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FINAL REPORT v.1

ZIMBABWE FOOD SECURITY ANALYSIS & RECOMMENDATIONS FOR FUTURE FFP PROGRAMMING

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TABLE OF ACRONYMS

AFSMS	Agriculture Food Security Monitoring System
AIDS	Acquired immunodeficiency syndrome
BCC	Behavior change communication
BF	Breastfeeding
c<5	Children under 5 years old
CF	Conservation farming
CFU	Commercial Farmers Union
CIF	Carriage insurance freight
DFID	Department for International Development
EBF	Exclusive breastfeeding
EC	European Commission
EIB	Early initiation of breastfeeding
EPI	Expanded Program on Immunization
FAO	Food and Agriculture Organization
FDI	Foreign direct investment
FFA	Food for Assets
FFP	Food for Peace
FFW	Food for Work
FNC	Food and Nutrition Council
FOB	Free on board
FTLRP	Fast Track Land Reform Programme
GDP	Gross domestic product
GIZ	German Society for International Cooperation
GMB	Grain Marketing Board
GMO	Genetically modified organism
GNI	Gross national income
GNU	Government of National Unity
HAZ	Height for age Z score
HEA	Household economy approach
HIV	Human immunodeficiency virus
HTF	Health Transition Fund
IGA	Income generating activities
ITCZ	Inter-tropical Convergence Zone
ITN	Insecticide treated nets
IYCF	Infant and young child feeding
IYCN	Infant and young child nutrition
MAMID	Ministry of Agriculture, Mechanisation and Irrigation Development
MCHIP	Maternal and Child Health Integrated Program
MDG	Millennium Development Goal
MOHCW	Ministry of Health and Child Welfare
MT	Metric ton
NGO	Non-governmental organization
OVC	Orphans and vulnerable children
PASSOP	People Against Suffering, Oppression and Poverty

PRRO	Protracted Relief Operation
UNICEF	United Nations Children's Fund
UNCTAD	United Nations Conference on Trade and Development
UNOCHA	United Nations Organization for the Coordination of Humanitarian Affairs
USAID	United States Agency for International Development
USDA	United States Department of Agriculture
VHW	Village health worker
VSL	Village savings and loan
WASH	Water, sanitation and hygiene
WAZ	Weight-for-age Z score
WFP	World Food Program
WHO	World Health Organization
ZDHS	Zimbabwe Demographic Health Survey
ZimVAC	Zimbabwe Vulnerability Assessment Committee

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EXECUTIVE SUMMARY

This final report, Zimbabwe Food Security Analysis and Recommendations for Future FFP Programming, provides an analysis of food security in the provinces of Matabeleland South, Matabeleland North, Masvingo and Manicaland. The districts targeted are representative of the most chronically food insecure areas in each province. Based on this analysis, recommendations have been developed for USAID/Food For Peace (FFP) program activities to wield the most impact from the utilization of anticipated resources (an expected $25 to $30 million annually, of which a portion might be monetized[1]).

Recent announcements of a 40% reduction in national economic growth estimates[2] and of a 60% increase in the number of food insecure in 2012/13[3] have reinforced the premise of USAID/Zimbabwe's FFP Office that the process of achieving consistent and sustainable food security will be protracted and require intervention at multiple levels. The Bellmon Analysis for FY2012 concludes that the country's economic recovery is "fragile, irregular and vulnerable." This analysis assesses food security from the perspective of its four component pillars: availability, access, utilization and reliability. In the four provinces visited during the analysis, it was observed that neither food availability nor access to food can reliably drive improvements in food utilization, but that program resources can be used to achieve significant improvements in utilization, even under the current climatic and economic circumstances, which is consistent with a food security program focusing on sustainable development.

The methodology for this analysis consisted of three overlapping phases. The first phase was an extensive literature review of reports and data relating to the recent food security situation in Zimbabwe (see Bibliography). The second phase consisted of interviews with key stakeholders in Harare, including Government departments, multilateral agencies, bilateral donor agencies and some projects.[4] The third phase was a field survey undertaken in the four provinces of Matabeleland North, Matabeleland South, Masvingo and Manicaland. Four districts were visited in each province. Focus group discussion results were compiled (see Annex 4), compared and analyzed against secondary and other data collected. The districts were selected on the basis of stunting data to provide good coverage of those areas where chronic malnutrition was clearly an issue. Altogether, the survey completed the following:

- 221 focus group discussions (10+ participants) drawn from a cross section of the community.
- 25 interviews with grain and livestock traders.
- 17 interviews with local health facility staff (district and ward level).
- 43 interviews with Agritex staff.
- 70 interviews with village health care providers.
- 16 interviews with other stakeholders (authorities and NGOs).

Although the analysis found significant levels of food insecurity in all of the visited areas, present food security levels are more accurately assessed by the Zimbabwe Vulnerability Assessment Committee

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[1] The USAID Bellmon Estimation Study for Title II makes no specific recommendations for monetization beyond the guidelines of up to 5% of national consumption, suggesting that up to 60,000 MT of maize might be monetized annually, at an estimated cost of $30,000,000.
[2] Ministry of Finance. 2012 Mid-term Budget Review.
[3] Zimbabwe Vulnerability Assessment Committee Report. July 2012.
[4] The list of interviewees is contained in the References section.

(ZimVAC). This analysis concentrated instead on the identification of those factors underlying both chronic and acute food insecurity. In this regard, the team made the following observations.

FOOD AVAILABILITY

All of the focus areas are subject to high rates of ongoing soil degradation and received low and erratic levels of rainfall, leading to crop failures which respondents claimed occur with increasing frequency.[5] For the respondents, prospects of adequate food security from rainfed crop production are becoming increasingly bleak from year to year. Nevertheless, in the absence of viable alternative food crops, farmers continued to focus on the production of maize, excluding in particular, small grains that are widely considered too labor intensive to be viable. All respondents recognized the importance of irrigation to crop production, but more than 90% were looking to produce staple crops for home consumption from irrigation systems, which is rarely sustainable as a production model. Small grain production appeared to be diminishing in the areas canvassed, primarily as a result of the higher labor requirements of these crops as compared with maize. Livestock production levels were also low, even though the focus areas have a comparative advantage in livestock production and there is adequate grazing during most years. Livestock producers complained of inadequate markets and insufficient buyers, although their own production and selling behaviors appeared to be major reasons for the limited profitability of livestock production. Overall, the analysis suggests that, although households in the focus areas do depend substantially upon their own crop production for food security, this is due more to the lack of alternative sources of food or alternative sources of income than any inherent viability in their own production systems. As regards such alternative sources, it was observed that a good retail network existed and that food (including centrally processed maize meal) was available in markets throughout the focus areas at prices below or consistent with international levels.[6] Thus, while the availability of food from their own production might be inadequate, food was nevertheless available in all the areas assessed.[7]

ACCESS TO FOOD

Despite the availability of food in local markets, access to food remains a problem for many households, not due so much to price,[8] but rather to the low income and therefore purchasing power of the households themselves. The rural survey found that in the focus areas, income generating capacity is limited to a small number of options (primarily laboring for other farmers, but also including brick making, selling firewood or charcoal, basket making, petty trade, or small scale mining) some of which are becoming less profitable or illegal (see below for details). Despite continued economic growth in terms of GDP, economic conditions are declining not only in the focus areas where respondents indicated that opportunities for employment and other incomes sources have diminished over the last three years, but also nationally where a burgeoning trade imbalance[9] threatens to reduce the availability of capital, and

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[5] This was a common assertion at group meetings, although it is not borne out by national data, which shows a trend of increasing rainfall over the last decade. Nevertheless, crop failures may also reflect soil degradation, reduced labor availability and reduced availability of draft power.

[6] The FEWSNET June Price Report indicates retail maize prices for Mbare market in May 2012 at US$0.30/kg (the same as May 2011) and maize meal prices of US$0.50/kg (cf. $0.45/kg in May 2011). At the same time, South African maize prices exceeded US$0.32/kg on an FOB wholesale basis.

[7] It should be noted that the assessment was conducted just after harvest.

[8] Although, since the survey period in June 2012, maize prices have escalated on international markets and this may impact domestic prices in the coming months.

[9] The trade imbalance is now estimated by the Reserve Bank to exceed US$6.1 billion. (Address to the Zimbabwe Chamber of Commerce, Mines and Industry by the Governor of the Reserve Bank, August 2012).

regionally where the impact of the global recession threaten opportunities for exports to South Africa. Opportunities for income generation through informal trade and "facilitation" associated with the artificial exchange rate and the consequences of hyperinflation have disappeared since the introduction of the multi-currency system in January 2009. Moreover, while emigration and remittances have made a significant contribution to incomes in the past,[10] the decline in the global economy has resulted in a substantial decrease in remittances in most areas,[11] thus directly impacting the food security of dependent household members that comprise 14% and 13% of all households in Matabeleland South and Masvingo, respectively.[12] Other activities have proven still less successful. Some have been prohibited (e.g., brick making and firewood sales, which have both been proscribed by recent legislation and enforced inconsistently); others have suffered reduced markets such as livestock sales for which the terms of trade in Matabeleland South and Masvingo are consistently below the national average.[13] By March 2012, beef prices in Bulawayo had fallen roughly 40% from their peak in 2011, i.e., from $9/kg and $5/kg for best cuts and low quality meat to $5/kg and $3/kg respectively. By May 2012 farmers were reporting that the sales price for cattle had fallen by 50% as compared with the previous year. Almost all have been affected to a greater or lesser extent. As a result, in the areas studied, the respondents clearly indicated that for them, accessibility of food has declined over the last two years due to a reduction in purchasing power derived from reduced income generation opportunities.

UTILIZATION OF FOOD

The widely accepted 2010-11 Zimbabwe Demographic and Health Survey (ZDHS)[14,15] found that child stunting levels increase sharply from a rate of 10% beginning at about 4 months of age and peak at 49 percent among children in the 24-35 month age group, with an overall national average of 32 percent in the areas assessed in the under age 5 category; even among the highest wealth quintile, stunting levels exceeded 20 percent.

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[10] Von Burgsdorff, David. (2012). "Strangling the Lifeline – An Analysis of Remittance Flows from South Africa to Zimbabwe." PASSOP report, April. http://www.passop.co.za/wp-content/uploads/2012/04/Strangling-the-lifeline-PASSOP-Report-on-Remittances-to-Zimbabwe.pdf.

[11] Bunker, A. & Hochschwender, J. (2012). Zimbabwe Agriculture and Rural Livelihoods Finance Assessment. Weidemann, January.

[12] ZimVAC 2012 Rural Livelihoods Assessment Report.

[13] FEWSNET. Outlook for July-December 2012.

[14] Zimbabwe National Statistics Agency and ICF International. (2012). The 2010-11 Zimbabwe Demographic and Health Survey, March, p.141.

[15] The ZDHS 2010-11 was implemented by the ZIMSTAT; funding was provided by the United States Agency for International Development (USAID), the Centers for Disease Control and Prevention (CDC), the United Nations Population Fund (UNFPA), the United Nations Development Program (UNDP), the United Nations Children's Fund (UNICEF), the United Kingdom Department for International Development (DFID), the European Union (EU), and the Government of Zimbabwe. ICF International supported the project through the MEASURE DHS project, a USAID-funded project providing support, technical assistance, and funding.

TABLE 1: STUNTING (LOW HEIGHT-FOR-AGE) LEVELS ASSOCIATED WITH WEALTH AMONG CHILDREN UNDER AGE FIVE

Wealth Quintile	Lowest	Second	Middle	Fourth	Highest	Total
Percentage below -2 SD	36.8	32.0	35.0	28.6	23.8	32.0

Source: ZDHS 2010/11.

Adequate linear growth represents the greatest public health concern among indicators for food utilization in the target population. There was little indication of a correlation between district level stunting and food insecurity rates in the study areas,[16,17] a situation consistent with findings from other food security programs in sub-Saharan Africa[18] and food security programs world-wide.[19] Paradoxically, however, the same ZDHS survey found that at a national level, only 7% of women were underweight while 31% were overweight or obese, suggesting less than optimal common diets.

Stunting levels are a key indicator of food utilization. The generally accepted underlying causes of high stunting levels are: water, sanitation and hygiene (WASH), maternal health and nutrition, dietary diversity and importantly, infant and young child feeding (IYCF) practices.[20,21] In the course of the field survey, interviews, observations and questionnaire responses of focus groups found all of these factors to be less than optimal in the focus areas.

Observations from the June 2012 field study suggest that messages to encourage sound WASH activities were well disseminated, but for various reasons there is much room for improving basic WASH infrastructures and practices. For example, half of rural households have an unimproved toilet facility while 39% of households in rural areas have no toilet facility at all.[22] Only 51% of households have an observable place for hand washing and among these households, only 35% use a cleansing agent (soap or ash) and water to wash their hands.[23] Most households (78%) do not treat their drinking water, yet 75% of rural households obtain their drinking water from distant sources. Among these households, 28% report that it takes 30 minutes or longer to access drinking water, mostly from tube wells/boreholes (37%)

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[16] ZimVAC. (2011) Rural Livelihoods Assessment Full Report, September 2011, p. 83: Percentage of food insecure population during the lean period of January-March. District level food security map.
[17] Height-for-weight z score <-2 for children aged 6-59 months. Figures published by the MOH-Zimbabwe, 2010. Zimbabwe National Nutrition Survey 2010 Presentation Slide 9: District level stunting map. http://www.sadc.int/fanr/aims/rvaa/Documents/Zimbabwe/Zimbabwe_Nutrition_Survey_2010%20Report.pdf
[18] Remans, Roseline et al. (2011). "Multisector Interventions to Accelerate Reductions in Child Stunting: an Observational Study from 9 sub-Saharan African Countries." *American Journal of Clinical Nutrition*, 94(6): 1632-42, http://www.ajcn.org/gca?allch=&submit=Go&gca=ajcn%3B94%2F6%2F1632.
[19] Berti, Peter et al. (2004). "A review of the effectiveness of agriculture interventions in improving nutrition outcomes." *Public Health Nutrition*, 7(5): 599–609, doi: 10.1079/PHN2003595.
[20] Ibid, footnotes 4 and 5.
[21] Arimond, Mary, and Marie Ruel. (2004). "Dietary Diversity is Associated with Child Nutritional Status: Evidence from 11 Demographic and Health Surveys." *The Journal of Nutrition*, 134(10): 2579-2585. http://jn.nutrition.org/content/134/10/2579.full Republished by *The American Society for Nutritional Sciences* (2012).
[22] ZDHS. (2012) March, p. 12.
[23] Ibid, p. 16.

followed by protected and unprotected dug wells (21% and 17%, respectively).[24]

Ministry of Health and Child Welfare (MOHCW) training manuals for health workers (including community volunteers), protocols, and anthropometric equipment and materials, as well as pharmaceutical stocks that support food utilization, were found to exist at the village level. However, health worker performance, quality of performance and coverage faced several constraints. Field observations suggested that management's capacity for supervision was limited and that while health workers were adequately trained in procedures and protocols, these were not always being followed.

Dietary diversity is low with food availability and utilization centered on the production and consumption of maize. The ZimVAC Rural Household Vulnerability Assessment report for 2012 indicates that 85% of households in Matabeleland North planted maize in 2012. In Matabeleland South the proportion was 72%, in Manicaland, 83% and in Masvingo, 68%. Results from the June 2012 field study completed as part of this analysis show that dietary sources of Vitamin A are consumed throughout most of the year (primarily choumollier, rape, and papaya in some areas, although wild fruits are consumed in all areas in the summer months). Administration of high dose vitamin A supplements is recommended every six months from 6-59 months of age[25] and 66% of Zimbabwean children receive them.[26] Universal distribution and administration of vitamin A capsules is constrained by distances to clinics and the wide variability in the quality of health service delivery and performance. Non-clinical observations during field visits revealed a high frequency (between 25% and 33%) of edema among young children, a condition associated with protein deficiency in the diet. This finding is consistent with field survey results that show a very low overall consumption pattern of non-animal complete protein sources and an extremely low consumption of sources of animal protein in the diet, especially among young children. Respondents in the June 2012 field study consumed sources of animal protein an average of 3.8 times per month; IYCF standards recommend at least one animal source of protein, vitamin A rich fruits and vegetables as well as milk in the daily diet.[27] It is worth noting that nationally, only 11% of children aged 6-23 months meet the minimum standards with respect to IYCF practices, and this figure drops to 5% among non-breastfed children.[28]

Traditional feeding practices discourage the consumption of high quality sources of protein among infants and young children, constrain the early initiation of breastfeeding (EIB), reduce the duration of the recommended six months of exclusive breastfeeding (EBF), result in suboptimal IYCF practices and lead to termination of breastfeeding (BF) before the recommended two years.[29] Among children born in the three years preceding the ZDHS survey, the median breastfeeding duration was 17.8 months. In contrast, exclusive breastfeeding (i.e., the period during which an infant receives only mother's milk and no other form of nutrition), was relatively short with a median duration of 1.1 months.[30] These findings from the MOHCW's formative research[31] were consistent with the Weidemann team field observations.

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[24] Ibid, p. 10.
[25] UNICEF. (2007) Vitamin A Supplementation – A Decade of Progress.
[26] ZDHS. (2012) March, p.139.
[27] Ibid, p. 153.
[28] Ibid, p. 151.
[29] Maguranyanga, Brian. (2012) "Barriers and Facilitators of Optimal Infant and Young Child Feeding in Zimbabwe: Beliefs, Influences and Practices, Ministry of Health and Child Welfare." Zimbabwe/ mconsultingroup.
[30] ZDHS. (2012). March, p. 139.
[31] Ibid, p. 48.

Breastfeeding has an extraordinary range of benefits. Breast milk provides all of the nutrients, vitamins and minerals an infant needs for growth for the first six months, and no other liquids or food are needed. In addition, breast milk carries antibodies from the mother that help combat disease. The act of breastfeeding itself stimulates proper growth of the mouth and jaw, and secretion of hormones for digestion and satiety.[32] Breastfeeding has been shown to have a large effect on child survival.[33] Maximal benefits are achieved when EBF occurs during the full six months after birth.

Survey respondents to this study's field assessment identified several reasons for early cessation of EBF and complete weaning. These findings were consistent with the MOHCW report "Barriers and Facilitators of Optimal Infant and Young Child Feeding in Zimbabwe: Beliefs, influences and practices." The primary reasons reported were: the mother did not have enough breast milk and/or the infant was not satisfied; the mother did not have access to enough food and/or was losing too much weight; and, the mother's daily routines and/or her off-farm income generation activities interfered with continued breastfeeding. These and other underlying causes of high stunting rates among children are primarily behavioral in nature.

RELIABILITY

It was observed through field visits and primary research that while irrigation systems were a popular request among communities seeking to guarantee crop production, they are rarely economically viable unless they are used to produce a significant proportion of cash crops to meet their running costs. These costs can be reduced in gravity-flow irrigation designs, but the number of locations where gravity flow can be utilized is limited. As such, they are more appropriate to income generation and improved food accessibility than to improved food production. They are also vulnerable to the vagaries of markets for cash crops, which are at present poorly developed in the target areas and whose potential for development will be most dependent upon the overall economic status of the country.

POTENTIAL INTERVENTIONS

The following are illustrative suggestions for types of interventions that could contribute to improvements in food availability, access, utilization and reliability. These recommendations are based on food security lessons learned in other sub-Saharan countries and elsewhere. They are not meant to be prescriptive and further investigation would be required to determine the degree to which each of them could contribute to improved overall food security in targeted areas.

FOOD AVAILABILITY AND ACCESS

As stated above, although food was available in the target areas at the time of the field survey, that does not guarantee that it will still be as available in the lean season of January to March, before the next major harvest. Also as pointed out above, though food may be available, the major constraint is that household incomes are too limited to take advantage of its availability. Therefore we recommend the following potential interventions. It should be understood that different combinations of these will be possible or required depending on the particular circumstances in each targeted district and community if overall food availability and access is to be lastingly improved.

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[32] UNICEF. The Benefits of Breastfeeding, http://www.unicef.org/nutrition/index_24824.html

[33] Zulfiqar Bhutta et al. (2008) Lancet Series. Maternal and Child Undernutrition 3, what works? Interventions for maternal and child undernutrition and survival. January 17.

- *Household and community gardens for the production of vegetables* – The development of household and community gardens for the production of vegetables has the potential to increase dietary diversity while also providing potential increases in household and community incomes.[34] The latter is dependent upon access to markets with adequate purchasing power throughout the year.
- *Improvement of on-farm storage capacity and household food preservation techniques* – Appropriate, low cost, low maintenance storage systems could cost effectively reduce post-harvest losses caused by infestations and aflatoxins.[35] Such storage can increase food availability and access during the lean season. It also has the potential to increase incomes by allowing farmers to withhold product from market right after harvest when peak availability reduces prices to their lowest level.
- *Conservation farming* – The promotion of conservation farming where labor resources permit will assist in reducing soil degradation while improving yields.[36]
- *Commercialization of production* – Notwithstanding the lack of purchasing power in both the local and national economy, it is nevertheless possible to enhance household production and incomes through selective attention to those aspects of production in which the focus areas have a comparative advantage, including:
    - The commercialization of livestock for meat and leather[37] and poultry production for meat and eggs. Through training, market development and evidenced-based behavioral change, household incomes will be enhanced.
    - Irrigated production of high value cash crops (providing markets can be identified for the produce),[38] using FFP resources (see below) to construct and rehabilitate dams and irrigation systems, both in conjunction with soil conservation works to increase the value from agricultural production.
    - Training farmers in 'farming as a business'[39] strategies so that they have a rational basis for changing behaviors to those that generate more short-term and long-term income.

However, for such commercial production to be viable requires a top-down approach (i.e., based upon market requirements rather than productive capacity) and it is therefore impossible for a report of this nature to be prescriptive in this regard. Nevertheless, it is recommended that program interventions to: a) assess market requirements, and b) assist communities in meeting these requirements, including c) the development of enhanced market linkages with buyers, following the model successfully developed with the assistance of USAID/Peru and USAID/Bolivia[40] in which rural economies were revitalized through the identification of buyers/investors who were connected to producer groups organized by the project implementers. Success and sustainability have been dependent in these instances upon a shift in focus from the production capacity of the focus areas to the identification of markets and the development of production to meet market demands. Creating linkages between farmer groups and the private sector

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[34] Agobia, C. (1999). "Community Drought Mitigation Project" Final Report for Zimbabwe Project 050/19284 (CIDA).
[35] http://www.kiva.org/updates/kiva/2012/09/25/kiva-innovations-storage-facilities-for.html
[36] Woodring, C., Braul, A. Kenea, W., and Ruwona, E. (2011). Conservation Farming in Zimbabwe Evaluation Report, January. (For the Canadian Food Grains Bank)
[37] USAID. Agriculture and Trade Expansion Program Final Report.
[38] USAID. "Promoting Recovery in Zimbabwe" (PRIZE) Annual Results Report for FY2011.
[39] See for example: http://www.atc.co.ke/index.php?option=com_content&view=article&id=53:welcome-to-ja-nickel&catid=34:programmes&Itemid=61
[40] Riordan, J. T. (2007). One buyer at a time. Stanford Social Innovation Review, 5 (Winter), 48-55.

using a value chain approach, though it will be challenging in targeted areas, can achieve some results as has been demonstrated in the current PRIZE food security program.[41]

FOOD UTILIZATION

All of the above mentioned initiatives could be accompanied by interventions to enhance food utilization so that enhanced production[42] in those sectors (in which Natural Regions IV and V have a comparative advantage and can improve incomes) can directly drive improvements in nutrition. The proven success of BCC initiatives addressing food utilization in nine sub-Saharan countries,[43] (where impact of such initiatives substantially outweighed all other approaches, including those directly addressing food availability through food aid), presents a cogent argument for including interventions to improve food utilization as an essential element of a holistic food security program design.

From the data quoted above, it is evident that improvements in production and access do not necessarily translate into improved nutrition. Nevertheless, in the focus areas, potential for improvement in the utilization of food is most substantial, and it was observed that a number of improvements could be made even at current levels of food availability and access. Therefore, recommended interventions include:

- An initial BCC strategy is recommended based on incremental programming in response to commitments formally signed by community representatives. The strategy will support the achievement of targets in terms of indicators and benchmarks that would include: dietary diversity (home production and demonstration gardens); behavioral responses (in terms of EBF, weaning age, uptake of IYCF recommendations, including the feeding of vitamins and animal protein; and WASH recommendations, including hand washing facilities at latrines; plate drying racks; disease management at the community level and clinic attendance; and ultimately HAZ and WAZ scores).
- BCC initiatives could use MOHCW materials, and include where possible the development of community-based and disseminated messages targeting stunting as a national health problem; community interventions to promote exclusive breastfeeding and IYCF practices; community initiatives to improve sanitation and hygiene (stigmatizing open-air defecation); promoting hand washing; using food to improve physical infrastructure through FFA; and the production of prescription foods (including sources of animal protein) needed to ensure an adequate diet.

RELIABILITY

The targeted areas for USAID's food security program in Zimbabwe over the next five years will continue to be subject to extreme climatic and other external influences that will adversely affect food security in those areas and the country at large. Therefore, the following interventions are recommended.

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[41] A useful reference for determining what will work best in specific districts is the Ford Foundation report "Under What Conditions are Value Chains Effective Tools for Pro-Poor Development." http://pubs.iied.org/pdfs/16029IIED.pdf.

[42] Sevile, D., Buxton, A. and Vorley, B. (2011)."Under what conditions are value chains effective tools for pro-poor development." Ford Foundation. http://pubs.iied.org/pdfs/16029IIED.pdf

[43] Bhutta Z, et al. (2008). "What Works? Interventions for maternal and child undernutrition and survival." The Lancet, 371(9610): 417-440. doi: 10.1016/S0140-6736(07)61693-6.

- *Emergency risk-reduction strategy* – Assistance providers might want to work with communities to develop and employ disaster risk-reduction strategies to reduce communities' vulnerability to future shocks.
- *Village savings and loan schemes* – The reliability of food access can also be improved through the development of local savings schemes, which have already proven successful in the focus areas,[44] and could be replicated further. Village savings and loan (VSL) schemes have often provided funds for emergency purchases of both food and other necessities (e.g., medicine or the cost of transport to hospital). The majority of VSL members are women and at low levels of household income, savings amounts are very small and result mainly from the sequestration of funds from the general household economy. Nevertheless, the small amounts are valued highly and the savings represent a means to insure against crises, including household food shortages.
- *Soil conservation measures* – These measures are essential to halt the process of soil degradation, and could be developed through Food for Work (FFW) schemes, which would include bund construction, planting of vetiver hedges along contours, fencing enclosures and tree planting, all of which have been proven successful in reducing soil erosion and increasing soil water holding capacity in Zimbabwe.[45] Trees could provide added benefits of charcoal and possibly fruits as well as cattle feed.

UTILIZATION OF USAID RESOURCES

It is evident that many of the issues faced in the focus areas arise from poverty and require more than food aid alone for their resolution. Nevertheless, many of the above interventions can be undertaken, or at least catalyzed, through the use of food as a resource. The development of community infrastructure lies at the heart of many of the interventions listed above, including community gardens, latrines, drains, feeder roads, watering points, irrigation systems, dams, and soil conservation works, all of which can be undertaken using food as the primary resource to drive development as FFW or Food for Assets (FFA). Food can also be provided as direct distribution to targeted pregnant or lactating mothers to avoid the early termination of EBF.

Nevertheless, it is also evident that programs will require substantial resources beyond food aid alone, and for this reason it is recommended that a substantial element of the available food envelope should be monetized (up to 50% if possible) in order to provide the resources that food alone cannot.

INCLUSION OF A "CRISIS MODIFIER"

It is important to note that this analysis is intended to inform the design of a Title II Food for Peace (FFP) development food aid program. The proposals drawn from this analysis are intended to result in sustainable development addressing the underlying causes of food insecurity and not to address acute humanitarian needs. As such, this document is largely silent on the subject of humanitarian relief. Current circumstances suggest that relief will be required in most of the areas visited by the team. This analysis does not seek to address the extent or nature of the humanitarian response that will soon be required to meet current needs. Nevertheless, it can be assumed that intermittent crises may well reoccur during the course of the development process and that further humanitarian responses may be necessary from time to time. For this reason, the study recommends that a "crisis modifier" component, as successfully

[44] USAID. "Promoting Recovery in Zimbabwe" (PRIZE) Annual Results Report for FY 2011.
[45] Elwell, H.A. (1980). Design of Safe Rotational Systems: Department of Conservation and Extension, Harare.

developed by USAID/Ethiopia,[46] should be introduced into all development programs so that in the event of crisis, those working on the ground are able to switch rapidly from a developmental to a humanitarian approach in order to safeguard the developmental gains made.

[46] OFDA Ethiopia Overview. http://ethiopia.usaid.gov/sites/default/files/OFDA_Ethiopia_Overview.pdf.

INTRODUCTION

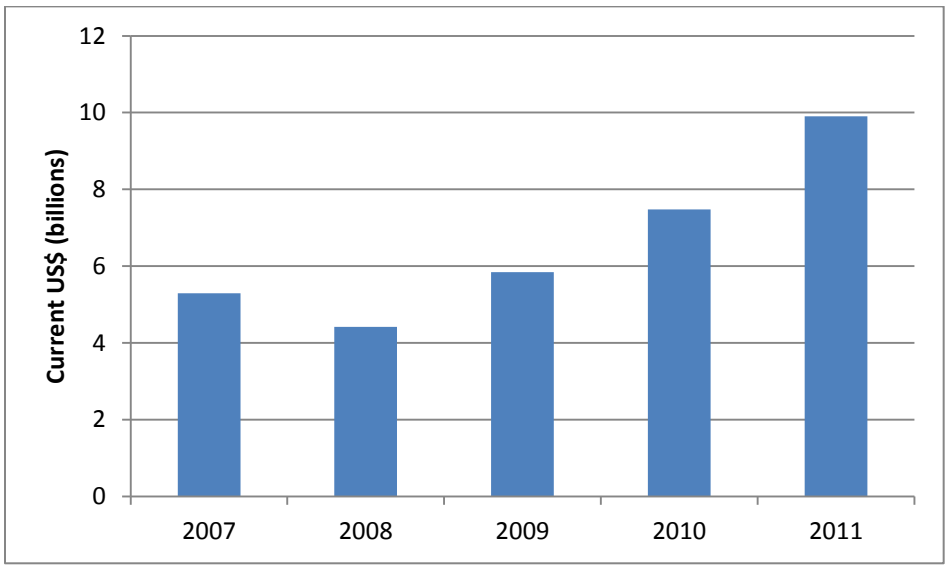
The primary purpose of this report is to provide an analysis of the current food security situation in the provinces of Matabeleland South, Matabeleland North, Masvingo and Manicaland, within districts targeted as being representative of the most chronically food insecure areas in each respective province. The methodology for the assessment and an outline of its findings together constitute the first and second parts of this report. Based on the subsequent analysis and evidence available on food security programming in other countries, recommendations have been developed for USAID/FFP program activities that will provide the most impact from the anticipated resources (expected to be up to $30 million annually, of which the Bellmon Estimation for Zimbabwe for 2012 concludes that a portion might be monetized) and for the targeting of those activities. These recommendations constitute the third part of the document.

This report is intended to inform program designers and program officers in the Food Security departments of USAID, NGO partners and other interested stakeholders, both in Zimbabwe and elsewhere, in their design of food security interventions expected to begin in 2013. In this regard it also assesses the validity of the Mission's expected targeting and activities as laid out in the food security section of the draft USAID/Zimbabwe Country Development Coordination Strategy and the Country Guidelines describing programming possibilities in Zimbabwe.

The fundamental change in food security programming relates to a change in expectation regarding the economic recovery of Zimbabwe, and the expected improvement in food security associated with that recovery. The formation of the Government of National Unity (GNU) in January 2009 and the nearly simultaneous opening of the economy to a multi-currency system (effectively abandoning the Zimbabwe Dollar, although it is still legal tender), has led to a process of donor reengagement on one hand and initial rapid economic recovery on the other. Initial estimates of GDP of $4.5 billion prior to the adoption of the multi-currency system in 2009 were quickly replaced by estimates of $6 billion or more in 2010 and of $9.9 billion in 2011 (

Figure 1).

FIGURE 1: WORLD BANK ESTIMATES OF GROSS DOMESTIC PRODUCT



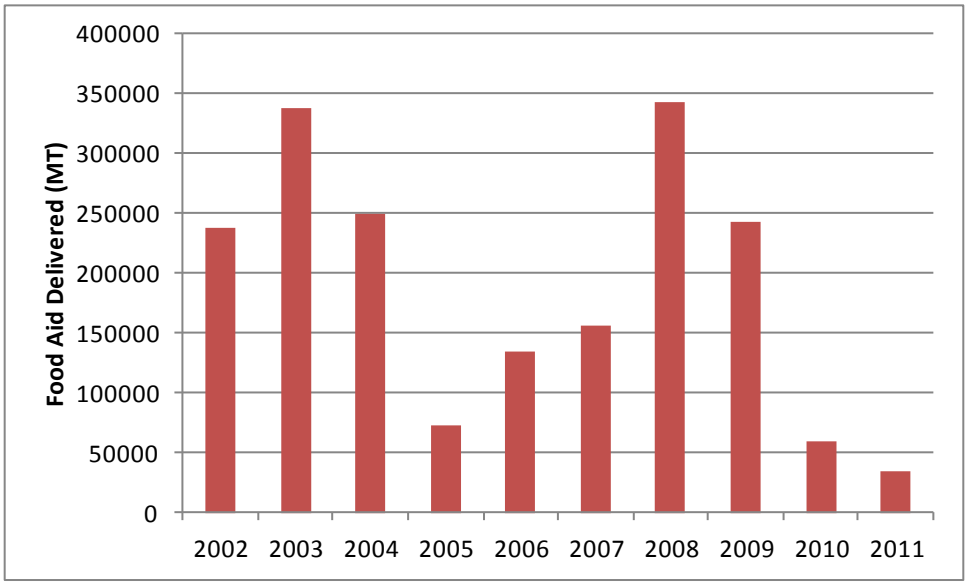
Source: World Bank national accounts data, and OECD national accounts data files

The World Bank data describes an average annual growth rate over the last three years of 30.9%, suggesting the recovery process to have been both consistent and rapid.

Simultaneously, humanitarian crises seemed to be easing. Food aid requirements over the last three years have fallen (

Figure 2) as harvests successively improved from the extreme low of 2007/08 (maize production of 525,000 MT) to higher production levels in 2009/10 (1,000,000 MT) and 2010/11 (1,400,000 MT). By 2010/11 the ZimVAC estimate of the food insecure population in rural areas had fallen to as low as 1.3 million, further dropping to 1 million in 2011/12 only to rise again to 1.6 million in anticipated needs in 2012/13.

FIGURE 2: FOOD AID DELIVERIES TO ZIMBABWE



Source: WFP Food Aid Information System

From a national perspective at the end of 2011, the prospects for continued growth and development appeared sound. Nevertheless, there were a number of fundamental aspects that even then were of concern:

- National food production had increased, but was dependent upon continued government and donor support to ensure the uptake of inputs.
- GDP had increased, but most of the growth had come from the mining sector which in 2011 contributed 20% of GDP,[47] with little obvious benefit to either the national fiscus or national employment, (Gini coefficient for income at 58.3[48] indicating that much of the income was being appropriated by a small proportion of the population.[49]
- Banks were taking deposits but were unable to provide even medium term finance.
- The balance of trade was becoming larger and increasingly difficult to finance in the face of substantial external debt arrears.

By mid-2012, the outlook has become less promising. Recent economic developments are analyzed in greater detail in Chapter 3, but can be characterized by reduced growth, a declining money supply and above all, wholly inadequate finance for reinvestment and economic growth. This situation shows little sign of improving until the political uncertainty in the environment is resolved. Indeed the reverse scenario – of economic deflation caused by diminishing growth in broad money coupled with an increasing balance of trade deficit in an effectively dollarized economy – is becoming increasingly

[47] Minister of Mines and Mining Development. (2011). Address to the Annual General Meeting of the Chamber of Mines.
[48] UNDP. (2011). Human Development Indicators.
[49] The GINI coefficient for income ranges from a minimum value of zero, when all individuals have equal income, to a theoretical maximum of one hundred in a population in which every individual has zero income except one who has all the income. GINI coefficients for income normally range from 30 to 50. Germany, France and the United Kingdom have GINI coefficients of 27, 33 and 34 respectively. That for the United States is 45.

possible. In either case, the impacts will be felt most immediately among the poorest whose opportunities for economic empowerment through employment or business will stagnate at best and possibly even diminish.

The vulnerability of the new agricultural sector[50] to drought was exposed when a poor rainy season in 2011/12 reduced yields (Table 2). This year's cereal production of 1,077,000 MT is estimated by the Ministry of Agriculture, Mechanization and Irrigation Development (MAMID) to be only 62% of national requirements of 1,734,235 MT (without allowing for any post-harvest losses).[51]

TABLE 2: AGRICULTURAL PRODUCTION IN 2008/09 TO 2011/12

Crop (MT)	Maize	Small Grains	Groundnuts	Cotton	Tobacco
2008/09	1,242,565	270,000	216,619	247,000	64,000
2009/10	1,327,572	193,887	186,214	260,000	123,400
2010/11	1,451,629	156,082	230,475	249,904	131,500
2011/12	968,041	108,731	120,001	254,888	133,607
% Change (2012/2011)	-33%	-30%	-48%	2%	2%

Source: 1. 2009, 2010 2. Agritex Second Round Crop and Livestock Assessment Report, MAMID, April 2011, 2012.

The extent of the shortfall is such that significant imports of food are required. A contract was signed in May 2012 with the Zambian Food Reserve Agency for the supply of 300,000 MT which may be distributed through the Grain Marketing Board,[52] but recent ZimVAC estimates (July 2012) are that food aid requirements will increase by 60% as the food insecure population rises from 1.0 from the peak in January-March 2012 to 1.6 million for that same time in 2013. It is disconcerting to note that still lower volumes of maize have been produced at least five times[53] over the last 22 years, i.e., that significant deficits can be expected once every four years on average.

It is extremely fortunate that Zambia has accumulated surpluses that have exceeded its national storage capacity and contracted in May to dispose of a large volume of maize to Zimbabwe at a low price. International maize prices have increased by 30% between June and August[54] and had it not been for the availability of a Zambian surplus, import costs could have been effectively doubled.[55] Such fortuitous circumstances cannot be expected to occur often.

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[50] Recent developments in the agricultural sector are analyzed later in this report under *Availability*.
[51] Much of the data presented in the MAMID report is considered to be optimistic by the Commercial Farmers Union.
[52] A statement was issued by the Zambian Food Reserve Agency on May 4 2012 that it had sold 300,000 MT to Sakunda Trading of Zimbabwe.
[53] This estimate is based upon MAMID data. USDA data indicates production less than 950,000 MT in 11 of the last 22 years.
[54] FAO. (2012). GIEWS, September. Price information for South Africa.
[55] FAO GIEWS for August 2012 quotes a spot price on July, 19 2012 of $322/MT for white maize FOB Randfontein.

All of these developments have reinforced the basic premise of USAID/Zimbabwe FFP that the process of achieving consistent and sustainable food security, far from being brief and limited, can be expected to be protracted and require intervention at multiple levels. It is fortunate that the openness of most institutions of government, especially the Ministries of Health and Child Welfare, and of Labor and Social Services is now conducive to longer-term partnership so that the types of interventions required (especially longer-term community engagement) may now be possible.

In keeping with "Feed the Future"[56] program principles USAID/Zimbabwe determined that greater emphasis should be placed on the nutritional component of future programs. This analysis was designed to assess food security from the perspective of its four component pillars of availability, access, utilization and reliability. Each of these pillars must be adequate to achieve food security and for each, the analysis addresses the following:

- The significance of each pillar's contribution to overall food security.
- The extent to which each pillar can be strengthened.
- The interventions required to strengthen each pillar.
- The relative impact and cost-effectiveness of the different interventions, assessed against a potential five-year time frame and a $25-$30 million annual budget.

The analysis concludes that, in the four provinces visited, from an individual household perspective, both the availability and accessibility of food are dependent upon climatic and economic circumstances. Staple food crop yields in the focus areas are chronically low and often unreliable. Investments to improve production can double production one year, but achieve nothing in a time of drought. This was particularly evident throughout the course of the field assessment during which incipient food insecurity was marked, despite histories in all areas visited of donor and government interventions attempting to promote more drought resistant crops or different cultivation techniques. Moreover, in the focus areas, economic opportunities show little sign of improving, so investments to improve food access might be able to reduce transaction costs, but are constrained in terms of increasing household purchasing power, which is more dependent upon equitably distributed economic growth. Programs can be introduced to improve availability and access, but in the focus areas, the two most important factors, climate and level of economic activity, negatively impact food security to an extent and frequency that some level of program failure will be inevitable as long as reliance on rainfed agriculture is the primary source of livelihood. Interventions that diversify the livelihood base, promote livestock and agricultural production for commercial purposes and build resilience of vulnerable households to manage future shocks would have the potential to mitigate the impact of drought.

The issue here is that the areas are very prone to drought. As an example, this last year saw more than 30% of the area sown to maize written off. This must be expected to happen again and interventions such as conservational farming or drought resistant varieties will make no difference at all when it does happen. In other years, these sorts of interventions can increase productivity and profitability, but unless households can save and accumulate some reserves during these years (which has not happened yet productivity even in good years is barely enough to make ends meet) then they will not make any difference in a bad year. If people can move away from a dependence on rainfed production to off-farm income generation, livestock (which can be more resilient than crops provided that they can move around)

[56] "Feed the Future" represents a $3.5 billion pledge to tackle global food insecurity by supporting country-driven approaches that address the root causes of hunger and poverty. Through this Presidential initiative, the United States is helping countries transform their own agricultural sectors to grow enough food to sustainably feed their people.

and irrigated production – then they can start to get regular income that is less dependent on a good climate. Recommending specific combinations is more of a challenge and should be done on a district by district basis, but less dependence on climate is key.

The ZDHS 2010/11 indicates that the average stunting level has risen from 28% in 2007[57] to 32%, while the average proportion of underweight women is only 7% and the proportion of overweight or obese women is 31%. This suggests that at a national level, the availability or accessibility of food does not translate uniformly to the improved nutritional status of children. Furthermore, from a practical perspective, the field assessment noted some potential basic improvements in utilization such as improved infant and young child feeding practices and enhanced sanitation that could be achieved even under the current climatic and economic circumstances faced in the focus areas. These sorts of interventions are primarily based upon changing attitudes, so that traction can be achieved irrespective of the level of food production or economic opportunity. Notably, such investments take time. Attitudes cannot be changed within the span of a one- or two-year program, but within a five-year program, real change may become possible. Text Box 1 illustrates interventions that have proven successful elsewhere in the world, including Africa. This analysis suggests that even with existing levels of food security, program resources can be used to make significant improvements in the utilization of food with reliability.

This does not mean that interventions to promote food availability and/or access to food are unnecessary. They will certainly be of benefit and will be required to support interventions to promote improved food utilization within a holistic program framework. What is implied is that:

1. Interventions to improve the utilization of food can be expected to show benefits, even given the current availability and accessibility of food in the focus areas.
2. Such interventions could be taken as the entry point for interaction with a community.
3. Interventions to improve food availability and access have not always contributed to improved nutrition, especially among children. To be effective, such interventions should be driven by progress toward goals measured through nutritional indicators, achieved through the effective utilization of food.

One requirement of this analysis was the selection of target areas based not only upon geographic, economic or nutritional criteria, but also upon the willingness of beneficiary communities to participate in a balanced development partnership. However, while all areas are in need, and while locally, willingness to engage may vary from community to community, there is no guarantee that the same atmosphere will prevail at the time of program implementation. The willingness to undertake simple activities and to achieve basic goals in terms of food utilization (that lie within the control of the community, irrespective of levels of food availability or access) can be taken as a sound indicator of a willingness to engage in real development partnership. Improvement in or maintenance of specific benchmarks can be used both for nutritional targeting and for driving investments and development activities to promote enhanced availability and access of food.

It is for these reasons that this analysis validates the basic premises of the USAID/Zimbabwe Country Development Coordination Strategy and subsequent documents in recommending a key role for improvements in the utilization of food, especially through enhanced nutritional practices, because:

1. Without the efficient utilization of food, investments in production or market development will

[57] Zimbabwe National Food Security Assessment 2007.

have little impact on the nutrition aspects of food security.

2. Investment in this area is the most cost effective use of USAID FFP resources.

It is recognized that simultaneous and significant intervention and investment are also requisites to improve food availability and access in order to sustain improved utilization. Nevertheless, data suggest that if significant impact on nutritional indicators is expected, these latter interventions can only be undertaken in tandem with interventions to enhance the utilization of food. The results framework that incorporates these principles is shown in Figure 3.

FIGURE 3: RESULTS FRAMEWORK FOR ENHANCED FOOD SECURITY IN THE FOCUS AREAS

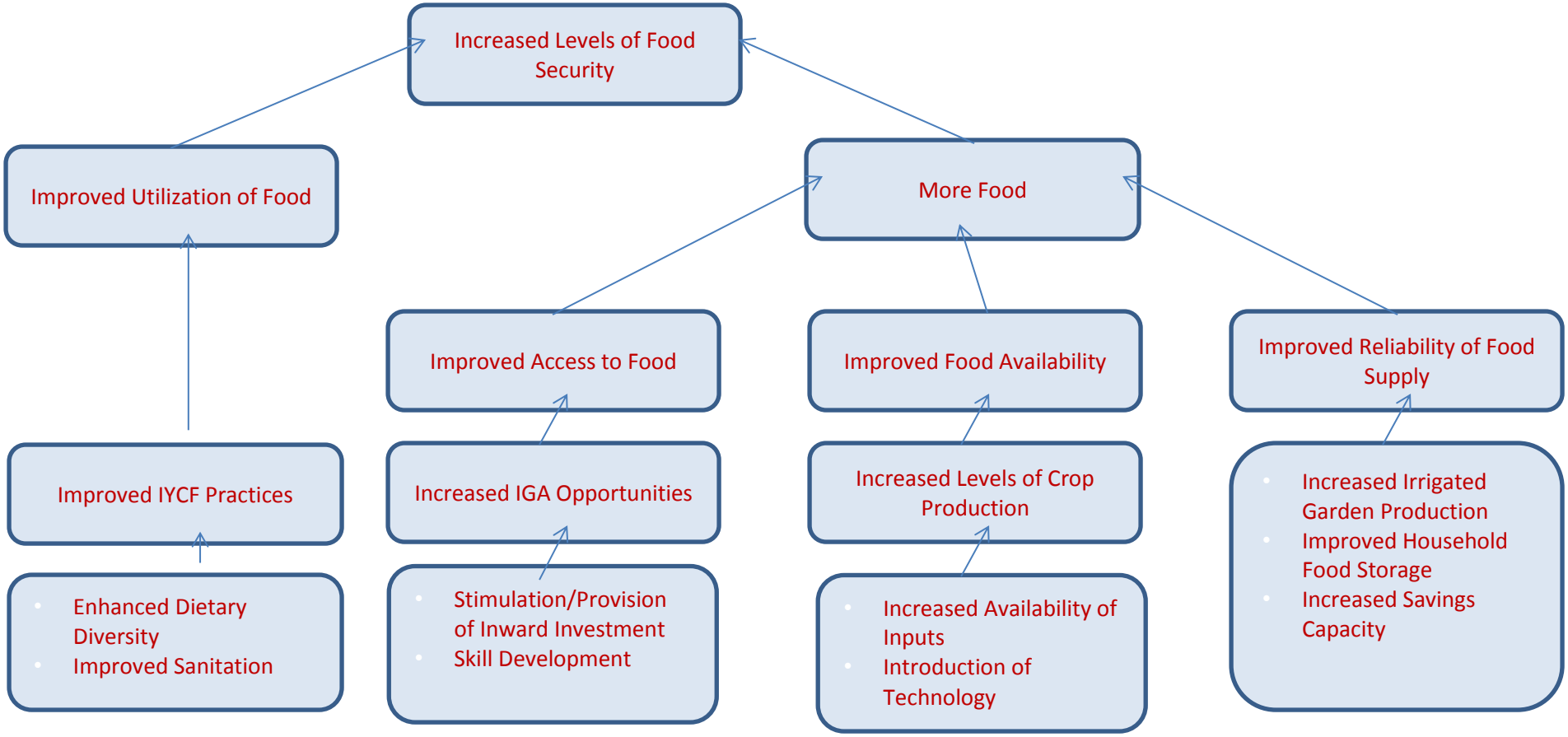


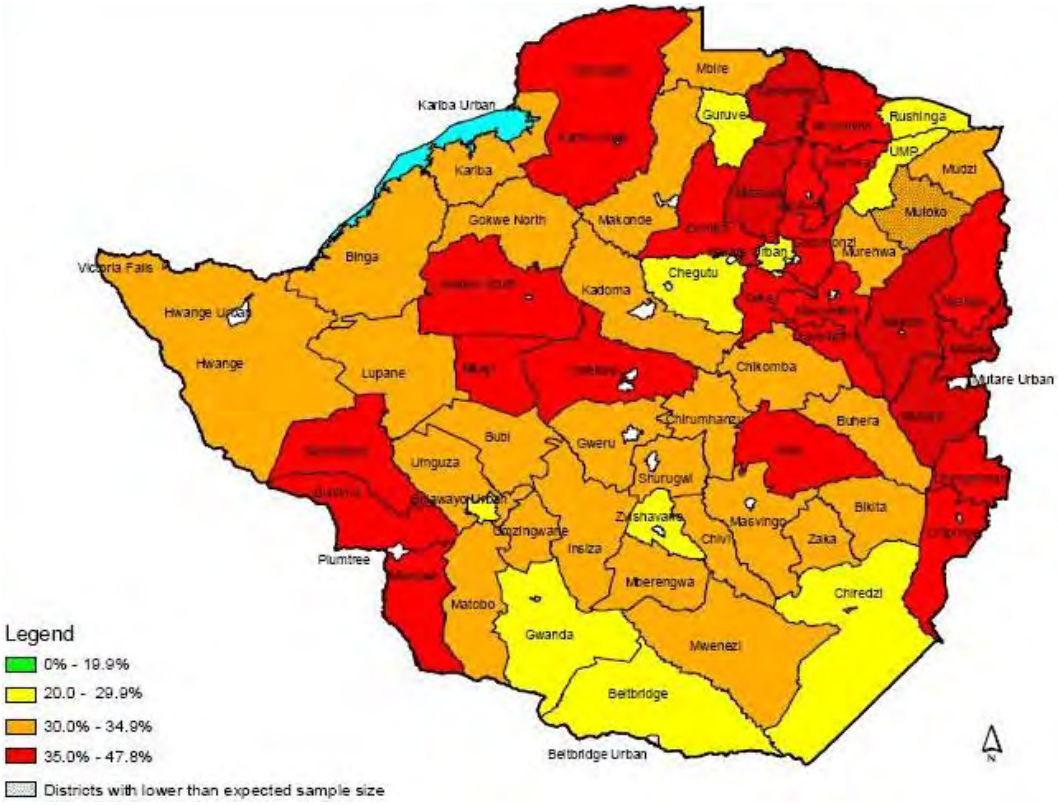
Figure 3 is not a generalized results framework, but includes the specific elements that this assessment observed as critical to increased levels of food security in the focus areas. Specifically the framework illustrates the importance of enhanced food utilization in tandem with enhanced availability, access and reliability. While a household can obtain more food as a result of improved availability (production) and access (increased income), and can strengthen the reliability of both of these elements, improved nutrition is still dependent upon the effective utilization of whatever food a household can obtain. The following chapters contain the observations, data and analyses that have been used to reach these conclusions.

METHODOLOGY

The methodology for this analysis consisted of three overlapping phases. The first phase was an extensive literature review of reports and data relating to the recent food security situation in Zimbabwe (see Bibliography). This was undertaken both at the home office and in Zimbabwe. The second phase consisted of interviews with key stakeholders in Harare, including Government departments, multilateral agencies, bilateral donor agencies and some projects.[58] The third phase was a field survey undertaken in the four provinces of Matabeleland North, Matabeleland South, Masvingo and Manicaland. Four districts were visited in each province, as shown in Table 3. The districts were selected on the basis of stunting data.

Figure 4: Prevalence of Stunting by District), to provide good coverage of those areas where chronic malnutrition was clearly an issue.

FIGURE 4: PREVALENCE OF STUNTING BY DISTRICT



Source: Zimbabwe National Nutrition Survey 2010.

[58] The list of interviewees is contained in the References section.

TABLE 3: DISTRICTS AND WARDS SELECTED FOR FIELD ASSESSMENT

Province	Matabeleland North	Matabeleland South	Masvingo	Manicaland
Districts and Wards	**Hwange** Wards:7,5,11,13	**Umzingwane** Wards:3,5,17,15	**Masvingo** Wards:21,17	**Buhere** Wards:29,30,33
	Lupane Wards: 28,10,19,13	**Bulilima** Wards:1,2,3	**Chivi** Wards: 3,12,25,28	**Chipinge** Wards:1,3
	Umguza Wards:3,17,15	**Mangwe** Wards:1,2,12,13,	**Gutu** Wards:29	**Chimanimani** Wards:2,3,5,20
	Tsholotsho Wards:6,11,12,16	**Gwanda** Wards: 5,13,14,21	**Mwenezi** Wards:2,6,9,10,	**Mutasa** Wards:13,14,15,16
	Note: Complete coverage of Masvingo was prevented by delays incurred due to discussions with provincial authorities.			

Up to four wards were sampled within each district selected to provide coverage of the main livelihood zones. Three or four focus group discussions were held in each ward. If less than four wards were sampled, the number of discussion groups was increased proportionately. The groups were meant to be convened to obtain a cross section of each village community, although this was not always the case (see below). In addition, guided interviews were held with key stakeholders including traders, health workers, Agritex agents, district health staff, NGOs and local authorities. Altogether 15 group meetings were held in each district and approximately 60 meetings in each province. This figure was chosen because it allows some statistical analysis of binomial data, such that a 10% variation in response between provinces is generally significant at the 95% level. Other guided interviews were held on an ad hoc basis as stakeholders were not always available. Altogether, the survey completed the following:

- 221 focus group discussions (10+ participants) drawn from a cross section of the community.
- 25 interviews with grain and livestock traders.
- 17 interviews with local health facility staff (district and ward level).
- 43 interviews with Agritex staff.
- 70 interviews with village health care providers.
- 16 interviews with other stakeholders (authorities and NGOs).

The focus of the exercise was to determine the factors underlying food insecurity in each area, rather than to assess food security levels per se. This latter data is adequately covered by ZimVAC and the Ministry of Agriculture's Agriculture Food Security Monitoring System (AFSMS).

CONSTRAINTS AND GAPS

One underlying constraint to this assessment has been the recent poor harvest throughout much of Zimbabwe. Following the poor rainy season of 2012, many areas are beginning to experience acute food insecurity and this will overshadow a longer-term situation that might be less severe. This study has been undertaken to inform a potential five-year program and should therefore be able to adopt a longer-term perspective in its assessment. For this reason, the team has concentrated on indicators of chronic rather

than acute food insecurity, especially stunting of children under five. Nevertheless, the responses of discussion groups were inevitably colored by current circumstances to some extent.

A second key constraint that emerged from the literature review was the inconsistency of published data. This includes demographic data,[59] financial data,[60] crop production figures,[61] and areas planted. All can vary, sometimes substantially, according to the source. This can lead to anomalies, including United Nations Organization for the Coordination of Humanitarian Affairs' (UNOCHA) statement[62] that 1,552,640 rural households were assisted with agricultural inputs in 2011/12, when the ZimVAC estimate of household size for 2011 was 6 and the rural population for 2010 was estimated by the World Bank at 7,757,000. If these last two pieces of data were correct, the UNOCHA estimate would have implied an impressive coverage of between 110% and 130% coverage of rural households.

Other constraints included political sensitivities, which prevented several meetings from taking place,[63] and resulted in groups having been preselected by local councilors.[64] However, it is important to note that where meetings were prevented, it appeared to be the response of one or two individuals and should not be construed as a lack of willingness on the part of the community or the Government of Zimbabwe as a whole to engage. The looming food insecurity in most areas resulted in excessive responses from many communities who misconstrued the meetings as an opportunity to register for food aid. Turning people away from groups was not easy and excessive group sizes extended the time taken to complete questionnaires. This and the length of time spent traveling on poor roads between the various meeting points and wards were the main logistical constraints that restricted the number of meetings that could be held.

Apart from these issues, another key constraint was the limited comprehension of respondents of some questions, especially those related to proportions. Given more time, proportional piling exercises would have greatly enhanced the data gathering process.

Nevertheless, overall the consistency of the results obtained gave the team confidence that the information was accurately collected and was representative of the communities of the areas visited.

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[59] World Bank population estimate 2012: 12,522,000. UN estimate: 13,014,000.
[60] World Bank estimate of remittances in 2010 (% of GDP): 7-9%. Ministry of Finance estimate for 2010: 3.5%.
[61] The crop production data published by MAMID and the CFU varied substantially throughout the last decade.
[62] UNOCHA. (2012). Zimbabwe 2012 Consolidated Appeal.
[63] Delays prevented 12 meetings in Gutu and 8 meetings in Masvingo districts.
[64] Local councilors in Mangwe were requested to convene four meetings of 5-10 village members in each ward but some cases convened one meeting of ZANU-PF officials instead. When this happened, the enumerators convened additional groups independently.

OVERVIEW OF THE CURRENT FOOD SECURITY SITUATION IN ZIMBABWE

INTRODUCTION

This section of the report looks first at the current economic circumstances facing Zimbabwe. Since the majority of households in the focus areas depend significantly upon markets to meet their food security needs, the state of those markets and prospects for income generation are of fundamental importance to this analysis. The section then considers each aspect of food security from a national perspective, before considering the specific situations in each of the four provinces assessed by the study. Food security has conventionally been assessed from four aspects, namely:

- *Availability* – Availability considers first the extent to which food is directly available to households, generally from their own production, although this may also include gifts of food (including food aid), remittances in-kind and the availability of wild foods for collection. Availability includes the availability of food at retail outlets or other commercial sources that might be accessed by households.
- *Access* – Access is the extent to which households are able to access whatever food is available. This is normally highly dependent upon income, including income from farming activities, off-farm activities and remittances but also payment in kind and barter. Conversely, it is also dependent upon market efficiencies and commodity prices.
- *Utilization* – Utilization is the efficiency with which available and accessible food is properly used by the household to achieve adequate growth and development and to lead productive and healthy lives. In essence, this entails proper food processing and storage techniques; appropriate knowledge, practices and behaviors conducive to adequate nutrition and childcare; and requires that adequate health and sanitation services exist.
- *Reliability* – Reliability is the extent to which household food security status is resilient to external shocks. This will depend on both the extent to which a household feeds itself from its own resources (when in particular, the reliability of the weather may be a key factor) and the extent to which a household's food security is income-dependent, which may then vary according to different economic factors affecting both earnings and prices.

For reasons of dietary preference, economics, and natural circumstances, food security in Zimbabwe is focused almost exclusively on the consumption of maize as the main source of calories. Small amounts of sorghum and millet are grown in dryer areas, but these are minor in extent and the production of starchy root crops such as cassava is even less.

Groundnut is the major source of protein. Soya was once produced in considerable quantities, but this was normally undertaken in association with irrigated wheat by commercial farmers and volumes have declined substantially since the Fast Track Land Reform Program (FTLRP). Meat is rarely consumed. Nationally, annual consumption is approximately 15 kg per person per year, but the ZimVAC 2012 Household vulnerability assessment found that in rural areas meat was consumed once every ten days on average and poultry about once in every 14 days. Figures will be lower for poorer households. Maize (as meal) and groundnut paste form the main constituents of the national diet, eaten in conjunction with a relish of spinach, rape or Chinese cabbage leaves, and if possible some onion and tomato. While many other crops are grown for commercial reasons, these commodities form the basis of national food security.

ECONOMIC OUTLOOK

In 2008, a multi-donor think-tank convened by the UNDP assessed the state of the national economy and drew up a roadmap for economic reform.[65] That document identified the key requirements for economic recovery as:

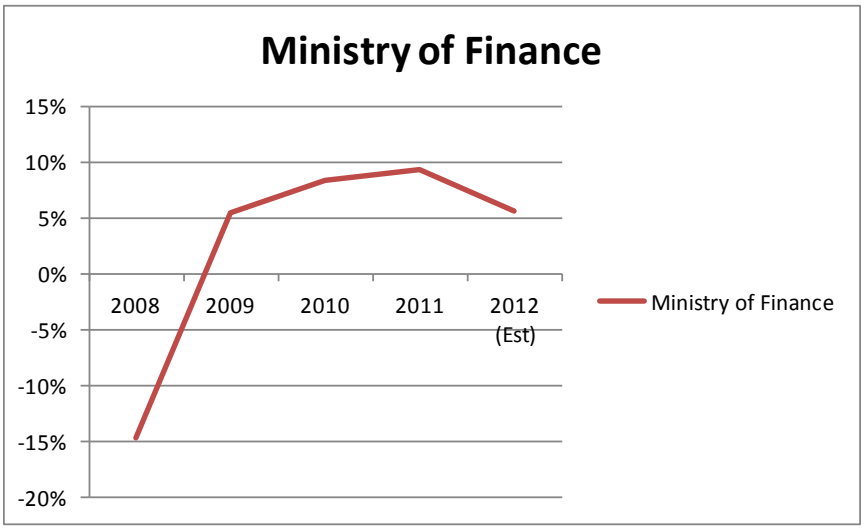
- Monetary stabilization.
- Domestic institutional reform – particularly the creation of an autonomous Reserve Bank and the ending of quasi-fiscal interventions.
- Structural and institutional reforms to address:
    - Policy uncertainty especially with regard to property rights and indigenization.
    - Access to finance and raw materials (including reforms in the mining sector).
    - The loss of skilled labor through emigration.
    - Infrastructural redevelopment, especially electricity, roads, rail and water, including the reform of the institutions charged with maintaining these utilities.
- The sourcing of external finance.

At that time of hyperinflation, monetary stabilization was regarded as the key element and this was achieved in January 2009 through the introduction of a multi-currency system. This ended hyperinflation immediately, albeit at the cost of monetary sovereignty. The second key requirement was the sourcing of external finance. This was regarded as crucial to economic recovery and was expected to occur as foreign investor confidence in Zimbabwe's economy resumed following the reforms described above. In the event, the sourcing of external finance has become even more critical to the Zimbabwean economy since, without a currency of its own, it must consistently attract a net inflow of finance for the economy to grow at all.

In practice, since the formation of the Government National Unity (GNU) in January 2009, few substantive reforms have been made. The multi-currency system has been officially endorsed, however, public service payments have been largely capped, a new Board has been appointed to the Reserve Bank (albeit under the same chairman), and quasi-fiscal interventions by the Reserve Bank have ceased. There has been a lack of progress in the achievement of critical reforms essential to recovery, and the consequent limited flow of external finance to the country has limited economic growth, which is now trending downwards and is projected by the IMF to average 4% *providing that challenges of poor electricity supply and weak competitiveness could be overcome.*[66] (Figure 5).

[65] See "Zimbabwe – A Comprehensive medium term recovery framework." UNDP Zimbabwe Discussion Document 2008.
[66] IMF Draft Public Information Notice 12/113, September 2012.

FIGURE 5: MINISTRY OF FINANCE ESTIMATES OF GDP GROWTH RATES



Sources: 1. Ministry of Finance in Reserve Bank of Zimbabwe Monetary Policy Statement January 2012, 2. Ministry of Finance Mid-Year Financial Review 2012.

Economic growth requires a growing supply of money for investment. Since Zimbabwe cannot print its own money, the effective money supply in Zimbabwe is dependent upon six factors:

1. The balance of trade.
2. Domestic monetary policy that affects savings, bank deposits, and the availability of domestic credit.
3. Foreign lines of credit.
4. Foreign direct investment (FDI).
5. Donor inflows.
6. The balance between remittances and the externalization of finance.

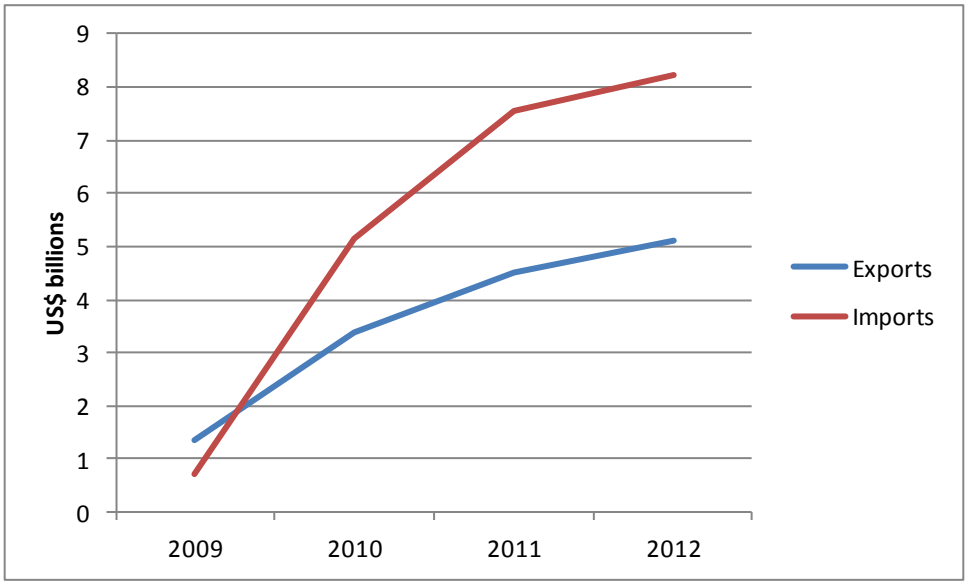
Each of these factors is considered in more detail below:

BALANCE OF TRADE

As a result of monetary reform in 2009, Zimbabwe has become an attractive market for imported goods, especially South African products, while the simultaneous imposition of real costs of wages, utilities and finance reduced the profitability of domestic products, restricting tourism and manufacturing exports. While mining has remained largely unaffected, burgeoning imports have substantially exceeded exports over the last two years. The recent decline in agricultural production has reinforced this trend, which is now projected to continue through 2012 (Figure 6). The negative balance of trade has resulted in an annual current account deficit of $1.8 billion in 2010 and $2.1 billion in 2011, i.e., an accumulated deficit of $4.0 billion (i.e., 40% of GDP). A further deficit of $3.1 billion has been projected by the Reserve

Bank[67] for 2012. Such an increase is of concern unless the deficit can be made up through inflows from other sources a contraction in the economy is almost inevitable.

FIGURE 6: VALUES OF IMPORTS AND EXPORTS SINCE MONETARY REFORM



Source: Reserve Bank of Zimbabwe Monetary Policy Statements 2010 - 2012

DOMESTIC MONETARY POLICY

This is a key factor affecting the amount of money available for economic growth, since while savings represent money that is withdrawn from circulation and is effectively non-productive, savings deposited in banks represent capital for use in reinvestment and production. The policies that control the process of the deposit and reinvestment of funds can make a critical difference to the extent to which that process occurs and the level and nature of finance that is consequently available for economic growth.

The Zimbabwean financial sector suffered a massive crisis of confidence as a result of hyperinflation prior to January 2009 when the public saw their bank deposits in Zimbabwe dollars lose all effective value, and when the Reserve Bank confiscated foreign exchange deposits. That experience reduced the trust placed by the public in financial institutions and the recent collapse of three local banks has further reduced this. The lack of capacity on the part of the Reserve Bank to act as a lender of last resort, inadequate capital requirements and inadequate stress testing may all have contributed to these recent failures. Nevertheless, it is the perceived risk of a return to the Zimbabwe dollar or any other unpredictable change in monetary policy that has limited not just the level, but more especially, the nature of the deposits made.

Since 2009, the level of bank deposits has increased from $1.35 billion to $2.30 billion and $3.25 billion, while the amount of funds lent by banks increased to $1.56 billion and $2.88 billion in 2010 and 2011

[67] Reserve Bank Monetary Policy Statement, August 2012.

respectively.[68] At 30% of GDP, such a level of domestic credit exceeds that of many neighboring countries.[69] Unfortunately however, the credit is of limited usefulness. Depositors are still reluctant to lose control of their funds and as of November 2011, 89.3% of all deposits still remain on a demand or very short-term (30-day) basis. The amount of finance deposited in banks for terms of over 90 days remains low.

The impact of depositors' behavior is to severely limit the amount of money that banks can lend to businesses for long term investments. While traders may be able to turn over stock so as to repay a 30-day loan, this is almost impossible for most manufacturers, let alone an agricultural producer, or indeed any business that wishes to make capital investments now needed for recovery. As a result, domestic deposits cannot stimulate economic growth to the extent that they might in another country.

In an attempt to increase confidence in the financial sector, the Reserve Bank has recently introduced new measures including an increased minimum capital requirement and more rigorous stress testing of banks. This policy, while beneficial, fails to recognize that the lack of confidence has more to do with the failure by the GNU to introduce much more substantive reforms, including especially those related to decision making processes within the Reserve Bank itself. In this regard, it is not monetary policy per se, but the uncertainty associated with the actions of the institution charged with making and implementing domestic monetary policy, i.e., the Reserve Bank that constrains investment.

FOREIGN LINES OF CREDIT

Until 2009, Zimbabwe's access to foreign credit was minimal. Economic performance from 2000 to 2008 was inadequate to service existing debts which remained roughly constant and largely unpaid. Such performance meant that little further credit could be obtained from any other sources (Table 4) Nevertheless, since 2009 some countries have become willing to advance funds. India, China and South Africa have all opened lines of credit of up to $400 million, $1.5 billion and $700 million respectively. This is reflected in the increase in external debt over the last two years.

TABLE 4: EXTERNAL DEBT (US$ BILLIONS)

2006	2007	2008	2009	2010	2011
5.22	5.26	5.16	5.32	5.67	7.66

Source: CIA Factbook[70]

Further credit might be obtained based upon two criteria. First, if the existing debt could be addressed, the pipeline might be unblocked for new credit lines to be opened.[71] A strategy has been developed by the

[68] Reserve Bank Monetary Policy Statement, January 2012.
[69] Domestic credit to GDP ratios for Zambia, Mozambique and Tanzania in 2011 were 12%, 24% and 18% respectively.
[70] The Ministry of Finance estimated the level of debt to be $6.9 billion at the end of 2010.
[71] According to the African Development Bank, it is currently owed $529 million, while the IMF is owed $550 million, the European Investment Bank $221 million and the World Bank $1.5 billion. Nevertheless, the World Bank has said it will consider making new funds available if the outstanding debt could be retired.

Ministry of Finance[72] for debt reduction, but depends upon both institutional and legal reform in the areas of public debt management and mining. Secondly, at a commercial level, the extent to which foreign banks either with or without branches in Zimbabwe are willing to extend lines of credit is limited by external perceptions of high country risk. The constraints that apply to domestic deposits are equally relevant to foreign lines of credit. Recent political agitation has not improved the situation to enforce application of the 2007 Indigenization Act to the financial sector.[73] In both cases, access to foreign credit is dependent upon changes in policy and reforms that remain to be addressed. Until such time as international confidence returns as a result of real reform, levels of new (post 2009) foreign credit will remain at between $2.5 and $3.0 billion, i.e., less than half the accumulated deficit.

FOREIGN DIRECT INVESTMENT

This was regarded as a key element of the UNDP economic recovery program and was predicated on domestic financial reform. Reform has not occurred as anticipated and the perceived country risk of Zimbabwe remains high, severely restricting foreign direct investment. Although some level of investment has occurred and is increasing (Table 5), it remains well below what is needed to redress the current account deficit, let alone to increase the money supply.

TABLE 5: FOREIGN DIRECT INVESTMENT IN ZIMBABWE AND NEIGHBORING COUNTRIES

US$ millions	2006	2007	2008	2009	2010	2011
Zimbabwe	40	69	52	105	166	387
Zambia	616	1,324	939	695	1,729	1,982
Tanzania	403	582	1,247	953	1,023	1,095
Mozambique	154	427	592	893	989	2,093

Source: UNCTAD World Trade Report 2012.

From a business investor's perspective, the World Bank "Doing Business" indicators show what little progress has been made over the last two years as Zimbabwe has fallen from 158 out of 181 in 2009 to 171 out of 183 in 2012. Not only have the financial reforms required for development failed to materialize, but the reinvestment in public utilities has also been stalled. In its 2012 mid-year Fiscal Policy Review, the Ministry of Finance indicated that 73% of revenues were currently spent on public service wages leaving only 27% to provide for other expenditures, including any investment in roads, power generation or water supplies. While the limited access to long-term finance has served to push Zimbabwe still lower in terms of world rankings.

DONOR INFLOWS

Prior to the formation of the GNU, most donors restricted their activities to humanitarian interventions, especially the provision of food aid. Over the period 2005-2009, these interventions can nevertheless be

[72] A Zimbabwe Accelerated Areas Clearance Debt and Development Strategy were published by the Ministry of Finance in March 2012.

[73] The "indigenization" requirement of 51% local ownership has been imposed on mines and is programmed to be extended to banks, hotels, and schools within the next 12 months.

valued at an annual maximum of approximately $250 million.[74] In addition HIV/AIDS and other health related activities over the same period may have contributed at most $50 million annually. Apart from these inflows, there was minimal development activity and no significant inflows of finance. From 2009 onwards, the situation changed substantially and donor inflows for 2011 were estimated at $593 million[75] and projected to be $550 million for 2012. Nevertheless, much of this is used as direct project finance with a limited element being used to finance recurrent government expenditure and there has been as yet little donor finance available for investment in national infrastructure.

REMITTANCES AND THE EXTERNALIZATION OF FINANCE

It is fortunate that levels of externalization of finance recorded by the United Nations Conference on Trade and Development (UNCTAD) are very low ($43 million and $14 million in 2010 and 2011 respectively). While these figures almost certainly underestimate the outflow of capital from Zimbabwe it does not appear to be a significant drain on financial resources.

Conversely however, remittances are extremely significant. High levels of emigration from 2001 onwards have resulted in significant levels of international remittances flowing into Zimbabwe. A comprehensive study by People Against Suffering Oppression and Poverty (PASSOP) of remittances from South Africa[76] highlights the following key points:

- Between two and three million people have left Zimbabwe in the last decade.
- 90% of those in work remit one third or more of their income.
- More than 50% flows through informal channels and 40% is remitted as goods.
- As a result, annual remittances have exceeded US $1.0 billion in the past and in 2007 more than 40% of GDP was made up of remittances flowing into Zimbabwe.
- In 2011 total remittances were estimated to have been between $680 million and $905 million.

Remittances have played a greater role in supporting the economy than either FDI or donor inflows. Although, even at the levels recorded by PASSOP, remittances did not exceed 50% of the annual trade deficit. Regrettably however, the level of remittances is now declining substantially with 79% of focus discussion groups reporting that remittances had declined "a lot" over the last three years, 8% reporting some decrease and 13% reporting no change or some increase. The Ministry of Finance has indicated that this trend is expected to continue as the impact of the global economic down turn becomes more acute in South Africa and elsewhere, and the Zimbabwean economy cannot expect to receive support at this level from remittances in the future.

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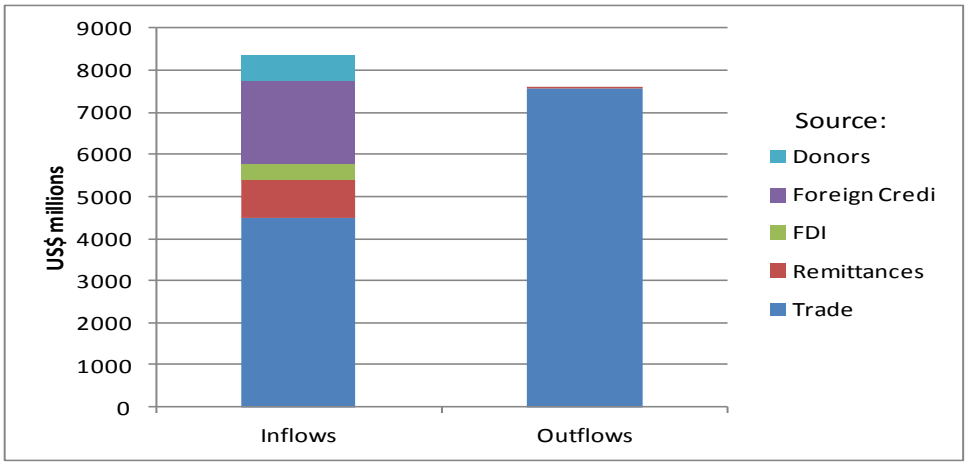
[74] Based on a maximum inflow of 350,000 MT in 2008 valued at $700 per MT on a carriage insurance freight (CIF) basis.
[75] Reserve Bank of Zimbabwe. Monetary Policy Statement, January 2012.
[76] Von Burgsdorff, David. (2012). "Strangling the Lifeline – an analysis of remittance flows from South Africa to Zimbabwe." PASSOP report, April. http://www.passop.co.za/wp-content/uploads/2012/04/Strangling-the-lifeline-PASSOP-Report-on-Remittances-to-Zimbabwe.pdf.

FIGURE 7: FINANCIAL INFLOWS AND OUTFLOWS, 2011



Source: Various (as listed in text).

From the data of Figure 7 it can be calculated that financial inflows exceeded outflows last year by approximately $790 million, or about 8% of GDP. This is the money that might be available for investment and economic growth. Assuming an optimistically low capital output ratio of 4.0, this would result in a maximum GDP growth rate of 2%. For 2012 however, the situation has deteriorated significantly. Ministry of Finance projections estimate that the trade deficit will increase by a further $1.0 billion, that donor inflows will fall by 8% and that remittances will also decline. Moreover, given the lack of immediate reform there is little reason to expect an increase in foreign direct investment. On this basis, unless new lines of credit can be made available, from a monetary perspective, the economy will almost certainly contract.

It is now evident that while the economy has indeed grown since the introduction of the multi-currency system in 2009, much of that growth has been in mining which grew by 44% in 2011 to now contribute 70% of export earnings,[77] and is forecast to grow by a further 17% in 2012.[78] Further initial growth has also been due to the rebound of the agricultural sector from the disastrous harvest of 2008 to a peak in 2010/11. Nevertheless, the benefits of mining to the overall economy seem limited, especially in the area of revenue generation,[79] while the recent poor harvest has highlighted the uncertainty of agricultural growth. Moreover, the balance of trade and current account deficits indicate that the growth has been accompanied by an unsustainable drain of money from the economy. Unless alternative sources of finance can be obtained (most probably by retiring existing international debt and accessing further international credit), continued growth is improbable.

Economic development over the last three years has done little to create opportunities for the poor. Indeed, it was always expected that the initial period of adjustment after economic reform would result in the deflation of the informal economy as many of the jobs key to the parallel economy (sourcing fuel,

[77] Zimbabwe Chamber of Commerce. (2012). Trade and Industry, Export Sector Review.
[78] Minister of Finance. (2012). Mid Term Financial Review, June.
[79] Ibid.

importing food and other essentials, changing money, etc.) would become irrelevant.[80] Nevertheless, unless alternative sources of income can be found, those who lost their work through reform remain extremely vulnerable to food insecurity. Economic growth has not yet been accompanied by the creation of employment. The African Economic Outlook 2011 indicates that while there are no reliable unemployment statistics for Zimbabwe, unemployment appears to have increased, especially among the youth.

It now appears that optimistic projections of rapid economic recovery have ignored fundamental weaknesses of the economy. These stem on the one hand from continued underinvestment in national infrastructure and industry, and on the other from a severe imbalance between inflows and outflows of capital that will severely depress any further growth unless new sources of credit are found. In both cases, the root causes lie in the failure to introduce meaningful reform.

FOOD AVAILABILITY

NATIONAL PERSPECTIVE

It is widely considered that Zimbabwe was once the breadbasket of Southern Africa. From a natural resource perspective, this is a misconception that relates to the country's strong subsidy program for maize production over the course of much of the 20th century[81] together with prudent management of that production. Although the country has indeed been more productive than some of its neighbors, it lacks the climate to produce high yields of rainfed crops on a reliable basis. Zimbabwe is located at the southern extremity of the annual movement of the Intertropical Convergence Zone (ITCZ), which means that rainfall can vary substantially, depending on the extent to which the ITCZ moves south across the country and the duration of its coverage. As a result, Natural Regions I and II in which most crops can be grown are very limited in range, and although Natural Region III, which is reasonably well suited to rainfed crop production is much greater in area, the country is effectively dominated by Natural Regions IV and V, characterized by low and variable rainfall amounts that are not at all suited to rainfed crop production. The impact of this climate is that national annual yields of maize in Zimbabwe are much more variable than those in other countries in Africa (Table 6).

[80] UNDP. (2008). Comprehensive Medium Term Recovery Framework.

[81] In fact, the production of maize was indirectly subsidized and proved so profitable so that surplus reserves stored with the Grain Marketing Board were frequently disposed of neighboring countries; see "Maize in Eastern and Southern Africa: 'Seeds' of Success in Retrospect." IFPRI Discussion Paper 97, Smale, Melinda, and Thomas Jayne (2003).

TABLE 6: COEFFICIENTS OF VARIANCE OF ANNUAL MAIZE YIELD

Country	Coefficient of Variance of Maize Yield (%)
Nigeria	6.5
Ghana	7.2
Uganda	8.2
Kenya	11.1
Tanzania	11.2
Ethiopia	14.5
South Africa	20.3
Mozambique	23.8
Zambia	30.6
Malawi	32.9
Zimbabwe	40.9

Source: USAID: Southern African Trade Hub Technical Report[82]

National yields of maize declined markedly following the FTLRP, but even before this, yields were markedly less than those of neighboring countries that lacked comparable commercial sectors and used lower levels of fertilizer (

Figure 11 on page 36).

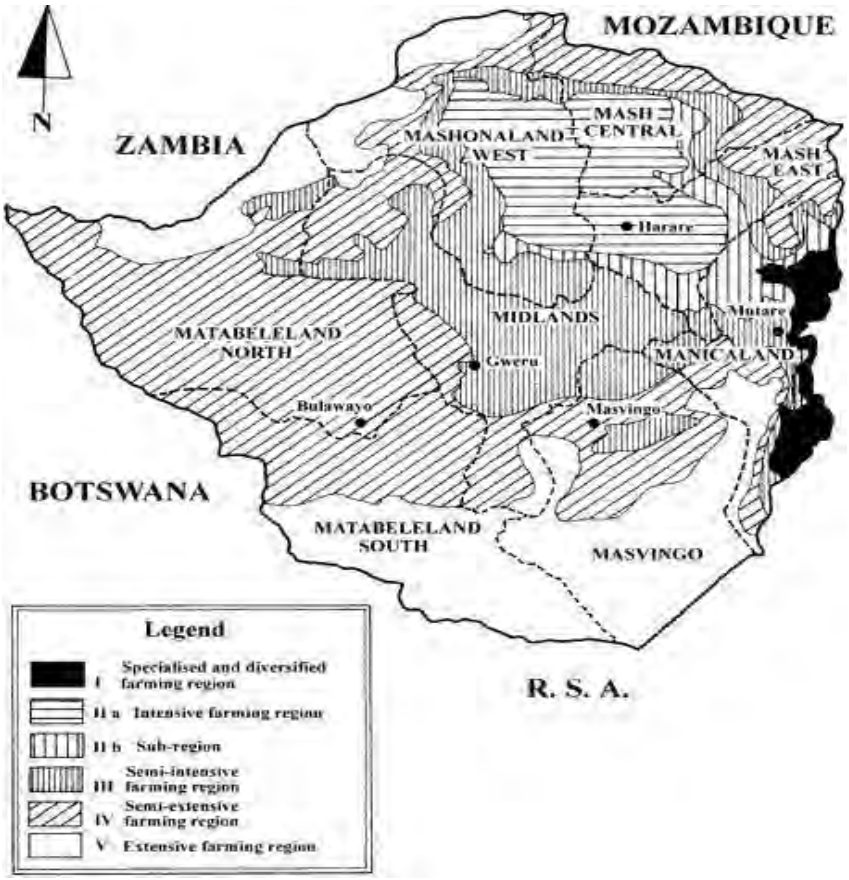
TABLE 7: REGIONAL MAIZE PRODUCTION DATA

Country	Area (ha'000)	Yield (Mt/ha)	Production (MT'000)
Kenya (1990-2000)	1420	1.65	2342
Zimbabwe (1990-2000)	1313	1.29	1014
Zambia (1990-2000)	635	1.60	1722
Malawi (1994-2000)	1282	1.35	1753
Note: Data for 1992 Omitted for Zimbabwe due to extraordinary drought			

Source: IFPRI Discussion Paper 97: "Maize in Eastern and Southern Africa - Seeds of success in retrospect."

[82] Grant, W., Wolfaardt, A., and Louw, A. (2012) "Maize Value Chain in the SADC Region," February.

FIGURE 8: AGROECOLOGICAL ZONES (NATURAL REGIONS) OF ZIMBABWE



Source: FAO

Since the FTLRP, the area under irrigation has fallen considerably and with it the consistency of crop production. In the past, small scale farmers produced the bulk of the commercial maize crop while large scale commercial farmers produced mainly cash crops. Nevertheless, commercial farmers also produced seed maize and some commercial maize under irrigation. Irrigation systems designed to produce wheat in the winter, or to augment the yield of soya or vegetable crops, would also grow maize crops on occasion for rotational purposes and this production could be drawn on for national consumption when rainfall was inadequate, or stored for the future. The collapse of commercial production has caused maize production overall to decline in extent and to become more variable in annual output. National cereal yields in Southern Africa in 2010 are shown in Table 8, indicating the extent to which Zimbabwe has fallen behind neighboring countries to become the lowest in the region with the exception of Botswana and Namibia.

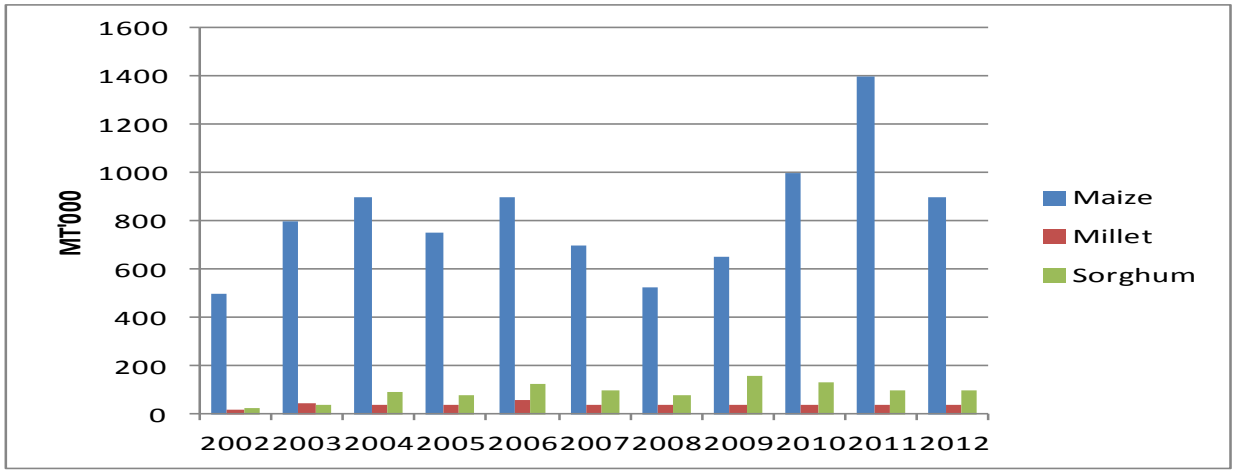
TABLE 8: 2010 NATIONAL CEREAL YIELDS IN SOUTHERN AFRICA

Country	Malawi	Mozambique	South Africa	Tanzania	Zambia	Zimbabwe
Yield (kg/ha	2,206	1,006	4,162	1,333	2,547	752

Source: World Bank Data set of World Development Indicators.

from a national production perspective, the production of maize, the key staple, has become less certain and will remain so until such time as irrigated maize production might become more widespread (although the economic sustainability of irrigation development for the specific purpose of maize production remains questionable). Historical data clearly demonstrates that rainfed maize production will be inadequate and unreliable, given the national yields that can be reached (Figure 8) and that self-sufficiency in cereals estimated at 1.7 by the Government of Zimbabwe and 2.1 million MT by FAO[83] is almost certainly an unrealistic goal under the prevailing climatic conditions.

FIGURE 9: RAINFED CEREAL CROP PRODUCTION TRENDS



Source: USDA.

IMPACT OF CLIMATE CHANGE AND SOIL DEGRADATION

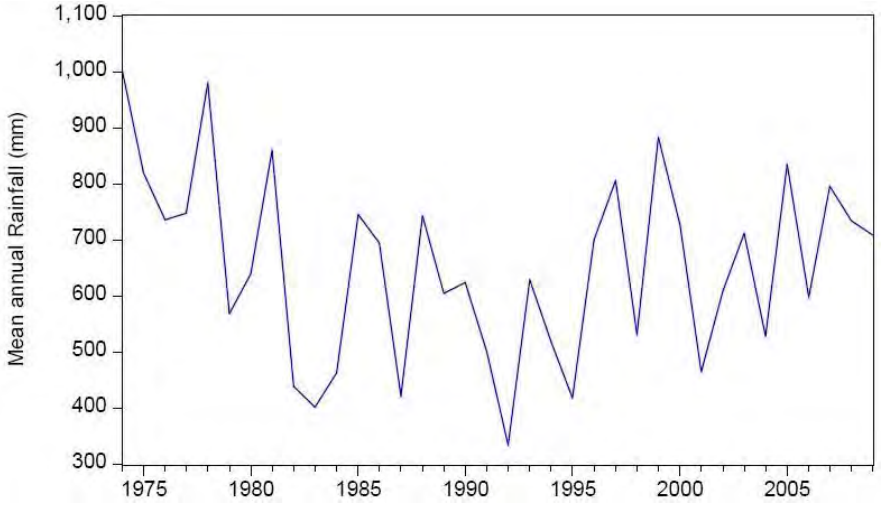
While river flow data indicate that rainfall patterns in southern tropical Africa have been changing over time[84], the impacts of climate change, including temperature are less clearly defined. Unfortunately,

[83] MAMID estimates of cereal requirements is substantially less at 1,7600,000 MT. This is based upon a per capita requirement of 110 kg, which is significantly less than FAO estimates of 151 kg/year and is sufficient to meet 66% of standard energy requirements. FAO CFSAM 2010.

[84] Mano Consultancy for the European Commission. (1994). An Analysis of Maize and Soya Value Chains in Zambia.

although the Zimbabwean climate is possibly wetter than it was 20 years ago (Figure 10), it is still extremely variable and inherently unreliable from the perspective of rainfed crop production. Particularly in the south, growers indicate declining and increasingly erratic rainfall, leading to an increasing frequency of drought. The growers' observations are confounded by a potentially more significant factor, namely increased soil degradation. A survey of soil degradation in Zimbabwe found that 28% of all land was severely degraded and 19% was moderately degraded with only 53% in relatively good condition.[85] The problem is most severe in the communal lands where higher cropping intensity has exacerbated the problem. Estimates of soil erosion from communal lands are about 5,000 MT per km^2 per year[86] at which rate many soils will be unable to sustain a maize crop within 20 years (10 years in some areas of shallower soil). The increasing soil degradation leads to reduced fertility, especially reduced water holding capacity which manifests itself as the reduced capacity of crops to withstand periods of drought leading to an increased frequency of crop failure, especially under conditions of intermittent rainfall. In Zimbabwe high rates of soil degradation thus contribute to an increased frequency of crop failure, confounding the impacts of climate change. Indeed given the potential of soil degradation to prevent maize production on communal lands in Zimbabwe within 20 years, the impacts of unconstrained soil degradation can be considered to be substantially greater than those of climate change.

FIGURE 10: AVERAGE RAINFALL AMOUNTS ZIMBABWE 1970 – 2010



Source: Zimbabwe Department of Meteorological Services.

Although rainfall is the major determinant of production, staple crop yields can also be affected by levels of input usage. Zimbabwe has always been in the forefront of input usage throughout Africa, and until 2002 ranked second on the continent for fertilizer usage per unit area, applying 48 kg per cropped hectare on average.[87] The country has its own fertilizer manufacturing sector but has often imported additional

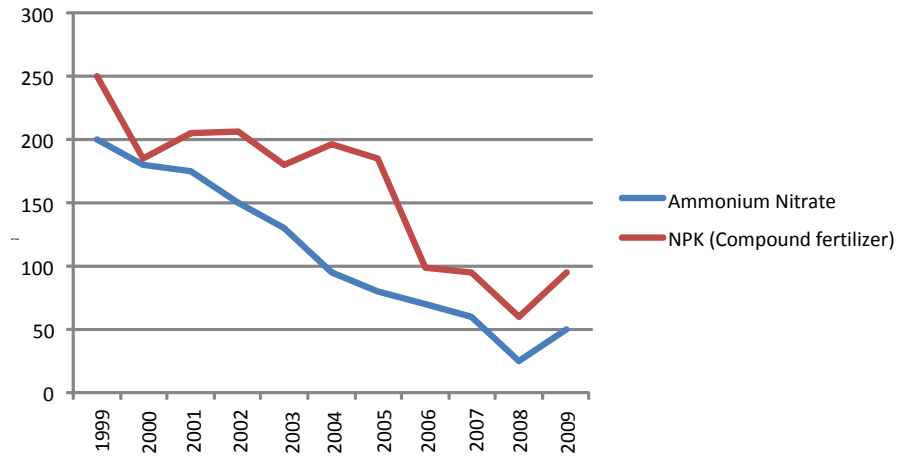
[85] Taguira, Fanuel. (1992). "Soil erosion and conservation techniques for sustainable crop production in Zimbabwe." *Journal of Soil and Water Conservation*, 47, pp. 370-374 (EROS - 4/17/95).
[86] H. E. Dregne. (1990). "Erosion and Soil Productivity in Africa." *Journal of Soil and Water Conservation*. 45, pp. 431-436.
[87] Crawford, E. W, T.S. Jayne and V. Kelly. (2006). "Alternative Approaches for Promoting Fertilizer Use in Africa." World Bank Agricultural and Rural Development Discussion Paper 22.

supplies from South Africa when local production could not meet demand. As a result, fertilizer has always been accessible in Zimbabwe provided growers could obtain the necessary finance.

Much of the finance required to grow both cash and staple crops was historically independent of the crop or crop purchaser, but was obtained from banks.[88] As the economy deteriorated over the period from 2002 to 2008, credit for agriculture became increasingly expensive and difficult to obtain. Although various government subsidies and loans were made available to promote the use of inputs, including the GMB Grain Loan Scheme, the volume of fertilizer used consistently decreased (

Figure 11).

FIGURE 11: TRENDS IN FERTILIZER USAGE IN ZIMBABWE



Source: MAMID.

The situation culminated in the poor harvest of 2007/08 which left many farmers unable to either obtain credit or purchase inputs directly so that despite donor assistance and the introduction of a voucher scheme, the use of fertilizer in 2008 was less than 85,000 MT (almost all of which was used for cotton and tobacco provided through contract farming arrangements). In 2009, following the introduction of the multi-currency system, the supply of credit deteriorated still further as the liquidity of banks was very limited[89]; the Government sought to assist smallholders through the Short Term Economic Recovery Program to make seed and fertilizer available to 800,000 households for staple crop production. This resulted in the supply of 140,000 MT of fertilizer (approximately 40% of the average level of consumption prior to 2002) and 22,000 MT of seed. This package, valued at $104 million, was enough to boost maize production by 50%.[90]

[88] Bunker, Arvin and James Hochschwender. (2011). "Zimbabwe Agricultural and Rural Livelihood Financial Market Assessment." (Weidemann Associates Inc. for USAID).
[89] Ibid.
[90] USDA data. Local maize production data at this time was conflicting and unreliable.

Since 2009, there has been little improvement in the availability of credit of the nature required to finance fertilizer purchases (i.e., at least 180-day loans).[91] In general, the only source of finance available to growers has been the tied finance supplied via out-grower schemes or contract farming arrangements. These have appropriately focused mainly upon the production of cash crops, especially cotton and tobacco, but have largely ignored maize, and other staples for which the risk of side selling has been considered too great.[92] To sustain domestic staple production, government and donor interventions in 2010 and 2011 made available further input packages valued at $117 million and $162 million, respectively.[93] The impact of the exercise in 2010 was a further 40% increase in production, but the assistance provided in 2011 had little impact on the 2012 harvest, due mainly to poor rains.

The recent trends show increasing reliance of staple crop production upon external interventions for the sourcing of inputs. This is almost inevitable given the fact that no staple crop surplus has yet been achieved over the last decade so that every year, smallholders are indirectly consuming most of their production. Thus the smallholder sector, which produced 79% of the maize in 2011/12,[94] has little surplus cash for the next season's inputs. If the financial systems were effective, crop inputs would be financed from credit, but in the absence of such finance, inputs for smallholder production can only be obtained through external assistance, which is hardly sustainable, as Malawi recently demonstrated.

It may be questioned that, since some cash crops have greater access to finance, will there be a shift away from staple crop production and toward crops such as cotton and tobacco? This trend is not well reflected in the historical trends of planted areas (Figure 12).

Data is not always reliable,[95] but the areas sown to tobacco and cotton over the last four years show no definite trends. A recent increase over the last year in the area planted to cotton can be ascribed to exceptional international cotton prices in 2011, which have subsequently declined. Indeed, given the substantial government and donor interventions in staple crop production in 2011, equivalent in value to more than 50% of the average national crop requirements,[96] there is little reason to suppose that for farmers' credit on commercial terms for cash crops is a preferable or viable option over open or closed vouchers or the direct distribution of subsidized inputs by government or donor agencies. From this perspective it is difficult to confirm a trend away from staple crop production and toward cash cropping. The most significant variable impacting the production level of all crops continues to be the accessibility of inputs, itself dependent primarily upon the purchasing power of producers.

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[91] Since 2009, the majority of credit for agricultural inputs has been provided against collateral in the form of urban properties or business assets. Bunker, Arvin and Hochschwender, James. (2012). "Zimbabwe Agricultural and Rural Livelihood Financial Market Assessment." (Weidemann Associates Inc. for USAID).

[92] A small number of companies such as Northern Farming have attempted to contract the production of maize, with mixed success.

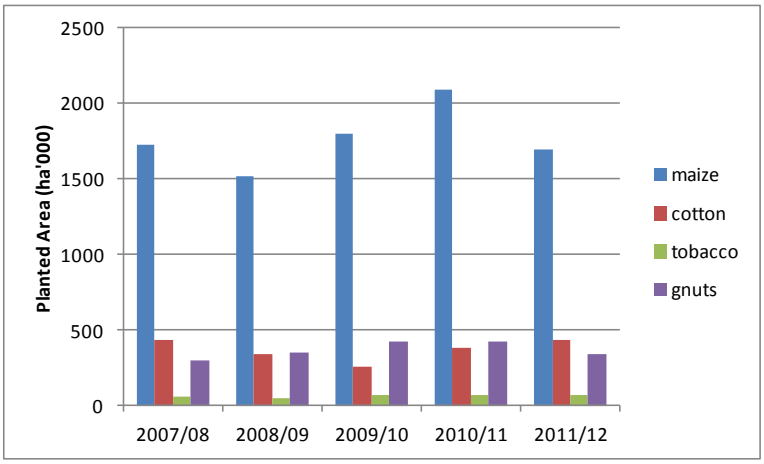
[93] In addition, inputs to the value of $30 million were supplied through the GMB in exchange for maize (Statement of Preparedness issued by the Agriculture evaluation and monitoring subcommittee, November 2011).

[94] MAMID Crop and Livestock Assessment, Second Round: 2012 indicates that large scale commercial and A2 farmers produced 21% of the national maize harvest. The balance was produced by smallholders.

[95] E.g., a 30% variation between the USDA Grain Report estimate of maize area planted in 2009, and Agritex estimates.

[96] Calculated on the basis of an average demand of 375,000 MT of fertilizer, a price of $600/MT and an intervention valued at $162 million.

FIGURE 12: NATIONAL TRENDS IN CROP AREAS PLANTED



Source: 2007-2008 Agritex, 2009-2011, MAMID Crop and Livestock Assessments.

It is important to note that recent constraints on the use of inputs have little to do with their availability of either seed or fertilizer, although this was once the case. Thus in 2007 and 2008 supplies of seed and fertilizer were limited by local production capacity and the availability of foreign exchange for importation. By October 2011, however, seed companies had been able to produce much more maize seed than the nation's farmers could purchase and fertilizer producers and importers were holding stocks in anticipation of demand.[97] Donor programs had been put in place to facilitate the flow of inputs through the market so that by December 2011, there was no shortage of inputs in rural depots (

Table 9).

TABLE 9: AVAILABILITY AND PRICE OF INPUTS BY DECEMBER 2011

Input	Availability (%)	Price (USD/Kg)
Maize seed	87	1.55
Small grain seed	65	0.74
Legumes	73	0.86
Basal fertilizer	75	0.48
Top dressing	66	0.51

Source: Agriculture Cluster Data reported in OCHA Monthly Humanitarian Update, January 2012.

Nevertheless, the price of seed and fertilizer (at an average of $1.55/kg for hybrid maize seed and $25.5/50kg bag for Compound D) has placed it beyond the reach of most smallholders. The increased uptake of inputs and consequent improvement in staple crop production that has occurred over the last three years has to a great extent been achieved through government and donor assistance in subsidizing

[97] "State of Preparedness for the 2011/12 Season." Agriculture Monitoring and Evaluation Subcommittee.

the flow of commercially available inputs. Until such time as the financial sector is able to offer loans of an appropriate term, this situation is likely to continue, i.e., the country will remain dependent upon the subsidization of inputs (either by external agencies or from the national budget) to achieve even a modicum of food security.

Superimposed on a situation of declining rainfall and limited input usage is also a reduced availability of labor that has developed over the last ten years and may have accelerated in the last three. Political repression and economic instability have resulted in massive emigration from Zimbabwe from 2002 on, and it is estimated that as many as three million people may have left the country.[98]

While political repression was the main cause for emigration, as quoted by respondents to surveys in South Africa in 2002-2006, lack of economic opportunity became the main cause for departure in 2007.[99] In the focus areas, this appears to be true. In many cases in rural areas, the male head of household left to seek work in South Africa, Botswana or further abroad, and the women who remained were obliged to undertake all agricultural production activities including land preparation, traditionally a predominantly male activity. This emigration has become entrenched over the last three years as economic options within rural Zimbabwe have become increasingly bleak.[100] Many villages, particularly in the southern provinces, are composed almost exclusively of older men, women and children. The impact of HIV/AIDS in these communities has further exaggerated the reduction in the availability of labor. Reduced labor in rural areas constrained the overall area under cultivation, creating further downward pressure on food production.

In early 2012, the number of deportees of Zimbabwean immigrants from South Africa had increased following the resumption of deportation and streamlining of the process, such that an average of 2,500 people were returning per month.[101] This figure suggests that in the course of a year no more than 30,000 people would return and ignores the fact that some of those returning would subsequently re-emigrate to South Africa.[102] Overall while there may be some recovery of the rural labor force, the numbers of returnees suggest this to be very small and of little significance to date.

The immediate prognosis for improved national food production is currently poor unless continued donor assistance can be provided. Production of maize has declined due to a number of factors: the reduced availability of irrigation, despite its limited profitability, in which some maize was produced in the past; soil degradation; reduced usage of inputs; and reduced availability of labor. In the absence of further intervention, there is little reason to expect that any of these trends will be reversed to a significant extent.

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[98] Crush, Jonathan. (2008). "South Africa: Policy in the Face of Xenophobia," Country Profiles, Migration Information Source: Washington D.C.

[99] Leslie, Robyn. (2008). "Migration from Zimbabwe: Numbers, Needs and Policy Options." Centre for Development and Enterprise. www.cde.org.za/article.php?a_id=280. Based on a workshop held November 2007.

[100] The CIA World Fact Book suggests that Zimbabwe is now a net recipient of migrants and that roughly 12 and 25 people per 1,000 of the total population in the country entered Zimbabwe in 2010 and 2011 respectively. This trend was not reflected in the responses of discussion groups who indicated that although many emigrants are no longer earning significant amounts, they remain outside the country either from embarrassment or in the hope of finding new work.

[101] UNOCHA. (2012). Monthly Humanitarian Update, January-February.

[102] Respondents in border districts noted that some of those who had emigrated used the South African deportation process to provide free transport back to Beitbridge when they wanted to visit their families in Zimbabwe.

It is against this bleak scenario that much of the country experienced poor rains during the last growing season, reducing yields and cutting national output to 968,000 MT[103] of maize against an estimated cereal requirement of 1.734 million MT (Government of Zimbabwe, or 2.1 million MT, FAO).[104] This follows a growing season in 2010/11 in which maize production at 1.452 million MT was also inadequate. The country continues to require imports of maize to meet national demand, and this situation will remain until at least April/May 2013, when the next crops are due to be harvested.

MAIZE IMPORTS

One positive contribution to food availability has been the increase in maize production that has taken place in both Malawi and Zambia over the last five years. Successive good rains and increased commercial production (in Zambia) have allowed production in these countries to increase even as that of Zimbabwe has declined. While such increases might be considered unsustainable (generated mainly through subsidization of crop inputs and purchases), they have nevertheless provided a welcome source of genetically modified organism- (GMO) free yellow maize that could be cheaply imported into Zimbabwe. Zimbabwe has traditionally imported maize from South Africa, but prices there have been increasing and, while South Africa does produce traditional white maize, it now grows mainly GMO yellow maize, which Zimbabwe does not allow to be imported. Hence in recent months, surplus maize production by Zambia and Malawi has played a key role in bolstering the availability of grain in Zimbabwe (

Table 10).

TABLE 10: VOLUMES OF MAIZE IMPORTS (MT) BY COUNTRY OF ORIGIN

Year	Quarter	Zambia	Malawi	South Africa	Mozambique	Total
2010	Q3	1560	180	5584	0	7324
	Q4	39,679	4,802	10,470	2,615	57,566
2011	Q1	113,093	35,635	4,049	3,011	155,788
	Q2	79,514	23,157	26,894	120	129,685
	Q3	36,933	7,227	533	62	44,755
	Q4	108,086	14,006	358	0	122,450
2012	Q1	163,794	90	178	205	164,267
	Total (MT)	**542,659**	**85,097**	**48,066**	**6,013**	**681,835**

Source: ZimSTAT Trade Data published in USDA Gain Reports 2010/11 and 2011/12.

In May 2012, Zimbabwe began importing 300,000 MT of grain purchased from the Zambian Food Reserve Agency through the private company Sakunda Trading[105] at the low FOB price of $141 per MT. It is important to recognize that in this regard, current import parity prices in Zimbabwe are dependent upon the availability of surplus maize from neighboring countries that have poor access to international

[103] MAMID. (2012). Second Round Crop and Livestock Assessment Report, April.
[104] This figure is based upon the FAO estimate of a per capita cereal requirement of 120 kg/year. The MAMID estimate is lower at 110 kg/year.
[105] Sakunda Trading is a subsidiary of Sakunda Energy – a company loosely associated with ZANU-PF through business linkages with Nigel Chanakira.

markets and hence inherently low export parity prices. If that surplus was not available, Zimbabwe would be obliged to import from South Africa (as maize meal, since whole maize cannot be imported from South Africa due to the risk of contamination by genetically modified seed), which has much better access to world markets and commands a higher FOB price as a result. White maize in South Africa was priced at $325/MT in April which would translate to a price of $400/MT or higher on a CIF Harare basis.

Although regional surplus production has been of immediate benefit to Zimbabwe, there are no grounds for relying upon it in the future. The climate of Zambia and Malawi allows both countries a comparative advantage in rainfed maize production when compared with Zimbabwe, but neither are able to produce a surplus without subsidizing inputs to producers. There are indications that Malawi (which banned the export of maize in December 2011[106]) may lack the fiscal capacity to maintain subsidies, while the Zambian government is also considering ways to rationalize the inputs sector. By contrast, South Africa has been more consistent in its maize production; its exported maize is more expensive. Thus the continual availability of maize imports at the low prices paid over the last six months cannot be relied upon.

In the long term, Zimbabwe faces a dilemma. It has little comparative advantage within the region in maize production but can produce cash crops and livestock competitively. It might be most cost effective to concentrate upon those latter sectors and to rely upon the purchase of maize options from the South African Futures Exchange (SAFEX) for national food security, but that option has never yet been palatable to any African government. Instead, it is most probable that the Government will seek to meet a substantial part of its maize requirements through national production, but this has never been achieved without support in the form of subsidized inputs or elevated grain prices.[107] At the moment, Government lacks the financial capacity to provide such support through its own resources and in the short term, it is only with ongoing donor assistance that food security from own production will be achieved.

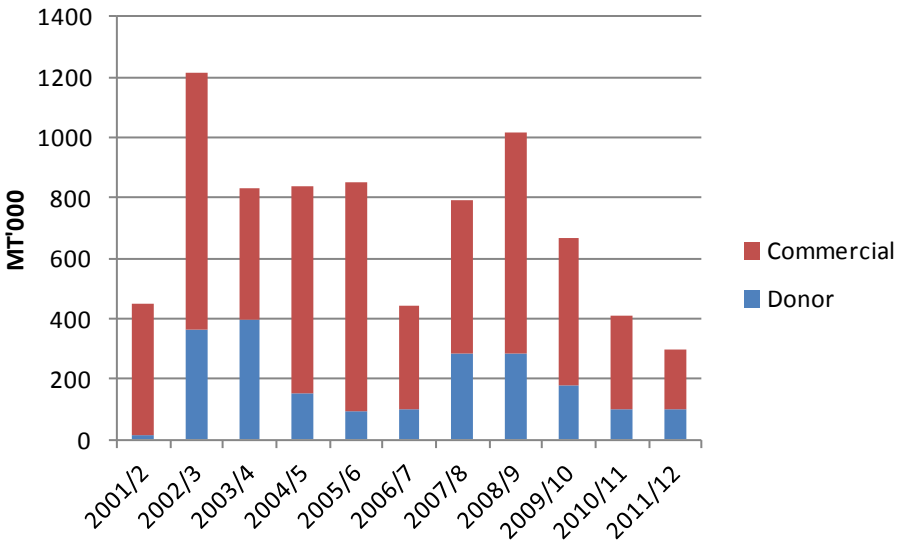
FOOD AID IMPORTS

As a result of the deterioration in conditions for production over the last ten years, substantial volumes of commercial and food aid imports have occurred in order to meet national requirements (Figure 13). The level of food aid supplied mainly by USAID and other donors and via WFP to Zimbabwe was highest in 2003/4 at 397,000 MT and has fluctuated between 93,000 MT and 287,000 MT. Donor imports have become a consistent factor underpinning food availability, and although recent levels of production have been sufficient to allow donor imports to be reduced, there is little prospect that they will subside in the near future and will almost certainly increase this year following the recent poor harvest.

[106] Although FEWS Informal Trade Assessment notes that informal exports to Zimbabwe still continue via Mozambique.

[107] Smale, Melinda, and Thomas Jayne. (2003). "Maize in Eastern and Southern Africa – seeds of success in retrospect." EPTD discussion papers. International Food Policy Research Institute (IFPRI). Provides a comprehensive history of the continuous support programs in Zimbabwe since the end of World War II.

FIGURE 13: TRENDS IN CEREAL IMPORT VOLUME



Source: WFP, FAO (2011/12 estimates).

Given the current uncertain prospects for both economic development and domestic food production, humanitarian assistance can be expected to be an occasional necessity without which the anticipated development programs will struggle to make progress. The concept of "crisis modification"[108] that was introduced in Ethiopia is very relevant to the Zimbabwean development situation. The concept requires that a proportion of program resources should be specifically allocated for humanitarian use but would only be drawn upon in the event of a humanitarian crisis. In that event, the program can switch from development interventions to humanitarian interventions, thus protecting the developmental gains that the program might have made. The "crisis modifier" response is not of itself sustainable, but should become unnecessary once the program goals have been attained.

FOCUS AREAS

In all of the areas assessed as part of this study, the trends in food availability described at a national level are more pronounced, and household food security is more precarious as a result. With the exception of some northern parts of Manicaland, farmers reported that crop failures have been occurring with increasing frequency. This trend may reflect the impact of a localized change in climate; it must also be at least partly due to the ongoing process of soil degradation, which has been particularly rapid in the

[108] A more detailed description of the use of crisis modifiers in USAID programming is given in "A Dangerous delay – the cost of delayed response to early warnings in the 2011 drought in the Horn of Africa." (2012).

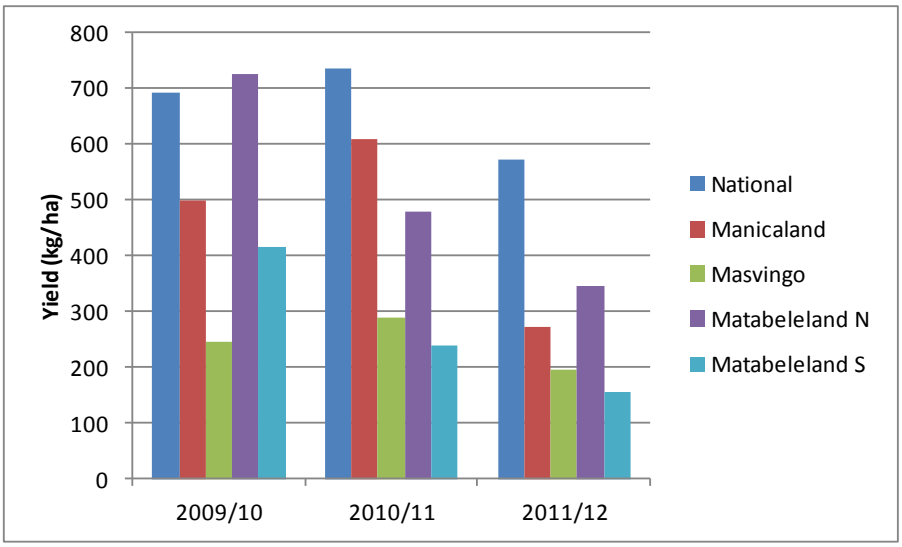
communal areas of regions IV and V.[109] Field observation shows the soils in these areas to be degraded in both rangeland areas and cropping areas. Inadequate soil conservation measures have resulted in high rates of topsoil loss of up to 5,000 MT per km^2 per year, that have both depleted soil nutrients and water holding capacity and resulted in the siltation of dams, so that some small dams in communal areas are not expected to be functional for more than 15 years.[110]

A very substantial majority of respondents in all districts of each province noted that water was their primary constraint to production for both crops and livestock. Most areas visited had a number of small dams, but these were generally too few in number to water livestock effectively, let alone provide for irrigated crop production. The situation was particularly serious in Matabeleland North, where livestock were being driven over 15 km each day between grazing and watering points, and could only be watered every other day, clearly affecting their overall condition. In other areas, dams had been constructed in the past, but were not adequately protected and were beginning to silt up.

The situation is best exemplified by maize yields recorded by MAMID for 2009/10, 2010/11 and 2011/12 (

Figure 14). Only in one year did one of the selected provinces (Matabeleland North) exceed the national average yield.

FIGURE 14: YIELDS OF MAIZE AT NATIONAL AND PROVINCIAL LEVELS



Source: MAMID Crop Assessments, 2011 and 2012.

Yields in Masvingo and Matabeleland South have been consistently low. In fact, even at a maize price of $300 per MT, the gross returns from production in all the provinces would only have covered the

[109] Taguira, Fanuel. (1992). "Soil erosion and conservation techniques for sustainable crop production in Zimbabwe." *Journal of Soil and Water Conservation*, 47, pp. 370-374 (EROS - 4/17/95).
[110] Gaia Case Study. Zimbabwe: Soils and Soil Erosion. http://www.ess.co.at/GAIA/CASES/ZIM/soils.html.

recommended costs of inputs for production (estimated in 2011 at $189.50 for dry-land maize[111]) once in the last three years, i.e., in Matabeleland North in 2009. This is a good reason not to give them loans for maize inputs. They have a very low probability of repayment, and even if they do repay the loans, they have very little income left over for sustaining their family.

Surprisingly, given the pervasive lack of water in all areas, almost all respondents looked to the production of maize, rather than small grains such as sorghum or millet, as their preferred the option to increase food availability. Exceptions to this were several districts within Matabeleland North, where farmers appreciated the drought tolerance of sorghum and millet and preferred it over maize. In general, maize was the preferred option. A number of reasons were cited for this preference, including:

- A lack of any market for surplus small grains (many respondents indicated that they would be willing to grow for Delta – the beer brewing company that operates a contract farming scheme for sorghum – but that company is able to source all of its requirements from farmers closer to its factories).
- The difficulty in processing small grains (as compared with maize which could be readily hammer-milled, but that process is not perceived to enhance the taste of small grains).
- The increased labor requirement to protect sorghum crops from quelea finches, especially if sorghum production was limited to a small area within a community, thus acting as a focal point for quelea infestation.
- The fact that beer was now widely available made redundant the growing of some small grain crops, such as rapoko (finger millet).

The majority of farmers in the focus areas preferred to grow maize, even though it might not be the crop best suited to their environment. They based their preference on whether they could easily grow and consume maize without additional labor requirements and, that if they were fortunate enough to produce a surplus, it could be readily sold.

Although almost all farmers indicated that they complied 100% with the recommendations of extension agents regarding the use of inputs on their maize crops, it is extremely unlikely that this was the case. Analysis by UNOCHA[112] of the 2011/12 input distribution exercise showed that while as many as 83% of households in Region IV received inputs through direct distribution or subsidized markets, less than 28% of households in Region V did so. The study team was repeatedly informed that successive poor harvest had resulted in the depletion of cash reserves. Extension agents in these areas also noted that livestock were only very rarely sold in order to generate cash for crop production. It is therefore probable that many farmers in the parts of Matabeleland South, Masvingo, northern districts of Matabeleland North and southern districts of Manicaland that comprise Natural Region V would be unable to purchase the required volumes of inputs, especially given the complete lack of credit facilities for small scale producers to comply with extension agent recommendations. The only exceptions were when farmers sold last year's maize crop to the GMB and been paid in-kind (i.e., in the form of inputs).

Nevertheless, given the levels of poverty observed in all of the focus areas, it must be expected that without continued donor assistance, very few farmers in either Natural Region IV or Region V would be able to access inputs. Indeed given the frequency of inadequate rainfall in these areas, especially in

[111] Data includes cost of inputs, purchased labor and transport to market, collected by the USAID ZIM-AEID project, October 2011.
[112] UNOCHA. (2012). Consolidated Appeal for Zimbabwe.

Region V, it is debatable whether they should attempt to do so unless they could also access supplementary irrigation (a system that would not of itself be sustainable unless it could be well supported from the revenues of additional cash crops). Even systems such as conservation farming, which requires the proper use of inputs, would be inadequate to prevent loss of yield and potential debt in the face of a debilitating drought.

The depletion of livestock numbers in the focus areas was also reported by Agritex agents to have had a significant impact on the preparation of land for cropping. Draft power had become increasingly difficult to obtain, forcing many households either to wait until they could rent an animal from within the neighborhood, or to undertake land preparation by hand. This had exacerbated the effect of the labor shortage, which was extremely evident in all of the areas assessed. Study teams in Matabeleland South and Matabeleland North were told that most young men and many young women had left their villages to find work in Botswana or South Africa. In Masvingo, most of the youth had moved to seek work in South Africa or Mozambique. Even in Manicaland, it was evident that most of the male youth and some females had left, leaving the older generation to care for the children and to work the land. This exodus has further restricted the total area cultivated.

CONSERVATION FARMING

One practice that had been widely promoted in parts of all the provinces assessed was conservation farming (CF). The basic principles of the practice originated in Zimbabwe, but since 1995 were refined in Zambia for adoption by small scale farmers and have been reintroduced to Zimbabwe over the last ten years. If undertaken correctly, CF has been shown to achieve significant increases in yield of up to 60%[113] compared to conventional land preparation processes, largely as a result of the improved timeliness that CF allows. It also reduces the rate of soil degradation and allows households to grow crops without dependence upon animal draft power. Where promoted, farmers have frequently adopted the technique on a lasting basis and even replicated elsewhere among non-targeted communities. Nevertheless up to 40% of those who initially adopted CF have given it up within six years[114] and in the focus areas (especially Manicaland) there appeared to be some reluctance to adopt CF. Respondents in focus areas gave four main reasons for this:

- The technique requires land preparation (hole digging) by hand during the dry season. Temperatures in Zimbabwe usually exceed those prevailing in Zambia during this period – especially in those areas where CF has been promoted. This makes the work more strenuous, leading to the Zimbabwean epithet for CF –"dig and die."
- The elevated status associated with the use of animal draft power as opposed to tilling the ground by hand prevents the uptake of CF in some areas.
- The weather in Zimbabwe is less favorable to crop production, irrespective of the land preparation techniques followed, so that yield benefits may be less obvious.
- CF can result in an increased labor requirement for early season weeding, which is not easily accommodated in those areas where labor shortages are acute.

[113] Haageblaade, Steven, and Gelsen Tembo. (2003). "Early Evidence on Conservation Farming in Zambia." Cornell University. Paper prepared for a workshop on "Reconciling Rural Poverty and Resource Conservation: Identifying Relationships and Remedies." Funded by IFPRI, USAID/Zambia.
[114] CTDT. (2012). "Is CA here to stay?" Presentation to PRP Closeout, September.

These observations suggest that the successful introduction of CF requires sensitivity to the circumstances within the community, especially issues of social status (which is potentially an inter-community rather than an intra-community issue) and demands upon labor. Adequate explanation and demonstration may be required before adoption can be expected.

All of the above constraints poor and erratic rainfall, degraded soils, limited access to inputs, reduced availability of labor and draft power and reduced timeliness of cultivation have resulted in a series of poor harvests in the focus areas and have contributed to chronic community food insecurity. The culmination was this year's poor harvest when communities in the focus areas harvested very little crop at all. In the areas visited, enumerators were received by large groups that were larger than the numbers requested, but consisted mainly of potential food aid beneficiaries who suspected (incorrectly) that the meetings might have provided an opportunity for registration. Respondents at most meetings indicated that they were already missing meals and this in the normal immediate post-harvest period.

In Matabeleland South and Matabeleland North, less than three months after harvest, household stocks are already becoming depleted and purchases of food from local markets have already begun. In Masvingo and Manicaland, household stocks have reached levels such that traders are selling volumes equivalent to their peak sales last year. In Manicaland, the problem is compounded by a shortage of water, reserves of which are expected to be exhausted well before the onset of next season's rains, at which point both human and animal populations will be dependent upon water trucking for survival.

Set against the poor availability of food from a household's own production was the notable coverage of retail outlets in all of the areas visited. Even the most remote areas appeared to be served by small shops selling commercial goods, almost always including maize meal. There appears to be little or no constraint to the availability of food produced outside of the focus areas, although this is not always accessible to the poorer households.

One further mitigating circumstance has been the frequent presence of donor agencies in each of the areas visited. WFP in particular has been engaged in both individual nutritional rehabilitation, and in the seasonal provision of standard rations to community-selected beneficiaries in these areas. These activities have allowed the communities to survive, but have not as yet resulted in any clear movement away from chronic food insecurity.

FOOD ACCESS

NATIONAL PERSPECTIVE

Household access to food is dependent on two main factors: household income levels and commodity prices. As was noted in the section above, food is available in almost all of the communities visited, but many households lack the means to access that food at current prices.

PRICES

At a national level, Zimbabwe's maize meal prices are currently at import parity levels and will remain so unless the country produces a grain surplus, at which point prices could fall to export parity levels (unless supported by a Government purchasing scheme). Import parity prices in Zimbabwe have fallen in line with international prices, from over $300/MT in 2010 to levels of approximately $250/MT in early 2012. Recently international prices have risen again, especially in South Africa, but Zimbabwe continues to enjoy relative price stability. This is due primarily to the importation of a significant volume of surplus maize from Zambia at a contract FOB price of $141/MT as compared with prices in South Africa that

now exceed $325/MT. After transport and trading costs, this maize can be sold in Zimbabwe at wholesale prices of between $220/MT in Matabeleland North and Mashonaland West to $270/MT in the east of the country, depending on the cost of transport.

The cost of transport is a major factor increasing the costs of food in Zimbabwe. Although the country's major road network is rated as "fair" by the World Bank[115] and costs of transport on the tarred road network are close to $0.10/MT/km, this cost increases to $0.17/MT/km or more on the feeder network of dirt roads. Moreover, although there has recently been some investment to maintain a major road network, the feeder roads are deteriorating rapidly. Many are becoming impassable to heavier trucks, so distribution costs to rural food outlets will inevitably increase.

At the same time, it is well-recognized that transport costs are most substantially affected by the availability of return loads, and are dependent upon the level of economic activity in the destination area. Throughout most of rural Zimbabwe, the level of economic activity and opportunities for return loading are both minimal and transport costs are rarely reduced below the advertised maximum rates. Because of these conditions, there are few businesses taking advantage of economies of scale by hiring 40 MT trucks to move food to retail outlets. In most cases, businesses are using small 5 MT trucks or even 500 kg pickups. This is the most inefficient means of transport, pushing up prices to the consumer.

The underutilization of infrastructure capacity is a function of reduced turnover, itself caused by two main factors. First, turnover is reduced simply because of the limited buying capacity of rural consumers (for reasons discussed in the following section). It is also reduced by the limited financial capacity of the trader. This latter factor is a function of the limited capacity of banks to lend money, and the current high interest rates charged by most banks lending to "tier two" customers. A recent financial study undertaken in October 2011 found that most banks would lend money at interest rates of 6-11% (i.e., close to international rates) to premium companies with adequate collateral and a sound record of performance. By contrast, "tier two" clients, with limited collateral and a high dependence upon local markets were charged rates of between 15% and 30%, reflecting not only the risk assumed by the bank, but the substantial competition for finance among the many companies falling into the "tier two" category.[116] Increased access to finance would undoubtedly assist in improving the access of rural communities to markets for both food and their own produce, although it must be recognized that unless tied in some way, such finance would almost certainly flow initially to the more productive areas.

Prices are one of the two main factors affecting food access; household income levels and purchasing power constitute the other. In rural Zimbabwe, household incomes are affected by both farm and off-farm activities (where farming includes livestock rearing) and the study teams observed that almost all households engage in both. The profitability of farm-based income generation in Zimbabwe is constrained by a number of factors, including:

- Land holding and labor – landholding size may be less of a constraint than might be supposed in many cases because the area that can be cultivated is limited as much by land holding as by the availability of labor, which can be limit land preparation and weeding, and hence the area and yield of any crop that might be sown.

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[115] Ranganathan, Rupa, and Vivien Foster. (2011). "The SADC's Infrastructure: A Regional Perspective." Policy Research Working Paper, 5898. World Bank. doi 10.1596/1813-9450-5898.
[116] Bunker, Arvin and Hochschwender, James. (2012). "Zimbabwe Agricultural and Rural Livelihood Financial Market Assessment." Weidemann Associates Inc. for USAID, January.

- Access to markets, affected again by the cost of transport to physically access markets on the one hand and access to buyers on the other.
- Grower profitability will be influenced by the purchasing power of traders, which is itself frequently limited by access to finance.

For crop producers who might look to sell a small surplus to generate household income, profitability is reduced by those same factors that increase the price of food in retail outlets, especially the cost of transport, access to finance and the excessive overheads carried by traders due to the very low level of economic activity throughout the country. This low level of economic activity, together with the limited availability of finance, are the key drivers of the currently constrained economic environment. If those two limitations could be removed, then the margins between producer and consumer prices would be reduced to the benefit of the small scale farmers.

Zimbabwe has a strong comparative advantage in livestock production and this enterprise can be well suited to small scale production. Substantial additional investment will be required to ensure livestock health, improve livestock marketing and develop an efficient cold chain that could service export markets, but these are not the key constraints to profitability. The most fundamental constraint lies in the attitude of small scale livestock producers who consider their livestock to represent status and a secure repository of value, to be placed on the market only in response to specific and substantial obligations for cash. As a result, livestock producers do not sell when their animals are most fit for sale, or when the price is best, or even on a semi-regular basis, but simply when they need the cash. Livestock traders are aware of this attitude and know that almost all livestock are being placed on the market to meet their owners' urgent cash needs. Livestock are thus almost invariably sold on a buyers' market in which traders can offer less than the producer wants, in the knowledge that the low bid will almost certainly be accepted. Given the country's comparative advantage in livestock production, the sector could play a key role in enhancing smallholder access to food by generating significant cash returns. At present the potential of livestock to meet this need remains unmet.

While many households earn the bulk of their income from agricultural production, households lacking productive assets or with a surplus of labor will almost always engage in other activities. The most common activity among the poorest households is to find work as unskilled labor for other households in the neighborhood. Generally this takes the form of agricultural work and its availability and level of compensation is dependent on the level of production and profitability of the main agricultural livelihoods in the area. Other Zimbabwean smallholders increase access to food through off-farm income generating activities (IGAs) including brick molding, gold panning, the collection and sale of firewood (although this has now been banned), thatching grass and other wild products, rough carpentry, basket weaving, petty trade, the brewing of alcohol and other more illicit activities. Often, these activities are conducted within the village, but it is also common for them to involve travel to other areas and even other countries for the purchase and sale of materials and goods. The study teams in Matabeleland South, Masvingo and Matabeleland North all encountered incidences of cross border purchasing to support petty trade.

Many off-farm IGAs provide the means to redistribute cash within the community by making goods and services available to better-off households in exchange for cash that can be used to access food and other needs. In this regard, it is notable that some of the poorest households in communities are actually dependent upon the well-being of the better off to ensure sufficient access to food through processes of borrowing, barter (especially for labor) and gift. It is when the capacity of the whole community to support itself becomes inadequate, that the poorest households become unable to access food. This has become a common situation in Zimbabwe, and under these circumstances, individuals who are able to do so, especially those without family ties (younger men and women) migrate out of the community

temporarily looking for work. What they need is to generate cash inflows into the community, not just redistribute the relatively meager supply of cash within the community.

Emigration was found to be a significant factor on many of the areas visited especially those bordering Botswana and South Africa. When emigration was at its peak (i.e., up to 2008), remittances from emigrant workers formed a significant part of Zimbabwe's GDP (in 2009, GDP was estimated to be no more than US$5 billion and potentially 20%[117] was comprised of remittances sent back by an estimated three million emigrants). At that time, remittances made a substantial contribution to the household food security of the family members that remained behind. This is no longer the case. The downturn in the global economy has reduced labor opportunities in both South Africa and Botswana, so while the number of emigrants has declined, their level of remittances has declined far more. The study teams were told that many emigrants remain outside the country either because they are embarrassed to return empty-handed, or because they believe that they can still find work and a better future. Whatever the reason, the impact on the remaining household members is a double blow of both a loss of income and a loss of labor capacity.

Household access to food is limited not only by income, but also by other demands on income that may conflict with food needs. In Zimbabwe, the most pressing demand for many households appears to be education. While Maslow's hierarchy of needs suggests that the need for food is almost paramount, and certainly above the need for safety, in practice it is observed in Zimbabwe that many parents will forego some food needs in order to pay for their children's education, on the basis that this will not only serve the child well, but will also provide income in the form of remittances in the future.

Overall, it can be observed that from a national perspective, access to food in Zimbabwe is fundamentally dependent upon the level of economic activity either within or outside the country, as well as the availability of finance to support that activity. This situation is accentuated in the focus areas.

FOCUS AREAS

The focus areas demonstrate all of the basic constraints to food access outlined for Zimbabwe as a whole, albeit with a greater intensity. All of the areas are inherently poor from an agricultural perspective, lying within Natural Regions IV and V. This implies that, as confirmed by the Household Economy Approach (HEA),[118] the majority of households will always be dependent upon purchase from markets to supply a significant proportion of their annual food requirements. The limited agricultural potential of these areas also implies that income from rainfed cash crops will also be low and variable (even if fertilizer and improved seeds are used), so that rainfed agriculture will only ever provide limited and uncertain access to food in these areas. The one exception to this is in Chivi in Masvingo, where smallholders have traditionally produced cotton as a cash crop with a measure of success. Nevertheless, even in 2012, prices for cotton have fallen to levels that farmers claim are inadequate to meet food needs.

The generation of income from the marketing of produce in these areas faces a number of constraints. Recent experience in market linkage development raised the following issues[119]:

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[117] Von Burgsdorff, David. (2012). "Strangling the Lifeline – an analysis of remittance flows from South Africa to Zimbabwe." PASSOP report, April.
[118] For the focus areas, the ZimVAC HEA indicates that the proportion of food obtained from markets for the poorest households varied from 20% to 40 %.
[119] PRIZE Fiscal Year 2011 Annual Results Report.

- Distances to major markets and transportation costs thereof reduce the profitability of external market linkages.
- High costs of financing communal farmers' operations restrict the engagement between buying companies and producers.
- Companies perceive farmers in focus areas within Natural Regions IV and V as being high risk to work with.
- Most buyers engage directly from markets in urban centers where lower cost produce from more fertile areas is more competitive.

For these reasons, success in the development of market linkages between producers and buyers that would allow cash to be brought into the community (as opposed to local market development that might recirculate cash within the community) has been limited.[120]

The areas visited are poorly served in terms of feeder road access (the team found transport between the various villages to be the greatest single obstacle to the timeliness of the fieldwork), although they all contained numerous shops and beer halls from which food could be accessed. The margins charged at the various retail outlets did not appear to be excessive. A 25 kg bag of maize meal in Mangwe purchased at a wholesale price of $25 would be sold for $30, i.e., a margin of 20%, but the shopkeeper indicated that the margin was as much as he could charge given the limited purchasing power of the community and that he would make very little profit on the overall transaction.

This aspect of food access in the more food insecure areas is important. At present, a retail network exists to meet the food needs of the rural populations (provided they have sufficient purchasing power) and substantially reduces the costs of transport that individual households would have to pay to source food from more centralized markets. However, that network is itself in jeopardy due to the limited profitability of selling small volumes to a poor market. If the rural retail outlets are unable to remain in business, then access to food will become significantly more difficult for many of the poorer rural households.

Given the very limited potential for rainfed crop production in these areas, it is not surprising that there is a strong emphasis on livestock production as a source of income.[121] By definition, Regions IV and V have comparative advantages in livestock production and the enterprises of cattle and small livestock rearing for meat and leather are inherently less susceptible to market fluctuations than the production of perishable crops.

The potential to increase the profitability of livestock production in the focus areas is considerable. The team noted that 2012 has been a low rainfall year and that grazing in some parts of the focus areas is already becoming exhausted (especially within districts in Masvingo and Matabeleland North and Matabeleland South), that in Matabeleland North, watering points are inadequate and in Manicaland, dams may be exhausted before the end of the dry season. Nevertheless, these are constraints that can be overcome in part through commercial destocking and in part through investment in improved watering facilities. From a longer-term perspective, the volume and value of livestock that could be produced from the focus areas are significantly greater than that which is being achieved at present.

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[120] Ibid.

[121] Significantly, livestock are treated almost exclusively as a source of income rather than as a source of food. While milk and eggs are regularly consumed (albeit in insufficient quantities), meat is not eaten frequently and blood is not harvested from animals as it is in pastoral areas in other parts of Africa.

Setting aside the immediate primary constraints of adequate grazing and watering points, income from livestock is constrained in the focus areas by two factors. First, livestock producers in the focus areas held livestock as a savings mechanism rather than investment and behaved typically in their selling behavior. Almost 100% of all groups canvassed indicated that they sold livestock "when I need the cash" and virtually no other reason for sale was quoted other than "when the grazing runs out." Indeed local Agritex agents were critical of livestock producers' apparent inability to sell rationally. On a number of occasions responses such as "they would rather let 20 animal starve than sell two to buy food for the rest" or, "they will never sell their animals until their condition is so poor that they are not worth selling" were elicited from Agritex agents who had been working closely with the communities and understood their behavior well. Such selling behavior is so widespread that its illogicality must be questioned. There are undoubtedly reasons for the reluctance to sell that need to be understood if a more commercial attitude to the exploitation of livestock and rangeland resources is to be successfully and sustainably introduced.

Livestock producers in the areas visited are thus almost universally selling under circumstances where their negotiating capacity is at its lowest. This year, such behavior is especially true of livestock producers in Matabeleland South, Matabeleland North and Masvingo who are already engaging in distress sales of livestock as a result of inadequate grazing.

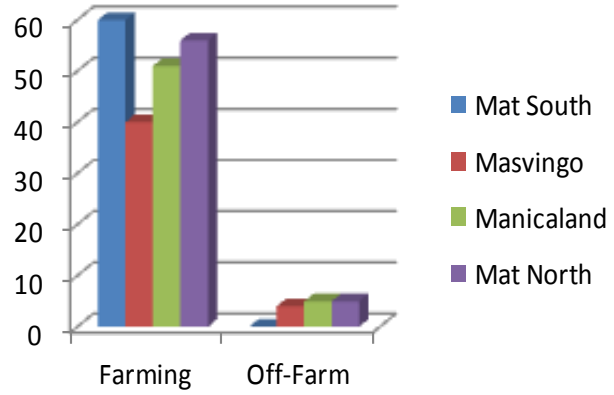
Secondly, income from livestock in the focus areas is constrained by a profound lack of accessible markets. Livestock producers in Matabeleland North and in Manicaland were aware of markets where they might be able to sell livestock, but complained that the cost of transport to reach those markets was too high. This is often as much an institutional as a physical constraint. Even if markets were physically constructed and advertised, there are very few buyers willing to attend formalized markets where they might be obliged to compete for produce.[122] Instead, buyers prefer to operate independently, visiting an area when they need to purchase, which can then be done on their own terms. More than half of all groups canvassed indicated that there were not enough buyers or that buyers colluded when setting prices.

The lack of buyers is partly a reflection of a lack of demand for meat, i.e., limited domestic consumer purchasing power. If it were possible to access export markets, this situation might be significantly different. Currently sanitary constraints (especially the prevalence of foot and mouth disease in a number of rural areas) prevent this possibility. Nevertheless, even if wider markets with stronger demand were accessible, the limited availability of finance is still a major constraint upon the level of activity of livestock buyers.

Effectively all of the households in the focus areas engage in non-agricultural "off-farm" IGAs such as laboring for other farmers, brick making, petty trade, or cutting and selling timber and grass, in order to meet their food needs. It was noted that although many groups considered agricultural activities to be more risky than off-farm IGAs, a substantial majority of respondents considered agricultural activities to be more profitable and, if provided with additional resources, almost all of the groups canvassed would invest these in agricultural rather than off-farm IGAs (Figure 15, Figure 16).

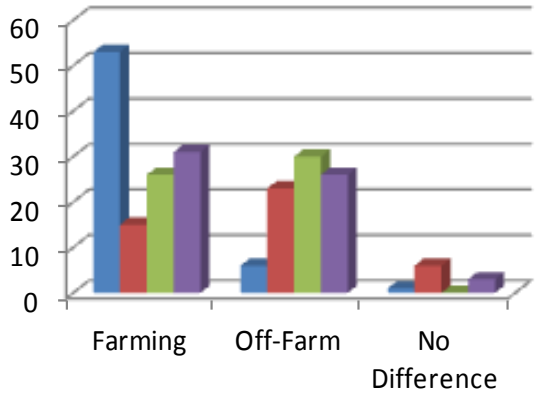
[122] A striking demonstration of this point is the goat market constructed by an NGO in Masvingo, which for the last four months has been visited by one buyer only.

FIGURE 15: HOUSEHOLDS' ASSESSMENT OF THE HIGHER RISK VENTURE



Source: Weidemann Zimbabwe Agricultural and Rural Livelihoods Finance Assessment 2012.

FIGURE 16: HOUSEHOLD'S PREFERENCE FOR INVESTMENT



This may reflect the effective failure of the cash-based economy in these rural areas, which occurred from 2008 onward, when rampant inflation followed by the opening of the economy to all currencies reduced most villages to complete destitution in terms of cash reserves. At this time, the only food that was available was that which could be produced by each household or bartered for other goods. While local labor could be remunerated in-kind, there was little cash to pay for other off-farm IGAs.

Since that time, although the level of cash available within village communities has risen, it is still extremely low, so the profitability of off-farm IGAs is limited by the same constraint as farming enterprises, i.e., a lack of buyers. Almost all respondents quoted "not enough buyers" as the key constraint to their off-farm businesses, indicating lack of adequate access to markets.

It was notable that one off-farm IGA in two of the provinces (Masvingo and Matabeleland South) was quite profitable, namely gold-panning. This is supported by a strong international market and was a preferred activity for many of the respondents in those areas where gold was found. Unfortunately, this activity and the trade that surrounds it is illegal, so one of the few effective means of support to these communities has been proscribed.

Finally, in terms of income generation, the focus areas exhibit perhaps the highest levels of emigration in Zimbabwe. The effectiveness of this strategy in terms of income generation is clearly visible in the focus areas in the standard of housing of those households who have one or more members working outside the country. Remittances have been invested in substantial, well-built properties of South African design, including rendered concrete blocks, glass windows, and iron roofs, often supporting satellite dishes powered by solar panels. These contrast markedly with the properties of those without remittances, constructed mainly of traditional thatch, pole and dagga. Almost all groups canvassed indicated that the levels of remittances had declined markedly in the last two years and that food security had fallen as a result (Figure 17, Figure 18).

FIGURE 17: TRENDS IN REMITTANCES FROM PREVIOUS YEAR

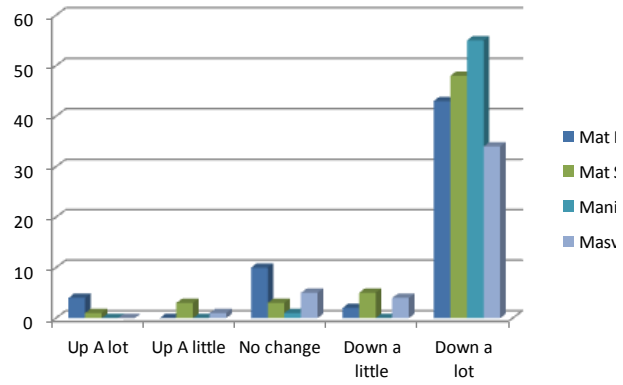
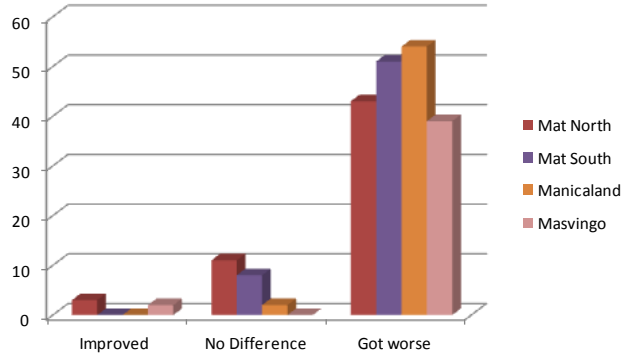


FIGURE 18: TRENDS IN FOOD SECURITY AS A RESULT



Source: Weidemann Zimbabwe Agricultural and Rural Livelihoods Finance Assessment, 2012.

This study found and the latest ZimVAC assessment has also shown that due to natural resource limitations, communities within the focus areas are currently more dependent upon income generation to access food than upon direct food production to ensure their food security. Nevertheless, focus group discussions revealed a clear preference for investment in individual household food production. This is a naturally unsustainable preference that will result in frequent food crises and perpetuate chronic food insecurity within those communities that choose to pursue this. The reason for this paradox is twofold. On the one hand, it most probably reflects the recent failure of cash economies within most of rural Zimbabwe that has led to a mistrust of activities that generate cash rather than food which, under the circumstances, was well founded. On the other hand, it also reflects the very limited opportunities for off-farm IGAs in the focus areas, due primarily to a lack of markets. Both agricultural and off-farm income generating activities are curtailed in profitability by the lack of buyers for the goods and services that might be provided.

Limited opportunities for cash generation represent the key constraint to accessing food in the focus areas. The team found that food is still available in retail outlets that are for the moment well distributed throughout the areas, and that prices of food were not excessive from an international perspective. Nevertheless food accessibility was limited for many households as a result of their limited purchasing power. This is a reflection not so much of limited options to produce, but of limited markets for whatever is produced, which in turn reflects the overall level of economic activity not only within the individual areas, but within the broader market of Zimbabwe as a whole. As a result the communities within the study area are obliged to invest the limited resources they have in the production of food under conditions that are far from ideal and often quite unsuitable.

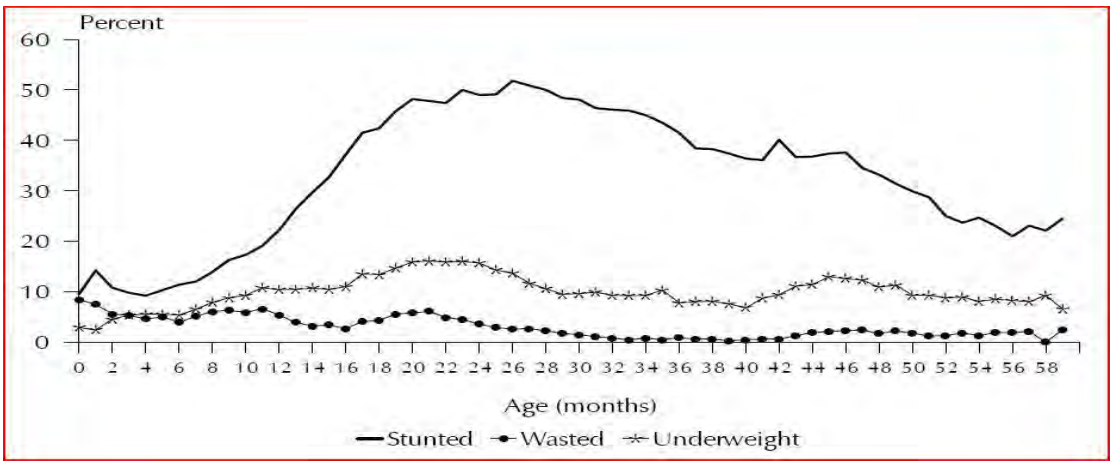
UTILIZATION

NATIONAL PERSPECTIVE

Zimbabwe has committed itself to a number of global, regional and national policy frameworks, referenced in the Food and Nutrition Council's September 2011 policy document 123 that specifically address nutrition within the context of food security, such as the Comprehensive African Agricultural Development Programme (CAADP), the Millennium Development Goals (MDGs) and its own national 2010-2015 Medium-Term Plan (MPT) and Food and Nutrition Security Policy. In all of these frameworks, the Government of Zimbabwe has made commitments to implement evidence-based nutrition interventions that are integrated within a broad framework, and with nutritional stunting among children under age 5 serving as a key impact indicator.

Malnutrition in Zimbabwe is both preventable and treatable yet prevalence rates remain stubbornly high. The ZDHS 2010/11 found the prevalence of underweight (low weight-for-age, WAZ-score < -2) among children under age 5 (c<5) to be 10% while the stunting or chronic malnutrition rate (low height-for-age, HAZ-score < -2) was at 32%. Wasting or acute malnutrition (low height-for-weight) was found to have a prevalence rate of 3% among children under 5 (c<5). The first MDG is not on track to eradicate extreme poverty and hunger, with its target and indicator of halving the 1990 prevalence of underweight c<5 by the year 2015 from 11.7% prevalence rate in 1994 to a current rate of 10%.

FIGURE 19: TRENDS IN NUTRITIONAL STATUS WITH AGE



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. Source: ZIMSTAT: 2010-11 Zimbabwe Demographic and Health Survey.

The long-term impact of childhood stunting has been well documented (below).The statistics for stunting give cause for concern. They indicate that chronic food insecurity among children is widespread throughout the country, during a period when conditions over the last two years have been

[123] Food and Nutrition Council. (2011). *The Food and Nutrition Security Policy for Zimbabwe in the Context of Economic Growth*, September.

considered to have improved substantially. They also show that such chronic food insecurity is very poorly and even in some cases negatively correlated with the availability or access of food. In some instances, high levels of stunting are found in Natural Regions II and III, where it seems to be associated with high levels of bilharzia and in areas such as Manicaland and Matabeleland North where high levels of malaria are also a contributory factor. Throughout the target area however, stunting appears to be the result of three factors: a) health and sanitation practices, b) inappropriate feeding behaviors, and c) poor dietary diversity, all of which can be addressed with evidence-based interventions (most of which are behavioral in nature). It is particularly noteworthy in this regard that while national levels of stunting exceed 30%, the ZDHS 2010/11 found that only 7% of women were too thin, while 31% are overweight or obese. This suggests that common diets are providing less than optimal nutrition.

TEXT BOX 1: IMPACTS OF STUNTING

A study conducted in Zimbabwe in the 1980s that followed chronically malnourished (stunted) children through to their adult years showed that increased stunting led to fewer completed years of school, which translated into a 7-12 percent reduction in lifetime earnings.*

** Alderman, H., J. Behrman, V. Lavy and R. Menon. (2001). "Child health and school enrollment: a longitudinal analysis." Journal of Human Resources. 36(1): 185-205. In: Food and Nutrition Council, The Food and Nutrition Security Policy for Zimbabwe in the context of Economic Growth. September, pp. 12-13.*

GENERAL HEALTH STATISTICS

There is a general tendency for Zimbabwean health statistics to be poorer than other African countries across most indicators. Life expectancy at birth (49 years)[124] is lower than the regional average (54 years).[125] The adult mortality rate (the probability of dying between 15 and 60 years) is 606 per 1,000, a figure that is significantly higher than the regional average of 383 per 1,000.[126] Maternal mortality rates are also significantly higher in Zimbabwe (960 per 100,000 live births) than the regional average (480 per 100,000 live births) and there are inequities in health service utilization.[127] About 95% of urban mothers and mothers who are among the wealthiest 20% have births that are attended by skilled health personnel. In contrast, 57% of the rural population and 46% of the poorest quintile have births that are unattended by skilled health personnel (ZDHS, 2010/2011). Antenatal care at the recommended four times during pregnancy is received by 57% of women however 90% receive care at least once during their pregnancy.[128]

Although the under-five mortality rate is lower in Zimbabwe than the regional average (80 per 1,000 live births in Zimbabwe versus 119 per 1,000 live births in the region), according to the WHO May 12, 2012 update,[129] 20% of all deaths in children under age 5 (c<5) are attributed to HIV/AIDS, followed by "other diseases" (14%), prematurity (14%), pneumonia (11%), birth asphyxia (10%), diarrhea (8%), malaria (8%), and neonatal sepsis (6%).

Nearly all (99%) of the urban population is using improved drinking water, while the rate for the rural population is 72%. However, the percentage of the population using improved sanitation facilities is low (56% in the urban population and 37% in the rural population) which puts the country at increased risk for

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[124] WHO Health Statistics. (2012). May (selected indicators 2010). ZDHS, March 2012, p. 3, shows that life expectancy at birth dropped from 61.0 in the 1992 census to 45 years in the 2002 census and these figures were derived from the Central Statistical Office, 2002. No recent data was available.
[125] WHO Health Statistics. (2012). May (selected indicators 2010).
[126] Ibid.
[127] Ibid.
[128] Ibid.
[129] WHO Health Statistical Profile. http://www.who.int/gho/countries/zwe/country_profiles/en/. Updated May 2012.

water-borne disease such as cholera. A mere 35% of c<5 receive oral rehydration and continued feeding during episodes of diarrhea, 43% of c<5 with suspected pneumonia are taken to an appropriate health-care provider and of these only 16% are treated with antibiotics; 17% of c<5 are sleeping under insecticide treated nets (ITNs) for malaria prevention, and only 24% of c<5 with fever are receiving anti-malaria drugs.[130]

Current figures show HIV rates of 143 per 1,000, which is over three times the average of 47 per 1,000 regionally. Females aged 15-24 years of age used a condom for higher-risk sex with a prevalence rate of 42%, while rates for male condom use in this same age group was 68%. The prevalence of tuberculosis is also high at 402 per 100,000 versus a regional average of 332 per 100,000.[131] HIV/AIDS is now the leading cause of childhood death among the rural poor, especially those that border with neighboring countries.

General health statistics are provided for context. The salient concern for a development-oriented Food Security Analysis is to underline the need to form appropriate linkages with the formal health sector as they relate to food utilization concerns. When a community is faced with overriding health concerns, food utilization diminishes. For example, high rates of bilharzia or malaria in a given population will increase rates of iron deficiency anemia, which in turn is positively correlated with high stunting rates and the need to consume iron-rich foods should and can be promoted. These food security interventions differ significantly from prophylactic iron supplements provided by the formal health sector.

It is recognized that it is beyond the scope of this analysis to address these diseases directly since they fall within the realm of the formal health sector. Nevertheless, it is relevant to address the production, purchase and/or consumption of prescription foods, such as iron-rich foods, and to promote the early detection of disease and referral to the formal health sector at the community level. This safeguards adequate food utilization (both in health and disease) while contributing toward reduced levels of stunting.

DIET

Micronutrient supplementation is a preventative measure conducive to adequate growth and health. Coverage for vitamin A reaches about half of the 5-59 month old population; however, iodized salt is widely consumed (91% of households).

FEEDING BEHAVIORS

Exclusive breastfeeding – breastfeeding with no other food or drink, not even water – is the ideal mode of infant feeding for the first six months of life. For optimal growth, development and health, infants should be exclusively breastfed for their first six months, and should then receive nutritionally adequate and safe complementary foods, while breastfeeding continues for up to 24 months or beyond.[132] In a study of the impact of different interventions carried out over 36 countries, the promotion of breastfeeding was found to be the single most effective intervention (

Table 11), reducing death rates at 36 months by 9.1% and disability adjusted life years (DALYs) by 8.6%.

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[130] UNICEF Zimbabwe Country Statistics.
[131] Ibid.
[132] WHO recommendations as stated in the Global Strategy on Infant and Young Child Feeding.WHA55 A55/15, paragraph 10.

TABLE 11: EFFECT OF NUTRITION-RELATED INTERVENTIONS ON MORTALITY AND STUNTING IN 36 COUNTRIES

	Proportional reduction in deaths before			Relative reduction in prevalence of stunting at			Millions (%) of DALYs averted at
	12 months	24 months	36 months	12 months	24 months	36 months	36 months
99% coverage with balanced energy protein supplementation	3·6%	3·1%	2·9%	1·9%	0·5%	0·3%	7·1 (2·8%)
99% coverage with intermittent preventive treatment	2·4%	2·1%	1·9%	1·4%	0·3%	0·1%	4·8 (1·9%)
99% coverage with multiple micronutrient supplementation in pregnancy	2·0%	1·7%	1·6%	0·9%	0·3%	0·1%	4·0 (1·5%)
99% coverage with breastfeeding promotion and support	11·6%	9·9%	9·1%	0%	0%	0%	21·9 (8·6%)
99% coverage with feeding interventions (promotion of complementary feeding and other supportive strategies)	0%	1·1%	1·5%	19·8%	17·2%	15·0%	5·5 (2·1%)
99% coverage with vitamin A (including neonatal in Asia)	6·9%	7·1%	7·2%	0%	0%	0%	17·6 (6·9%)
99% coverage with zinc supplementation	1·3%	2·8%	3·6%	9·1%	15·5%	17·0%	10·8 (4·2%)
99% coverage with hygiene interventions	0%	0·1%	0·2%	1·9%	2·4%	2·4%	0·7 (0·2%)

Source: The Lancet, Maternal and Child Undernutrition Paper 3, 2008.

According to the ZDHS 2010/11 survey, 65% of all newborns received breast milk within the first hour of birth, or early initiation of breastfeeding (EIB); institutional births are positively correlated with EIB rates. The rate of exclusive breastfeeding (EBF) declines to 31% by the time the child is 6 months of age and ready for the introduction of solid foods. By the age of two, the percentage of children who continue to receive breast milk declines still further to around 20%. The frequency of introduction of solid, semi-solid or soft foods at age two is 82%.[133] Traditional beliefs, concoctions given to mothers and children during illness and health, taboos as well as poor quality and quantity of complementary foods are considered to be widespread constraints to appropriate IYCF practices. Behaviors considered to be facilitators in support of IYCF practices include health provider EIB and breastfeeding (BF) support, maternal knowledge and awareness of the benefits of BF and social support, such as "kusingira" or a traditional "maternity leave" from routine household chores and other responsibilities that encourage IYCF behaviors and practices.[134]

According to UNICEF field data collected in 2010, some religious groups that actively refuse to engage in health seeking behaviors (such as HIV testing and counseling and vaccination) have increased the spread of some diseases.[135] The apostolic church, to which most of these groups belong, has formally approved vaccination, but individual groups remain opposed in some areas.

FOCUS AREAS

The assessment of utilization within the focus areas found strong parallels with the USAID Infant and Young Child Nutrition Project (IYCN) study of sociocultural and epidemiological factors affecting

[133] ZDHS. (2012). March.
[134] Maguranyanga, Brian. (2012). "Barriers and Facilitators of Optimal Infant and Young Child Feeding in Zimbabwe: Beliefs, Influences and Practices, Ministry of Health and Child Welfare." Zimbabwe/ mconsultingroup .
[135] UNICEF. (2012). Annual Report for Zimbabwe, p. 6.

IYCF.[136] That study did not include Zimbabwe but did include neighboring countries Zambia, Mozambique, and Malawi, and found:

- Socio-cultural-economic context and personal beliefs influence caregivers' (mostly mothers) feeding behaviors and practices while grandmothers, fathers and health providers support, sanction and reinforce behaviors and practices since they are influential actors in maternal and child health and nutrition.
- Convenience is a factor in shaping feeding behavior and practice.
- Mixed/conflicting messages were provided on feeding age-specific groups, notably the issue of HIV and infant feeding.
- Limited awareness/knowledge among communities about optimal feeding or appropriate alternative foods.
- Health providers as sources of advice and support can potentially facilitate or constrain improved behaviors.
- The impact of religious groups was less obvious than expected in the focus areas. It had been expected that apostolic beliefs might significantly influence behaviors in some communities in Masvingo and Manicaland in particular, but in practice this was not evident.

The team found that all of these observations were relevant in the focus areas. There was a high degree of commonality in most respects, although there were some exceptions. Notably, levels of malaria were significantly lower in Matabeleland South, while HIV infection was more frequent in the districts bordering South Africa. EBF was much less common in Manicaland and Masvingo as a result of traditional practices that were almost universal in some areas.

Overall, the districts studied by the team exhibited more similarities than differences in terms of the issues they faced regarding the utilization of food. Programs to respond to those issues can thus be designed upon similar principles in each district.

RELIABILITY

NATIONAL PERSPECTIVE

Reliability in food security most usually reflects the certainty with which food is either available or can be accessed and as such is based upon both the propensity of production and supply systems to maintain a flow of food and upon the capacity of households to accumulate reserves in times of surplus. In Zimbabwe, both aspects of reliability have become compromised. In terms of production, especially of maize, a series of unfavorable seasons have demonstrated the susceptibility of the national smallholder maize production system to drought. Irrespective of the level of improved input usage, until such time as greater use can be made of the existing irrigation infrastructure, the availability of domestically produced maize will be no more reliable than it has become over the last ten years, during which time, cereal production has varied between 500,000 and 1500,000 MT and droughts have been experienced at a national scale in at least three years.

In terms of availability on markets, Zimbabwe has recently been able to import a substantial volume of maize at low international prices.[137] The quantity purchased (300,000 MT) is sufficient to meet the annual

[136] USAID. (2011). "Summary of sociocultural and epidemiological findings on infant and young child feeding in 11 countries." (IYCN).

needs of 20% of the population. For as long as neighboring countries continue to subsidize their own maize production and to enjoy good rainy seasons, this situation may continue. However, in the event of a regional drought, the country would be obliged to source maize from the international market initially South Africa. South Africa produces GMO maize, which is banned in Zimbabwe, but it has continued to export substantial quantities of maize meal to Zimbabwe at prices that would be markedly higher than those prevailing at present.[138] Historical weather data would suggest that a regional drought, impacting Zimbabwe, Zambia, Mozambique and Malawi might be expected to occur once every ten years.

Nevertheless, the reliability of access to maize in Zimbabwe is also dependent upon levels of household income. Currently per capita GDP is estimated at $800,[139] a level at which per capita maize consumption of 140 kg would use no more than 10% of income even at prices as high as $550 per MT. The figure of $800 does not reflect the extremely skewed distribution of income within the country, which has an income Gini coefficient among the highest 10% of the world[140] and a Gross National Income (GNI) per capita in purchasing power parity terms of $376,[141] such that a large proportion of the rural population exists on a much lower level of income than the GDP figures suggest. For these households, the reliability of food access will depend upon the reliability of their income, which is often tenuous.

Even though the availability of food may be irregular, if it can be effectively stored at times of surplus so that household needs can be met in times of shortage, then food security is still possible. From a national perspective, this has been one of the strengths of the Zimbabwean agricultural sector. In the past, the GMB served as a national store of maize and was well enough managed to allow for the accumulation of surpluses and the supply of maize during periods of shortage without excessive demands upon the national fiscus.[142] This can no longer be said to be the case. Over the last ten years the GMB has been politicized and mismanaged to the extent that it can no longer afford to pay cash for the maize that it receives from growers and has in the recent past been paying growers in-kind with seed and fertilizer. While this may offset the costs of next season's crop, it does not contribute toward immediate household food security. Although the GMB still possesses the storage capacity and supporting infrastructure necessary to substantially enhance the reliability of national food availability, the finance is no longer available to achieve this goal and the institution has become largely ineffective in this respect.

FOCUS AREAS

The four provinces assessed by the study team experience more variable and lower rainfall amounts than the rest of Zimbabwe. From a production perspective they are inherently less reliable than the country as a whole. The impact of the recent drought has clearly been more pronounced in the focus areas where yields were reduced much below the national average (see

Figure 14: Yields of maize at national and Provincial levels) and this is evident in the responses of communities many of whom are already adopting coping strategies to offset the reduced availability of food.

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[137] In June 2012 Zambia began to supply Zimbabwe with 300,000 MT of maize priced at $141/MT FOB Lusaka, as compared with an international price FOB US Gulf of $267/MT.
[138] The price of white maize in South Africa in July averaged over $325/MT FOB Randfontein.
[139] Estimate based upon a population of 12 million and a GDP of $10 billion.
[140] CIA World Factbook. (2012).
[141] UNDP. (2011). Human Development Indicators.
[142] Smale, Melinda, and Thomas Jayne. (2003). "Maize in Eastern and Southern Africa – seeds of success in retrospect." EPTD discussion papers. International Food Policy Research Institute (IFPRI).

In terms of access to food, reliability is dependent upon the profitability of income generating activities. In this regard, the focus areas are certainly no better off than the country as a whole (except perhaps in terms of emigration, since with the exception of Manicaland, the selected provinces are closer to Botswana and South Africa, although at present the availability of work outside the country has diminished substantially). In most respects, including especially the limited options for income generation and limited access to markets, they are no better off than any other rural areas.

The grain storage capacity of households in the focus areas appeared to be minimal. Questions asked of respondents concerning post-harvest storage losses indicated no consistent knowledge of actual or potential loss and after a few days of assessment they were discontinued. Enumerators reasoned that most households expected to deposit their grain with the GMB and to buy maize meal back from the market so that very few households had any experience of domestic storage or post-harvest loss. In the focus areas, respondents indicated that annual production was consistently inadequate to meet household requirements and that they were unable to accumulate stocks from one season to the next.

Even though the accumulation of production might not be feasible, the accumulation of financial reserves to allow for the purchase of food during a poor season might nevertheless be possible, but in the focus areas and possibly elsewhere, this does not seem to be the case. The widespread cultural inclination to share wealth with other family members would tend to dissipate accumulated cash reserves rather quickly. The capacity of financial institutions to safeguard deposits has been limited by their reduced coverage and by the mistrust of banks that developed over the period of hyperinflation, when access to deposits became legally restricted. The introduction of village savings and loan schemes has been successful in helping some households to save cash, which, among the poorer households has often been used to purchase food, while mobile phone banking services may also help to enhance saving by effectively increasing the geographical coverage of banks.[143]

Overall, it is apparent that none of the four provinces enjoy reliability of food supply. The communities cannot achieve consistent production from their own resources. Their income generating activities are largely inadequate and remittances are becoming increasingly unreliable. Neither can they produce enough food to accumulate stocks from one year to the next thus many households are socially constrained in the accumulation of financial reserves.

CONCLUSION

The above analysis suggests that there are few sustainable development solutions to achieve consistent food security in the four provinces that are not dependent upon external factors. Given the prevailing climatic conditions, adequate food availability on a reliable basis from household production is not feasible, unless investment is made into irrigation. This is unlikely to be sustainable if it is to be focused on staple crop production. If it is not, and crops are grown under irrigation as a source of income to enhance food accessibility, then such initiatives face the same constraints as livestock production and off-farm income generating activities, i.e., limited local markets and limited consumer purchasing power. Limited evidence suggests that the programs designed to develop enhanced market linkages can overcome these constraints, but success has come through highly specific interventions to prisons, schools, hospitals and the local community. Market linkages beyond these limits continue to face the

[143] Mercy Corps has launched a toolkit for mobile banking in Zimbabwe in June 2012, building upon EcoCash, a rapidly expanding service provided by Econet mobile phone network.

challenge of limited output markets.[144] Under these conditions, independent and consistent food security will only be achieved when the national economy has reached a level of activity sufficient to provide viable markets for the goods and services that these communities can produce.

This is not to say that food security cannot be enhanced. There are a number of areas in which this can be done, most notably in terms of modifying behaviors to improve the:

- Utilization of food.
- Profitability of the livestock sector.
- Household's capacity to accumulate cash reserves.

All of these are possibilities that lie wholly within the control of the communities themselves. Beyond this, improvements in food security are highly dependent upon factors that cannot be influenced by the communities in the four provinces visited. The one exception to this is the option taken by many of the younger adult members of the communities, namely to migrate out of the area in search of occupations that will bring higher levels of income. In the short term however, some sort of response must be found for those within these communities who are unable to make that transition.

STAKEHOLDERS

There are a number of key stakeholders addressing food security in Zimbabwe, both in the Government, among the donor community and in civil society. For the Government, the lead agency is the Food and Nutrition Council (FNC), an inter-ministerial body that reports to the Office of the President and Cabinet). The mandate of the FNC is to *"promote a cohesive national response to the prevailing household food insecurity and malnutrition through coordinated multi-sectoral action."* It undertakes a number of functions, the most critical of which being assessment and monitoring, and the development of policy for implementation by its supporting ministries. Its significance lies in its central role, as a coordinator of both different aspects of Government and of the various donor programs.

In common with all Government departments, the FNC is not adequately funded to achieve its mandate. Nevertheless, with support from donor agencies, it is able to undertake its key function of monitoring assessment through the Zimbabwe Vulnerability Assessment Committee (ZimVAC), which undertakes ongoing assessments of food security levels for both urban and rural populations through a livelihoods-based household economy lens. ZimVAC assessments are an important input to national policy regarding food security and have been generally positive over the last three years.[145] It is generally understood that for most of the country, food security is primarily an issue of

TEXT BOX 2: DONOR CLUSTERS

While the FNC is not yet fully functional, some of its responsibilities have been assumed by donor institutions working together in clusters. Three such clusters are relevant to the FNC. The nutrition cluster headed by UNICEF provides direct support to the FNC while the health clusters headed by WHO and WASH cluster jointly and are headed by UNICEF and the World Bank. The clusters currently operate more independently, but may become subsumed into the Ministry of Health and a National Action Committee respectively as those institutions' capacities expand.

[144] PRIZE Fiscal Year 2011 Annual Results Report.

[145] The years 2009-2011 have seen a general improvement in both agricultural production and (on paper at least) in the growth of the economy. This positive trend is unlikely to be reflected in the 2012 ZimVAC assessment, which has not yet been released but can be expected to report both a substantial decline in production and stagnation in terms of economic development.

access and that, provided income levels are adequate, food security can be assured. To this extent, the ZimVAC reports emphasize general economic growth and general inflation rates and the impact of both upon food accessibility for the poorest sections of the community. In both cases however, there is little direct assessment of income levels and food costs in specific communities or wealth groups of communities. It is at the extremes of poverty and price that food insecurity will occur, but the extremities can often be ignored if averages become the yardstick for assessment. Although the 2011/12 ZimVAC assessment assumed that approximately 12% of rural households would not have sufficient income to access adequate food during 2012, the study teams noted levels much higher than this in all four of the provinces visited and the most recent ZimVAC survey has recorded a higher percentage at 19%. The ZimVAC assessments of the proportion of income spent on food items also appeared to be unrepresentative of observations made by the study teams. Overall it would appear that the ZimVAC assessments are sound, but lack the degree of resolution required to identify food insecurity among the poorest populations, though higher resolution would likely not be cost effective.

In addition to the ZimVAC, which focuses on livelihoods, a production-focused assessment of food security is also undertaken by the Agriculture Food Security Monitoring System (AFSMS) within the Ministry of Agriculture, gathering data on crops, livestock and grain prices. AFSMS assessments are generally optimistic and the quality of the data that is gathered appears questionable.

With regards to food and nutrition security policy, the FNC has recently developed and published a well-received policy document, based upon the conventional four pillars of food security and grounded in economic reality that provides a solid foundation for future food security programs.[146]

The MOHCW is involved in a number of different activities relating to nutrition/IYCF. The ministry includes a nutrition unit that provides input into with the FNC policy, and coordinates IYCF training, which will include a stronger community IYCF element in the future. The village health worker (VHW) network also falls under the aegis of this ministry. Nevertheless, limited financial and human resources have led to concerns among donors regarding capacity, lack of supervision in rural areas, with training not always translating into practice.[147]

Nevertheless, with the exception of food security assessment and policy development, the Government is financially constrained in its capacity to impact food security directly and most of the work on the ground has been undertaken by international agencies and NGOs. Multilateral agencies include the World Food Program (WFP), Food and Agriculture Organization (FAO), and the United Nations Children's Fund (UNICEF), while bilateral donors include the EU, DFID, GIZ, AusAID and USAID. The WFP has been active over the last ten years in assessing vulnerability and in both coordinating and directly responding to food insecurity. Their Protracted Relief and Recovery Operation (PRRO) in Zimbabwe contains a number of different programs including direct food distribution, school feeding, fortification and the local purchase of food. The FAO is working directly with the Ministry of Agriculture, Mechanization and Irrigation Development (MAMID) to undertake annual production assessments and to support the development of smallholder production systems especially through the supply of inputs and development of market linkages. Its major program supports the development of conservation farming. UNICEF is active in the areas of young child survival and development and water, sanitation and hygiene (WASH).

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[146] A National Food and Nutrition Security Policy (2011) has been drafted and submitted to the Cabinet for approval. While the first and second drafts have been circulated among stakeholders, the document has not yet been formally gazetted.

[147] This was widely observed in field visits where VHW knowledge was evident, but performance was lacking.

From a developmental perspective, most bilateral donors have only recently become significantly directly engaged in Zimbabwe (since the formation of the GNU in January 2009), and as yet there has been little multi-year programming of assistance. Nevertheless, the EU has been active with annual programs in the areas of health, especially high impact interventions to improve child health and in food security, specifically by improving access to inputs, developing markets and introducing new production technologies such as conservation farming. DFID has been operational in HIV prevention, providing developmental food aid, enhancing production (through both input supply and the promotion of CF) and in WASH activities, while GIZ is working to increase agricultural production using food for work and providing inputs and seeds of drought tolerant crops with an emphasis on nutritional diversity. AusAID has partnered with UNICEF in WASH activities and with DFID in supporting the PRRO to enhance agricultural production.[148] Finally, USAID has been a major actor in terms of supporting maternal and child health improvement, promoting HIVAIDS, tuberculosis and malaria prevention, providing assistance to HIVAIDS-affected families, increasing agricultural production and strengthening agricultural markets, and providing direct humanitarian assistance through the WFP.

In the future, support for health activities can be expected through the multi-donor Health Transition Fund (HTF). The HTF pools contributions from several donors including DFID, the EC and USAID to support the MOHCW. The fund seeks to reduce the high rates of maternal and child mortality by increasing access to health care and places considerable emphasis on nutrition, and supervision including the strengthening of the VHW system. The HTF is managed by UNICEF and a steering committee comprising MOHCW, UNICEF, WHO, UNFPA, and donors will have an oversight role. The fund is intended to mobilize US$436 million over the period 2012-2015.

The current response to food security issues is being implemented mainly through the multilateral agencies and by NGOs working on behalf of the bilateral donors listed above. Much of that response is focused on increasing agricultural production and has focused mainly on:

- Provision of crop and livestock inputs through direct distribution or (increasingly) market channels.
- Training, especially the promotion of CF.
- Strengthening of market infrastructure and market linkages.
- Strengthening local financial capacity (village savings and loan groups).

As yet there is little long-term programming in irrigation development or in the development of off-farm income generating activities, although both of these will be critical to food security in the focus areas.

CURRENT AND ANTICIPATED PROGRAMMING

While most bilateral donors recognize the long-term nature of food security development, they are all currently constrained by short term program budgeting. All EC programming is currently budgeted annually, and while DFID has a strategy that extends from 2011 to 2015, it is not yet engaged in any long-term programs in food security development. Thus the bilateral donors are not engaged in any programs which directly address food security that are budgeted to extend beyond 2012.

[148] WFP's PRRO 200162 for Zimbabwe now includes the promotion of conservation farming, drought resistant crops, and support to urban farming.

The multilateral agencies also anticipate a longer-term presence in Zimbabwe. While WFP is mainly working on annual programs with a predominantly humanitarian as opposed to development perspective, its newly introduced FFA initiatives do support development goals to address the underlying causes of food insecurity. The FAO has been providing long-term support to the Ministry of Agriculture and has a major program promoting conservation farming on the ground. In the area of health, UNICEF has been implementing a number of relevant programs including:

- The development of the HTF with a major focus on maternal, newborn and child health including nutrition, a VHW program, human resources for health, and essential medicines.
- Essential Medicines Program provided 90% of the national requirement of all essential medicines and also responded to the measles outbreak in which five million children were vaccinated. This work will now be incorporated under the HTF.
- Young Child Survival and Development Program, designed to accelerate progress on the health-related MDGs.
- UNICEF's Program of Support (PoS), now in its second phase, continues to support 500,000 orphans and vulnerable children (OVC) with a basic package of multi-sectoral services through 180 (multi-donor funded) partners.
- The Prevention of Mother to Child (HIV) Transmission program, also supported by USAID, includes elements of IYCF and support to VHWs.

Other relevant interventions include:

- The USAID sponsored Maternal and Child Health Integrated Program (USAID/MCHIP). This is an ongoing health and nutrition program that directly addresses issues of food utilization, including infant and young child care, nutrition policy, nursing quality and immunization.[149] The MCHIP has already accumulated useful experience that can inform both the detailed aspects of utilization-focused programming as well as program implementation.
- Zvitambo is an organization whose primary objective has been to provide technical and material support to about 20 rural mission hospitals for HIV care and prevention services for women and children. Zvitambo has developed a useful body of formative research that focuses on the utilization of food including vitamin A research[150] and the impact of subclinical enteric infections on food utilization efficiency.
- The Global Fund, supported by both private and public funding, is active in Zimbabwe in the prevention of HIV AIDS, tuberculosis and malaria.
- The USAID PRIZE program is clearly relevant to any future food security program, both because it addresses food availability and food access, and because it is working in some of the geographical areas of interest for future programming. While the PRIZE program will have ended before the intervention that this study is anticipating can begin, it nevertheless provides a wealth of experience and linkages with communities upon which to build. Information derived from PRIZE representatives has played a major role in the drafting of the recommendations arising from this study in terms of both the overall structure and the finer details.

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[149] The program is described in detail at: www.mchip.net/zimbabwe .

[150]

- CARE is one member of the consortium implementing PRIZE that has already developed a focus on food utilization. CARE-ZIM currently has a small program aimed at encouraging household gardens.[151]
- SNV has a strong program focus on market linkage development, designed to increase the level of economic activity in rural areas through improved access to finance and through the development of market linkages with both urban and export markets. The program aims to reduce transaction costs and thereby to improve the accessibility of food as well as to stimulate rural income growth. The program has been supported by a number of donors operating through a number of NGOs including Mercy Corps, World Vision and Concern.
- WFP Food for Assets is a small component of the latest WFP program. The FFA component is intended to strengthen agricultural development by providing food to communities to allow them to work on the construction of assets such as irrigation canals, water storage tanks and trading sheds.

Overall, however, the team observed that ongoing programming in food security development was focused primarily upon issues of food availability and food access. Programming in issues of food utilization has been minimal and nutrition has not yet been well integrated. This is understandable given the short-term nature of programming to date. The physical and economic realities of access and availability can be addressed in the short term, but attitudes to food utilization require a longer time frame to effect change. As the political environment changes so that longer-term engagement may become feasible, programs to address utilization will almost certainly become more common.

It is worth noting, however, that at present, two of the main donors (the EC and DFID) both appear to be at a stage where they are reassessing their programming and undertaking a similar exercise to this analysis. AusAID mentioned that the utilization component of their food security interventions was poorly designed and implemented from the beginning, and had been dropped, with no future plans to reengage in this area. As yet therefore it is not possible to make concrete proposals for leverage with other programs since they do not yet exist. If USAID/Zimbabwe adopts a utilization-focus to future food security development programming, it will be taking a lead position which, based on the positive informal comments received from stakeholders, others will be almost certain to follow.

[151] www.thezimbabwean.co.uk/business/agriculture/53918/food-security-boost-from-care.html.

FINDINGS AND RECOMMENDATIONS

This chapter of the report focuses on the findings of the study, both in terms of national interventions and their results and in terms of developments on the ground. The chapter is divided according to the four components of food security and provides findings and recommendations under each heading. A consistent theme of the preceding descriptive section has been that food availability is less of an issue across the country than food access and that this has become especially true in the four focus areas. Nevertheless, food access in the focus areas is itself both poor and uncertain. By contrast, the utilization component of food security lies more under the control of the communities themselves so that with suitable support, real gains can be achieved in this area. The fourth component of food security – reliability – is also particularly relevant to the focus areas. The levels of availability and access are so uncertain that any increases in the reliability with which food can be obtained is especially important.

FOOD UTILIZATION

KEY FINDINGS

Improved access to diverse and quality foods consumed in sufficient quantities, improved nutrition-related behaviors (including sanitary behaviors), and the improved use of quality maternal and child health and nutrition services are key indicators for attaining food security. Reliable availability and access of food is beneficial only if it results in improved health and nutrition within a community The primary finding of this assessment as regards food utilization was that these nutrition related indicators are poorly met in almost all of the focus areas and that food security suffers directly as a result, irrespective of levels of food availability or access.

There are a number of findings that were consistent among all of the focus areas. The first (reflected in national statistics) was the limited availability of improved sanitation facilities. It was also noted that where these were available, many lacked the hand-washing facilities that have been designed into the modern latrines. This has been to some extent offset by the strong program to inculcate improved sanitation procedures, especially hand-washing, plate washing and drying and general household sanitation, which appeared to be a consistent feature in all districts. Community VHWs were all well briefed in this subject, some with the UNICEF pictorial teaching aids, but most relying more upon word of mouth.

Nevertheless, the messages being disseminated are still at the most basic level, and although Group respondents indicated a high level of awareness, this was not necessarily translated into behavioral change. The many demands upon the time of women especially, limit the level of care that can be given to infants who are consequently often exposed to various sanitary hazards. Moreover physical infrastructure still remains inadequate, so it is clear that much still remains to be done in terms of improved sanitation. WASH messages, if not linked to formative research, BCC and performance expectations that entail +/- consequences for reaching pre-established benchmarks (determined by the results performance evaluations), run the risk of having little or no impact on evidence-based improvements on behaviors that can be sustained beyond the life of the program (See Table 12: Menu of High Impact Interventions, Current Coverage and Recommendations).

With regard to the health services that were being provided, it was frustrating to observe the level of dedication of VHWs[152] in comparison to the support afforded to them. Most had received no remuneration other than uniforms (or in some cases badges) and bicycles, but indicated that they still worked more than 12 hours each week (some said 20) to provide basic healthcare. When community goals are established and when each individual household is expected to assume its individual responsibility in contributing toward pre-established benchmarks, the role of the VHW is transformed from an implementer of community activities to a facilitator of those tasks and responsibilities that individual households are expected to assume. The community will thus elect the VHW based on his/her ability to motivate households to assume their responsibilities in attaining community goals and monitoring progress toward reaching those goals.

At the same time, it was observed that the organizational structure of most District health services and the level of training of staff were generally adequate. Rural health center pharmacies were well stocked (at least at the time of the survey), but a number of clinics lacked basic infrastructure, including in a number of cases, adequate water, which limits their ability to provide safe and effective services. Overall it was noted that the quality of services provided varied considerably, depending not so much on the level of training of staff as on the quality of service delivery (e.g., carrying out MOHCW protocols such as collecting and recording anthropometric data at the time of child immunizations and providing counseling to the caregiver based on results) as well as on the physical infrastructure. It was also apparent that many community members have to travel significant distances to reach the nearest clinic (distances in excess of 15 km were common for the furthest households in a district). Since most rural women undertake so many activities, they are already extremely pressed for time (supported by June 2012 field survey results), such distances inevitably reduce coverage rates for those interventions that are expected to occur between the formal health center and the communities that they are expected to serve.

Focus discussion group responses highlighted the very low food diversity of diets in almost all areas, especially Matabeleland South. While there was some intake of complementary plant sources of protein, it was rarely adequate. Only legumes,[153] especially groundnuts and a limited selection of vegetables (i.e., cabbage, spinach, and rape) appeared to be consumed with any frequency; protein and vitamin A intakes were deemed to be low. This was particularly evident among young children (<5years) for whom symptoms of edema were observed in a number of areas. Animal protein in particular was extremely limited varying in consumption frequency from 1.6 to 8.2 times a month, although in the latter case, consumption was mainly milk. This was due not so much to a lack of availability (livestock and even poultry were seen to be available in most areas), but to a lack of understanding of the importance of protein consumption to healthy growth, especially among young children; this was often reinforced by misinformation, tradition and rumor.[154]

The survey showed that calcium supplementation during pregnancy was completely absent, in spite of the fact that calcium supplements were approved and supposedly available at the RHCs. Low calcium intake can increase preeclampsia rates, which may be one reason for the high level of premature births observed nationally.

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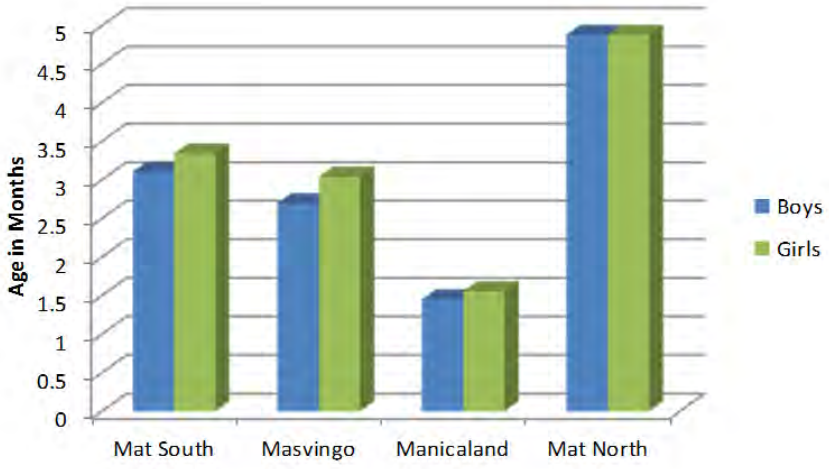
[152] For a complete description of the official role and responsibilities of the VHW see "The Village Health Worker: Strategic Direction." (2010). Zimbabwe Ministry of Health and Child Welfare. www.ochaonline.un.org.

[153] It was beyond the scope of the field study to determine if adequate ratios of complementary plant sources of protein are consumed and to determine if those ratios constitute accepted standards for a complete protein.

[154] In one area it was widely accepted that eating eggs would make young children bald.

Infant and young child feeding practices appeared to be universally poor in three key aspects: inadequate protein and vitamin A in the diet, very low duration of EBF, and early weaning. The level of protein in the diet has already been commented upon. EBF rates were universally low. The age at which EBF stopped varied from province to province (Figure 20) but most mothers reportedly began some sort of supplementary feeding at around three months of age.

FIGURE 20: CESSATION OF EXCLUSIVE BREASTFEEDING



Source: Weidemann Zimbabwe Agricultural and Rural Livelihoods Finance Assessment 2012.

Three reasons were mainly quoted to explain the early cessation of breastfeeding; the first being that the child became increasingly hungry and wanted more milk than the mother could give. It is possible that this was due to a number of reasons, including lack of time on the mother's part and a cultural sensitivity against EBF through the fifth month. But the explanation given by VHWs was that the child was taking more than the mother was physically able to supply. If this was the case then the mother would begin to lose weight. VHWs did indicate that this could happen, but it did not appear to be as frequent in their estimation as was reported in focus group meetings. Nevertheless, it must be assumed that at least some mothers end EBF because they are not well enough nourished to sustain it. The second reason was that some mothers had to go back to work in order to earn the money necessary to support their families. Consequently they were not always available to nurse their children at the necessary intervals and had to resort to supplementary feeding by other caregivers while they were away. Finally, in some areas, especially Masvingo and Manicaland, cultural tradition insisted that children should be fed some thin sorghum porridge in their first week of life.

Early weaning was similarly due most often to a lack of time on the part of the mother, often because she had to go back to work in another area, leaving her child in the care of a sister or elder relative or it represented an inconvenience to her ability to carry out her daily tasks. While it was noted that grandparents were more diligent than parents in many aspects of childcare, they were unable to provide the nursing that was required so that many children were being weaned before the recommended 24-month minimum.

As a result of these practices levels of stunting in the focus areas were especially high, and although all communities were aware of the deleterious effects of stunting on child development, including the impact

on cognitive skills, they tended to underestimate the levels of stunting in their own communities significantly, indicating that the problem is often overlooked.

Recognition of stunting is not difficult, but requires measurement at regular intervals. The team found that in some cases weight for age was recorded, but height or recumbent length for age was not, even though the necessary equipment was generally available. In fact, while growth monitoring was being fastidiously undertaken in all areas, and while the results were both kept by communities and sent to the district hospitals, there appeared to be only minimal interpretation of the results into a form that could be understood by mothers themselves; at this time, only HIV positive mothers received tailored nutrition counseling. The yellow growth monitoring card was available to mothers in some districts but not in others, and although the child's weight might be recorded on it, the results were rarely graphed for interpretation and monitoring. The cards might be useful to a clinic upon referral of the child, but were of limited value otherwise.

One overarching observation was that, with the exception of the limited food availability for some nursing mothers, and the limited accessibility of an adequately diverse diet for the poorest households, the major constraints to improved health and nutrition in all of the focus areas are behavioral in nature, or can be addressed by food security and health-based programs working in tandem. Conversely, improving food availability and increasing household incomes would not improve food utilization unless key behavioral changes could be introduced. This observation forms the basis for the following recommendations.

RECOMMENDATIONS

Improvements in the utilization of food can be achieved through a process that begins with the development of community awareness regarding stunting, acute malnutrition and key essential nutrition actions. Communities visited by the study team were well aware of stunting and its impacts on child development, but underestimated its frequency by 50% on average. That process of sensitization is critical as it lays the foundation of all future interventions. Sensitization can begin with community meetings and measurement of children to illustrate the extent of the problem and to provide illustrate areas where behavioral change may be necessary. Subsequent meetings can highlight individual changes required and can provide communities with the tools to achieve sustainable behavior change in each of these areas. These would include:

- Development of support for EBF through 6 months (mothers in all focus areas were terminating EBF early, in some cases as early as 1-2 months). This requires initial sensitization followed by the development of community-based initiatives to support nursing mothers, including the development of awareness within the household of the importance of allowing nursing mothers adequate time to breast feed (e.g., not being away from home for extended periods in the fields). Increased levels of household and community awareness can result in the development of practices that make it easier for nursing mothers to meet their children's needs.
- Support for the production of prescription foods, including animal protein (although diets were found to be relatively high in vitamin A, the frequency with which children were fed animal protein was very low). Community-based initiatives involving the development of shared gardens for preferential use for IYCF, or schemes to introduce poultry or small ruminants on a recirculating basis (whereby the first year's offspring are passed on to other households) can be set up to improve dietary diversity.
- Changing of traditional and religious beliefs that negatively influence IYCF practices (especially those relating to the treatment of diarrhea in some areas and EBF in others). This can be achieved through community meetings at which peer pressure is invoked to induce behavioral change (i.e.,

by persuading headmen, priests and other respected individuals to endorse the recommended health practices).

- Improvement of household and community WASH practices. Although WASH activities have been carried out and supported in all areas, the level of consistency is limited and many areas still lack proper hand washing or plate drying facilities as well as adequate latrines and watering points. Open air defecation is still common and the incidence of diarrhea remains high. Community-based initiatives can improve the coverage and capacity of these facilities. At the same time, community associations can be set up to keep drains clean, remove ponded water and maintain the cleanliness of watering points. Interventions to support communities to achieve these goals will significantly enhance food utilization.

Many of the initiatives recommended above are not new and considerable effort has been made to effect change in these areas in the past. Nevertheless, the linkage between many of the required changes and subsequent improved nutrition (and food security) is not obvious, and it is possible for behaviors to be adopted and then to slip back to old ways since no clear direct impact has been observed. It is significant that in most cases, success will require a change in attitudes and behaviors at both the individual and just as importantly at the community level. For this reason it is critical that initiatives are recognized as important by the community as a whole and that the community is motivated to work together to achieve these goals. One approach to community motivation that has succeeded elsewhere in sub-Saharan Africa, links behavioral change at the community level to further community-based interventions to improve food security through agreed benchmarks as outlined in Text Box 4. Such an approach allows communities to become self-targeting with regard to program resources and effectively guarantees both community commitment and the most cost effective use of available resources.

TEXT BOX 4: COMMUNITY LED – UTILIZATION DRIVEN DEVELOPMENT

1. Community selection criteria would entail:

a) Evidence that the community already demonstrates "program readiness," as evidenced for example by a relatively large proportion of children whose caregivers have yellow cards that demonstrate up-to-date vaccinations.

b) Willingness to formalize a community commitment to achieve evidence-based and progressively challenging benchmarks toward reducing stunting levels in exchange for program assistance. This would require signed stakeholder agreements between NGOs and community representatives with stipulated expectations and consequences, both positive and negative. Agreed upon resources that the program provides, as stipulated in the stakeholder agreement, will be disbursed when the community meets each successive benchmark. Excessive and unauthorized delays beyond the agreed upon date will be interpreted as a lack of willingness and commitment by the community and may result in being dismissed from the program. It would be important for beneficiary communities to understand that their selection in the program is a privilege that is earned, since the demand for free program resources exceeds supply, and that compliance will assure their continuance in the program.

2. Selection should not be absolute in nature, rather that there should be an increased level of program support based on results. Results would include indicators of performance in activities designed to improve IYCN including levels of EBF, attendance at clinics and growth card maintenance. Each incremental intervention should be accompanied by a new stakeholder agreement, which should also be contingent upon the sustainability of previous interventions.

It is important to note that the study team found no communities that did not show a willingness to engage in the development process. Some obstruction and manipulation was experienced, but was restricted to a limited number of individuals who may not be relevant by the time the anticipated program reaches implementation. On that basis, no community should be excluded from consideration by an implementing agency. Nevertheless, it remains to be seen how many communities would be willing to adhere to the goals set out in a community commitment. An illustrative timeline for conditional programming of interventions based upon community commitment is given in Annex 2.

If this approach is adopted, the conditionality may significantly affect program implementation. Nevertheless whatever approach is adopted, it is critical to enhance food utilization so that a real willingness to participate in community-based behavior change should be shown and sustained.

Another key area requiring intervention to enhance food utilization is the mobilization of the community to support two institutions namely:

- Promotion of BF promotion counseling services.
- Support to the VHWs.

In particular, VHWs require community support to achieve the following:

- Improved frequency of antenatal visits.
- Improved IYCF behaviors.
- Increased frequency of growth and weight monitoring including the recording of HAZ<-2 scores.
- Appropriate feeding and hydrating during episodes of diarrhea.
- Timely referral to the health center for severe or chronic cases of malnutrition.

All of the above are currently addressed by VHWs but they are dependent upon the community for support to achieve their objectives. Initiatives can be designed to mobilize the community to assist VHWs by endorsing health messages, facilitating meetings and transport arrangements for both VHWs and patients and by participating in growth and weight monitoring as an activity that is critical to community development and health (as opposed to an administrative requirement for data that is sent untabulated to district health authorities). Interventions in food utilization could focus on community-led social change through behavior change counseling. Table 12 lists the interventions that could be prioritized.

TABLE 12: MENU OF HIGH IMPACT INTERVENTIONS, CURRENT COVERAGE AND RECOMMENDATIONS

Vulnerable Target Group	Evidence-based Intervention	Coverage in Zimbabwe	General Recommendations for Title II Development Food Security Program
1. Maternal (impacting 1,000-day infant and child outcomes)	1.1 Maternal iron/ folate supplementation	28%	• Link with formal health sector (assure supplies and coordinate administration of supplements prior to intervention). • BCC messages laying out importance and donor expectations. • Establish community baseline and expected goal (date and %) of pregnant women in the community who have received supplementation. • Use verification of supplement administration on individual MoH cards to tally community results and determine if benchmark is met.
	1.2 Maternal multiple micronutrient supplementation	0%	Discuss possible linkages with formal health sector. Interventions would be similar to those mentioned in 1.1
	1.3 Maternal iodine (salt fortification)	>90%	Determine type of salt (if iodized or not) available in markets and if consumed in beneficiary communities. • BCC messages laying out the importance of purchase and consumption of iodized salt. • Visits to markets encouraging the sale of iodized salt and discouraging the sale of non-iodized salt (e.g., clear labeling yet selling iodized salt in slightly smaller amounts, but at a lower price).
	1.4 Maternal calcium supplementation[155]	Unknown	• Discussions with the formal health sector to determine possible linkages. • Same recommendations as in 1.1: BCC messages, baseline and community goal setting, verification of attained benchmarks.
	1.5 Maternal energy/protein supplementation	0%	• Currently provided to mothers with HIV/AIDS only. • Discussions with the formal health sector to determine possible linkages, however districts were divided on this issue for non-HIV/AIDS mothers (team field visits, June 2012). • Provide, at most, short-term supplementation for at-risk pregnant and lactating mothers (underweight due to any illness or other criteria agreed upon with the MOHCW). • Only with MOHCW consent and support: determine, with BCC messaging, clear entrance and exit criteria (including maximum quantities, frequency, duration and restrictions on its use) prior to providing energy/protein food supplements. To be used only until prescription foods can feasibly be produced at the household and/or community level.
	1.6 Maternal deworming (pregnancy)	0%	Discussions with the MOHCW to determine possible linkages. If linkages established, interventions would be similar to those described in 1.1.
	1.7 IPT malaria & ITN	Unknown	Same as above.
2. Newborn babies	2.1 EIB	75%	Two pronged approach: 1. Discussions with MOHCW to determine linkages in institutional birth promotion, incorporation of EIB in staff training and quality control.

[155] According to representatives at USAID/MCHIP, calcium supplements were supposed to be available at the Rural Health Centers (RHCs). Field visits (June 2012) revealed that they were not available among RHCs visited.

Vulnerable Target Group	Evidence-based Intervention	Coverage in Zimbabwe	General Recommendations for Title II Development Food Security Program
			2. Interventions similar to 1.1 at the community level.
	2.2 EBF	6%	Two pronged approach: 1. Discussions with MOHCW HIV/AIDS programs to determine linkages to expand coverage of nutrition counseling to mothers, already afforded to HIV+ mothers. 2. Interventions similar to 1.1 at the community level.
	2.3 Neonatal vitamin A supplementation	0%	Same as 1.1.
	2.4 Delayed cord clamping (iron)	Unknown	Same as 2.1. (Note: This may only be feasible at the present time at the institutional level however discussions with MOHCW may reveal approved protocols at the community level).
3. Infants and young children	3.1 EBF (through the 5th month)	6%	Two pronged approach: 1. Discussions with MOHCW HIV/AIDS programs to determine linkages to expand coverage of nutrition counseling to mothers, already afforded to HIV+ mothers. 2. Interventions similar to 1.1 at the community level.
	3.2 Continued BF through 1 and 2 years of age	77% and 20%	Same as 2.2.
	3.3 Timely introduction of appropriate complementary foods	8%	• Linkage with MOHCW (and potentially with the Ministry of Education) to establish demonstration gardens and recipes that are age-appropriate and culturally acceptable for the production and adequate consumption of prescription foods. • Interventions similar to 1.1.
	3.4 Zinc supplementation	0%	• Discussions with MOHCW to determine possible linkages. • Interventions similar to 1.1 if MOHCW deems this to be added to their program for nutrition (not currently).
	3.5 Zinc supplementation for management of diarrhea	0%	Same as above.
	3.6 Salt iodization	>90%	Same as 1.3.
	3.7 Promotion of hand-washing	<55%	Same as 1.1.
	3.8 Deworming of children	0%	Same as 1.1.
	3.9 Iron fortification or supplementation	0%	Same as 3.4.
	3.9 ITN	Unknown	Same as 1.7.

While the focus the interventions laid out above is upon community participation and development as a whole, individual asset development is equally critical and should not be excluded. It is possible and indeed necessary to this program design that the development of individual assets, especially those that impact health, be supported in order to reach the agreed targets. Within the context of a community development program, individual asset development can be achieved through the formation of agreements between the individuals concerned and the community as a whole. The community might prioritize the construction of school latrines, but might then progress to the upgrading of individual household latrines on the basis that the individuals concerned would provide some sort of repayment over time for the services (although the upgrading might be provided gratis in order to reach the agreed targets).

It is not easy to design interventions to achieve all of the utilization related targets using food-based resources alone and it is recognized that a substantial cash element will be required to achieve the above. Nevertheless, food can play a role in all of the above as an incentive for attendance at meetings, and clinics for vaccinations, education and growth monitoring sessions. USAID FFP work in Bangladesh in 2009 provided a simultaneous comparison of the use of a small monthly ration of food by one NGO as such an incentive, while another NGO provided a standard ration of food to vulnerable households through direct distribution. The use of food as an incentive allowed for wider coverage and increased good food utilization behaviors achieving as high a level of success, but with wider coverage and half the food of the program engaged in direct distribution.[156] At the same time, it is possible to use food as food for work to catalyze community-based projects such as clinic rehabilitation, latrine construction and the development of water harvesting projects such as river dams, sand dams, and shallow wells both for general purposes and to support community-owned prescription garden irrigation systems.

Regarding the key issue of HIV/AIDS, it is recommended that the proposed program should not address this directly, but should develop strategic alliances with major partners, to develop BCC interventions that might be applied simultaneously with those focusing on nutrition. For example, HIV/AIDS BBC interventions have been highly successful in promoting prenatal screenings, prenatal nutrition education, institutional births, exclusive breastfeeding through six months of age and IYCFP.

Several behavioral constraints, identified in formative research recently conducted in Zimbabwe, would be appropriately addressed by evidence-based BCC interventions. For example, EIB is often delayed for the first day after birth, the length of EBF at 2-3 months is the norm (compared to a recommended six months of age) and only 20% of mothers continue to breastfeed through the child's first 24 months of age. Breastfeeding promotion and counseling that targets HIV+ mothers has already shown signs of increasing the stigma for EBF and continued breastfeeding by non-HIV+ mothers. Appropriate IYCF practices are extremely low throughout rural Zimbabwe. A detailed listing of proposed evidence-based interventions, together with their justification and support in the literature is given in Annex 1.

FOOD AVAILABILITY

KEY FINDINGS

With regard to improved food availability, there is one key finding and three specific issues. The key finding is that, as indicated in other sections of this report, the four provinces have only limited capacity to produce food from rainfed crop production, yet this is still the preferred activity for those who remain

[156] USAID/Bangladesh. (2009). Food Aid Impact Analysis, BEST Report.

in the communities that were visited. Other activities that might generate cash in order to access food are prioritized below agricultural activities that will increase direct food availability, even though these areas have no comparative advantage in such activities (with the exception of livestock production, which is in any case treated mainly as a cash generating activity, rather than as a source of food). This study did not investigate the reason for this preference, but at least two may be proposed:

1. The effective failure of rural markets in recent years has led to reluctance to become dependent upon purchased food and a strong desire for self-sufficiency.
2. Traditional social obligations that prevent the accumulation of significant cash reserves by individuals reduce the effectiveness of income generation as a means to achieve food security (or any other goals).

Irrespective of the reason, it is apparent that almost all of the communities canvassed wish to increase their crop production capacity, most usually through the development of irrigation systems. The subject of irrigated production is discussed further under the heading of "Reliability." Insofar as rainfed production is concerned however, it would appear to be of dubious benefit to encourage smallholders in the four provinces to produce maize, or even small grains if they could use their time more profitably to earn income that could be used to buy food. Unfortunately, unless they choose to migrate out of the area, that option is not often possible. The livelihood most suited to many of the focus areas is livestock rearing, but this is an extensive option that is not available to all. According to the groups that were canvassed, they knew of no viable income generating activities that would provide an income adequate to justify engaging in livestock rearing to the exclusion of agricultural activities. This is obviously an over-generalization: there will always be specific niche markets to be discovered by those with an entrepreneurial flair, but for the communities as a whole, this appears to be the case.

TEXT BOX 5: SUPPORTING SMALLHOLDER MAIZE PRODUCTION

The effectiveness of the widespread and continuous support of governments, breeders, extension agents and donors for smallholder maize production in Southern Africa can be assessed against the average annual increase in yield that has been achieved. Excluding South Africa, between 1961 and 2008, the Southern African region achieved an average yield increase of 0.00 %.[1] Since that time, substantial increases in maize yield have been recorded in Malawi and Zambia, but notably with no discernible impact upon poverty levels[2]. Some interventions to address specific constraints to productivity without additional investment by smallholders (such as CF) might be effective, but the long term, but this historical perspective should be recognized when considering the feasibility of other interventions to enhance maize production, especially those associated with the provision of inputs.

1. Jayne, T.S., Chapoto, A., and Chamberlin, J. (2010). "Grain marketing policy at the crossroads: Challenges for Eastern and Southern Africa. In "Food Security in Africa," by Sarris, A. and Morrison. FAO.
2. Mason, N.M., Burke, W, J. Shipekesa, A, and Jayne T.S. (2011). "The 2011 surplus in smallholder maize production in Zambia: Drivers, beneficiaries and implications for agricultural and poverty reduction policies." Working Paper No. 58 Food Security Research Project.

As a result, the communities in these four provinces engage in agricultural activities unsuited to their livelihood zones (and are supported in these activities by donor projects) because there is no alternative. Projects to increase the availability of seed or to supply inputs in a timely fashion, or, as discussed below, to enhance timeliness and the effective use of rainfall (such as the promotion of conservation farming) are being undertaken in these areas in the knowledge that these will never lead to reliable self-sufficiency in food, but may help to improve the situation to some degree. If the rains are good, their impact may be profound for the season, but if not, then they will make little difference.

The other three issues were similarly conflicting. First was the low level of animal protein in the diet, even though both poultry and livestock, especially small livestock, could be reared in the focus areas. Second was the communities' clear focus on the production of maize rather than sorghum or other small

grains, despite their recognition of the former crop's susceptibility to drought; third was the ambivalent response of many households to conservation farming despite the well recorded yield increases elsewhere. The low level of animal protein was a consistent aspect of all focus areas. Although milk was consumed at higher rates in some districts in Masvingo, there appear to be cultural constraints against the consumption of cows' milk, (although this was not well understood and requires further investigation). Similarly, the study found traditional reasons why children should not be fed hens' eggs, despite the relative ease with which this source of protein might be made available. Finally, as noted elsewhere strong reservations exist in most areas against the killing of livestock unless it is an absolute necessity. The protein nutrition of young children is not seen as being of sufficient importance to qualify as such a necessity and so diets are generally deficient in animal protein.

The preference for maize and reaction against conservation farming are both at least partly a result of the labor constraints that many households in the focus areas face, due to both HIVAIDS and the high level of emigration. The cultivation of small grains requires additional labor to keep pests, especially quelea finch, away from the crop and if the grain is to be processed effectively this must also be done by hand.[157] Under the current circumstances this is a major impediment to many households who are labor poor. The same is true of conservation farming. Although the conservation farming system recommends that the ground should be prepared by digging planting holes for four hours each day from 4:00AM to 8:00AM in August and September when temperatures are low and there is little demand for labor, in practice, the survey found that women especially are fully occupied throughout the year. At that time of the morning they are usually engaged in preparing breakfast so that one of the main advantages of CF is no longer so obvious in these communities.

This last observation is relevant to the underlying theme of this study, namely that some of the most significant obstacles to improved food security in the target areas are a result of behaviors and attitudes as much as circumstance. In this particular case, the attitude is one that expects women to do the bulk of the work around the house and in the field. It was very obvious from the survey that women were working every hour of the day from before sunrise until after sunset, while study teams recorded that men could often spend part of each afternoon "resting". Such an attitude limits the effectiveness of interventions such as conservation farming, but this tends to be accepted as normal and unchangeable. Indeed, it is with a sense of pride that it is often proclaimed, "Our womenfolk do 70% of the work in agriculture."

Changing attitudes is impossible within the restrictions of a one- or two-year program, but it becomes more feasible within a five-year time frame, especially if circumstances are sufficiently constrained that clear benefits can be perceived within a short period from such changes. The recommendations in this section are made from this perspective, namely that attitudes that limit food security should be addressed rather than compensated for. It is recognized that this is a challenge, but the longer time frame that is now being considered for future programming allows this challenge to now be addressed.

RECOMMENDATIONS

The circumstances and findings outlined above present a dilemma to development agencies. On the one hand, in the absence of obvious income generating opportunities (with the exception of the enhanced profitability of livestock) there is a clear need to increase the availability of food, while on the other, the

[157] Respondents in Matabeleland North noted that while maize could be readily hammer-milled to make a palatable meal, neither sorghum nor millet responded well to the same treatment and the flour produced by these means was often unpalatable. Respondents indicated that if they could be provided with a technology that would grind small grains effectively they might reconsider their cultivation.

areas under consideration have very little comparative advantage in crop production, and few interventions have much chance of sustainable success. In particular, given the unreliability of rainfall within these areas, it is doubtful if any interventions designed to support rainfed smallholder production of cereals will be effective in providing consistent sustainable relief. Nevertheless, the sense that it is better to "do something" in terms of improving production has led to such interventions as

- Promotion of conservation farming.
- Promotion of drought tolerant small grain crops.
- Enhancement of the availability of seeds and fertilizers.

CONSERVATION FARMING

This intervention has been widely taken up by the FAO, DFID and other donors. It has the potential to increase yields, and is especially relevant to dryer areas (Regions IV and V) and where draft power is limited. As such, its uptake will be beneficial in most of the focus areas. There are nevertheless two caveats. First, the levels of success achieved in Zambia have been based upon the application of a specific method of crop production that has been developed over time and which requires a "full package" including the correct weight of hoe, depth and shape of the hole and correct application and rate of fertilizer. Moreover, the increased emergence of weeds that occurs during the first three years after CF introduction requires both increased effort and timeliness in terms of weeding, or the use of post emergence herbicides such as glyphosate.[158] A number of NGOs have attempted to short-cut or modify CF;[159] this should be avoided. If any one aspect of the system is omitted or changed, improved yields cannot be guaranteed and the exercise becomes pointless or even potentially detrimental to the reputation of the technique.

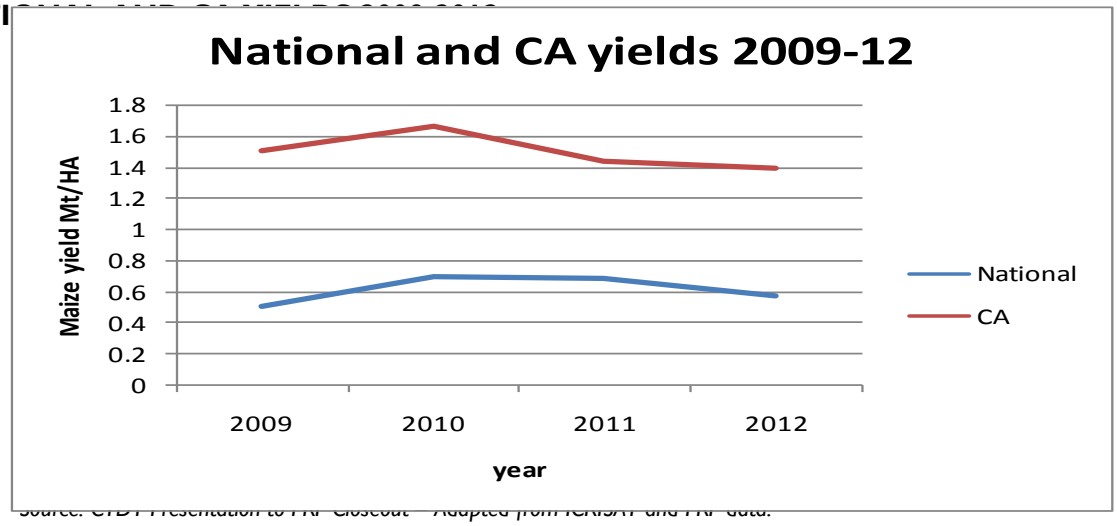
Secondly, the responses of communities in the focus areas suggest that interventions must first take account of the availability of labor within the community before CF is introduced. This assessment found in field interviews that CF was regarded by many as too strenuous and labor intensive. This has not been the experience in other countries, where CF has actually reduced the labor load at planting time by allowing land preparation to take place during the dry months. Nevertheless the response suggests that high demand for labor throughout the year has been an obstacle to the effective uptake of CF in some areas. This aspect should be assessed in individual communities before the CF system can be introduced.

EXPERIENCE IN ZIMBABWE AND ELSEWHERE IN AFRICA SUGGESTS THAT THE SINGLE MOST COST EFFECTIVE INTERVENTION IN TERMS OF IMPROVING TECHNIQUE ALONE, I.E., WITHOUT ADDITIONAL EXPENSE IN TERMS OF EXTRA CLEARLY DEMONSTRATE THE BENEFITS THAT CAN BE OBTAINED (

[158] "Conservation Farming and Conservation Agriculture Handbook for HOE Farmers in Agro Ecological Regions I and IIa – Flat Culture, 2007 Edition." Conservation Farming Unit, ZNFU NB. Zambian Agro ecological regions follow the reverse pattern to those in Zimbabwe, i.e., Zambia Regions I and II are the drier regions.
[159] Ibid, p. 41.

Figure 21).

FIGURE 21: IMPACT OF CONSERVATION AGRICULTURE ON MAIZE YIELDS: NATI



Source: CFDT Presentation to FFW Closeout – Adapted from ICRISAT and FFW data.

Nevertheless, this technique requires careful supervision and proper training for it to be applied effectively. It is moreover dependent upon the application of the recommended input package and should not be introduced where farmers are unable to meet the minimum requirements. This applies as much to the requirement for labor as it does to chemical inputs.

ENHANCED AVAILABILITY OF INPUTS

Experience over the last three years has shown that at national level smallholders lack the financial capacity to purchase adequate inputs from their own resources. This situation is unlikely to change rapidly and some form of input subsidy or direct distribution will be required if production levels in the focus areas are to be maintained or increased. It is recommended that FFP programs should coordinate with similar initiatives in the future, but should not attempt to duplicate them unless there is no other means to maintain food security.

In those areas where yields are inherently low, inputs can be provided through direct distribution or through 100% subsidy mechanisms, but the program should be recognized as an unsustainable stop-gap measure to be employed to generate food on an uneconomic basis until household access to food can be improved. Particular scrutiny should be given to interventions that supply inputs on unconditional credit. While this might be commercially preferable to subsidizing inputs, in those areas where inputs border on cost ineffectiveness, such interventions may simply encourage producers to become indebted and undermine commercial distribution.

Nevertheless, in the short term, if production is to be sustained it will be necessary to continue to assist smallholders in the focus areas to obtain crop inputs. In the past this has been achieved through donor funded, government coordinated programs using direct distribution, and open or closed cash vouchers. In the future, program beneficiaries should be assisted to access these interventions wherever practicable and helped to use the inputs most effectively.

PROVISION OF DROUGHT TOLERANT CROP SEED

In a number of instances, government and donors have promoted crops such as sorghum or other small grains as being drought tolerant and thus reducing the risk of crop failure. While an increase in drought tolerance may be of benefit, such crops may increase demand for labor (e.g., sorghum), be less easily processed (e.g., millet), or have other negative attributes that offset drought tolerance. The introduction of such crops should only be undertaken after consultation with the communities and not as a national or provincial level package.

From the perspective of increasing food availability through rainfed production it is doubtful if any of the conventional interventions can provide sustainable food security for the poorest households in the target areas. This does not mean that they are not worth pursuing. Such interventions may have a greater chance of improving the productivity of wealthier households and thereby reducing local costs of food. Moreover, it is not unreasonable to introduce programs to an area that are clearly unsustainable on the basis that they provide a short-term safety net to increase food availability until such time as the accessing of food from local markets becomes a viable strategy for food security. Nevertheless, it is recommended that interventions designed to increase food production among the poorest households from rainfed agriculture should only be considered after issues of utilization and accessibility (specifically income generation) have been addressed.

IRRIGATED CROP PRODUCTION

Despite its appeal to respondents as a potential intervention, the production of staple crops for home consumption under irrigation systems is rarely sustainable and is not recommended. Nevertheless, it is possible to enhance food availability through the production of staples in rotation with or accompanying cash crops. This may reduce the profitability of production and jeopardize the long-term sustainability of the irrigation system and it should therefore only be undertaken when the consequences are well understood and the community commitment to sustain the investment has been achieved. If this is possible, then irrigated staple crop production within the context of a cash crop production system can be a feasible intervention to improve food availability. Under these circumstances, projects to build or rehabilitate dams or to river diversion systems can be undertaken to improve both food availability and access to food.

COMMUNITY GARDEN PRODUCTION

The above recommendation notwithstanding, it is important that the availability of certain foods should be increased within specific areas, where, i.e., the type of food required to achieve a balanced diet or to the amount required to permit EBF is simply unavailable. There are three possible ways in which food availability can be improved using FFP resources: a) through community gardens using irrigated production (see section on reliability), b) through poultry and small ruminant production at the household level, and c) through food aid.

The development of community gardens is an intervention that can provide additional income, but is of greater importance to the development of balanced nutrition and should be introduced as such. The irrigated production of a small area can be achieved through the use of gray water or well water and prescription foods rich in vitamin A and iron: choumollier, tomatoes, carrots, sweet potato, cassava (leaves) and tarot[160] (leaves) can be grown in the small quantities required for dietary diversity. The off-take from such plots can be provided preferentially to pregnant and lactating mothers and young children.

The maintenance of a community garden and the irrigation system supporting it requires the development of social infrastructure – specifically the users association required to maintain the garden and irrigation system. This is a key component of the intervention.

POULTRY AND SMALL RUMINANT PRODUCTION

In the same way, sources of protein for young child nutrition can be increased through poultry rearing at the household level, although the risk of H5N1 avian flu should be monitored at a national level.[161] Nevertheless, chickens, ducks and guinea fowl can all be kept as backyard fowl for egg production and eventual meat. This intervention (the provision of poultry) has been tried elsewhere in Africa, but often results in the production of eggs for sale or for adult consumption. This is specifically not the purpose for which it is recommended here. Indeed it is not recommended that poultry be provided to a community or household unless there is a clear commitment that some backyard poultry outputs will always be reserved for IYCF. This is very different from the production of poultry for eggs or meat on a commercial basis, which is also feasible but will have a greater impact on a household's financial standing than it may necessarily have on its nutritional status.

Small ruminant production can be developed to improve both food availability and food access. Schemes whereby a household might receive a small number (five or six) goats or sheep on the basis that they would pass the first generation (alternatively, half of the first year's production) on to other beneficiaries can be self-sustaining and can provide both a source of protein (milk and meat) and a source of cash. Nevertheless, it is important that such schemes ensure that each household does use the livestock as an immediate source of food rather than solely as a means to generate cash. Otherwise the nutritional benefits of such schemes could be substantially diluted.

FOOD TRANSFERS

Within the four provinces there is a need for food aid that coexists with the potential for food aid to be provided both on a conditional and a direct transfer basis. In both cases, the transfers can be synergistic to the improvement of food utilization, and in some cases might be conditional upon meeting improved utilization targets. Conditional food transfers can be undertaken as FFA, or other such conditional transfers.

FFA transfers can be used for community projects designed to enhance improved nutrition and income generation, especially the construction or rehabilitation of irrigation schemes, soil conservation works, and other community projects with a food security and WASH focus such as the construction of latrines and watering points. In such instances, beneficiaries should be targeted according to the following criteria:

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[160] Both these crops are grown in the focus areas, but for their starchy tubers. The leaves are nutritious and are used as relish or in soup in other parts of sub-Saharan Africa.
[161] One individual reportedly died of avian flu in Zimbabwe in December 2011.

- Nursing mothers should be excepted.
- In view of the high labor demands on women, men should be accorded preference, except where women are heading households, but the package of benefits should be provided to the household rather than the individual.

Food can be provided to mothers who attend clinics for vaccination, growth monitoring and counseling in infant and young child nutrition and healthcare or be based on anthropometrics maybe a "food by prescription" type of approach for pregnant or lactating women or children under five.

In this instance, the food provided can have two purposes, first to offset the cost to mothers in terms of time spent away from work in attending clinics or other training venues – in which case, the food may be selected from the standard ration, and secondly as an incentive for attendance, in which case food may be more directly related to infant nutrition, selected to emphasize the importance of good nutrition and to exemplify commodities that mothers should look to use if possible (e.g., products high in vitamins, animal proteins or foods similar to Plumpy'doz®).

School feeding programs are another form of conditional transfer, but do not reach the critical age of under-fives. These are normally undertaken by WFP and have a clear benefit in terms of child nutrition, although they have little sustainability when based upon food aid. The alternative of school feeding based upon community produce generated from irrigated gardens could be more sustainable and might be introduced in those communities that are willing to commit to address issues of child health and nutrition and to maintain the infrastructure, once installed from school resources.

The initial community selection criteria for all conditional food transfers will be most effective if they can be based upon the key driver of change, i.e., the community's willingness to adopt new behaviors. One way to achieve this is to make conditional transfer projects dependent upon agreed indicators including:

- Dietary diversity (successful home production and demonstration gardens),
- Behavioral responses in terms of:
    - EBF.
    - Weaning age.
    - IYCF.
    - WASH.
- Disease management at the community level.
- Clinic attendance.
- Ultimately HAZ and WAZ scores.

In all of the instances above, the indicators for ultimate evaluation of a conditional transfer project should include the level of chronic malnutrition within the community as measured by height for age (i.e., stunting) as well as other productivity and/or income results indicators, rather than the number of beneficiaries receiving transfers or number of irrigation systems or community latrines constructed.

DIRECT SUPPLEMENTARY FEEDING

Finally, in terms of food availability, one of the main responses from mothers as to why they were unable to continue EBF up to the recommended age of 6 months was that they did not have enough food to meet the nutritional requirements of continued lactation and were losing weight themselves if they continued EBF. Given the ZSHS statistic that only 7% of women are underweight and 31% are actually overweight, it is quite possible that this reason was overstated, but it cannot be overlooked and it is recommended that supplementary rations should be provided on a direct transfer basis to any mother losing weight as a result

of EBF. The rations could be provided to local clinics for distribution on the basis of referrals by the VHW and could be provided until the child had been nursed for at least six months.

FOOD ACCESS

KEY FINDINGS

Underlying the key findings associated with food access is the observation that while nationally access to food is considered to be the most critical aspect of food security, in the focus areas, greater emphasis was placed upon food production, suggesting that opportunities for income generation to access food are extremely limited. Though this appears to be generally true, exceptions to the observation are:

- The seasonal collection and sale of natural products, especially mopane worms in Matabeleland South and Matabeleland North.
- Cotton growing in parts of Masvingo.
- Illegal activities, especially gold mining in parts of Matabeleland South and Masvingo.
- Emigration from all areas to work in South Africa and Botswana.
- Livestock production.
- Sale of irrigated fruits and vegetables.

The sale of natural products is limited in extent and/or duration and while this may supplement household incomes such activities cannot be considered as a sole occupation for household members. The growing of cotton is dependent upon external markets, which, as this last year has demonstrated, are not always reliable,[162] especially under current economic circumstances, when stakeholders lack the financial resources to absorb losses as an investment in the long-term future of an industry. In neither case can investment in a development program to enhance production or marketing be considered an effective means to achieve sustainable food security, although such programs can assist toward achieving that goal.

It was quite evident that although not widely discussed, illegal gold panning was a key activity for many households living in areas where gold was to be found. The activity requires investment in the form of metal detection services, but this can be provided for a share of the proceeds. It also requires a market, but although completely illegal, this is also readily available. There is no doubt that in certain areas (such as Gwanda District), gold panning makes a significant contribution to household food security. This finding raises two issues. First, it suggests that given the economic reward, households will readily engage in off-farm economic activities, even if these pose risks of illegality – i.e., fines and imprisonment. This suggests that the lack of off-farm income generating activities in most areas is less due to an undue focus on crop production or a lack of initiative, and more due to a real lack of viable income generating opportunities. Secondly, it raises the issue of the prohibition of exploitation of natural resources by local communities. While unconstrained exploitation will almost certainly result in environmental destruction, the possibility of controlled access by local communities working within a regulated but enabling

[162] Cotton prices offered by ginners in 2012 are low and farmers have held back from selling, although the prices are claimed to reflect international markets. In late July 2012, the Government fixed cotton prices at more than double the ginners' price. It remains to be seen how much cotton will now be purchased since such purchases will almost certainly be at a loss. The situation illustrates the volatility of commodity markets and their potential impact on food security.

environment would almost certainly result in localized economic growth.[163] Instead, the prevailing attitude in the Government is that such resources are only to be exploited by those larger institutions that can obtain exploration and mining rights.

With the exception of the three remaining income-generating activities, the study team found no obvious or consistent opportunities that might result in an increase in the income flowing into a community that might generally improve access to food. This is not unexpected because if such existed, they would undoubtedly have been seized upon and exploited. In this regard, it is important to note the definite absence of unexploited income generating activities in all of the areas visited.

The three options that were being exploited to varying degrees were emigration to find work abroad, livestock rearing and irrigated crop production. Emigration was extensive in all communities but it was evident that as an IGA it was much less effective than it had been in the past. Whereas before the income that was remitted by those who had left more than offset the loss of labor to the household, now it tended to be a "lose/lose" situation where there was neither remittance nor labor, which has had a clear impact on household food security. Moreover, evidence from South Africa has shown that remittances from South Africa to Zimbabwe incur some of the highest charges of remittances worldwide.

It was noticeable that in Matabeleland South and Matabeleland North, potential emigrants did not even consider looking for work in Bulawayo or Harare where they considered that there was little work and still less possibility that they might be employed, due to their ethnicity. Instead they considered illegal employment in another country to be a better option.

In terms of livestock production, it was clear that opportunities for increased income generation do indeed exist. These may be market dependent, and such not wholly within the control of a development program, but nevertheless, it is possible to improve both production systems and marketing behaviors in an enterprise for which the areas under consideration have a definite comparative advantage. Any improvement in income generation from livestock is fundamentally dependent not upon the creation of marketing infrastructure, or support to livestock services, but upon a change in attitude on the part of the producers which would allow both infrastructure and services to become sustainable through increased livestock sales. Without that precondition, conventional interventions will be of limited efficacy.

Finally, irrigated production was without doubt the intervention that was most frequently called for throughout the focus areas. In most cases however, irrigation was requested as a means to improve food availability through the production of staple crops. This is rarely sustainable. A significant proportion of the revenues from irrigated production must be used to meet both investment and working capital needs of the irrigation system itself and this is impossible if most of the produce is domestically consumed rather than sold. Indeed, once investment has been made in irrigation, the reliability of production justifies a paradigm shift in production systems from low input/low return, to high input/high return, including a change in the crops produced to specialty crops such as fruits, vegetables and spices that find markets outside of the communities. Experience from the irrigation systems in Manicaland drawing water from the Save river demonstrates that irrigation systems are rarely used to improve food availability, but instead are focused primarily upon the generation of cash and thereby improve access to food. There appeared to be little understanding of these dynamics among respondents. Instead irrigation was widely viewed as a means to produce the community's food requirements, not to buy it.

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[163] Such growth was witnessed in Manicaland in the areas surrounding the Chiadzwa diamond fields, where respondents noted that both labor and trading opportunities had increased.

The above are all activities that result in income being channeled into the local communities from other higher income communities elsewhere. In all areas studied there are also activities that result in the redistribution of income within the local community itself, including petty trade, agricultural labor, water carrying, transportation (donkey carts) and other similar activities. These are important insofar as they can improve the accessibility of food to the poorest in the communities. However, this is not always the case. Activities such as petty trade or transportation require an initial investment that can be a barrier to entry for the poorest households. When canvassed as to why they undertook the specific off-farm IGAs that they did, many groups replied that the IGAs were selected because households had the resources to undertake them already at their disposal, i.e., they faced no barriers to entry for their preferred activities. This suggests that greater redistribution of wealth might be achieved through the provision of small assets such as donkey carts[164] or loans for petty trade that overcome the initial constraint of a barrier to entry. The efficacy of such interventions will nevertheless still depend upon the overall level of wealth within the community, which observations suggested was very low.

RECOMMENDATIONS

MIGRATION

Migration to seek employment in higher income areas is an issue that cannot easily be addressed within the context of a FFP program. Significant improvement in the level of remittance must come from being able to meet the changing requirements of the employment market. These can be addressed through a program of workforce development that attempts to provide the necessary skills required by the market. Nevertheless, whatever these requirements might be, such a program will be subject to the vagaries of the economies of the host countries, and will moreover be restricted in its efficacy by the illegality of most emigrant workers. For this reason it is considered inappropriate to use FFP resources to facilitate migration at this time, but FFP nutrition interventions should certainly be coordinated with those of other institutions working in the resettlement of returnees and internally displaced people.

REMITTANCES

Despite the diminished significance of remittances to households in the focus areas, there is nevertheless an opportunity to increase access to food by increasing the efficiency of remittance flows. Such interventions could be developed in partnership with commercial banks e.g., using smart cards to access remitted funds (as has been done by Kingdom Bank in cooperation with DFID), or they could draw upon the international connections of the implementing NGOs themselves, many of whom have offices in both countries. Alternatively implementing partners could work to strengthen/formalize the existing informal networks through which much of remittances currently move. The result in each of the above would be improved incomes for households in the target areas.

LIVESTOCK PRODUCTION

Support to livestock production can have a definite impact on community livelihoods, and it is recommended that this should be part of a program addressing the food access component of a food security program. Interventions in this area would include:

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[164] Donkey carts and other small assets have proven highly sustainable where households were able to earn an income from the asset provided (in this case the provision of transport). CHF Asset Building Group Field Assessment, July 2012.

- Provision of livestock (especially small ruminants) on a loan basis, whereby the first season's offspring are kept by one household and the adults passed on to another household.
- The construction/rehabilitation of dip tanks and sustainable watering facilities based upon dams and/or boreholes according to the situation in each area.
- The continued development of market outlets, in terms of both physical infrastructure (also supported by FFA where appropriate) but more especially through the development of market linkages with buyers.
- Training (see below).

TRAINING

Observations and responses from survey groups and extension agents indicated requirements for training in animal nutrition, breeding and disease management. Nevertheless, the most significant training need appeared to be in commercial business practice, or farming as a business.

The cost effectiveness of all livestock development activities will be substantially enhanced if livestock producers can adopt commercial practices in terms of livestock management, especially with regard to off-take levels and sales. Livestock support interventions should not result in the enhanced accumulation of livestock as an alternative form of banking, but in enhanced cash flow and consequent improved community nutrition. This will require a holistic approach to livestock development that might be based upon model farmers to provide examples of commercial practice, or could revolve around the creation of local livestock producers associations as focal points for training, coordination of marketing and information exchange. In any event it is recognized that the changes in attitude required to increase the profitability of livestock farming will occur only gradually over the course of a five-year program, but that attitude changes can nevertheless be achieved and indeed must be achieved if interventions to enhance livestock productivity are to have a meaningful impact on household food security.

IRRIGATED CASH CROP PRODUCTION

The development of irrigation systems is an activity that can be well supported by FFA, which can be used to build the necessary dams and infrastructure required to irrigate crops. It is important, however, that such systems should be recognized as primarily cash generating rather than food producing. If this is not the case, then it is unlikely that such systems can be sustainable. For this reason it is recommended that projects to develop or rehabilitate irrigation systems should only be undertaken within communities that have indicated a clear understanding of the need to achieve sustainability through a market demand-led business approach to crop production.

From that perspective, it is important to recognize that the physical construction of an irrigation system is only a small part of such projects. The physical infrastructure is only effective if placed within a matrix of:

- Improved access to markets beyond ones in the community itself.
- Social accountability (i.e., a water users association).
- Enhanced financial capacity.
- Improved access to inputs.
- Improved technical capacity.
- Improved business capacity.

All of these aspects must be developed if the investment in irrigation is to generate a maximum return. Consequently it is recommended that irrigation rehabilitation or construction should only be undertaken

within the context of a much broader program that considers all of the above aspects, especially business development simultaneously with, or even before, but certainly not after the physical development has occurred. It is also recommended that such systems should wherever possible be based upon gravity flow systems or wind pumps rather than upon diesel or electric pumps since at present the reliability of electricity is poor and the cost of diesel can be prohibitive.

While irrigation development may be undertaken as a holistic standalone project, it is preferable if it is undertaken in response to a community's recognition of the need for cash and a diverse diet in order to meet nutritional requirements. FFP investment (in the form of food for work) will be most cost effective where communities have demonstrated a willingness to adopt new practices in terms of IYCF. Otherwise the potential exists for communities to use the additional cash requirements to sustain their current, inadequate dietary practices. Targeting in this instance would use similar criteria to those for interventions in livestock production, i.e., they would be based upon an agreed commitment to meet specific behavioral benchmarks and nutritional indicators.

MARKET DEVELOPMENT

A key constraint noted by almost all respondent groups was the lack of buyers for both livestock and off-farm income generating activities. Market development can reduce this constraint in a number of ways. The physical creation of markets can act as a focal point for marketing, but this is just one aspect of a much larger process. The creation of marketing associations can result in the accumulation of volumes of product that will attract buyers from urban centers, and if properly run can result in the development of standards and of a reputation for quality that will promote sales.

Producer/trader associations can have a major impact upon the promotion of local products within national markets. Such associations can also enforce trading practices at markets and can play a role in market maintenance. Thus while it may be necessary to engage in the development of physical market infrastructure, it is as important to develop the institutional infrastructure upon which effective marketing will ultimately depend.

OTHER OFF-FARM INCOME GENERATING ACTIVITIES

Three other approaches to off-farm income generation can be recommended:

ASSET BUILDING GROUPS

First, the "Asset Building Group" approach is based upon the provision of individual or group assets that allow households to earn cash. Four examples can be given[165]:

- The construction of a small shop that allowed six women to engage as a group in retail trade and café operation.
- The provision of water carts and donkeys that allowed twelve women to earn income from water carrying.
- The supply of small diesel powered pumps that allowed communities gardens producing vegetables for sale in the nearby town.
- The supply of a grinding mill that allowed a group of six households to supplement their income from grinding fees.

[165] "Asset Building Groups Field Assessment." (2012). CHF, July.

In each of these cases, operations were sustainable and growing with additional investments made from the proceeds; success was based upon three criteria:

- The groups were self-selected.
- The assets and operations were selected by the groups themselves.
- The groups were mentored over the first year with special emphasis on business training and small scale loan schemes

An extension of this technique is simply to provide loan finance to groups, allowing them to conduct their own business operations and to repay the loans when the businesses have expanded and are operating sustainably – a standard commercial principle. Although such loans might not be secured with collateral, they should not be considered as microfinance. Such loans are predicated on a practical business plan and, although intensively supervised, would be made at commercial finance, not microfinance interest rates. This approach has proved successful under some circumstances but has frequently failed. The main factor affecting success was the extent to which groups have been mentored and/or have been provided with adequate business skills. For community based small business operations in rural areas, mentoring over a period of at least three or more years is required to achieve sustainability and success.[166]

Small loan schemes can be operated by commercial banks, although they will normally require a fee to undertake the administration and supervision of the beneficiaries. Alternatively they can initially be administered by the implementing agencies and the successful portfolios handed over to commercial banks at the end of the program.

Village savings and loan groups can represent a second source of finance for off- and on-farm IGAs. The approach has been widely used by many NGOs across sub-Saharan Africa. In many cases, especially among the poorer communities, the savings of such groups are inadequate for reinvestment and act more as an insurance against unforeseen expenditure. In the focus areas however, it was learned that savings groups have often accumulated enough cash for individuals or groups to invest in productive assets (especially livestock). Thus village savings and loan groups have the potential to support income generating activities. Nevertheless, while it might be useful to support the establishment of such groups, experience suggests that it would be much more beneficial to complement such support by providing members with business training. Indeed, respondents frequently identified lack business skills as one of the key constraints to their expansion of IGAs.

MARKET LINKAGE DEVELOPMENT

The third approach is one that recognizes:

a) The impossibility of "picking winners" and preselecting effective production possibilities.
b) The limited vision of producers as compared with those involved in marketing.

The approach developed by Chemonics in Peru[167] places less emphasis on what can be produced, and more upon what the market needs. Very often, this may lie within the capacity of producers to achieve if they are assisted through training and coordination with the market. The approach thus places most emphasis initially *outside* the program area, looking for buyers with markets who are willing to invest in

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[166] Ford Foundation report. "Under What Conditions are Value Chains Effective Tools for Pro-Poor Development." http://pubs.iied.org/pdfs/16029IIED.pdf
[167] USAID Peru. Poverty Reduction and Alleviation Projects (PRA I and II). 2000-present.

downstream value chain development. Once a buyer has been identified, the program brokers an agreement in which the buyer agrees to purchase product from the beneficiaries in the program area and to invest in the development and sustainability of the value chain, while the program provides technical assistance to assist producers to meet the requirements in terms of volume and quality of the buyer. This three stage process of market identification, agreement and subsequent producer training and product development has been used successfully to develop a wide range of production possibilities of both agricultural and off-farm commodities that could not have been recognized by the producers themselves.

Overall it is quite evident that there are a number of key areas in which access to food can be improved and ways in which FFP resources can be used to achieve this. Nevertheless, all of these interventions are dependent upon the viability of external markets and as such cannot guarantee success, even though they may well improve the chances of success, and are essential accompaniments to a program that is designed to improve food utilization.

RELIABILITY

KEY FINDINGS

The key findings made with regard to reliability are, first, the trite observation that the availability of food from rainfed production is notoriously unreliable and that soil degradation is a major factor that increases this unreliability. Secondly, access to food has become equally unreliable, partly due to the general failure of the economy and partly since remittances have fallen. Finally, effective food utilization can also be unreliable, due mainly to the high levels of diarrhea in some areas and in some seasons, although it is possible sub-clinical gastric infection is also a factor.[168]

In addition to these findings, it was observed that current on-farm storage capacity is in many cases, extremely limited and quite primitive. As a result, it is difficult for households to store any surplus production or purchase for any length of time before it suffers from mold, insect pests or vermin. This not only reduces the amount of grain available but also increases the risk of aflatoxin.[169] Reliance in the past upon the GMB to purchase any crop surplus has prevented the development of a strong grain storage culture or technology at the village level, leaving communities vulnerable to extensive post-harvest storage losses when the GMB can no longer purchase grain.

It was also evident that the current extent of community savings systems was also limited. Traditional group cash pooling mechanisms were in place in some areas, these allowed one member of the group to receive funds from all the other members on a rotational basis; the recipient received enough cash to make important purchases and would contribute in turn to other members of the group. Nevertheless, such mechanisms tend to promote expenditure rather than saving. There were few ways in which households could save cash securely, either as individuals or as groups. This is important, since such savings can contribute toward the improved reliability of access to food in two ways. First savings can provide a source of investment capital for new businesses. Respondents in the focus areas frequently indicated that a lack of finance was one constraint to the development of small businesses. Secondly, savings can provide a source of cash to purchase food when incomes are otherwise inadequate. It was reported that group savings and loan schemes had been initiated by NGOs working in the focus areas and that where this had occurred, the success rate had been high. Savings and loan schemes in many countries operate

[168] Zvitambo: Unpublished formative research.
[169] The Partnership for Aflatoxin Control in Africa has received substantial funding from USAID.

more as insurance systems (i.e., the second of the above two functions of savings), especially if the amounts saved each week are low. Nevertheless, experience in the focus areas suggested that savings rates were high enough to generate volumes of significant capital that could be invested in small businesses. Although this was not verified on the ground, it does suggest that savings and loan schemes in the focus areas could both improve the reliability of access to food (insurance) while enhancing overall accessibility through business development.

RECOMMENDATIONS

IRRIGATION

It is tempting to assume that the development of irrigation can improve the reliability with which food is available, but this is not always the case. For reasons outlined above, irrigated staple crop production is rarely sustainable and most irrigation systems ultimately produce cash crops in order to cover their running costs. As such, irrigation is generally more of a means to enhance the reliability of food access than of food availability. Nevertheless, this is not necessarily so. If it is accepted that the development of an irrigation system will be subsidized and not necessarily sustainable, then irrigation can certainly contribute toward improved food availability. There is an argument that while recognizing the prime importance of accessing food as opposed to producing food, also recognizes that the economic opportunities to obtain the cash necessary to access food are currently limited *and will remain so for some time to come.* Under such circumstances, irrigation could be viewed as a stop-gap measure that, if put in place (albeit at a cost and in an unsustainable form), it might nevertheless allow communities to maintain an adequate level of food security until such time as accessing food became a more reliable option.

It is therefore feasible that irrigation systems might be developed through FFA in order to improve the reliability of food availability on the basis that no other intervention might be as cost effective in the short term, even though in the long term, such irrigation might be unsustainable and income generating activities might be more cost effective. If this were the case, such interventions will be most cost effective if undertaken within a framework of improved nutritional understanding since it is evident from national data that the availability of food alone does not necessarily result in improved nutrition.

SOIL CONSERVATION MEASURES

While there may be little immediate impact from soil conservation measures, the observed rates of soil loss suggest that unless such measures are put in place and maintained, the capacity to produce rainfed crops will continue to diminish. In some areas of Region IV and V the point may have already been too late to engage in soil conservation measures beyond the fallowing of land for an indefinite period. Nevertheless in others, the reliability of rainfed crop production and the productivity of the rangelands may be if not enhanced, at least maintained by soil conservation practices. These could include the creation of soil bunds, planting of vetiver hedges, introduction of conservation farming, fencing of unstable areas and construction of weirs and check dams in streams and gullies. These are all activities that could be promoted through the use of food.

It must be recognized that the immediate impact of these activities on food availability will be through the food provided in exchange for labor. The positive impact in terms of improving own production will be minimal for a number of years. Nevertheless, the negative impact of not engaging in such activities can be expected to be continuous and substantial.

IMPROVED CROP STORAGE

While irrigation may represent one stop-gap measure to enhance the reliability of food availability, improved smallholder grain storage facilities can be of greater sustainability and cost effectiveness, although they do not lend themselves well to a food-based approach. Nevertheless, programs are already in place in Zimbabwe to support the local production of small metal bins for household grain storage, while larger volumes can be hermetically stored in plastic grain cocoons, which have proved successful in Kenya.[170] Cultural obstacles may need to be overcome before communal storage of bulked grain in a cocoon becomes acceptable; nevertheless, the amount of food lost in storage is an issue that has not yet been well addressed in Zimbabwe, possibly because of the effectiveness of the centralized GMB storage system prior to 2009. There is considerable potential to assist in improved crop storage, not only through improved physical storage infrastructure, but in training in grain storage sanitation and in the sourcing and effective use of insecticides such as Actellic.

BUSINESS TRAINING

In terms of food access, reliability is dependent upon both the productivity and the profitability of IGAs. Productivity can be addressed through a number of means, including irrigated cash crop production, improved livestock services and others. Profitability is dependent first upon the market and consumer purchasing power, which is currently a severe constraint, but also upon business acumen.

It was very evident from the responses of community groups that training in business management was widely recognized as a means to improve the standard of living of households in the focus areas. The lack of business skills was frequently considered as a constraint to the profitability of off-farm IGAs (although it must also impact livestock and crop production as well). While it may be difficult to undertake within a food-based program, given that the focus areas are dependent upon food access through income generation, the provision of business skills to enhance incomes is clearly a valid intervention.

VILLAGE SAVINGS AND LOANS

Equally valid is the development of domestic savings and loans schemes – from two perspectives, first because there is virtually no other source of finance available within the focus areas, savings and loan schemes can provide an important source of capital for business development. Secondly, from the perspective of reliable access to food, savings and loan schemes represent an effective system of insurance whereby income can be accumulated to be spent on food when needed, without being depleted by social obligations, especially the demands of the extended family. For this reason it is strongly recommended that while savings and loan initiatives are not ideally suited to food-based programming, they should nevertheless be included in all areas where business development is undertaken or food security is to be enhanced through improved access.

CRISIS MODIFICATION

It is evident that development progress in the focus areas will be uncertain and it must be expected that circumstances will require humanitarian intervention from time to time. Indeed the initiatives recommended above include a humanitarian element of direct food distribution to HIV/AIDS and labor-poor families, but greater levels of humanitarian support across a wider spectrum of the community will also quite probably be required. Unless such support is provided in a timely fashion, experience suggests

[170] USAID/Kenya. (2011). Market Linkages Initiative Evaluation Report.

that the developmental gains that have been achieved can be rapidly lost as households sell assets or lose livestock to disease. For this reason all FFP Title II programs in the focus areas should contain a "crisis modifier" element.[171]

A "crisis modifier" element is an allocation of resources within the program budget that can be drawn upon by the program implementer to provide a humanitarian response in the event of immediate need without recourse to an appeal or other process for the redirection of funds. Since the implementing agency is present on the ground, it is best placed to identify not only the need but also the most appropriate response. Hence it is efficacious to place the capacity to respond at their disposal. Different conditions can be placed upon the drawdown of funds according to the circumstances, but it is recommended that the fundamental concept of a "crisis modifier" allocation should be included in all program budgets.

Other elements to explore might include production of more nutritious foods like sweet potato as a food security measure in the case of drought. Longer-term investments in tree crops to enhance food security through food (fruit trees) and income generation can be evidenced in Niger where that widespread application of this strategy can have significant impacts on food security.[172]

SUMMARY OF RECOMMENDATIONS

Based on the above analysis, the recommendations of this report can be summarized as follows:

TARGETING

- Targeting should occur at the community level, i.e., the anticipated programs should target communities rather than individuals.
- Communities should be targeted primarily upon need, as indicated by independently assessed stunting levels (HAZ<-2 scores). This is a recognized indicator of chronic food insecurity.
- Within the envelope defined by need, communities should be targeted based on a willingness to enter into a commitment to address behavioral changes in food utilization and other practices (such as the production of prescription foods, including livestock) and to achieve specific targets again measured ultimately in terms of HAZ<-2 scores, although initial indicators of behavioral change can be used when it might be too early to measure such scores.
- Targeting is ideally an ongoing process. Program interventions should be incremental in nature, additional interventions beginning when each original target is met. Communities that do not reach targets would not be provided with the "next step" until they have completed the first development steps. Moreover, continued achievements of targets, once reached, would be necessary to continued engagement in the program.
- The above notwithstanding, individual beneficiaries may be targeted for specific assistance within the scope of a community based program. Thus, nursing mothers losing the opportunity due to breastfeeding could be targeted for supplementary feeding based upon referral by the VHW. Individual targeting would be based either on professional opinion (e.g., clinic staff) or by community recommendation (e.g., caregivers in need of support).

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[171] Successfully utilized in the USAID/Ethiopia Pastoral Livelihoods Initiative in 2010/11.
[172] The Sahelian Fruit Trees Project." www.safruit.org.

POTENTIAL INTERVENTIONS

Each of the interventions listed below is described in more detail in the section above (Findings and Recommendations).

Interventions can be grouped into a number of classes, but it is important that they all take place within the context of a holistic program which ensures that progress made in productivity or income generation translates into improved nutrition. To this end, the initial intervention in every community could include:

- Assessment of nutritional status and food security needs.
- Sensitization of the community and development of a partnership agreement specifying community and donor commitments and responsibilities.

Depending upon the assessment, potential interventions might include:

INTERVENTIONS TO ENHANCE FOOD AVAILABILITY

- Community infrastructure development:
    - Productive infrastructure
        - Irrigation infrastructure (dams and river diversions) within the context of an irrigated cash crop production scheme.
        - Construction/rehabilitation of irrigation systems (within the context of a larger irrigation project involving water association development, training in irrigated production techniques, and improved sourcing of inputs and market development).
        - Construction of irrigated community gardens (specifically for the production of prescription foods to enhance dietary diversity).
    - Institutional infrastructure:
        - Water users associations.
        - Associations/user groups to oversee use and maintenance of community gardens.
- Individual assets that could be developed within the context of a group program which could enhance both food availability and access might include:
    - Poultry both for eggs and meat.
    - Small ruminants.
- Training will be required for any of the assets or infrastructure described above to be fully effective. Nevertheless, specific areas of training will include:
    - Irrigation system management.
    - Community garden management.
    - Crop production practices (including conservation farming).

- Food Aid, including both conditional and direct transfers.

INTERVENTIONS TO ENHANCE ACCESS TO FOOD

- Infrastructural development:
    - Community asset development, including assets, such as grinding mills or shops/markets that can form the bases of IGAs for asset building groups. Individual assets such as donkeys, carts or water bowsers may also be introduced within group asset schemes.
    - Physical infrastructure

        - Development of livestock production and marketing infrastructure (dip tanks, watering points, holding pens, and sales rings).
        - Development of irrigation schemes for cash crop production including the rehabilitation of dams and construction of river diversions where appropriate.
- Institutional infrastructure:
    - Market linkage development – is an intervention of a different nature and should focus as much outside the community as within it if viable external markets are to be developed, but will inevitably be integrated with other interventions described above and will include:
        - Buyer identification and selection.
        - Facilitation of the relationship between buyer and producers.
        - Product development (requiring both investment and training).
    - Small loan schemes.
    - Marketing associations to oversee the use and maintenance of markets.
    - Development of local livestock producers associations.
    - The strengthening of remittance institutions and facilitation of remittance inflows to reduce the costs of remittances.
- Training:
    - Irrigation management.
    - Irrigated crop production:
        - Water association development.
        - Irrigated/intensive production management.
        - Improved sourcing of inputs.
        - Market development.
    - Livestock production, particularly disease management, breeding and nutrition but especially commercial practice.
    - Business management skills. These should be a mandatory accompaniment to all productive infrastructure development and would include (where relevant):
        - At a primary level, calculation of profit, market research, interest rate calculations, etc.
        - At a more advanced level (business development, human resource management, marketing and financial management).
        - Training in market research and marketing

INTERVENTIONS TO ENHANCE THE UTILIZATION OF FOOD

- Improvements in the utilization of food can be achieved through BCC in the following areas:
    - Development of community awareness regarding stunting, acute malnutrition and all Essential Nutrition Actions.
    - Development of support for EBF through 6 months.
    - Support for the production of prescription foods.
    - Changing of traditional and religious beliefs that negatively influence IYCF practices.
    - Sensitization of the community to the importance of institutional births.
    - Improvement of household and community water, sanitation and hygiene practices.
- Institutional strengthening, including:
    - Promotion of breastfeeding counseling services.
    - Support to the VHW to achieve:
        - Improved frequency of antenatal visits.
        - Improved IYCF behaviors.

  - Increased frequency of growth and weight monitoring.
  - Recording of HAZ<-2 scores.
  - Enhanced WASH activities and infrastructure, including wells, watering points and latrines.
  - Appropriate feeding and hydrating during episodes of diarrhea.
  - Timely referral to the health center for severe or chronic cases of malnutrition.
  - Associations/groups to oversee community sanitation (drainage, latrines, cleanliness of watering points).
- Individual asset development. To complete the coverage required to achieve community-wide improvements in health and nutrition, both community and individual household assets may require improvement. Where necessary it is recommended that individual assets should be developed within the context of a community asset development program.

INTERVENTIONS TO ENHANCE RELIABILITY

- Community infrastructure:
  - Development of improved community (and home based) crop storage facilities.
  - Development of soil conservation works and conservation programs.
- Institutional infrastructure:
  - Group savings and loan schemes. This intervention should be a mandatory accompaniment to all IGA activities.
- Training in:
  - Crop storage practices.
  - Home food preservation techniques.
  - Business practices.

USE OF USAID/FFP RESOURCES

It is recognized that many of the above interventions require cash, rather than food, as funding. In this regard, there is a clear need to monetize a significant proportion of the Title II resources if a program focusing on improved food utilization is to be feasible. Nevertheless, food resources can play a significant role in the following areas:

- Food can be used to finance a significant proportion of the development or rehabilitation of irrigation infrastructure, especially dam and sand dam construction, canal and shallow well digging and trenching. Food can be similarly used for latrine construction.
- Supplementary food can be provided on a case-by-case basis to nursing mothers and to caregivers to ensure adequate levels of child care. In the former case, this could be done on the basis of need; in the latter, food could be provided as compensation for providing a community service based on community agreements.

Finally, food can be used both as an incentive to attend training sessions and clinics, and to demonstrate the impact of improved food use. This approach has proved successful in Bangladesh,[173] where small volumes of food aid were used to encourage high levels of participation. (The key aspect in this example

[173] USAID/Bangladesh. (2009). Food Aid Impact Analysis. The BEST Report highlights the success of this aspect of Save the Children's "*Jibon-O-Jibika*"program.

is that the communities were able to access food, but lacked the attitudes required to use food most effectively).

At the same time it must be accepted that significant cash resources will be required to finance the following:

- Training programs required to achieve changes in attitude (although these can be reinforced by food aid for attendance and as an incentive).
- Infrastructure, including pumps, pipes, cement and steel.

Nevertheless, considering the nature of the interventions described above, it is possible that a program can be designed within an envelope that is 50% cash- and 50% food-based.

Finally, it is recommended that all programs should contain an allocation for crisis modification, to provide a humanitarian response in the event of immediate need.

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LIST OF MEETINGS

Institution	Name	Position
Aus AID	Dorothy Mufanechiya	Senior Program Manager
CARE	Heather Van Sice	Assistant Country Director, Program
CARE	Patrick Ndungu	Relief Coordinator
DFID	Pete Spink	Livelihood and Pro-Poor Growth Advisor
EU	Joost Bakkeren	Attaché, Food Security
FAO	Jean Claude Urvoy	Senior Emergency and Rehabilitation Coordinator
Ministry of Agriculture - Agritex	Bernard Mache	Deputy Director
Ministry of Agriculture - Livestock Production	Munyaradzi Chimow	Deputy Director
Ministry of Health	Tasiana K. Nyadzayo	National Nutrition Manager, Emergency Preparedness and Surveillance
Ministry of Labor and Social Services	Lovemore Dumba	Technical Advisor, Social Cash Transfers
PRIZE ACDI VOCA	Sekai U Mudonhi	Program Manager
Prize CARE	Archibald Chikavanga	Monitoring and Evaluation Specialist
PRIZE CRS	Sasha Angelevski	Chief of Party, PRIZE
SNV	Albert Jaure	Senior Knowledge Development Advisor
UNICEF	Toby Stillman	Nutrition Cluster Coordinator
UNICEF	Fitsum Assefa	Nutrition Specialist
USAID	Thabisani Moyo	Food Security Specialist
USAID	Dr. Jo Keating	Health Development Physician
USAID	Carol Jenkins	Humanitarian Assistance Office Director
USAID	Fanuel Cumanzala	Food Security Point Person
USAID MCHIP	Rose A. Kambarami	Country Director
WFP	Sam Chimwaza	Head of VAM

ANNEXES

ANNEX 1: EVIDENCE-BASED INTERVENTIONS FOR UTILIZATION[174]

FOCUS INDICATOR: NUTRITIONAL STUNTING (HAZ ≤ -2)

Promotion of Breastfeeding/IYFP	Current Situation and Key Behaviors[175]	Traction[176] (Programmatic Opportunities)	General Constraints	Potential Development Food Aid Program Activities
Why stunting matters for each child, the family and the community - Importance of EIB within the first hour of birth, EBF (Exclusive breastfeeding means no food, no water, no concoctions, nothing except breast milk) until 6 mo., and continued BF through the first two years or	***EIB[177] often delayed for first day after birth; EIB rates at around 69%.*** -Institutional births by skilled professionals in rural areas is 58% (doctor assisted only 5%) -Large variation in levels of skill and competence among health workers -Pre-lacteal feeds still practiced in 20% of rural	-EBF rates to 6 mo. of age have increased 10% (from 22-32%) since 2005/6 -IYCF is consistent with MoH's IYCP training curriculum for Village Health workers, with a focus on the individual child and the community. -EIB and EBF are highly endorsed by entities operating in the four provinces -District Health Centers (RHCs)	-49% of rural mothers cite distance to a health facility as a key constraint to assisted births -The genesis, risks and long-term effects of stunting are not widely recognized or acknowledged; few interventions specifically targeting screening and prevention of stunting. - Counseling to promote EBF for infants < 6mo currently only provided for	**BCC:** Develop wide-spread messages targeting stunting as a national health problem **BCC:** Responsibility of the family, especially fathers and mothers-in-law, to support and encourage EBF through 6 months and to cover mother's routine tasks for the first six months after birth of her child. **BCC:** Production of "*prescription foods*" at the HH and/or community level (production of Vitamin A rich foods, legumes to complement proteins in maize *and* sources of animal protein) should be readily accessible to the childcare giver when child reaches six months

[174] Bhutta, Z.A., et al. (2008).
[175] Based on field observation, key informant interviews and preliminary Formative Research: Barriers and Facilitators of Optimal Infant and Young Child Feeding in Zimbabwe: Beliefs, Influences and Practice. Ministry of Health and Child Welfare, UNICEF, Collaborating Center for Operational Research and Evaluation (CCORE), USAID/Maternal and Child Health Integrated Program.
[176] Both "traction" and "constraints" based on WAI-FSA team assessments current MOH organizational structures and programming, WAI-FSA team observations, preliminary formative research findings and other secondary data sources, as well as current or planned interventions with other key programs.
[177] Early initiation of breastfeeding takes place when the newborn is given breast milk (colostrum) within the first hour after birth.

Promotion of Breastfeeding/IYFP	Current Situation and Key Behaviors[175]	Traction[176] (Programmatic Opportunities)	General Constraints	Potential Development Food Aid Program Activities
longer - Risks of not breastfeeding	births -Colostrum sometimes considered to be "dirty" milk ***Early cessation of EBF at 2-3 months is the norm; EBF rates decline to 32% by six months of age; 20% continue to BF through 24 months*** -EBF continues until the mother and other decision-makers deem that the infant is able to tolerate traditional weaning foods (corn porridge) -The mother's pursuit of off-farm income generation often a constraint to EBF	and Rural Health Centers (RHCs) are reportedly equipped to screen and detect stunting (anthropometric tools for recumbent and standing height measures, trained personnel, yellow health cards for recording, etc.). -Mothers recognize the importance of BF -Strong national value placed on education; stunting prevention and success at school are inherently linked. -Clear, consistent and directive messages are, for the most part, diligently followed (especially when linked to individual and group benefit). -Individual and group counseling structures and procedures are in place.	HIV+ mothers, potentially increasing stigma for EBF to 6 mo. by non HIV+ mothers - High opportunity costs (inconvenience) of EBF; There are few, if any, at-home / on-farm income generating activities for mothers; Mothers are significantly busier during the day than their male counterparts. -Large variation in quality and delivery of services among DHC, RHC staff and VHWs.	of age. Prescription crops could be irrigated with grey water produced from washing dishes. **BCC:** Effectively discuss and respectfully face Shona and Ndebele beliefs that negatively influence the timing of the introduction of pre-lacteals, herbal concoctions < 6 mo., breast milk insufficiency, low breastfeeding frequency, breastfeeding cessation when pregnant, and general beliefs about when and how to wean. **LQAS and Capacity Building:** Monitor and improve quality of institutional births, individual as well as group BF promotion counseling services provided by DHCs, RHCs and VHWs. **BCC and Capacity Building:** Increase % of institutional births and devise methods to overcome distance constraints in rural areas.

ANNEX 2: ILLUSTRATIVE TIMELINE OF INTERVENTIONS

The following table indicates a possible sequence and timing of interventions linked within the concept of a utilization-driven holistic program:

Month/ Level of Assistance	**Menu of Activities** (For illustration only, many activities may be more appropriately assigned to a different level)	**Framework Approach and Comments**	**Trigger for Next Level of Assistance**
0-3 mo. Level 1 Organizational Start-up, with simultaneous beneficiary selection	- Public announcements of program: Program goals, expected results, selection criteria, donor commitments, beneficiary expectations, etc. - Application of verifiable community selection criteria, specifically: • Willingness (verifiable), determined by a demonstrated ability to maximally utilize available program goods and services based on previous donor involvement • Stunting rates >25% • Commitment to improve stunting rates through sustainable food security interventions • Other community behaviors that demonstrate commitment to development such as high levels of ITN use, WASH behaviors, etc.	Beneficiary selection is an equal opportunity process based on verifiable community commitment to improve all four dimensions of food security. Examples of Willingness behaviors: • MOHCW health cards up-to-date by >X% (>50%??) of the target population in the community • Verifiable evidence of community-based maintenance of structures built or animals acquired under FFW, FFA or other donor programs (incl. dams, dip tanks, pasture protection, wells, gardens, etc.) • Continued community group participation in Village Savings and Loans activities • Other examples of the community demonstrating an ability to maximally utilize available resources.	• Verified community selection criteria met and documented at start-up • Acceptance into program • Signed commitment by community to improve stunting rates through sustainable food security interventions (stakeholder agreement)
3-15 mos. Level 2	• BCC to promote Level 1 activities: • Emergency food needs for transitorily food insecure individuals: Vulnerable Group Feeding (VGF), FFA, CFA, application of entrance criteria with publically announced exit strategy. • Community and home gardens for production of prescription food • Small animal husbandry • Diversified crop and Vitamin A / Citrus fruit production (small orchards) • Establishment of Village Savings and Loans • Training to improve agricultural production, management skills and market linkages (including record keeping, project supervision and leadership)	• 5% improvements in WAZ-scores, entitles beneficiaries to more and more assistance under the menu of Level 1 activities, dependent upon their specific needs. • The more costly interventions are reserved for those communities that have demonstrated an ability to manage, achieve measurable results and sustain less costly interventions in the face of economic and climatic shocks • Nutrition education is obligatory for all community leaders, involved in agriculture, income generation, civil society and health. Topics will center on community involvement and responsibility in	• 10% (adjustable and approx.) reduction in community stunting rates, measured every six months to measure progress • New stakeholder agreement developed and signed with the community.

Month/ Level of Assistance	**Menu of Activities** (For illustration only, many activities may be more appropriately assigned to a different level)	**Framework Approach and Comments**	**Trigger for Next Level of Assistance**
	• Income generation activities • Household wells • Household granaries • Household food preservation • Conservation agriculture • Seed security (open pollination varieties and/or hybrid seeds) • Asset management committee formation • Nutrition education is obligatory: Maternal health, Breast feeding promotion, Infant and Young Child Feeding, etc. (See Table 12: Menu of High Impact Interventions, Current Coverage and Recommendations)	reducing levels of stunting.	
15-18 mos Level 3	• Small dam construction • Dam rehabilitation • Water harvesting for irrigation • Rehabilitation of irrigation schemes • Negotiation and marketing skills development among farmers who demonstrate high production • Nutrition education is obligatory: Maternal health, Breast feeding promotion, Infant and Young Child Feeding, etc. (See Table 12: Menu of High Impact Interventions, Current Coverage and Recommendations)	• 5% improvements in WAZ-scores, entitles beneficiaries to more and more assistance under the menu of Level 1 activities, dependent upon their specific needs. • Nutrition education is obligatory for all community leaders, involved in agriculture, income generation, civil society and health. Topics will center on community involvement and responsibility in reducing levels of stunting.	• 10% reduction in stunting rates, measured every six months to monitor progress • New stakeholder agreement developed and signed with the community.
18-27 mos. Level 4	• Dam construction • Establishment of large irrigation schemes • Create market linkages • Nutrition education is obligatory: Maternal health, Breast feeding promotion, Infant and Young Child Feeding, etc. (See Table 12: Menu of High Impact Interventions, Current Coverage and Recommendations)		• 20% reduction in stunting rates, measured every six months to monitor progress • New stakeholder agreement developed and signed with the community. • New stakeholder agreement, with significantly reduced donor involvement, developed and signed with the community.
28-60 mos. Level 5	**To be determined.** Reaffirm sustainability and sharpen interventions that provide resiliency to shocks		

ANNEX 3. SURVEY INSTRUMENTS

FOCUS DISCUSSION GROUP QUESTIONNAIRE

Province: District: Ward: Date

SECTION 1: UTILIZATION

1. How much time is spent on ***routine*** daily activities from the time that women/men wake up until they go to sleep? (10 minutes) – List the four main activities that are done almost every day and make up the majority of daily activities in the morning, afternoon, and evening hours, for men and for women. Record the number of hours that are spent on each activity. Fill in this information for the non-harvest period (June/July) and then repeat this process for the harvest period (January/February).

1.a Least Busy Time (Note Months from _____ to _____):

Men's Activities	No. of Hours	Women's Activities	No. of Hours
Morning – From awakening until the sun is at the high point in the sky			
Afternoon – From when the sun is at the high point in the sky until it sets			
Evening – From sunset until sleep			

1.b Most busy time (Note Months from _____ to _____):

Men's Activities	No. of Hours	Women's Activities	No. of Hours
Morning – From awakening until the sun is at the high point in the sky			

Afternoon – From when the sun is at the high point in the sky until it sets			
Evening – From sunset until sleep			

List other activities that also take a lot of time even though they are not done on a daily basis (non-routine activities. Please record these non-routine activities that take up time for men and for women, the number of hours that it takes to do each activity and how many times in a month these activities are done. (Examples may be visit the health center, go to market, etc.)

1.c. **Non - Routine Activities**

Men's Activities	**No. of Hours**	**# per month**	**Women's Activities**	**No. of Hours**	**# per month**
1.					
2.					
3.					
4.					

2. Exclusive breastfeeding means that the infant is given only breast milk: No food, no water and no concoctions, only breast milk.

a. How many months after the birth of a son do lactating mothers stop exclusively breastfeeding their sons? _____ months
b. What are the main reasons why mothers stop exclusively breastfeeding their sons? Please list the two main reasons:

1.
2.

c. How many months after the birth of a daughter do lactating mothers stop exclusively breastfeeding their daughters? _____ months
d. What are the main reasons why mothers stop exclusively breastfeeding their daughters? Please list the two main reasons:

1.
2.

2. What dark green vegetables and plants or very orange fruits and vegetables do you eat? What time of the year do you eat them? Do you find them in the wild, purchase them, did you grow them or did someone else grow them and give them to you? How often do you eat them? Why don't you eat more of them?

Dark green vegetables and plants AND very orange fruits and vegetables

Type of fruit, vegetable or plant	What time of year is it available?	How often eaten when available?	Why don't you eat more of this food when it is available?
Wild			
Grown (not purchased)			
Purchased			

4. a. In the community, how many times per month does the family eat animal sources of protein? Animal protein includes: meat, poultry, eggs, fish, milk or milk products.

The family eats animal sources _____ times per month.

b. Who doesn't eat animal sources of protein, for any reason, when others eat it at the home? (Put an "X" in front of each family member who doesn't eat these foods. Give the one most important reason why these foods are not eaten, only for those family members that were selected with an "X" as someone who doesn't get to eat animal sources of protein)

_____Mother – Why? _____

_____Father – Why? _____

_____Grandparents – Why? _____

_____Youth over age five – Why? _____

_____Children between 2-5 years – Why? _____

_____Children between 6-23 months – Why? _____

_____Infants 3-5 months old – Why? _____

_____Infants 0-2 months old – Why? _____

5. What changes in feeding, drinking, medicines and concoctions does the caregiver make when the child has diarrhea? Please list the three most important changes that are made and then explain the main reason how each change helps the child who has diarrhea.

Change	**How the change helps**
1.	
2.	
3.	

6. Stunting means that a child under age five is not as tall as he/she should be for his/her age.

   a. Out of every 10 children that live in the community and are under age five, how many of these 10 children do you think might be stunted? _____

   b. Do you think that stunting has an effect on the child? _____Yes _____No

   c. If you answered "Yes" that stunting has an effect on the child, please list up to three of the main reasons on how you've noticed that stunting affects the child.

How stunting effects the child
1.
2.
3.

SECTION 2: OFF FARM INCOME GENERATING ACTIVITIES

1. What proportion of households in the area engages in some form of off-farm income generation? Please circle the single best answer.

a) All of them
b) More than three quarters
c) More than half
d) Less than half, but more than a quarter
e) Less than a quarter
f) Hardly any

2. What is the most common activity? Second most common activity? Third most common activity? Put a 1, 2, and then a 3 next to the activity that corresponds to the most 3 common activities:

_____ Selling locally available raw materials e.g.: firewood, charcoal or grass
_____Manufacture of basic items consumed locally e.g. furniture, bricks, baskets,
_____Manufacture of basic items consumed outside the area
_____Making and selling alcohol
_____Working for someone else in the area (including farm work)
_____Working for someone else in town
_____Informal business in the area (including petty trade)
_____Informal business in town (including petty trade)
_____Other (Please describe): _____

3. What proportion of household cash income does each of these three activities normally contribute in the course of the year?

Most important: % of income _____
Second most important: % of income _____
Third most important: % of income _____

4. What is the most important reason for choosing each one of these three activities? For each activity, please select one letter from the list below that best describes why you chose the activity:

Activity 1: _____ Activity 2: _____ Activity 3: _____

List of Reasons Why:
a) We know how to do them well
b) We have the raw materials locally available
c) There are plenty of buyers for our products/services
d) The profits are good
e) It is easy to get into the business
f) I have the time to do it
g) Other (please describe)

5. What are the two most important factors limiting the profitability of off-farm income generating activities? Place a 1 and then a 2 by the first and second most important factors.

_____ a) Not enough buyers
_____ b) Prices are too low
_____ c) Can't get enough raw materials
_____ d) Raw materials too expensive
_____ e) Don't have enough time to do it
_____ f) Don't have enough cash to finance the business
_____ g) Need more training to make the business work better
_____ h) Local taxes are too high
_____ i) Outside interference (indicate from where)
_____ j) Local laws limit what we can do
_____ k) Other (Please describe): _____

6. Has there been a change in the importance of off-farm activities? _____Yes _____No

If you answered "No" there has not been a change, put a circle around "a)". If you answered "Yes", that there has been a change in the importance of off-farm activities, what is the main reason for the change? (Put a circle around the letter that best describes the main reason)

a) No change - no reason
b) Reduced profitability of farming
c) Increased profitability of off-farm activities
d) Reduced profitability of off-farm activities
e) Increased profitability of farming
f) No main reason - a combination of the above.

7. Which do you consider to be the more profitable use of your time? (Please put a circle around only one of the letters listed below)

a) Farming activities (including crops and/or livestock)?
b) Off-farm activities?
c) No difference.

8. Which do you consider to be more risky? (Please put a circle around only one of the letters listed below):

a) Farming activities (crops and/or livestock)?
b) Off-farm activities?
c) No difference

9. If you had more resources (cash or labour) and could only invest in one, which would you invest in? (Please put a circle around only one of the letters listed below):

a) Farming activities (crops and/or livestock)?
b) Off-farm activities?

10. How has the average amount of remittances changed over the last two years? (Please circle around only one of the letters listed below):

a) It has gone up a lot
b) It has gone up a little
c) It has not changed very much at all
d) It has gone down a little
e) It has gone down a lot

11. If there has been a change in the average amount of remittance received has it affected household food security?

a) Yes, because of increased remittances, food security has improved
b) No, it has not made a difference
c) Yes, because of reduced remittances, food security has got worse.

12. What proportion of your production does the average household sell?:

Maize: Average %, Maximum % Minimum %

Other grains: Average %, Maximum % Minimum %
Garden produce: Average %, Maximum % Minimum %
Livestock: Average %, Maximum % Minimum %
What are the two main ways that HIV/AIDS has affected off-farm income generating activities in your area:

QUESTIONS FOR CROP AND LIVESTOCK PRODUCERS

Crops

1. What are the three most import crops that you normally grow

and indicate the two most important reasons why you grow each one? For each crop, please select two letters from the list below that best describes why you chose the crop:

Most Important Crop _____
Reason 1: _____
Reason 2: _____

Second Most Important Crop _____
Reason 1: _____
Reason 2: _____

Third Most Important Crop _____
Reason 1: _____
Reason 2: _____

Reasons:
a) Because me and my family will eat it
b) Because the inputs are easy to obtain
c) Because I can sell it for a good price
d) Because I know that there are traders that will buy it
e) Because it is well-suited to my soil and my climate
f) Because I know that I'll always or usually get a decent production
g) Other (Please list)……..

2. What are the two key challenges in growing these three crops? Please write in the names of the three most important crops and then select two challenges from the list below.

Crop	Challenge 1	Challenge 2
1.		
2.		
3.		

Challenges:
a) Seeds – Good quality not available

b) Seeds – Price is to high
c) Other inputs – Good quality not available
d) Other inputs – Price is too high
e) Extension – Not enough visits
f) Extension – Advise is not useful
g) Credit – Too expensive
h) Credit – Not available
i) Markets – Market prices are too low
j) Markets – Not enough buyers
k) Markets – Markets are too hard to get to
l) Other (Please specify): _____

3. Please list up to two of the main crops that you have stopped growing and one main reason for stopping to grow each one from the list below.

Main crop no longer grown	Main Reason for stopping
1.	
2.	

Main Reason for Stopping

a) The price is too low
b) Not enough labour
c) Not enough animal draft power
d) Difficulty getting the inputs
e) There are new and better crops
f) Other (please list this reason)

4. Based on available extension advice, are farmers applying recommended fertilizer levels?

Fertiliser	Applying Recommended levels Yes/No	If NO, what are the 2 main reasons why not?
Compounds		
AN		
Manure		
Lime		

Reasons Why Not:

a) Price is too high
b) No credit is available
c) No one is selling it in this area
d) Too risky
e) We don't expect to see enough benefit to doing it
f) Other (please specify): _____

5. What fees or prices are you prepared to pay for the following:

Item	Fees or Price

Fertilizer (Specify either Compound D or AN)	
Seed (Specify improved maize, sorghum or millet)	
Labour	
Land preparation	
Construction of grain storage facility	
Transportation (inputs to home, produce to the market)	

6. What are two most important constraints to labour? (Please place a 1 and then a 2 on the 1st and 2nd most important constraints):
   a) Labour is too expensive
   b) There isn't enough labour
   c) Available labour isn't strong enough to tackle what needs to be done
   d) Available labour doesn't have the skills to do the job
   e) Available labour isn't reliable enough / too lazy
   f) Other (please specify): _____

7. What are the top two areas do you need most help with? Please put a circle around two letters:
   a) Choosing the best crops to grow
   b) Credits and inputs
   c) How to grow my crops
   d) How to store and process
   e) How to best market my crops (including help with prices)
   f) How to run a small business
   g) Other (specify): _____

8. After you harvested and stored your crop, what percentages do you think you lost because of pests (rats, mice, weevils, beetles and other insects) and diseases (mold, rotting, and sprouting)? Give an estimate of % (parts out of 100)? _____%

9. In order to minimize these losses I need: (Please prioritize the following options: 1= most important and 3= is least important)
   _____Grain storage chemicals
   _____More grain storage capacity
   _____Improved grain storage facilities

10. What are the two main ways that HIV/AIDS has effected farming systems (including livestock) in your area:

1
2

Livestock

1. Which factors do you think create food insecurity for people with livestock? Please list the most important two factors: [L1a : L1b:]
   a) Low prices for livestock
   b) Lack of grazing
   c) Livestock diseases
   d) Other (Please list)

2. What enables some people to remain with some livestock after bad years and some to lose all of them? Please indicate the two most important factors: [L3a: L3b:]
   a. Larger herd of livestock
   b. Better access to grazing
   c. Better financial resources
   d. Access to credit
   e. Better links with traders
   f. Better access to veterinary services
   g. Other (Please list)

3. What is the minimum no. of animals (Specify type) that can sustainably be kept per household in this community? [L4:] Why? (Please list the most important reason) [L4a:]
   a. Need a minimum level of off-take in order to get enough income
   b. Need a minimum level in order to cope with disease
   c. Need a minimum number in order to offset effects of drought
   d. Other (Please list)

4. Are you able to access animal health care extension for your livestock? [L5:] If not, why? (List main reason) [L5a:]
   a. Not enough extension workers
   b. Too far away
   c. Other (Please List)

5. Are you able to source finance for livestock activities? [L6:] If not, why? (Please list the top two reasons) [L6a: L6b:]
   a. No collateral
   b. No financial institutions in the area
   c. Finance is too expensive
   d. No connections with financial institutions
   e. No capacity to prepare a business plan
   f. Previous debts still outstanding
   g. Other (Please list)

6. When do people normally sell their livestock in this community? Please indicate the two main reasons: [L7a: L7b:]

a. When they need cash
b. When grazing is running short
c. When the livestock are fat
d. When the prices are best
e. When traders visit the area.
f. When the herd numbers get too many
g. Other (Please list)

7. Do you get a fair price for your livestock? (Yes/No) [L8:]
If not, please list the two main reasons from below: [L8a: L8b:]
   a. Not enough buyers
   b. Buyers collude
   c. Competition from imports
   d. Competition from other domestic markets
   e. Farmers all sell at the same time
   f. We don't know what the price should be
   g. Middlemen/brokers take most of the profit
   h. We have to sell at a low price to repay loans
   i. Other (Please list)

8. Do you access insurance for your livestock? [L9:]
If not, please list the main reason: [L9a:]
   a. Insurance is too expensive
   b. Insurance is not available
   c. Not worth it – the payback doesn't justify the premiums
   d. Don't trust it – the schemes never pay out.
   e. Other (Please list).

VILLAGE HEALTH CARE WORKER QUESTIONNAIRE

Please Circle "Yes" or "No". If required, answer the question that is provided with one simple sentence.

1. Do you provide Infant and Young Child Feeding (IYCF) counseling?

   Yes No

2. Do you provide Community-based Growth Monitoring (CBGM)?

   Yes No

   If "Yes", please answer the following questions. If "No" proceed to question 3:

   How often? _____

   Do you tabulate the results?

   Yes No

Does the community keep records of these results?

Yes No

Where are the records kept? Please circle:

a) The Village Health Worker keeps the records
b) The District keeps the records
c) Other (please specify): _____

3. Do you provide WASH activities? WASH stands for Water, Sanitation and Hygiene.

Yes No

Please list the three main WASH activities that you implement:

1.
2.
3.

4. Do you inform caregivers on how to administer oral rehydration therapy when a child has diarrhea?

Yes No

5. Do you inform caregivers on how to feed a child who has diarrhea?

Yes No

6. Do you provide counseling to the mother of newborn infants to promote breastfeeding during the first six months of an infant's life?

Yes No

7. Do you know how to recognize when a child should be referred to the health center and then refer the child to the health center?

Yes No

8. How many hours per week do you spend as a Volunteer Health Care Worker?

Hours per week: _____

9. What incentives to you receive for your work as a Volunteer Health Care Worker? If you receive more than one incentive, please list up to the three incentives that are most important to you.

1.
2.
3.

QUESTIONNAIRE FOR AGRITEX AGENTS

Province: District: Ward: Date:

1. What are the three main reasons why households in your area suffer from food insecurity? [A1a: A1b: A1c:]
    a. Low yields due to poor weather
    b. Not enough land to grow enough food
    c. Not enough labour to cultivate the land
    d. Cannot access crop inputs
    e. Inputs are too expensive
    f. Limited technical knowledge to grow crops efficiently
    g. Can't get a high enough price for their produce
    h. Cannot get a high enough wage for their labour
    i. Food is too expensive
    j. Traders buy when cheap and sell when prices are high
    k. Poor storage of harvested crops
    l. Other (Please list

2. Regarding food production, what are the two main constraints facing crop producers?
    a.
    b.
3. Regarding food production, what are the two main constraints facing livestock producers?
    a.
    b.
4. Regarding access to markets, what are the two main constraints facing crop producers in selling their crops?
    a.
    b.
5. Regarding access to markets, what are the two main constraints facing livestock producers in selling their crops?
    a.
    b.
6. What are your three main constraints in providing support to farmers?
    a.
    b.
    c.

QUESTIONNAIRE FOR TRADERS

Province: District: Ward: Date:

Crops:

1. In order of importance what are the three main crops are you currently trading?

No.	Crop	Proportion of Trade (%) by volume	US$ price just after harvest	US$ price at lowest time
1	T1a	T1a1	T1a2	T1a3
2	T1b	T1b1	T1b2	T1b3
3	T1c	T1c1	T1c2	T1c3

2. In general, how far from your warehouse do you source these crops? (Please give per cent by volume)

   _____%_ within 10km (T2a)

   _____%__ within 20km (T2b)

   _____% _beyond 20km (T2c)

3. For each of the three crops listed in a, please indicate the amount purchased and the amount sold locally and the quality you expect to get from this area in an average year

Crop	Volume purchased (MT)	Volume sold locally (MT)	Quality (very good, good, ok bad, very bad)
T3a	T3a1	T3a2	T3a3
T3b	T3b1	T3b2	T3b3
T3c	T3c1	T3c2	T3c3

4. What are your three main constraints when buying from farmers? [T4a: T4b: T4c:]
   a. Cannot get enough finance
   b. Prices are too high
   c. Quality is too low/variable
   d. Amounts sold by producers are too small
   e. Transport costs are too high
   f. Cheating by producers (underweight, stones in bags etc.)
   g. Producers not trustworthy
   h. Other (Please list)

Livestock

5. What are the mains types of livestock traded?

No.	Livestock	Proportion of Trade (%) by volume	Reason
1	T5a	T5a1	
2	T5b	T5b1	
3	T5c	T5c1	

6. What are the average prices in maximum and minimum trade volume months and why?

Livestock	Av Price in Max trade month	Av Price in Min trade	Reason

		month	
T6a	T6a1	T6a2	
T6b	T6b1	T6b2	
T6c	T6c1	T6c2	

7. If you exchange livestock for food products, what is the exchange ratio? If this goes up or down, what is the primary reason? (Specify by crop and type of livestock)

Livestock/food ratio	**Main reason for any change**

8 What are your two main constraints when buying from farmers? [T8 a: T8b:]

a. Cannot get enough finance
b. Prices are too high
c. Quality is too low/variable
d. Transport costs are too high
e. Producers not trustworthy
f. Other (Please list)

DISTRICT LEVEL QUESTIONS – HEALTH AND NUTRITION

Province: District: Ward: Date

1. What percentage of pregnant women receive:

a. Iron supplementation? _____%

b. Folate (folic acid) supplementation? _____%

c. Calcium supplementation? _____%

d. Weight gain monitoring? _____%

e. HIV/AIDS screening _____% %HIV positive that receive ARVs? _____%

f. Individual nutrition counseling during pregnancy? _____%

g. Anti-malaria IPTP _____%

h. Insecticide Treated Nets (ITNs)? _____%

i. Supplementary food(s) _____% Type of food(s) _____

4. What are the largest NGO's in your district that have (list at least one):
   a. WASH activities:
   _____

b. Maternal, Infant, Child nutrition and health activities (list at least one):
_____

5. What are the five main tasks that you require of the Village Health Workers and how often? Please list the five main tasks required of the Village Health Workers, how often they are required to perform those tasks and how much time it takes them to complete the task. Put an "X" in the final column only if that task is required by the District Health Office without the support of other organizations.

Task	**How Often**	**Hours Needed**	**No support (X)**
1.			
2.			
3.			
4.			
5.			

ANNEX 4: FOCUS DISCUSSION GROUPS SELECTED RESPONSES

Not all of the answers to the questionnaire were meaningful. In some cases questions were not well understood (especially those relating to proportions) or the results were impossible (hours spent working at different daily tasks inevitably exceeded 24 and often 30 hours). The data below shows the responses that could be tabulated.

1. NON - ROUTINE ACTIVITIES

Men's Activities	Number of Respondent Groups	Women's Activities	Number of Respondent Groups
Manicaland			
grass cutting	29	grass cutting	42
repairing huts	34	brick molding	29
brick molding	45	petty trade	13
debarking baobab	7	debarking baobab	8
thatching	12	sewing	12
other	33	making floors	12
		house repairs	15
		other	34
Masvingo			
church	24	church	29
meetings	20	meetings	24
community projects	13	community projects	14
huts	12	manure gathering	9
crafts	11	crafts	7
brickmaking	9	Brick making	7
thatching	14	thatching	13
other	29	Other	29
Matabeleland North			
Funerals	48	Funerals	42
Meetings	56	Meetings	60
Dip Repair	15	Fencing	8
Road repair	7	Dip repair	7
Traditional activities	10	House Repair	9
Other	39	Other	33
Matabeleland South			

Meetings	55	Meetings	42
Traditional activities	26	Church	60
Church	33	Clubs	8
Other	45	Other	59

2. QUANTITATIVE NUTRITIONAL RESPONSES

		Manicaland	Masvingo	Matabeleland North	Matabeleland South
Age at which Exclusive Breast Feeding is terminated (Months	Boys	1.5	2.7	4.8	2.7
	Girls	1.6	3.0	4.8	3.2
Average Months in the year for which Vitamin A is consumed		11.5	9.8	11.7	9.3
Frequency of protein consumption (per month)		1.7	8.2	1.1	3.3
Knowledge of Salt and sugar solution for diarrhea control (%)		95%	82%	97%	97%
Community estimate of stunting percentage (%)		16.6%	20.3%	17.3%	13.9%
Recognition of the mental impact of stunting (% of communities)		88%	82%	88%	94%

3. OFF FARM INCOME GENERATING ACTIVITIES

	Manicaland	Masvingo	Matabeleland North	Matabeleland South
Number of groups responding	54	42	61	60
Most common off-farm IGA				
Selling locally available raw materials e.g.: firewood, charcoal or grass	11	7	13	16
Manufacture of basic items consumed locally e.g. furniture, bricks, baskets,	37	17	18	12
Manufacture of basic items consumed outside the area				
Making and selling alcohol				
Working for someone else in the area (including farm work)	3	15	12	2
Working for someone else in town				
Informal business in the area (including petty trade)	2		1	2
Informal business in town (including petty trade)				
Other	1	3	18	27
Second most common off-farm IGA				

	Manicaland	Masvingo	Matabeleland North	Matabeleland South
Selling locally available raw materials e.g.: firewood, charcoal or grass	8	7	4	6
Manufacture of basic items consumed locally e.g. furniture, bricks, baskets,	11	14	29	18
Manufacture of basic items consumed outside the area	7			
Making and selling alcohol				
Working for someone else in the area (including farm work)	22	17	17	13
Working for someone else in town				
Informal business in the area (including petty trade)		3	2	1
Informal business in town (including petty trade)				
Other	6	3	9	22
Third most common off-farm IGA				
Selling locally available raw materials e.g.: firewood, charcoal or grass	4	7	9	13
Manufacture of basic items consumed locally e.g. furniture, bricks, baskets,	2	18	7	5
Manufacture of basic items consumed outside the area			3	
Making and selling alcohol				
Working for someone else in the area (including farm work)	12		26	12
Working for someone else in town				
Informal business in the area (including petty trade)	3	3		2
Informal business in town (including petty trade)				
Other	33	14	17	28

4. REASONS FOR SELECTING THESE OFF-FARM IGAS

	Manicaland	Masvingo	Matabeleland North	Matabeleland South
Number of groups responding	54	42	61	60
Reason for most common off-farm IGA				
We know how to do it well	12	14		17
We have the raw materials locally available	21	6	23	
There are plenty of buyers for our products/services		12	18	15
The profits are good		7		26
It is easy to get into the business	4		2	

	Manicaland	Masvingo	Matabeleland North	Matabeleland South
I have the time to do it			15	
Other	15	3	3	1
Reason for second most common off-farm IGA				
We know how to do it well	2		25	26
We have the raw materials locally available	41	29	12	20
There are plenty of buyers for our products/services		8	14	9
The profits are good			8	1
It is easy to get into the business	5			
I have the time to do it				
Other	6		2	2
Reason for third most common off-farm IGA				
We know how to do it well	8	7	18	16
We have the raw materials locally available	13	15	33	
There are plenty of buyers for our products/services		14		
The profits are good	17	3		1
It is easy to get into the business				14
I have the time to do it	1			
Other	13	3	13	27

5. FACTORS LIMITING THE PROFITABILITY OF OFF-FARM IGAS

	Manicaland	Masvingo	Matabeleland North	Matabeleland South
Number of groups responding	54	42	61	60
First constraint				
Not enough buyers	26	24	23	17
Prices are too low	23	16	16	21
Can't get enough raw materials				8
Raw materials too expensive				
Don't have enough time to do it				
Don't have enough cash to finance the business	2		13	
Need more training to make the business work better				
Local taxes are too high				

	Manicaland	Masvingo	Matabeleland North	Matabeleland South
Outside interference (indicate from where)				
Local laws limit what we can do			7	12
Other	3		2	2
Second constraint				
Not enough buyers		11	21	11
Prices are too low	25	18	10	14
Can't get enough raw materials	8			9
Raw materials too expensive	10			
Don't have enough time to do it				
Don't have enough cash to finance the business	9	5		2
Need more training to make the business work better				
Local taxes are too high			6	
Outside interference (indicate from where)				
Local laws limit what we can do		6	7	22
Other	2	2	16	1

6. HAS THERE BEEN A CHANGE IN THE IMPORTANCE OF OFF-FARM ACTIVITIES – IF SO, WHY?

Reason	Manicaland	Masvingo	Matabeleland North	Matabeleland South
Number of groups responding	54	42	61	60
No change - no reason	24	7	42	23
Reduced profitability of farming	17	10	3	12
Increased profitability of off-farm activities	1	10	4	2
Reduced profitability of off-farm activities	13	7	3	14
Increased profitability of farming	0	3	0	0
No main reason - a combination of the above.	1	6	1	9

7. FARMING – OFF-FARM COMPARISONS OF PROFITABILITY RISK AND INVESTMENT POTENTIAL

	Manicaland	Masvingo	Matabeleland North	Matabeleland South
More profitable use of time:	56	44	61	60
• Farming	47	38	57	58
• Off-farm activities	7	5	3	2

• No difference	2	1	1	0
Higher Risk:				
• Farming	26	15	31	53
• Off-farm activities	30	23	26	6
• No difference	0	6	3	1
Would invest extra resources in:				
• Farming	51	40	56	60
• Off-farm activities	5	4	5	0
• No difference	0	0	0	0

8. CHANGE IN REMITTANCES OVER THE LAST TWO YEARS:

Number of groups responding	Manicaland	Masvingo	Matabeleland North	Matabeleland South
Level of remittance has:				
• gone up a lot	0	0	4	1
• gone up a little	0	1	0	3
• not changed very much at all	1	5	10	3
• gone down a little	0	4	2	5
• gone down a lot	55	34	34	48
Impact on food security:				
• Because of increased remittances food security improved	0	2	3	0
• The level of remittance has not affected food security	2	0	11	8
• Because of reduced remittances food security has got worse	54	39	46	51

9. CROPPING

Number of groups responding	Manicaland	Masvingo	Matabelelan d North	Matabeleland South
Most important crop				
• Maize	17	34	34	42
• Sorghum	30	3	2	4
• Millet	7	8	24	14
• Groundnuts				
• Other				
Second most important crop				
• Maize	2	3	18	5
• Sorghum	8	19	17	18
• Millet	18	4	8	12
• Groundnuts	24	12	14	23
• Other	6	4	3	3
Third most important crop				

• Maize				12
• Sorghum			16	14
• Millet				
• Groundnuts	25	16	26	18
• Other	31	24	17	15

10. REASONS FOR SELECTING CROPS

Number of groups responding	Manicaland	Masvingo	Matabeleland North	Matabeleland South
First Reason				
Because me and my family will eat it	99	94	89	122
Because the inputs are easy to obtain				
Because I can sell it for a good price			5	
Because I know that there are traders that will buy it			4	
Because it is well-suited to my soil and my climate	46	20	66	51
Because I know that I'll usually get a decent production				
Other	15	12	16	7
Second reason				
Because me and my family will eat it	16	34		65
Because the inputs are easy to obtain		24		15
Because I can sell it for a good price	22	22	36	32
Because I know that there are traders that will buy it	6		6	
Because it is well-suited to my soil and my climate	76	25	77	58
Because I know that I'll usually get a decent production		8	36	4
Other	25	4	24	9

11. CHALLENGES IN GROWING CROPS

Number of groups responding	Manicaland	Masvingo	Matabeleland North	Matabeleland South
First challenge				
Seeds – Good quality not available	68	13	5	22
Seeds – Price is to high		12	33	
Other inputs – Good quality not available		6		
Other inputs – Price is too high	17	22		
Extension – Not enough visits				12
Extension – Advise is not useful				
Credit – Too expensive				
Credit – Not available	7			18

Markets – Market prices are too low	5		26	
Markets – Not enough buyers	4		24	
Markets – Markets are too hard to get to				
Processing difficulties				
Bird damage	34	56	67	57
Wildlife damage				4
Poor rains	26	17	28	66
Other				4
Second Reason				
Seeds – Good quality not available		42	38	57
Seeds – Price is to high		35		
Other inputs – Good quality not available			9	
Other inputs – Price is too high	48	16	22	39
Extension – Not enough visits				
Extension – Advise is not useful				
Credit – Too expensive				
Credit – Not available				
Markets – Market prices are too low			17	
Markets – Not enough buyers			16	
Markets – Markets are too hard to get to				
Processing difficulties				
Bird damage		12		29
Wildlife damage		5	12	11
Poor rains	93		28	
Other			12	5

12. DISCONTINUED CROPS

Number of groups responding	Manicaland	Masvingo	Matabeleland North	Matabeleland South
Maize	32	4		
Sorghum		12	16	22
Millet	22	27	12	27
Rapoko		18	30	42
Groundnuts	14			
Sunflower	16	6	5	
Cotton	20	8		
Other	4	7	15	

13. REASONS FOR DISCONTINUATION

Number of groups responding	Manicaland	Masvingo	Matabeleland North	Matabeleland South
Price too low		16	39	14
Not enough labour				
Not enough animal draft power				

Difficulty getting the inputs	8			6
There are new and better crops		8		
Poor rains	72	24	17	24
Bird damage	6	37	12	57
Other	4	28	8	9

14. PROPORTION OF FARMERS APPLYING RECOMMENDED FERTILIZER LEVELS

Proportion of Groups Applying	Manicaland	Masvingo	Matabeleland North	Matabeleland South
Compound	5%	16%	96%	62%
AN	8%	15%	83%	25%
Manure	94%	28%	89%	87%
Lime	0%	34%	67%	6%

15. REASONS FOR NOT APPLYING FERTILIZER

Reasons given by those groups not applying recommended fertilizer levels	Manicaland	Masvingo	Matabeleland North	Matabeleland South
Price is too high	36%	48%	8%	22%
No credit is available	6%		4%	8%
No one is selling it in this area		39%	52%	10%
Too risky	42%			43%
We don't expect to see enough benefit to doing it	16%	12%	7%	17%
Other			28%	

16. ASSISTANCE MOST REQUIRED

Proportion of Groups responding	Manicaland	Masvingo	Matabeleland North	Matabeleland South
Choosing the best crops to grow			16%	
Credits and inputs	52%	44%	34%	49%
How to grow my crops	11%	4%	9%	
How to store and process				
How to best market my crops (including help with prices)	8%	15%	20%	4%
How to run a small business			9%	9%
Irrigation	12%	26%	12%	12%
Tractors	6%	8%		24%
Other	11%	3%		2%