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# ZAMBIA

## FY 2011–2015 Multi-Year Strategy

### U.S. Government Document

The Feed the Future (FTF) Multi-Year Strategies outline the five-year strategic planning for the U.S. Government's global hunger and food security initiative. These documents represent coordinated, whole-of-government approaches to address food security that align in support of partner country priorities. The strategies reflect analysis and strategic choices made at the time of writing and while interagency teams have formally approved these documents, they may be modified as appropriate.

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## ABBREVIATIONS AND ACRONYMS

<b>ACF</b>	Agriculture Consultative Forum
<b>AFDB</b>	African Development Bank
<b>APS</b>	Annual Program Statement
<b>BEST</b>	Best Practices at Scale in Home, Community and Facilities
<b>CA</b>	Conservation Agriculture
<b>CAADP</b>	Comprehensive Africa Agricultural Development Program
<b>CDC</b>	Centers for Disease Control
<b>CDCS</b>	Country Development Cooperation Strategy
<b>COMESA</b>	Community of East and Southern Africa
<b>CSO</b>	Central Statistical Office
<b>DFID</b>	Department for International Development (UK)
<b>DHS</b>	Demographic Health Survey
<b>DRC</b>	Democratic Republic of Congo
<b>EU</b>	European Union
<b>FAO</b>	Food and Agriculture Organization
<b>FSRP</b>	Food Security Research Project
<b>FTF</b>	Feed the Future
<b>GART</b>	Golden Valley Agriculture Research Trust
<b>GCC</b>	Global Climate Change
<b>GDP</b>	Gross Domestic Product
<b>GHI</b>	Global Health Initiative
<b>GRZ</b>	Government of the Republic of Zambia
<b>Ha</b>	Hectare
<b>ICRISAT</b>	International Center for Research in the Semi-Arid Tropics
<b>IFPRI</b>	International Food Policy Research Institute
<b>IYCF</b>	Infant and Young Child Feeding
<b>M&amp;E</b>	Monitoring and Evaluation
<b>MACO</b>	Ministry of Agriculture and Cooperatives
<b>MLFD</b>	Ministry of Livestock and Fisheries Development
<b>MT</b>	Metric ton
<b>PEPFAR</b>	President's Emergency Plan for AIDS Relief
<b>R&amp;D</b>	Research and Development
<b>REDD</b>	Reducing Emissions from Deforestation and forest Degradation
<b>SADC</b>	Southern Africa Development Community
<b>SAGCOT</b>	Southern Africa Growth Corridor
<b>SNDP</b>	Sixth National Development Plan
<b>SPS</b>	Sanitary and Phytosanitary
<b>USAID</b>	United States Agency for International Development
<b>USDA</b>	United States Department of Agriculture
<b>WOG</b>	Whole of Government
<b>ZAMACE</b>	Zambia Commodity Exchange
<b>ZARI</b>	Zambia Agriculture Research Institute
<b>ZERS</b>	Zambia Economic Resilience Program for Improved Food Security

# I. DEVELOPMENT CHALLENGES AND OPPORTUNITIES

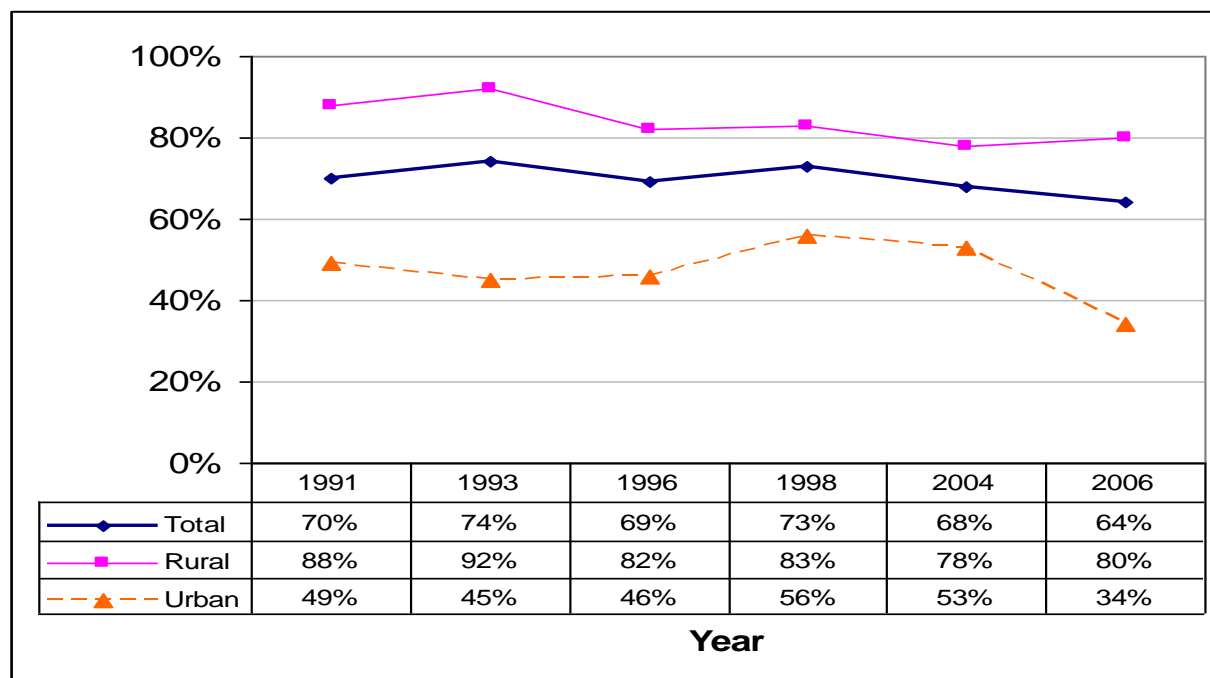
## I.1 CONTEXT AND CHALLENGES

Zambia is a landlocked country in the central African plateau bordering eight other countries. With an area of approximately 750,000 square km and a population of 13 million people, Zambia has one of the lowest population densities in Africa. Yet, Zambia's population is also highly concentrated, with 39 percent of the population in urban areas. Copper is Zambia's largest export, representing 70 percent of export earnings and 10 percent of Gross Domestic Product (GDP). Although the agricultural sector accounts for less than 20 percent of GDP, most Zambians depend on agriculture for income, employment and food. Unemployment is estimated to be 50 percent; however, most work is in the informal sector. In spite of a decade of economic growth, poverty rates remain high, especially in rural areas. Several key factors undermine Zambia's progress towards economic growth and poverty reduction: i) stark rural/urban inequality; ii) a stagnant agricultural sector; and iii) chronic undernutrition.

### I.1.1 Rural/Urban Inequality

Zambia's Gini coefficient of 0.53 places the country's income inequality among the top 20 in the world. While urban poverty continues to fall, rural poverty remains persistently high, at 80 percent (see Figure I). Zambia's population is concentrated in urban centers, primarily along major transport corridors. Urban growth relies largely on extractive industry (copper); however, the sector employs only 7 percent of the total paid employees in the country, whereas agriculture supports the livelihoods of over 70 percent of the population.

**Figure I. Poverty Levels in Zambia, 1991 to 2006**



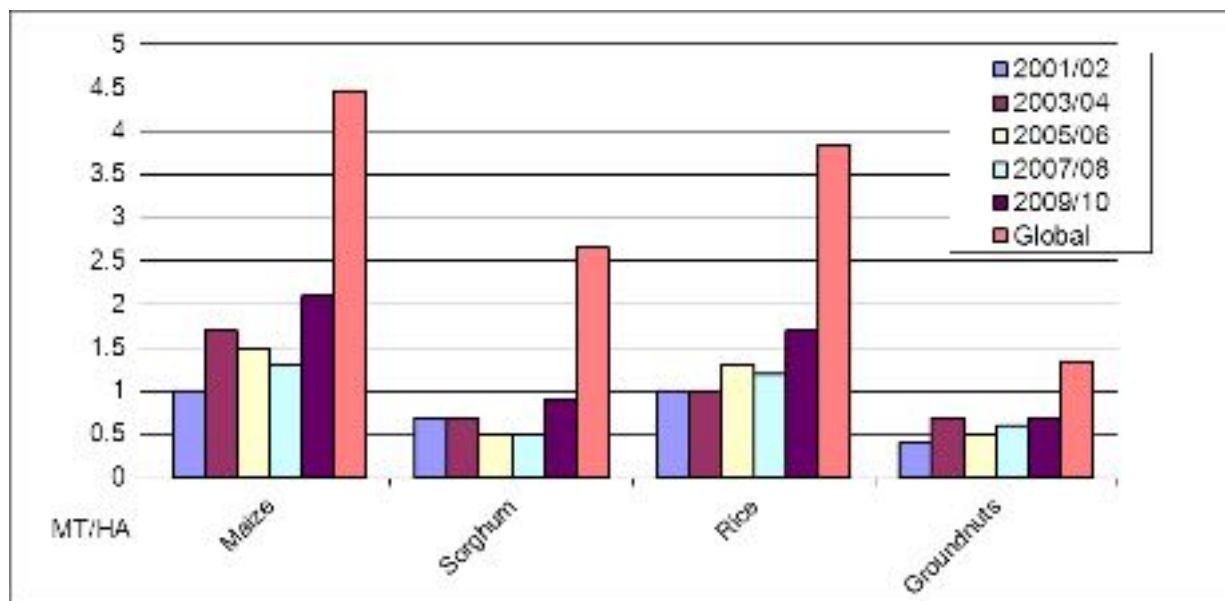
Source: Sitko et al., 2011.

### 1.1.2 Stagnant Agricultural Sector

Despite positive GDP growth over the last decade (with an average of 6 percent per annum), productivity of most staple crops has been stagnant. Limited areas of cultivation, inadequate infrastructure, low productivity and seasonal variability all contribute to limited growth in Zambian agriculture. Key features of Zambian agriculture include:

- Most smallholder farmers cultivate less than 2 hectares (ha) of land and have very low productivity. While the national average productivity for maize in a very good year is 2 tons per hectare, a majority of smallholders produce half of this amount.
- Average yields of most crops are one-third the global average (see Figure 2).
- Only 2 percent of farmers contribute to 50 percent of the marketed maize.
- Production levels in Zambia vary considerably, but even in years of bumper harvests, not all household needs are met. In average years, 60 percent of farmers face a hungry season of several months, which is particularly acute during November, December, January, and February<sup>1</sup>.
- Additionally, Zambian smallholder agriculture is dominated by a single crop, maize, which is grown by 80 percent of all smallholders (Figure 3).

**Figure 2. Average Yields of Key Commodities Compared to Global Average**



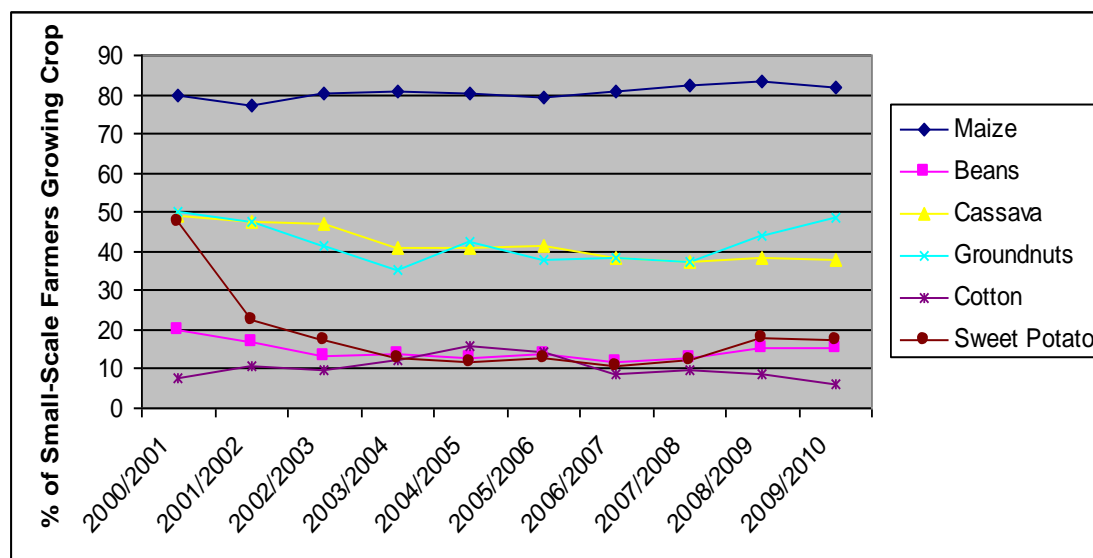
Source: Sitko et al., 2011.

In addition, agriculture policies favor high dependence on maize. Public spending on agriculture is overwhelming directed toward maize production and marketing; thus favoring wealthier farmers who produce a marketable surplus. Procurement and distribution of maize through the Food Reserve

<sup>1</sup> Only 36 percent of households in Zambia have been found to have “enough food to eat,” while 19 percent of households “seldom” or “never” have enough to eat, categorizing them in Zambia as “chronically food insecure,” according to the National Food and Nutrition Commission. 2008.

Agency (FRA) and input subsidies through the government-financed Farm Input Support Program (FISP) accounted for over 40 percent of the total agricultural budget in 2010. World-wide experience suggests that agricultural subsidies provide the lowest returns in terms of productivity growth compared to long-term investments in roads, research and extension, education, and irrigation.

**Figure 3. Percent of Small-Scale Farmers Growing Crops (2000-2010)**



Source: Sitko et al., 2011.<sup>2</sup>

### 1.1.3 Chronic Undernutrition

Important successes have been achieved by the Government of the Republic of Zambia (GRZ) and its partners in addressing malnutrition in the country. The Ministry of Health-organized Child Health Weeks provide 60 percent of children under the age of five with semi-annual vitamin A supplements and deworming medication. In addition to this, most of the salt imported into the country is iodized, and all sugar for domestic consumption in the country is fortified with vitamin A. However, the overriding problems of protein-energy malnutrition and iron deficiency anemia have not yet been systematically addressed in Zambia, where stunting in young children is 45 percent. Chronic undernutrition remains a major challenge for Zambia, particularly in rural areas. For example, 48 percent of children living in rural areas of Zambia exhibit signs of stunting in comparison to 39 percent of their urban counterparts<sup>3</sup>.

The nutrition challenge is further emphasized by research that suggests malnutrition is an underlying cause in an estimated 54 percent of under-5 child deaths.<sup>4</sup> Using dietary diversity as a measure, the 2007 Demographic Health Survey (DHS) found that only 25 percent of children 6-23 months receive a minimum acceptable diet.<sup>5</sup> Over 50 percent of children in Zambia suffer from Vitamin A deficiency because many do not receive sufficient micronutrients.

<sup>2</sup> Sitko, Nicholas, Antony Chapoto, Steven Kabwe, Solomon Tembo, Munguzwe Hichaambwa, Rebecca Lubinda, Harrison Chiwawa, Mebelo Mataa, Simon Heck, and Dorothy Nthani "Technical Compendium: Descriptive Agricultural Statistics and Analysis in Support of the USAID's Mission Feed the Future Strategic Review". FSRP Working Paper No. 52. April 2011.

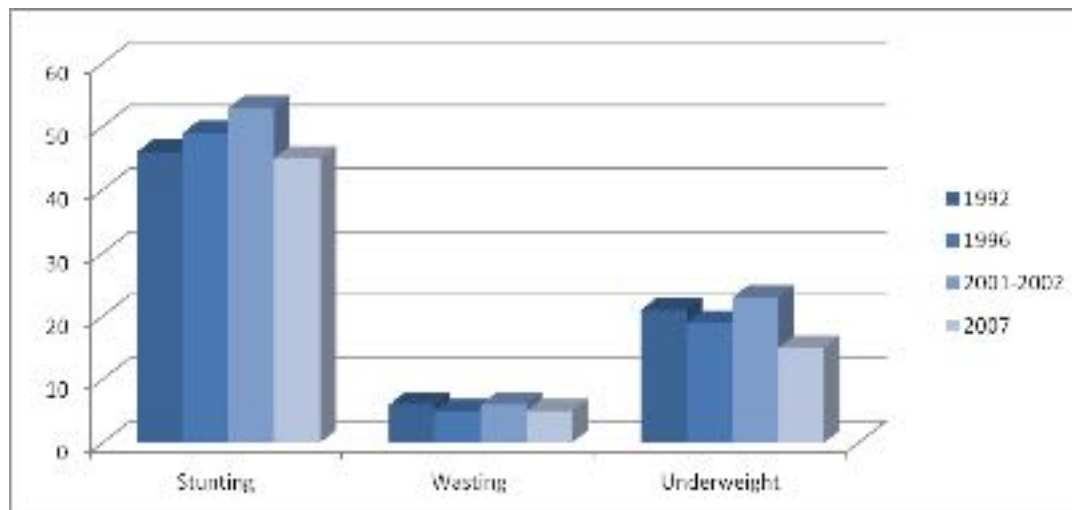
<sup>3</sup> Zambia DHS 2007, p.27.

<sup>4</sup> World Bank et. al. 2010

<sup>5</sup> Op. Cit.



**Figure 4. Percent of Stunting, Wasting and Underweight for Children Under 5 years of Age (1992-2007)**



Source: Zambia Demographic Health Survey, 2007

## 1.2 THE OPPORTUNITIES

Despite significant challenges, Zambia's human and natural resources present opportunities to boost food security and improve nutrition based on the following characteristics.

**Agro-ecological considerations:** Zambia is in a unique position to leverage agriculture as an engine for poverty reduction and improved nutrition and to become a “breadbasket” of Southern Africa. Relative to other countries in the region, Zambia has an abundance of fertile land, water, and a generally favorable climate for agricultural production.

**Improving the enabling environment:** Zambia was recently ranked among the Top 10 Reformers in the World Bank's Doing Business Report.

**Opportunities for rural-urban linkages:** Zambia has a large, well-educated, and rapidly growing urban population, which has the potential to create opportunities for rural-urban development linkages including increased flow of agriculture products from rural areas to growing high income urban consumers.

**GRZ commitment:** The Government of Zambia is committed to agricultural development. To achieve the policy objective of reducing poverty and improving income distribution, Zambia has employed a number of policy measures embraced in several of the following documents:

- In the “2030 Vision,” Zambia adopted a major development objective that seeks to accelerate pro-poor economic growth through securing macroeconomic stability, structural reform and investment in human development. Specific targets are: (a) to reduce the poverty head count from 68 percent to less than 20 percent of the population living below the poverty datum line (based on the World Bank-defined poverty line of US\$1 per day); and, (b) to improve income distribution to a Gini coefficient of less than 40.



- Zambia's Comprehensive African Agriculture Development Program (CAADP) Compact was signed on January 18, 2011. This event recommitted the GRZ to the establishment of legislation to promote private sector driven growth, including an Agriculture Marketing Bill and Agriculture Credits Act, as well as efforts to reform the subsidized input-support program.
- The Sixth National Development Plan (2011-2015) was approved on February 4, 2011, and includes the objective to achieve a "well-nourished and healthy population by 2030." This Plan identifies five nutrition and food security targets, including a target to increase the contribution of agriculture to 20 percent of GDP by 2015.

## 2. STRATEGIC CHOICES

The U.S. Government (USG) Zambia Feed the Future (FTF) program adheres to the principles of the FTF Guidance, and proposes a focused set of interventions designed to achieve results given budget parameters. Through a rigorous, iterative selection process, informed by analyses (including gender, environment and policy), cost-benefit analysis, and consultation with GRZ, USG interagency, civil society and other stakeholders, USAID/Zambia has chosen to focus on three agricultural commodity value chains in two geographic regions in order to achieve the FTF objectives. Steps in the selection process were as follows:

1. Identify key geographic areas based on level of poverty and nutrition status (need);
2. Analyze value chains to identify those with positive gender, environment and policy characteristics (socio-economic);
3. Assess the level of commercialization of selected value chains, and the potential for scaling up trade based on transport and market linkages and cost-benefit analysis (market/income opportunity); and
4. Identify agents (and technologies) that could generate significant results (impact evaluation).

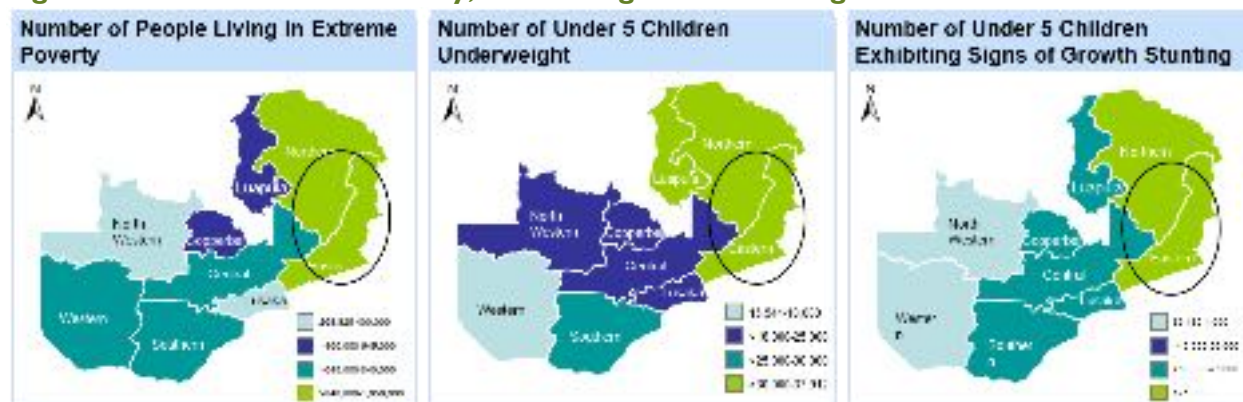
### 2.1 TARGETED GEOGRAPHIC AREAS AND VALUE CHAINS

#### 2.1.1 Targeted Geographic Areas

Geographic areas were prioritized by applying several criteria: 1) number of smallholders, 2) number of people living in poverty, and 3) number of underweight children (see Figure 5). In addition, the potential for commercialization of high-priority staple food crops was also considered.

On the basis of the analysis, the Eastern province was selected as a key focus area. It hosts 240,000 poor smallholders or 15 percent among a total of 1.6 million people. Some 14 percent of Zambia's underweight children under-5 years of age live in Eastern province, and 23 percent of households are single-female headed. The prioritized value chains are also already produced in this region and have potential for future growth.

**Figure 5. Provincial Level Poverty, Underweight and Stunting**



Source: Sitko et al., 2011 based on Central Statistical Office (CSO) Living Conditions Monitoring Surveys (LCMS)

### 2.1.2 Prioritized Value Chains

Focal commodity value chains were selected through a consideration of a set of criteria to determine the greatest potential to increase food security and decrease poverty in Zambia. Key criteria included:

- Number of smallholders involved in the value chain
- Level of commercialization and income potential
- Potential for productivity increases
- Nutritional value and dietary role
- Gender impact
- Positive enabling environment

Figure 6 shows a graphic summary of selected criteria listed above. In addition, cost-benefit analyses were conducted for selected value chains. Multiple staple-food value chains with the potential to drive improvements in income and food security for Zambian smallholders were considered, including: cereals (maize), legumes (groundnuts), oilseeds (sunflower, soy), horticulture/vegetables, livestock, cotton, poultry, and aquaculture. Three key value chains emerged as key areas of focus: oilseeds and legumes, maize, and horticulture.

The oilseed and legume value chain emerged as instrumental to food security in Zambia, and particularly for Eastern province. In addition to providing increased income opportunities for 60 percent of smallholders, oilseeds and legumes offer high nutritional value. Legume intercropping increases maize productivity and thus supports food security. Oilseeds and legumes provide considerable potential for value-added processing. Finally, women play a prominent role in production, marketing, and trade.

Poor smallholders will not diversify their production unless they feel food secure, i.e., they can be self-sufficient in their maize production (since food security is largely dependent on maize). Therefore, investments in increasing access to improved maize varieties and more productive practices (e.g., conservation farming) is a key focus. Thus maize emerged as the second value chain, with a focus on productivity to meet household food security. Maize interventions will target smallholders that are food insecure, in an effort to increase maize productivity to enable smallholders to diversify into cash crops, including oilseeds, legumes and horticulture.

**Figure 6. Value Chain Selection Criteria**

Value chain category	Number of smallholders producing	<div>● High potential</div> <div>● Medium potential</div> <div>● Low potential</div>			SELECT CRITERIA
		Potential for productivity growth	Nutritional value and dietary role	Impact on women	
Maize	1,212,327	●	●	●	Female headed households have on average 0.5 hectares less than male
Legumes & oilseeds	720,688	●	●	●	Women play a prominent role in production, marketing and trade
Vegetables and Fruit	1,250,242	●	●	●	Low labor intensity makes this important crop for labor-constrained households
Cassava	562,249	●	●	●	Women play a prominent role in production and marketing
Cotton	94,278	●	●	●	Women play a smaller role in production
Poultry	888,608	●	●	●	60% of producers and 50% of retailers are women
Fisheries	9,458	●	●	●	Largely male-dominated production – women do not play a large role

Source: Sitko, et al., 2011 and FTF Team analysis. Number of smallholders based on national data.

Finally, the prioritization analysis led to horticulture as an important third value chain in Zambia's FTF strategy. Vegetables are one of Zambia's most profitable crops. They are highly relevant for peri-urban and urban markets, and allow poor producers to earn a higher profit margin. There is large productivity potential and strong demand from urban markets (e.g., currently 60 percent of onions are imported as domestic production does not suffice). Since vegetables are generally more nutritious than other staple foods an increase in vegetable production could allow for better diets. In addition, horticulture commodities can produce significant yield and income, particularly for women and vulnerable households.

### 2.1.3 Selected Geographies and Value Chains

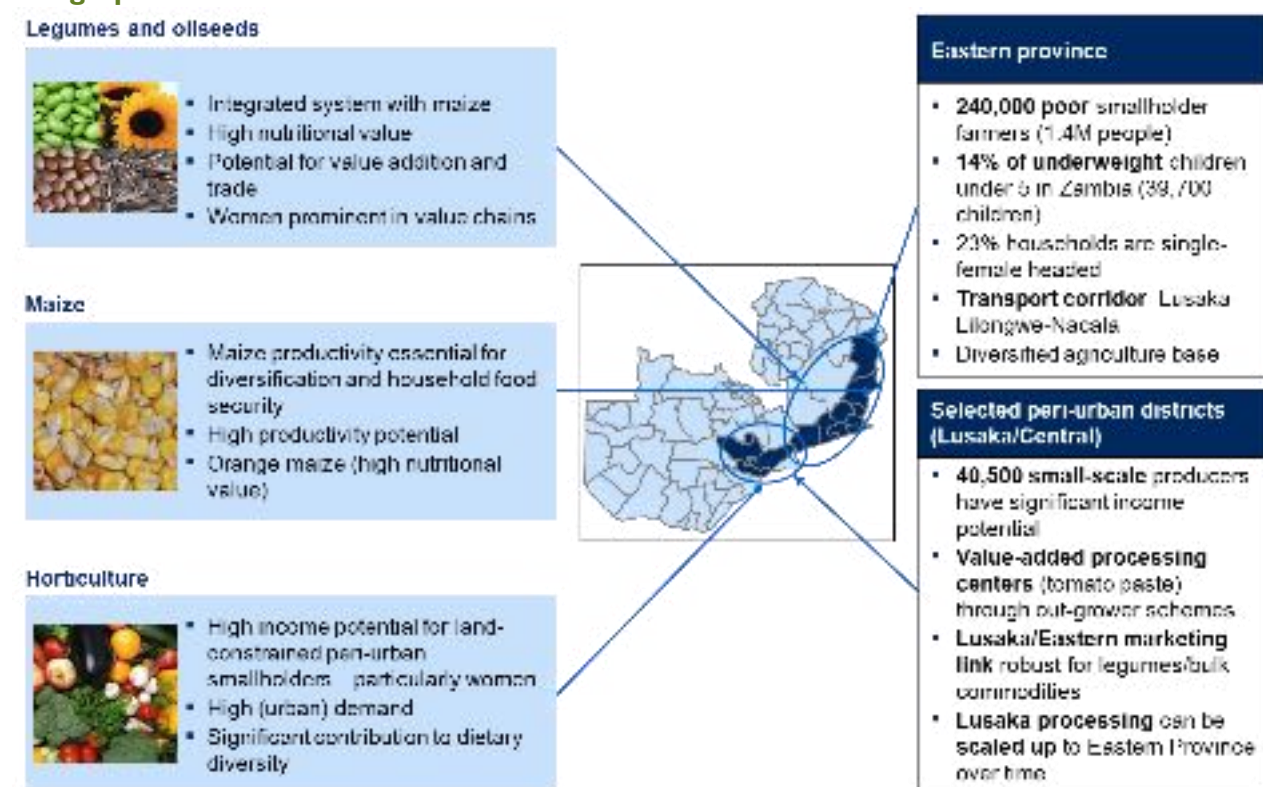
The Lusaka-Eastern province economic corridor has been selected as the focus of FTF investments. This corridor consists of two geographic areas that are reasonably well connected by transport linkages. Three value chains were selected for highest priority from an in-depth analysis of potential commodities. Characteristics of the focus areas and the value chains are shown in Figure 7.

Eastern province was selected as the focus area for the oilseeds, legumes and maize interventions. The province hosts 240,000 poor smallholders among a total of 1.6 million people. Some 14 percent of Zambia's underweight children under-five years of age live in Eastern province and 23 percent of households are single-female headed. The Eastern province was also selected based on the following data:

- **Poverty:** Approximately 65 percent of all people living in Eastern province are considered extremely poor, well above the national average of 51 percent. Due to its high population density, the province has the greatest number of extremely poor people (1,049,142) of all the provinces.

- **Undernutrition:** In Eastern province, 64 percent of children under-five years of age exhibit signs of growth stunting. This percentage is well above the national average of 45 percent. In terms of absolute numbers Eastern province has the highest number of children exhibiting signs of growth stunting (115,885).
- **Crop mix:** In terms of the percent of smallholder farmers growing crops, the three most important crops grown in Eastern province (2009/10) are maize (98.5 percent); groundnuts (69 percent) and sunflower (28 percent). Eastern province is home to 71 percent of all sunflower growers in Zambia and 23 percent of all maize growers. Cotton and tobacco are also important export crops that are financed by international agribusinesses. Smallholders in Eastern province grow a wider range of crops than elsewhere in Zambia, thereby offering greater potential for crop diversification out of maize.
- **Yield:** Crop yields in Eastern province tend to be at or below national averages; 48 percent of smallholders produce less than one ton of maize per ha. However, the yield of beans far exceeds national and even global averages, which probably results from the ability of Eastern farmers to produce two harvests of beans per year.
- **Land size:** 22 percent of all farms in Eastern province are less than one hectare in size. Eastern province accounts for 15 percent of all small (<1 ha) farms in Zambia. Relative to other high production provinces, Eastern province has very few large-scale farms (>20 ha).

**Figure 7. Feed the Future Focus Areas and Value Chain Investments: Two Interlinked Geographies**



Source: FTF Team analysis

The Eastern province has a substantial need for action, and offers the opportunity of maximum impact. In particular, Eastern offers a base for further agricultural diversification, and it is linked to Zambian and international markets through the Lusaka-Lilongwe-Nacala transport corridor. This corridor is a focus region of the Mozambique FTF strategy. Eastern province also links to the geographic focus area of the Malawi FTF strategy. With expanded budgets and significantly improved transportation connections, investments in Northern province might become feasible, thereby linking to the Tanzania FTF focus on the Southern Agricultural Growth Corridor of Tanzania (SACGOT).

Selected peri-urban districts near Lusaka (in the Lusaka and Central provinces) were chosen to initiate interventions in the horticulture value chain. Demand for horticulture goods is greatest in Lusaka and further north in the copper-belt region. Value-added processing centers exist already (i.e., for tomato paste) and offer potential for out-grower schemes. This region also has a large base of small-scale peri-urban producers whose potential for income improvement is significant.

## **2.2 TARGETS AND EXPECTED BENEFICIARIES**

### **2.2.1 Feed the Future Goals: Reducing Poverty and Undernutrition**

The goal of FTF Zambia is to sustainably reduce poverty and undernutrition in targeted areas by 2015. Overall, an estimated 263,000 vulnerable Zambian women, children, and family members—mostly smallholder farmers—will receive targeted assistance to escape hunger and poverty. More than 173,000 children will be reached with services to improve their nutrition and prevent stunting and child mortality.<sup>6</sup> Through Feed the Future in Zambia significant numbers of additional rural populations will achieve improved income and nutritional status from strategic policy and institutional reforms. Figure 8 presents the summary of these benefits.

#### **2.2.2 Analysis of the Costs, Benefits and Targets**

An analysis of the potential benefits and costs of investments between 2010 and 2015 in the targeted areas was conducted applying models built on past experience, strategic change agents, and leveraged government, donor, and partner inputs. Over the next five years FTF will reach approximately 263,000 households through value chain and economic resilience interventions. The nutrition program will support the agriculture program as many of the households reached through nutrition programming will overlap with those targeted by agriculture programs.

The majority of households will be impacted through the value chain interventions. FTF will reach Zambian smallholder households through maize, legume and oilseed value chain interventions. The FTF research component can be expected to have a broader, country-wide impact beyond that in Eastern province, primarily through the investment in improved varieties; however, these additional benefits have not been included in calculations. A lens in all investments to reducing gender inequities will enhance income and nutrition impacts.

#### **2.2.3 Key Risks**

USAID/Zambia has identified key risks to the successful achievement of anticipated results from its FTF strategy and will work to mitigate these risks by doing the following:

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<sup>6</sup> Disclaimer: These preliminary targets were estimated based on analysis at the time of strategy development using estimated budget levels and ex-ante cost-beneficiary ratios from previous agriculture and nutrition investments. Therefore, targets are subject to significant change based on availability of funds and the scope of specific activities designed. More precise targets will be developed through project design for specific Feed the Future activities.



- *Unforeseen policy changes or inability to implement planned policies.* In order to meet its commitment under the CAADP Compact, the GRZ must continue to support an enabling environment for the development of the agricultural sector, particularly for private sector development. The USG will work with GRZ, particularly through provision of empirical evidence to support a stakeholder dialogue for policy formation through the USAID-funded policy analysis effort, the Food Security Research Project (FSRP). Current subsidies in the input/output market for maize introduce distortions, and undermine more productive investments in infrastructure and research and development.
- *Significant weather or other crop-related hazards in targeted areas.* Most agriculture in Zambia is rain-fed and therefore dependent on weather patterns. Conditions in recent years have been positive, but a severe drought or other crop-related hazard may significantly impede progress toward FTF results. FTF investments in drought-tolerant maize, conservation agriculture and diversification out of maize (through irrigation for small-scale horticulture production) will increase resilience to climate change.
- *Significant shock to mining sector.* Although the mining sector only employs a small fraction of the total labor force in Zambia, it is significant for urban incomes and GRZ revenues. A significant shock such as copper price declines would increase poverty, particularly in the urban areas that are more dependent on the formal economy.
- *Political discord as a result of elections.* Zambia will hold elections in late 2011. It is critical that the results be accepted by the Zambian electorate, and the process be seen as credible by Zambians and the international community.

### **2.3 ALIGNMENT WITH GOVERNMENT OF THE REPUBLIC OF ZAMBIA AND LEVERAGE AND COORDINATION WITH LOCAL PARTNERS**

The GRZ signed the CAADP Compact in January 2011 and is developing a Country Investment Plan (CIP) based on the Agriculture Chapter of the Sixth National Development Plan, which was approved in February 2011. The current Roadmap targets completion of the CIP by December 2011. The USG FTF Zambia team has strong relationships with key GRZ partners. The USG participates on donor partner groups in Agriculture, Environment, Private Sector, Macro Economy, Health and HIV/AIDs. As chair of the agriculture donor group, USG and other donors/partners meets monthly with senior officials from the Ministries of Agriculture and Cooperatives, and Livestock and Fisheries Development, in order to facilitate donor policy input and support the implementation of CAADP.

In March, the GRZ laid out a Roadmap for the development of the CIP. Working groups composed of GRZ bodies, donor members, civil society and private sector representatives are currently being formed around the four CAADP Pillars. The Roadmap sets targets for the development of specific sector components, ultimately aiming to have the High-Level Business Meeting in December.

The FTF strategy is based on private sector development, and builds on successful efforts to strengthen the role of the private sector in Zambian agriculture, such as improving the capacity of the Zambia Agriculture Marketing Commodity Exchange (ZAMACE), expanding private input suppliers, and linking small scale farmers to larger agribusiness organizations.

## 2.4 DONOR COLLABORATION

There are 12 donors actively involved in agriculture support in Zambia. USAID/Zambia currently chairs the agriculture donor working group with the European Union (EU) and African Development Bank (AFDB). USAID is an active participant as well in the newly formed Nutrition Cooperating Partners Convener Group under the Health Sector Group which is chaired by UNICEF and the U.K. Department for International Development (DFID). USAID/Zambia will develop existing and form new relationships among the donor community to support different FTF programmatic elements and will build on strong collaboration with several donors. In particular, the USG is leading support for development of the CAADP Country Investment Plan in order to identify key policy reforms necessary to attract private sector investment, and to suggest realignments in GRZ investments. Through the Transatlantic Partnership, the USG and EU are working on greater programmatic linkages in support of food security.

In particular, USAID plans to support the following partnerships:

1. Scale up conservation agriculture by building on investments by Finland, Norway and the Food and Agricultural Organization (FAO), which have demonstrated the positive impact of technologies on agricultural productivity and the environment.
2. Link smallholders to processing markets for soy and groundnuts through a public-private partnership that includes the Embassy of Norway.
3. Support agricultural policy analysis and advocacy for reform with co-funding from the Embassy of Sweden.
4. Join Irish Aid, DFID and UNICEF to support Zambia's status as an Early Riser under the Scaling Up Nutrition (SUN) movement.

In addition, FTF core programs will leverage previous and planned investments by other donors. In Eastern province, the World Bank is investing in feeder roads, which will greatly enhance FTF marketing and other investments in key value chains in the province. The EU has recently invested in upgrading infrastructure for the primary vegetable market in Lusaka. Other donors are supporting Zambia agricultural sector priorities that will not be addressed through the FTF strategy. In particular, the European Union, Africa Development Bank and the World Bank recently announced large programs to support the livestock sector.

*Whole of Government (WOG):* FTF will leverage WOG resources to address the complexity of food security in Zambia, primarily through co-location of health, nutrition and agriculture programs in the Eastern region. Table I identifies specific activities for each USG Agency with the most significant impact on food security. However, all USG agencies in the country contribute directly or indirectly to increased food security through their programs.

*Other USAID Missions:* USAID/Zambia will also coordinate opportunities with neighboring Missions and take advantage of regional collaboration. In particular, investments in COMESA and SADC by the East and Southern African regional missions can be leveraged by GRZ and other Zambian stakeholders. USAID/Zambia can facilitate this collaboration. Improvements in trade standards harmonization, regional commodity exchanges and trade policy will provide benefits to Zambia's growing agricultural sector. Opportunities to leverage Tanzania's investment in the Southern Agriculture Growth Corridor (SAGCOT) are being explored; however, there are stronger connections between investments in Zambia's Eastern province and the Malawi and Mozambique trade corridors. Collaboration on aflatoxin research with Malawi has begun through the Agriculture Research and Development Program involving



the International Center for Research in the Semi-Arid Tropics (ICRISAT), U.S. Department of Agriculture and the Gates Foundation. Benefits are also expected from coordination on drought-tolerant maize among Malawi, Mozambique and Zambia.

**Table 1. U.S. Mission to Zambia-Whole of Government (WOG) Contributions to Feed the Future Objectives**

Agriculture	
Department of State	Policy dialogue with GRZ Private sector dialogue and promotion
USAID	Staple food value chain upgrading Agricultural research Economic resilience
Peace Corps	Agriculture training
USDA	Sanitary and Phytosanitary (SPS) and other training
USADF	Agricultural investments to Zambian organizations to build capacity and implement agricultural activities.
Health and Nutrition	
USAID	Health programs Nutrition programs
PEPFAR	HIV/AIDS support
CDC	HIV/AIDS support
Peace Corps	Health and HIV/AIDS training
Department of Defense	HIV/AIDS support

## 2.5 CROSS CUTTING ISSUES

### 2.5.1 Gender Issues

Women play a critical role in Zambian agriculture. Though nationwide data are not available, women are estimated to be responsible for between 60-80 percent of smallholder production<sup>7</sup>. Research has shown that women are more likely to invest in families and productive assets, and so play a great role in promoting economic security and enhanced nutrition of families. Up to 25 percent of households in Zambia are female-headed and, as a whole, female-headed households are poorer and have fewer labor resources<sup>8</sup>. The Zambia FTF Gender Assessment indicates that many women in male-headed households are also at a disadvantage because without productive assets and with little control over their labor and income, women are subject to violence from their spouses<sup>9</sup>.

The Zambian FTF strategy strives to maximize positive impact on female farmers and equitable benefits for men and women. Priority value chains have been selected for the participation of women in the production of the commodities, and capacity-building will be designed to enable women to participate in economic opportunities throughout the value chain: legumes, particularly groundnuts, vegetables, and maize. FTF investments will strengthen women's participation in the selected value chains, and ensure farm technologies are appropriate for both men and women. For example, within the groundnut value chain, work with women's groups, will be prioritized to prevent women from being displaced from the

<sup>7</sup> Farnworth et al., 2011.

<sup>8</sup> Sitko et al., 2011.

<sup>9</sup> Op cit.

groundnut value chain commercialization increases in that sector. Work with farmers' associations will aim to increase women's representation and voice. A solid monitoring and evaluation (M&E) baseline will be established in order to track incomes and assets, particularly of women, and where significant gender gaps are highlighted, programs will be identified to address these gaps.

The Zambia FTF program seeks to build the economic resilience of households. Although not all smallholder households will be able to immediately take advantage of growing economic opportunities, much can be done to ensure that households manage resources more effectively. In particular, Feed the Future seeks equitable allocation of household resources to ensure all members, particularly women and young children are receiving adequate food supplies. Gender division of labor and labor allocation will also be examined to consider technologies to improve the productivity of labor for men and women. Labor-saving technologies for household water and energy, as well as for land preparation, will be supported. The economic resilience investments will be targeted at poor and very poor smallholder households to improve food security, reduce vulnerability and increase incomes. Female-headed households have been specifically identified as a target group for these interventions, as well as women within male-headed households. Activities at the household level that include all decision-makers (men and women) have been demonstrated through programs in Zambia to improve the availability of household food supplies.<sup>10</sup>

FTF nutritional investments are targeted largely towards women, partly due to the importance of their role as mothers, but also as agricultural workers and household resource managers, since improvements in these areas will have the greatest impact on improving the nutrition of Zambians more broadly. Interventions will seek to ensure that agricultural and other opportunities made available for women do not inadvertently impact child care and feeding practices at the household level.

An in-depth gender analysis of Eastern province will be conducted prior to implementation to identify the key cultural, social and economic constraints to improving gender balance in participation and returns from the FTF value chain and other investments. The baseline survey in the FTF target areas will include extensive sex-disaggregation and will particularly identify women's involvement in and returns from agricultural activities, as well as identifying gender asset ownership. A comprehensive monitoring and evaluation framework will be established in order to track gender control and use of incomes and assets, including land and farm technologies.

### **2.5.2 Natural Resource Management and Climate Change**

The sustainable use of natural resources, particularly forest resources, is one of the greatest challenges facing Zambia. Global climate change will also impact the country's natural resources and needs to be taken into account in all productive activities, particularly agriculture. The FTF Zambia strategy will consider the impact of investments on natural resource use to ensure sustainable use of resources, and will also incorporate the projections of climate change into agricultural and other strategies. The Zambia FTF strategy ensures sustainable use of natural resources across all program areas and seeks a low emissions development pathway. Climate change is built into the program through increased adaptation and resilience, as well as by addressing drivers of deforestation and support of GRZ's Reducing Emissions from Deforestation and forest Degradation (REDD) policies and strategies.

The Zambia Country Development Cooperation Strategy (CDCS) results framework includes both FTF and Global Climate Change (GCC) results (see Annex B). The FTF strategy will aim to support and reinforce activities implemented with GCC funding, and vice-versa. However, FTF and GCC funding will be programmed through separate mechanisms and results will be tracked accordingly. It is recognized

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<sup>10</sup> The SIDA Zambia Agriculture Support Program is described in Farnworth, et al., 2010.

that there are both complementarities and challenges between increasing agricultural production and productivity, and sustainable natural resource management, and investments under each of the Initiatives need to be designed and monitored with respect to the other.

Recognizing the potential impacts of climate change on the agricultural sector, Zambia's FTF investments will build resilience in farming systems through conservation agriculture and drought-resistant crop varieties. Activities conducted with FTF resources will draw on best practices for sustainable use of natural resources. For example, Zambia's diversification approach will promote better soil health through use of legumes as a rotation crop, and promotion of conservation farming technologies also have benefits for natural resources, including no or low till field preparation, crop rotations and building of soil organic matter and thus soil moisture retention. FTF programs will promote sustainable water use management for horticulture crops, which enhance economic resilience to climate change. In addition, informed advocacy on sustainable agriculture will be advanced as part of the policy program. Research efforts will develop adaptive crop varieties for increased productivity under changing climatic conditions, particularly for drought tolerance. Through the value chain interventions, FTF programs will aim to increase income generation from agriculture and decrease dependence on natural resource extraction.

Though data are weak on deforestation, previous studies have estimated that Zambia has one of the highest deforestation rates in Africa.<sup>11</sup> Up to 30 percent of household income is from natural resource extraction (e.g., charcoal and land clearing). FTF value chain interventions in oilseeds and horticulture will emphasize extension services that discourage slash-and-burn practices and provide sustainable alternatives. By increasing productivity, improving household food security and linking smallholders to markets for agriculture commodities, FTF interventions will reduce the incentives for exploiting the natural resource base. The FTF M&E strategy will incorporate this hypothesis as part of the impact evaluation agenda.

Zambia GCC funding will be allocated toward the activities that meet the guidelines described for Sustainable Landscapes (SL) and Low Emissions Strategy Development (LEDS) funding. Expected outcomes for the GCC will include building institutional capacity to monitor and control emissions; and community-based efforts to reduce deforestation and forest degradation. Programs implemented with Zambia Global Climate Change funds will support the achievement of FTF objectives, particularly the long-term sustainability of rural incomes, but will be specifically focused on GCC objectives, including reducing emissions, decreasing deforestation, and reducing forest degradation. GCC/SL funds will support pilot activities for the GRZ REDD strategy and policy development. These will include developing sustainable supply chains for charcoal and models for community natural resource management in the same or adjacent areas of FTF activities; alternative energy sources; work on policy reforms to encourage natural resource management and benefit sharing; and local monitoring, reporting, and verification (MRV) systems, that link to national level frameworks and set the stage for future potential payments for reduced emissions from deforestation or forest degradation.

### **2.5.3 Innovation**

Innovation is a key focus throughout Zambia's FTF program, building upon and expanding an impressive track record of innovation in the country's agricultural sector. Current successes include the use of e-vouchers for fertilizer distribution, the provision of price information through mobile phones, the establishment of a private commodity exchange linked to other exchanges in the region, and a private stock model that has already proven to be very effective and sustainable. The FTF program will promote innovation in agricultural technologies such as drought-tolerant maize, bio-fortification of "orange"

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<sup>11</sup> Butterfield and Kosnik, 2010.

maize, orange-fleshed sweet potatoes, and management of aflatoxin. The strategy will also support innovative approaches to test and scale up change-agent models on the household level, such as positive deviance for improved nutrition.

### 3. RESULTS FRAMEWORK: OBJECTIVES AND RESULTS

#### 3.1 DEVELOPMENT HYPOTHESIS

The goal of FTF in Zambia is to sustainably reduce poverty and hunger, as evidenced through a decrease in both the prevalence of poverty and underweight children under-five years of age. The objective of the Zambian FTF program is diversification of production, incomes, and nutrition – based on the development hypothesis:

*The diversification of staple crop production and consumption will increase food security and rural incomes, and contribute to a reduction in undernutrition in children under-five.*

In particular, the focus of this strategy on diversification of selected staple food value chains will:

- Lead to increased smallholder productivity of maize for household food security, and nutritious legumes and oilseeds for consumption and sale.
- Increase income through higher value commodities including horticulture, and access to value addition and export markets.
- Diversify diets and minimize risk of food scarcity.
- Contribute to a reduction in high rates of child undernutrition, and, combined with increased focus of investments in health sector, lead to actual reduction in undernutrition.

#### 3.2 OBJECTIVES

Zambia's Feed the Future strategy is derived from the overall Feed the Future framework,<sup>12</sup> the USAID/Zambia Country Development Cooperation Strategy (CDCS)<sup>13</sup>, and Global Health Initiative (GHI) objectives. The Zambia Feed the Future results framework is consistent with the Zambia CDCS. The components of the CDCS framework that comprise the Zambia FTF results framework are outlined in Annex A. The key CDCS objectives for the Zambia FTF Strategy are to sustainably improve agricultural livelihoods and to improve health status, including Development Objective (DO) 2: Rural Poverty Reduced in Targeted Areas.

In Zambia, FTF investments in agriculture will improve agricultural livelihoods, a key to sustainably reducing poverty, which is heavily concentrated in rural areas. To sustainably improve agricultural livelihoods, four intermediate results under DO 2 have been identified as critical:

- IR 2.1: Smallholder agricultural productivity increased
- IR 2.2: Markets and trade expanded
- IR 2.3: Natural resource management improved

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<sup>12</sup> USG, 2010.

<sup>13</sup> The final revised Zambia Country Development Cooperation Strategy (CDCS) has been reviewed and will be submitted June 24, 2011.

- IR 2.4: Resilience of vulnerable households improved

Under DO 3: Human Capital Improved, there are two Intermediate Results (IRs), including IR 3.2, Health Status Improved, which contains three sub-intermediate results that will contribute to the following improved nutritional outcomes:

- IR 3.2.1: Health service delivery improved
- IR 3.2.2: Health systems and accountability strengthened
- IR 3.2.3: Community health practices improved

### **3.3 RESULTS AND INDICATORS**

Investments under the Global Health Initiative (GHI), with some FTF funds directed toward augmenting specific nutrition activities, will significantly contribute to sustainably reduce undernutrition. The co-location and coordination of investments in Eastern province toward increasing smallholder-targeted agricultural growth and improving the health status with a focus on women and children will ensure achievement of results.

The FTF Zambia Results Framework will have a separate, comprehensive Performance Monitoring Plan (PMP) that will be coordinated with the USAID/Zambia CDCS Performance Monitoring Plan. The results from FTF investments will measure the Whole of Government contribution to FTF objectives. Preliminary USG Zambia FTF indicators are provided in Annex B.

## **4. CORE INVESTMENT AREAS**

Under the Feed the Future Strategy – and reflective of the previous *Initiative to End Hunger in Africa*– the U.S. Government will integrate its ongoing investments in value chains, policy, science and technology, innovation, capacity building, finance and knowledge management into a single Integrated Agricultural Transformation Program. The comprehensive program will further the integration of cross-cutting concerns that include improved nutrition for women and children, natural resource management and climate change, expanded private sector engagement, gender, youth and other vulnerable populations.

The core of the program will be the value chain interventions presented below. By integrating the strategy's value chain investments under IRs 1-3, Kenya will achieve inclusive agricultural sector growth through improved value chain competitiveness, expanded multiplication effects that generate off- and on-farm employment opportunities, and greater diversification into higher value per hectare commodities.

### **4.1 CORE INVESTMENT AREA I: DIVERSIFICATION OF PRODUCTION AND INCOME – UPGRADE VALUE CHAINS**

The first set of core investments in the Zambia FTF strategy contributes to systems transformation, with a primary focus on oilseeds and legumes and targeted interventions in the maize value chain, and a secondary focus on horticulture.

The main objective of these investments is increased productivity of men and women smallholders, leading to increased incomes and improved food security. These objectives will be accomplished through increased agricultural productivity, expanded markets and trade, increased private sector investment in agriculture activities, and enhanced agricultural value chain on- and off-farm jobs. Investment in these value chains will improve availability and access to staple foods and improve

nutrition. USG investments will facilitate the competitiveness of smallholders in oilseeds, legumes and horticulture. Attention to the equitable participation of and returns to men and women in all value chains will be a high priority.

#### **4.1.1 Key Commodities**

*Oilseeds and Legumes:* USAID/Zambia will promote income and production diversification for smallholders by strengthening the oilseeds and legumes value chain. In particular, FTF will target men and women smallholders to diversify increasingly from maize into soy, sunflower and groundnuts. The program will promote access to seeds and inputs through private stocks, agribusiness out-grower schemes, and the GRZ extension system. This will include the promotion of more sustainable farming practices, such as conservation agriculture. In addition, the program will intensify smallholder market links by supporting leading processors in the areas of aggregation, warehousing, and sourcing oilseeds and legumes from smallholder suppliers. Investment in the development, testing, and dissemination of improved technologies in Zambia will also be made. Examples of these investments may include high-yielding groundnut and soy varieties, approaches to reduce aflatoxin, and conservation agriculture tools and techniques.

Groundnuts are the second most common field crop grown by smallholder farmers, following maize. In 2009/10, Zambia produced 164,000 MT (valued at \$138 million) with an estimated local human consumption of 70,000 MT (valued at \$58 million), leaving more than 93,000 MT for other industrial uses. Very little of this surplus is exported because of the varieties grown and the difficulties in ensuring that the crop is free of aflatoxin. The groundnut varieties planted have discouraged the private sector from investing in the development of improved seed varieties. Subsequently, groundnut yields have on average remained below one MT per hectare. Groundnuts are widely available and are a rich source of protein and calories. Efforts by NGOs working with vulnerable households have demonstrated significant weight gain by undernourished children (over 75 percent of treated children) through addition of groundnuts to porridge and improved sanitary practices. Groundnuts are often considered a “women’s crop,” and women participate in their production, processing and sale. While the value chain has strong potential to increase women’s income, experience shows that men’s participation in the marketing of the crop increases as it becomes more profitable.<sup>14</sup> In addition, groundnuts and other legumes contribute to soil fertility by fixing nitrogen, which can increase the yields of cereal crops planted in rotation with legumes.

*Maize:* Smallholders need to be self-sufficient in maize in order to be willing to diversify into higher value products. Therefore, FTF Zambia will promote maize productivity through several approaches: investing in orange maize research with Zambia Agriculture Research Institute (ZARI) and the Golden Valley Agriculture Research Trust (GART), promoting access to seeds and inputs through private stocks, and field testing drought-tolerant maize.

Maize is Zambia’s staple crop. Over the past four years, Zambia has become a surplus producer, averaging more than 1.5 million MT against local consumption demand of approximately 1.25 million MT. The surplus is largely due to favorable weather conditions and GRZ policies that support maize production. The 2010 maize crop in Zambia was the largest on record. In total, Zambia produced 2.7 million MT (valued at \$520 million), 89 percent of which was produced by small- and medium-scale farmers. Zambia is expected to retain approximately 1.5 million MT for consumption and processing purposes, leaving an exportable surplus of over one million MT – of which 879,000 MT was purchased by the government through the Food Reserve Agency (FRA) at prices well above import parity prices.<sup>15</sup>

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<sup>14</sup> Farnworth, et al., 2011.

<sup>15</sup> Nkonde, et al. 2011.

Maize remains the staple crop for the majority of Zambian smallholders, and there are significant opportunities to improve yield through improved seed in combination with legumes and with conservation agriculture technology. In addition, there are promising varieties that can enhance nutrition content (i.e., biofortified orange maize rich in Vitamin A). Maize is important to women as a food security crop. Within Zambia women provide most of the labor for maize production, but lack access to inputs and have limited participation in maize marketing and processing compared with men.<sup>16</sup> The relative roles of men and women in the maize value chain will be considered from research to marketing.

*Horticulture:* Finally, FTF in Zambia supports peri-urban smallholders to grow vegetables more profitably by promoting out-grower schemes, linking smallholders to processors (value addition activities), and supporting access to improved irrigation and other technologies. There are many opportunities in horticulture to ensure women benefit as well as men. Women's groups in peri-urban horticultural production have demonstrated success and can be expanded. Women are involved in roadside marketing, but urban wholesale markets tend to be concentrated and more challenging for female participation. Horticultural investments will need to consider social and gender impacts in market development. In addition, FTF will assist traders to scale-up (e.g., business skills, finance, market information and infrastructure).

Between 2007 and 2009, households in Lusaka consumed \$36 million of “staple vegetables” - tomato, rape (a green leafy vegetable similar to kale), and onion. All of the tomato and rape were produced within Zambia, while nearly 60 percent of the onion was imported. The size of the national urban market for fresh produce ranges from \$150 million to \$200 million per annum. This market is likely to grow by at least 5 percent per year over the next 10 to 20 years, more than doubling in size during that period. The high value of horticultural crops gives them a comparatively high potential to contribute to poverty reduction for farmers with limited access to land, including women; farmers can earn up to \$1,000 net revenue on a lima or 1/4 hectare of land.

#### **4.1.2 Feed the Future Value Chain Investments**

USAID/Zambia will have several programs that contribute significantly to upgrading the oilseeds, legumes and maize value chains. This will be accomplished through several planned mechanisms, including: 1) the Production, Finance and Improved Technology Plus program, which is designed to increase food security and decrease hunger through agriculture-led growth and inclusive market access by smallholder farmers; and 2) public-private partnerships including Global Development Alliances (GDAs) to leverage private sector activity and promote market sustainability through private sector models. These efforts will stimulate agricultural growth and significantly contribute to the Millennium Development Goal 1 of halving the proportion of people living in extreme poverty and suffering from hunger by 2015. The programs will build on previous USAID-funded activities by closely linking efforts to enhance input supply with output markets, promoting value-added rural enterprises linked to selected value chains, and ensuring that women fully benefit from value chain development. One of the challenges of the previous program, given its focus on private sector sustainability, was to ensure female participation. Lessons learned from the successful Production, Finance and Improved Technologies (PROFIT) program, which closes in 2011, will be incorporated into new programs.

Programs will focus specifically on maize and oilseed/legume (particularly, groundnut, soya and sunflower) value chains in Eastern province and horticulture value chains in peri-urban Lusaka. Through this geographic focus, USAID-funded FTF activities will reach up to 25 percent of Zambian men and women smallholder farmers. Maize value chain work will focus on increasing productivity in order to

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<sup>16</sup> Op. Cit.



meet food security. Smallholders will benefit from an integrated approach that provides for maize food security and enables smallholders to diversify into commercial crops.

### Illustrative Examples of Value Chain Activities

*In-depth analysis of selected value chains.* The program will conduct in-depth economic value chain analysis including market (both domestic and export) assessments, competition/profitability analyses, gender analyses, and strategies for Zambian value chains to improve competitiveness in light of market opportunities and constraints.

*Value chain finance.* Both the demand and supply side of value chain finance will be addressed to increase the competitiveness of selected value chains. Options to increase access to production and processing credit may include insurance, operating leases and expansion of e-banking. Activities to expand access to credit and financial services to both men and women will be assessed and implemented through a variety of mechanisms, partners and tools, including intermediary businesses, credit guarantees, microfinance and commercial banking products oriented to benefit smallholder farmers.

*Provide local trade information and services.* Local provider(s) of trade information and services will be supported to aid producers' entry into local, regional and international markets, including sanitary and phytosanitary protocols, import requirements, customs and borders procedures, and contact points. The program will take extra effort to ensure equal access to information for women. The Zambia Agricultural Commodity Exchange (ZAMACE) will require support that will be gradually phased out, with the goal of achieving sustainability through self-sufficient funding of operations within three years.

*Target regional export markets.* The program will develop a strategy for targeting profitable export markets for Zambian products initially in the maize, legume and horticulture sectors. USAID/Zambia's experience thus far has shown that in many cases regional markets provide more opportunities for exporters (particularly smallholders) than more distant international markets. Efforts will be made to ensure both men and women producers can access export markets.

*Promote rural enterprise and cooperative development, particularly in value-added processing of selected value chains.* Activities will also address marketing constraints faced by smallholder farmers, in particular women. The project will identify key agents that can create rural employment and opportunities for value addition, including cooperatives, traders, processors and agribusinesses that warehouse commodities. Governance, operations and capacity of Zambian organizations and firms that link farmers to value-added markets, including animal feed, high protein products, cooking oil and canned vegetables, will be strengthened. In particular, women-based producer and marketing associations will be organized around selected value chains.

### **4.1.3 Feed the Future Value Chain Research & Development Program**

Research features prominently in the Feed the Future Initiative. The FTF research strategy has three objectives: advancing the productivity frontier, transforming production systems and enhancing dietary quality and food safety. The sustainable use of natural resources and adaptation to global climate changes are additional objectives. R&D investments will include several sub-components, through collaboration between international agriculture research centers, GRZ research institutes and public universities, private sector and other partners. The project will also incorporate a competitive grants program to promote public-private research and technology adoption. A key objective of the program is to enable these entities to directly implement activities within the life of the program. All programs will outline the steps, process and timeline to enable Zambian Government, NGO and other entities to be able to directly implement selected project activities within two years after the project has begun field

implementation. Finally, to be effective, the programs must also actively involve both men and women in research design and trials to ensure appropriateness to their relative needs.

Some of the key issues that the agricultural research program in Zambia will address are outlined below.

#### Low Staple Crop Productivity in Maize, Leading to Food Insecurity and Lack of Crop Diversification

Research and development activities to improve the productivity of maize-based systems in the Eastern province of Zambia, adapt to climate change, and promote diversification may include the development of improved maize varieties, delivery of proven technologies and management practices to farmers, and adaptive research to fine-tune new seed varieties and management practices to the Zambian context. The approach should include preliminary analysis to identify high pay-off interventions with the greatest potential to increase incomes and improve nutrition for a large number of smallholder maize-based farm households, with particular attention to gender-based constraints. These interventions may include varieties, management, alternative farm resource allocation and post-harvest approaches.

Possible components of a program include:

- Adaptation and dissemination of nitrogen and drought-stress-tolerant maize varieties
- Capacity building and strengthening of extension systems
- Identification and dissemination of appropriate labor-saving production and processing technologies
- Analysis and participatory research to increase adoption of conservation agriculture practices

#### Low Productivity and Limited Production of Groundnuts--Limiting Their Contribution to Household Nutrition, Incomes and Women's Empowerment

Illustrative activities include:

- Development of disease-resistant and high-yielding groundnut and grain legume cultivars that meet local (men's and women's) preparation and consumption preferences, as well as those of the potential market;
- Work with private-sector firms to sustainably increase seed supply and availability
- Participatory research and capacity-building of extension systems, with strong gender components, to promote improved management of groundnut crop

#### Widespread Aflatoxin Contamination--Reducing Food Quality and Limiting Exports

Responses to the aflatoxin problem in Zambia may include:

- Collection of population-based information on prevalence of contamination and consumer exposure to these toxins to determine the level of risk and opportunities to change public health through food interventions
- Strengthening extension systems to promote management and post-harvest practices that reduce aflatoxin levels in the field and during storage
- Special attention to the gender dimensions of aflatoxin management
- Development of bio-control measures and advocacy for policies to facilitate their production and dissemination in the region
- Development of food safety standards, food industry good practices and testing capacity

## Role of Zambian Women in Science

The FTF strategy will also invest in the development of Zambian women scientists. The African Women in Research and Development (AWARD) program has successfully supported the career of up to nine Zambian women scientists in private and public research organizations as well as civil society organizations. The AWARD Fellows are paired with a leading scientist mentor in their field who supports the development of professional skills. Training in leadership and other professional skills such as writing and communication is provided. A current AWARD Fellow recently conducted a workshop on gender in the aquaculture sector, highlighting the importance of considering gender constraints in this sector. The AWARD Fellows also become mentors to younger women, thus extending the benefits of the program. The FTF strategy will continue this investment throughout the program and work with these scientists in order to strengthen the participation of women in agricultural research.

### **4.2 CORE INVESTMENT AREA 2: ENABLING ENVIRONMENT AND POLICY DEVELOPMENT**

As an additional key strategy component, FTF Zambia will support the development of favorable agriculture policy through policy research and advocacy for reform. For example, continued policy reform is needed for maize to be competitive in regional markets, including a consistent and open border policy; small government strategic reserve; price-band management; and, use of the e-voucher system in input provision. Another critical investment is support to the GRZ to advance and complete the CAADP process, i.e., by helping the government develop a realistic but ambitious Country Investment Plan.

Several important policy objectives will be supported by the USG toward creating an enabling environment to achieve FTF objectives. These include:

- Reform subsidized farmer input support program to improve transparency and role of private sector
- Promote dialogue and build capacity to support reform on biotechnology
- Encourage predictable, rules-based market and trade policies (including elimination of import and export bans)
- Work with COMESA to harmonize regional trade policy
- Support alternatives to large-scale maize purchases by Food Reserve Agency (FRA), such as the Zambian Commodity Exchange (ZAMACE)
- Encourage allocation of budget commitments under CAADP to support infrastructure and R&D, and to reduce government intervention
- Promote reform that enables natural resource benefit-sharing between local government and local communities

USAID/Zambia has awarded a five-year project (2010-2015) that will assist stakeholders through a program of research, policy analysis, outreach, and training. Assistance provided will also support key agricultural policy stakeholders throughout the development and implementation of the Comprehensive African Agriculture Development Program (CAADP). The project, the Food Security Research Project (FSRP), will work closely with the Agricultural Consultative Forum (ACF), a Zambian NGO that provides a forum for policy dialogue, Ministry of Agriculture and Cooperatives (MACO), the Ministry of Livestock and Fisheries Development (MLFD), the Central Statistical Office (CSO), and other selected Zambian organizations.

The FSRP and ACF will take center stage in carrying out independent research to form the basis for developing and promoting supportive agricultural policy in Zambia. The ACF will also remain flexible to

build capacity of other Zambian institutions that support the goal of improving fact-based agricultural and economic policy formulation in Zambia to nurture local capacity and local dissemination of knowledge to the public through commissioning and mentoring of local groups to undertake policy analysis. ACF and FSRP efforts in the past have addressed sound market-based principles through institutional capacity building and empirically-based policy research. Those efforts will be intensified to better support the GRZ's implementation of its CAADP Investment Plan, which is a critical component of the FTF.

New USG funding in the project will be directed to three general activities – capacity building, more active outreach within and beyond the agricultural sector, and improvements in the quality of basic agricultural data emerging from CSO and MACO. This work will be undertaken in collaboration with other efforts to improvements overall data collection management of the CSO, particularly that being spearheaded by the U.K. Department for International Development (DFID). FTF will also fund training to support public and civil society leaders engaged in the CAADP process, as well as training of women scientists.

#### **4.2.1 Key Enabling Environment Program Areas**

*Analytical Capacity for Improved Agricultural Policy in Zambia.* Weak human and institutional capacity to analyze agricultural policy contributes to the politicization of agriculture in Zambia and a weak business climate for agricultural investment. FTF assistance will improve the analytical capacity of Zambian stakeholders. Stronger “home-grown” analytical capacity and greater public outreach will lead to a greater understanding of key issues affecting agriculture by both the public at large and policy makers within the government. Informed technocrats within the government, backed by a supportive public opinion, should be able to convince political leaders to make sound decisions in agricultural policy.

*New Project Directions.* Emphasis will be on “Zambianizing” the research capacity, which previously was not deep enough, due to limited finances and limited scope of local institutions. Increased high-level USG attention to food security issues demands a more thorough understanding of GRZ priorities and donor commitments in the sector. FSRP and ACF activities will provide the analytical basis for future US and other donor investments in the agricultural sector to combat hunger and poverty, which are aligned with the GRZ's CAADP Compact.

*Thematic And Operational Support of the CAADP Agenda.* FSRP has supported the CAADP Compact process, ensuring that critical agricultural policy issues are, and will be, reflected in future policy planning and programming. FSRP support has ensured Zambian ownership of the CAADP framework, including its policies, programs, and targets. FSRP will work with policy makers and stakeholders as before, but with the added mandate of contributing to the peer review process that is part of the CAADP framework, focusing specifically on public resource allocation, investments and the implementation of policies that are the backbone of the CAADP process. FSRP will advocate that the CAADP process include a wide range of stakeholders with broad food security objectives across all four CAADP Pillars, and not result in a concentrated focus on agricultural productivity.

*Political Will and Technical Capacity Building.* For civil society, the press, government technocrats, and other groups to effectively influence policy, they need fact-based positions and up-to-date information from credible entities. It is therefore important, and an explicit objective of FSRP, to put fact-based information in front of the body politic. Political will shifts when confronted by an aware and informed electorate.

### On-going Research Areas

1. Overarching support through analysis, training, event management, etc. to the implementation of the CAADP Compact, and the development and implementation of the CAADP Country Investment Plan and the Sixth National Development Plan (SNDP).
2. Opportunities to bring the rural poor and women, into the growth agenda.
3. Policy and programmatic priorities to facilitate smallholder access to high-value commodity markets.
4. Strategies to collect and use empirical information about households, farmers, traders and markets in cooperation with key sector stakeholders in order to improve staple food markets, and food security in a regional context.
5. Strategies to collect and use empirical information about households, farmers, traders and markets in cooperation with key sector stakeholders such as the GRZ, the private sector and civil society.
6. Strategies to achieve more efficient use of purchased agricultural inputs.
7. Rates of return to agricultural research, especially with respect to cassava and sweet potato.

### New Potential Research Areas

1. Evolving FTF priorities.
2. Improving production and marketing estimates for both large-scale and smallholder farm sectors to fully understand the Zambian agricultural sector.
3. Assessing opportunities for improved performance in the livestock and feed sectors in order to support the development and upgrading of legume and oilseed value chains.
4. Analyzing policy options to address the impacts of higher and potentially more unstable food and fertilizer prices in Zambia.
5. Increasing analysis of Conservation Farming (CA) technologies and constraints to further adoption.

## **4.3 CORE INVESTMENT AREA 3: ECONOMIC RESILIENCE**

FTF investments in agricultural value chains will increase agricultural productivity and incomes. FTF investments in health and nutrition infrastructure will improve access to health and nutrition services and information at the district and community level. However, not all households will be able to benefit in the medium term from these investments. In addition, intra-household resource management, even in better-off agricultural households, can be a barrier to the translation of systemic investments in the agricultural and health infrastructure into improvements in benefits for women and children. The Zambia FTF strategy proposes a set of investments to address these two challenges. The investments will target households that are more vulnerable to food insecurity due to composition, illness, or other factors.

### 4.3.1 Economic Resilience Programming

FTF investments will focus on an integrated approach to building assets and risk reduction, and call for innovative models to link vulnerable households to value chain interventions and investments in community, district and provincial health systems. These programs will engage new partners and will be structured to ensure both small businesses and local partners have the capacity to participate. The program will enhance coping skills, build assets and increase rural incomes for vulnerable households in targeted areas, thereby significantly contributing to Millennium Development Goal 1 of halving the proportion of Zambians living in extreme poverty and suffering from hunger by 2015.

The *vulnerable and very poor* have some minimum set of assets but have been unable to move towards longer-term economic well-being and health. Frequently donor and government assistance to these households has been in the form of humanitarian relief, economic transfers or subsidies (e.g., of staple foods). USAID/Zambia seeks to support innovative ideas, concepts and programs to increase the economic resilience of the very vulnerable Zambian rural population in targeted areas.

Investments under this core investment area aim to increase the food security of vulnerable and very poor rural households in targeted areas through interventions that reduce the number of hunger months, improve nutrition and health practices, and increase the value of household assets and the ability of households to productively use those assets. These achievements are expected to contribute significantly to reducing stunting and underweight levels in the targeted households over a five-year period.

Activities will target vulnerable groups in rural areas with a minimum set of assets (land and/or labor) and fall below the poverty line of \$1.25/day. These attributes characterize a majority of smallholder agricultural producers in Eastern province. To identify more vulnerable households it will be necessary to include households according to additional characteristics such as: female-headed - widowed or divorced; household with person living with AIDS (PLWA) or other chronic and debilitating diseases; household caring for or headed by orphan or vulnerable child (OVC); or disabled household head or member.

### 4.3.2 Potential Activities

Investments will build upon USAID-funded activities that work in agricultural growth, nutrition and economic resilience efforts, such as the Title II program, the Consortium for Food Security, Agriculture and Nutrition, AIDS, Resiliency and Markets (C-FAARM), closing out in 2011. The programs will implement innovative strategies and approaches to enable vulnerable rural households, including those affected by HIV/AIDS and other diseases, orphan and vulnerable child-headed households, and female-headed households, by improving food security through strengthened economic resilience. Special attention will be given to enabling very poor women to participate in expanding opportunities as producers, service providers and entrepreneurs.

Programs will take an integrated approach to improved food security – addressing availability, access and utilization components, as well as linkages to nutrition and health, and gender relations. Programs as diverse as micro-savings and lending, conditional cash transfers, “farming as a family business” have all shown some potential to reduce vulnerability of poor households under specific conditions. Proposals will be expected to demonstrate scalability.

Recent evidence of preventive approaches to undernutrition in other countries provides direction for successful components of nutrition interventions. The promotion of Essential Nutrition Actions will be a

fundamental component of all interventions.<sup>17</sup> Other approaches will be considered. For example, a positive deviance model demonstrated that three-quarters of children under age five treated for undernutrition made significant weight gains when their diets included legumes and other high protein supplements, combined with improved health and sanitary practices, and access to clean water.<sup>18</sup> Some microfinance schemes follow a positive deviance model in which seed capital is not injected into communities, but revolving loan funds are created based on the capital available within communities, and members increase their ability to borrow based on the amount of shares they are able (and willing) to invest in the loan fund. Savings-led financial services have been demonstrated to serve an important role in consumption smoothing. Small livestock may actually serve as savings accounts, easily converted into cash when needed. Approaches that target all farm household members, both men and women, have been shown to be effective in improving the use of resources and changing household food security. A recent gender assessment of the SIDA-funded agricultural support program reported that better internal management of household resources was a significant factor contributing to greater household food security for project participants, as measured by months of household food security<sup>19</sup>. Given strong evidence of the significance of women's income to child nutrition, approaches that build better household management of resources and strengthen women's effective control may have a high payoff.

Lessons learned from GCC/SL pilots on community and household use of forest resources will be incorporated into the FTF economic resilience activities. Many vulnerable households are dependent on communal resources for sources of wild foods and medicinal crops that supplement nutritional and income needs. Household use of agriculture and non-agricultural land, such as forests, for additional income will be examined to determine strategies that build resilience and improve land use, without increasing the pressure on non-agricultural lands.

### **4.3.3 Outcomes from Economic Resilience Investments**

It is envisaged that these activities will result in tangible benefits to households such as increased food availability, better management, and improved intra-household food allocation, with improved child food intake and greater diet diversity for vulnerable members. Some expected achievements leading to household level benefits include increased access of poor and very poor farming households to commercial sources of inputs and non-financial supporting services, including extension and agronomic services; increased productivity by poor and very poor farming households; application by very poor farming households of improved crop production and post-harvest practices; and increased access of poor and very poor farming households to financial services. Draft indicators are outlined in Annex B.

## **4.4 CORE INVESTMENT AREA 4: NUTRITION**

Poor nutrition is a significant health issue in Zambia, as outlined above. The levels of stunting are particularly a concern for a country with average income levels as high as Zambia's. Some factors that are thought to be most significant in contributing to high undernutrition include the unequal distribution of income between rural and urban areas, the role of women and children and their access to health facilities, particularly in rural areas, and the general lack of knowledge of basic nutrition practices.

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<sup>17</sup> FANTA

<sup>18</sup> In particular, the PD Hearth Model, which identifies "positive deviance" of individuals, is an effective community based curative approach which extends improvements in nutrition among the vulnerable households with limited assets. These programs worked closely with rural health centers, monitored growth of young children, and organized regular meetings in which improved nutrition and health practices were demonstrated to groups of women accompanied by their children.

<sup>19</sup> Farnworth, et al., 2010.



FTF Zambia is investing in capacity-building and training of health workers to improve nutrition services and nutrition education. The nutrition program will include a national mass media campaign around the Essential Nutrition Actions that will be linked to community-level behavioral and social change communications. Additionally, the program will build strong linkages to rural health services and nutrition interventions. The nutrition program is largely managed by USAID/Zambia's Health and HIV Offices, but activities by the USAID Economic Growth Team and Centers for Disease Control will also contribute.

The Government of Zambia has recently refocused on the poor national nutrition levels by developing a National Nutrition Strategy and holding a National Nutrition Consultative Forum to discuss the strategy. Zambia has also been selected as an Early Riser under the Scaling Up Nutrition (SUN) Initiative promoted by the U.S. and a wide range of other donors. The USG participates in a recently formed Nutrition Donor Convener Group, chaired by DFID and UNICEF, under the Health Sector Working Group. The USG can play an important role in raising concern over nutrition levels within the country, coordinating USG and other donor investments, and supporting government efforts to intensify efforts to address undernutrition.

#### **4.3.4 Nutrition Programming**

*FTF Agriculture and Food-based Nutrition Programming.* FTF agriculture investments will contribute to improved nutritional outcomes through several approaches. Improved incomes for poor households as a result of improved agricultural practices and better market access can translate into improved household food availability, although this is usually not sufficient for changes in child nutritional status. FTF agricultural investments will also improve the quantity and quality of staple foods in Eastern province, resulting in reduced prices for poor households, most of which purchase food for several months of the year. In addition, FTF food-based strategies will result in more nutritious foods through strategies such as bio-fortification and breeding, particularly through increasing dissemination and production of beta-carotene-rich “orange” maize and orange-fleshed sweet potatoes. Household-based approaches through the Economic Resilience programs, described in greater detail in Section 4.3 above, will focus on more equitable food distribution/income control and on communicating behavioral change messages on essential nutrition actions at the household level. These programs will also ensure that all nutrition-related activities are consistent with and support other nutrition programming, for example in nutrition training of agricultural workers and extension staff, or capacity-building of community workers other than community-based health workers. Other potential food based strategies include school feeding linkages with organizations such as the World Food Program, with the introduction of nutritious products such as soy-based products or orange-fleshed sweet potatoes.

*FTF Nutrition-related Programming through the Health Sector.* USG investments in the health sector are extensive and broad and make a major contribution to the status of Zambians' health. Many of these programs have components that directly address nutrition through improving health outcomes, reducing incidence of diseases such as malaria, vaccine preventable diseases, intestinal worm infestation, etc., providing food to PLWA, and supporting orphans and vulnerable children, among others<sup>20</sup>.

The USAID Health Office invests in four programs supporting systemic change in health services. These programs include support for: 1) logistics, 2) integrated social marketing, 3) integrated systems strengthening, and 4) integrated behavior change communications. The logistics program focuses on improvements in commodities and supply chains for a wide array of critical inputs such as antiretroviral

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<sup>20</sup> Details are included in the Zambia Best Practices at Scale in Home, Community and Facilities (2011-2015) Action Plan for Smart Integrated Programming in Family Planning, Maternal and Child Health, and Nutrition under the Global Health Initiative in Zambia, available from USAID/Zambia.

drugs, family planning inputs, and bed nets. Social marketing is conducted for all important areas, including family planning, HIV prevention and inputs, and malaria. Broad spectrum media campaigns are conducted under the integrated behavior change communication investments. These campaigns are conducted at national, provincial and community levels to elicit change in a wide range of health-related behaviors.

All health programs contribute to improved nutritional outcomes directly or indirectly, yet specific interventions targeted to improve nutrition programs and outcomes are also necessary. In Fiscal Year 2010, \$3 million FTF nutrition funding<sup>21</sup> was provided to USAID/Zambia and programmed through existing mechanisms related to behavior change and integrated systems strengthening as described above. Approximately \$1 million of FTF nutrition funding was allocated to strengthen integrated behavior change communications messages specifically related to nutrition behavior, including broad-spectrum media campaigns. In addition to this, \$2 million was allocated to technical assistance and capacity development to strengthen integrated systems of nutrition service delivery at the community level, which supports technical assistance and capacity development in nutrition at national, provincial and district levels. Nutrition-related components of these programs will be prioritized for selected districts in the FTF agriculture focus areas of Eastern province. Specifically, the Zambia Integrated Systems Strengthening Program (ZISSP) will support the Ministry of Health and the National Food and Nutrition Council (NFNC) to orient provincial, district and facility supervisors and nutritionists on the use of the nutrition guidelines to strengthen planning and implementation of nutrition interventions. Training will also strengthen the integration of the growth monitoring program with Infant and Young Child Feeding (IYCF) practices to promote prompt clinical and household management and timely referrals and care. ZISSP will review community-based nutrition programs to identify good practices and support behavior change communication campaigns to improve nutrition and feeding practices.

In Fiscal Year 2010, an Integrated Nutrition Strategy was commissioned to identify additional activities<sup>22</sup>. Recommendations from the assessment conducted during the development of this strategy will be incorporated into the health and FTF portfolios, dependent on funding levels. This strategy recommends investments aimed at directly changing nutritional status in Zambia at the national and provincial levels, along with some activities targeted specifically to rural and urban areas.

The following national-level interventions will be considered:

- Improved effectiveness of nutrition services in health facilities and at the community level.
- Significantly increased focus on women, especially pregnant women at nutritional risk (low body mass index (BMI) and those under the age of 20).
- Developed capacity of managers, health care providers and community volunteers in regard to nutrition interventions, particularly ensuring that Essential Nutrition Actions<sup>23</sup> are coordinated and implemented in all health facilities at the district level.
- Integrated curricula, such as from the “Community Pack for maternal and child feeding” (Behavioral Change Communication (BCC) messages and materials) into community health worker and health care provider training.

Recommendations for rural areas include the following:

- Strengthen the “promotion” component of growth monitoring and promotion programs.

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<sup>21</sup> From the Global Health Child Survival (GHCS) account.

<sup>22</sup> Draft Zambia Integrated Nutrition Investment Framework, GH Tech, February.

<sup>23</sup> FANTA

- Coordinate and link food security and nutrition interventions across all sectors at the district level, including the school feeding program.

In addition to interventions that strengthen the health system and refocus efforts on nutrition behavior change, the FTF strategy proposes to link health, nutrition, economic resilience, and economic growth activities at the household-level, to the extent this is feasible and cost-effective. Two approaches will be adopted:

- The co-location of programs aimed to strengthen the impacts of the agriculture and health systems. Impact on incomes and nutrition will be monitored in districts with a concentration of both value chain interventions and nutrition system strengthening.
- Some interventions will target a sub-set of district households, ensuring an impact for all household members, not just for specific members. Targeted economic resilience programs will promote household-level approaches to resource allocation, including both productive resources and household food supplies, and the intra-household allocation of those resources across family members.

*FTF Nutrition-related Investments through HIV/AIDS Programming.* Another significant contributor to child malnutrition is the high rate of pediatric HIV/AIDS. Based on a 2010 technical update on WHO guidelines, for infants and young children known to be HIV-infected, mothers are strongly encouraged to breastfeed exclusively for the first 6 months and to continue breastfeeding, with adequate supplementary feeding, up to 2 years and beyond. Therefore all infants 6 months of age and older need additional, developmentally and nutritionally appropriate food sources, as breast milk is no longer sufficient. Hence, nutrition-related HIV/AIDS interventions are also under development by the USG in Zambia, and these investments will have an impact on the reduction of undernutrition in children below age 2.

*High prevalence of Vitamin A deficiency in rural Zambia.* Vitamin A deficiency is a long-standing public health problem in Zambia due to inadequate dietary intake. The Ministry of Health distributes vitamin A supplements during the twice-yearly child health weeks and sugar is fortified with Vitamin A. Nonetheless, according to the 2007 Zambia Demographic and Health Survey vitamin A deficiency (VAD) continues to affect 54 percent of Zambian children under 5 and women of reproductive age. These high levels of VAD may be attributed to the high prevalence of asymptomatic infections in the Zambian population. Increasing the intake of Vitamin A through a wider range of sources, combined with health interventions, including those to prevent and treat infectious disease, will decrease deficiency in many vulnerable groups. Biofortified crops have a high potential to increase Vitamin A content in diets, particularly of rural households that produce their own food and have limited consumption of fortified products.

Potential agriculture activities include:

- Dissemination of Vitamin A maize in Eastern province.
- Development and dissemination of orange-fleshed sweet potato varieties.

#### **4.3.5 Nutrition Outcomes**

Improvements in nutrition are high-level outcomes for USG efforts in Zambia, as articulated in the Zambia CDCS, the Best Practices at Scale in Home, Community and Facilities (BEST) Action Plan, and in the FTF framework. Specific targets are in development and the reporting level and responsibilities will

be detailed in the FTF Performance Monitoring Plan. FTF nutrition-related indicators have been included in Annex B.

## 5. MONITORING AND EVALUATION

USAID/Zambia will monitor and evaluate programs and activities throughout the strategy period to ensure that those investments are achieving objectives and maximizing returns to investments. Though many of the investments will be managed and monitored primarily by USAID, some investments will originate from other USG agencies and by government, donors, or the private sector. The Zambia CAADP Country Investment Plan will provide a framework for the development of a more comprehensive national effort in agriculture and poverty reduction that will be supported through the USG FTF effort. CAADP monitoring is addressed below. The M&E framework for the USG FTF strategy outlined in this section will be inclusive and involve all government agencies investing in FTF areas, particularly in the FTF priority geographic area, Eastern province.

The geographic focus, co-location of investments, and the timing of the initiation of new investments provide the opportunity to establish a solid impact assessment framework as well. USAID/Zambia's approach to monitoring and evaluation will be comprised of three components: 1) project-level reporting; 2) performance management/monitoring and evaluation; and, 3) external impact assessment to capture the aggregate impact of all investments and the relative contribution of different interventions to the extent feasible.

The FTF strategy will be implemented primarily through two of the USAID/Zambia CDCS Development Objectives (DO) and will meet the requirements of CDCS Development Objectives: (1) engage in "rigorous" impact evaluations; and (2) build local capacity for monitoring and evaluation. The USAID/Zambia Mission has committed to implementing the operational research, managing for results, evaluation and local capacity-building model in its CDCS, and this will apply as well to FTF.

### 5.1 PERFORMANCE MANAGEMENT

The FTF Performance Monitoring Plan will include indicators measuring progress towards achieving results at all levels. For each indicator, the data source and methodology, baseline, targets, and a calendar of performance management tasks, including a schedule for data collection, will be included. The selection of indicators to include in the PMP will be driven by ongoing and planned activities, the availability of baseline, and provisions made to ensure availability of data for the reference reporting period.

To monitor performance, the Mission will establish baselines and collect data for standard and customized indicators to track whether desired results are occurring and whether performance is on target. All programs receiving FTF resources will be expected to develop monitoring and evaluation strategies that are consistent with the USG Zambia's FTF framework.

Initial stakeholder workshops will be held for the purposes of 1) reaching an agreement on indicator definitions to ensure consistency; 2) defining and communicating project-specific collection and reporting responsibilities; 3) generating an understanding of the higher-level objectives of the strategy; and the relative contributions by the specific projects, 4) communicating periodicity and responsibility for reporting. Each project will report on appropriate standard and custom performance indicators, which will be aggregated across the entire investment portfolio. Data quality assessments will be conducted regularly to ensure consistency and completeness. Data collected through monitoring will be used for periodic reports to stakeholders.

Given that FTF has the intention to work with a broader range of partners, including local organizations, it is expected that some partners will have more limited reporting capacity. These organizations will need greater assistance, and it may be necessary to delegate the responsibility for some monitoring and reporting to external entities.

For higher level objectives, tracking performance will be beyond the manageable interest of individual projects. In particular, changes in incomes, nutritional status, and some community-level variables among others will be more appropriately measured across the program areas. The FTF Team is developing a consortium of stakeholders to assess existing data sources, and intends to identify an external entity to coordinate baseline and periodic data collection for specific indicators.

An FTF M&E plan will be finalized by the end of Fiscal Year 2011, outlining all indicators and the reporting responsibilities by all USAID/Zambia's partners. Key FTF required indicators to be tracked and reported are listed in Annex B. Additional project-specific and other relevant indicators not included in the FTF required indicators will be added. It is important to note that all appropriate indicators will be sex-disaggregated.

## **5.2 EVALUATION**

In line with the new evaluation policy, the FTF program intends to conduct a number of performance evaluations and impact evaluations. Evaluations of two programs closing in 2011, PROFIT and C-FAARM, will be useful for the FTF learning agenda. The USG FTF has a unique opportunity with a defined geographic focus and the initiation of new activities to establish an impact assessment framework to assess high level impact, as well as to identify the relative contribution of different intervention, such as value chain upgrading versus household level management skills. USAID/Zambia will work with partners and other agencies to develop an impact assessment methodology that is consistent with and contributes to the project performance monitoring framework, but will also test several development hypotheses.

An initial baseline survey will be conducted in Eastern province to establish current levels of key variables including incomes, nutritional status, household production and asset patterns, and agriculture technology levels. This baseline will draw from the latest survey methodologies, particularly recent work on gender and asset control<sup>24</sup>. An appropriate sampling framework will be established to assess impact, most likely on a biannual basis. A randomized approach will be considered for a sub-sample to maintain the integrity of the impact assessment; however, flexibility will be needed to consider mid-term correction in order to ensure the greatest impact over the period of the strategy.

In the context of the development challenges and opportunities identified in Zambia and outlined in Section 1.1, several development hypotheses are of interest for the impact assessment. In particular, the relative contribution will be assessed of community-level versus household-level interventions to reducing poverty and undernutrition, as well as the additional value of the co-location of interventions. Another hypothesis of interest to be tested is: By increasing productivity, improving household food security and linking smallholders to markets for agriculture commodities, FTF interventions will reduce the incentives for exploiting the natural resource base.

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<sup>24</sup>See Doss, et. al. 2008 and [http://siteresources.worldbank.org/DEC/Resources/84797-1154354760266/2807421-1222979971506/5435009-1222980070537/Gender\\_and\\_Asset\\_Ownership.pdf](http://siteresources.worldbank.org/DEC/Resources/84797-1154354760266/2807421-1222979971506/5435009-1222980070537/Gender_and_Asset_Ownership.pdf) (sourced 6/15/11)

### **5.2.1 Performance Evaluation**

The FTF program will schedule performance evaluations to focus on descriptive and normative questions including: project or program achievements (either at an intermediate point in execution or at the conclusion of an implementation period); program implementation; program perception and value; and other questions pertinent to program design, management and operational decision-making. These performance evaluations will incorporate before-after comparisons whenever feasible.

### **5.2.2 Impact Evaluation**

The FTF program will conduct impact evaluations to measure the change in development outcomes attributable to FTF interventions. Impact evaluations will be based on cause-effect models and will require a credible and rigorously-defined counterfactual control. Impact evaluations with treatment and control groups help provide the strongest evidence of a relationship between interventions and measured outcomes. One hypothesis to be explored includes identifying increased benefits from combined interventions, particularly income-augmenting and nutrition-related activities. In the nutrition portfolio, the differential effect of geographically co-locating health programs active in nutrition with agriculture programs working on the productivity and diversity side of the nutrition equation can be tested.

## **5.3 LINK TO GOVERNMENT MONITORING SYSTEMS**

USAID/Zambia has provided extensive support to the Government of Zambia in monitoring the agricultural sector, and in analyzing government data through the Food Security Research Project (FSRP). This support will continue and can be drawn upon to monitor agricultural trends. In addition, FSRP has expertise in analyzing surveys such as the biannual Living Conditions Monitoring Survey (LCMS) which tracks poverty levels, and the Supplemental Surveys, which provide quality agricultural data. This expertise can be leveraged for improved performance monitoring by the GRZ, as well as for FTF performance.

The CAADP framework focuses largely on performance in the agricultural sector. For national performance toward other MDGs, particularly those related to nutrition and gender impacts, the FTF team will work with additional partners to identify appropriate data sources and performance monitoring modalities. For example, the Nutrition Cooperating Partners sub-group may be instrumental in the creation of a data monitoring platform according to the SUN Movement principles. However, the Zambia FTF framework will focus its efforts largely on performance for the targeted FTF areas and the contribution of these changes to national levels.

## **6. FINANCIAL PLANNING**

The Zambia FTF objectives will be achieved through a joint effort of Government of the Republic of Zambia, USG, other donors and private sector investments. As the Zambia Country Investment Plan is developed, the contributions by partners will become more explicit.

## **7. MANAGEMENT**

Under the direction of the U.S. Ambassador to Zambia, the USAID Mission Director oversees implementation of the FTF strategy in Zambia. The Ambassador and the entire inter-agency team have been fully supportive in the development of the strategy. The USAID mission collaborates closely with all relevant agencies at post, including the State Department, President's Emergency Plan for AIDS Relief

(PEPFAR), Peace Corps, Centers for Disease Control (CDC), Treasury Department, and Department of Defense.

The Mission Director is directly supported by USAID staff from the Economic Growth and Health teams. Coordination across the Economic Growth and Health teams is extensive and includes joint participation in cooperating partner groups, review of scopes of work and joint technical review on relevant proposals.

## 8. CONTRIBUTIONS TO THE OBJECTIVES OF USAID FORWARD

The FTF strategy contributes significantly to four of the seven key objectives of USAID Forward.<sup>25</sup>

Objective: Procurement Reform -The Zambia FTF Strategy has been developed in a consultative process with a wide range of stakeholders. Most recently, procurement documents have been posted to U.S. Government sites for public comment and review. All solicitations explicitly state that new implementing partners will be considered, and selection criteria include points (added weight) to local organizations and require that awardees provide a plan for enhancing the capacity of local partners. The Economic Growth office has extensive experience in working directly with Zambian organizations. An evaluation was recently concluded of four Economic Growth activities that ended; two of the awards were made directly to Zambian NGOs.

USAID/Zambia will build upon its experience in contracting directly with Zambian organizations, and has taken the following specific steps:

- Reduced the planned funding of the major value chain activity by approximately 50 percent to provide space for other mechanisms to directly support Zambian organizations.
- Actively reviewed GDA proposals.
- Incorporated lessons learned from an assessment of previous awards to Zambian NGOs, in order to strengthen management ability and the potential for success.
- Additional changes in procurement to increase local participation.

*Strengthening partner country capacity to improve aid effectiveness and sustainability.* The USG FTF strategy will develop government capacity in appropriate areas such as national statistics, policy formulation, agricultural research, health and nutrition service provision, and social safety nets. To better formulate policy and create responsiveness on the part of government to stakeholder dialogue, the FTF Food Security Research Program, outlined in Section 4.1.3, will continue to support the ability of the Central Statistical Office to provide accurate and relevant data and empirical analysis for solid evidence-based decision-making, as well as continue to strengthen the Agricultural Consultative Forum to provide a dynamic forum for dialogue on agricultural policy issues. In addition, the FTF strategy will work to reform government support to the agricultural sector, particularly promoting implementation of an electronic voucher system for input supply.

To help rebuild Zambian agricultural research capacity in the short term, international research organizations will build capacity and supply updated equipment and inputs to the neglected research areas. In the medium term, direct support to the Zambian agricultural research system will be tested. In the longer term, it is expected that the government will increase the allocation of public expenditure to this critical input for increased national food security.

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<sup>25</sup> The other objectives, Talent management, Rebuilding policy capacity, and Rebuilding budget management are objectives best managed centrally and thus less relevant to U.S. Missions abroad.



*Strengthening local civil society and private sector capacity to improve aid effectiveness and sustainability.* The Zambia FTF strategy is predicated on strengthening the role of the private sector in the development of agriculture and food security. Partnerships with the private sector, including direct funding to local organizations, has been built into procurement designs. These partnerships will strengthen the capacity of the private sector to supply inputs and other services to Zambia's small scale farmers.

*Increasing competition and broadening USAID's partner base.* The FTF strategy will work with a wide range of partners. The economic resilience program will be structured to provide the greatest opportunity for smaller businesses and local partners. The new partnerships in value chain development will bring several new partners for the USG in Zambia.

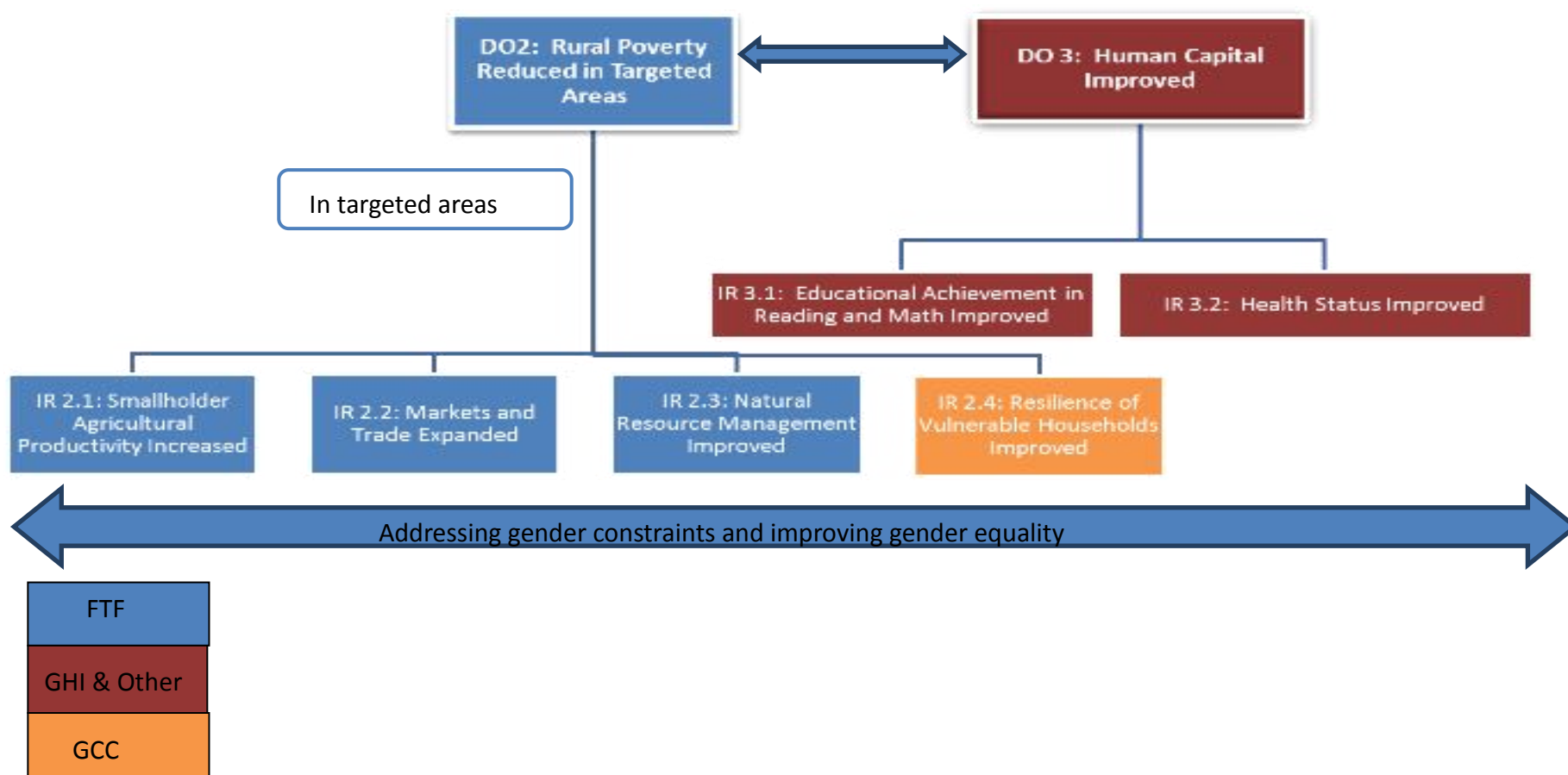
Objective: Strengthening Monitoring and Evaluation -As described in detail in Section 5 above, the Zambia FTF Strategy will have a robust M&E plan. A comprehensive baseline is planned, and designs for impact assessment will be completed as implementing partners are identified and coverage is finalized. The Zambia FTF Strategy contributes significantly to the Agency's USAID Forward objectives. Progress toward the objective will be documented and methodologies will be employed that ensure an analysis and verification of attribution.

Objective: Innovation -Zambia's FTF strategy is based on innovative models. Section 2.6.3 outlines the success of previous programs in developing sustainable private sector agricultural input systems through an innovative community-based supply dealer model. Other successful innovations include the introduction of electronic voucher systems and low-cost mobile livestock spray technologies, among others. The FTF strategy will leverage these types of innovations and solicit further innovations from partners. The ZERS program explicitly seeks innovative models for addressing intra-household distribution of labor and other resources (see Section 4.3.1). The Agricultural Research and Development program is based on the development and introduction of innovative solutions to agricultural challenges (Section 4.1.3). Innovative varieties of seeds and plant materials such as drought-tolerant or beta-carotene-rich maize have been tested and will be disseminated. And recent innovative approaches to managing aflatoxins in legumes and maize will be employed.

Objective: Science and Technology -Access to the latest science and technology is challenging for a country such as Zambia, where human capacity is underdeveloped and funds for research are limited. The U.S. Government has promoted access to updated technologies and current scientific information in Zambia through a wide range of programs, such as facilitating education, sponsoring scientific discussion and debate through expert tours, and increasing access to information through capacity-building of the press. The FTF investments in agricultural research (Section 4.1.3) represent a renewed focus on the science of agriculture, neglected in recent years by government and donors. These investments must and will be accompanied by dialogue with government on the importance of rebuilding the agricultural research capacity (Section 4.2.1). The FTF strategy has supported the development and use of appropriate information technologies such as e-voucher systems and will continue to promote the extension of these technologies to a broad base of Zambians in rural areas in order to reduce transaction costs and promote the transparency of systems.

## 9. ANNEXES

### ANNEX A. ZAMBIA COUNTRY DEVELOPMENT COOPERATION STRATEGY (CDCS) RESULTS FRAMEWORK



## ANNEX B. ZAMBIA FEED THE FUTURE AND GLOBAL CLIMATE CHANGE INDICATORS

USG Zambia FTF Framework and Indicators*	
Goal Level: <i>Poverty reduction and sustainable agricultural growth</i>	People living on less than \$1.25/day (% change) (R) Agriculture GDP (% change) (R) Reduction in greenhouse gas emissions (GCC)
Nutrition Required Indicators	Stunted children <5 (%) (R) (S) Wasted children <5 (%) (R)(S) Underweight children <5 (%) (R) (S) Underweight women (R) Prevalence of exclusive breastfeeding of children <6 months (R) Anemia among women of reproductive age (%) (R)
Development Objective Statement	Indicators
Rural Poverty reduced in Targeted Areas	Per capita expenditures of rural households (R) (SHH) Prevalence of households with moderate or severe hunger (R) (SHH) Women's Empowerment in Agriculture (In process) (R)
Intermediate Results	
IR1: Smallholder Agricultural Productivity Increased	Gross margin per unit of land/animal (R) (S)
IR2: Markets and Trade Expanded	Value of exports (of targeted commodities resulting from USG interventions) Value of incremental sales (collected @ farm level) (R) Value of intra-regional trade in targeted commodities (R)
IR3: Natural Resource Management Improved (GCC)	Number of institutions with improved capacity to address climate change Number of policies addressing GCC developed or adopted Number of people (or community associations) with improved capacity to address GCC
IR4: Improved Resilience of Vulnerable Households	Children 6-24 months receiving minimum acceptable diet (R) (S)
Sub-Intermediate Results and Lower level Results Indicators	
IR1 Smallholder Agricultural Productivity Increased - Sub-results	
IR1.1 Increased Quality of Smallholder Produce	Quality measures – grading, standards by commodity (TBD)
IR1.2 Increased Application of improved Techniques	Hectares under improved management practices or new technologies Farmers applying improved management practices or new technologies (R) (S)
IR1.3 Access to Productive Inputs Increased	

IR1: Lower level Result Indicators	<p>Number of individuals who have received USG supported long-term agricultural sector productivity training (S)</p> <p>Number of individuals who have received USG supported short-term agriculture sector productivity training (R) (S)</p> <p>Number of private enterprises, producers organizations, water user associations, trade and business associations and community based organizations (CBOs) receiving USG assistance (R)</p> <p>Number of private enterprises, producers organizations, water user associations, trade and business associations and community based organizations (CBOs) that applied new technologies or management practices as a result of USG assistance (R)</p> <p><i>Kilometers of Roads improved or constructed (N/A)(R)</i></p> <p>New technologies or management practices made available for transfer as a result of USG assistance</p> <p>New technologies or management practices under field testing as a result of USG assistance</p> <p>New technologies or management practices under research as a result of USG assistance</p>
IR2 Markets and Trade Expanded - Sub-results	
IR2.1 Increased Private Sector Investment in Agriculture	Value of new private sector investment in the agricultural sector or food chain leveraged by FTF implementation (R)
IR2.2 Increased Value Addition of Agricultural Commodities	TBD
IR2.3 Enabling Policy Environment Improved	<p>Ease of doing business rank (TBD)</p> <p>Policies/ regulations/administrative procedures i) analyzed; ii) drafted and presented for consultation; iii) presented for legislation/decreed; iv) passed/approved; v) passed for which implementation has begun</p> <p>Institutions/organizations undertaking capacity/competency strengthening as a result of USG assistance</p>
IR2.4 Improved Commercial Linkages between Smallholders and Processors/Traders	<p>Smallholders supplying product to processors/traders (#,%) (S)</p> <p>Volume of product supplied by smallholders to processors/traders (#, %) (S)</p>
IR2 Lower level Result Indicators	<p>Public-private partnerships formed (#)</p> <p>Value of agricultural and rural loans (R) (S)</p> <p><i>Number of jobs attributed to FTF implementation(N/A) (R)</i></p>

IR3 Natural Resource Management Improved - Sub-results	
IR3.1 Smallholder Adaptation Increased	Number of user groups organized for NRM management Area of forest under improved management
IR3.2 GRZ Participation in Carbon Exchange increased	TBD
IR3 Lower level Results Indicators	
IR4 Resilience of Vulnerable Households Improved - Sub Results	
IR4.1 Increased ownership of assets by vulnerable households	TBD: Asset index (TBD)
IR4.2 Improved Management of Household Assets and Income	TBD: Months of household food provisioning (TBD)
IR4.3 Improved Nutrition of Vulnerable Household Members	Exclusive breastfeeding of children <6 months (%) (R) Children 6-23 months receiving a minimal acceptable diet Women's Dietary Diversity: Mean number of food groups consumed by women of reproductive age
IR4 Lower Level Result Indicators	Number of households with formalized land (TBD) (R) (SHH) Value of agricultural and rural loans (R)
Development Objective: Health Status Improved (Nutrition-related) ** Prevalence of underweight/stunted/wasted children under five years of age (R) Prevalence of underweight women (R)	
Intermediate Results  Health service delivery improved Health Systems and accountability strengthened Community Health Practices Improved	<i>Number of people trained in child health and nutrition through USG-supported programs TBD</i> <i>Anemia among women of reproductive age (%) (R)</i> <i>Number of health facilities with established capacity to manage acute undernutrition TBD</i> <i>Prevalence of anemia among children 6-59 months TBD</i> <i>Number of children under five years of age who received Vitamin A from USG-supported programs TBD</i> <i>Number of children under five reached by USG-supported nutrition programs TBD</i>
Lower Level Result Indicators	TBD

\* Indicators drawn from FTF Indicator List, some indicators will be added from project-level PMPs

\*\* Nutrition indicators and targets will be finalized through further discussions with Health/Nutrition partners

(R) – Required Indicator

(S) – Sex disaggregated Indicator

(SHH) – Disaggregation by sex of household head

TBD – To be determined

N/A – Not applicable to USG Zambia but required indicator

## ANNEX C. PROJECT LEVEL INDICATORS AND PRELIMINARY TARGETS

Table C.1: Value Chain Program Indicators and Results		
Objective	Indicators	End of Project Results
IR.1 Improved agricultural productivity	Increased productivity and income from selected value chains (gross margin per unit of land or animal of selected product)	TBD
	Number of farmers, processors, and others who have applied new technologies or management practices as a result of USG assistance ( <i>disaggregated by sex</i> )	TBD
IR. 2 Expanding Markets and Trade	Value of incremental sales (collected at farm/firm level) attributed to FTF implementation ( <i>disaggregated by targeted commodity</i> ) ( <i>disaggregated by sex of household head</i> )	TBD
IR 3 Increased private investment in agriculture-related activities	Value of new private sector investment in the agriculture sector or food chain leveraged by FTF implementation (Change in value – investments local and international)	TBD
	Increase in employment in value-added processing enterprises linked to selected commodities.	TBD

Table C.2: Economic Resilience Indicators and Results		
Objective	Indicators	End of Project Results
IR.1 Improved agricultural productivity	Increased productivity and income from selected value chains (gross margin per unit of land or animal of selected product) ( <i>disaggregated by sex</i> )	TBD
IR.3 Improved Resilience of Vulnerable Households	Increased expenditures (proxy for income) of rural households, including female-headed households	TBD
	Prevalence of households with moderate or severe hunger ( <i>disaggregated by sex of household head</i> )	TBD
Sub IR.3	% of children 6-23 months that receive a Minimum Acceptable Diet ( <i>disaggregated by sex</i> )	TBD
	Number of vulnerable households benefiting from program activities through increased economic resilience ( <i>disaggregated by sex of household head</i> )	TBD
Other Potential Indicators	Women's Dietary Diversity: Mean number of food groups consumed by women of reproductive age	TBD
	Prevalence of exclusive breastfeeding of children under 6 months	TBD
	Number of people with a savings account or insurance policy as a result of USG assistance ( <i>disaggregated by sex</i> )	TBD



## **ANNEX D. REFERENCES**

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