



USAID
FROM THE AMERICAN PEOPLE

FINAL REPORT FOR THE END OF PROGRAM EVALUATION OF THE C-FAARM PROGRAM

DECEMBER, 2011

C-FAARM Program map:



Evaluation conducted by:

Lead evaluators: John Spilsbury

Stephen Tembo

Dorothy Nthani

Revised and edited by:

Meri Ghorkhmazyan (independent consultant)

ACKNOWLEDGEMENTS

This evaluation would not have been possible without the commitment, time and effort that all respondents and participants of the evaluation contributed.

C-FAARM and the authors of the final evaluation report would like to express their gratitude to all program staff and beneficiaries for their endless patience, logistical support and openness in sharing programmatic information and their opinions.

The support and time allocated by the interviewed ministry and district officials was valuable, and we are thankful that you were able to take part in this evaluation as your insights and suggestions are important for improving these types of interventions in Zambia.

We wish to also acknowledge the financial support of the United States Agency for International Development (USAID), Zambian Mission, and their continued input and flexibility throughout the program implementation.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	II
TABLE OF CONTENTS	III
ACRONYMS	VII
1. EXECUTIVE SUMMARY	1
2. INTRODUCTION	5
2.1. Context	5
2.2. The C-FAARM Program	6
2.3. Evaluation	7
3. METHODOLOGY	8
4. PROGRESS MADE (by Work Plan Strategic Objective (SO) and Intermediate Result (IR))	11
<u>4.1. SO 1: By 2011, Vulnerable Households in targeted districts have diversified and/or increased their agricultural livelihoods in a sustainable manner</u>	11
Indicator 1.1: Percentage of HH with improved livelihood score	11
Indicator 1.2: Number of months of adequate food provisioning	11
4.1.1. IR 1.1: Vulnerable Households have adopted appropriate program-supported agriculture production and diversification practices	11
Indicator 1.1.1: Number of program beneficiaries (farmers) adopting Minimum (one or more) Technologies	11
Indicator 1.1.2: Number of program beneficiaries (farmers) having planted 2 or more new crops or varieties promoted by the program	14
Indicator 1.1.3: Average Household Dietary Diversity Score	15
4.1.2 IR 1.2 Vulnerable Households have increased income through adopting appropriate agro-enterprise practices	17
Indicator 1.2.1: Number of beneficiaries with increased income	17
Indicator 1.2.2: Percentage of Households that have diversified their sources of income	19
<u>4.2 SO 2: By 2011, vulnerable and extremely vulnerable Households in targeted districts have protected and/or improved nutritional health status</u>	20
Indicator 2.1: Number of beneficiaries with a high Dietary Diversity Score	20
4.2.1 IR 2.1 Community Health Workers practice improved counseling and referral skills	20
Indicator 2.1.1: Percentage of CHWs who identified 3 warning signs and referred the sick child as per IMCI guidelines.	20
4.2.2. IR 2.2: Communities carry out nutritional recuperation and prevention activities for communities with chronic malnutrition rates of over 30% among children 1-36 months	21
Indicator 2.2.1: Number of PD/Hearth participants successfully graduating from PD Hearth	21
4.2.3. IR 2.3 Mothers and other caregivers practice appropriate feeding, care giving, and care seeking behaviors for children under 36 months	23
Indicator 2.3.1: Percentage of mothers with children age 0 – 59 months who report at least 5 key health seeking practices	23
4.2.4 IR 2.4: Vulnerable and extremely vulnerable households have increased their dietary intake	24
Indicator 2.4.1: Percentage decrease in chronic malnutrition rates of children 6-59 months	24

<u>4.3. SO 3: By 2011, vulnerable communities in targeted districts have improved their collective ability to identify and respond to developmental issues and external shocks affecting food security</u>	27
4.3.1 IR 3.1 Communities have established development relief action plans	27
<i>Indicator 3.1.1: Number of Communities that have Development Relief Action Plans (DRAP) in place</i>	27
4.3.2 IR 3.2 Communities equipped with early warning and response systems and strengthened community-based safety net mechanisms	28
<i>Indicator 3.2.1: Number of communities with disaster early warning systems in place</i>	29
<i>Indicator 3.2.2: Number of communities with improved infrastructure to mitigate the impact of shocks</i>	29
<i>Indicator 3.2.3: Percentage of communities with safety nets in place</i>	30
<i>Indicator 3.2.4: Number of communities with strengthening capacity to withstand shocks</i>	31
5. OECD-DAC CRITERIA	32
5.1. Relevance/ Appropriateness	32
5.2. Efficiency	32
5.3 Effectiveness	32
5.4. Coverage	33
5.5. Coordination and Partnerships	33
5.6. Impact: Differences made to the Lives and Livelihoods of Intended Beneficiaries	35
5.7. Sustainability	36
6. MANAGEMENT	38
6.1. Program management	38
6.2. Financial management	39
6.3. Monitoring, Evaluation and Reporting	40
6.4. Other Unexpected Findings/Results	41
7. LESSONS LEARNED AND PROMISING PRACTICES	41
8. RECOMMENDATIONS: VITAL FEW	43
9. CONCLUSIONS	45

LIST OF FIGURES

Figure 1.	HHs Providing Food from own Production at Baseline and Final Evaluation	11
Figure 2.	Change in Agricultural Techniques for All Districts	12
Figure 3.	Agricultural Techniques by District	12
Figure 4.	Crop Diversity: Number of Crops Grown per HH, (All Districts) per Vulnerability Group	14
Figure 5a.	HA Planted per Selected Crop	15
Figure 5b.	KG Production per Selected Crop	15
Figure 6.	Change in Dietary Diversity Score Between Baseline and Endline by District and by Vulnerability Group	17
Figure 7.	% of HH with Two or More Non-Farming Cash Income Sources, by District	19
Figure 8.	% of HH with Two or More Farming Cash Income Sources, by District	19
Figure 9.	Program stunting rate (against WHO standard)	25
Figure 10.	Program underweight rate (against WHO standard)	26
Figure 11.	Capacity to Withstand Shocks Identified by Focus Group Participants	31
Figure 12.	Relevant Needs Addressed by C-FAARM as Identified by Focus Group Participants	32
Figure 13.	C-FAARM Areas of Life Difference Identified by Focus Groups	35
Figure 14.	C-FAARM Support Identified as Sustainable by Community based Focus Groups	36
Figure 15.	Increases in Community Capacity Identified by Focus Group Participants from 14 Communities	37

LIST OF TABLES

Table 1.	A Snapshot of Poverty and Food Insecurity in Zambia (Table used in Introduction)	46
Table 2.	Sample Size Quantitative Data	46
Table 3.	Household Demographics	47
Table 4.	Percentage Households with Adequate Food Provisioning, 2006/07 and 2009/10	47
Table 5a.	Percentage Beneficiaries Adopting Minimum Technologies by District at endline compared to baseline	47
Table 5b.	No and Percentage Beneficiaries Adopting Minimum Technologies by District (End line)	48
Table 5c.	Percentage Beneficiaries Adopting Minimum Technologies by District at endline compared to baseline by vulnerability group	49
Table 6a.	Percentage of Households Growing Selected Crops	50
Table 6b.	Production of cereal crops, legumes and tubers by district	50
Table 7 a.	Percent of HH growing No of crops per district and vulnerability group (endline only)	51
Table 7b.	Number of HH growing No of crops per district and vulnerability group	52
Table 7c.	No of HHs growing # of crops per district	53
Table 8a.	Average number of crops grown in C-FAARM districts, 2006/07 and 2009/10	54
Table 8b.	Average number of crops grown, C-FAARM vs non C-FAARM districts	54
Table 9.	Average dietary diversity score	54
Table 10a.	Average and median monthly household cash income by district	55
Table 10b.	Average income by vulnerability vroup (endline only)	56
Table 10c.	Average income by gender of head of HH (endline only)	56
Table 11.	Percentages of HHs identifying a given source of farm income	57
Table 12a.	Proportion of HHs owning cattle	57
Table 12b.	Number of cattle owned by HHs	57
Table 13.	Percentage of HHs with a dietary diversity score above the baseline average (3.1)	58
Table 14.	Identification of warning signs for diarrhoea by CHWs	58
Table 15.	Referral of children with pneumonia	59
Table 16.	PD/Hearth communities	59
Table 17a	Percentage of respondents who find PD/Hearth practices identified as helpful	59
Table 17b.	Number of respondents who find PD/Hearth practices identified as helpful	60
Table 17c.	Percentage of respondents who reported 5 or more practices by vulnerability category and district	61
Table 18.	Beneficiaries reporting health seeking practices	62
Table 19a.	Stunting rates (Height-for-Age/Chronic Malnutrition 95% C.I.)	62
Table 19b	Height for age comparison against baseline	63
Table 19c.	Stunting rates per vulnerability group	63
Table 20a	Underweight rates by age group (endline only)	63
Table 20b.	Comparisons between initial assessment and re-assessment data	64
Table 20c.	Underweight rates per vulnerability group	64
Table 21.	Shock mitigation infrastructure results from focus group discussions	65
Table 22.	Safety nets identified by focus group discussions	65
Table 23.	Comparison of coping strategies	66
Table 24.	Types of shocks experienced	67
Table 25a.	Shocks per district	67
Table 25b.	Highest likelihood of a shock occurring in the district	68
Table 26a.	Coping mechanisms per shock for each district	69
Table 26b.	Highest likelihood of a certain measure taken	70
Table 27.	C-FAARM Progress against External Assessment Recommendations	77

ANNEXES

Annex 1:	Scope of Work for the C-FAARM Final Evaluation	71
Annex 2:	Literature Review and Bibliography	80
Annex 3:	Data Collection Tools	82
Annex 4:	Indicator Performance Tracking Table	108
Annex 5:	Design Matrix	111
Annex 6a:	Focus Group Discussion Checklist	113
Annex 6b:	Key Informant Checklist	114
Annex 7:	Focus Group Discussion Locations	116
Annex 8:	List of Individual Interview Respondents	117
Annex 9:	Community Health Worker Interview	122
Annex10:	Crops Promoted by C-FAARM	123

ACRONYMS

AI	Artificial Insemination
AIDS	Acquired Immuno Deficiency Syndrom
ALNAP	Active Learning Network for Accountability and Performance
AOTR	Agreement Officer Technical Representatives
ARR	Annual Results Report
ART	Anti-Retroviral Therapy
CAFÉ	Consortium Alignment Framework for Excellence
CARE	Cooperative for Assistance and Relief Everywhere
CBGMP	Community-Based Growth Monitoring and Promotion
CEO	Camp Extension Officers
CF	Conservation Farming
C-FAARM	Consortium for Food security, Agriculture, AIDS, Resiliency and Marketing
CFU	Conservation Farming Unit
CHS	Communtiy Household Survey
CHW	Communtiy Health Worker
CI	Chronically Ill
C-IMCI	Community Integrated Management of Childhood Illnesses
C-IMCI	Community Integrated Management of Childhood Illnesses
CM	Consortium Member
CRS	Cathrolic Relief Services
C-SAFE	Consortium for the Southern Africa Food Security Emergency
DACO	District Agricultural Coordinator
DDCC	District Development Coordinating Committee
DDMC	District Disaster Management Committee
DDMC	District Development Management Committees
DDS	Dietary Diversity Score

DHMT	District Health Management Team
DHO	District Health Officers
DHS	Demographic and Health Survey
DIP	Detailed Implementation Plan
DMMU	Disaster Management and Mitigation Unit
DQA	Data Quality Assessment
DRAP	Development Relief Action Plan
DRR	Disaster Risk Reduction
ESR	Environmental Status Report
EWS	Early Warning System
FANTA	Food and Nutrition Technical Assistance
FAO	Food and Agriculture Organization of the United Nations
FFA	Food for Assets
FFP	Food for Peace
FGD	Focus Group Discussion
FRA	Food Reserve Agency
FY	Fiscal Year
GDP	Gross Domestic Product
GMO	Genetically Modified Organism
GMP	Growth Monitoring Program
GRZ	Government of the Republic of Zambia
HA	Hectar
HDI	Human Development Index
HH	Household
HIV	Human Immunodeficiency Virus
IEE	Initial Environmental Examination
IMCI	Integrated Management of Childhood Illnesses

IPTT	Indicator Performance Tracking Table
IQA	Internal Qualitative Analysis
IR	Intermediate Result
ITSH	Internal Transport Shipping and Handling
IYCF	Infant and Young Child Feeding
KG	Kilogram
LOA	Live of Activity
LOL	Land O Lakes
M&E	Monitoring and Evaluation
MACO	Ministry of Agriculture and Cooperatives
MCC	Milk Collection Center
MCC	Milk Collection Centers
MoH	Ministry Of Health
MoLF	Ministry of Livestock and Fisheries
MTE	Mid-Term Evaluation
MUAC	Mid-upper arm circumference
MYAP	Multi-Year Assistance Program
N/A	Not Available
NFNC	National Food and Nutrition Commission
NICRA	Negotiated Indirect Cost Rate Agreement
NNSR	National Nutritional Surveillance Report
NSG	Nutrition Support Group
OVC	Orphans and Vulnerable Children
PD/Hearth	Positive Deviance (Hearth model)
PLWHA	People Living With HIV and AIDS
PREP	Pipeline and Resource Estimate Proposal
PREP	Pipeline and Resource Estimate Proposal

PVO	Private Voluntary Organization
SC	Steering Committee
SNDP	Sixth National Development Plan
SO	Strategic Objective
SPSS	Statistical Package for the Social Sciences
TA	Transfer Authorization
TFA	Targeted Food Assistance
TL	Technical Lead
UN	The United Nations
UNICEF	The United Nations Children's Fund
USAID	United States Agency for International Development
USAID DEC	USAID Development Experience Clearinghouse
USD	United States Dollar
VAC	Vulnerability Assessment Committee
WHO ANTHRO	World Health Organization ANTHROpometric measurement software
WV	World Vision
ZAMACE	Zambia Agricultural Commodity Exchange
ZARI	Zambian Agricultural Research Institute
ZASP	Zambian Agriculture Supply Program
ZATAC	Zambia Agriculture and Technical Assistance Center
ZDHS	Zambia Demographic and Health Survey
ZMK	Zambian Kwacha
ZNFU	Zambian National Farmers Union
ZVAC	Zambia Vulnerability Assessment Committee

1. EXECUTIVE SUMMARY

A child born in Zambia has a greater chance of being poor than one born in almost any other country in the world. Seventy-eight percent of Zambians are poor; 63% of rural Zambians live on less than one United States Dollar a day, and 40% of them cannot meet their basic food needs. Zambia has one of the highest rates of chronic malnutrition in Africa, with 47% of children stunted, 22% severely stunted, 22% underweight, and five percent (5%) wasted. Barriers to production and marketing for small farmers, poor nutrition and childcare practices, inadequate health services, frequent shocks and an HIV/AIDS prevalence of 16% underlie food insecurity among the poor.

To address issues around food insecurity and risk in Zambia, the Consortium for Food security, Agriculture and nutrition, AIDS, Resiliency and Markets (C-FAARM) implemented a Multi-Year Assistance Program (MYAP) for FY2007 to FY2011. C-FAARM was planned to be a five-year program with intended implementation lasting from October 2006 to September 2011. Delayed funding resulted in a loss of one year's implementation, with most program staff being recruited between June and October 2007.

C-FAARM was implemented by a consortium of organizations comprising Catholic Relief Service (Lead Agency) working through its implementing partner, the Diocese of Livingstone, CARE International, World Vision and Land O Lakes implemented C-FAARM. The program was implemented in six districts of Zambia's Southern and Western Provinces.

The goal of the program was that vulnerable and extremely vulnerable people in targeted rural areas of Zambia have decreased food insecurity and increased resiliency.

In 2011 the C-FAARM commissioned a final evaluation to measure achievements towards the planned objectives and the extent to which program management and implementation contributed to program results. This evaluation report contains thorough analysis of all SOs and IRs, recommendations and key lessons learned throughout the implementation of the program. The evaluation made use of all relevant available monitoring information, including Indicator Performance Tracking Table (IPTT), annual reports and others, and collected additional qualitative and quantitative data to triangulate and validate findings.

Methodology

Program literature review, secondary and first hand qualitative and quantitative data collected during the evaluation were used to draw the findings, recommendations, lessons learned and conclusions for the C-FAARM final evaluation. The data collection was performed consistent with the baseline. The advice and logistical support of the program staff from all consortium members was valuable and largely used during the evaluation. Their technical input ensured that the questionnaires were relevant and targeted to the correct groups of beneficiaries.

The final evaluation made an attempt to follow the sample size and calculations performed at the baseline, to enable adequate comparisons. Both used stratified random sampling based on the program's three vulnerability groups. However, the baseline study was a population-based survey, whereas the evaluation data was collected only from the beneficiaries, therefore the comparisons should be viewed with a certain level of reservation. For anthropometric data the number of entries for baseline is much higher than the number of entries at endline, thus a statistical significance analysis was impossible.

Findings and Recommendations

Overall, the evaluation found that a majority of the results planned by the program were achieved.

As a result of the activities implemented within the frames of the **SO1, Households, especially in the vulnerable group diversified and increased their livelihoods** considerably. Analysis of the collected data shows that more than twice as many households are able to afford food for longer than three to six months from own production, and four times more households have access to food at least one to three months of the year. The overall analysis of the data shows that the overall income for the targeted beneficiaries has doubled over the course of the program. Also, at the end of the program more households had two or more non-farm sources of income since income was earned through casual agricultural labor, livestock sales, vegetable sales and milk sales. The average number of crops grown per household increased from 1.65 at baseline to 2.16 at endline, and there is evidence from secondary data that C-FAARM slowed down the decline in the production of crop diversity in the targeted areas. Households, especially female headed households also recorded increases in the ownership of cattle.

The quantitative data showed increases in the use of the all key promoted agricultural practices. At the end of the program the beneficiaries were able to produce more harvest using less land for certain crops. While cause-effect relationship cannot be established, the Internal Qualitative Analysis of the program suggests a correlation between the two.

A number of activities implemented under **SO2 resulted in protecting/ improving nutritional health status Households in targeted districts**. The average household Dietary Diversity Score increased from 3.1 to 3.27, and about 2.7 times more households can afford a minimally balanced diet at the end of the program than at baseline. Many of the program interventions have contributed to this achievement, including the PD/Hearth model, community gardens, etc. As a result of the program interventions, the capacity of the CHWs was considerably increased. At endline 71% of interviewed CHWs were able to identify 3 warning signs and refer sick children as per IMCI guidelines. 94% of interviewed CHWs were able to adequately recognize signs of pneumonia and quote relevant correct procedures for referrals.

While the report analyzed the change in chronic malnutrition rate, there are serious limitations with data quality suggesting that the results should ideally be verified through other sources, such as the next DHS or the NNSR, or the anthropometric data should be re-collected. The analysis of the current data shows that the both severe and moderate stunting rates have increased, together with the rates of severe and moderate underweight.

SO3 interventions increased communities' collective ability to identify and respond to developmental issues and external shocks affecting food security. C-FAARM put in place adequate number of EWS and DRAPs for the communities, and improved many of the valuable infrastructure facilities that are key to communities' wellbeing. At the end of the program 93% of the respondents had improved capacity to withstand shocks.

While the program has managed to stay flexible between employing relief and development approaches, it was also highly responsive of the emergencies that occurred during the implementation period, particularly the floods in a few districts. In addition to the infrastructure improvements, which were highly valued by the communities, other

interventions that similar programs might consider incorporating in the future, include the use of voucher programs for agricultural inputs, and cash transfers for the most vulnerable households. The evaluator acknowledges that this recommendation would require the scale up of FAO and CFU or similar interventions, which currently do not cover the C-FAARM targeted areas. The CFU cash transfer interventions are still in their pilot phase, so learning from this intervention would be useful.

Beneficiaries interviewed were confident that many of the program components will continue beyond the life of the project, among which are the PD/Hearth, nutrition and hygiene practices, improved agriculture practices, infrastructure and many others.

Lessons Learned for Next Generation Programs

The program developed valuable learning on a few components within SO2 that could help the MoH improve the implementation of its strategies. Those include the PD/Hearth and training of CHWs on IMCI guidelines. Advocacy at the national level government, namely to the National Food and Nutrition Commission under its yearly Nutrition Survey could contribute towards integration of these structures in the MoH strategies and can ensure sustainability beyond the completion of C-FAARM. Additionally, it could help to improve government-run practices of the similar nature. The yearly Nutrition Survey is also a good opportunity to cross check and verify nutritional data on chronic malnutrition within this evaluation.

C-FAARM, as a program paid a lot of attention to ensure that the knowledge learned throughout the program is put into practice. This is observed through (a) strengthened community understanding of health diet, (b) availability of food for longer term due to knowledge on food preservation, (c) farmers' using crop rotation as a soil fertility management option, improvement in the quality and the timing of referrals and others. Improved practices, being in the heart of the program ensured that it is measured and consistently followed up by the program implementing partners, and did deliver its planned results for many of the planned activities.

C-FAARM was implemented by a consortium, which required considerable coordination and organization. The consortium achieved a lot by regulating and strengthening its management capacity and structures such as positioning of Steering Committee as a management body. It is worth mentioning that the C-FAARM members coordinated their activities in a way that no trace of duplication was found during the evaluation. The C-FAARM members communicated and worked together and succeeded to maintain their organizational identity while covering a vast geographic area and addressing the needs of a diverse group of beneficiaries. Process-related adjustments were made in financial management practices, such as alignment of financial reporting systems. Spending from Year 1 to Year 4 improved considerably throughout the program. Participatory M&E was one of the strongest aspects of C-FAARM, where community members were enabled to monitor and track the progress of the activities influencing their lives directly. The M&E database and strengthening of the M&E capacities at all levels of the program within consortium members enabled the flow of data, yet inaccurate and inconsistent beneficiary lists remained a challenge. Unfortunately a cost-efficiency analysis was impossible during the time of the evaluation, but this could become a valuable study to further for organizational learning and organizational development worldwide.

Conclusions

In conclusion, C-FAARM was a unique and complex program with various successes and challenges. It influenced the lives of many beneficiaries by improving their livelihoods and nutrition. It increased the capacity of the beneficiaries to maintain their standard of life upon completion of the program, through agricultural, nutrition, marketing interventions, and strengthened infrastructure. While some of the components of the program, such as nutrition and cost-efficiency may need a more thorough analysis to demonstrate the results achieved in sufficient depth, it can be safely concluded that the program positively changed the lives of many Zambians in the impact area.

2. INTRODUCTION

2.1. Context

HDI Ranking 2005	166
Poor as percent of Population	78%
Extreme poor as percent of Population	58%
Chronically food insecure HHs	19%
Transitorily food insecure HHs	45%
Stunting among Children under 5	47%
Malnourished Children under 5	49%
HIV/AIDS national prevalence	16%
<i>Source: Livelihood Conditions Monitoring Survey 2004</i>	

Despite Zambia's vast agricultural potential, since the 1980s it has continuously declined from a middle-income country to a nation afflicted by chronic food insecurity, poverty, recurrent shocks and HIV/AIDS. The high rates of poverty and food insecurity are reflected in some of the highest rates of stunting and malnutrition in the world (Table 1)¹.

The main causes of food insecurity in Zambia are: 1) low production due to lack of technical inputs, 2) inadequate investment in basic services and infrastructure, 3) poor market integration, 4) lack of access to credit, 5) inappropriate government policies, 6) loss of livestock due to disease, 7) gender inequities, 8) HIV/AIDS, and 9) frequent shocks. Current trends indicate a shift from seasonal to chronic food security for growing numbers of the rural poor.

Rural Zambians cite agricultural policies, structural reasons and shocks as contributors to their poverty: 57% attribute poverty due to expensive or unavailable agricultural inputs; 42% to lack of credit and 30% to lack of livestock. High prices and hard economic times are cited by 45%. Shocks from drought cause poverty among nine percent (9%), and the death of a breadwinner among six percent (6%) of rural people².

Major shifts in government policy have been a significant contributor to poverty among rural farmers. For decades after independence, the state provided free inputs and services to farmers. When a multiparty state emerged in the early 1990s, Zambia changed to a free market model. Almost overnight subsidies disappeared and markets dried up. Traditional leaders attempted to organize meaningful development initiatives but lacked money and policy support. Communities fell further into poverty and successive shocks eroded their asset base. Since 1991 the total area under crops has declined 10% due to a reduction in maize planting, a loss of draught power from disease, lack of access to credit for inputs, and the removal of most agricultural subsidies.

The high prevalence of HIV/AIDS has further heightened food insecurity as the loss of adult labor has accelerated declines in production and productivity. The availability of HH labor has fallen from 800 to 500 days per year and some farms are abandoned for days due to HIV/AIDS related health problems.³ The Community Household Survey (CHS) Regional In-depth Report⁴ places Zambia among the worst affected in the region, with 40% of all HHs hosting orphans and 21% hosting a chronically ill (CI) member. The devastating effect of HIV/AIDS magnifies other underlying causes of food insecurity in Zambia to affect availability, access and utilization for the chronically vulnerable.

¹ C-FAARM proposal (August 28, 2006 submission, page 2)

² C-FAARM proposal (August 28, 2006 submission, page 2)

³ USAID Zambia Country Strategic Plan FY2004-2010, p.54.

⁴ CHS Regional In-Depth Report, January 2005 (draft).

2.2. The C-FAARM Program

In 2011 C-FAARM (Consortium for Food security, Agriculture and nutrition, AIDS, Resiliency and Markets) undertook a final evaluation to assess the impact of program and its various interventions, and demonstrate achievements in the three strategic objectives and intermediate results of the C-FAARM program.

Strategic Objectives and Intermediate Results:

- **Strategic Objective 1:** By 2011, vulnerable households in targeted districts have diversified and/or increased their agricultural livelihoods in a sustainable manner.
 - a) IR1.1: Vulnerable HHs have adopted appropriate program-supported **agriculture** production and diversification **practices**;
 - b) IR1.2: Vulnerable HHs have increased **income** through adopting appropriate agro-enterprise practices.
- **Strategic Objective 2:** By 2011, vulnerable and extremely vulnerable households in targeted districts have protected and/or improved nutritional health status.
 - a) IR2.1: Community Health Workers (CHWs) **practice** improved counseling and referral skills;
 - b) IR2.2: Communities **carry out** nutrition recuperation and prevention activities for communities with chronic malnutrition rates of over 30% among children 0-36 months;
 - c) IR2.3: Mothers and other caregivers **practice** appropriate feeding, care giving, and care-seeking behaviors for children under 36 months;
 - d) IR2.4: Vulnerable and extremely vulnerable households have increased their **dietary intake**.
- **Strategic Objective 3:** By 2011, vulnerable communities in targeted districts have improved their collective ability to identify and respond to developmental issues and external shocks affecting food insecurity.
 - a) IR3.1: Communities have **established** development relief action plans (DRAPs);
 - b) IR3.2: Communities have **improved** early warning and response systems and strengthened community-based safety net mechanisms.

The evaluation also assessed how program management and implementation processes influenced the achievements and progress made, and documented the key lessons learned from the C-FAARM program.

C-FAARM was planned to be a five-year program with intended implementation from October 2006 to September 2011, but due to funding delays it did not start until the June 2007. It ended in November 2011⁵.

Catholic Relief Service (CRS) Zambia is the lead agency for the Consortium for Food security, Agriculture and nutrition AIDS, Resiliency and Markets (C-FAARM) program (2007-2011) a \$36.5 million Multi-Year Assistance Program (MYAP) funded by USAID Food for Peace. CRS Zambia provided technical leadership on (i) finance; (ii) monitoring and evaluation and (iii) the resiliency component; CARE was the technical lead for (i) agriculture; (ii) marketing and (iii) the health components. World Vision led work on (i) commodities; (ii) Food for Assets (FFA); (iii)

⁵ A two-month no-cost extension was approved by the donor from 9/30/11 to 11/30/11

Targeted Food Assistance (TFA) and (iv) environment programming. Land O Lakes was responsible for the monetization process during the program's first year, and support to dairy.

The program was implemented in highly food insecure areas of six districts in the Southern and Western Provinces of Zambia⁶. CRS with its local partner, Caritas Livingstone, was responsible for the implementation in the Western Provincial districts of Sesheke and Shang'ombo; CARE covered Kalomo and Kazungula districts, while World Vision implemented in Choma and Sinazongwe, all in Southern Province. Land O Lakes focused its dairy based support in Choma, Kalomo and Kazungula districts.

C-FAARM worked in ten communities in each district that were equivalent to agricultural camps. Each community was comprised of between five and twenty villages that could be spread over an area of up to thirty kilometers in diameter. Because the districts have varying levels of poverty, hunger and food insecurity, to determine its targeting strategies the program used a community level participatory process based on household food security status and commercial viability. Accordingly, the three beneficiary household groups were⁷:

- *Vulnerable* (food insecure for more than six months of the year, lack of productive assets, not having any stored grain, they may be forced to go without meals for a full day or for days);
- *Vulnerable but viable* (are able to improve food security status--able to provide for HH needs during non-drought years for more than six months of the year but less than nine months; and are less vulnerable due to adequate productive labor availability, access to adequate land and water resources, ownership of productive assets, and/or greater access to markets);
- *Viable* (own cattle and luxury goods (bicycles, radios), are more food secure, can eat three meals per day, are able to send their children to school since they can afford the school fees, uniforms and transport (occasionally boarding fees).

The method was also used to stratify household sampling during the baseline study and final evaluation⁸.

The program aimed to decrease food insecurity and increase resiliency through: (1) community-based innovation and experimentation of sustainable agricultural system technologies and links to demand-driven value chains and markets; (2) behavior change nutrition education activities; (3) support for active nutritional surveillance; (4) targeted food assistance (TFA) for extremely vulnerable beneficiaries; (5) food for assets (FFA) to restore and build community assets; and (6) increased community capacity to use early warning and response systems to external shocks⁹.

2.3. Evaluation

The C-FAARM final evaluation was carried out following a detailed scope of work attached as Annex 1. The evaluation team consisted of a team leader supported by an Agricultural

⁶ Map available on the cover page

⁷ For more detailed definition please see Annex 1 Evaluation SoW section 2.5

⁸ See Methodology section

⁹ Please see Program Proposal for critical assumptions and other programmatic details.

Economist and a Nutritionist. The draft report was reviewed, edited and finalized by an independent M&E consultant.

The evaluation will be used to improve current and future MYAP programs, as well as interventions addressing food insecurity in Zambia and throughout the world. The document contains valuable lessons learned, documented experiences and recommendations that can help to increase effectiveness, efficiency and impact of similar interventions and achieve more significant change in the lives of the targeted people. The evaluation's adapted versions will be made available publically and through evaluation sharing websites such as USAID DEC, ALNAP and others, and CRS will look into conference opportunities to present the findings and lessons to a wider audience.

3. METHODOLOGY

To measure the impact of the C-FAARM program on the lives of the targeted beneficiaries both qualitative and quantitative data was collected, guided by participatory consultative approaches. This was accompanied by adequate literature review. The final evaluation was performed from July to September 2011; seasonal timing was consistent with the baseline survey.

Literature Review: Relevant programmatic documents and secondary data were reviewed to contextualize the findings of the evaluation. The report contains the list of the documents (Annex 2 Literature Review Bibliography) that were used to support, supplement or explain the findings of the evaluation.

Quantitative data was collected to enable end of program comparisons with the results reflected in the C-FAARM baseline report. Program staff from all consortium members participated in the planning of the evaluation, including design of the data collection tools, and provided logistical support during data collection. To enable comparisons and tracking of progress from baseline results, this study followed the same household level quantitative questionnaire that was used during baseline (Annex 3). This was triangulated with programmatic data on C-FAARM Indicator Performance Tracking Table. The baseline quantitative questionnaire was adjusted to allow calculation of IPTT indicators (Annex 4: Indicator Performance Tracking Table), Annex 5 (Design Matrix) shows how each question/sub-question was addressed.

Quantitative sampling design and sample size calculations followed those used in the baseline study¹⁰. Stratified random sampling was based on the programs three vulnerability groups. Households were randomly selected within each C-FAARM vulnerable groups by each consortium member organization using program-provided sampling frames (lists of beneficiaries).

The calculation of sample size for each district followed the equation used in the baseline study. The equation was:

$$N = \frac{D * (Z\alpha + Z\beta)^2 * (P_1x(1-P_1) + P_2x(1-P_2))}{(P_2 - P_1)^2}$$

¹⁰ C-FAARM (2008) Baseline Survey Report Section 2.3

Where:

N = required minimum sample size per district;

D = design effect;

P_1 = the estimated level of the indicator at the time of the baseline survey;

P_2 = the estimated level of the indicator when the final survey is conducted.

Z_α = the z-score corresponding to the selected level of confidence desired to be able to detect that an observed change of magnitude (P_2-P_1) would not have occurred by chance (where α is the level of statistical significance);

Z_β = the z-score corresponding to the selected level of confidence desired to be able to detect an observed change of magnitude (P_2-P_1) if it indeed exists (where β is statistical power).

A minimum of 800 households were targeted for sampling in each district (200 households from the viable, 300 from viable but vulnerable, and 300 from vulnerable groups). However the sample sizes for vulnerability group were not maintained for the endline (see the limitations section below). For actual sample size and HH demographics, please refer to Table 2 and Table 3 attached in the Tables Section. Non-anthropometric sample size was larger than anthropometric sample size due to additional cleaning processes related to child age, height and weight available¹¹, and not all households having children. Non-anthropometric sample sizes are considered sufficient. See appropriate section of the report for anthropometric sample sizes.

Each partner PVO was responsible for mobilizing selected beneficiaries to come to pre-arranged interview locations. Beneficiaries were to be accompanied by their eligible children (aged between 6 months and 59 months) for anthropometric measurement. Data was collected by external enumerators and the completed questionnaires were checked by external supervisors in the field and sent to Lusaka, where short-term hired data clerks entered it into the identified CS Pro system. SPSS was used for analysis of non-anthropometric data from the quantitative questionnaire, and WHO ANTHRO software was used to analyze anthropometric data.

Qualitative data was used to verify, explain and inform quantitative findings. Qualitative data was collected by 10 enumerators in each district either contracted by, or staff members of the PVOs. A three-day training was conducted for them to ensure that they were familiar and skilled in filling out the paper-based questionnaires, and concluded with detailed community level fieldwork plans. Qualitative data was collected using Focus Group Discussions and Key Informant Interviews (see Annex 6a Focus Group Discussion Checklist and Annex 6b Key Informant Checklist, Annex 7 for FGD locations). While in most cases FGD locations and participants were selected randomly except for when pre-arrangements were necessary, key informants were purposefully selected based on their experience and knowledge of the program (See Annex 8 for key respondents list). Key informant interviews were semi-structured and evolved around the interviewees' area of knowledge and experience and emerging issues arising in the evaluation. Interpreting data involved grouping responses within thematic areas of each evaluation question to identify cyclic inter-linkages, trends, commonalities and testimonies.

To cover IPTT Indicator 2.1.1 a separate short questionnaire was developed for use with Community Health Workers (see Annex 9: Community Health Worker Interview). USAID's Food for Peace Office does not require that evaluations attribute effects to the project.

¹¹ C-FAARM (2008) Baseline Survey Report Section 2.3

Limitations of the Study

Unclear livelihood index formula: At the time of evaluation three different approaches were developed to apply the Livelihoods Index: one based on TFA Scoring Matrix, and two versions of a Verification Scoring Exercise. While adjustments were made to the quantitative questionnaire to allow calculations on the TFA Scoring Matrix, the way the program had addressed this issue at baseline study remained unclear. Due to these challenges, the indicator remained uncovered for endline evaluation.

Outdated beneficiary lists: At the beginning of the evaluation the C-FAARM Program Director raised his concerns about the quality of sampling frames for some districts to the End of Program Evaluation Task Force, comprised of all PVO representatives, USAID and evaluators. Outdated and duplicated beneficiary data has put limitations on the amount of data used in the evaluation.

Availability of Baseline Data for SO 3: No baseline and secondary data was found exists for indicators related to SO 3¹². This lack of data made determine change that could be attributed to C-FAARM more subjective.

Calculation of Income both during baseline and final evaluation studies Households found it difficult to estimate their cash income with precision when giving a sum total. Thus, income estimates may contain substantial errors in both studies.

Sampling errors in vulnerability groups: Sample size for vulnerability groups was not comparable in some of the indicators, thus further analysis against those were not done. This was caused mainly by incorrect data entries.

Data Verification: There was a general lack of external secondary data available at a district level. This challenged data verification to external sources.

Indicator 2.3.1: Percentage of mothers with children age 0 – 59 months who report at least 5 key health seeking practices: At the data entry stage errors were made, related to coding of the responses. Number six (6) was used both as the code for “none of the practices were helpful” and as “six practices were helpful”. For the sake of accuracy, the analysis eliminated all number six codes. This may have caused loss of the number of respondents who were able to report six key health seeking practices.

Household demographics for sample

Table 3 summarizes a few key household demographics for the sample. The average household size is 7.3 (compared with 6.6 at baseline). There are fewer female headed HH in the sample compared to baseline (24.7% compared to 28.8%). 40% of HH have an orphan residing in them – almost identical to the baseline. Viable group for endline study was much higher than at baseline, and vulnerable group lower than baseline. Viable but vulnerable group both at baseline and endline include roughly about the same proportion of respondents.

¹² Indicators 2.1.1 and 2.2.1 also lacked baseline data.

4. PROGRESS MADE (by Work Plan Strategic Objective (SO) and Intermediate Result (IR))

4.1. SO 1: By 2011, Vulnerable Households in targeted districts have diversified and/or increased their agricultural livelihoods in a sustainable manner

Indicator 1.1: Percentage of HH with improved livelihood score

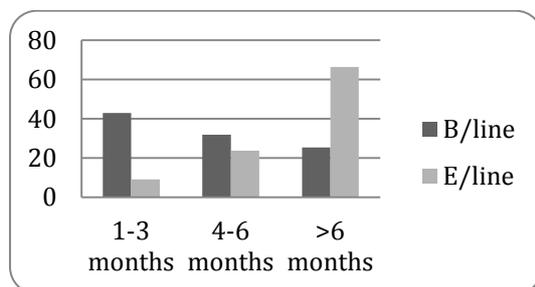
See study limitations.

Indicator 1.2: Number of months of adequate food provisioning

Finding: Through a number of agricultural interventions, the program increased the capacity of a large number of vulnerable households to provide adequate food for a longer period. The number of households unable to support food for more than 1-3 months decreased by 4 times, and the number of households able to produce adequate food for 6 months and more increased by more than 2.5 times, across all districts.

Explanation: Given that C-FAARM targeted rural households where the majority (at least 98%)¹³ are involved in agricultural production (particularly crop production), it is expected that these households would produce their own food. Consequently, the number of months of adequate food provisioning from own production is a good indicator of increased household agricultural livelihoods. Figure 1 illustrates the increase in the number of households and their capacity to provide food for longer time span.

Figure 1. HHs Providing Food from own Production at Baseline and Final Evaluation



Data presented in Table 4 (see Table Section) shows that in aggregate, the percentage of households whose food from own production could last 1-3 months reduced from 43% at baseline to 9.2% at endline.¹⁴ The greatest reduction (by 9 times) was in Sesheke, while the least reduction (by 3 times) was in Kazungula.

The percentage of households whose food from own production could last for more than six months during the same period increased from 25.3% to 66.3%. The most dramatic increases were in Sesheke and Shangombo by 7.2 and 5.2 times, while the least were in Choma and Kazungula by 1.7 and 1.9 times respectively.

4.1.1. IR 1.1: Vulnerable Households have adopted appropriate program-supported agriculture production and diversification practices

Indicator 1.1.1: Number of program beneficiaries (farmers) adopting Minimum (one or more) Technologies

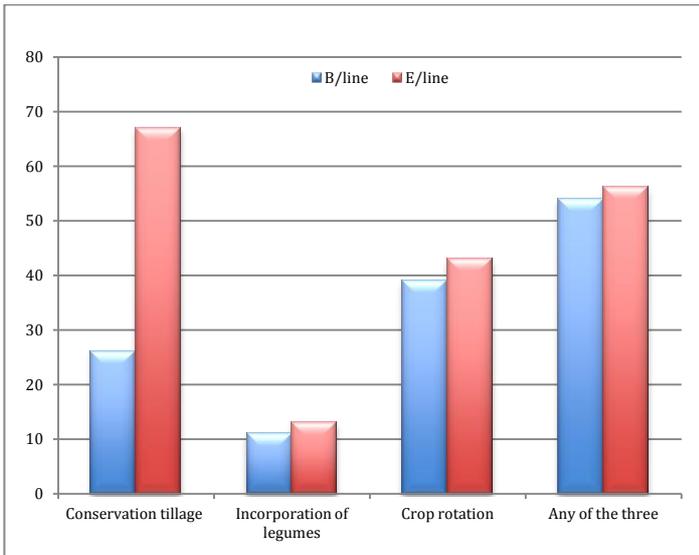
Finding: There has been a slight overall increase (from 53.6% to 56.0%) in the percentage of beneficiaries using one or more of the agricultural technologies promoted by the program, as

¹³ CFS, MACO 2011

¹⁴ In order to be consistent with the baseline, at endline the previous completed agricultural year was used i.e. 2009/10, given that at the time of the survey the 2010/11 agricultural activities (including maize shelling and marketing) had not yet been finished.

shown in figure 2. The biggest uptake has been for conservation tillage (from 26% to 67%), followed by crop rotation (from 39-43%) and incorporation of legumes (from 11-13%).

Figure 2. Change in Agricultural Techniques for All Districts

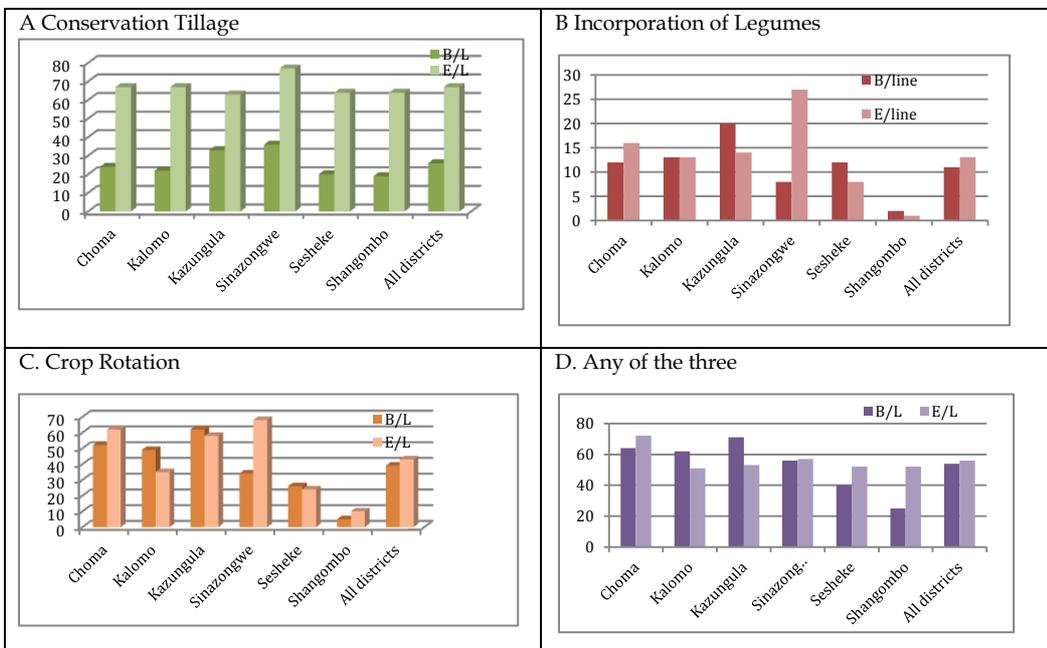


Explanation: Throughout the program 15,507 farmers were trained in conservation agriculture¹⁵. Supporting agriculture production based on conservation farming techniques was one of the objectives of C-FAARM. In particular, the following three major conservation farming techniques were promoted: (i) conservation tillage (in baseline and final evaluation questionnaires this was defined as potholing, tied ridges and contour ridging); (ii) incorporation of legumes, and; (iii) crop rotation.

Conservation farming has the potential to increase household agriculture production and productivity per unit area and do that sustainably, given its relatively low cost and soil fertility enriching ability.

The data in Table 5a shows that conservation tillage was the only technique with increased use in all districts. The use of the other two techniques decreased for some districts (Figure 3).

Figure 3. Agricultural Techniques by District



¹⁵ C=FAARM Close Out Ceremony Report page 6

Incorporation of legumes increased only for Choma and Sinzaongwe, remained the same for Kalomo and decreased in the remaining three districts. Crop rotation decreased for Choma, Kalomo, Kazungula and Sesheke, and had a high increase in Sinazongwe. The use of all three

Testimonial from Close Out Ceremony Report Page 8:

Kalomo District -James Chibanga

The verbatim report as given by James Chibanga one of the lead farmers from Kalomo is as follows:

My full names are: James Mateyo Chabanga a small scale farmer of Kalomo in Moonde area. I have worked with C-FAARM since 2007 when C-FAARM was introduced in the area. I was under Targeted Food Assistance.

My household was identified to be food insecure with very low income levels. C-FAARM admitted me and my members of the HHs to Targeted Food Assistance. C-FAARM gave me seed and trained me in various agriculture technologies. The seed and training helped in increasing my agriculture production capacity, thereby, increasing my household income from K2 million in 2007 to K15 in 2011. Being one of the first beneficiaries of C-FAARM in Moonde and having shown interest, commitment and capacity to train fellow farmers, I was appointed a lead farmer by the community. In addition I was later co-opted in area management committee as a member and advisor.

C-FAARM supported farmers mostly in three areas: (i) provided seed for rain fed field crops, (ii) provided winter seeds for gardening and treadle pumps and (iii) provided training to build farmers capacity for high production. As a result of the support received from C-FAARM my household managed to buy 1 ox drawn harrow, 3 cattle which have now multiplied to 7. In addition I am now able to pay for my three school going children – 2 at Kalomo High Boarding School and 1 at college in Mufulira. While I was a lead farmer, my two sons were chosen as high value crop producers which benefits the family.

techniques substantially increased in Sinazngwe compared to other districts. In Shangombo both at baseline and endline, crop rotation and incorporation of legumes report low uptake compared to the other districts.

As seen at the Internal Qualitative Analysis reports, trainings and practice of agricultural technologies are highly valued by the targeted beneficiaries, since it gave them the necessary knowledge and skills to improve their practices. It is expected that the use of more technologies will increase with time.

The low uptake of certain technologies in districts can be influenced also by the maize process, which at present seem to be driving the Zambia production market.

Table 5b contains analysis of other technologies used by respondents, among which the highest is Compost Manure used by 35% of the respondents, followed by winter cropping (19%), Winter Ploughing (19%) and minimum tillage (18%). Genetics (six percent) and post-harvest technologies (five percent are among the least used

technologies.

Within vulnerability groups, conservation tillage had the highest uptake among the vulnerable but viable group (Table 5c) from 19.8% to 69.5%. At endline, in Shangombo 4 times more viable households are using conservation tillage than at baseline. Among vulnerable households the percent of households using this technique has increased from 19.9% to 57.3.

In Shangombo, Sesheke and Kazungula incorporation of legumes for all three vulnerability groups decreased, whereas it has considerably increased for all groups in Sinazongwe; in Choma this technique has increased for viable and vulnerable groups and decreased for the vulnerable but viable group.

Crop rotation usage has decreased for viable and vulnerable groups in Kalomo, for the viable but vulnerable group in Choma, and has increased for all groups in the rest of the districts. In Kalomo and Kazungula baseline data showed 0% of the viable but vulnerable group using the techniques, therefore the increase is much higher. The traditional farming system involves livestock free ranging after the harvest. This is a major obstacle to the principle of incorporating green manure as well as for the continued use of basins. Expanding the conservation farming

practices of digging basins and ripping in Lilonga and Research (Sesheke district) and Kanchelle (Kalomo district) and Pangwe (Choma district) did not yield the desired results due to the sandy soil. Also the respondents mentioned that basins required too much man labor and cattle damage. Concerns about the low adoption of some conservation agriculture techniques were expressed at mid-term evaluation, since inappropriate activities were observed to be promoted in a given agro ecological zone.

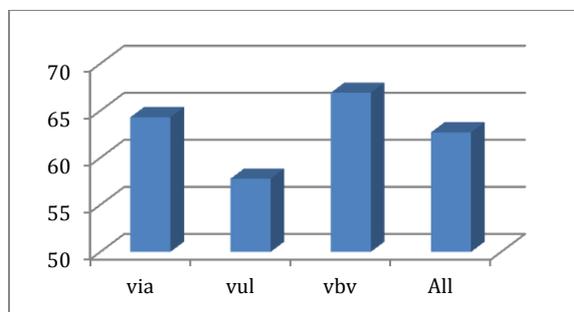
The analysis of the indicator 1.1.2 (Table 6b) shows that number of crops was planted in smaller area at endline than at baseline, but the harvest for selected crops either stayed the same or increased, e.g. millet, cowpea and groundnut. While data on whether a cause-effect relationship between the agricultural techniques and yields has not been collected through this study, the qualitative data collected through the program’s Internal Qualitative Assessment strongly suggests that the capacity strengthening on agricultural techniques has contributed to better cultivation and yield of the land.

Indicator 1.1.2: Number of program beneficiaries (farmers) having planted 2 or more new crops or varieties promoted by the program

Finding: In the targeted districts, diversified crop production declined, as maize production increased. Although an overall decline of crop production diversity was noted, yet in the areas where it worked, C-FAARM efforts have slowed declining crop diversity. Among program targeted beneficiaries, the percent of the HH growing two or more crops increased by 1.4 times.

Explanation: The project delivered improved planting materials and inputs to an estimated 21,935 households¹⁶. Table 6a contains detailed quantitative data on crop production, and shows that there has been noted increase in the percentage of households growing maize compared to baseline. This was likely influenced by government’s subsidized fertilizer policy and the “guaranteed” maize market provided by the Food Reserve Agency (FRA), which often was done at the expense of other traditional crops. This is true in all districts, with the biggest increase being in Sinazongwe district. However, in aggregate, production of millet and sorghum appear to have declined, and the production of sweet potato has gone from 14% to 0% in Kalomo and from 3% to 14% in Kazungula. These districts are along the railway line where access to market is easier.

Figure 4. Crop Diversity: Number of Crops Grown per HH, (All Districts) per Vulnerability Group



The average number of crops grown per household increased from 1.65 at baseline to 2.16 at endline. The number of households growing 2 or more crops increased from 44%¹⁷ to 62.6% (see Table 7c). As shown in figure 4 and Tables 7a and 7b, more households in the vulnerable but viable group grow two or more crops, followed by viable group.

¹⁶ C-FAARM Close out ceremony report page 6

¹⁷ IPTT 2011 baseline data

Annex 10 contains the list of crops promoted by the C-FAARM. According to secondary data¹⁸ crop production across the six C-FAARM districts declined from 10.3 to 9.8 per district between 2006/07 and 2007/10 as shown in Table 8a.

Table 8b shows that C-FAARM districts in average grew higher number of crop than those that were not targeted by the program. While the overall number of crop grown in the non-C-FAARM districts declined by almost one-point, the C-FAARM districts registered only half a point decline.

In Table 6b (Figures 5a and 5b) the analysis of the Production of cereal crops, legumes and tubers by district shows that for all districts the amount of land used for maize, sorghum, cowpea, beans, cassava and sweet potato did not change from baseline to endline, and it decreased for ground nut and millet.

Figure 5a HA Planted per Selected Crop

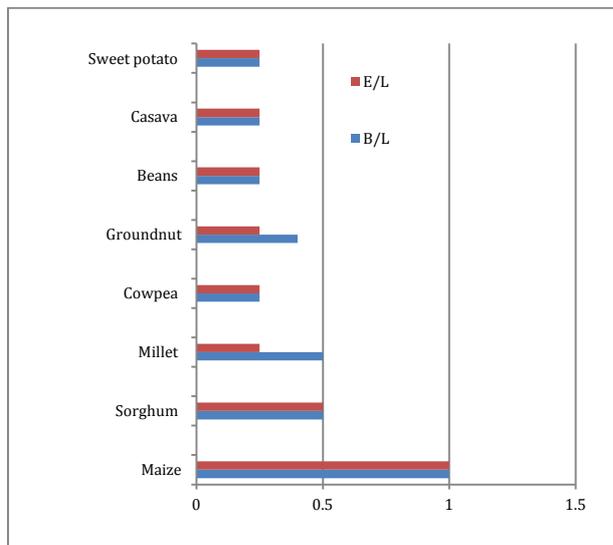
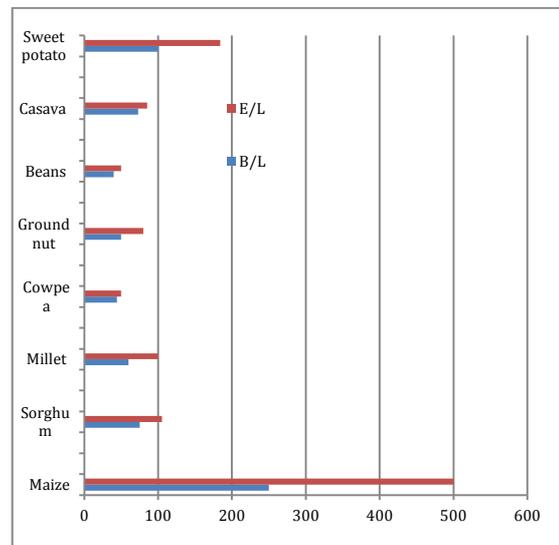


Figure 5b KG Production per Selected Crop



Even though the area where the selected crop was planted might have stayed relatively the same, the analysis of the data shows that the amount of crop harvested at the end of the project has increased, particularly for maize and Sweet potato. Kalomo and Sesheke have doubled the amount of harvest for maize, Kazungule and Sinazongwe have tripled, in Choma it has stayed the same, and in Shangombo it has slightly increased. Unfortunately, thorough analysis of sweet potato cannot be done since baseline data for three districts is unavailable.

Indicator 1.1.3: Average Household Dietary Diversity Score

Finding: There has been noted increase in the Dietary Diversity Score of the food consumed by program beneficiaries from 3.1¹⁹ at baseline to 3.27 at endline. Also in all C-FAARM districts the consumption of a minimally balanced diet has increase by 1.5 times rising from 14.2% at baseline to 20.95% at endline²⁰. While the Dietary Diversity Score has decreased for Viable and

18 Final Crop Forecasts, 2006/07 and 2009/10, Ministry of Agriculture and Cooperatives - see p27 of JS's report

19 IPTT 2011 baseline data

20 Data available in Table 10

Viable but Vulnerable beneficiaries, it has considerably increased for the Vulnerable group from 2.92 to 3.43 (Table 9).

Explanation: Dietary diversity is defined as the number of different foods or food groups eaten over a reference time period. It reflects the quality of the diet - the more food items or groups consumed, the higher the quality of the diet, including caloric and protein adequacy. Diet diversity is also positively associated with a number of nutritional outcomes, such as birth weight, child anthropometric status and hemoglobin concentrations²¹. The particular measure used here is based on the number of nutritionally healthy food groups, out of seven, from which food was consumed in the previous 24 hours²².

The following food groups were taken into account at both baseline and endline to calculate dietary diversity. Household representatives were asked which food groups they consumed in the previous 24 hours of the survey from these groups:

- cereals and tubers;
- pulses and legumes;
- dairy products;
- meats, fish and eggs;
- oils and fats;
- fruits,
- vegetables.

To compute dietary diversity the number of food groups from which each household reported consuming a food is simply added up.

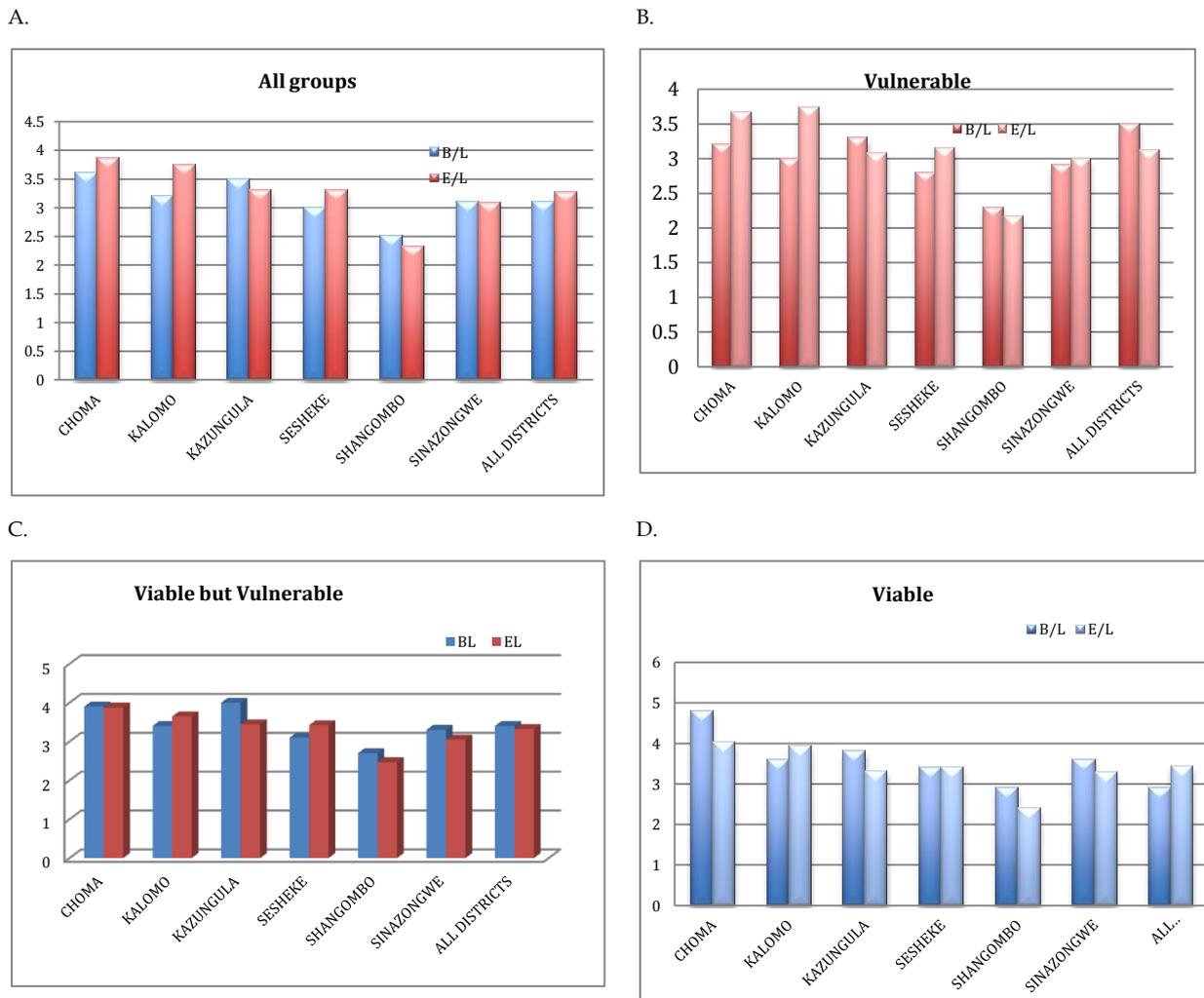
Choma, Kalomo and Sesheke show a rise in the average dietary diversity score, while average scores in Shangombo and Kazungula both declined (see Table 9). However, the picture is more nuanced between the vulnerability groups, with the Viable, and Viable but vulnerable groups showing *decreases* from baseline levels in several districts, while the vulnerable group shows *increases* from baseline levels in all districts.

The analysis per vulnerability group (Figure 6) shows that the dietary diversity score decreased for Vulnerable group, has a slight decrease for Viable but Vulnerable, and increased for the Viable group. However, the district level data for Vulnerable group shows that dietary diversity score in fact increased for all districts except for Shngombo and Kazungula, which remain the two districts with decreasing scores throughout all vulnerability groups. Among the viable but vulnerable beneficiaries, no significant change was seen in Choma, and the dietary diversity score increased in Kalomo and Sesheke. Among viable beneficiaries no change was seen in Sesheke, whereas dietary diversity score decreased in Choma, and increased in all others.

21 Swindale, Anne and Paula Bilinski. 2005. Household Household dietary diversity indicator guide for measurement of household food access: Indicator Guide. Washington, D.C.: Food and Nutrition Technical Assistance Project, Academy for Educational Development.

22 The measure is based on a modification of the classification system developed by Arimond, Mary and Marie Ruel. 2004. Dietary diversity, dietary quality, and child nutritional status: Evidence from eleven demographic and health surveys. Report submitted to the Food and Nutrition Technical Assistance Project, Academy for Educational Development, Washington, D.C.: International Food Policy Research Institute.

Figure 6. Change in Dietary Diversity Score Between Baseline and Endline by District and by Vulnerability Group



A household is classified as having a minimally balanced diet if its members consumed foods from all four of the following food groups: cereals and tubers; meat, fish and eggs; vegetables; and oils and fats.

Kalomo had the highest increase in the minimal balanced diet of 2.4 times from baseline, an increase from 13.2% to 31.4% households. Sinazongwe and Shangombo had the least increase both by 1.3 times, from 15% to 19% and 3.8% to 5.0% respectively (see Table 9). Dietary balance and diversity scores remain very low in Shangombo. In addition, those who had a minimally balanced diet in Kazungula remained at 19.3% both at baseline and endline.

4.1.2 IR 1.2 Vulnerable Households have increased income through adopting appropriate agro-enterprise practices

Indicator 1.2.1: Number of beneficiaries with increased income

Finding: Beneficiaries in all districts improved their monthly income in average by 101% in Zambian Kwacha terms²³ (48% in USD terms), the highest income increase noted among the vulnerable group. Market interventions, building the capacity of farmers and farmer

²³ This nominal rise ignores inflation

organizations were among the most effective interventions, resulting in successful milk enterprise development and marketing for the farmers targeted by C-FAARM.

Explanation: Improvement in beneficiary livelihoods provides the flexibility to access goods and services. Consequently one of the major objectives of C-FAARM was to increase the monthly income levels of its target population through adoption of appropriate agro-enterprise practices. Data presented in Table 10a shows that across all the six districts, the average monthly income for C-FAARM's target population increased by more than 100% between the baseline and final evaluation period. The average increase in income across all C-FAARM districts was from K119,421 (US\$ 33) to K239,907 (US\$ 49). This represents a nominal increase of 101% in Zambian Kwacha terms²⁴ and 48% in US Dollar terms using exchange rates appropriate to the time the income was earned. This rise compares favorably with rises in national income. GDP rose in Zambia by an average of 6% per annum between 2005 and 2010²⁵. A compound 6% rate rise over five years would suggest a total increase of approximately 33%.

The greatest increase in income was found in Choma with a 221% rise from an average of K109,422 to K350,850. Sesheke was next with a 135% rise from K108,373 to K254,33. The lowest increase was found in Shangombo where income rose by 16% (K113,458 to K119,421) over the C-FAARM implementation period.

The trend in median monthly income was similar. Across all the 6 districts, it increased by 80%. In three districts, Choma, Kalomo and Sesheke, it increased by 100%. The lowest median increase was found in Sinazongwe where the median increased by 40%.

The analysis by vulnerability group (Table 10b) shows that the highest increase in income occurred for the vulnerable group (2.3 times), followed by vulnerable but viable group (1.5 times), and viable group 1.4 times. In Sinazongwe and Sesheke, the Vulnerable group increased their income about 4.0 and 3.6 times, followed by the Viable but Vulnerable group of Sesheke – 3.3 times. Decrease of income is noticed with Viable groups in Kalomo, Shangombo and Sinazongwe, the last being the highest decrease.

From Table 10c it is apparent that male-headed households earn 2.7 times more income than female-headed households. Since the baseline data was not aggregated by gender, it is impossible to tell whether the income gap between the genders has reduced.

Qualitative data collection found particular success in milk enterprise development and marketing. Key informants from partner organizations opined that C-FAARM-supported marketing groups / cooperatives were better organized and more active than similar groups they contacted in other near-by districts. Notably, 47 farmer organizations (25 cooperatives and 22 interest groups) and 1,279 farmers were reached with market interventions²⁶ in 2011 only, and 3,847 throughout the project. In 2011 seven formal output market linkages were established between farmer organizations and buyers. These linkages resulted in an estimated gross income of ZMK 1.05 billion (US\$ 210,000) for 466 farmers – an average monthly gross income of ZMK 188,000 (US\$38). This is 18% in dollar terms above the baseline figure of ZMK 119,000 (US\$32)²⁷.

²⁴ This nominal rise ignores inflation

²⁵ "Zambia's economy has experienced strong growth in recent years, with real GDP growth in 2005-10 about 6% per year" Source: <https://www.cia.gov/library/publications/the-world-factbook/geos/za.html>

²⁶ C-FAARM Zambia FY11 PREP Narrative page 7

²⁷ C-FAARM Zambia FY11 PREP Narrative page 7

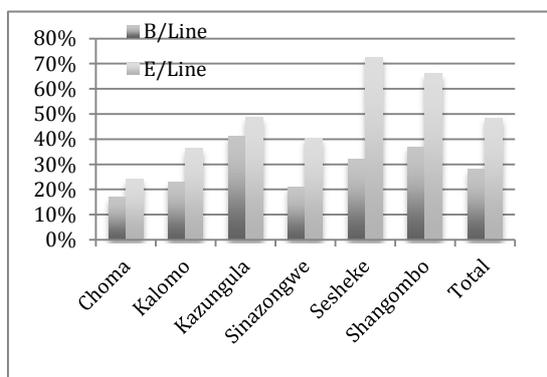
Ownership of dairy animals: As a result of the program activities, 721 farmers now own dairy livestock²⁸. Table 12a shows that the number of HH owning cattle increased - 18.7% at baseline to 20.6% for Indigenous, 0.9% to 2.4% for Exotic and 1% to 2.6% for Cross. From Table 12b, the majority of households still have 1-2 cows (consistent across all types), though the proportion of HHs with more than 2 Indigenous cows has increased, whereas the proportion of HHs with more than Exotic or Cross cows has decreased. Disaggregation by gender of head of HH shows that male-headed HH have slightly increased their ownership of indigenous cattle whereas female-headed HH have slightly decreased. Both male- and female-headed HH increased their ownership of exotic and cross cattle.

Indicator 1.2.2: Percentage of Households that have diversified their sources of income

Finding: In general households targeted by the C-FAARM program have diversified their non-farm income and increased their agricultural income from casual agricultural labor, livestock, vegetable and milk sales.

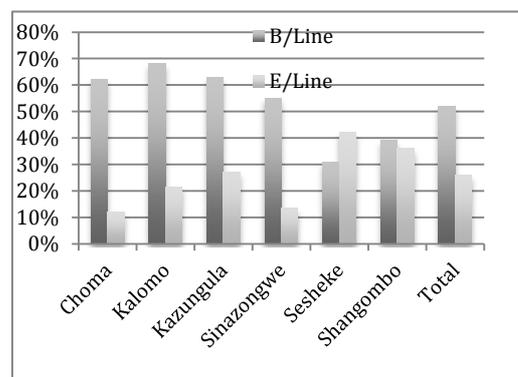
Explanation: Data for the percentage of households that have two or more sources of income from farming and non-farming sources are presented in **Error! Reference source not found.7** and **Error! Reference source not found.8**. The analysis of the data in both charts reveals that more households have two or more non-farm sources of income, and fewer households with two of more sources of income from farming.

Figure 7. % of HH with Two or More Non-Farming Cash Income Sources, by District



Source: Study Findings

Figure 8. % of HH with Two or More Farming Cash Income Sources, by District



Source: Study Findings

Percentages of households identifying a particular type of income (Table 11) related to agriculture showed an increase in income sources from casual agricultural labor, livestock sales, vegetable sales and milk sales. The percentage of households identifying milk as a source of income rose in all districts (Choma, Kalomo and Kazungula) where Land O Lakes supported the dairy sector.

The increase in sales is also attributed to the bumper harvest and opening up of formal markets through the respective value chains, both partially attributed to C-FAARM interventions. The produce sold through these new market channels includes maize, soya beans, livestock (goats and beef cattle), livestock products (milk) and vegetables. While Marketing skills were among the most useful gained throughout the program, the farmers felt that diversified linkages with

buyers other than the Food Reserve Agency (FRA) would have helped in building more sustainable consumption outlets.²⁹

4.2 SO 2: By 2011, vulnerable and extremely vulnerable Households in targeted districts have protected and/or improved nutritional health status

Indicator 2.1: Number of beneficiaries with a high Dietary Diversity Score

Finding: In the program targeted areas more households are able to consume at least minimally balanced diet. The aggregate number of households with a Dietary Diversity Score of 3.1 or above has increased 2.7 times, from 14.2%³⁰ at baseline to 39% at endline³¹.

Explanation: In line with the Baseline Study (Section 3.8.4), information was collected on whether or not households consumed foods from seven major food groups during the 24 hours prior to the survey (see Indicator 1.1.3). To compute the number of beneficiaries with a high dietary diversity score the number of food groups from which each household reported consuming a food was added up. The number of households was then compiled with a score above 3.1. To this extent dietary diversity scores facilitates assessment of changes in diet before and after an intervention or expected improvement (FAO/FANTA, 2007).

Percentage increases in the household dietary diversity score were highest in Kalomo and Sinazongwe with an increase of 2.4 and 2.3 times (Table 13). Dietary diversity appears to have remained the same in Kazungula. While the number of households with a 3.1. Dietary Diversity score increased at least 1.3 times in Shangombo, yet it remains the district with the lowest achievement rate both at baseline and endline.

The analysis illustrates that the Dietary Diversity Score has increased only for the vulnerable group, whereas it *decreased* for the other two groups.

4.2.1 IR 2.1 Community Health Workers practice improved counseling and referral skills

Indicator 2.1.1: Percentage of CHWs who identified 3 warning signs and referred the sick child as per IMCI guidelines.

Finding: The baseline report does not provide a figure for this indicator, hence tracking change is difficult. However, at the time of evaluation CHWs demonstrated a high level of awareness in providing childcare according to the IMCI guidelines: 71% percent of interviewed CHWs were able to identify three warning signs for diarrhea and refer sick children as per IMCI guidelines³²; and 94% of respondents indicated that they would refer to hospital immediately based on the reasoning that pneumonia was a serious life threatening condition. Throughout the life of the program CHWs played a pivotal role in changing attitudes towards malnutrition, hygiene and sanitation, especially around the issues concerning child health.

²⁹ C-FAARM Zambia FY11 PREP Narrative

³⁰ Baseline report page 58

³¹ See Table 13

³² The IPTT from the C-FAARM Annual Report suggests a total of 1132 CHWs were trained by the program

Explanation: Integrated management of childhood illnesses (IMCI) guidelines recognizes diarrhea, pneumonia, malaria, measles and malnutrition as disease conditions that cause high mortality rates among children. The final evaluation focused on management of children manifesting serious signs of diarrhea and pneumonia in seeking to improve case management of sick children at community level. Diarrhea and pneumonia were selected as these ailments are used in the C- FAARM Caretakers Knowledge Assessment Tool and were therefore considered most relevant for the evaluation to assess. The assessment was based on the ability to identify at least three danger signs of diarrhea as criteria employed in the promotion of care seeking practices and referral to health facilities for pneumonia identification (see Annex 9: Community Health Worker Interview).

At the time of the evaluation 71% of the interviewed CHWs were able to identify three warning signs for diarrhea and refer sick children as per IMCI guidelines (Table 14). When asked what steps they would undertake if they identified a child with signs of pneumonia 94% (Table 15) of respondents indicated that they would refer to hospital immediately based on the reasoning that pneumonia was a serious life threatening condition.³³

It has already been noted in the mid-term evaluation that the phrasing of this indicator limits the extent to which the impact achieved by CHWs can be illustrated, therefore additional qualitative data is presented below. CHWs are a well-established institution in the country, and they work relatively well in rural areas.

A common misconception is that malnutrition was a condition called “Masoto,” whereby a child is afflicted if one of the parents has sex outside marriage. Such a belief creates a stigma that may hinder the family from seeking medical attention. Work of the CHWs had helped clear away this

IPTT data for this indicator shows that 501 CHWs were trained throughout the life of the program vs. 300 planned. Capacity building of the CHWs has been one of most effective interventions of the C-FAARM. Already at the mid-term evaluation the CHWs demonstrated improved counseling and referral skills. Community feedback suggests that training and re-training of the CHWs has achieved positive impact in many ways. For example it was mentioned that before C-FAARM, people had misconceptions about malnutrition. CHWs’ hygiene education in hand-washing and boiling water seems to achieve significant benefits in addressing cases of diarrhea, maintaining higher standard of personal hygiene with a focus on children.

4.2.2. IR 2.2: Communities carry out nutritional recuperation and prevention activities for communities with chronic malnutrition rates of over 30% among children 1-36 months

Indicator 2.2.1: Number of PD/Hearth participants successfully graduating from PD Hearth

Finding: At the time of the evaluation 1,027 participants did graduate from PD Hearth, by meeting 86% of the target, compared to 17% at mid-term evaluation. To a large extent, the PD/Hearth model seems to work very well, and achieves a lot with relatively few inputs. The emphasis on optimizing the use of local food is obviously highly desirable as it creates no dependency on the program and ensures its sustainability.

³³ Note that although the questions on diarrhea and pneumonia were asked separately in the CHW questionnaire, in practice diarrhoea and pneumonia may occur concurrently in the same child especially in malnourished children whose immune status is compromised thus the tendency to identify danger signs simultaneously.

PD/HEARTH methodology and how it was used in C-FAARM

The majority of the C-FAARM target communities have chronic malnutrition rates of over 30% for children under 3 years of age. In these communities C-FAARM used the PD/HEARTH methodology promoted by the CORE to identify localized and affordable positive deviant health and nutritional behavioral practices in Zambia, and work with HEARTH groups to rehabilitate malnourished children, sustain the rehabilitation of these children over time, and prevent malnutrition among other children in the community.

The existing community-based Neighborhood Health Committees (NHCs) were used as the entry point to implementing the PD/HEARTH program, and the coordinating body for subsequent monitoring and program sustainability. The NHCs form the lowest level of the formal government health structure and are usually composed of respected community members able to socially mobilize the community. The NHCs are engaged in established growth monitoring programs, and ensure that PD/HEARTH activities are well integrated in to these established systems to ensure continued monitoring of rehabilitated children and prevention of malnutrition in other children, and thus program sustainability. C-FAARM trained members of the NHC in all aspects of running a PD/HEARTH. NHC identified volunteers for training in Positive Deviance Inquiries (PDI) and conducting the HEARTH sessions. NHCs monitored the activities in collaboration with C-FAARM staff and CHWs, and made appropriate decisions that improve nutrition.

A HEARTH group met for 12 consecutive days in a two-week period. The malnourished child would come with a caregiver for three or four hours in the day. The Model PD behaviors are addressed and practiced in each session. Each caregiver would bring assigned food items each day so they could all learn to cook and eat the foods to experience “immediate” effects of appropriate behaviors. The goal at the end of the two-week period is for each child to gain 400 grams and graduate from a HEARTH. HEARTH group leaders and participants encouraged mothers whose children had not achieved a satisfactory anthropometric measurement to repeat the program. If their children were not rehabilitated after two sessions, they were referred to health centers for further diagnosis. Other children come and took his/her place.

Explanation: The data collected during the evaluation and throughout the life of the program identifies PD/Hearth as one of the most successful strategies used within the program to address malnutrition in the targeted communities³⁴. Focus Group Discussion respondents identified the intervention as having helped people improve their lives (some of the responses presented in Table 17). As an example: PD/Hearth was introduced in 2009 to Simango community (Kazungula) and has been implemented since then. According to a Focus Group Discussion (involving representatives from 5 villages) and a KII with a medical nurse, PD/Hearth has led to the following:

- The under-five children who were malnourished in 2009 were 52% (1st community survey undertaken in 2009). The figure is now 2% (according to results from the most recent child health check);
 - 80% of women in the community have acquired PD/Hearth skills (involving a total of 33 villages in Simango);
 - In 2008, there were at least 5 children who died from malnutrition related illnesses. In 2010 and 2011, no under-five child has died in Simango due to malnutrition related illnesses.

Feedback from participants about the PD/Hearth model (Table 17) was that they had learned how to make substantial improvements in their children’s nutritional status simply by using local foods that they may not have known how to prepare before. It was mentioned that not only does C-FAARM orient people on the value of locally available foods; it also substantially focuses on food preservation. This was valued great since the participants learned how to preserve seasonal foods and thereby could potentially increase their food stocks significantly during the lean period of the year. PD/Hearth was mentioned to have responded to the situation in ways that helped build local capacities, such as promoting vegetable gardens and micro-irrigation.

Participation of all relevant stakeholders was one of the most important components of the PD/Hearth implementation strategy. E.g. beneficiary targeting and M&E of the program was done by the NHCs and their CHWs who engaged volunteers in weighing of children

³⁴ See Table 16 for the list of communities where PD/Hearth was implemented

and documenting the percentage of children who graduate within one or two HEARTH sessions.

In various occasions the Ministry of Health Officials showed interest and intentions of replicating the PD/Hearth model.

Although the PD/Hearth was designed to target the most vulnerable, at the time of the evaluation the targeting of beneficiaries was not clearly defined. This might be culturally appropriate for Zambia due to issues of stigma. However, should this method be used in other contexts targeting for PD/Hearth may be important particularly in cases when limited resources are put to use. This is further discussed in the recommendations section.

4.2.3. IR 2.3 Mothers and other caregivers practice appropriate feeding, care giving, and care seeking behaviors for children under 36 months

Indicator 2.3.1: Percentage of mothers with children age 0 – 59 months who report at least 5 key health seeking practices

Finding: As mentioned in the “Limitations of the Study”, a coding error made at the data entry might have caused loss of responses coded as “six practices were helpful” have caused loss of the number of respondents who were able to report six key health seeking practices.

48% (Table 7a and 7b) of the interviewed respondents reporting health seeking practices found five and more health seeking practices helpful, and 52% reported between one and four practices. Majority (40%) of the respondents who found 5 and more practices helpful were vulnerable but viable beneficiaries, followed by vulnerable (36%) and viable (25%) (Table 7c).

Explanation: Internal data shows that 57%³⁵ of the targeted mothers with children aged 0-59 months reported at least 5 health-seeking behaviors, by almost doubling the achievement at mid-term evaluation of 29%. This indicator is slightly lower during the evaluation survey due to data errors and the sampling (which included only beneficiaries with children of 36 months and younger). The highest number of responses identifying 5 and more practices helpful came from Shangombo (26%), followed by Choma (24%) and Kazungule (23%). The lowest responses with 5 and more practices were identified in Kalomo, only 5%.

Among best known health seeking practices are diversified nutrition and growth monitoring, and the step necessary to achieve adequate results.

Nutrition support groups and community gardening are an important part of this IR. Through the C-SAFE program, communities established gardens in order to supplement the high carbohydrate and low energy-dense diet that most Zambians eat. The gardens serve as a basis for nutrition education, familiarizing groups with new vegetables such as spinach, their benefits, and how to prepare them. Vegetables in particular are important to prevent micronutrient deficiencies (i.e., “hidden hunger”), which are often associated with HIV. The sale of surplus vegetables also provides additional HH income.

Gardens are supported by nutrition groups that work with communities to provide nutrition education and promote behaviors that prevent malnutrition. The nutrition groups are supervised by the NHCs. Some of the groups are well structured and include Community

³⁵ Data taken from IPTT

Health Workers, Traditional Birth Attendants and Neighborhood Health Committee members. Generally the perception of the beneficiaries is that C-FAARM had an important impact, that they had been trained in C-IMCI procedures, and that they are replicating the training in food processing and preservation for members of the community. Through this initiative they have managed to diversify their diet with more vegetables, and were bartering vegetables for maize.

Activities under IR 2.3 will continue to promote PD behaviors and community based monitoring mechanisms in order to prevent malnutrition and sustain the health gains achieved through the PD/HEARTH. This is done through the C-SAFE established nutrition groups, CHWs, and health centers.

Another important aspect of this IR is growth monitoring and promotion. Several groups reported having weighing scales and other growth monitoring equipment; they were trained in their use, and were in fact using them. The program distributed tools for making anthropometric measurements, including MUAC tapes, scales and height boards. At least some of these were purchased by UNICEF but C-FAARM facilitated their distribution and use. Nutrition groups are largely able to demonstrate the use of the tools effectively. One concern raised at the mid-term evaluation was that the MUAC tapes were not durable and when they could no longer use them, they would replace them with another method; there were doubts as to the accuracy of the alternative method they proposed, which was followed up and addressed.

Within this component of the program C-FAARM has made efforts to include men in the food production activities to traditionally change the perception that feeding and childcare is solely a female responsibility.

4.2.4 IR 2.4: Vulnerable and extremely vulnerable households have increased their dietary intake

Indicator 2.4.1: Percentage decrease in chronic malnutrition rates of children 6-59 months

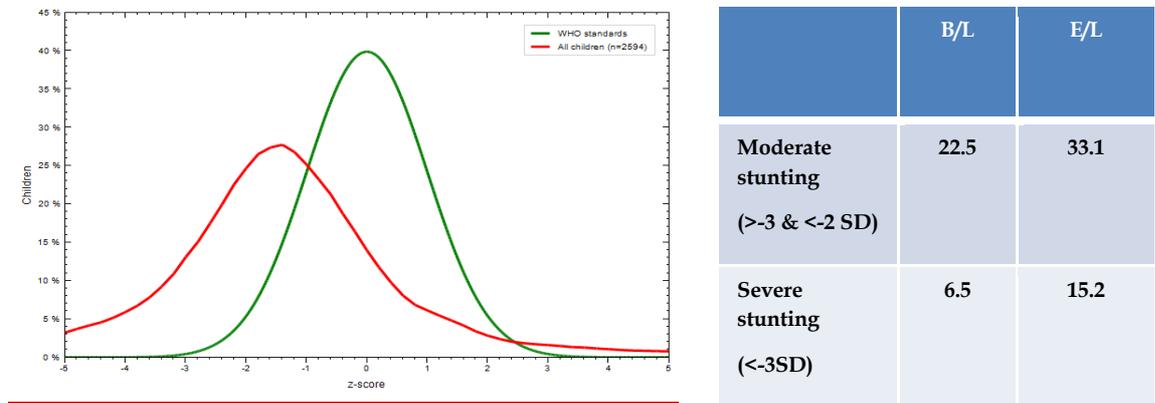
Major discrepancies were found during the re-analysis of this indicator compared to the first round of analysis. The re-checking of the datasets revealed a large amount of records that were irrelevant, wrongly filled or invalid.³⁶ Overall, 503 records were excluded for the analysis of stunting, and 368 records for analysis of underweight. The big difference in the number of records as compared to baseline would make any test of statistical significance extremely unreliable, so this was not attempted. (Table 19b). For underweight, the baseline does not exist- NNSR data is used instead (see Table 20b). In addition to unreliable survey data, the program achievements such as increased HH income, dietary diversity, increased months of food provisioning, etc., appear to contradict these results.

³⁶ The overall data entries before cleaning were 3097. Manually, 58 records were excluded because they had date of birth before 2006, 81 records were excluded because the Date of Birth was left blank, 27 records were excluded because they were below 6 months of age at the time of data collection, this left 2,931 entries. It was further cleaned by category of age, excluding 44 records that were below 6 months of age, 10 records above 59 months of age, leaving 2977 entries. Further cleaning was done by the category of height, excluding 3 records that had less than 1 cm height, and 15 records where height was left blank, leaving 2859 records. Last category of cleaning used was weight, which excluded 6 blank records, leaving total of 2853 records to upload to ANTHRO, thus eliminating 244 records because of manual entry error. When uploaded, the software was able to use only 2,594 records for stunting and 2,729 for underweight, automatically excluding "impossible" data

Although the analysis of the end-line findings are presented below, the evaluator recommends following up with in-depth study to check the validity of the data and understand, explain the trends. During the data collection no qualitative or secondary data was brought to compare the situation of the C-FAARM targeted districts with others.

Height for Age (Stunting)

Figure 9. Program stunting rate (against WHO standard)



Finding: Using the WHO standard (Figure 9 and Table 19a), compared to baseline, both moderate and severe stunting rates have increased. As noted above, this could have been caused by the challenges related to the quality of the collected data, and the finding should not be attributed to the program interventions.

Explanation: The last DHS done in Zambia (ZDHS) was 2007, and no other official secondary data is available for comparison. The ZDHS data indicates that two targeted provinces are doing better than the national average in terms of their stunting data. In the availability of national progress data, the program progress trends could have been compared to national trends to see whether there are any external factors influencing the results on stunting (assuming the data collected during the evaluation is accurate).

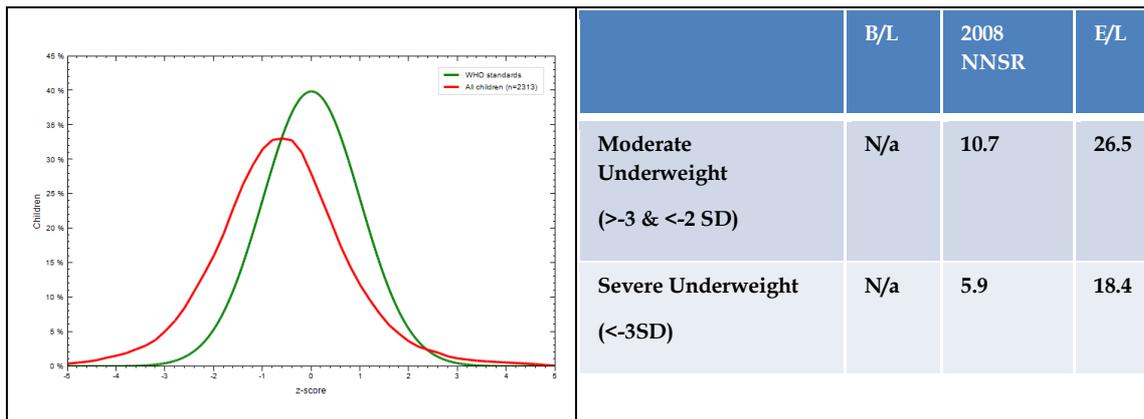
The National Nutritional Surveillance Report 2008 reports moderate stunting levels of 27.1% and severe stunting of 15.1% in Southern province, giving a global stunting level of 42.2%.

Table 19b shows that stunting rates have increased for all targeted areas fairly drastically. Due to lack of comparison data for the target districts with a secondary source it is impossible to interpret the results.

Among vulnerability groups Table 19c shows that moderate stunting rates for Vulnerable and Viable but Vulnerable groups are almost the same. The highest increase of severe stunting rate is for the Viable but Vulnerable group, followed by Vulnerable and then by Viable group.

Weight for Age (Underweight)

Figure 10. Program underweight rate (against WHO standard)



Finding: No data for levels of underweight children was reported in the C-FAARM Baseline Report. Similar to stunting, as shown in the rates for underweight have decreased compared to NNSR 2008 data, used as baseline here (Figure 10 and Table 20a).

Explanation: The data from DHS and 2008 NNSR below shows that the targeted regions are significantly above the national average for moderate underweight and below the national average for severe underweight. Due to unavailability of DHS data by districts it is impossible to conduct district level comparisons.

	Baseline	2007 ZDHS ³⁷	2007 ZDHS ³⁸ Southern province	2007 ZDHS ³⁹ Western province	2008 NNSR
Moderate Underweight (>-3 & <-2 SD)	N/A	3	17.1	18.6	10.7
Severe Underweight (<-3SD)	N/A	11	3.5	2.1	5.9

The NNSR 2008⁴⁰ reports moderate underweight levels of 10.7% and severe underweight of 5.9% giving an overall rate of 16.6% in Southern Province.

Table 20b shows that the underweight rate has increased for all districts compared to NNSR 2008 data. Among the vulnerability groups (Table 20c) the highest increase of both moderate and severe underweight rate is for viable group, followed by vulnerable and then viable but vulnerable group.

³⁷ Includes data for 0-6 months as well, ZHDS page 156

³⁸ Includes data on 0-6 months, ZDHS page 344 (Appendix D)

³⁹ ³⁹ Includes data on 0-6 months, ZDHS page 344 (Appendix D)

⁴⁰ NNSR 2008 Table 24

4.3. SO 3: By 2011, vulnerable communities in targeted districts have improved their collective ability to identify and respond to developmental issues and external shocks affecting food security

4.3.1 IR 3.1 Communities have established development relief action plans

Indicator 3.1.1: Number of Communities that have Development Relief Action Plans (DRAP) in place

Finding: 100%⁴¹ of the communities targeted by the program have DRAPs in place. While in most cases the DRAP development process went smooth, data from FGD suggests that participation and awareness of the community members of the plan, as well community role and empowerment in the DRAP development process could be improved.

Explanation: The DRAP process started in November 2007 with a focus on infrastructure and Food for Assets (FFA), and it was broadened in January 2010 to include Disaster Risk Reduction and promotion of traditional Early Warning Systems.

The DRAP process started in November 2007 with the recruitment of a Food for Assets technical lead. Key informants report that a specific senior program officer should have led implementation of the DRAP process and that program design had omitted this position. Key informants further report that the DRAP process (2007 to 2010) was used to identify what infrastructure C-FAARM support would build and how Food for Assets (FFA) would be used. C-FAARM agriculture and nutrition components were not dependent on DRAPs and were able to begin implementation earlier.

The program managed to develop DRAPs for all targeted communities. The FGD suggests that the participation of the leaders or members of a village was crucial as it ensured that their communities would receive sufficient information on the plan and how it worked.

The DRAP processes started with a broad one-day community meeting to inform communities of the process and select a smaller group of representatives to work on a five day DRAP formulation process. Village leaders were selected to form the smaller group. While in many instances the process went smoothly there were certain FGDs reporting that the broader community was not informed or involved in the process. Communities were sometimes told of results.

District government involvement in the DRAP process was strong. Local authority connection to C-FAARM supported infrastructure was clear (i.e. Storage Sheds were connected to FRA, Milk Collection Centers are linked to MoLF and MACO, Schools to Ministry of Education, Dip Tanks to DVO and Health Posts to Ministry of Health).

The MTE⁴² recommended that support be designated to lead the DRAP process, it called for a “broader understanding of community action planning, rather than merely as a way to decide how to use the FFA interventions”. Based on this C-FAARM, hired a full time staff managed by CRS to lead the activities under the whole SO3. Additional support was provided by CRS

41 IPTT 2011

42 C-FAARM (2009) Mid-Term Evaluation Second Draft Report, Page 40

Headquarters Senior Technical Advisor for Disaster Risk Reduction (DRR) who conducted a rapid field assessment and provided support in strengthening the DRR component within DRAPs. As a result, all participating communities re-designed their DRAPS and Satellite Disaster Management Committees were trained and activated (please see ARR FY11 for specific figures).

During the evaluation the discussions in some focus groups suggested that in several communities the community empowerment was not very visible. This was more obvious in discussions around the future maintenance of the infrastructure built or renovated by C-FAARM.

4.3.2 IR 3.2 Communities equipped with early warning and response systems and strengthened community-based safety net mechanisms

Indicator 3.2.1: Number of communities with disaster early warning systems in place

Finding: By the end of the program 100% of targeted communities designed Early Warning Systems. Among interviewed communities 85% of these communities could state high awareness of the EWS for their own community.

Explanation: At the time of the 2001-02 the conventional thinking was that droughts recurred every five years. Consequently, few HHs took measures to reduce exposure to risk, such as planting drought resistant crops. In 2004, communities noticed that something was wrong very early in the agriculture season based on traditional early warning indicators. Because there were no established lines of communication to the Disaster Management and Mitigation Unit (DMMU) under the ZVAC, these early warning signals were not communicated. It was only once rainfall data showed serious shortfalls late in the season that the country began to respond. For this reason, C-FAARM initiated work in close collaboration with the national Disaster Management and Mitigation Unit (DMMU) and its District Disaster Management Committees (DDMCs) to set up improved community EWS and communication channels to the district and national surveillance network. Activities to achieve this objective included: 1) using the risk and livelihood assessments findings to identify risks and outline the indigenous EWS; 2) working with the DDMCs and the communities to determine how data collection, analysis and communication can be improved, 3) establishing improved EWS in each community, and 4) working with affected communities to develop proposals for additional assistance from the DMMU, MACO and UN.

Although the program succeeded in putting in place EWS in virtually all communities, more work needs to follow to ensure adequate established linkages with local councils through local leaders and use of external information (i.e. via radio), which was not commonly identified by FGD participants. Some key informants involved in the DRR component questioned levels of government priority given to disaster preparedness, especially in areas with traditionally lower levels of flooding and drought.

Indicator 3.2.2: Number of communities with improved infrastructure to mitigate the impact of shocks

Finding: Forty-two communities (70% of targeted communities⁴³) via fifty-two different programs have been provided with infrastructure. Infrastructure included school buildings, health posts, dip tanks, milk collection centers and sheds. Physical inspection showed new C-FAARM supported infrastructure was of sound structure. Where the improved infrastructure is owned and used by the communities, it was found useful. However, there were a few instances where other entities such as FRA, took the ownership and use of the infrastructure leaving community without an important resource.

Explanation: The target for improved infrastructure was decreased from sixty to fifty-two in agreement with FFP following the MTE. Final evaluation FGDs identified infrastructure supported by C-FAARM in 57% of communities visited. Details of the infrastructure identified are presented in Table 4.

The infrastructure was one of the highly valued components of the program as shown in the Internal Qualitative Assessment. It contributed to the achievements of SO 2 and SO3.

A range of improved infrastructure was seen during the final evaluation, including a dip tank in Kanchelle (Kalomo District) and sheds in Pangwe (Choma District), Siakacheka (Choma District) and Siamvwemu (Sinazongwe District).

There are many success stories in how the targeted communities are benefiting from the infrastructure and how it has contributed to their wellbeing, some of which are mentioned in the text box. During the evaluation a few cases were found where the use of the infrastructure could be improved, such as a shed seen in Siakacheka (Chome District) was not being used. Future use of this shed was not clear from available community representatives. Focus group participants in Siamvwemu (Sinazongwe District) reported FRA maize being stored in its C-FAARM supported shed. It was expected that FRA would move the maize in the near future. The shed was seen as a potential link to agro input suppliers and a place for marketing output. In Pangwe (Choma District) the C-FAARM supported shed had clearly succeeded as an FRA purchasing point as it was flooded by FRA maize. It was not clear how FRA revenue generated by the shed would be used to benefit the wider community.

Quotes from Internal Qualitative Assessments

- Construction of a Marketing shed was prominent in Pangwe and Masopo (Siakacheka). The farmers can now sell farm produce within the community as the sheds have been recognized as buying points (depot) for FRA (IQA Choma pg 5);
- All groups in Manyemunyemu mentioned the construction of the shed as one of the activities that have worked well. The men groups indicated that the shed has afforded the community with a place to store their inputs (IQA KAzungula pg 5);
- Choye community school, the first school to be constructed within the Sigani community has mitigated long distances covered by children to the nearest government school. The Men's group said 'People in this community are exited, because since 1964 there has never been a school in this community hence most of children covered 20km to the nearest GRZ school'. (IQA Choma page 5);
- Construction of toilets reduced waterborne diseases and has led to an improvement in the toile pupil ratio in schools (IQA Sinzaongwe page 4);
- Construction of Boreholes in Masopo and at a Health Post (Clinic) in Demu Bulanda was mentioned as an activity that worked well since it is ready for use (IQA Choma page 5).

⁴³ Source: C-FAARM Technical Lead FFA

Indicator 3.2.3: Percentage of communities with safety nets in place

Finding: While many of the program core documents define what a safety net means for C-FAARM, that definition has not clearly translated into actionable specific items making it difficult to monitor and report on. During the evaluation, when asked, half of the FGD respondents were unable to identify a safety net, or identified another area of program support (i.e. a dip tank, seeds or livestock) (Table 22). The program successfully strengthened indigenous mechanisms through support to early warning systems, based on traditional signs.

Explanation: The Program Proposal reports, “this (safety nets) might be done through strengthening traditional structures or establishing new mechanisms that the community designs itself”.⁴⁴ C-FAARM mid-term evaluation identified a lack of clarity recommending the program “clarify the actual activities involved in strengthening of safety nets”.⁴⁵ C-FAARM key informants interviewed during data collection reported that a safety net can represent a traditional activity that communities fall back on at times of disaster and/or various C-FAARM activities from other strategic objectives. Examples included stocks of own food, improved food practices and more diverse cropping. C-FAARM used the definition for safety nets provided in the Annual Standard Performance Questionnaire: ‘A community-based safety net supported under a MYAP can be a broadly defined system for addressing the food security needs of a community's most vulnerable members during a shock. A community-based safety net is managed and maintained by the community; internally resourced, at least in part; and can be year round or seasonal. Examples include community food banks or insurance schemes.’ Community food banks and/or insurance schemes were not found as part of final evaluation fieldwork. From an M&E perspective a lack of specificity and clarity can lead to an indicator capturing information that has already been included under other result areas.

When referring to safety nets the program document states, “the program anticipates that as participating communities improve livelihoods they will also strengthen indigenous mechanisms to assist extremely vulnerable members of the community”.⁴⁶ Final evaluation data shows strengthening of indigenous mechanisms have occurred through support to early warning systems based on traditional signs and captured under Indicator 3.2.1. Support to the extremely vulnerable has mainly been through distributions of food and seed. Table 23 shows the changes in the coping mechanisms used during baseline and endline. The percent of the families that never send HH members to beg in the times of need has increased by 10%, and the percent of families who never skip entire days without eating increased by 16.4%. The data shows that for a small number of families, daily practicing of these two coping mechanisms has slightly increased by 0.2%. The number of HHs that never relies on family and friends has increased, but for a small proportion of the families these practices have become more frequent (by 0.2%). Due to unreliability of the data disaggregation it is impossible to analyze which of the beneficiary groups still remains in need of further support.

⁴⁴ C-FAARM Multi-year Assistance Program Proposal CP.L. 480 Title II, August 28, 2006 (Page 28)

⁴⁵ C-FAARM (2009) Mid-Term Evaluation Second Draft Report, Page 42

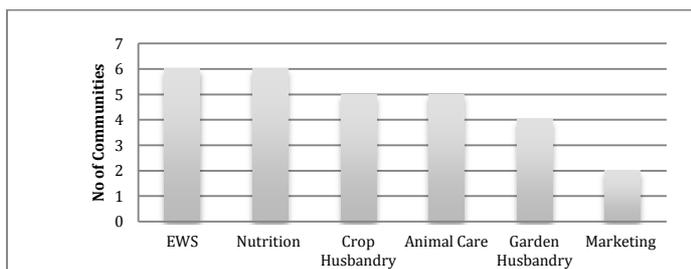
⁴⁶ C-FAARM Multi-year Assistance Program Proposal CP.L. 480 Title II, August 28, 2006 (Page 11)

Indicator 3.2.4: Number of communities with strengthening capacity to withstand shocks

Finding: All communities have undergone capacity building to withstand shocks. At the time of the evaluation 93% of the communities where focus group discussions were held identified strengthened capacity to withstand shocks.

Explanation: Focus group discussion results show that communities feel their capacity to withstand shocks has been improved mainly through support to EWS, nutrition, crop and animal husbandry. Data presented in Figure 1 shows the particular capacity that helps communities' withstand shocks. During FGD discussion respondents mentioned that significant amounts of training have multiple purposes. For example, marketing skills are more for increasing income, but also help to build capacity to withstand shocks.

Figure 11. Capacity to Withstand Shocks Identified by Focus Group Participants



Source: Study Findings. Note: Focus groups were held in fourteen different communities

Table 24 shows that the most frequently experienced shocks in the targeted communities is drought, followed by floods, damages caused by pests or animals, animal and crop diseases. While drought is experienced by all districts relatively at the same level, floods are experienced by the respondents of Choma and Sesheke more often than others. Damages caused by pests and animals is a larger problem for Sesheke and Kalomo, and animal and crop diseases remains higher for Kalomo compared to other regions.

Overall, data in Table 25 a shows that according to the respondents from each region, they experience the highest number of droughts and floods January and March and between September and December for most regions, except in Kazungula floods occur between September and December. Among all districts, the highest likelihood of droughts occurring between January and March is in Shangombo (Table 25b), whereas between September and December is in Kalamo. And among all districts the highest likelihood of floods happening between January and March is in Sesheke, whereas from May to August – in Choma. Damage caused by pests and animals happens in various seasons for various districts.

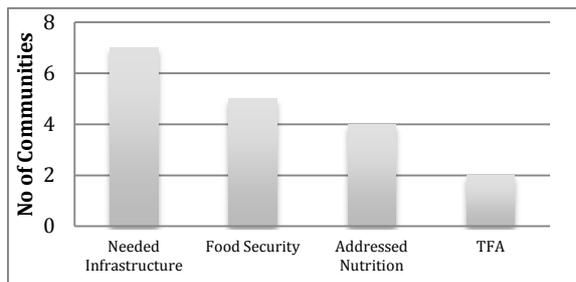
During the droughts the residents of all districts mentioned (Table 26a) that they work for food as a most frequently practiced coping mechanism; except for the respondents of Kalomo most practiced coping mechanism is planting drought resistant foods. During droughts, the highest likelihood of working for food is in Shangombo (Table 26b), planting drought-resistant foods is in Kazungula, whereas sale of livestock/assets and Spraying of pesticides is most possible to occur in Kalomo. During floods, respondents use various coping mechanisms, or do not use any mechanisms at all. The likelihood that during floods people would not do anything, would work for food or plant drought-resistant crops is the highest in Shangombo. Residents of Choma are more likely to sale livestock and assets or spray pesticides. When damage by pests and animals is expected, most respondents use spraying of pesticides as a coping mechanism. The likelihood of that happening is the highest in Choma.

5. OECD-DAC CRITERIA

5.1. Relevance/Appropriateness

Overall, by aiming to (i) diversify and/or increase sustainable agricultural production; (ii) protect and/or improve nutritional health status; and (iii) improve collective ability to identify and respond to developmental issues and external shocks, the program addressed the most relevant and prominent needs of the vulnerable groups in the targeted areas, who, since 2005, were badly affected by the severe drought (see figure 12). C-FAARM had correctly built on an earlier C-SAFE program, by adding resilience and market components.

Figure 12. Relevant Needs Addressed by C-FAARM as Identified by Focus Group Participants



Source: Final Evaluation Study.

The program continued to remain relevant by adopting flexible strategies and changing its approaches and strategies as the context changed. E.g. as the situation in target districts improved with better rains and ‘bumper’ harvests in a national context of a growing economy, the relevance of program objectives shifted in some areas, focusing more on developmental and long-term solutions. Building resilience and disaster preparedness remained relevant in areas prone to extreme weather.

Above all, the program maintained an appropriate balance between relief and development responding reactively to situations of the dire need and building into sustainable solutions into chronic developmental issues.

Within the SO 3, the development of the infrastructure was relevant in that it provided the communities with the means to exercise their income generating activities and meet their most prominent needs. However, as time progressed, there were other needs outside the scope of infrastructure that could be strengthened. Therefore, if periodic needs assessments were conducted throughout the implementation of the program, the “left out” needs would have been revealed and provided the program with an opportunity to tackle those as well.

5.2. Efficiency

A consortium model requires complex management, communication and administration systems. However it is difficult to judge at this point whether another alternative model with lower cost could have achieved the same results as this model. Together with the learning, cooperation and collaboration, through this model the consortium members were able to leverage resources and international capacity from one another.

5.3 Effectiveness

C-FAARM has worked with a complex group of beneficiaries – farmers, mothers, community members, CHWs and others. The success of most of the activities planned in the program therefore depended on how well they were focused on the various needs of the different beneficiary groups.

Some of the successes include the PD/Hearth model where targeting of beneficiaries and CHWs was done with sustainability, and locally available resources taken into consideration.

In general capacity building of the CHWs was one of the most effective interventions in the program, since even at mid-term the program was able to observe improvement in referral and community nutrition support activities. CHWs are also a key mechanism to change behaviors and attitudes in communities, as we have seen done within the frames of this program for malnutrition.

TFA largely reached those in dire need. It has allowed the most vulnerable to survive and supported some vulnerable households to increase production (this was pointed out by FGDs in Masopa, Choma District and Siamvwemu, Sinazongwe). In Lilonga (Sesheke District) key informants pointed out that TFA had helped people survive but also led to people depending on distributions.

Strategic Objective 3 results show strengthening of traditional early warning systems. Infrastructure supported by C-FAARM has also improved lives of many beneficiaries, given that for instance in some communities there had not been schools for decades.

Improvements could have been made in the targeting of the TFA, since there were instances where the targeted most vulnerable were unable to work in their fields to qualify for TFA.

Overall, the delays in program implementation caused delays in certain programmatic activities, particularly under SO 3 and several marketing-related activities. Focus groups in three out of fourteen communities visited during final evaluation suggest the DRAPs process commenced after November 2010.

5.4. Coverage

C-FAARM largely reached its intended groups due to the targeting techniques. E.g. TFA reached the most vulnerable groups, market-oriented initiatives, such as the support to dairy, were focused on households that had the potential to put this support into use. C-FAARM coverage was generally targeted on communities with potential. For example communities near roads allowing easier marketing of products or those with existing facilities, such as health centers were chosen. Within the implementation of SO 3, due to its late start not all components were covered for all geographic areas.

The program has made efforts to be responsive to various unplanned circumstances. During the data collection a few instances of small scale TFA were reported as a response to the floods in Sinazongwe, Shangombo and Kazungula. Other examples include changes in seed pack composition, seed paybacks to nutrition support groups and links to ZAMACE trainings under the WFP-P4P program. Finally, the implementation of the CbME assessments were also a deliberate attempt to give a higher priority to community concerns in program implementation.

5.5. Coordination and Partnerships

C-FAARM was generally regarded as a constructive and reliable partner. Coordination with external program partners at a national level, such as World Food Program (WFP) and the Zambian Agricultural Research Institute (ZARI) was strong and inclusive. As the agency mandated to oversee nutrition programs in Zambia, NFNC respondents mentioned that while

they were kept informed of the C-FAARM activities, their involvement in the program did not reach the desired level. This is currently being address in NFNC's 2011 - 2015 National Nutrition Strategic Plan where multi-partner coordinator platforms are emphasized. C-FAARM coordination with CFU had broken down by the time of the final evaluation

The evaluation found a number of instances where C-FAARM was effectively linked to other programs that were being implemented in the targeted communities. A good example was found in Kanchelle community, Kalomo District, where CARE had supported agro input suppliers (Chimana Masaka) through a Zambian Agriculture Supply Program (ZASP) in a community where C-FAARM had built a dip tank. As a result the Dip Tank management committee could buy inputs necessary for the dip tank locally. Similarly at Chisyabulungu Community School (Sinazongwe District), World Vision had used C-FAARM support for the school building with funds from another donor used to provide a borehole at the site.

No evidence of duplication was found as part of this study. The C-FAARM has coordinated its activities with District Development Coordinating Committees (DDCCs), DDMCs, and in some districts with Camp Extension Officers (CEO (as an entry point) who contributed with their profound knowledge of the activities implemented in the area. Internal organization, such as geographical and thematic distribution among PVOs also proved to be an effective approach to address potential duplication.

C-FAARM put a lot of emphasis on working with local authorities and was regularly engaged with district officers through DDCC meetings. This ensured that the program activities directly contribute to the government's poverty reduction strategies, such as increasing diversify of agriculture production and productivity, crop diversification, use of improved seed varieties. C-FAARM support to livestock was relevant to Sixth National Development Plan (SNDP) objectives of improving infrastructure development (dip tanks), market infrastructure (sheds) and enhanced livestock disease control. Additionally, C-FAARM has contributed to strategies of expanding proven high impact and cost effective food and nutrition interventions focusing on under-served areas and vulnerable population groups; advocated for the promotion of nutritious diet through crop diversification, adequate food processing, storage and utilization, as well as control, prevention and treatment of diseases having an impact on nutrition and specifically community-based interventions. Also, the development of early warning information systems and enhancing disaster preparedness in the local communities were strategic priorities both for C-FAARM and for SNDPs⁴⁷. C-FAARM contributed to the CHW training as part of the MoH strategy. It is intended that C-FAARM trained certified CHWs will become part of MoH structure.

While all C-FAARM activities contribute to national poverty reduction strategy the program has had limited interaction with government at a national level and did not implement extensive advocacy to influence policy change, the later not being part of the program design.

All partners strongly coordinated the activities of the program with each other effectively adapting program implementation strategies to match their identity, strengths and contexts. E.g. as program entry point CARE largely used the existing district and provincial level coordination structures; CRS worked with Diocesan Caritas and coordinated strongly with the Bishop of the Diocese when approaching community headman; World Vision largely worked

⁴⁷ GoZ, Sixth National Development Plan 2011-2015 Executive Summary, January 2011 Page 9

directly through its own district offices and created community-level contacts to reach its intended beneficiaries; and Land O Lakes used existing community level structures, such as Milk Collection Centers (MCCs). This approach seems to have worked well and ensured that a wide diversity of existing structures participate in targeting and coordination of the activities.

Other differences in the ways the partners worked were due to their mandate in the program, and their roles. E.g. targeting. Land O Lakes specifically targeted viable farmers⁴⁸, whereas other partners targeted beneficiaries from all vulnerability groups.

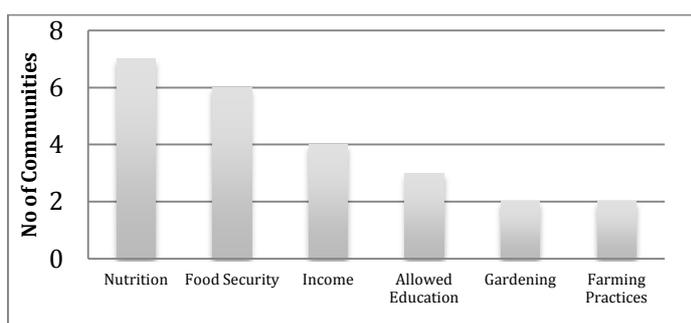
5.6. Impact: Differences made to the Lives and Livelihoods of Intended Beneficiaries

At this stage it is difficult to determine the impact achieved by the program. It is recommended to conduct an impact assessment study at least five years upon completion of the program. Yet, increased income with 101% has significantly changed the lives and livelihoods of the targeted beneficiaries. While the program did have direct contribution to the livelihoods of the targeted beneficiaries, the high levels of crop production experienced over the past three years in Zambia are assumed to also have contributed significantly to people’s food stocks and income⁴⁹. Income levels are found to have increased by more than rises in national GDP in all districts. With these and similar interventions the project has reached 14,787 households and 86,737 indirect beneficiaries⁵⁰.

Many components of the C-FAARM program were implemented with an active participation of the community members, who designed, carried out and monitored them. Interestingly, those are listed among the most sustainable interventions, such as PD/Heart model, community gardens, community-driven growth monitoring activities, reviving of the markets, development of the DRR capacity and infrastructure and others.

Focus group discussion results support the improvements found in general nutrition, food provisioning / security and income. Participants in final evaluation focus group discussions were asked how their life had changed as a result of C-FAARM. Results are presented below.

Figure 13. C-FAARM Areas of Life Difference Identified by Focus Groups



Source: Study Findings. Note: Focus Groups Were Held in Fourteen Different Communities.

Additional changes in the lives of beneficiaries resulting from C-FAARM activities are: improved cattle, allowed purchase of inputs, receipt of seeds and equipment, increased business mindedness, better hygiene, milk cleanliness, better milk production, better human health, better animal health and better marriages as people were happier.

⁴⁸ District level Land O Lakes key informants reported vulnerable but viable households also received support.

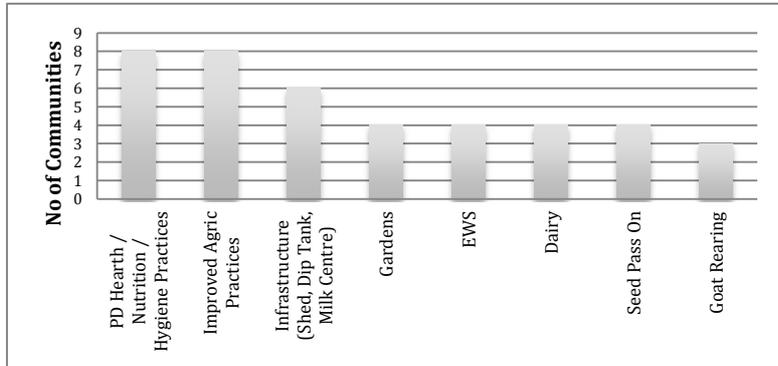
⁴⁹ FRA buys maize at attractive prices

⁵⁰ C-FAARM Close-Out Ceremony Report page 6

5.7. Sustainability

Similar to impact, it is too early at this stage to judge whether or not and what components of the program will sustain, however, several of those already demonstrate adequate signs of sustainability. According to beneficiaries, these are the most sustainable results of the C-FAARM program (Figure 14).

Figure 14. C-FAARM Support Identified as Sustainable by Community based Focus Groups



Source: Study Findings. Note: Focus Groups Were Held in Fourteen Different Communities.

Examples of sustained changes in nutrition included use of different methods of cooking and food preparation, use of goat milk to feed children, monitoring child growth and better health care practices such as breastfeeding. PD/Hearth was identified as sustainable in Siamvemu and Mwenda⁵¹ (Sinazongwe district) and Simango (Kazungula District) communities. Program records show PD/Hearth was not implemented in Mwenda. Key informants point out that PD/Hearth principles were also introduced indirectly through training some community members outside their respective district. The Mwenda result supports Key Informant observation that, in a few cases, those trained took it seriously and passed on the skills. There were requests for incentives associated with PD/Hearth, as without incentives it could become burdensome for community members to continue to invest their time in the future. Support from the wider community and the MoH could help to sustain their work.

Examples of a sustained change in farming practices given by focus group participants were use of saved seed, purchase of own farming inputs (including maize seed and fertiliser, use of hoes and not ploughing, use of cassava plants, different cassava plant spacing and use of training in how to grow crops.

Field observation by the evaluation team points to the existence of growing markets (values and volumes i.e. milk) as being a key determinant of success. Importantly, the strong milk marketing groups supported under C-FAARM had received more than five years' assistance as support had built on earlier initiatives. For many other community-based organizations, C-FAARMs reduced implementation period has resulted in support being delivered over a shorter time; this has compromised sustainability.

Evaluation appreciated the work of Community Health Workers (CHWs) and valued their assistance. The capacities built will continue contributing the communities' wellbeing beyond the life of the program. It is intended that C-FAARM trained certified CHWs will become part of MoH structure. CHWs spend significant periods of time away from home. Community

⁵¹ C-FAARM

representatives suggested incentives would be required to ensure they continued to provide services to all community members.

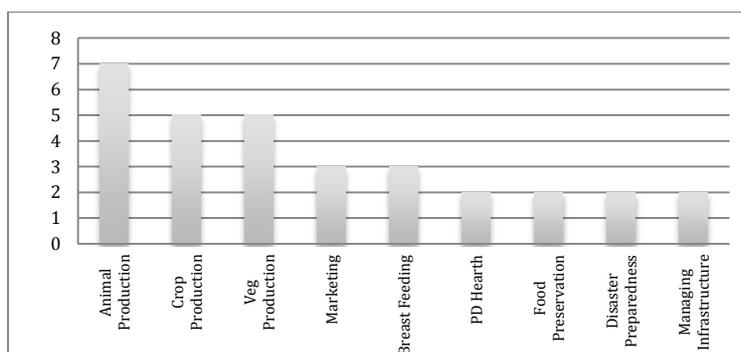
Recognizing that the most vulnerable will require continued social support, CFU suggests integrating vouchers as a way of establishing sustainable business based systems that encourage viable farmers to produce in a self-reliant manner. Cash transfers are suggested as a more efficient and appropriate way of supporting the long term highly vulnerable. The evaluator acknowledges that the initiatives of both vouchers and cash transfers are still nascent or implemented in small scale and need to be thoroughly considered before adopting.

Final evaluation results show strong ownership of C-FAARM facilitated infrastructure was felt most strongly by community members involved in the management of those assets. Further re-assessment of these organizations after one year following program closure is recommended to assess the extent to which they continue contributing to the communities' wellbeing. C-FAARM placed emphasis on building links to district level government as a mechanism for ensuring sustainability. Examples of clear and constructive linkages were found during final evaluation fieldwork. For example in Sinazongwe; (i) the district council was providing guidance to C-FAARM in terms of where to build infrastructure programs based on the overall district plan; (ii) at Shisyabulungu School the local education department was providing teachers and equipment, and; (iii) the district Ministry of Health Office was providing support to C-FAARM activities that were under its sector plans in terms of some equipment, some funding and human resources. In Sesheke, the Ministry of Livestock and Fisheries (MLF) was providing expertise in small ruminants (goats) production. In Shangombo, MLF was supporting the establishment and operationalization of the sale-yard structure for livestock and had already decided to budget for some activities under the ministry's budget. Several of the interviewed district officials expressed concerns that future government funding of recurrent costs to C-FAARM supported assets would be an issue.

Government planning cycles involve districts formulating plans and sending these to provincial and national levels for approval and funding. To better ensure future funding for C-FAARM structures by government increased levels of involvement from provincial and national levels of government may have been prudent.

PVO key informants mentioned that the strengthened capacity through various trainings and the overall experience gained during the C-FAARM implementation will continue achieving organizations' long-term objectives. Among those capacities marketing, PD/Hearth model, qualification received through Commodities Tracking System Certificate, which is recognized internationally were cited as the most useful.

Figure 15. Increases in Community Capacity Identified by Focus Group Participants from Fourteen Communities



All communities visited during final evaluation had received some form of training, and rated it by effectiveness as presented in figure 15. These communities felt their capacity had improved in goat, cattle, dairy and chicken production.

Examples of where crop production knowledge increased included spacing of cassava, use of manure, early land preparation, planting before rains, seed spacing, choice of seeds, semi zero grazing, crop diversification and increased knowledge of hand ploughing. These are skills that will continue improving livelihoods for the targeted beneficiaries beyond the life of the program.

6. MANAGEMENT

6.1. Program management

The consortium model required a high level of coordination and organization from the members to ensure that the C-FAARM achieves its objectives. A number of multi-level procedures and processes were developed and cascaded to ensure smooth operation of the partners within this complex structure. These processes addressed the confusions that were raised at the beginning stages of the program among partners around their roles and responsibilities, particularly in reporting and decision making. As the program progressed, the administrative procedures exercised by various members were aligned, and steps were taken to ensure a shared understanding and expectations of the objectives and strategies.

However, due to its large geographic spread and the size, few of the challenges remained unresolved. For example, some PVOs had senior program managers based in Livingstone. Others had these managers based in Lusaka. Bringing appropriate senior managers together to agree an approach was sometimes challenging.

While a consortium was a difficult model to manage, it has proven to be a good learning platform, where partners shared knowledge and resources. Additionally, the consortium approach is efficient from a donor perspective. It allows a large geographic area to be covered by existing service providers under one program. This reduces donor management and administrative costs compared to a larger number of smaller programs. Further research is required to assess whether reduced implementation efficiency is balanced out-weighted by cost savings for the donor.

Learning from its own experience of the first two years of implementation, C-FAARM made substantial investments to improve leadership and information sharing through increasing the use and authority of the program Steering Committee. This connected consortium members to each other. More frequent Steering Committee meetings were held with appropriately senior PVO staff. More regular meetings were also held with USAID. The need for agency 'buy in' at a senior level was recognized and addressed. CRS also made use of its Consortium Alignment Framework for Excellence (CAFE) publication⁵². Additional structural changes included adjusting the management of the technical leads by improving the coordination between their thematic and area-based supervisors.

USAID management of C-FAARM was based in the USA. This led to lack of clarity in the role of the local mission and potential for a 'hands off' approach. Frequently changing Agreement Officer Technical Representatives (AOTR) (almost annually) in Washington are reported as having led to a lot of repetitive learning. PVOs wanted clear and timely advice from USAID. Some PVO's expected regular quarterly feedback from USAID on C-FAARM progress but

⁵² www.crsprogramquality.org/publications/2011/2/4/cale-consortium-alignment-framework-for-excellence-cadre-pou.html

reported that this was not provided. At a Zambia level the FFP/Missions work with C-FAARM was coordinated through one Activity Manager who attended SC meetings. The Activity Manager provided update reports to C-FAARM (four reports between 2008 and 2009). This was normally done after field trips, which were discussed with the Core Team. In addition, the Mission also conducted one Data Quality Assessment (DQA) in January 2010 and one financial review of the cooperative agreement in February 2009. Finally, the FFP/Mission Activity Manager position was vacant for almost 12 months from August 2010. Given the input of the Zambia USAID office, allocating full donor management to the local office would have clarified the source of support. It would have also made best use of local and regional knowledge.

6.2. Financial management

During its first year of implementation C-FAARM faced a number of challenges. Implementation was delayed by approximately one year. Reasons for the loss of one year were related to a Continuing Resolution postponing implementation for several months. The program was not able to initiate activities according to the FY2007 Detailed Implementation Plan (DIP) for the following funding-based reasons: 1) unable to carry over remaining monetization proceeds from C-SAFE⁵³; 2) partial initial funding of \$400,000 (ITSH and 202e) in January 2007 was insufficient to initiate program activities; 3) agencies were able to use private funds, but these were insufficient to finance full scale activities; 4) full funding was not obligated until April 2007; and 5) the program could not monetize planned commodities until the approved period of April to July as agreed with the Zambian National Farmers Union (ZNFU). This was due to ZNFU complaints of market distortion potentially being caused by C-FAARM commodity sales (GMO issues plus objections from commercial winter wheat growers). C-FAARM also experienced funding delays in FY08 and FY09. The C-FAARM MTR reported, “funding delays at the beginning of FY08 and FY09, as approvals of each year’s implementation plan and budget took approximately 3-4 months”⁵⁴.

As a result of financial challenges planned five years’ implementation was reduced to four. The initial lack of funds required re-budgeting with an approval process that slowed activities by six to twelve months.

Key informants felt monetization was the main cause of delay. C-FAARM reports that based on the 2007/2008 anticipated production trends, and carryover stocks from the previous seasons’ production, the Zambia National Farmers Union (ZNFU) concluded that the monetization of wheat in Zambia would result in a disincentive to local production. C-FAARM received additional 202e and ITSH resources in lieu of monetization during FY09. C-FAARM also explored the edible oils market and proposed to monetize vegetable oil (crude sunflower oil). In early FY10 CRS received approval from the Zambian government to import the commodity. However, issues of timing and high import levels of cheaper soybean oil rendered this option un-economical. C-FAARM also received additional 202e and ITSH resources in lieu of monetization during FY10. Finally, upon the FFP decision to suspend Title II funding to

⁵³ FFP Washington and WV US decided that remaining monetization funds from C-SAFE Zambia were to be transferred to C-SAFE Zimbabwe for continued programming as of 30 September 2006.

⁵⁴ C-FAARM (2009) Mid-Term Evaluation Second Draft Report, page 51

Zambia in FY 12 CRS requested USAID for additional 202e and ITSH resources in lieu of monetization in FY11.

Key informants report that the consortium approach presented challenges to financial accounting. CRS received monthly financial reports from PVOs that were compiled into quarterly documents. Quarterly reports were sent from CRS to USAID Food for Peace. Key informants involved in this process identified different PVO accounting policies as causing challenges especially when making adjustments to previous accounts. These key informants point to program financial reviews helped enhance similarities and financial management becoming easier with time.

C-FAARM key informants report that by 2011 financial management had evolved with no serious challenges reported. C-FAARM reports of total spend reflect improvements in financial management.

Monitored spend⁵⁵

Year 1: low

Year 2: improved

Year 3: approximately 80%

Year 4: approximately 83%

Year 5: 95 to 100%

6.3. Monitoring, Evaluation and Reporting

From its initial phase to the end of the program C-FAARM made substantial improvements in its M&E. Introduction of the central database, recruitment of the M&E technical Working group and budgetary allocations helped to address issues identified at MTR, such as parallel M&E systems, inconsistent reporting and others.

The program successfully implemented participatory monitoring and evaluation in several of the program components, such as many activities within PD/Hearth, community gardens, children's growth monitoring interventions. These initiatives required a lot of effort from the program staff. In these examples the program M&E was well integrated in the regular program implementation, where data informed decision making. E.g. to graduate from PD/Hearth, a child had to gain the required weight, which was regularly monitored and whether or not the child graduated depended on the data reported for its growth. The Internal Quality Assessments state that the activities of the PD/Hearth were reviewed periodically, where the members would look at the number of children graduating and analyze what causes the remaining children not to graduate from the program, and those barriers would be addressed.

As in many programs of this scale, C-FAARM also faced challenges in its monitoring, evaluation and reporting, two of which have already been discussed in the limitations section: maintaining updated and accurate beneficiary lists and use of a consistent formula tabulation formula for the livelihoods index.

Marketing and dairy initiatives were not covered as separate indicators in the IPTT, but the program management skillfully used the data from those indicators to inform, explain progress

⁵⁵ Source: C-FAARM Technical Lead - Finance

made against various components of the program, diversification of income, use of agricultural techniques, growing 2 or more crops and others. However, the evaluators noticed that not having separate indicators has caused a lot of success stories and lessons go undocumented, which could have contributed greatly to the advancement of similar programs.

While IPTT does not include the monitoring of assumptions and risks, the M&E plan of C-FAARM covers the complete logframe, including assumptions and risks. Climatic and production issues were part of the disaster risk reduction and crop monitoring surveys financed by the program.

Many attempts were made to align the M&E procedures, but agreeing appropriate indicators between partners working in diverse geographical areas with different hopes and aspirations proved to be challenging. To establish a practical M&E system across the consortium significant investment in technical support was required. Additional timely technical support could have been supported by clear donor guidance. Initial USAID guidance was reported as suggesting some indicators were only required from population based studies (i.e. the baseline and final evaluations). C-FAARM senior managers report that senior level donor M&E support started at the time of the final evaluation. The recent creation (March 2011) by USAID of a regional position for M&E suggests increased levels of support will be available to future programs.

The program made attempts to document most significant change achieved for its beneficiaries through various studies and this was not done with an aim to show progress against its planned objectives. Demonstrating impact became a priority in the later phases of the program, which did not allow enough time to advocate for a continued support from donors and government during the life of the program. However, some of the learning and evidence generated by the program is currently being used by the C-FAARM partners in their fundraising activities.

6.4. Other Unexpected Findings/Results

ZARI report that C-FAARM has contributed to the process of developing a National Seed Security Policy. C-FAARM coordinated a Seed Assessment Study in July 2010, supported with CRS private funds. This study assessed how extreme weather (floods and droughts) affected seed availability. A feedback workshop tasked ZARI with creating a national plan detailing actions required at times of disaster to ensure seed security. The World Bank is reported to have expressed interest in funding this plan after the September 2011 national elections.

7. LESSONS LEARNED AND PROMISING PRACTICES

Important lessons were learned throughout the program, which the program opened to the evaluation with an intention to share best practice and challenges faced so that the future initiatives increase their effectiveness.

Balancing Relief and Development Activities: The C-FAARM design combined a range of activities that span the relief to development continuum. Distributions (i.e. TFA and FFA) are seen as relief based activities helping people survive a crisis. Conservation farming and market support initiatives are viewed as more development focused, aiming to provide skills that

empower people to build their own future. While C-FAARM began as districts were emerging from a period of crisis it was mostly implemented in a context of good harvests and a growing national economy.

It is suggested that C-FAARM presents a valuable learning opportunity regarding how a program can flexibly adapt its activities in an improving food security situation.

Valuable lessons are also suggested in how to transition target beneficiaries from vulnerable to viable. To do this relief based support has to be used as an initial tool to foster development. C-FAARM attempted to transition from TFA to more needs based approaches. DRAPS implementers learnt the importance of better needs identification being required early in the programs life.

Agricultural interventions: The uptake for all agricultural techniques increased across the districts, conservation tillage being the highest, followed by crop rotation and incorporation of legumes. At the time of the program implementation the government's subsidies, availability of high quality maize seeds and readily available markets for maize made it difficult to promote the practice of crop rotation. However, due to the skills and knowledge gained through the C-FAARM program, the farmers learned to use crop rotation as a soil fertility management option and grew maize under rotation with a legume (groundnuts or cowpeas). This ensured that farmers continue growing other crop together with maize. Other lessons that can help future programs are:

- Proposed crops need an economic value;
- Soil type and rainfall patterns have an important influence on soil cultivation methods (i.e. basins);
- Agricultural service providers are an important consideration in the CA approach i.e. contract rippers and contract sprayers;
- Weed control is an important part of Conservation farming. If herbicides cannot be used, increased attention is required to early planting and timely hand weeding;
- Traditional beliefs and cultural practices have an important influence on agricultural practices. For example, traditional cattle management practices influenced cropping and cultivation methods as free-range cattle damaged basins;
- The initial high labor requirement involved in digging basins was a major disincentive to potential adopting farmers following this form of CA approach.

PD/Hearth: PD/Hearth can be controversial due to initial high training costs. Focus groups performed in areas where PD/Hearth was implemented expressed enthusiasm for the approach. Relevant key informants supported this enthusiasm. PD/Hearth built local knowledge on expanding use and preservation of locally available food, and directly influenced the nutritional status of the targeted families. It has the potential of being a good replacement for the TFA, without the dependency factor. Successful application of participatory mechanisms, as well inclusion of NCH increased the ownership of PD/Hearth. It built substantial cultural capital where it was at everyone's interest in the team to ensure that the participants graduate from the PD/Hearth with a satisfactory condition. In C-FAARM PD/Hearth was an opportunity available to those that needed.

Marketing: The increase in sales is also attributed to the bumper harvest and opening up of formal markets through the respective value chains, both partially attributed to C-FAARM

interventions. The produce sold through these new market channels includes maize, soya beans, livestock (goats and beef cattle), livestock products (milk) and vegetables. While Marketing skills were among the most useful gained throughout the program, the farmers felt that diversified linkages with buyers other than the Food Reserve Agency (FRA) would have helped in building more sustainable consumption outlets.⁵⁶

Leadership: Being challenged for two years of its implementation, C-FAARM made substantial improvements in its leadership. Learning from C-FAARM's experience is that in complex structures like consortiums use of Steering Committees and giving them a central role and authority for decision making and coordination can result in better information management and sharing. This forced the committee members to have more frequent meetings and ensure that information filters down to all relevant levels.

Monitoring and Evaluation: Considerable effort was made by the consortium to develop standard monitoring and reporting tools, through community based M&E as well as a centralized database. While some of the M&E tools were integrated in regular program management and supported SMT to make programmatic decisions, the IPTT remained a donor reporting tool. Standardized M&E tools, procedures and guidelines are valuable tools to have in place at the start of complex programs. Community participation in monitoring and evaluation of the program is an asset, and can increase the effectiveness of its implementation.

8. RECOMMENDATIONS: VITAL FEW

Advocacy for policy change: Programs of this scale and importance generally produce valuable learning that can directly contribute to enhancing and improving government policies and practices. The C-FAARM did not have a structured advocacy strategy, nor was it intended in the design of the program. However, it is recommended that future programs consider this component, since it can considerably increase the potential for sustaining program results. One example within the C-FAARM is incentivizing CHW work. CHWs are structures that can easily fit and address some of the needs of MOH, who is the government body that can incentivize the CHW work to sustain their continued existence. Targeted advocacy initiatives would ensure that adequate coordination at all government levels occurs, and would increase the program's visibility.

Vouchers: Given the opportunities arising from national economic growth, greater emphasis could have been given to market based initiatives through more investment in value chain activities, voucher systems and inclusion of some form of savings and credit component. Phased voucher systems have potential to sustainably support input supply chains to agriculture for seeds, tools and chemicals. Currently voucher projects implemented by FAO and CFU are limited in their geographical scope to urban and peri-urban areas, and do not cover the C-FAARM target population. Future initiatives should look to draw lessons from ongoing initiatives in Zambia that use these systems.

Cash transfers: Cash transfers are used as an effective livelihoods mechanism in many countries, where the targeted beneficiaries are unable to use their own resources due to illness,

⁵⁶ C-FAARM Zambia FY11 PREP Narrative

disability or other limiting factor. When faced with this situation, often programs are challenged to alter their mainstream strategies, which may be irrelevant for that particular group. E.g. targeting the most vulnerable with TFA, when a condition to receive TFA was that the beneficiaries should work in their fields. Long term cash transfer systems are considered to be more appropriate systems to explore when targeting the old and infirm where they have access to food markets. Cash transferred can be used in the local economy supporting local businesses and markets. Targeting of cash transfers to the extremely vulnerable can be independent of programs supporting agriculture and hence avoid distorting incentives to farmers interested in adopting a new technology, such as Conservation Agriculture.

Communities in C-FAARM target areas will always have extremely vulnerable members. To develop long term support systems to these target groups initiatives working with the Ministry of Community Development and Social Services are seen as potentially more sustainable and efficient. Future support to extremely vulnerable groups should draw lessons from the Zambia's Social Protection Expansion Program being managed by the Ministry of Community Development and Social Services. The project is still in its pilot phase, but perhaps in a few years' time it will have drawn lessons that could contribute to effective implementation of cash transfers.

Saving and Credit initiatives: Saving and credit initiatives are seen as an important component in the tool-box of programs aiming to support vulnerable groups in the context of improving national food security and economic growth. It is suggested that C-FAARM could have achieved better results with regard to sustainable community organization by having a savings and credit component, potentially linked to marketing or enterprise development support.

Follow-up in depth research on Nutrition: Unfortunately the data collected during the evaluation on stunting and underweight rates could not be used due to serious sampling mistakes. To further understand how the program may have impacted those indicators, a targeted nutrition assessment is recommended to be carried out in the nearest future. Considering advocacy to the National Food and Nutrition Commission under the yearly Nutrition Survey might be an option to strengthen data for those indicators.

Further research on cost-effectiveness of consortium model: C-FAARM experience has produced valuable lessons for consortium based approaches and questions implementation efficiency. A range of programs exist that use a consortium based approach. Further research is required better to determine the implications of a consortium approach on implementation efficiency.

Monitoring and evaluation: Sufficient timely investment in appropriate M&E technical capacity is required in program design to produce M&E systems that supply timely information useful to management decision-making. Aligned and clear guidelines to define roles and responsibilities, as well as reporting requirements are needed to ensure that comparable data is produced throughout the life of the program. Donors must also define and clearly communicate their expectations in written guidelines and through frequent meetings with their grantees, in order to ensure that their priorities are effectively incorporated.

9. CONCLUSIONS

At a time when the Southern and Western provinces of Zambia were struggling to overcome the 2005 droughts, C-FAARM was a needed and important intervention. It targeted a range of beneficiaries with tailored interventions and planned to meet their most critical needs. The program aimed to create sustainable results, yet be responsive to immediate relief needs that rose from floods and other natural calamities. For a big program implemented in a challenging environment with a wide geographic coverage, it achieved most of its intended results and overachieved several of its targets. It created increased capacity in the communities through its agricultural and nutrition interventions, as well as strengthened disaster risk reduction by initiating a number of mechanisms, such as DRAPs and EWS.

Achievements in rising income and food provisioning have been life-changing for the targeted households. They were able to increase their income at a higher rate than national GDP growth over the period of the program. Household food provisioning levels are significantly higher at the end of the program compared to the start in 2007. The program activities have increased ownership of productive assets like cattle, and slowed down the declining crop diversification in the targeted communities

Not only the amount but also the quality of food consumed by beneficiaries improved, and at the end of the program more families can afford a minimally balanced diet than before.

The training and capacity building of CHWs has resulted in timely and better-managed referrals of the critical cases. Additionally CHWs were strengthened as community educators and carry out a number of initiatives to address malnutrition, stigma and education parents on better child care.

Vulnerable communities in targeted districts have started to improve their collective ability to identify and respond to developmental issues and external shocks affecting food insecurity.

While the sustainability of all these results may be confirmed through follow up impact assessments, from the above it can be stated that C-FAARM largely achieved its objectives.

TABLES

Table 1. A Snapshot of Poverty and Food Insecurity in Zambia (Table used in Introduction)

Table 1: A Snapshot of Poverty and Food Insecurity in Zambia	
HDI Ranking 2005	166
Poor as percent of Population	78%
Extreme poor as percent of Population	58%
Chronically food insecure HHs	19%
Transitorily food insecure HHs	45%
Stunting among Children under 5	47%
Malnourished Children under 5	49%
HIV/AIDS national prevalence	16%
<i>Source: Livelihood Conditions Monitoring Survey 2004</i>	

Table 2. Sample Size Quantitative Data

District	Target (Pre data cleaning) Final Evaluation	Target (Post Cleaning)	Completed Questionnaires	Actual (Post data cleaning) Non Anthropometric Final Evaluation	% Target (Post Cleaning)
Choma	850	800	778	683	85%
Kalomo	868	800	738	686	86%
Kazungula	803	800	780	631	79%
Sinazongwe	909	800	701	545	68%
Sesheke	830	800	810	694	87%
Shangombo	840	800	835	704	88%
Total	5,100	4,800	4,642	3,943*	82%

Source: Endline Study *Not all HH classified by vulnerability group

Table 3. Household Demographics

Districts	Choma		Kalomo		Kazungula		Sesheke		Shangombo		Sinazongwe		All districts		
	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L	
Avg. HH size	7.0	7.8	7.0	8.1	6.0	6.3	6.0	6.3	6.0	7.4	7.0	7.7	6.6	7.3	
% female headed HH	33.3	24.6	23.0	21.3	20.3	18.7	28.9	28.7	40.1	34.2	26.7	18.6	28.8	24.7	
% HH with orphans	34.0	36.3	37.0	35.0	38.0	31.0	45.0	46.4	49.0	52.8	37.0	42.5	40.0	40.9	
% HH by Vulnerability group	Viabale	6.5	27.5	4.1	23.0	8.7	14.0	18.2	26.0	13.2	20.6	11.8	22.4	8.6	22.4
	Viabale but vulnerable	38.8	33.8	49.4	38.7	30.7	49.7	33.8	33.5	24.8	36.8	26.0	35.5	37.1	37.9
	Vulnerable	54.7	38.7	46.5	38.3	60.6	36.3	48.0	40.5	62.1	42.6	62.2	42.6	54.3	39.8

N=3943 Source: Baseline and endline studies

Table 4. Percentage Households with Adequate Food Provisioning, 2006/07 and 2009/10

Districts	Choma		Kalomo		Kazungula		Sinazongwe		Sesheke		Shangombo		All districts	
	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L
1-3 months	20.2	6.1	38.8	6.0	27.9	9.3	50.5	12.9	62.8	6.9	70.4	14.7	42.9	9.2
4-6 months	35.5	19.7	35.2	25.5	36.0	18.9	33.4	30.8	26.6	16.3	19.5	32.4	31.8	23.8
>6 months	44.3	74.0	26.0	67.0	36.1	70.0	16.1	55.5	10.6	76.6	10.1	52.8	25.3	66.3

N=3879 Source: Baseline and endline studies

Table 5a. Percentage Beneficiaries Adopting Minimum Technologies by District at endline compared to baseline

Districts	Choma		Kalomo		Kazungula		Sinazongwe		Sesheke		Shangombo		All districts	
	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L
<i>Conservation tillage</i>	24	67	22	67	33	63	36	77	20	64	19	64	26	67
<i>Incorporation of legumes</i>	12	16	13	13	20	14	8	27	12	8	2	1	11	13
<i>Crop rotation</i>	52	62	49	35	62	58	34	68	26	24	5	10	39	43
<i>Any of the three</i>	64	72	62	51	71	53	56	57	40	52	25	52	54	56

N=3943 Source: Baseline and endline studies

Table 5b. No and Percentage Beneficiaries Adopting Minimum Technologies by District (End line)

Districts	Choma	Kalomo	Kazungula	Sesheke	Shangombo	Sinazongwe	Total
Agroforestry	60	71	26	4	58	48	267
	11%	20%	10%	1%	15%	21%	13%
Water harvesting	50	18	32	1		13	114
	10%	6%	11%	0%	0%	6%	6%
Improved Storage of Food	58	30	75	25		44	232
	11%	9%	25%	8%	0%	19%	11%
Winter Ploughing	117	83	84	4	6	112	406
	22%	23%	27%	1%	2%	42%	19%
Conservation Tillage	392	322	242	321	328	296	1901
	67%	67%	63%	64%	64%	77%	67%
Legumes	81	43	39	28	2	61	254
	16%	13%	14%	8%	1%	27%	13%
Fodder protection	75	37	21	3		21	157
	14%	11%	8%	1%	0%	10%	8%
Compost_Manure	284	127	150	67	5	181	814
	51%	33%	43%	19%	1%	59%	35%
Crop rotation	362	136	231	92	39	180	1040
	62%	35%	58%	24%	10%	58%	43%
Intercropping	148	45	86	137	62	99	577
	27%	13%	28%	36%	16%	38%	26%
Small Scale Irrigation	31	31	36	2		46	146
	6%	9%	13%	1%	0%	20%	7%
Cover Crops	68	17	31	12		42	170
	13%	5%	11%	4%	0%	19%	8%
Minimum tillage	79	104	52	29		112	376
	15%	28%	18%	9%	0%	43%	18%
Post-Harvest Technologies	51	9	32	1		10	103
	10%	3%	12%	0%	0%	5%	5%
Winter Cropping	157	98	72	4	4	80	415
	29%	27%	24%	1%	1%	32%	19%

Genetics	46	30	32		1	17	126
	9%	9%	12%	0%	0%	8%	6%
Animal Health	147	60	77	7	3	39	333
	27%	17%	25%	2%	1%	17%	16%
Animal Nutrition	135	57	71	5	3	29	300
	25%	16%	23%	2%	1%	13%	14%
Cooperative Governance	57	37	91	1	1	23	210
	11%	11%	29%	0%	0%	11%	10%

N=3943 Source: baseline and endline studies

Table 5c. Percentage Beneficiaries Adopting Minimum Technologies by District at endline compared to baseline by vulnerability group

Districts		Choma		Kalomo		Kazungula		Sesheke		Shangombo		Sinazongwe		Total	
		BL	EL												
Conservation Tillage	VIABLE	17.3	76.9	17.6	78.3	29.6	63.8	16.9	69.9	17.6	71.2	38.9	84.5	22.9	74.6
	VULNERABLE	25	60.4	22.1	60.5	33.5	55.0	19.9	57.3	21.1	55.5	35.9	68.2	28.1	59.5
	VULNERABLE BUT VIABLE	23.6	66.5	0.0	68.3	0.0	67.0	20.5	66.7	12.9	69.7	20.0	84.0	19.8	69.5
	Grand Total	24	66.9	21.9	66.9	33.2	62.2	19.5	63.9	18.7	64.4	36.1	76.9	26.4	66.6
Incorporation of legumes	VIABLE	21.2	25.2	14.7	26.9	23.9	11.4	12.4	11.8	2.8	0.0	10.6	36.4	12.7	18.2
	VULNERABLE	9.3	11.8	12.9	9.0	19.5	5.4	10.6	6.4	1.6	0.0	7.3	21.8	11.1	9.0
	VULNERABLE BUT VIABLE	15	14.9	0.0	12.0	0.0	21.2	12.8	8.6	2.5	1.6	0.0	30.8	11.0	13.4
	Grand Total	12.3	16.1	12.9	12.9	19.8	13.8	11.7	8.4	2.0	0.6	7.5	27.0	11.2	12.5
Crop Rotation	VIABLE	76.9	74.1	58.8	50.7	63.9	56.7	29.4	33.3	7.5	11.5	45.3	67.2	39.2	51.5
	VULNERABLE	40.4	55.0	48.7	29.7	61.4	46.7	22.9	20.9	4.2	8.8	33.0	45.3	38.9	35.3
	VULNERABLE BUT VIABLE	64	60.3	0.0	34.9	0.0	65.3	28.2	22.1	7.0	11.7	20.0	68.8	36.7	45.5
	Grand Total	51.9	62.0	49.1	35.3	61.6	57.6	25.9	24.4	5.3	10.4	34.0	57.0	38.6	42.6

ANY of the three	VIABLE	79.2	81.4	64.7	51.3	73.2	59.1	42.5	59.4	25.9	59.3	63.2	64.4	52.2	63.3
	VULNERABLE	55.4	62.1	61.4	49.6	70.9	44.7	37.5	45.0	26.4	41.7	55.1	54.9	54.7	49.4
	VULNERABLE BUT VIABLE	72.7	71.4	0.0	49.4	0.0	59.0	43.4	55.2	22.0	59.5	20.0	57.6	49.2	58.5
	Grand Total	63.7	70.6	61.5	49.9	71.0	53.8	40.0	52.2	25.2	51.8	55.6	58.0	53.6	56.0

N=3912 Source: baseline and endline studies

Table 6a. Percentage of Households Growing Selected Crops

Districts	Choma		Kalomo		Kazungula		Sinazongwe		Sesheke		Shangombo		Total	
	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L
Maize	84%	98%	88%	98%	81%	97%	65%	93%	89%	99%	80%	98%	82%	97%
Groundnut	46%	32%	29%	36%	37%	56%	12%	9%	2%	32%	7%	21%	25%	31%
Rape	Na	48%	Na	13%	Na	21%	na	11%	Na	6%	Na	3%	na	17%
Sorghum	1%	1%	3%	1%	22%	15%	39%	25%	20%	15%	22%	12%	18%	11%
Beans	10%	4%	16%	9%	9%	10%	6%	9%	8%	17%	6%	9%	9%	10%
Sweet Potato	18%	19%	14%	0%	3%	14%	1%	1%	0%	0%	0%	1%	6%	8%
Millet	0%	0%	2%	1%	7%	3%	18%	12%	6%	3%	19%	11%	9%	5%

N=3815 Source: Baseline and endline studies Note: Data is only presented in the Baseline for the selected crops

Table 6b. Production of cereal crops, legumes and tubers by district

		All distr		Choma		Kalomo		Kazungula		Sinazongwe		Sesheke		Shangombo	
		B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L
Maize	Median Area planted (ha)	1	1	1	1	1	1.5	2	1.5	1	0.5	2	1.75	1	1
	Median production (Kg)	250	500	500	500	400	1000	250	750	125	400	250	500	250	300
Sorghum	Median Area planted (ha)	0.5	0.5	n/a	0.4	0.5	0.25	0.5	0.5	0.25	0.25	0.5	0.5	0.5	0.5
	Median production (Kg)	75	105	n/a	70	73	95	100	250	50	150	50	100	75	100
Millet	Median Area planted (ha)	0.5	0.25	n/a	0.5	1	0.25	0.5	0.4	0.25	0.25	0.5	0.25	0.5	0.38
	Median production (Kg)	60	100	n/a	150	96	15	144.4	100	50	125	48	50	60	100
Cowpea	Median Area planted (ha)	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.22	0.25	0.5	0.25	n/a	n/a
	Median production (Kg)	44	50	30	50	50	50	50	50	50	50	27.4	50	n/a	n/a
Ground	Median Area planted (ha)	0.4	0.25	0.25	0.25	0.5	0.5	0.25	0.25	0.13	0.25	0.5	0.5	0.37	0.5

nut	Median production (Kg)	50	80	49.5	100	50	90	50	55	22.6	50	50	100	89.3	90
Beans	Median Area planted (ha)	0.25	0.25	0.25	0.2	0.25	0.25	0.5	0.25	0.25	0.25	0.25	0.25	0.25	0.25
	Median production (Kg)	40	50	40	42.5	40	60	50	50	50	50	25	50	50	50
Casava	Median Area planted (ha)	0.25	0.25	0.25	0.25	n/a	0.06	n/a	0.25	n/a	0.09	n/a	0.5	0.25	0.5
	Median production (Kg)	73	85	52.5	95	n/a	105	n/a	100	n/a	54	n/a	200	100	50
Sweet Potato	Median Area planted (ha)	0.25	0.25	0.25	0.25	0.48	0.25	0.35	0.25	n/a	0.25	n/a	0.175	n/a	0.25
	Median production (Kg)	100	184	100	200	150	200	106.8	150	n/a	175	n/a	180	n/a	200

N=3800 Source: baseline and endline studies

Table 7a. Percent of HH growing No of crops per district and vulnerability group (endline only)

	# crops	Choma	KALOMO	KAZUNGULA	SESHEKE	SHANGOMBO	SINAZONGWE	TOTAL
ALL groups	1	19.8%	29.0%	19.2%	46.0%	54.3%	34.5%	34.1%
	2	32.7%	33.8%	27.3%	29.3%	27.7%	32.3%	30.5%
	3	19.3%	21.6%	27.6%	14.3%	10.5%	18.5%	18.5%
	4	14.2%	10.3%	11.9%	3.6%	3.6%	5.0%	8.1%
	5	6.0%	2.2%	5.2%	2.0%	1.7%	2.2%	3.2%
Viable	1	16.0%	31.6%	25.0%	43.3%	51.0%	33.1%	33.4%
	2	25.0%	35.4%	30.7%	28.9%	27.6%	31.4%	29.5%
	3	19.7%	19.0%	23.9%	16.7%	9.7%	20.3%	17.8%
	4	17.0%	7.6%	10.2%	3.9%	3.4%	6.8%	8.3%
	5	10.6%	1.3%	3.4%	2.8%	4.1%	1.7%	4.3%
Vulnerable	1	4.5%	1.9%	9.2%	5.4%	1.7%	6.3%	4.6%
	2	23.9%	29.6%	23.2%	50.0%	56.3%	37.1%	37.6%
	3	39.8%	32.7%	29.8%	26.8%	27.3%	34.8%	31.7%
	4	19.3%	23.8%	27.6%	12.5%	10.0%	14.7%	17.6%
	5	9.8%	9.6%	6.1%	2.5%	3.3%	4.0%	5.8%
Vuln but viab	1	18.2%	25.9%	14.4%	43.5%	53.7%	33.2%	30.8%
	2	30.7%	34.6%	24.0%	32.3%	28.2%	30.4%	29.8%
	3	19.0%	21.3%	28.8%	14.2%	11.6%	22.3%	19.9%
	4	16.9%	12.5%	16.7%	4.7%	3.9%	4.9%	10.4%
	5	6.9%	3.4%	8.0%	1.7%	0.8%	2.2%	4.1%

N=3914 Source: Endline study

Table 7b. Number of HH growing No of crops per district and vulnerability group

Vulnerability category	Districts							Grand Total
	TOTAL	CHOMA	KALOMO	KAZUNGULA	SESHEKE	SHANGOMBO	SINAZONGWE	
VIABLE	0	4	2		5	2	7	20
	1	30	50	22	78	74	39	293
	2	47	56	27	52	40	37	259
	3	37	30	21	30	14	24	156
	4	32	12	9	7	5	8	73
	5	20	2	3	5	6	2	38
	6	7	1	3		2	1	14
	7	7	3		3	2		15
	8	3	1					4
	9	1	1	1				3
	11				2			2
VIABLE Total		188	158	88	180	145	118	877
VULNERABLE	0	12	5	21	15	5	14	72
	1	63	77	53	140	169	83	585
	2	105	85	68	75	82	78	493
	3	51	62	63	35	30	33	274
	4	26	25	14	7	10	9	91
	5	5	4	5	5	4	3	26
	6	1	2	1	1		3	8
	7	1		2	1		1	5
	8				1			1
	11			1				1
VULNERABLE Total		264	260	228	280	300	224	1556
VULNERABLE BUT VIABLE	0	6	3	4	6	3	12	34
	1	42	68	45	101	139	61	456
	2	71	91	75	75	73	56	441
	3	44	56	90	33	30	41	294
	4	39	33	52	11	10	9	154
	5	16	9	25	4	2	4	60

	6	7	2	12	2		1	24
	7	2		4				6
	8	1	1					2
	9	2		3		2		7
	10			2				2
	11	1						1
VULNERABLE BUT VIABLE Total		231	263	312	232	259	184	1481
Grand Total		683	681	628	692	704	526	3914

N=3914 Source: Endline study

Table 7c. No of HHs growing # of crops per district

TOTAL	Districts						Grand Total
	CHOMA	KALOMO	KAZUNGULA	SESHEKE	SHANGOMBO	SINAZONGWE	
0	22	10	25	26	10	35	128
1	135	199	121	319	382	188	1344
2	223	232	172	203	195	176	1201
3	132	148	174	99	74	101	728
4	97	71	75	25	25	27	320
5	41	15	33	14	12	12	127
6	15	5	16	3	2	5	46
7	10	3	6	4	2	1	26
8	4	2		1			7
9	3	1	4		2		10
10			2				2
11	1		3				4
Grand Total	683	686	631	694	704	545	3943

N = 3943 Source: Endline Study

Table 8a. Average number of crops grown in C-FAARM districts, 2006/07 and 2009/10

	C-FAARM Districts						All	
	Choma	Kalomo	Kazungula	Sinazong	Sesheke	Shangom	Total	Aver
2006/07	12	15	9	10	9	7	62	10.3
2009/10	10	11	11	10	7	10	59	9.8

Source: Final Crop Forecasts, 2006/07 and 2009/10, Ministry of Agriculture and Cooperatives

Table 8b. Average number of crops grown, C-FAARM vs non C-FAARM districts

Year	Average crops grown per district C-FAARM	Average crops grown per district in the rest of Southern & Western Prov
2006/07	10.3	10
2009/10	9.8	9

Source: Final Crop Forecasts, 2006/07 and 2009/10, Ministry of Agriculture and Cooperatives

Table 9. Average dietary diversity score

District	Vul. Category	Dietary Diversity Score		% HH w Balanced Diet	
		BL	EL	BL	EL
CHOMA	Viable	4.8	4.03	48.10%	32.20%
	Viable but Vulnerable	3.9	3.87	25.80%	28.57%
	Vulnerable	3.2	3.67	17.00%	31.28%
	Total	3.6	3.87	22.50%	30.68%
KALOMO	Viable	3.6	3.93	21.20%	38.20%
	Viable but Vulnerable	3.4	3.65	16.00%	31.18%
	Vulnerable	3	3.73	9.60%	29.88%
	Total	3.2	3.73	13.20%	31.47%
KAZUNGULA	Viable	3.8	3.32	26.10%	24.75%
	Viable but	4	3.44	32.00%	20.51%

	Vulnerable				
	Vulnerable	3.3	3.08	12.20%	14.95%
	Total	3.5	3.30	19.30%	19.30%
SESHEKE	Viable	3.4	3.41	21.90%	20.00%
	Viable but Vulnerable	3.1	3.42	13.40%	22.84%
	Vulnerable	2.8	3.14	6.90%	18.57%
	Total	3	3.30	11.70%	20.38%
SHANGOMBO	Viable	2.9	2.39	5.70%	6.90%
	Viable but Vulnerable	2.7	2.47	8.50%	6.95%
	Vulnerable	2.3	2.16	1.60%	2.67%
	Total	2.5	2.32	3.80%	5.11%
SINAZONGWE	Viable	3.6	3.28	23.40%	23.19%
	Viable but Vulnerable	3.3	3.05	19.70%	19.02%
	Vulnerable	2.9	2.99	11.90%	15.35%
	Total	3.1	3.09	15.00%	18.70%
ALL DISTRICTS	Viable	2.9	3.43	9.8	26.04%
	Viable but Vulnerable	3.4	3.32	19.3	38.88%
	Vulnerable	3.5	3.12	22	35.09%
	Total	3.1	3.27	14.20%	20.95%

N=3905 Source: Baseline and endline studies

Table 10a. Average and median monthly household cash income by district

	Choma		Kalomo		Kazungula		Sinazongwe		Sesheke		Shangombo		All districts	
	B/line	E/line	B/line	E/line	B/line	E/line	B/line	E/line	B/line	E/line	B/line	E/line	B/line	E/line
Average income (ZMK)	109,422	350,850	137,591	233,598	115,686	189,169	148,504	313,539	108,373	254,338	97,427	113,468	119,421	239,907

Average income (US\$)	30	72	38	48	32	39	41	64	30	52	27	23	33	49
Median income (ZMK)	50,000	100,000	50,000	100,000	60,000	100,000	71,250	100,000	50,000	100,000	30,000	50,000	50,000	90,000
Average income (US\$)	14	20	14	20	17	20	20	20	14	20	8	10	14	18

N=3879 Source: Baseline and Endline Studies. Exchange Rate used 2011 US\$ 1 = ZMK 4900 and 2007 US\$ 1 = ZMK 3600⁵⁷

Table 10b. Average income by vulnerability vroup (endline only)

	Choma		Kalomo		Kazungula		Sesheke		Shangombo		Sinazongwe		All districts	
	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L
Viable	372,405	913,984	386,106	377,023	225,078	278,793	302,949	342,509	227,655	190,184	420,710	323,922	310,465	437,717
Vulnerable	58,198	104,643	76,969	183,406	81,423	104,509	44,775	159,298	47,520	69,383	79,290	313,217	64,895	150,621
Viable but Vulnerable	136,696	165,288	172,397	200,431	150,835	218,484	91,677	300,677	149,259	123,003	188,077	327,775	147,417	216,887
Total	109,422	349,705	137,591	234,720	115,686	185,900	108,373	253,911	97,427	113,468	148,504	320,688	119,421	240,093

N=3793 Source: Endline study

Table 10c. Average income by gender of head of HH (endline only)

Gender	Choma	Kalomo	Kazungula	Sesheke	Shangombo	Sinazongwe	All Districts
Male	428496	260668.75	210434.9132	313563.5246	136347.7221	347515.3302	283611.9109
Female	104419.4	140673.766	79921.87826	108104.3814	68259.95575	156829.5455	103820.4755
Total	351571.2	235378.3274	186304.6897	255119.1349	113208.1203	314741.2109	240165.0718

N=3793 Source: Endline Study

⁵⁷ <https://www.cia.gov/library/publications/the-world-factbook/geos/za.html>

Table 11. Percentages of HHs identifying a given source of farm income

	Choma		Kalomo		Kazungula		Sinazongwe		Sesheke		Shangombo		Total	
	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L
Crop Sales	41%	13%	46%	32%	57%	33%	33%	9%	23%	47%	16%	23%	37%	27%
Casual agriculture labour	8%	8%	5%	9%	10%	26%	9%	2%	26%	26%	47%	42%	17%	19%
Livestock sales	20%	32%	12%	35%	9%	36%	13%	10%	8%	16%	7%	9%	12%	23%
Fishing	1%	0%	1%	1%	5%	2%	7%	5%	11%	18%	10%	6%	7%	5%
Charcoal		3%		2%		9%		0%		1%		1%	n/a	3%
Vegetable sales	25%	36%	32%	33%	16%	39%	21%	14%	27%	24%	15%	19%	23%	28%
Sale of sour/fresh milk	1%	8%	1%	7%	0%	7%	1%	1%	3%	3%	3%	7%	1%	6%

Source: Survey Findings

Table 12a. Proportion of HHs owning cattle

	Choma		Kalomo		Kazungula		Sesheke		Shangombo		Sinazongwe		All Districts	
	BL	EL	BL	EL	BL	EL	BL	EL	BL	EL	BL	EL	BL	EL
Indigenous	18.80%	23.92%	17.30%	19.24%	12.00%	22.19%	27.20%	21.33%	23.10%	16.76%	12.70%	20.37%	18.70%	20.59%
Exotic	1.60%	5.53%	2.50%	6.27%	1.50%	1.90%	0.00%	0.00%	0.00%	0.14%	0.01%	0.18%	0.90%	2.39%
Cross	2.00%	7.32%	2.00%	4.81%	1.20%	3.33%	0.70%	0.00%	0.01%	0.00%	0.01%	0.00%	1.00%	2.62%

N=3018 Source: baseline and endline Studies

Table 12b. Number of cattle owned by HHs

	% of All Households	
	BL	EL
Indigenous		
1-2 cows	59.10%	56.20%
3-5 cows	29.70%	27.50%
6-10 cows	8.30%	10.40%
Exotic		
1-2 cows	83.00%	88.30%
3-5 cows	4.30%	3.50%

6-10 cows	8.50%	3.20%
Cross		
1-2 cows	43.10%	74.60%
3-5 cows	33.30%	20.40%
6-10 cows	9.80%	4.90%
Male Headed		
Indigenous	21.30%	23.33%
Exotic	1.10%	2.55%
Cross	1.20%	2.92%
Female Headed		
Indigenous	12.30%	11.67%
Exotic	0.60%	1.54%
Cross	0.60%	1.64%

N=3018 Source: baseline and endline Studies

Table 13. Percentage of HHs with a dietary diversity score above the baseline average (3.1)

	District						Average All districts
	Choma	Kalomo	Kazungula	Sinazongwe	Sesheke	Shangombo	
Final Evaluation: % Above 3.1	30.68	31.47	19.30	34.73	20.38	5.11	39
Baseline: % above 3.1.	22.5	13.2	19.3	15.0	11.7	3.8	14.2
Sample Size	678	680	627	524	692	704	3905
Number of Beneficiaries Interviewed above the Average Baseline Dietary Diversity Score	398	348	237	182	262	96	1523

N=3905 Source: Ednline study

Table 14. Identification of warning signs for diarrhoea by CHWs

Warning Sign	% of CHWs Correctly Identifying this Sign
Passing of watery stools many times a day	63
Child become dehydrated	46
Child refuses to eat	29

Child drinks hungrily	26
Child develops sunken fontanelle	71
Child has dry lips and mouth	23
Other	69

Source: Endline study (n=35)

Table 1. Referral of children with pneumonia

What to do when think child has pneumonia	% of CHWs Identifying the Action
Take child to hospital	94
Give child ORS	11
Keep child warm	37
Other	43

Source: Endline study (n=35)

Table 26. PD/Hearth communities

District	Communities
Sesheke	Lipumpu
Shagombo	Nalwashi
Kazungula	Simango, Sihumbwa, Manyemunyemu, Katapazi, Manbova
Kalomo	Kanchele, Namwianga, Sipatunyana, Zimba, Dimbwe
Choma	Siamaluba, Muzoka, Pemba, Demu and Singani
Sinazongwe	Siamwvemu, Muziyo, Sinanjola and Ngoma

Source: C-FAARM project documents

Table 37a. Percentage of respondents who find PD/Hearth practices identified as helpful

# practices	Districts						Grand Total	% respondents with 5 or more practices
	Choma	Kalomo	Kazungula	Sesheke	Shangombo	Sinazongwe		
1	9%	18%	4%	13%	13%	3%	11%	559 (52%)
2	10%	43%	16%	13%	11%	28%	19%	
3	12%	19%	15%	18%	25%	23%	19%	

4	3%	7%	4%	5%	1%	2%	4%	517(48%)
5	5%	2%	8%	9%	5%	2%	5%	
6	25%	6%	19%	9%	8%	16%	13%	
7	14%	1%	19%	10%	24%	10%	14%	
8	4%	0%	1%	1%	2%	0%	2%	
9	2%	0%	4%	6%	0%	8%	3%	
10	10%	4%	7%	8%	4%	5%	6%	
11	2%	0%	2%	0%	0%	0%	1%	
12	1%	1%	2%	2%	5%	2%	2%	
13	0%	0%	0%	0%	1%	0%	0%	
14	0%	0%	0%	4%	0%	0%	1%	
15	4%	0%	0%	1%	2%	2%	1%	
Total	189	191	196	179	260	61	1076	

Table 17b. Number of respondents who find PD/Hearth practices identified as helpful

# practoces	Choma	Kalomo	Kazungula	Sesheke	Shangombo	Sinazongwe	Total
1	17	35	7	24	33	2	118
2	19	82	32	24	28	17	202
3	23	37	30	33	64	14	201
4	5	13	7	9	3	1	38
5	9	3	16	16	12	1	57
6	48	11	37	16	21	10	143
7	26	1	38	18	62	6	151
8	7		2	2	6		17
9	4		7	11		5	27
10	19	7	14	14	10	3	67
11	3		3				6
12	2	2	3	3	13	1	24
13					2		2
14				7			7
15	7			2	6	1	16
Total	189	191	196	179	260	61	1076

Source: Endline study (N=1076)

Table 17c. Percentage of respondents who reported 5 or more practices by vulnerability category and district

Vulnerability category	# of practices	DISTRICT						
		Choma	Kalomo	Kazungula	Sesheke	Shangombo	Sinazongwe	Total
VIABLE	5	3	1	3	5	4		16
	6	10	4	8	3	4	2	31
	7	6		8	11	11	1	37
	8	4			1			5
	9	2		2	2		1	7
	10	7	2	1	1	3		14
	11	1		1				2
	12	1	1		1	2		5
	14				1			1
15	2				3		5	
VIABLE Total	#	36	8	23	25	27	4	123
	%	29%	33%	19%	28%	20%	15%	24%
VULNERABLE	5	2	2	3	3	3	1	14
	6	24	3	8	5	8	4	52
	7	12	1	12	3	26	3	57
	8	2		1	1	3		7
	9	1		2	5			8
	10	6	3	4	7	5	2	27
	11	2		2				4
	12		1		1	4	1	7
	14				5			5
	15	2			1	2		5
VULNERABLE Total	#	51	10	32	31	51	11	186
	%	41%	42%	27%	35%	39%	42%	36%
VULNERABLE BUT VIABLE	5	4		10	8	5		27
	6	14	4	21	8	9	3	59
	7	8		18	4	25	2	57
	8	1		1		3		5

	9	1		3	4		4	12
	10	6	2	9	6	2	1	26
	12	1		3	1	7		12
	13					2		2
	14				1			1
	15	3			1	1	1	6
VULNERABLE BUT VIABLE Total	#	38	6	65	33	54	11	207
	%	30%	25%	54%	37%	41%	42%	40%
Grand Total		125	24	120	89	132	26	516

Table 18. Beneficiaries reporting health seeking practices

# practices		Choma	Kalomo	Kazungula	Sinazongwe	Sesheke	Shangombo	Total
0	Total	304	282	218	283	164	166	1417
	% within District	54.29	55.40	49.77	67.22	23.63	23.58	42.60
1	Total	50	143	55	58	169	164	639
	% within District	8.93	28.09	12.56	13.78	24.35	23.30	19.21
2	Total	53	21	53	31	156	141	455
	% within District	9.46	4.13	12.10	7.36	22.48	20.03	13.68
3	Total	75	4	70	29	117	167	462
	% within District	13.39	0.79	15.98	6.89	16.86	23.72	13.89
4 and 5	Total	78	59	42	20	88	66	353
	% within District	13.93	11.59	9.59	4.75	12.68	9.38	10.61
TOTAL		560	509	438	421	694	704	3326

Source: Endline study. Note: The total sample size includes beneficiaries without children.

Table 19a. Stunting rates (Height-for-Age/Chronic Malnutrition 95% C.I)

Length/height-for-age (%)							
Age groups	N	% < -3SD	(95% CI)	% < -2SD	(95% CI)	Mean	SD
Total:	2594	15.2	(13.8%, 16.6%)	33.1	(31.3%, 34.9%)	-1.32	1.87
(0-5)	0						

(6-11)	287	10.5	(6.7%, 14.2%)	21.3	(16.3%, 26.2%)	-0.57	2.21
(12-23)	582	18	(14.8%, 21.3%)	36.3	(32.3%, 40.2%)	-1.28	2.14
(24-35)	686	16.2	(13.4%, 19%)	35.7	(32.1%, 39.4%)	-1.39	1.89
(36-47)	612	14.7	(11.8%, 17.6%)	35.5	(31.6%, 39.3%)	-1.5	1.6
(48-59)	427	13.8	(10.4%, 17.2%)	29.3	(24.8%, 33.7%)	-1.53	1.39

Source: Ednline Study

Table19b. Height for age comparison against baseline

	Choma		Kalomo		Kazungula		Sinazongwe		Sesheke		Shangombo		All districts	
	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L
Moderate stunting (≥ -3 & < -2 SD)	23.8	36.1	24.3	37.5	22.2	33.8	29.6	42.7	14.3	22.1	19.5	26.9	22.5	33.1
Severe stunting (< -3 SD)	5.4	14	7.9	22.4	4.5	18	8.8	16.1	4.2	8.8	7.9	10.4	6.5	15.2
No of children	664	515	547	501	535	477	520	286	454	362	544	453	3264	2594

Source: C FAARM Baseline Study (Table 41) and endline study

Table 19c. Stunting rates per vulnerability group

	Viable		Viable but vulnerable		Vulnerable	
	B/L	E/L	B/L	E/L	B/L	E/L
Moderate stunting (≥ -3 & < -2 SD)	n/a	28.9	n/a	34.1	n/a	34.8
Severe stunting (< -3 SD)	n/a	12.1	n/a	16.8	n/a	15.4
No of children	n/a	613	n/a	1040	n/a	926

Source: Ednline Study

Table 20a. Underweight rates by age group (endline only)

Weight-for-age (%)							
Age groups	N	% < -3SD	(95% CI)	% < -2SD	(95% CI)	Mean	SD
Total:	2729	18.4	(17%, 19.9%)	26.5	(24.9%, 28.2%)	-0.62	1.34

(0-5)	0						
(6-11)	313	19.2	(14.6%, 23.7%)	23.3	(18.5%, 28.2%)	-0.04	1.5
(12-23)	628	18.2	(15.1%, 21.2%)	26.3	(22.8%, 29.8%)	-0.4	1.52
(24-35)	714	19.5	(16.5%, 22.4%)	26.9	(23.6%, 30.2%)	-0.62	1.33
(36-47)	635	17	(14%, 20%)	27.1	(23.6%, 30.6%)	-0.85	1.11
(48-59)	439	18.7	(14.9%, 22.4%)	27.8	(23.5%, 32.1%)	-1.01	1.05

Source: Endline study

Table 20b. Comparisons between initial assessment and re-assessment data

	District						Total
	Choma	Kalomo	Kazungula	Sinazongwe	Sesheke	Shangombo	
Moderate Underweight (>-3 & <-2 SD)	29.5	32.1	29.7	16.3	20.3	24.6	26.5
Severe Underweight (<-3SD)	17.8	24	21.1	6.2	16.8	18.4	18.4
No of Children	522	545	511	289	374	488	2729

Source: Endline study

Table 20c. Underweight rates per vulnerability group

	Viable		Viable but vulnerable		Vulnerable	
	B/L	E/L	B/L	E/L	B/L	E/L
Moderate Underweight (>-3 & <-2 SD)	n/a	31	n/a	24.9	n/a	25.5
Severe Underweight (<-3SD)	n/a	22.6	n/a	16.2	n/a	18.1
No of Children	n/a	636	n/a	1097	n/a	980

Source: Endline study

Table 41. Shock mitigation infrastructure results from focus group discussions

Districts	Community	Improved infrastructure for mitigation of shocks
Choma	Masopo	Milk collection centre and shed
Choma	Pangwe	Shed, borehole and gardens
Kalomo	Kanchelle	None known
Kalomo	Sipatunyana (Mutala Village)	None known
Kazungula	Manyemunyemu	Two items were cited: (i) rehabilitation of road connecting community to Zimba-Livingstone main road (9 km long); (ii) Storage for maize which was being used as a maize selling point for FRA.
Kazungula	Simango	Dip tank completed in 2010. Started using it last January.
Sesheke	Lipumpu (Kanganda Village)	Yes, a newly constructed market shed for selling assorted agricultural products (finished in 2011 July, from 2010 August).
Sesheke	Lilonga	Health post was the infra structure built by C FAARM
Sesheke	Nabumbu	None known
Sesheke	Research	None known
Shang'ombo	Nakabunze	None known
Shang'ombo	Silowana	None. The community built a school evacuation centre in 2009 with support from GRZ. C-FAARM provided training in DRR.
Sinazongwe	Mwenda	Bridges were mentioned across a number of streams.
Sinazongwe	Siamvmemu	(i) dip tank which started working a few months ago; (ii) the marketing shed was cited and was being used for maize marketing; (iii) Clinic; (iv) rehabilitated a road (1.5 km) linking a major production area and the marketing shed.

Source: Endline study

Table 52. Safety nets identified by focus group discussions

District	Community	Safety Nets Identified by FGD Participants
Choma	Masopo	Training from C FAARM in how to feed children, food preservation and gardening
Choma	Pangwe	Goats, chickens, maize seed
Kalomo	Kanchelle	Seeds (i.e. beans), crop diversification and a ripper

Kalomo	Sipatunyana (Mutala Village) (men)	Did not know of safety nets
Kalomo	Sipatunyana (Mutala Village) (women)	Did not know of safety nets
Kazungula	Manyemunyemu	45 dairy cattle and vegetable gardens
Kazungula	Simango	Dip tank
Sesheke	Lipumpu (Kanganda Village)	Did not know of safety nets
Sesheke	Lilonga	Did not know of safety nets
Sesheke	Nabumbu	Did not know of safety nets
Sesheke	Research	Did not know of safety nets
Shang'ombo	Nakabunze	Did not know of safety nets
Shang'ombo	Silwana	Gardening, early maturing seed varieties, chicken and goats
Sinazongwe	Mwenda	Did not know of safety nets
Sinazongwe	Siamvmemu	Dip tank operational since the previous month

Source: Endline study

Table 23. Comparison of coping strategies

	Frequency (% of Households Employing the Coping Strategy)									
	Never		Seldom (1 day a week)		Sometimes		Often (3 - 6 days/week)		Daily	
	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L	B/L	E/L
Rely on less expensive or less preferred foods	33.3%	55.0%	12.9%	15.0%	15.2%	9.4%	19.5%	8.7%	19.0%	11.9%
Relied more on wild foods or hunting	63.4%	81.2%	14.6%	10.7%	10.2%	5.4%	8.1%	2.1%	3.7%	0.6%
Increase reliance of sales of wild or natural products	72.2%	85.7%	12.0%	8.4%	7.3%	3.6%	6.7%	1.8%	1.8%	0.6%
Reduce number of meals eaten per day	30%	46.0%	17.1%	19.7%	24.1%	16.6%	17.5%	7.8%	11.3%	9.9%
Rely on help from friends or relatives	47.5%	64.8%	22.1%	19.2%	20.2%	10.5%	8.4%	3.3%	1.9%	2.2%
Reduce adult consumption so children can eat	43.9%	62.6%	13.8%	16.1%	20.4%	12.8%	16.2%	5.5%	5.7%	3.0%
Limit portion size at meal/ times	33.9%	44.9%	14.2%	18.9%	23.6%	15.0%	18.1%	8.0%	10.1%	13.2%
Purchase/borrow food on credit	52.7%	69.0%	20.4%	18.9%	17.1%	9.5%	7.9%	2.2%	1.9%	0.4%
Send household members to eat elsewhere	81.4%	90.8%	10.5%	5.9%	5.4%	2.5%	2.2%	0.5%	0.5%	0.2%

Harvest immature crops (e.g. green maize)	75.4%	79.7%	8.6%	7.8%	8.4%	6.6%	4.8%	2.5%	2.8%	3.4%
Send household members to beg	74.7%	85.3%	13.1%	8.4%	8.5%	4.6%	3.5%	1.2%	0.3%	0.5%
Skip entire days without eating	62.2%	78.6%	20.8%	13.8%	12.0%	6.1%	4.9%	1.2%	0.1%	0.3%
Reduce consumption of children so that adults can eat	94.1%	92.6%	2.5%	3.5%	1.5%	2.4%	1.6%	0.8%	0.3%	0.7%

Source: Baseline and endline studies

Table 24. Types of shocks experienced

Types of shocks communities experience							
	Choma	Kalomo	Kazungula	Sesheke	Shangombo	Sinazongwe	Total (Number)
Drought	19%	17%	15%	19%	18%	12%	3588
Floods	23%	13%	12%	24%	15%	13%	1371
Pests/ Animals	17%	23%	11%	26%	10%	13%	574
Animal Diseases	16%	36%	12%	11%	12%	13%	417
Crop diseases	10%	37%	2%	2%	5%	44%	131
Other	4%	2%	4%	69%	4%	22%	55

Source: Endline study (N=3588)

Table 25a. Shocks per district

PERIOD SHOCKS EXPERIENCED						
	CHO	KAL	KAZ	SESH	SHAN	SIN
DROUGHT						
B/w Jan & April	67%	66%	71%	79%	90%	72%
B/w May & Aug	7%	3%	7%	1%	2%	8%
B/w Sept & Dec	23%	28%	18%	16%	8%	10%
Others (specify)	2%	3%	3%	3%	0%	11%
Grand Total #	657	581	537	674	660	432
FLOODS						
B/w Jan & April	43%	52%	33%	55%	75%	64%
B/w May & Aug	30%	19%	28%	12%	5%	12%
B/w Sept & Dec	23%	29%	37%	28%	21%	15%

Others (specify)	4%	0%	2%	4%	0%	9%
Grand Total #	274	62	82	313	175	120
Pests/Animals						
B/w Jan & April	49%	25%	11%	28%	36%	14%
B/w May & Aug	20%	0%	67%	28%	27%	33%
B/w Sept & Dec	27%	75%	22%	43%	36%	52%
Others (specify)	4%	0%	0%	1%	0%	0%
Grand Total #	55	4	9	134	11	21

N=3588 Source: Endline study

Table 25b. Highest likelihood of a shock occurring in the district

PERIOD SHOCKS EXPERIENCED N=3588							
	CHO	KAL	KAZ	SESH	SHAN	SIN	Total #
DROUGHT							
B/w Jan & April	17%	15%	14%	20%	22%	12%	2647
B/w May & Aug	29%	12%	25%	5%	9%	20%	163
B/w Sept & Dec	25%	26%	16%	18%	8%	7%	618
Others (specify)	13%	13%	15%	18%	0%	41%	113
FLOODS							
B/w Jan & April	21%	6%	5%	31%	24%	14%	557
B/w May & Aug	47%	7%	13%	21%	4%	8%	178
B/w Sept & Dec	25%	7%	12%	35%	14%	7%	253
Others (specify)	29%	0%	5%	37%	0%	29%	38
PESTS/ANIMALS							
B/w Jan & April	37%	1%	1%	51%	5%	4%	73
B/w May & Aug	17%	0%	9%	58%	5%	11%	64
B/w Sept & Dec	16%	3%	2%	62%	4%	12%	93
Others (specify)	50%	0%	0%	2%	0%	0%	4

N=3588 Source: Endline study

Table 26a. Coping mechanisms per shock for each district

	CHO	KAL	KAZ	SESH	SHAN	SIN
	DROUGHT					
None	43%	44%	47%	53%	41%	51%
Working for food	20%	18%	10%	22%	37%	14%
Planted drought tolerant crops	10%	7%	21%	7%	14%	8%
Sale livestock/assets;	8%	10%	5%	1%	2%	2%
Spraying of pesticides	4%	6%	5%	0%	0%	7%
Others (Specify)	16%	16%	12%	17%	6%	19%
Total #	657	579	535	674	659	429
	FLOODS					
None	13%	36%	30%	33%	49%	51%
Working for food	7%	3%	6%	7%	38%	12%
Planted drought tolerant crops	1%	3%	4%	0%	3%	3%
Sale livestock/assets	10%	3%	8%	5%	2%	4%
Spraying of pesticides	18%	15%	26%	3%	2%	13%
Others (Specify)	51%	39%	26%	53%	5%	17%
Total #	276	61	84	312	176	116
	PESTS/ANIMALS					
None	15%	67%	44%	37%	90%	15%
Working for food	2%	0%	0%	2%	0%	0%
Planted drought tolerant crops	0%	0%	0%	1%	0%	5%
Sale livestock/assets	5%	0%	0%	13%	0%	10%
Spraying of pesticides	64%	33%	56%	0%	0%	55%
Others (Specify)	15%	0%	0%	47%	10%	15%
Total #	55	3	9	135	10	20

N=3588 Source: Endline study

Table 26b. Highest likelihood of a certain measure taken

	CHO	KAL	KAZ	SESH	SHAN	SIN	Total
	DROUGHT						
None	17%	16%	15%	22%	16%	13%	1633
Working for food	18%	14%	7%	20%	33%	8%	743
Planted drought tolerant crops	8%	5%	15%	6%	12%	4%	379
Sale livestock/assets	30%	34%	18%	5%	8%	5%	165
Spraying of pesticides	24%	27%	21%	2%	2%	24%	119
Others (Specify)	21%	19%	13%	23%	8%	16%	494
	FLOODS						
None	11%	7%	8%	31%	26%	18%	332
Working for food	14%	2%	4%	17%	52%	11%	126
Planted drought tolerant crops	18%	12%	18%	0%	35%	18%	17
Sale livestock/assets	45%	3%	11%	26%	6%	8%	62
Spraying of pesticides	46%	8%	20%	7%	4%	14%	108
Others (Specify)	37%	6%	6%	43%	2%	5%	380
	PESTS/ANIMALS						
None	11%	3%	5%	66%	12%	4%	76
Working for food	25%	0%	0%	75%	0%	0%	4
Planted drought tolerant crops	0%	0%	0%	50%		50%	2
Sale livestock/assets	14%	0%	0%	77%	0%	9%	22
Spraying of pesticides	67%	2%	10%	0%	0%	21%	52
Others (Specify)	11%	0%	0%	84%	1%	4%	76

N=3588 Source: Endline study

Annex 1: Scope of Work for the C-FAARM Final Evaluation

1.0 **The purpose of this Scope of Work** is to describe the conditions and responsibilities of a consultant to lead the final evaluation for the Consortium for Food security, Agriculture and nutrition, AIDS, Resiliency and Markets (C-FAARM) project.

1.1 Objective of the CFAARM Final Evaluation:

To assess and demonstrate the impact of program strategies and interventions in achieving the three strategic objectives and intermediate results implemented under the C-FAARM project from 2007 - 2011. As part of this objective, the evaluation will also assess how program management and implementation contributed to program achievements or non-achievements, and document the key lessons learned from the C-FAARM program.

The sub-objectives of the evaluation are:

1. To carry out a comparative and utilization-focused analysis between the baseline and final evaluation surveys, assess changes in indicator results for the three strategic objectives within program communities and participants;
2. To identify program strategies, structures, systems and interventions that contributed to, or impeded, the achievement of intended impact of program interventions and establish plausible links between inputs and results;
3. To assess the effectiveness and efficiency of technical, managerial and resource management approaches and systems established to support program implementation at the consortium and PVO levels in terms of their impact on program results;
4. To assess progress made in responding to mid-term evaluation recommendations;
5. To report on the usefulness of undertaking both a quantitative and qualitative approach to evaluation;
6. To assess the sustainability of the project's positive impact, and to recommend areas of C-FAARM intervention that would merit re-assessment after one year following project close-out;
7. To make specific recommendations on improving strategies and project interventions for future programming;
8. To incorporate a structured facilitated learning process into the evaluation design in order to synthesize the evaluation information and reach agreement about key findings, learning and recommendations.
9. To develop evaluation report communication products suited to the key audience stakeholder groups. This **MUST** include the development of a CRS Project Performance Reference sheet (guidance to be provided to successful consultant).

2. Background:

Catholic Relief Service (CRS) Zambia is the lead agency for the Consortium for Food security, Agriculture and nutrition, AIDS, Resiliency and Markets (C-FAARM) project (2007-2011), a \$36.5 million Multi-Year Assistance Program (MYAP) funded by USAID Food for Peace. The project is implemented in highly food insecure areas of six districts in the Southern and Western Provinces of Zambia. CRS implements the program in collaboration with three international non-governmental organizations (NGOs), CARE, World Vision and Land O' Lakes. CRS also provides support to its local partner, Caritas Livingstone, which is responsible for direct implementation of activities in Sesheke and Shang'ombo Districts. The

program aims to decrease food insecurity and increase resiliency through: (1) community-based innovation and experimentation of sustainable agricultural system technologies and links to demand-driven value chains and markets; (2) behavior change nutrition education activities; (3) support for active nutritional surveillance; (4) targeted food assistance (TFA) for extremely vulnerable beneficiaries; (5) food for assets (FFA) to restore and build community assets; and (6) increased community capacity to use early warning and response systems to external shocks.

2.1 Goal, Strategic Objectives, and Intermediate Results of the C-FAARM Program

The overall goal, strategic objectives (SOs) and intermediate results (IRs) are stated below:

Goal of C-FAARM: Vulnerable and extremely vulnerable people in targeted rural areas of Zambia have decreased food insecurity and increased resiliency

Strategic Objectives and Intermediate Results:

- Strategic Objective 1: By 2011, vulnerable households in targeted districts have diversified and/or increased their agricultural livelihoods in a sustainable manner.
 - c) IR1.1: Vulnerable HHs have adopted appropriate project-supported **agriculture** production and diversification **practices**;
 - d) IR1.2: Vulnerable HHs have increased **income** through adopting appropriate agro-enterprise practices.
- Strategic Objective 2: By 2011, vulnerable and extremely vulnerable households in targeted districts have protected and/or improved nutritional health status.
 - e) IR2.1: Community Health Workers (CHWs) **practice** improved counseling and referral skills;
 - f) IR2.2: Communities **carry out** nutrition recuperation and prevention activities for communities with chronic malnutrition rates of over 30% among children 0-36 months;
 - g) IR2.3: Mothers and other caregivers **practice** appropriate feeding, care giving, and care-seeking behaviors for children under 36 months;
 - h) IR2.4: Vulnerable and extremely vulnerable households have increased their **dietary intake**.
- Strategic Objective 3: By 2011, vulnerable communities in targeted districts have improved their collective ability to identify and respond to developmental issues and external shocks affecting food insecurity.
 - c) IR3.1: Communities have **established** development relief action plans (DRAPs);
 - d) IR3.2: Communities have **improved** early warning and response systems and strengthened community-based safety net mechanisms.

2.2 C-FAARM Management Structure

C-FAARM employs a consortium management structure to implement the program; this structure combines autonomy and local focus in each PVO with a central unit of oversight and technical guidance. The consortium consists of the four NGOs as mentioned above: CRS, CARE, World Vision, and Land O' Lakes (LOL). CRS is the transfer authorization holder and provides the technical lead for finance, monitoring and evaluation, and the resiliency component. CARE is the technical lead for the

implementation of agriculture, marketing, and health programming activities. WV is the lead for commodities, Food for Assets (FFA), Targeted Food Assistance (TFA), and environment programming areas. LOL was responsible for the monetization process during the first year of project implementation.

C-FAARM also has a steering committee that is comprised of the Country Representatives (CRs) from the C-FAARM consortium members and the C-FAARM Coordinator. The mandate of the C-FAARM Steering Committee (SC) is to ensure appropriate Coordination and Management of C-FAARM resources and guide the future of the C-FAARM.

2.3 C-FAARM Implementation Strategies

C-FAARM's strategic approach targeted three key leverage points for decreasing food insecurity in Zambia as outlined in the SOs: poverty/low productivity, poor health and nutrition, and weak community capacity to sustain development gains.

SO1

The C-FAARM agriculture activities have been designed to address the rural development continuum from establishing self-sufficiency to surplus, diversification and income generation. The C-FAARM agricultural strategy has three main approaches that aim to improve production, productivity and market access potential: conservation agriculture, crop diversification and dairy farming/small livestock. Interventions through these approaches aim to improve both HH food security through increasing production/availability, but also through eventually ensuring surplus production can be sold or bartered for increased HH income and asset accumulation. Some of the key activities under SO1 are as follows:

- Promotion of conservation agriculture;
- Promotion of crop diversification;
- Promotion of dairy production (in limited areas);
- Promotion of small livestock;
- Rehabilitation of rural infrastructure;
- Support to farmers and other community members and groups to develop market driven business plans;
- Fostering of linkages through business and marketing training;

SO2

The strategies under SO2 aimed to mobilize and strengthen community-based mechanisms and institutional frameworks to address acute, severe to moderate, and moderate malnutrition in children under three years of age in the target zones. Under SO2 C-FAARM has assisted vulnerable and extremely vulnerable families with Targeted Food Assistance (TFA), and as many vulnerable HHs with able-bodied members as possible with Food for Assets (FFA). Some of the key activities for SO2 are:

- Skills building for Community Health Workers (CHWs);
- Promotion of Community-based Integrated Management of Childhood Illnesses (C-IMCI);
- Promotion of health and nutrition counseling at the HH level, including men and women;
- Nutrition support to people living with HIV/AIDS (PLHIV);
- Implementation of the Positive Deviance/Hearth model;
- Support for nutrition groups and homestead gardening;

- Growth monitoring promotion and establishment of a nutritional surveillance system;
- Provided safety net Title II food rations for targeted HHs ;

SO3

C-FAARM utilizes a development relief (DR) approach aimed at strengthening local capacities, promoting social inclusion and empowerment to reduce dependency and strengthen sustainability. A DR approach incorporates a risk management framework, recognizing that assistance is required not only during a shock but prior to it so that communities can reduce exposure or increase coping capacity. Given the history of food security shocks in Zambia, coupled with the high incidence of HIV/AIDS, C-FAARM introduced initiatives in SO3 to build community resilience to future food insecurity, reduce vulnerability and improve community capacity to manage their own development process. The key activities under SO3 are highlighted below:

- Assisted communities to conduct risk and vulnerability assessments, and develop community based relief action plans;
- Assisted communities to develop safety-net management capacities;
- Assisted communities in strengthen early warning and response systems and integrate with the DDMC surveillance system;
- Established linkages with the national Disaster Management and Mitigation Unit (DMMU) and it's District Disaster Management Committees (DDMCs);
- Participated in VAC assessments in target areas and improve feedback communication;

2.4 Geographic Coverage of C-FAARM

C-FAARM is an extensive program, working in six districts in the Western and Southern provinces of Zambia. Implementation of C-FAARM activities is carried out as follows: CRS and its implementing partner Caritas Livingstone are in the Western Province districts of Shangombo and Sesheke; CARE operates in the Southern Province districts of Kazungula and Kalomo; and WV in the Southern Province districts of Sinazongwe and Choma. LOL implements its dairy activities in conjunction with WV and CARE in Choma and Kazungula. C-FAARM works in 60 communities or agriculture camps. Each community is comprised of between five and twenty villages, and can be spread over an area extending thirty kilometers from one end to the other.

2.5 C-FAARM Targeted Population

C-FAARM utilized a self-selection process to identify and classify all beneficiaries into one of three categories; beneficiaries are classed as vulnerable (some may be classified as extremely vulnerable), vulnerable but viable, and viable. The program areas or SOs have different target populations that are dependent on a household's classification. The classification of households was based on input and identification by community members; the communities defined the various levels using their own criteria. The C-FAARM management team only validated the process. The generic definitions of the different groups are summarized below:

High vulnerability HHs

Based on the participating communities definition households were classified as vulnerable based on their food insecurity status and their commercial viability. Some of the determining characteristics were food insecure for more than six months of the year, and lack of productive assets. Other characteristics include not having any stored grain and they may be forced to go without meals for a full day or for days. In addition, they do not have adequate clothing and may possess no bedding. They live in huts (mud/grass/reeds) with thatch roofs. They are unable to educate their children due to inability to meet expenses such as books and school supplies, uniforms, and fees charged by the local parent-teacher association (PTA). The program areas that target this vulnerability group are:

- Targeted for production enhancing activities and crop diversification through introduction of crops like sorghum, millet, cassava and cow peas to ensure sufficient HH food production;
- Targeted for small livestock initiatives to improve asset accumulation.
- The program will also places special attention on targeting extremely vulnerable families who have graduated from SO2 activities to ensure continued progress in reducing vulnerability;
- TFA beneficiaries;
- Targeted for the nutritional activities as outlined in SO2.

Vulnerable but Viable HHs

Similarly, households categorized as comparably less vulnerable are able to improve food security status-able to provide for HH needs during non-drought years for more than six months of the year but less than nine months; and are less vulnerable due to adequate productive labor availability, access to adequate land and water resources, ownership of productive assets, and/or greater access to markets (i.e. proximity to a road or a town). Some other characteristics identified include the household being able to maintain an acceptable level of consumption. Their houses are also thatched with grass as the poor HHs. They possess as few assets in the form of livestock (usually smaller livestock such as goats and chickens) and some basic farm implements.

- Targeted for conservation agriculture technologies that will improve productivity and crop diversification activities that would increase cash crop potential;
- Targeted for small livestock initiatives to improve asset accumulation;
- FFA beneficiaries;
- Targeted for the nutritional activities as outlined in SO2.

Viable HHs

The attributes associated with households classified as viable include, owning cattle and luxury goods such as bicycles and radios. The viable are more food secure and can eat three meals per day. They are able to send their children to school since they can afford the school fees, uniforms and transport (occasionally boarding fees). The rich possess livelihoods that are more reliable than those of the vulnerable and vulnerable but viable. They are likely to own ploughs and draught animals and therefore cultivate larger areas of land. The HHs in this category can afford to buy inputs and therefore produce enough maize to fill the granary and sell or trade surplus produce.

- Targeted for accessing improved market linkages. This group is also targeted for particular activities that capitalize on their leadership potential;
- Targeted for the nutritional activities as outlined in SO2;
- Targeted for conservation agriculture technologies and other trainings;

2.6 Cross Cutting Themes

C-FAARM acknowledged several key areas that impede development if not addressed in some manner; these include gender, HIV and AIDS, and environmental issues. Although none of the areas mentioned were a major focus area, C-FAARM attempted to include them as part of the intervention as cross-cutting themes.

2.7 Programming Issues

C-FAARM was expected to commence implementation in October 2006. However due to budgetary delays related to the Congressional continuing resolution, implementation was postponed for several months. The program was not able to initiate activities according to the FY2007 detailed implementation plan (DIP) for the following funding-based reasons: 1) unable to carry over remaining monetization proceeds from C-SAFE⁵⁸; 2) partial initial funding of \$400,000 (ITSH and 202e) in January 2007 was insufficient to initiate program activities; 3) agencies were able to tap into private funds, but these funds were insufficient to finance full scale activities; 4) full funding was not obligated until April 2007; and 5) the program could not monetize until the approved period of April to July, as agreed with the Zambian National Farmers Union.

The majority of C-SAFE staff was retrenched when that project came to an end in September 2006, while several senior staff had remained. Funding was not available to commence hiring and office set-up for C-FAARM until eight months later. Most other program staff were recruited for C-FAARM between June and October 2007 once funding was confirmed. There was a critical period of staff turnover, with the original program director having left at the end of 2007. The current director commenced work in June 2008.

C-FAARM also experienced funding delays in FY08 and FY09. Based on the 2007/2008 anticipated production trends, and carryover stocks from the previous seasons' production, the Zambia National Farmers Union (ZNFU) concluded that the monetization of wheat in Zambia would result in a disincentive to local production. C-FAARM received additional 202e and ITSH resources in lieu of monetization during FY09. C-FAARM also explored the edible oils market and proposed to monetize vegetable oil (crude sunflower oil). In early FY10 CRS received approval from the Zambian government to import the commodity. However, issues of timing and high import levels of cheaper soy bean oil rendered this option un-economical. C-FAARM also received additional 202e and ITSH resources in lieu of monetization during FY10. Finally, upon the FFP decision to suspend Title II funding to Zambia in FY 12 CRS requested USAID for additional 202e and ITSH resources in lieu of monetization in FY11.

C-FAARM has undergone three rigorous assessments and evaluations since August 2009. CRS contracted TANGO to conduct the mid-term evaluation (MTE) in July 2009, and it was finalized in September 2009. USAID conducted a data quality assessment (DQA) in December 2009; the Regional Inspector General (RIG) conducted a program audit in January 2010. USAID conducted the audit to assess the quality of USAID's management of the MYAP in Zambia. Beginning in September 2009, CRS Zambia developed a timeline to address the findings of the MTE. This timeline describes actions taken to address select recommendations from the MTE. The timeline has been adapted over time to incorporate

⁵⁸ FFP Washington and WV US decided that remaining monetization funds from C-SAFE Zambia were to be transferred to C-SAFE Zimbabwe for continued programming as of 30 September 2006.

findings from the DQA and RIG audit. CRS holds regular meetings with USAID Zambia to provide progress reports and seek advice on addressing the findings and recommendations. Below is a summary of the major issues identified in these three assessments and evaluations, as well as a brief description of the actions taken to address the findings.

Table 6. C-FAARM Progress against External Assessment Recommendations

Recommendation	Progress to date
Develop appropriate M&E systems to clarify and resolve questions about how beneficiaries are counted and calculated.	C-FAARM has developed a database to support accuracy of data. The database is functional as of October 2010. In addition, all PVOs have developed specific and comprehensive M&E plans to outline reporting hierarchy, data collection procedures and data quality assurance plans. Finally, C-FAARM has worked diligently with M&E and program staff to refine the results framework, review indicator definition, track linkages between indicators and activities, formulate operational indicators and review data collection tools. Newly-revised indicator reference sheets ensure consistent and standard collection of data in the field.
Incorporate fully the concept of resilience into program thinking and ensure that all components of the program are supporting community resilience.	C-FAARM received technical assistance from CRS' Senior Technical Advisor (STA) Disaster Risk Reduction, in aligning consortium thinking on the concept of community resilience. The technical lead hired by CRS to guide the consortium in implementation of activities under SO3 has been instrumental in rolling out the disaster risk action plans (DRAPs) in communities. The technical lead has trained PVO staff in the use of community capacity and vulnerability assessments as precursors to the development of DRAPs. The technical lead has also built strong relationships with the government's Disaster Management and Mitigation Unit (DMMU), which will support sustainability of DRAPs beyond the life of the project.
Review the quality and impact of conservation farming training to ensure that it has resulted in adoption of CF techniques.	With support from the CRS STA for Agriculture and Environment, C-FAARM has formed a partnership with the Conservation Farming Unit, which is providing ongoing training and mentorship to C-FAARM project staff and Ministry of Agriculture and Cooperatives (MACO) partners in conservation farming. The CF partnership has allowed for sharing and adoption of best practices across the region, and includes an evaluation of the impact of conservation farming training in C-FAARM communities. In addition, C-FAARM supported MACO in a crop forecast exercise, which provided insight into project participants' perception of the quality and impact of CF training. Initial results indicate increased adoption of CF practices and sustained agricultural yields due to adoption of those practices.

Additionally, the implementation of a rapid field assessment on the potential for piloting community-based monitoring and evaluation (CbM&E) and ICT in Zambia⁵⁹ highlighted the limited involvement of the communities, households and individuals served by C-FAARM in determining program impact, and

⁵⁹ Wilson, Pauline and Peter Mureithi, Developing a pilot on a community-based monitoring and evaluation approach and ICT in CRS Zambia, September 2010.

influencing changes in program activities⁶⁰. The report reveals that participating communities have a limited voice in contributing to the betterment of their own community needs within the program framework, and that M&E within C-FAARM has remained extractive and carried out with limited reference to the people and communities that are expected to benefit from the development interventions. Further conversations with the donor indicate the need to improve program effectiveness through increased community feedback on “what is working well” or “what is not working well” and thus support for introducing CbM&E into the evaluation framework. CRS will use these findings to better inform and advocate to USAID about complementarity areas between the current M&E system and community-based approaches.

Evaluation Criteria and Related Questions

To evaluate the progress of C-FAARM with respect to the three SOs and associated IRs described above, the evaluator shall utilize the following criteria to assess the overall achievement of the program. The criteria consist of seven key areas, these are:

- Relevance/Appropriateness
- Effectiveness
- Impact
- Efficiency
- Coverage
- Coordination
- Sustainability

The questions to be addressed by the evaluation per criteria are highlighted below:

Relevance/Appropriateness:

- Were the activities undertaken by C-FAARM appropriate to the needs of the selected population? How?
- To what extent were the objectives of the program relevant to the situation and humanitarian needs?
- Were selected interventions likely to improve the livelihoods of the beneficiaries significantly? How?

Effectiveness

- To what extent were the objectives of the C-FAARM achieved?
- To what extent were beneficiaries correctly identified and targeted?
- To what extent was the project implemented as planned?

Impact

- What difference has the various activities made to the lives and livelihoods of the intended beneficiaries?
- What coping mechanisms would the beneficiaries have employed if C-FAARM had not been implemented?

⁶⁰ This initiative was funded by CRS private allocation

- What direct or indirect evidence is available that the program contributed to the improvement of the well being of beneficiaries? *It is suggested that this is measured against the level of satisfaction of beneficiaries and their perception of the effectiveness.*

Efficiency

- What were the costs of inputs (financial, manpower and other resources) relative to outputs?
- Were the activities cost efficient? How?
- Was C-FAARM implemented in the most efficient way? How?

Coverage

- Did the interventions reach the intended groups?
- To what extent did the program respond to unplanned outcomes/community concerns?

Coordination

- How did C-FAARM coordinate its activities with other agencies and the local authorities? Was C-FAARM regarded as a constructive and reliable partner by other stakeholder?
- What steps were taken to avoid duplication of assistance?
- To what extent did C-FAARM contribute to the overall government poverty reduction strategy?
- Were there any differences between the implementation strategies used by different partners (direct implementation vs. Partnerships with governmental and non-governmental institutions)?

Sustainability

- Do communities report that activities will continue after the project ends? If so, what activities? At what level? (community, group, and/or district)
- Ownership (agreed commonality) for objectives and achievements, e.g. how far all stakeholders were consulted on the objectives from the outset?
- Has the project succeeded in building the technical and management capacity of partners and communities? Assess the sustainability of progress and provide recommendations for the future programming.

Methodology

Based on the criteria presented above the C-FAARM management team will solicit for an evaluator to develop an appropriate methodology, incorporating a balance of quantitative and qualitative methods, that will allow for the comparison of the programs impact against the results obtained from the baseline. The evaluator shall outline the evaluation design and estimation methods that will be utilized to conduct the impact evaluation in accordance with this SOW. The evaluator shall also describe how they plan to address any foreseen implementation issues. The proposal shall also include a budget and timeline of key events. The selection process will favor evaluators who propose the use of mobile applications for data collection and reporting purposes. A brief summary of the baseline methodology is described below.

For the baseline survey each district was treated as an independent population for the sampling frame. A stratified random sampling was used to select the district samples, with the strata representing the three vulnerability groups described above. Households were randomly selected within each of the vulnerability groups. For each district, a minimum of 810 households were sampled.

The process of household selection began with community members generating a listing of all households in their community and classifying the households into vulnerability groups. The households selected were then verified by programming staff to ensure they were correctly grouped, those verified were then included in the baseline survey. Within each district, 210 households were selected from the viable group and 300 households from both the viable but vulnerable and vulnerable groups. The quantitative questionnaire was administered to all selected households, an additional 30 HHs were selected for possible replacements for those HHs that refused to participate or in those instances where the team found no adults home.

In addition to the quantitative approach, which employed population-based survey, a qualitative component was also employed, which included focus group and key informant interviews. The qualitative component provided additional information on knowledge, attitudes, and practices in the selected communities as they relate to household vulnerability and resiliency and augmented the finding from the qualitative results.

The sample of households to be interviewed (quantitative component) will be drawn from a sampling frame to be provided by C-FAARM.

Annex 2: Literature Review and Bibliography

1. Bilinsky, P and Swindale, A (2010) Months of Adequate Household Food Provisioning (MAHFP) for Measurement of Household Food Access: Indicator Guide VERSION 4
2. Central Statistical Office (CSO), Ministry of Health (MOH), Tropical Diseases Research Centre (TDRC), University of Zambia and Macro International Inc. 2009, Zambia Demographic Health Survey (2007). Calverton, Maryland, USA: CSO and Macro International Inc
3. C-FAARM (2008) Baseline survey report
4. C-FAARM Conservation Farming Field Assessment Report for CRS and CARE CFAARM AREAS (11-17th January 2010)
5. CFAARM (20101) Revised Performance Indicator Reference Sheet
6. C-FAARM (2009) Mid-Term Evaluation Second Draft Report
7. C-FAARM Crop Forecast Assessment Trip Report, C-FAARM Intervention Areas (March, 2008)
8. C-FAARM Crop Performance Monitoring And Forecast Report (Final Report) May 2010
9. C-FAARM Crop Monitoring Assessment Report May 2009
10. C-FAARM Qualitative Assessment (2011) Choma District
11. C-FAARM Qualitative Assessment (2011) Kalomo District
12. C-FAARM Qualitative assessment (2011) Sesheke District
13. C-FAARM Qualitative assessment (2011) Shang'mbo District
14. C-FAARM Qualitative assessment (2011) Sinazongwe District
15. Cogill, B. (2003) Anthropometric Indicators Measurement Guide – Revised Edition; Food and Nutrition technical Assistance
16. CFU, The Practice of Conventional and Conservation Agriculture in East and Southern Africa
17. GoZ, Sixth National Development Plan 2011-2015 Executive Summary, January 2011

18. Kalyandu, J and Sekeleti, M. Review of the Research Into Use Zambia Programme. Findings of a study of lesson learnt in Eastern and Southern Provinces of Zambia, January 2011
19. Kazungula District EoPE Report
20. McNulty, J. (2005) Positive Deviance/Hearth Essential Elements: A Resource Guide for Sustainably Rehabilitating Malnourished Infants and Children
21. National Food and Nutrition Commission, National Nutritional Surveillance System Report 2008
22. National Food and Nutrition Commission, National Nutritional Surveillance Report 2009
23. USAID/Zambia (2009) Semi-Annual Review Sheet
24. USAID/Zambia (2010) Semi-Annual Review Sheet
25. USAID (2010) Audit of USAID/Zambia's Food Security Activities: Audit Report No. 4-611-10-007-P.pdf; Office of Inspector General, Pretoria- South Africa. Internet access on 22nd September 2011 at <<http://www.usaid.gov/oig/public/fy10rpts/4-611-10-007-p.pdf>>.
26. USAID/Zambia (2008) Semi-Annual Review Sheet
27. WHO (2010) WHO Recommendations on Management of Diarrhoea in HIV infected Infants and Children
28. Internal Qualitative Assessment Report (2011)
29. C-FAARM Crop Forecast Final Reports (2008, 2009, 2010)

Annex 3: Data Collection Tools

Identification									
PVO Name _____	District Name _____								
FEZ (Code) <input type="checkbox"/>	Community Name _____								
HH ID <table border="1" style="display: inline-table; margin-left: 20px;"> <tr> <td style="width: 20px; height: 20px;"></td> </tr> </table>									Date of interview./...../ 2011
Name of respondent: _____ <div style="text-align: center;"><i>(HH Head/or spouse)</i></div>									
Category of Vulnerability (Code): _____									
Name of Enumerator: _____									
Name of Supervisor: _____									

Status of Interview	Complete	1
	Incomplete	2

Guidance for introducing yourself and the purpose of the interview:
 My name is _____ and I work for _____ (RuralNet Associates).
 You were selected from community members in this village for this interview. The purpose of this interview is to obtain information about the C-FAARM Program and help us understand the impact of the C-FAARM interventions..

The survey is voluntary and you can choose not to take part. The information that you give will be confidential. The information will be used to prepare reports, but will not include any specific names. There will be no way to identify that you gave this information.

Could you please spare some time (around 60 minutes) for the interview?

A. Household Demographics

A1.	Sex of respondent (<i>circle appropriate answer</i>) 1= Male; 2 = Female					
A2.	Sex of household head (<i>circle appropriate answer</i>) 1= Male; 2 = Female					
A3a.	What is the age of the household head (<i>in completed years</i>)? -----Years					
A3b.	What is the health status of the primary beneficiary (Household head)? 1= Good ; 2=Average ; 3=Bad					
A4.	What is the marital status of the household head (<i>circle appropriate answer</i>)				1 = Married 2 = Widowed 3 = Separated 4 = Divorced 5 = Single	
A5.	What is the total number of people who have been living in your household in the past three-months?	< 5 yrs	5-18 yrs	19 - 60 yrs	> 60 yrs	Total
	(<i>Indicate number of people per age category</i>)					

NB to enumerator: DO NOT suggest in any way that the HH will receive any assistance after the interview.

A6.	How many orphans live in your household (<18)?_____					
A7	How many Children are attending school in your HH? (<i>Include orphans</i>)				Male	Female
	<i>(If there's none, go to A10)</i>					
	Primary School					
				Secondary School		
A8	Are there any HH members who have been absent for more than ten days or dropped out of school during the past three months? <i>If No go to A10.</i> 1=Yes 2=No					
A9	If so, what are the three major reasons for being absent or dropping out of school? 1 st Reason _____ 2 nd Reason _____ 3 rd Reason _____					
Code for A9	1=Illness 2=Work for food or money 3=Help with HH work 4=Care for ill HH member/sibling 5=Not interested in school 6=Distance to school is far 7=Hunger 8=Expensive/no money 88. Others (Specify)_____					
A10	What is the health status of the HH members identified A5?	<5 yrs	5-18 yrs	19-60yrs	>60 yrs	Total
A10a	Healthy (<i>indicate number of individuals per age category</i>)					
A10b	Chronically ill (<i>indicate number of individuals per age category</i>)					
A10c	Mentally/physically retarded/ disabled (<i>indicate number of individuals per age category</i>)					
A11	Do any of your children attend boarding school?	1=Yes 2=No				
A12	Do your children attend school?	1=Always 2= Approximately between 26-30 days per term 3=Less than 15 days per term				

B. Changes in Household Composition

B1	Has any member of your Household died in the last 90 Days (3 months)?	1 = Yes 2 = No 88 = No response <i>IF NO/or no response, GO TO C1</i>
I would like more information about the members of your household who died during the past 90 days (3 months).		

B2 Sex	B3 Household Head	B4 Age	B5 Please indicate the cause of death if known
____	____	____	
____		____	
____		____	
1 = Male 2 = Female	1 = Yes 2 = No	IF LESS THAN 1 YR OLD, CODE 00	1= Malaria 2=Diarrhea 3=TB 4=Malnutrition 5= AIDS 88=Others (Specify) _____

C. Household Income & Expenditure

C1	Name the most important <u>non-farm</u> source of income/cash to your household	____ <i>IF NO NON FARM SOURCE OF INCOME, WRITE 8 AND GO TO C3</i>
	Codes 1 = remittance 2= skilled trade/artisan 3= casual non-agriculture labour 4= Petty trade (cooking oil, soap,, etc.)	5 = med/large business 6 = brewing 7 = formal salary/wages 8 = No non farm source of income 9 = Begging 88 = Others (Specify) _____
C2	Name up to three other non- <u>farm</u> sources of income/cash to your household (<i>In order of importance</i>)	____ ____ ____
	Codes 1 = remittance 2= skilled trade/artisan 3= casual non-agriculture labour 4= Petty trade (cooking oil, soap,, etc.)	5 = med/large business 6 = brewing 7 = formal salary/wages 8 = No non farm source of income 88 = Others (Specify) _____
C3	Name the most important <u>farm</u> source of income/cash to your household	____ <i>IF NO FARM SOURCE, WRITE 8 AND GO TO C5</i>

	CODES 1 = crop sales 2 = casual agriculture labour 3 = livestock sales	4 = fishing 5 = charcoal 6 = vegetable sales 7 = Sale of sour/fresh milk 8= No farm source of income 88 = Other (specify)
C4	Name up to three other farm sources of income/cash to your household (<i>In order of importance</i>)	____ ____ ____
	CODES 1 = crop sales 2 = casual agriculture labour 3 = livestock sales	4 = fishing 5 = charcoal 6 = vegetable sales 7 = Sale of sour/fresh milk 8= No farm source of income 88 = Other (specify)_____
C5	Considering all your sources of income, what is your average monthly income (<i>in ZMK</i>)?	
C6	What is your household's <u>main</u> expense (<i>choose only one</i>)	Codes: 0= no expense 1= staple foods 2= non-staple foods 3=household goods 4=health 5= funerals 6= travel 7= agricultural inputs 88= other (specify) _____
C7	When do you sell your produce?	1=After securing consumption 2=Before securing consumption

D. Agricultural production		
D1	What is the total size of land available for agricultural production (owned and rented and given) to this household? (1 hectare (ha) = 100x100m, 1 lima = 0.25ha= 50x50m, 1 acre = 0.4ha) (I fallow=1 lima)	_ _ · _ hectares IF NO LAND WRITE '00' AND GO TO G1
D2	Did you cultivate all of this arable land in the 2009/10 season?	1 = Yes 2 = No IF YES, GO TO D4
D3	What are the three main reasons for not cultivating all of your arable land?	

Write N/A in the appropriate boxes where you have one or two reasons given		1 ___	2 ___	3 ___
<p>CODES FOR D3</p> <p>1 = planned fallow 2 = not enough rain 3 = too much rain 4 = No enough seed 5 = Not enough fertilizer 6 = Not enough labour 7 = pest /diseases problems 8 = rented out 9 = Not enough draft power 10 = Left the land for grazing 11=Late delivery of inputs 12=Sickness 88 = other specify _____)</p>				
D4. What agriculture inputs did you acquire during the 2009/10 season? (<i>Circle all that apply</i>)		D5. What was the source of your agricultural inputs in D4?		
1. Seed (Planting materials)				
2. Fertilizer				
3. Farm implements/ irrigation equipment				
4. Agro-chemicals				
<p>Codes for D5.</p> <p>1= Previous harvest, 2 = MACO , 3 = NGO, 4= MCDSS/PAM, 5 = Purchased, 6 = Cooperatives, 7=Gift, 8 = C-FAARM / PVO Partner 9 = Seed Payback 88 = Others (specify)</p>				

D6	D7	D8	D9	D10	D11	D12	D13	D14	D15
Which Crops, (including Vegetables and Pastures) did you grow in the 2009/10 season?	Area Planted (in hectares) in the 2009/10 season	n/a	n/a	Production 2009/10 Season (in Kgs) <i>IF Production = 0, →next CROP</i>	PAST USES OF PRODUCTION				
					Quantity consumed by HH to use for HH consumption (in Kgs)	Quantity Sold (in Kgs)	Price per kg (in national currency)	Amount kept for seeds (in Kgs)	Net Production (Check: D11+D12+D14≤D10)
1Maize				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
2 Sorghum				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
3 Millet				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
4 Beans				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
5 Groundnuts				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
6 Rice				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
7 Cotton				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
8 Potato				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

D6	D7	D8	D9	D10	D11	D12	D13	D14	D15
Which Crops, (including Vegetables and Pastures) did you grow in the 2009/10 season?	Area Planted (in hectares) in the 2009/10 season	n/a	n/a	Production 2009/10 Season (in Kgs) <i>IF Production = 0, →next CROP</i>	PAST USES OF PRODUCTION				
					Quantity consumed by HH to use for HH consumption (in Kgs)	Quantity Sold (in Kgs)	Price per kg (in national currency)	Amount kept for seeds (in Kgs)	Net Production (Check: D11+D12+D14≤D10)
9 Sweet Potato				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
10 Cassava				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
11 Tobacco				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
12 Cowpeas				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
13 Pigeon Peas				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
14 Sunflower				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
15 Soya beans				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
16 Green Beans				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

D6	D7	D8	D9	D10	D11	D12	D13	D14	D15
Which Crops, (including Vegetables and Pastures) did you grow in the 2009/10 season?	Area Planted (in hectares) in the 2009/10 season	n/a	n/a	Production 2009/10 Season (in Kgs) <i>IF Production = 0, →next CROP</i>	PAST USES OF PRODUCTION				
					Quantity consumed by HH to use for HH consumption (in Kgs)	Quantity Sold (in Kgs)	Price per kg (in national currency)	Amount kept for seeds (in Kgs)	Net Production (Check: D11+D12+D14≤D10)
17 Amaranths				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
18 Cabbage				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
19 Chinese Cabbage				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
20 Carrot				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
21 Ipwa				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
22 Okra				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
23 Onion				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
24 Rape				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

D6	D7	D8	D9	D10	D11	D12	D13	D14	D15
Which Crops, (including Vegetables and Pastures) did you grow in the 2009/10 season?	Area Planted (in hectares) in the 2009/10 season	n/a	n/a	Production 2009/10 Season (in Kgs) <i>IF Production = 0, →next CROP</i>	PAST USES OF PRODUCTION				
					Quantity consumed by HH to use for HH consumption (in Kgs)	Quantity Sold (in Kgs)	Price per kg (in national currency)	Amount kept for seeds (in Kgs)	Net Production (Check: D11+D12+D14≤D15)
25 Swiss chard				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
26 Tomato				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
27 Velvet beans				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
28 Rhodes grass				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
29 Sun hemp				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
30 Sudan grass (Kow canned)				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
31 Others				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

E. Marketing (Crop and livestock)

E1	Where did you sell any farm produce in 2009/10? <i>(Refer to the list outlined above, and Circle all that apply in the next column) (Refer to the list on crops (D6))</i> <i>(If None then go to E5)</i>	Code:1= Market within the village 2 = District market 3 = Market outside the district 4=None		
E2	Who bought your farm produce?	Code: 1 = Other community members, 2=Cooperatives, 3=FRA, 4=NGO5=Traders/middlemen6=Out Grower Scheme 88=Others		
E3	What was the mode of payments or transactions for your farm produce?	Code: 1=Cash, 2 = Barter 3 = Credit 88 = Others _____		
E4	What were the main constraints that you faced in selling your farm produce?	Code: 1 = Poor prices offered 2 = late payments by buyers 3 = Difficulties in Transportation of farm produce to the market 4 = Lack of market 88= Others		
E5	What were the common crops grown in the district that had a ready market? (Circle whatever applies)	Code: 1=Maize, 2= Rice, 3=Millet, 4=Sorghum, 5=Cotton, 6 = Sweet potatoes, 7 = Cassava, 8 = Groundnuts, 9=Tobacco 10= I don't know 88 = Others (Specify)_____		
E6	Did you grow the circled crops in E5?	Code: 1=Yes, 2= No if Yes skip to E8		
E7	If not why?	Code: 1 = Lack of technical guidance in growing 2 = Easily destroyed by animals 3=Lack of inputs 4 = Weather not favorable 5 =labour intensive/constraints 6= Soils not suitable 88. Other		
E8	What were the common animals/livestock products within the district that had a ready market in 2009/10? <i>(Multiple responses are possible)</i>	Code: 1 = Cattle, 2 = Goats, 3 = Chicken, 4 = Pigs, 5=Eggs, 6 = Milk (cattle/goat), 88=Others (specify)_____		
E9	What was the market price for the following livestock?	Livestock type	Price during rain season (ZMK)	Price off rain season (ZMK)
		Cattle		
		Goats		

		Sheep		
		Pigs		
		Chicken		
		Other (specify)		
		Other (specify)		
		Other (specify)		

	Distance estimates (KM)	Market by location		
		Market within the village	District market	Market outside the district
E10	What is the estimated distance from your farm to the Market?			
E11	What is the estimated distance from your farm to the Main road?			

F. Improved agricultural practices				
F1. Which of the following improved production and water management techniques have you been trained in? <i>(Multiple responses are possible)</i>	F2. Do you currently use one of the following techniques for any of your crops? <i>If no, go to next technique. If no to all, go to G1.</i>	F3. When did you start using this technique? 1= 2011 - 10 2= 2010 - 09 3= 2009 - 2008 4= before 2008	F5. Average land size under the named improved agricultural practice (Ha)	F6. Who introduced this technique to you? 1=C-FARRM (WV, CRS, CARE, LoL) 2= Other NGO 3= Government 4= Neighbor/Relative 88= other (specify)

F. Improved agricultural practices

<p>F1. Which of the following improved production and water management techniques have you been trained in?</p> <p><i>(Multiple responses are possible)</i></p>	<p>F2. Do you currently use one of the following techniques for any of your crops?</p> <p><i>If no, go to next technique. If no to all, go to G1.</i></p>	<p>F3. When did you start using this technique?</p> <p>1= 2011 - 10 2= 2010 - 09 3= 2009 - 2008 4= before 2008</p>	<p>F5. Average land size under the named improved agricultural practice</p> <p>(Ha)</p>	<p>F6. Who introduced this technique to you?</p> <p>1=C-FARRM (WV, CRS, CARE, LoL) 2= Other NGO 3= Government 4= Neighbor/Relative 88= other (specify)</p>
<p>A. Agroforestry</p>	<p>1= Yes 2=No</p>			
<p>B. Water harvesting</p>	<p>1= Yes 2=No</p>			
<p>C. Improved food storage (cribs, granaries)</p>	<p>1= Yes 2=No</p>			
<p>D. Winter ploughing</p>	<p>1= Yes 2=No</p>			
<p>E. Conservation tillage (potholing, tied ridges, contour ridging,)</p>	<p>1= Yes 2=No</p>			
<p>F. Incorporation of legumes (Green manure)</p>	<p>1= Yes 2=No</p>			

F. Improved agricultural practices

<p>F1. Which of the following improved production and water management techniques have you been trained in?</p> <p><i>(Multiple responses are possible)</i></p>	<p>F2. Do you currently use one of the following techniques for any of your crops?</p> <p><i>If no, go to next technique. If no to all, go to G1.</i></p>	<p>F3. When did you start using this technique?</p> <p>1= 2011 - 10 2= 2010 - 09 3= 2009 - 2008 4= before 2008</p>	<p>F5. Average land size under the named improved agricultural practice (Ha)</p>	<p>F6. Who introduced this technique to you?</p> <p>1=C-FARRM (WV, CRS, CARE, LoL) 2= Other NGO 3= Government 4= Neighbor/Relative 88= other (specify)</p>
<p>G. Fodder production and storage</p>	<p>1= Yes 2=No</p>			
<p>H. Compost / Manure</p>	<p>1= Yes 2=No</p>			
<p>I. Crop Rotation (ind 1.1.1 (2))</p>	<p>1= Yes 2=No</p>			
<p>J. Intercropping</p>	<p>1= Yes 2=No</p>			
<p>K. Small Scale / Treadle pump Irrigation (ind 1.1.1 (7))</p>	<p>1= Yes 2=No</p>			
<p>L. Cover crops (ind 1.1.1 (2))</p>	<p>1= Yes 2=No</p>			

F. Improved agricultural practices

<p>F1. Which of the following improved production and water management techniques have you been trained in?</p> <p><i>(Multiple responses are possible)</i></p>	<p>F2. Do you currently use one of the following techniques for any of your crops?</p> <p><i>If no, go to next technique. If no to all, go to G1.</i></p>	<p>F3. When did you start using this technique?</p> <p>1= 2011 - 10 2= 2010 - 09 3= 2009 - 2008 4= before 2008</p>	<p>F5. Average land size under the named improved agricultural practice (Ha)</p>	<p>F6. Who introduced this technique to you?</p> <p>1=C-FARRM (WV, CRS, CARE, LoL) 2= Other NGO 3= Government 4= Neighbor/Relative 88= other (specify)</p>
<p>O. Minimum Tillage (ind 1.1.1 (2))</p>	<p>1= Yes 2=No</p>			
<p>P. Post Harvest Technologies (ind 1.1.1 (5))</p>	<p>1= Yes 2=No</p>			
<p>Q. Winter cropping (Veg production and Field Crops (ind 1.1.1 (6))</p>	<p>1= Yes 2=No</p>			
<p>R. Genetics</p>	<p>1= Yes 2=No</p>			
<p>S. Animal Health</p>	<p>1= Yes 2=No</p>			

F. Improved agricultural practices

<p>F1. Which of the following improved production and water management techniques have you been trained in?</p> <p><i>(Multiple responses are possible)</i></p>	<p>F2. Do you currently use one of the following techniques for any of your crops?</p> <p><i>If no, go to next technique. If no to all, go to G1.</i></p>	<p>F3. When did you start using this technique?</p> <p>1= 2011 - 10 2= 2010 - 09 3= 2009 - 2008 4= before 2008</p>	<p>F5. Average land size under the named improved agricultural practice (Ha)</p>	<p>F6. Who introduced this technique to you?</p> <p>1=C-FARRM (WV, CRS, CARE, LoL) 2= Other NGO 3= Government 4= Neighbor/Relative 88= other (specify)</p>
<p>T. Animal Nutrition</p>	<p>1= Yes 2=No</p>			
<p>U. Cooperative Governance</p>	<p>1= Yes 2=No</p>			

<p>M. Do you own a treadle pump? <i>If no, go to G1</i></p>	<p>1= Yes 2=No</p>			
<p>N. How did you acquire it?</p>	<p>1=Cash Purchase 2=On Credit 3=Got loan elsewhere 4=Hire purchase 5=Donation</p>			

G. HH Food Availability

<p>G1</p>	<p>In a normal year, how many months out of 12 do you have food from your own household production to meet your household requirements?</p>	<p style="text-align: center;"> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> NUMBER OF MONTHS </p>
<p>G2</p>	<p>How many months do you expect to have food from your current harvest (2010/2011)?</p>	<p style="text-align: center;"> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> NUMBER OF MONTHS </p>
<p>G3</p>	<p>How much cereals and tubers crops (Kgs) do you have in your house right now? <i>Include areas under mature cassava</i></p>	<p>Cereals _____</p> <p>Dried Tubers _____</p> <p>Mature Tubers in Field _____</p>
<p>G4</p>	<p>Besides your own production, what have been the other sources of food for your household in the last 6 months? (Circle all that apply)</p>	<p>1=Food aid 1a = TFA 1b = Food for Work 1c = Food for Assets (C-FAARM) 1d = Food For Assets (Other NGOs)</p> <p>2=Gift from family and friends</p> <p>3=Market purchases</p> <p>4=Lease of land</p> <p>5=Hunting and gathering wild food</p> <p>6=Grain Bank</p> <p>7=Credit</p> <p>8=Begging</p> <p>9 = Casual labour</p> <p>88=Other(Specify)_____</p>

H: Food Consumption and Dietary diversity

H1. How many meals/times did the **adults** in this household eat yesterday? |__| (*Number of times*)

H2. How many meals/times did the **children** in this household eat yesterday? |__| (*Number of times*)

H3. Describe the foods (meals and snacks) that you and any one else in the HH ate yesterday during the day and night starting with the food eaten in morning **Indicate (1= Yes 2 =No)**

1. Cereals (Nshima, porridge, rice, bread, biscuits, cookies, or any other food made from millet , sorghum, maize, rice etc)

|__|

1=Yes 2
No

2. Roots and Tubers (cassava, potato, yams, or foods made from roots, yellow or orange sweet potatoes,

|__|

1=Yes 2
No

3. Vegetables - sweet pepper, dark green /leafy veg including wild ones + locally available vit A-rich leaves such as cassava including wild ones

|__|

1=Yes 2
No

4. Fruits (papaya, other local available) including wild ones.

|__|

1=Yes 2
No

6. Legumes/beans, nuts, seeds

|__|

1=Yes 2 No

7. Meat - (All blood based meats including organs, game meat and poultry)

|__|

1=Yes 2 No

8. Eggs

|__|

1=Yes 2 No

9. Milk / Milk products - (milk, cheese, yogurt or other milk products)

|__|

1=Yes 2 No

10. Fish - (fresh or dry)

|__|

1=Yes 2 No

11. Cooking Oil / Fats - (oils, fats or butter added food or used for cooking)

|__|

1=Yes 2 No

12. Miscellaneous- Spices, coffee, tea, alcoholic beverages

□
1=Yes 2 No

5. Sugar/sugar products (sugar, honey, sweetened soda, or sugary foods like chocolates, sweets, or candies) | — |
1=Yes
2No

H4. Did you or anyone in your household eat anything (meal or snack) outside of the home yesterday? 1= Yes
2= No

I. Coping Strategies						
I1. Consumption Strategies: In the past 30 days, how frequently did your household resort to using one or more of the following strategies in order to have enough to eat? (Circle only ONE frequency per strategy)		Never	Seldom (1 day a week)	Sometimes (2 days /week)	Often (3-6 days /week)	Daily
1	Limit portion size at meal/ times?	1	2	3	4	5
2	Reduce number of meals eaten per day?	1	2	3	4	5
3	Skip entire days without eating?	1	2	3	4	5
4	Rely on help from friends or relatives?	1	2	3	4	5
5	Rely on less expensive or less preferred foods?	1	2	3	4	5
6	Purchase/borrow food on credit?	1	2	3	4	5
7	Relied more on wild foods or hunting?	1	2	3	4	5
8	Harvest immature crops (e.g. green maize)?	1	2	3	4	5
9	Send household members to eat elsewhere?	1	2	3	4	5
10	Send household members to beg?	1	2	3	4	5
11	Reduce adult consumption so children can eat?	1	2	3	4	5
12	Reduce consumption of children so that adults can eat	1	2	3	4	5
13	Rely on casual labor for food?	1	2	3	4	5
14	Increase reliance of sales of wild or natural products	1	2	3	4	5

15	Sale of Household Assets	1	2	3	4	5
16	Unplanned Sale of Livestock	1	2	3	4	5
17	Other: _____ _____	1	2	3	4	5

J. ASSET OWNERSHIP AND SALE

J1 How many of the following assets are owned by you or any member of your household?

IF ANY ONE SPECIFIC ASSET ON THE LIST IS NOT OWNED, ENTER 0

Non Productive Assets	Productive & Transport Assets	
	8. Axe __	18. Bicycle __
1. Chair __	9. Sickle __	19. Harrow __
2. Table __	10. Panga/Machete __	20. Plough __
3. Bed __	11. Mortar __	21. Treadle Pump __
4. TV __	12. Hoe __	22. Pounding Mill __
5. Radio __	13. Ox Cart __	23. Fishing Nets __
6. Cell phone __	14. Hand Mill __	24. Canoe __
88. Other	15. Draught cattle __	25. Cattle __
	16. Goats __	26. chickens __
	17. Pigs	88. Other
J2. IF NO CATTLE ARE OWNED THEN ASK: What is the main reason that this household is not raising any?	1=Lack of money to buy cattle 2=Too expensive to maintain 3=Herd wiped out by disease 4=Not interested 5=Not a common practice 88=Others (specify)_____	
J3. How many cattle did you own in the last 12 months?		
J4. How many cattle died in the last 12 months?		
J5. In the past 3 months did your household sell any assets?	1 = Yes 2 = No IF NO, GO TO J7	

--	--	--	--	--	--

<p>J6. Which assets did you sell? (<i>Specify</i>)</p> <p>REFER TO LIST IN J1 FOR CODING</p>	<p>1. Productive/transport 1 = Yes 2 = No</p> <p>1.a __ __ __ __ </p> <p>2.b __ __ __ __ </p> <p>3.c __ __ __ __ </p> <p>2. Non-productive 1 = Yes 2 = No</p> <p>1.a __ __ __ __ </p> <p>2.b __ __ __ __ </p> <p>3.c __ __ __ __ </p>
<p>J7. What is the main reasons for selling assets?</p>	<p>1. Productive/transport __ __ </p> <p>2. Non-productive __ __ </p>
<p>CODES for J7</p> <p>1=No longer needed; 2= pay daily expenses; 3=buy food for HH; 4=pay medical expense; 5=pay debt; 6=funeral expenses; 7=pay school; 8=No other reason; 98=N/A 88=Other (specify)_____</p>	
<p>J8. In the past 3 months did your household purchase any assets?</p>	<p>1 = Yes 2 = No</p> <p>IF NO, GO TO K</p>
<p>J9. Which assets did your household purchase in the past three months?</p> <p>REFER TO LIST IN J1</p>	<p>1. Productive/transport 1 = Yes 2 = No</p> <p>2. Non-productive 1 = Yes 2 = No</p>

K1. DAIRY PRODUCTION

Breed for Dairy <i>(Multiple Response possible)</i>	Number of dairy animals currently being raised	Amount of Milk produced during the dry season Code: 1=Same as all year round 2=Lower than usual 3=Higher than usual	Average liters per cow per day during:		Amount of milk produced during the rainy season Code: 1=Same as all year round 2=Lower than usual 3=Higher than usual	Biggest problem faced in raising these animals <i>(see codes below)</i>
			Dry season	Rainy season		
K1	K2	K3	K4	K5	K6	K7
Indigenous						
Exotic						
Cross						
<i>Codes for</i>	1=Animal Diseases 2=Poor nutrition and Pasture Management 3=Limited Grazing Land					

K7	4=Inadequate Water 5=Poor Milk production techniques 6=Lack of market for Milk 88=Other (specify)
----	---

OTHER LIVESTOCK TYPES

Type of animal owned <i>(Multiple response possible)</i>	Breed OF ANIMAL 1 Indigenous 2. Exotic 3 Cross <i>(Indicate all that apply)</i>	What is the purpose of rearing the named animals/poultry 1. Source of income (sale) 2. Source of protein 3. Milk 4. Draught power 5. Manure 6. Prestige <i>(Indicate all that apply)</i>			What is the biggest problem faced in rearing the animals/poultry? 1=Animal Diseases 2=Poor nutrition and Pasture Management 3=Limited Grazing Land 4=Water 5=Poor Milk production techniques 6=Lack of market for Milk 88=Other (specify)	Type of Management 1. Free range 2.Feedlot 3. Both
			N/a	N/a		
K8	K9	K10	K11	K12	K13	K14
Goats	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>				
Sheep	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>				
Pigs	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>				
Donkeys	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>				
Chickens	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>				
Other	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>				

L. SHOCKS

L2. What are the most common shocks affecting food security in your area? <i>(Circle all that apply) if none skip to M</i>			
L2. Type of Shock <i>(Enter code below)</i>	L3. During which period of the year do you experience these shocks?	L4. What measures have you put in place to cope with such shock/s?	L5. What are the main early warning signs that you use to anticipate the shocks?
<p>Code for L2:</p> <p>0=None</p> <p>1=Drought</p> <p>2=Floods</p> <p>3 = Pests/ Animals</p> <p>4 = Animal Diseases</p> <p>5=Crop diseases</p> <p>6=Animal/human conflict</p> <p>88=Others (Specify) _____</p> <p>_____</p>	<p>Codes for L3:</p> <p>1=Between January and April</p> <p>2=Between May and August</p> <p>3=Between September and December</p> <p>88=Others (specify)</p> <p>_____</p>	<p>Codes for L4:</p> <p>1=None;</p> <p>2=working for food;</p> <p>3=Planted drought tolerant crops</p> <p>4=Sale livestock/assets;</p> <p>5=Spraying of pesticides</p> <p>88=Others (Specify)</p>	<p>Codes for L5:</p> <p>1=Flowering/ fruiting of trees</p> <p>2 = Blowing of wind in the western part</p> <p>3=Cobwebs in the environment</p> <p>4=Birds hanging nets</p> <p>88=Others (Specify)</p> <p>_____</p>

M. Nutritional status

CHILD FIRST NAME	DATE OF BIRTH	N/a	BIRTH RANK	SEX <i>(1=Male, 2=Female)</i>	HEIGHT/OR LENGTH <i>(IN CM)</i>	WEIGHT <i>(IN KG)</i>	CHECK (NAME) FOR BILATERAL EDEMA <i>(1=Yes, 2=No)</i>	Has (NAME) received measles immunization? <i>(1=Yes, 2=No)</i>	During the last 2 weeks, which disease did (NAME) experience? <i>(1=Diarrhea, 2=Fever, 3=Non stool diarrhea, 4=Upper respiratory infection, 5=lower respiratory tract, 5=Malaria, 6=Any immunizable diseases)</i>																																						
M1	M2	M3	M4	M5	M6	M7	M8	M9	M10																																						
	<table border="1"> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>D</td><td>D</td><td>M</td><td>M</td><td>Y</td><td>Y</td> </tr> </table>											D	D	M	M	Y	Y		<table border="1"> <tr> <td></td><td></td> </tr> </table>			1 2	<table border="1"> <tr> <td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>													<table border="1"> <tr> <td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td><td></td><td></td> </tr> </table>									1 2	1 2	
D	D	M	M	Y	Y																																										
	<table border="1"> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>D</td><td>D</td><td>M</td><td>M</td><td>Y</td><td>Y</td> </tr> </table>											D	D	M	M	Y	Y		<table border="1"> <tr> <td></td><td></td> </tr> </table>			1 2	<table border="1"> <tr> <td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>													<table border="1"> <tr> <td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td><td></td><td></td> </tr> </table>									1 2	1 2	
D	D	M	M	Y	Y																																										

Did this community participate in PD / Hearth? *If NO go to M13*

Code: 1 = Yes 2 = No

M11. For HHs with children less than 5 years, ask: Did you participate in the PD/Hearth model.

Code: 1 = Yes 2 = No

If yes, refer to M12 below and proceed

M12. What practices did you find helpful from participating in the PD/hearth model?
(Multiple practices possible)

Codes: 1 = GMP practices 2 = child caring practices 3 = cooking demonstrations 4 = PD/hearth sessions 5 = none

M13. If you have a child or children less than 36 months, what health seeking practices do you find helpful?

(Multiple responses possible)

Codes: 1 = child caring practices 2 = child feeding practices (meal types, consistency and frequencies) 3 = child health seeking practices 4 = personal hygiene practices 5 = environmental practices 6 = none

Thank the respondent for their time

Annex 4: Indicator Performance Tracking Table

MILLENNIUM DEVELOPMENT GOAL: Contribute to eradicate extreme poverty and hunger in Zambia by 2015																			
PROGRAM/FINAL GOAL: Vulnerable and extremely vulnerable people in targeted rural areas of Zambia have decreased food insecurity and increased resiliency																			
TYPE OF DATA TO BE COLLECTED (INDICATOR)	Baseline	FY07 Target	FY07 Achieved	FY07 %	FY08 Target	FY08 Achieved	FY08 %	FY09 Target	FY09 Achieved	FY09 %	FY10 Target	FY10 Achieved	FY10 %	FY11 Target	FY11 Achieved	FY11 %	LOA Target	LOA Achieved	LOA %
STRATEGIC OBJECTIVE 1: By 2011, vulnerable HHs in targeted districts have diversified and/or increased their agricultural livelihoods in a sustainable manner.																			
<i>Indicator 1.1</i>																			
% of HH with improved livelihood score (I)	8.6%				6,864	7,905	115%	4,005	3,682	92%	4,006	7,521	188%	4,006	5,674	142%	24,689	14,787	60%
<i>Indicator 1.2</i>																			
Number of months of adequate food provisioning (I)	5.5				5.1	4	78%	5.2	8	154%	5.3	5.2	98%	5.4	8	148.1%	5.5	8	145%
IR 1.1 Vulnerable HHs have adopted appropriate project-supported agriculture production and diversification practices.																			
<i>Indicator 1.1.1</i>																			
Number of program beneficiaries (farmers) adopting Minimum (one or more) Technologies (I)	53.6%				4,508	902	20%	4,508	2,518	56%	4,301	1,892	44%	4,508			17,825	5,312	30%
<i>Indicator 1.1.2</i>																			
Number of program beneficiaries (farmers) having planted 2 or more new crops or varieties promoted by the project (I)	44.0%				6,864	4,572	67%	6,864	5,889	86%	6,774	5,046	74%	4,097	4,612	113%	24,689	15,507	63%
<i>Indicator 1.1.3</i>																			
(I)	3.1				3.4	3.1	14%	3.4	4.9	17%	4	4.3	23.1	4.6	3.3	71.7%	5.5	3.3	60%
IR 1.2 Vulnerable HHs have increased income through adopting appropriate agro-enterprise practices.																			
<i>Indicator 1.2.1</i>																			
Number of beneficiaries with increased income (I)	43%				1,570	768	49%	1,570	791	50%	1,232	1,512	123%	2,584	1,602	62%	1,570	1,602	102%
<i>Indicator 1.2.2</i>																			
% of HHs that have diversified their sources of income (I)	ZMK 50,000	59%			4,500	865	19%	4,500	1,099	24%	4,500			4,500			4,500		

STRATEGIC OBJECTIVE 2: By 2011, vulnerable and extremely vulnerable HHs in targeted districts have protected and/or improved nutritional health status.																		
<i>Indicator 2.1</i>																		
<i>Number of beneficiaries with a high dietary diversity score (1)</i>	22.5%				7988	1,797	23%	7988	3235	41%	7988	1278	16%	7988	671	8.4%	7988	
IR 2.1 Community Health Workers practice improved counseling and referral skills																		
<i>Indicator 2.1.1</i>																		
<i>% of CHWs who identified 3 warning signs and referred the sick child as per IMCI guidelines (2)</i>	0				300	501	167%	300	282	94%	130	154	118%	89	68	76.4%	300	263
<i>Indicator 2.2.1</i>																		
<i>Number of PD/Hearth participants successfully graduating from PD HEARTH (3)</i>	0				300	208	69%	300	252	84%	1094	562	51%	684	462	67.5%	1200	1562
IR 2.3 Mothers and other caregivers practice appropriate feeding, care giving, and care seeking behaviors for children under 36 months																		
<i>Indicator 2.2.1</i>																		
<i>% of mothers with children age 0–59 months who report at least 5 key health seeking practices (1)</i>	0				487	402	83%	400	208	52%	901	519	58%	200	167	83.5%	1387	569
IR 2.4: Vulnerable and extremely vulnerable households have increased their dietary intake.																		
<i>Indicator 2.4.1</i>																		
<i>% decrease in chronic malnutrition rates of children 0-59 months: below -2 Z-score for HT/AGE (Stunting) (1)</i>	22.5				0	0	0						50%					
<i>below -2 Z-score for WT/AGE (Underweight) (1)</i>	14.70%				0	0	0			15%			18.5%					

STRATEGIC OBJECTIVE 3: By 2011, vulnerable communities in targeted districts have improved their collective ability to identify and respond to developmental issues and external shocks affecting food security.

IR 3.1 Communities have established development relief action plans

<i>Indicator 3.1.1</i>																		
<i>Number of Communities that have Development Relief action plans in place</i>	0				30	18	60%	18	10	56%	34	24	71%	12	12	100%	60	60

IR 3.2 Communities equipped with early warning and response systems and strengthened community-based safety net mechanisms.

<i>Indicator 3.2.1</i>																		
<i>Number of communities with disaster early warning systems in place</i>	0				60	18	30%	18	18	100%	48	33	69%	60	60	100%	60	60
<i>Indicator 3.2.2</i>																		
<i>Number of communities with improved infrastructure to mitigate the impact of shocks</i>	0	0	0	0	12	10	83%	20	12	60%	23	13	57%	22	22	100%	42	42
<i>Indicator 3.2.3</i>	0																	
<i>% of communities with safety-nets in place</i>	0				60	60	100%	60	60	100%	60	60	100%	60	60	100%	60	60
<i>Indicator 3.2.4</i>	0																	
<i>Number of communities with strengthening community capacity</i>	0				60	60	100%	60	60	100%	60	60	100	60	60	100%	60	60

NOTES

(1) Preliminary value pending finalization of the End of Program Evaluation report

(2) Target revised down from 300 to 89 in order to meet new MOH requisite six week training/certification

(3) Target revised upwards from 300 to 684 to reflect number of moderately malnourished cases qualified for the intervention (Source: Nutrition Surveillance Survey)

Annex 5: Design Matrix

SoW Evaluation Questions by Criteria	Tool
Relevance/Appropriateness:	
Were the activities undertaken by C-FAARM appropriate to the needs of the selected population? How?	FGD Community Level, KII
To what extent were the objectives of the program relevant to the situation and humanitarian needs?	KII, Document Review, Team Analysis
Were selected interventions likely to improve the livelihoods of the beneficiaries significantly? How?	KII, Document Review, Team Analysis
Effectiveness	
To what extent were the objectives of the C-FAARM achieved?	Quantitative Questionnaire
To what extent were beneficiaries correctly identified and targeted?	KII / FGD / Analysis of Quantitative Questionnaire Results
To what extent was the project implemented as planned?	KII, Review of Documents
Impact	
What difference has the various activities made to the lives and livelihoods of the intended beneficiaries?	Quantitative Questionnaire / FGD Community Level
What coping mechanisms would the beneficiaries have employed if C-FAARM had not been implemented?	FGD Community Level, Local Level KII, Comparison of Coping Strategies Baseline to Final Quantitative Questionnaire (Q I1)
What direct or indirect evidence is available that the program contributed to the improvement of the well being of beneficiaries? <i>It is suggested that this is measured against the level of satisfaction of beneficiaries and their perception of the effectiveness.</i>	Document review

SoW Evaluation Questions by Criteria	Tool
Efficiency	
What were the costs of inputs (financial, manpower and other resources) relative to outputs?	Compare cost to results found in Quantitative Questionnaire
Were the activities cost efficient? How?	Compare cost to results found in Quantitative Questionnaire
Was C-FAARM implemented in the most efficient way? How?	Team review of all results
Coverage	
Did the interventions reach the intended groups?	Quantitative Questionnaire, FGD, KII
To what extent did the program respond to unplanned outcomes/community concerns?	FGD, KII
Coordination	
How did C-FAARM coordinate its activities with other agencies and the local authorities? Was C-FAARM regarded as a constructive and reliable partner by other stakeholder?	KII
What steps were taken to avoid duplication of assistance?	KII
To what extent did C-FAARM contribute to the overall government poverty reduction strategy?	KII / Document Review
Were there any differences between the implementation strategies used by different partners (direct implementation vs. Partnerships with governmental and non-governmental institutions)?	KII
Sustainability	
Do communities report that activities will continue after the project ends? If so, what activities? At what level? (community, group, and/or district)	FGD Community Level

SoW Evaluation Questions by Criteria	Tool
Ownership (agreed commonality) for objectives and achievements, e.g. how far all stakeholders were consulted on the objectives from the outset?	KII, FGD Community Level
Has the project succeeded in building the technical and management capacity of partners and communities? Assess the sustainability of progress and provide recommendations for the future programming.	KII, FGD Community Level

Annex 6a: Focus Group Discussion Checklist

	FGD Questions Community Level
1	How did the project start here? Cover how and when communities were consulted about the project.
2	Do you have a Development Relief Action Plan? Ask to see the plan to verify its existence and review quality.
3	Do you have disaster early warning systems in place? What are they? View if possible
4	Do you have any project-improved infrastructure to mitigate the impact of shocks? What are they? View if possible
5	Do you have project provided safety nets in place? What are they? View if possible
6	How has the project helped strengthening community capacity to withstand shocks?
7	Did the Project meet your most important needs? Give reasons. Cover as appropriate: training, seed distribution, pass on scheme, marketing, road infrastructure, construction / improvement of schools, health centres / clinics, boreholes and milk collection centres
8	Are there any lasting benefits of TFA in this community? What are they? How will these be sustained?
9	How has life changed as a result of the project?

10	What would the situation have been like here without the project? What Coping Mechanisms would you have used without C-FAARM?
11	Did the project benefit the intended target group? Give reasons.
12	Did the project change with time? How? Why?
13	Do you expect C-FAARM project activities to continue after the project closes? Give Reasons
14	Which C-FAARM Activities to you expect to continue? Why?
15	How has C-FAARM built capacity in this community?
16	Do you think people with new skills will be able to use their new skills after C-FAARM closes? Why?

Annex 6b: Key Informant Checklist

Key Informant Interview Questions	
Relevance/Appropriateness:	
1	Do you feel C-FAARM activities were appropriate to the needs of the selected population?
2	To what extent were program objectives relevant to the situation and humanitarian needs?
3	Were selected interventions likely to improve the livelihoods of the beneficiaries significantly?
Effectiveness:	
4	To what extent were beneficiaries correctly identified and targeted by the program?
5	What differences have the various activities made to the lives and livelihoods of intended beneficiaries?
6	What coping mechanisms would the beneficiaries have employed if C-FAARM had not been implemented?

Coverage:	
7	Did the interventions reach the intended target groups? Why / Reasons?
8	To what extent did the program respond to unplanned outcomes/community concerns?
Coordination:	
9	How did C-FAARM coordinate its activities with other agencies and the local authorities?
10	To what level was C-FAARM regarded as a constructive and reliable partner by other stakeholders?
11	What steps were taken to avoid duplication of assistance?
12	To what extent did C-FAARM contribute to the overall government poverty reduction strategy?
13	How did you implement the project? Please describe the approach used.
Sustainability	
14	Is the project sustainable?
15	To what level has the project built ownership among organisations with a long term presence?
16	Who owns project objectives and achievements?
17	How were you and other stakeholders initially consulted about the project objectives?
18	How were you consulted about any changes in project objectives
19	Has the project succeeded in building the technical and management capacity of partners and communities? Why?

Annex 7: Focus Group Discussion Locations

	District	Community	Participants	Selection
1	Choma	Masopo	7 men	Purposely selected participants
2	Choma	Pangwe	5 men, 3 women	Purposely selected participants
3	Kalomo	Kanchelle	7 men, 3 women	Purposely selected participants
4	Kalomo	Sipatunyana (Mutala Village)	4 men	Random
5	Kalomo	Sipatunyana (Mutala Village)	7 women	Random
6	Kazungula	Manyemunyemu	6 men	Random
7	Kazungula	Manyemunyemu	6 women	Random
8	Kazungula	Simango	10 men 8 women	Random
9	Sesheke	Lipumpu (Kanganda Village)	5 men	Random
10	Sesheke	Lipumpu (Kanganda Village)	8 women	Random
11	Sesheke	Lilonga	5 men	Random
12	Sesheke	Lilonga	5 women	Random
13	Sesheke	Nabumbu	13 men	Random
14	Sesheke	Nabumbu	13 women	Random
15	Sesheke	Research	6 women	Random
16	Sesheke	Research	6 men	Random
17	Shang'ombo	Nakabunze	10 men	Random
18	Shang'ombo	Nakabunze	15 women	Random

19	Shang'ombo	Silwana	12 men	Random
20	Shang'ombo	Silwana	12 women	Random
21	Sinazongwe	Mwenda	12 men	Random
22	Sinazongwe	Mwenda	7 women	Random
23	Sinazongwe	Siamvmemu	21 men	Random
24	Sinazongwe	Siamvmemu	22 women	Random

Annex 8: List of Individual Interview Respondents

Name	Organization	Designation	Email	Phone
James Campbell	CRS	ME Coordinator	james.campbell@crs.org	977808950
Moses Musikanga	CRS	TL for ME	Moses.Musikanga@crs.org	977322980
Brenda Kambaila	CARE	ME Sr Officer	kambaila@carezam.org	977531777
Cleopatra Muma	WV	Project Officer	Cleopatra_Muma@WVI.ORG	977961332
Kelvin Luputa	LAND O LAKES	ME Sr Officer	kelvin.luputa@idd.landolakes.com	962123463
Patricia Sitimela	USAID	ME Specialist	psitimela@usaid.gov	977850364
Harry Ngoma	USAID		hngoma@usaid.gov	977435274
Simon Mwanzae	CARE	Program Manager	simonmwanzae@yahoo.com	979658319
Melvin Siwale	LAND O LAKES	Deputy Country Director	melvin.siwale@idd.landolakes.com	211263929
Friar Clifford	Diocese of Livingstone	Head of Development		0979 152530
Douglas Mwasi	CARE	Technical Lead - Marketing	Dmwasi@yahoo.com	977748610

Name	Organization	Designation	Email	Phone
Helen Khunga Chirwa	CARE	Technical Lead - Nutrition	helenchirwa@gmail.com	977750320
Sam B Lungu	WV	Technical Lead - Food for Assets	samlungu@gmail.com	977839206
Eunice Chishimba	CRS	Technical Lead - DRR	Eunice.Chishimba@crs.org	977746361
Victor Mulambia	CRS	Technical Lead - Finance	Victor.Mulambia@crs.org	977120818
Herbert Kucherera	WV	Technical Lead - Commodities	Herbet_kucherera@wvi.org	977459537
Dane Fredenburg	CRS	Country Representative	Dane.Fredenburg@crs.org	978697613
Kathleen Obrien	CARE	Deputy Country Director	obrienk@carezam.org	978806365
Lauren Ruth	LAND O LAKES	Country Director	laurenruth@idd.landolakes.com	975420895
Chikondi Phiri	WV	Deputy Country Manager	Chikondi_Phiri@wvi.org	211260656
Andy Levin	USAID	Team Leader SO3	alevin@usaid.gov	978770429
Dr. Medson Chisi	MACO	Chief Researcher	medsonchisi@hotmail.com	966748094
Peter Aagaurd	Conservation Farming Unit	Director	cfu@zamnet.zm	
Sinya Mbale	Conservation Farming Unit		Sinya.mbale@iconnect.zm	965238008
Orient Muloongo	WFP	M&E Officer	orient.muloongo@wfp.org	
Evans Mwendwe	WFP	Project Officer P4P	Evans.Mwendwe@wfp.org	
Mr. Ward Siamusantu	NFNC	Head of Public Health Research	wsiamusantu@yahoo.com	097 4374888
Ernest Silungwe	World Vision Choma	District Coordinator - HEA	ernest_silungwe@wvi.org	0967 723896

Name	Organization	Designation	Email	Phone
Mr. Sikanyela	The District Commissioner's Office Choma	The District Administrative Officer		977472401
Mr. Chooye	Ministry of Agriculture & Cooperatives Choma	The Senior Agriculture Officer		978223898
Mr. Chipasha	Ministry of Agriculture & Cooperatives Choma	District Cooperatives Development Officer		977580243
Mr. Mumba	Ministry of Works & Supply Choma	The Buildings Officer		978660930
Dr. Soko	Ministry of Livestock and Fisheries Choma	The District Veterinary Officer		977707820
Mrs. Siabbalo	Ministry of Community Development Choma	The Assistant Community Development Officer		979420545
Albert Mate	Land O Lakes Choma	Program Manager ZCL		0974 601129
Doreen Simoonga	Land O Lakes Choma	Coop and Business Development Manager		975042497
Naonga Shawa	Land O Lakes Choma	M&E Officer		977330528
Mrs Kalumina	The District Commissioner's Office Kalomo	District Commissioner		
Dr Tembo	Ministry of Livestock and Fisheries Kalomo	District Vet Officer		
Gabriel	CARE	Program Manager		
Chimana Masaka	Karchelle Agro Dealer Kalomo District	Manager		

Name	Organization	Designation	Email	Phone
Mr Mangwato	Kalomo Milk Collection Center	Member		
Sophia Like	C-FAARM Sesheke and Shang'ombo	M&E Officer		
Kennedy Mwiya	Community Contact Person	Lilonga Community		
Geoffrey Mutukwa Likondo	Community Health Worker	Lilonga Community		
Mrs Bereta Musa	Community Health Worker	Research Community		0978 635033
Florence Lushibashi	CARE Livingstone	Development Coordinator Agric / FFA	flolushi@yahoo.com	0977 823418
Elijah Nsongi Jr	CARE Livingstone	Development Coordinator Marketing and Logistics	eligaus@yahoo.com	0974 397880
Nchobeni Luundu	CARE Livingstone	District M&E Officer	nchomulu@yahoo.com	0977 768091
Henry Loongo	CARE Livingstone	Regional (Province) Director	loongoh@carezam.org	0979 578001
Bernard Zgambo	World Vision Sinazongwe	District Coordinator	bernard_zgambo@wvi.org	0977 864010
Mr Nsaka Saul	C-FAARM Beneficiary Sinazongwe	Farmer		
Bridget Saipwawa	Lead Farmer	Farmer		
Pulley Munkambwe	World Vision Sinazongwe	DRR Officer World Vision	pullemunkomwe18@yahoo.com	0977 683825
Davidson Hamer	Research and Evaluation Zambia Center for Applied	Director	dhamer@bu.edu	0973 543773

Name	Organization	Designation	Email	Phone
	Health Research and Development			
Godfrey Mbumwae	MACO, Simango, Kasungula	Camp Extension Officer		
Jennifer Chipandwe Musungu	Ministry of Health, Simango, Kasungula	Nurse		
Kennedy Tundu	FAO, Kanonga, Kazungula			
Silvasis Shibulo	MACO	Crop Husbandry Officer, Kanonga, Kazungula		
Billex Haamwenda Mweemba	Ministry of Livestock and Fisheries, Shangombo	Veterinary Assistant		
Mr Mubiana Likando	Ministry of Agriculture & Cooperatives Shangombo	District Agriculture Coordinator		
Siyupwa Kabisa	The District Commissioner's Office Shangombo	District Administration Officer, Shangombo		
Kapalu Edwin Ndulinga	Ministry of Health Shangombo	Public Health Officer, Shangombo		
Mr. Paceli Maambo Mainza	Ministry of Agriculture & Cooperatives Sinazongwe	District Agriculture Coordinator		

Annex 9: Community Health Worker Interview

Community Health Worker (CHW) Interview

Ref _____

Short meeting should be held with CHWs to help determine the percentage of CHWs who can identify three warning signs and refer sick child as per IMCI guidelines (Indicator 2.1.1).

Name of CHW _____

Community Served _____

District _____

Date _____

Interviewer _____

1: Are you able to know that a child has diarrhea? 1 = yes, 2 = No. If yes what are the signs that you look for? (Circle correct answers. Multiple responses possible)

Codes:

1 = passes watery stools many times a day

2 = becomes dehydrated

3 = refuses to eat

4 = drinks hungrily

5 = has good appetite

6 = develops sunken fontanelle

7 = has dry lips and mouth 8 = none

8 = other _____

9 = other _____

C2. Are you able to identify signs of pneumonia 1 = yes, 2 = No.

If yes, what do you do when you think the child has pneumonia? (Circle correct answers. Multiple responses possible)

Codes:

1 = take child to hospital immediately

2 = give ORS

3 = keep warm

4 = other _____

5 = other _____

Thank you

Annex10: Crops Promoted by C-FAARM

Land O lakes

Crop Type	Variety	New Variety
Velvet beans	Muchuna SPP	Yes
Rhodes grass	Giant	Yes

Sun hemp	Red and Black	Yes
Pigeon Peas	Pigeon Peas	Yes
Sudan grass (Kow canned)	Sudan grass	Yes

CARE International

Crop Type	Variety	New Variety
Maize	Panner 14 and ZM521	Yes
Sorghum	Lubebe/lutebwe	Yes
Sweet potato vines	Chinkovwa	Yes
Groundnuts	Natal common and MG4	Yes
Sunflower	Milika and Record	Yes
Soya beans	Henon 147	Yes
Vegetables		
Rape	Hoson and Giant rape	No
Swiss chard	Ford hook giant	No
Tomato	Rodade	No
Cabbage	RianaF1 and CHMK	No
Onion	Texasgrano	No
Carrot	Nanites	No
Okra		

Catholic Relief Services/Diocese of Livingstone

Crop Type	Variety	New Variety
Maize	Pan413 PanMM44 SC442 SC403 MM1441	Yes
Sun hemp	Red	Yes
Velvet beans	Blank	Yes
Sorghum	Lutebwe	Yes
Groundnuts	Natal common and MG4	Yes
Vegetables		
Rape	Hoson and Giant rape	No
Tomato	Heinz 1370, Rodate, Money maker	No
Cabbage	drumhead	No
Onion	Texasgrano	No
Carrot	Nanites	No

Amarathsus		No
Okra	lemsomspinless	Yes

World Vision Zambia

Crop Type	Variety	New variety
Maize	ZM 521	Yes
	PAN 413	
	Seedco 513	
	Obatampa	
Sorghum	Kuyuma	Yes
	Sima	
Cowpeas	Lutembwe	
Sweet potato vines	Chingovwa	Yes
	Kalungisha	
	Mulungushi	
Groundnuts	Natal common	No
	MGV 4	Yes /No
Sunflower	Milika	Yes

	Saona	
Soya beans	Magoye	Yes
	Kaleya	
Green beans	Samantha	Yes
	Common beans	Old
	Smanthar	Old
Vegetables		
Chinese Cabbage	Chihili	Old
Rape	Giant	Old
Ipwa	Chimumbwa	Old
Tomato	Rodade	Old
	Tengelo	
Cabbage	Riana F1	Old
	CH Market	
Pumpkins	White Head	Old
Onion	Texas Grannar	Old
Carrot	Nantes	Old
Okra	Clemison spineless	Old
Amaranthus	Unza 1	