or shoats is to purchase food, and secondary reasons are to cover education costs and other household expenses.

Dairy production is rebounding. Milk production decreased after FTLR because many dairy farm operations were negatively impacted by the land redistribution exercise.[25] In 2012, 56 million liters of milk were produced, and this has increased over the past 3-4 years.[26] However, current milk production is still only at roughly one third of peak national production, but it is expected to increase to 60 million liters in 2013.

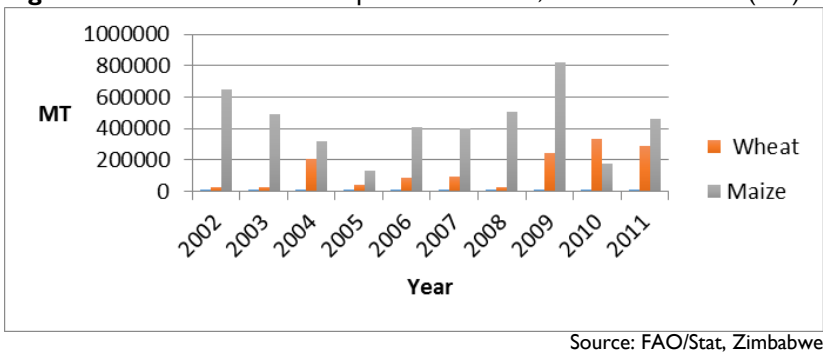
Fisheries and aquaculture

Fishing is a small but notable component of food security, providing a minor contribution to national GDP. Fishing is primarily done at the reservoirs of Kariba, Chivero, Manyame, Mutirkwi and Mazvikadei, with Kariba responsible for 90 percent of national fisheries production, mostly kapenta.[27] Fish, usually dried and salted, then becomes more easily stored for home consumption, and transported throughout the country. Fish is also important for national food security availability, as a good, inexpensive source of protein.

STAPLE FOOD IMPORTS

Zimbabwe has had a structural cereal deficit for roughly the past decade (Figure 9). This is due to macroeconomic disruptions, less maize grown in ex-commercial areas, and declining productivity. Significant quantities of maize are imported from Zambia and South Africa (since 2013) and other countries in the region. Zambia has been the primary supplier of maize to Zimbabwe over the past few years, and Zimbabwe's relaxation of GM-imported maize in 2013 has led to increased, official maize imports from South

Figure 9. Zimbabwe Cereal Imports 2002-2011, Wheat and Maize (MT)



Source: FAO/Stat, Zimbabwe

Africa. These imports are typically on a commercial basis, but some past import sales from neighboring countries were not fully commercial.[28] Currency depreciation over the near term in both Zambia and South Africa may also make their domestically-produced maize more competitive on Zimbabwean markets, irrespective of supply.

Zimbabwe's cereal deficit at the end of 2013 was approximately 350,000 MT (Figure 10). This sum has been fairly typical over the past few years, and from 2007-11 Zimbabwe averaged roughly 650,000 MT of formal cereal imports, mostly maize.[29] International food assistance over the same time period has helped mitigate the cereal deficit. Significant quantities of wheat have also been imported over the past five years to meet demand requirements. Zimbabwe has imported 84 percent of its estimated annual wheat consumption, on average over the past five years. Wheat was historically grown on commercial farms during the winter under irrigation, and this declined significantly after FTLR.

Figure 10. Zimbabwe Cereal Balance as of December 31, 2013

Description		MT	
A	Human Requirement*	1,725,516.46	
B	Livestock and other Uses	350,000.00	
C	**Total Annual Requirements (A+B)**	**2,075,516.46**	
D	Opening stocks	320,000.00	
E	Production	909,965.00	
F	Imports to date	494,241.85	
G	**Total Available Cereal**	**1,724,206.85**	**83%**
H	**Deficit (G-C)**	**(351,309.61)**	-17%

** Cereal requirement is based on 133kg/person/year for the 2012 preliminary census

*** Imports is based on ZIMSTAT formal imports April to November 2013

**** Opening stock based on stock estimates for grain millers and GMB

Source: FEWS NET/Zimbabwe and ZimVAC 2013

Maize is the most important food staple in terms of informal cross-border trade. Maize is imported and exported through established trucking (primarily) and rail (secondarily) routes, but also informally. In a typical year, Zimbabwe's maize imports are larger than exports, and the dominant informal routes are from Zambia, South Africa and Mozambique. It is impossible to capture exact quantities of informal cross-border trade of maize in a typical year, as informal quantity flows would be influenced by official quantities and prices of imports, demand in-country and actual controls at and around official border crossings. However, in a typical year and as a general trend, significant quantities of maize are imported officially (400,000 MT in 2011) and unofficially into Zimbabwe.

FOOD RESERVES

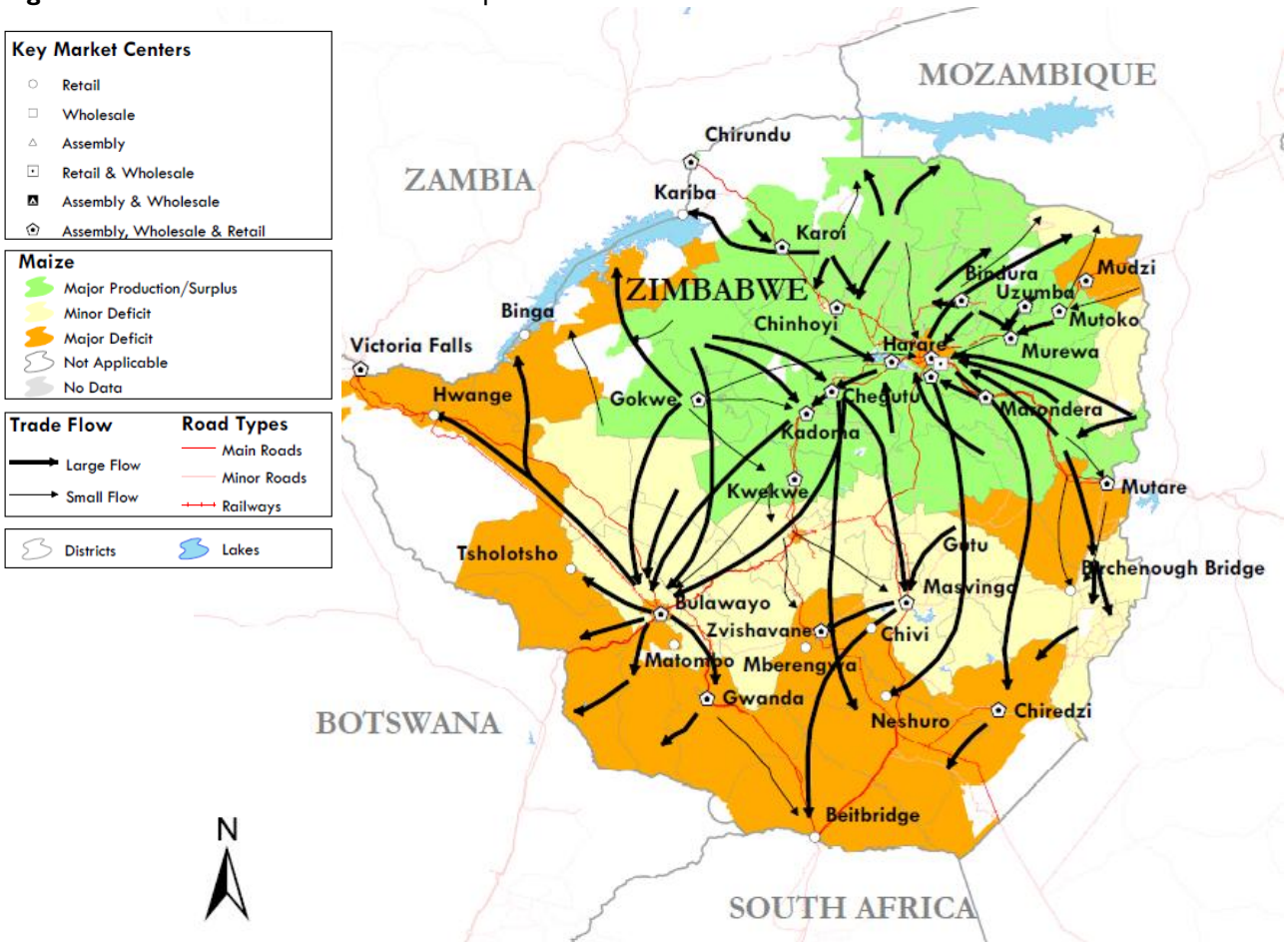
Zimbabwe's Grain Marketing Board (GMB-a government parastatal) was established in 1931 to ensure national food security through the production, procurement and management of the Strategic Grain Reserve. It focuses primarily on commodity trading in cereals such as maize and wheat, and sometimes engages in the processing of cereal products. However, lack of capital, management challenges, late payments, and maintenance of infrastructure have recently hampered the GMB's overall effectiveness. Many farmers therefore opt to sell their own maize harvests to private traders due to immediate cash needs.[30]

NATIONAL FOOD SYSTEM

Cereal markets

Important maize markets that typically produce surpluses are located in the northern, central and eastern regions of the country (Figure 11). Dominant maize flows reach the two major cities of Harare in the northeast and Bulawayo in the southwest of the country. Zimbabwe's good transport links are also generally adequate to move surpluses to deficit areas, through primary, secondary, and tertiary roads. Additionally, main entry and exit points within the country for maize include Beitbridge, Plumtree, Victoria Falls, Chirundu, Nyamapanda and Mutare.

Figure 11. Production and Market Flow Map: Zimbabwe Maize



Source: FEWS NET

Maize markets in-country are more integrated in maize-surplus areas than maize-deficit areas, based on price.[31] The two dominant maize markets in-country are Harare (Mbare) and Bulawayo (Renkini). Harare is the center of the maize surplus region, and is integrated based on price with the other surplus markets of Makoni, Shamva, Chikomba, Seke, Hurungwe and Gokwe South. Bulawayo is the center of the maize deficit region, and it is only integrated based on price in this maize deficit region with Hwange. The lower price integration in the maize deficit region of southern and western Zimbabwe may be explained by maize imports coming from farther away into this region, from the neighboring countries of Zambia, Botswana and South Africa.

Livestock markets

Livestock markets in Zimbabwe can be roughly divided into commercial and traditional/smallholder sectors. The national herd for cattle for Zimbabwe is roughly 5.7 million head,[32] which is slightly down from almost 7 million head 15 years ago. Commercial livestock activities faced increased challenges over the past decade due to decreased investment and veterinary services, and unclear land tenure issues. Livestock is important nationally, but is proportionally more important for economic activities in the south and west of the country, due to less crops being grown in these drier agro-pastoral zones. Smaller livestock markets throughout the country feed into the larger livestock markets, which then feed into the large urban markets of Bulawayo and Harare. See details under the previous Major Livelihoods Zone section for areas where livestock is a primary component of a particular livelihood zone.

Access

SOCIO-ECONOMIC ACCESS

Poverty data

Roughly three quarters of Zimbabwe's rural population is poor. The 2013 ZimVAC reports the rural poverty rate at 76 percent in 2011, and 23 percent within that rural poverty classification are labeled as "extremely poor."[33] The World Bank corroborates this with a national poverty rate in 2011 of 72 percent.[34] Combined with data showing Zimbabwe very low on the UN Human Development Index (172/186), this shows the extent of poverty, notably for rural areas and especially in the aftermath of Zimbabwe's macroeconomic decline and battle with hyperinflation during the previous decade (~2006-8).

Regional poverty rates within Zimbabwe are worst in Matabeleland North and Mashonaland Central. As a complement to the 2013 ZimVAC, two additional sources on poverty present a more in-depth analysis of poverty. The Rural Poverty Portal reports that Matabeleland North Province has the highest rate of poverty (2010).[35] Additionally, UNDP/Oxford Poverty Human Development Initiative (OPHI) reports on a multi-dimensional poverty study by province.[36] This rates the worst incidence of poverty in Matabeleland North Province (63.5 percent) and next is Mashonaland Central Province (55.1 percent). The province with the lowest incidence of poverty is Mashonaland East (35.5 percent). These poverty rates are based generally on health, education and living standards, and provincial contributing factors to poverty in Matabeleland North are poor and irregular rainfall and decreased soil quality, while contributing factors to poverty in Mashonaland Central are decreased economic activity from mines and ex-commercial farms, and still unresolved land tenure issues.

Prices and impact on household purchasing power

Prices of staple agricultural food products and livestock typically fluctuate throughout the year, depending on the season. Other variations also occur, depending on local/regional market availability, and how regular rainfall has been during the standard wet season. The staple maize price tends to be the lowest right at harvest time, from April-June. Maize prices then generally and gradually increase as individual household stocks dwindle, with highest maize prices expected during the pre-harvest, lean season months of January-March. Livestock price variations depend on the time and quality of the rainy season, seasonal cash needs of households, and cereal availability.

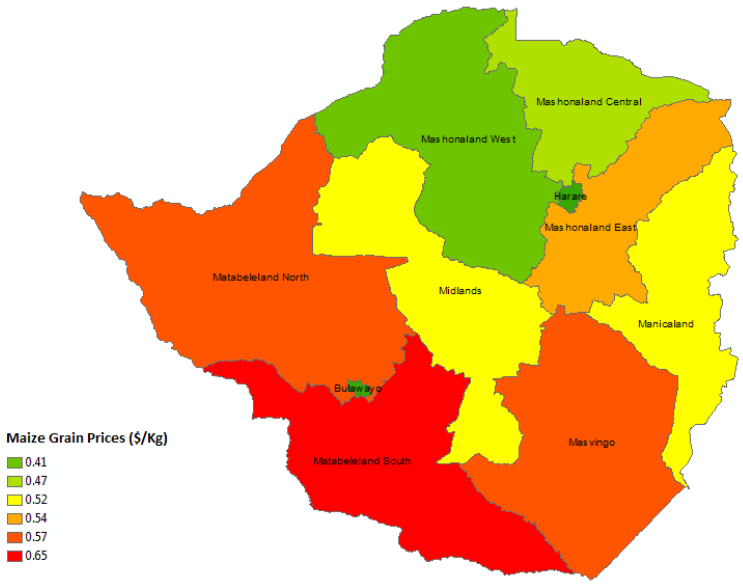
Productive agricultural areas are characterized by market surpluses, especially during better harvests when virtually all households sell their excess. Traders tend to benefit from the seasonal nature of production and temporal arbitrage since small-scale producers have difficulty reaching farther away, terminal markets and have less access to credit. Factors contributing to the market advantages for wholesalers/middlemen include less than adequate individual household storage facilities, and variable market integration has often resulted in smallholder farmers selling their produce soon after harvest in April/May at floor prices. The same smallholder farmers may then have to purchase commodities three-six months later at notably higher prices than the original selling price. Individual farmers may also sell their maize harvest surpluses to the GMB, but in many cases payment is delayed, encouraging farmers to sell their surpluses privately on their own.

Food expenditures make up an average of 56 percent of rural household expenditures. Generally, provinces with the highest agricultural production have the lowest expenditures on food, and provinces with the lowest agricultural production have the highest expenditures on food. Food expenditures were highest nationally in Matabeleland South, and lowest in Mashonaland West.

In 2013, 80 percent of national households planted maize, aiding self-consumption.[37] However a slight decline in maize cropping was noted in the three Mashonaland Provinces, and this may partly be due to risk-averse behaviors by farmers due to rainfall and input provision. Also, a small shift towards increased tobacco production was noted in these provinces (and other areas nationally), and this is likely explained by tobacco's status as a cash crop and cash fungibility for households to access maize on local markets.

National maize prices averaged US 53 cents/kg in April 2013.[38] The lowest average provincial maize prices ($/kg) in April 2013 per the following national map were in Mashonaland West Province, and were 23 percent lower than the national average, at 41 cents/kg (Figure 12). The highest maize prices were in Matabeland South, and were 23 percent higher than the national average at 65 cents/kg. Mashonaland West is generally a maize surplus region, and Matabeleland South is a maize deficit region. The 2013 ZimVAC additionally noted that most Zimbabweans nationally were purchasing maize at a higher price than the officially-gazetted price of $310/MT, as of April 2013.

Figure 12. April 2013 Provincial Maize Prices ($/kg)



Source: FEWS NET

Main markets in Zimbabwe generally have good market price integration. Market price integration overall in Zimbabwe is good for the major markets located on paved, well-maintained roads: Mbare market in Harare, Renkini market in Bulawayo, Kombayi market in Gweru, Sakubva market in Mutare and Mucheke market in Masvingo.[39] Dollarization of the Zimbabwe economy in 2009 has also contributed to overall national market stability over the past five years. Overall, maize grain and maize flour are easily found in markets in the northern half of the country year-round, whereas it is generally easier to find maize flour, rather than maize grain, in markets in the southern half of the country throughout the year.

After maize, small grains (sorghum and millet) are the second most important staple for consumption.[40] In April 2013, average national monthly household income was $95 per household. Zimbabwean households then nationally spent an average of $13/month on small grain consumption. The highest expenditures on small grains were recorded in Matabeland South ($28/month) and the lowest in Mashonaland West ($5/month). This shows that Zimbabwean households spend over half of their monthly income on food, with small grains an important, secondary expense nationally towards the national diet.

INCOME SOURCES AND EMPLOYMENT

Agriculture

Zimbabwe's agricultural sector still employs a majority of Zimbabweans. Sixty six percent of the national work force is estimated to be in the agricultural sector, despite the significant changes of the last decade in the communal and commercial farming sectors.[41]

Remittances

Remittances are a significant source of income. The largest number of migrant Zimbabweans – about 1.5 to 2 million – live and work in South Africa.[42] The UNDP estimates that remittances to Zimbabwe are around $1.4 billion annually, approximately 28-40 percent of GDP. Although it is impossible to know the exact total for remittances, most of which are sent informally, it is safe to assume that remittances make up a significant share, on average, of households' sources of income. Large flows of remittances occur in December/January when migrant workers return, receive annual bonuses, and cash needs for school fees and other expenditures are needed.

Formal and Informal Sector

Formal unemployment remains very high. Various sources list formal unemployment in 2013 from a range of 70[43] to 95 percent. It is difficult to know the exact rate of unemployment or underemployment, but it is accurate to say that the formal employment is very low at around 5 percent of the labor force, and Zimbabweans depend heavily on the informal

sector and migration as strategies to earn their livelihoods. The small formal sector also means that it is difficult to accurately measure national incomes due to the scale of the informal sector, and it is a real challenge to equitably tax the formal and informal sectors of the national economy.

Most Zimbabweans are employed informally, and the lack of a large formal sector encourages outmigration of working-age males and females to neighboring countries. Many estimates place the informal sector for Zimbabwean employment at 80-90 percent of the working age population. Typical informal employment activities can include labor on farms, trading, mining, informal labor in peri-urban or urban settings. A GOZ 2011 Labor Force survey states that there was only 11 percent unemployment during the survey, but most other observers believe that the use of a strict definition of unemployment severely underestimates those engaged in informal economic activities within the country, such as petty trading, informal labor in rural, peri-urban or urban areas, and other related activities.

PHYSICAL ACCESS

Market infrastructure in Zimbabwe varies. In parts of the higher-potential farming livelihood zones within Mashonaland and parts of other provinces, markets are integrated within the province and with key urban centers. This is due to decent transport links and related trade infrastructure. In these areas, distances from markets are reasonable, and there are a number of market participants across the marketing chain, thus minimizing transaction costs through increased competition. Subsequently, food price fluctuations are generally lower during normal years in these areas compared to variation in other lower-potential and less accessible livelihood zones.

Most deficit-producing parts of the country in southern and western Zimbabwe are relatively more remote and linked transport infrastructure can be more of a challenge for physical market access. Staples are still transported relatively efficiently in the south and west of the country, but in many cases it is more expensive than other parts of the country due to it being more remote, with less competition. Also markets and access from Livingstone, Zambia, Francistown, Botswana and Musina, South Africa can increase overall food access for the food insecure regions of southern and western Zimbabwe.

Utilization

HOUSEHOLD FOOD CONSUMPTION

Consumption preferences and indicators

Maize is the staple for Zimbabwean households, and accounts for roughly half of the average caloric intake for Zimbabweans nationally. Annual consumption should be roughly 1.5 million MT of maize. This is based on a population of 12.6 million people and 120 kilos of maize consumed/person.[44] The maize harvest for 2012/13 was approximately 800,000 MT, showing that even with significant commercial imports and food aid there is a significant national shortage of maize. As of December 2013, a current cereal deficit of 351,000 MT existed. Zimbabweans prepare and consume maize mostly as porridge, prepared either hard or soft, called *sadza*. Wheat is also consumed, but in smaller quantities than maize (wheat accounts for roughly 10 percent of national caloric intake) and typically more in urban areas in the form of bread.

KEY FEWS NET NUTRITION RESOURCES

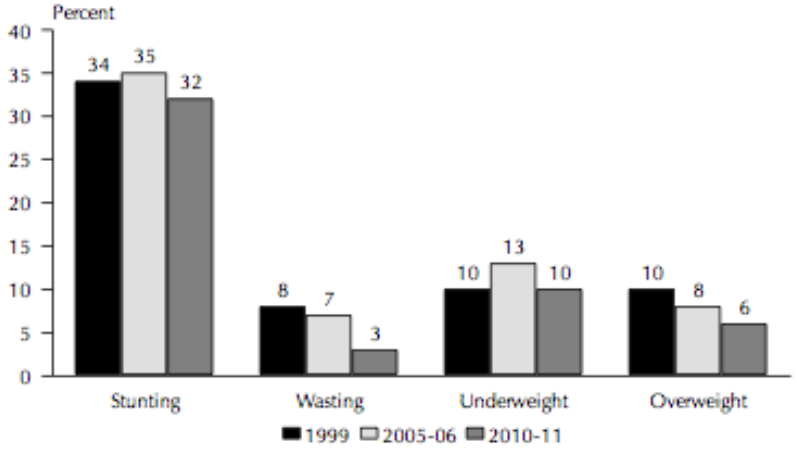
Zimbabwe VAC (Vulnerability Assessment Committee) 2013.

Zimbabwe Demographic Health Survey (DHS) 2010/11 and preceding reports.

The prevalence of undernourishment (the proportion of the population estimated to be at risk of caloric inadequacy) is still a significant challenge in Zimbabwe. The prevalence of undernourishment is the traditional FAO hunger indicator, and has been adopted as an official Millennium Development Goal indicator. World Bank data indicate that the Zimbabwean national prevalence of under-nourishment was 39 percent in 2006, 30 percent in 2008, and 33 percent in 2011. The proportion of the population that is currently malnourished was not measured in the most recent 2013 ZimVAC, but is likely in the same range as the above figures.

According to FAO, the average person in Zimbabwe consumes 2,219 kcal per person per day.[45] As mentioned earlier, roughly half of the calories come from maize, 11.5 percent come from wheat, 9 percent come from sugar, 5 percent come from sorghum, roots and tubers, and 3 percent comes from soy oil. For overall caloric intake, the food crop component is 69 percent, and the animal foods component is 9 percent. Overall, caloric consumption has remained fairly consistent over the past two decades in Zimbabwe, with a slight increase during that time period.[46] Additionally, Zimbabweans would benefit from increased consumption of fruits, vegetables and nutrient-dense animal source-foods, where they are available and accessible.

Figure 13. Zimbabwe trends in nutrition among children under five; 1999, 2005-06, and 2010-11



Source: Zimbabwe 2010/11 DHS

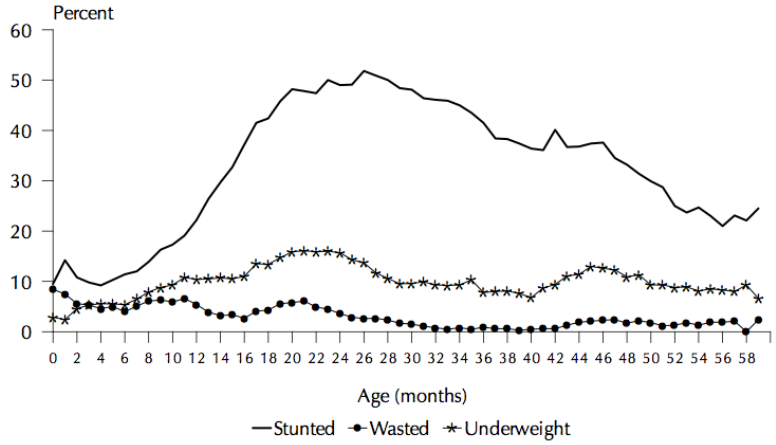
Note: stunting reflects chronic malnutrition; wasting reflects acute malnutrition; underweight reflects chronic or acute malnutrition, or a combination of both. Classifications of nutritional status are based on the WHO child growth standards.

Overview

Overall, stunting and wasting for children declined slightly between the two most recent DHS surveys: 2005/6 and 2010/11. The prevalence of child stunting, wasting, and overweight have all declined since 1999 (Figure 13). For children under five, the 2010/2011 national prevalence was as follows: stunting (32 percent), wasting (3 percent) and overweight (6 percent). [47]

The prevalence of under-nutrition, particularly chronic under-nutrition, increases after six months of age.[48] Figure 14 shows increases in the three measurements of nutritional status of children under five in Zimbabwe, with stunting (low height-for-age) peaking at 24-35 months, wasting (low weight-for-height) peaking at 9-11 months, and underweight (low weight-for-age) peaking at 18-23 months.

Figure 14. Zimbabwe nutritional status of children by age (months)

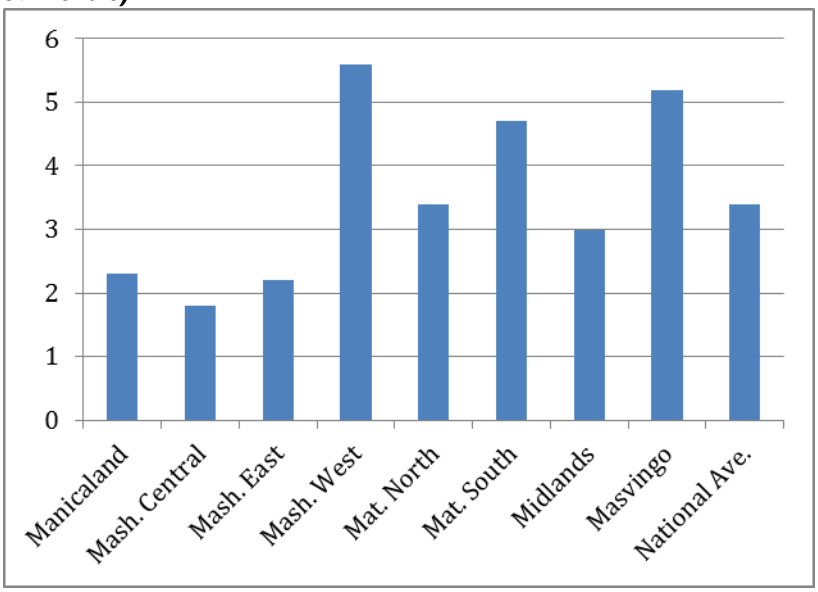


Source: Zimbabwe 2010/11 DHS

Note: stunting reflects chronic malnutrition; wasting reflects acute malnutrition; underweight reflects chronic or acute malnutrition, or a combination of both; Plotted values are smoothed by a 5-month moving average. Classifications of nutritional status are based on the WHO child growth standards.

Acute malnutrition is highest in the provinces of Mashonaland West (5.6 percent) and Masvingo (5.2 percent) (Figure 15). Masvingo has the highest rate nationally of severe acute malnutrition at two percent (not shown on the graph).

Figure 15. 2013 ZimVAC: Child Acute Malnutrition (%) by Province (6-59 Months)



Source: ZimVAC 2013

Micronutrient deficiencies

Micronutrient deficiencies can be indicative of poor dietary quality and also contribute to childhood morbidity and mortality. According to the Zimbabwe 2010/11 DHS, among children between 6-23 months, 66 percent had consumed Vitamin A-rich foods within the 24 hour period prior to the survey, while 40 percent had consumed foods rich in iron.[49] Further, for children between 6-59 months, 66 percent of children had received Vitamin A supplements within the six month period prior to the survey, 2.6 percent had received de-worming medication, and 93.5 percent of households reported having iodized salt available. For anemia, national rates for women 15-49 years old are 28 percent, increasing to 32 percent among pregnant women.[50] This anemia rate for women has notably decreased by 10 percent since the previous 2005/6 DHS, and Matabeleland South province reports the highest rates nationally of anemia for women. [51]

CARING AND FEEDING PRACTICES

Major causes of childhood under-nutrition can include low rates of exclusive breastfeeding, early introduction of complementary foods that lack sufficient energy density and/or critical micronutrients, low feeding frequency, and inadequate caring capacity at the household and community level. International infant and young child feeding guidelines (IYCF) recommend that all children be exclusively breastfed for the first six months of life. The Zimbabwe 2010/11 DHS data reports that only 31 percent of children under six months of age follow this recommendation.[52] However, this prevalence does represent an increase of 9 percentage points from 2005/6. The median duration of any breastfeeding is 17.8 months in Zimbabwe, below the international recommendation that all children continue to breastfeed until at least 24 months of age.

Despite behavior change education on recommended practices, complementary foods are commonly introduced in Zimbabwe before six months of age.[53] More than one third of children under six months of age are given complementary food, in addition to breastfeeding. Another trend that is cause for concern is that 10 percent of mothers introduce complementary foods before two months of age.

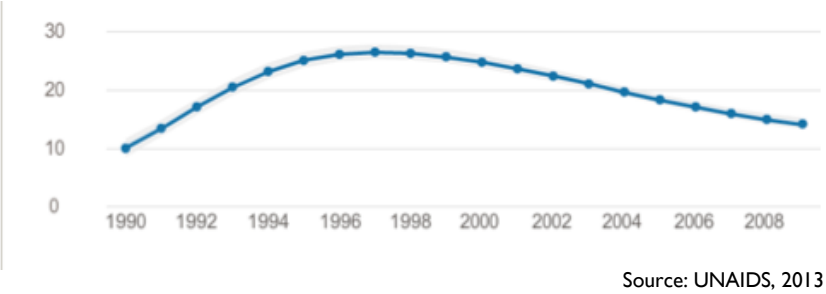
Infant and young child feeding practices include timely initiation of feeding solid/semisolid foods from age 6 months, and increasing the amount and variety of foods and frequency of feeding as the child gets older, while maintaining frequent breastfeeding. According to the Zimbabwe DHS, only 11 percent of all children age 6-23 months are fed in accordance with all IYCF practices (minimum dietary diversity, minimum meal frequency, minimum acceptable diet).[54] Seventy-nine percent of children in that age range had received breast milk or a breast milk substitute in the past 24 hours, and 24 percent had an adequate diverse diet. Increasing the diversity of foods given to children would help to meet the above IYCF targets. Additionally, 19 percent of children between 6-59 months of age were reported to have had diarrhea over the previous two weeks when surveying was completed for the 2013 ZimVAC. Diarrhea also frequently contributes to overall under-nutrition for children.[55]

MORBIDITY AND MORTALITY

Child mortality is decreasing over the past decade. The under-five mortality rate decreased to 84 deaths per 1,000 live births in 2010/11, down from 102 deaths/1,000 live births in 1999, but up from 71 deaths/1,000 live births in 1988.[56] The infant (1 year) mortality rate is 57 deaths per 1,000 live births in the 2010/11 DHS, and the neonatal (1 month) mortality rate is 31 deaths per 1,000 live births. 2/3rds of childhood deaths occur during infancy.

Zimbabwe is still experiencing an HIV epidemic. As of 2012, the national prevalence of HIV among adults 15-49 years of age is approximately 14.7 percent.[57] HIV rates have generally declined over roughly the past decade and a half, reflecting significant progress to combat the HIV epidemic (Figure 16). However they have remained at approximately 15 percent over the past four years. Further, the spread of HIV/AIDS has increased mortality levels in both urban and rural areas, and has reduced previous gains since independence in 1980 in health standards, life expectancy, and child survival. It has also had major impacts on all sectors of the economy, by slowing productivity, increasing the dependency ratio, and increasing the burden of care on traditional societal structures.

Figure 16. Zimbabwe HIV Prevalence for Adults (15-49 years old), 1990-2009



Source: UNAIDS, 2013

Malaria can be a significant risk in Zimbabwe. First, malaria only affects certain parts of Zimbabwe, most frequently in the lower altitude-areas on the peripheries of the country, e.g. along the Zambezi and Limpopo River valleys and during the rainy season of November through April. Roughly 50 percent of the country's population is at risk of catching malaria, and

an estimated 100,000 deaths occur each year due to malaria.[58] Also, nearly ten percent of U-5 children reported having a fever over the past two weeks, although this is not necessarily specific to malaria. To combat malaria, the 2010/11 DHS reported that 41 percent of all households had at least one net to combat malaria, 29 percent of these households had an insecticide-treated net, and 17 percent reported indoor residual spraying to combat mosquitoes over the past 12 months.[59]

ACCESS TO BASIC SOCIAL SERVICES

Water and sanitation

It is estimated that nearly 80 percent of the population in Zimbabwe has access to an improved water source (e.g., household connection, public standpipe, borehole, protected well or spring, and/or rainwater collection).[60] Water sources with any type of improvement breaks down to 95 percent of urban households and 70 percent of rural households. Overall, these percentages for improved water sources are comparable to percentage rates in the previous 2005/6 Zimbabwe DHS.

Overall, 36 percent of Zimbabwean households overall use an improved type of toilet facility.[61] 45 percent of urban households use an improved toilet facility, while only 31 percent of rural households use an improved facility. When including shared, improved facilities the rates increase to 93 percent of urban households and 50 percent of rural households using an improved toilet facility. Finally, 39 percent of rural households have no toilet facility, which represents a public health improvement from 45 percent as reported in the previous 2005/6 DHS.

Stability

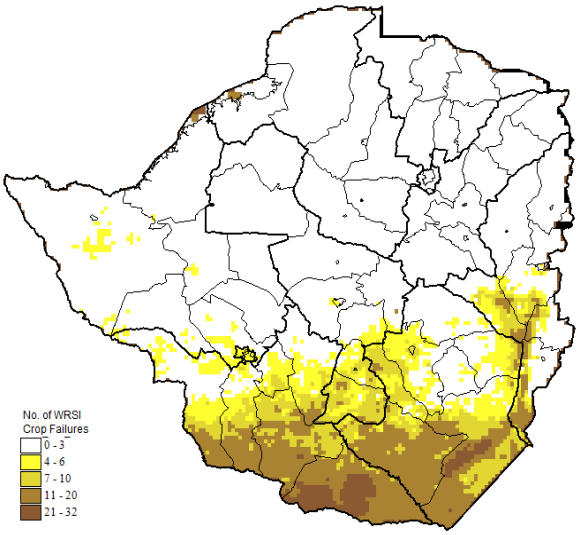
CLIMATE-RELATED DISRUPTIONS TO THE FOOD SUPPLY

Drought is the major climate-related hazard that occurs most frequently in Zimbabwe, with significant consequences on livelihoods, income, and food security. Crop failures are estimated to happen in every three out of five years.[62] Additionally, the southern parts of the country are most prone to drought, particularly parts of Matabeleland South, Masvingo and Manicaland provinces (Figure 17).

The frequency of drought could increase both in intensity and extent as a result of climate change, but regional rainfall patterns will remain variable. Figure 18 shows rainfall increasing over the past decade in parts of northwestern and central Zimbabwe, and decreasing rainfall over the past decade in the southern zones of Matabeleland South and Masvingo Provinces and the northeastern zone of Manicaland Province, compared to averaged data from 1981-1999.

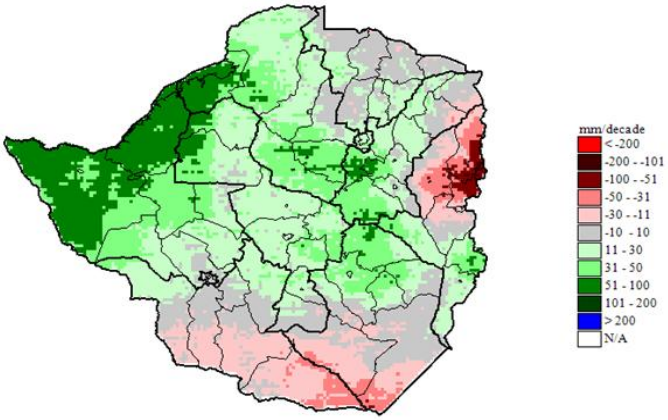
Flooding occurs occasionally in Zimbabwe. Flooding can occur in the major river systems within the country, including the Zambezi, Save, Limpopo and Okavango systems. The higher altitude areas within the country are found on the eastern border with Mozambique and the central and northeastern parts of the country. Flooding generally occurs towards the lower elevation areas and rivers on the periphery of the country.

Figure 17. Zimbabwe: Drought Frequency from 1980 to Present



Source: FEWS NET 2014; WRSI= Water Requirement Satisfaction Index

Figure 18. Change in Avg. Rainfall Over July-June Annual Season, Comparing Mm/Decade Avg. for 2000-2011, minus 1981-1999



Source: USGS/UCSB

PRICE STABILITY

Access to food can be disrupted through price instability. While some annual temporal variability in prices is expected, increased variability can be caused by a number of factors. These factors include dependence on regional and world markets, effects of droughts and/or floods, maize export bans in neighboring countries, pests and diseases, insecurity, political instability and many other factors. Please see the Access section for additional details. While dependence on regional and world markets can provide a measure of stability, prices of key imports such as maize and wheat can notably increase depending on global price trends. Price volatility can therefore impact individual household purchasing power and the ability to access food on markets.

CONFLICT

Civil conflicts over resources, particularly access to and ownership of land, livestock, mineral resources and other property, can all reduce access to food and disrupt the stability of the food supply. Access to land is the definitive issue for agricultural production in Zimbabwe, and the FTLR program instituted over a decade ago has had lasting and evolving impacts on household food security. Land quality is generally better on ex-commercial areas compared to communal areas, and farmers receiving land under the larger A1 or smaller A2 schemes, predominantly in Mashonaland, are advantaged by generally higher quality farming land. Conflict over livestock and other resources has occurred in the past decade, and these issues between ranching/grazing of livestock versus sedentary agriculture have played out most frequently in central, southern, western and other periphery zones of the country. This conflict can also occur between different ethnic groups claiming the same regions of land or other natural resources. Mineral resources can further cause conflict between various stakeholders involved in the extraction process. Finally, political tension and conflict can also impact access to natural resources and overall agricultural productivity. This tension can be associated with political affiliation for particular zones or individual households.

Food Security Outcomes

BACKGROUND

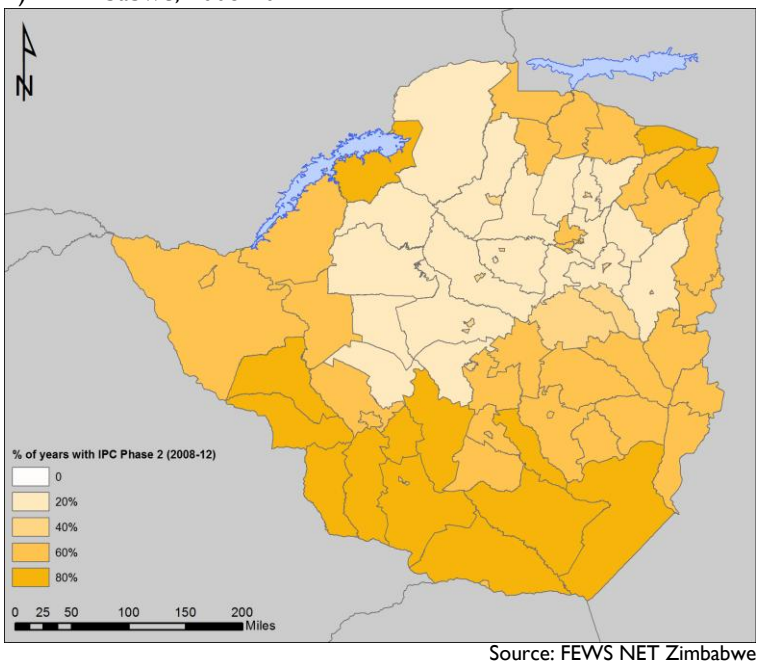
Data on the frequency of Integrated Food Security Phase Classification (IPC) Stressed and Crisis levels (Figures 19 and 20) throughout Zimbabwe from 2008-12 demonstrate that the most food insecure areas nationally are in the southern and western parts of the country (the drier parts of Matabeleland North and South, Midlands, and Masvingo provinces), and on the periphery (for more on the IPC scale, visit the IPC website). Areas that are relatively more food secure are in the northeast zone, which corresponds to the three Mashonaland provinces and elevated, more arable regions of the country.

The ZimVAC for 2009/10 to 2013/14 calculated that an average of 1.591 million Zimbabweans were food insecure during the lean season of January-March for every cropping year. This is a notable number of food insecure individuals, and shows the continuing challenges for food security in the country. This figure represents an improvement over the 2007/8 and 2008/9 cropping seasons, which when combined with the macroeconomic difficulties at that time, produced very high numbers nationally of food-insecure Zimbabweans.

RECENT MAJOR ACUTE FOOD CRISES

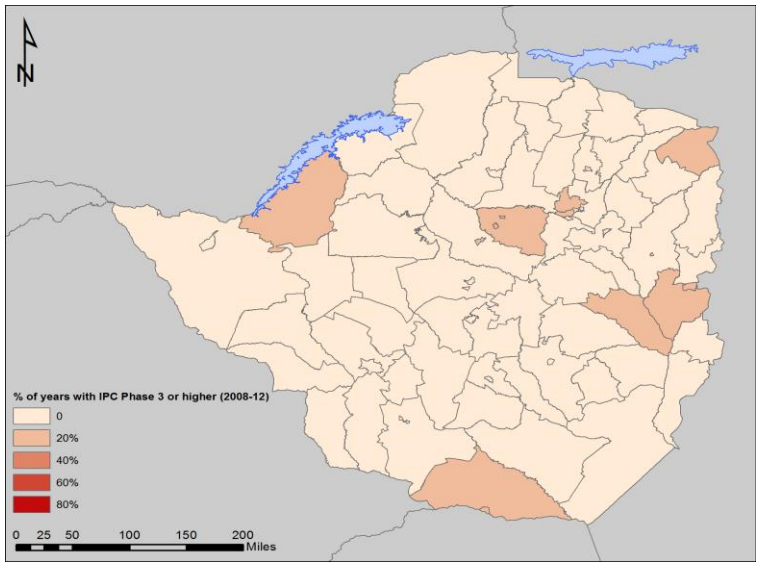
The primary cause of food insecurity is typically drought or poor/irregular rainfall. Both numbers of food-insecure Zimbabweans during the lean season and annual WFP/Zimbabwe food aid tonnages distributed have declined since the peak years of 2008 and 2009 (Figures 21 and 22). However, they were still substantial in 2012 and 2013, and complemented targeted governmental food security programs.

Figure 19. Frequency of Stressed Acute Food Insecurity (IPC Phase 2) in Zimbabwe, 2008-2012



Source: FEWS NET Zimbabwe

Figure 20. Frequency of Crisis Acute Food Insecurity (IPC Phase 3) in Zimbabwe, 2008-2012



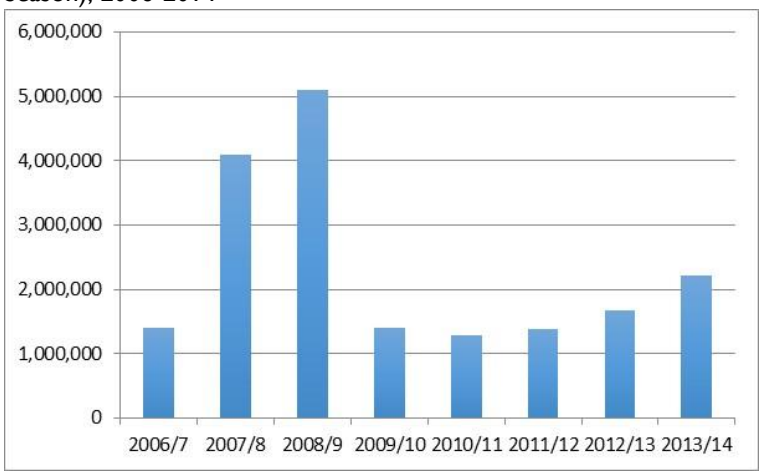
Food Insecurity: 2008/09 Economic and Acute Food Insecurity Crisis

From the beginning of the 2008/09 cropping season in November, up to the April 2009 harvest, Zimbabwe suffered from a major food security crisis. The previous 2007/08 cropping season was quite poor, and only produced roughly 600,000 MT of maize due to erratic rainfall, substantial moisture deficits, and poor access to fuel and fertilizer.[63] The crisis continued

through the beginning of the 2008/09 cropping season, due to continued economic problems linked to hyperinflation, political instability, and continued decreased access to fuel and fertilizer.[64] February 2009 marked the installation of a government of national unity and the establishment of a multiple currency system (the US Dollar, South African Rand and Botswana Pula replaced the Zimbabwe Dollar), with both processes stabilizing the country overall, politically and economically. Additionally, the GoZ started to pay salaries to its employees in US Dollars in February 2009.

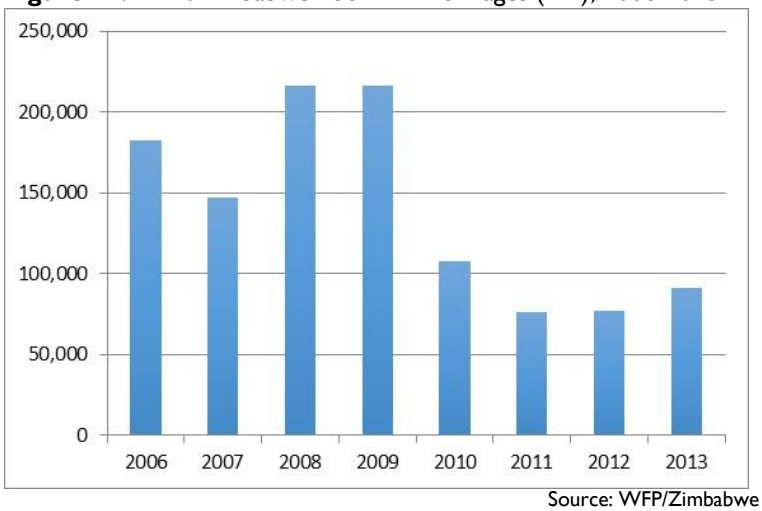
There were seven million beneficiaries for food assistance in February 2009, over half of the population of the entire country. This number of food aid beneficiaries decreased significantly with the adequate April/May 2009 harvest, and only 10 percent of the population was still classified as food insecure in May 2009, once this harvest became available.

Figure 21. Zimbabwe Populations at Risk of Food Insecurity (Lean Season), 2006-2014



Source: UN OCHA2013 and ZimVAC

Figure 22. WFP/Zimbabwe Food Aid Tonnages (MT), 2006-2013



Source: WFP/Zimbabwe

Emergency food assistance

Approximately 2.2 million Zimbabweans are estimated to be at risk of food insecurity for the 2013/14 cropping season, and these numbers of food insecure individuals are slightly higher than the lean season peaks of the previous few years. There is a cyclical nature to the number of food insecure people during a typical cropping season: the number of food insecure people is generally lowest in the April-June time frame (harvest) and highest in the January-March time frame (peak lean season). WFP food aid tonnages also slightly increased from 2012 to 2013 (calendar year) and are expected to be significant again during 2014.

AREAS AT GREATEST RISK OF FOOD INSECURITY

Southern and western Zimbabwe

Southern and western Zimbabwe, particularly parts of Matabeland North and South, Masvingo, and Midlands provinces, are typically the areas at the highest risk of food insecurity. This is primarily due to the chronic problem of drought and irregular rainfall, and acute changes within a particular cropping season. Other areas with significant risk of food insecurity include parts of Manicaland and Mashonaland East. Food insecurity in these drier and more remote areas are lessened by economic linkages with larger urban markets (e.g. Bulawayo) and markets in neighboring countries (e.g. Livingstone, Zambia; Francistown, Botswana; Musina, South Africa). Other parts of Zimbabwe can be at a substantial risk of food insecurity, generally in Natural Regions IV and V on the periphery of the country (see earlier Agro-Climactic Zones of Zimbabwe section of this report), notably the northwest, north, northeast, and southeast Zimbabwean borders with Zambia and Mozambique respectively. However, significant drought can affect all areas of the country.

Urban areas

Food insecurity in Zimbabwe has typically been seen as a rural issue, but households in urban and peri-urban regions represent an increasingly important share of the food insecure/undernourished. Zimbabwe's population is still quite migratory with unsettled land tenure issues and the need to engage in livelihood activities in the informal economy. Therefore many heads of household may move from a rural, peri-urban or urban environment depending on the time of the calendar year, and those deemed food insecure can make up significant and increasing proportions of people living in these peri-urban and urban environments. It is also a challenge to accurately count and locate those populations deemed food insecure. Additionally, the GoZ has announced that it may remove illegal housing and market structures in peri-urban and urban areas. These structures in Ruwa, east of Harare, were destroyed in November 2013.[65] Further removals could occur in 2014, with a potentially significant impact on household livelihoods.

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