FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative



THE FEED THE FUTURE INTEGRATING NUTRITION IN VALUE CHAINS PROJECT PERFORMANCE EVALUATION

FINAL REPORT

May 2015

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The Feed the Future Integrating Nutrition in Value Chains Project Performance Evaluation

FINAL REPORT

MAY 29, 2015

The Feed the Future Integrating Nutrition in Value Chains project is USAID/Malawi's flagship nutrition-sensitive agriculture project, implemented in the Zone of Influence in the rural areas of seven districts: Mchinji, Lilongwe, Dedza, Ntcheu, Balaka, Mangochi, and Machinga.

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ACRONYMS

ACE	Agriculture Commodity Exchange for Africa
AEDO	Agriculture Extension District Officer
AEMO	District Agricultural Extension Methodologies Officers
AFO	Agriculture Field Officer
ANC	antenatal care
BCC	behavior change communication
BVO	bid volume only
CADECOM	Catholic Development Commission of Malawi
CBO	community-based organization
CCG	Community Care Group
CGV	Care Group Volunteers
CISANET	Civil Society Agriculture Network
CMAM	Community Management of Acute Malnutrition
DADO	District Agricultural Development Officer
DAI	Development Alternatives Inc.
DEHO	District Environmental Health Officer
DNO	District Nutrition Officer
DQA	data quality assessment
EPA	Extension Planning Area
FUM	Farmers Union of Malawi
FY	Fiscal Year
GAC	Group Action Committee
GVH	Group Village Head
HSA	Health Surveillance Assistant
IITA	International Institute of Tropical Agriculture
INVC	Integrating Nutrition in Value Chains
LCD	Local Capacity Development
M&E	monitoring and evaluation
MSU	Michigan State University
MT	metric ton
NA	Nutrition Assistant
NASCOMEX	NASFAM Commodity Marketing Exchange
NASFAM	National Association of Smallholder Farmers of Malawi
NP	Nutrition Promoter
NSO	National Statistical Office
OCAT	Organizational Capacity Assessment Tool

OVO	offer volume only
PE	performance evaluation
PITT	Performance Indicator Tracking Table
PLW	pregnant and lactating women
PMEP	performance monitoring and evaluation plan
PWS	Performance Work Statement
SCI	Save the Children International
SUN	Scaling Up Nutrition
VSL	Village Savings and Loans
WRA	women of reproductive age
WRS	warehouse receipt system
ZOI	Zone of Influence (Feed the Future)

EXECUTIVE SUMMARY

The Feed the Future Integrating Nutrition in Value Chains (INVC) project is a flagship Feed the Future initiative being implemented in seven districts in Central and Southern Malawi from April 2012 to October 2016. The goal of INVC is to sustainably reduce rural poverty and improve nutrition through the integration of agriculture and nutrition interventions. The targeted populations are smallholder farmers who cultivate 0.5 to 1.2 hectares of land, produce sufficient maize for home consumption, have the potential to increase maize productivity and to free up land for other crops, and are motivated to increase production of food legumes, specifically groundnuts and soybeans.[1] The targeted population also includes households with pregnant and lactating women (PLW) and mothers and caregivers of children under 5. The project aims to reach 275,000 rural households in improved food production and at least 175,000 children under 5 with improved nutrition.[2]

This performance evaluation assesses INVC's primary components: value chain competitiveness, agricultural productivity, nutrition, and local capacity development (LCD). It also explores key lessons learned, determines how INVC´s efforts have strengthened the capacity of local sub-partners, identifies any internal and external factors that affect its implementation and performance, and proposes recommendations to inform future agriculture, nutrition, and LCD programming.

The Evaluation Team relied on quantitative monitoring and evaluation (M&E) programmatic data, but emphasized qualitative primary data gathered from the project's five levels of stakeholders: INVC Consortium partners; local sub-partners; the district level; the Extension Planning Area (EPA)/village level; and the beneficiary level. Agriculture and nutrition programming progresses through each of these levels to reach beneficiary households. The box below lists the six performance evaluation questions.[3]

Question 1: Which elements and/or approaches of INVC's integrated model have been most successful in leading to adoption of both the promoted agriculture and nutrition behaviors and practices by beneficiaries? Which elements and/approaches have been least successful?

Question 2: Which of INVC's promoted nutrition behaviors and practices have been most widely adopted by beneficiaries and why? What are the main barriers to effective adoption of the promoted nutrition behavior?

Question 3: Which of the collective marketing approaches promoted by INVC have been most effective in linking beneficiaries to markets? Which collective marketing approaches have most effectively increased the incomes of beneficiaries? What are the main barriers to beneficiaries' participation in collective marketing?

Question 4: To what extent have beneficiaries adopted INVC's promoted agricultural production technologies and practices? What are the main barriers to adoption of the promoted agricultural production technologies and practices?

[1] Annual Workplan. FY2012. Malawi INVC covering period: April 25, 2012-April 24, 2013 Final. July 2012.
[2] This includes children under 5 reached through Community Care Groups and Child Health Days with INVC support.
[3] Performance Work Statement for the Performance Evaluation of INVC. December 2014.

Question 5: To what extent has the productivity of soy and groundnut increased for beneficiaries as a result of adoption of the promoted agricultural production technologies and practices? What factors, if any, have impeded increases in productivity even when the promoted technologies and practices were adopted?

Question 6: To what extent have INVC's LCD efforts strengthened the organizational capacity and performance/service delivery of local sub-partners? Which, if any, of the local sub-partners will be ready to become direct USAID awardees by the end of INVC (October 31, 2016)? Of those partners, which, if any, want to become direct USAID awardees?[4]

Data gathering instruments were developed to interview different levels of stakeholders. Key informant interviews and focus group discussions were conducted in five districts (Lilongwe, Mchinji, Dedza, Balaka, and Machinga) and included 832 stakeholders (548 females and 284 males). Stakeholders interviewed ranged from Consortium partners to beneficiaries. The evaluation questions were answered in light of the primary qualitative data gathered and, when appropriate, referred to performance indicators. Qualitative analysis of information gathered in semi-structured individual and focus group discussions was based on a guide with open-ended questions.

Adoption of Technologies and Practices

INVC has introduced technologies and practices related to land preparation, crop management, harvest and post-harvest practices, and storage and marketing for groundnuts and soybeans.

New agricultural technologies and practices: In 2013, a total of 18,714 ha were under improved technologies or management practices as a result of U. S. Government assistance for groundnuts and soybeans. In 2014, this increased to 42,426 ha. In 2013, the average farmer received support for 0.82 ha; this decreased to 0.31 ha in 2014. Both of these numbers are high considering the average beneficiary farmer has 0.81 ha and is growing maize on 80 percent of this land, with only 20 percent left to grow cotton, tobacco, or other crops such as groundnuts and soybeans. Consequently, something appears to be incorrect in the number of hectares reported, unless INVC is servicing land owners with large plots of land or the land is counted more than once. USAID should follow up on the ongoing University of Carolina impact evaluation to assess legume cultivation in the Zone of Influence (ZOI).

Innovators and early adopters: INVC promotes a range of land preparation and management practices, harvesting and drying practices, post-harvest handling practices, and marketing strategies. Farmers apply new technologies and practices at different times. The first to adopt are innovators or early adopters. Women farmers in Malawi are perceived as innovators and early adopters, a characteristic acknowledged as a cultural distinction between sexes. Women predominantly grow groundnuts and soybeans to feed their families and increase household income. They are viewed as patient and willing to wait for positive results. In contrast, men want to see results prior to adoption. The Consortium and sub-partners should emphasize reaching out to women farmers as early adopters, while men should receive training and reinforced training to influence them. At the EPA level,

[4] The last two sub-questions were excluded from this evaluation.

Agriculture Extension District Officers (AEDOs) and Agriculture Field Officers (AFOs) should assist with the establishment of demonstration plots to show potential adopters the benefits of changing their farming habits.

Seed distribution system: The National Association of Smallholder Farmers of Malawi (NASFAM) and the Catholic Development Commission in Malawi (CADECOM) operate a seed recovery system whereby farmers receive 12 kg of soybean seed or 15 kg of groundnut seed. After harvest, farmers "repay" this loan with 2 kg for every kg they receive. The sub-partners acknowledge seed distribution is a problem. NASFAM said farmers do not understand that they are paying the seed back to their own Farmers' Association, not to NASFAM (i.e., that they are paying themselves back). NASFAM confirmed the low recovery rates and said the high-quality seed that was expected back was often mixed with other varieties. NASFAM and CADECOM should continue to distribute high-quality groundnut and soybean seeds as an incentive to introduce farmers to improved varieties. Distribution should continue each season throughout the life of the project. However, farmers should be restricted to receiving seeds for only two years, which would allow them enough time to appreciate the benefits of these new varieties. Distribution of seed should be an incentive, not a subsidy. After the first distribution, AEDOs and AFOs should link farmers with certified seeds suppliers who carry these improved varieties so that by the second year farmers have a relationship with a supplier from which they can purchase seeds in the third year.

Intercropping with pigeon peas: Intercropping is the cultivation of two or more crops at the same time in the same field. Its common goal is to produce a greater yield on a given plot by making use of resources otherwise not utilized by a single crop. Although 79,000 farmers have received training on intercropping soybean or groundnut mixed with pigeon pea in the ZOI, the acceptance rate has been low. AFOs should continue to train farmers in the benefits of intercropping, making it clear that it is acceptable to mix crops and that pigeon peas will not compete with the primary crop (i.e., groundnuts or soybeans). For farmers who have learned about intercropping, reinforcement training should be conducted so they plainly understand how intercropping works.

Herbicides and pesticides: Crop production in Malawi is limited by a number of factors, such as climatic conditions, low soil fertility, and plant diseases and pests. Disease and pest outbreaks have traditionally been high, causing crop losses of up to 30 percent. To combat this, Malawi depends on herbicides and pesticides, all imported. It was reported that for those who can afford it, pesticides are primarily used, followed by herbicides, mostly in tobacco, cotton, and maize fields. All the men and women farmers from six focus groups in Lilongwe reported that neither NASFAM nor the Farmers Union of Malawi (FUM) trained them in herbicide or pesticide use, although one focus group reported learning about plant protection products from non-project government extension staff. Across all districts, farmers reported they could not afford herbicides and pesticides even if they knew what product to buy; therefore, INVC should emphasize other pest/weed management practices. The Consortium should conduct research to investigate the market for organic groundnuts and soybeans to sell in affluent markets or to be used for value-added products confined to organic crops.

Aflatoxin: Found widely in cereals and nuts in subtropical and tropical climates around the world, aflatoxin is a fungi that infects groundnuts in the field and during storage. It is toxic at certain concentrations, causing weight loss, tumors, hemorrhaging, miscarriages, liver cancer, and even death. Aflatoxin contamination is a serious problem in Malawi. INVC has prepared training manuals that are

used to train EPA extension agents, who in turn train Lead Farmers to educate other farmers in their communities. The manuals contain additional post-harvest abatement procedures. To the extent that these practices have been undertaken, aflatoxin risk has been reduced. Although some farmers interviewed said they had received general aflatoxin training and reported using proper prevention methods, others thought aflatoxin is only a post-harvest issue or misunderstood the seriousness of its health threat and what to do about it. The Consortium should develop training materials that are devoted specifically to aflatoxin issues to emphasize its importance. AEDOs and AFOs should stress to farmers that fungal growth is not limited to post-harvest. Pakachere Institute of Health and Development Communication, which specializes in behavior change communications (BCC) in Malawi, should collaborate with the Consortium and sub-partners to craft behavior change messages via radio programs and jingles, as well as drama performances.

Storage and warehousing: Storage and warehousing are important elements in agricultural marketing. Storage involves holding/preserving goods from the time of harvest until they are needed for processing or consumption. It protects products from deterioration and ensures their continual flow in the market. Warehouses are built for the protection of quantity and quality of stored products. To increase value chain efficiency, INVC has relied on the Agricultural Commodity Exchange for Africa (ACE) to support storage and warehouse options for legumes. ACE aims to give smallholders leverage in negotiating for their crops by sharing market intelligence with them. It offers three services: a warehouse receipt system (WRS) that enables farmers to deposit a commodity in a certified storage facility and allows them to sell and obtain a receipt that can be used as collateral to access credit; buying and selling at auctions; and trading through live electronic auctions. (See "Collective Marketing," below.) Instead of groups of farmers accessing ACE directly, NASFAM Commodity Marketing Exchange (NASCOMEX), the commercial branch of NASFAM, purchases their crops and sells them through ACE. However, high aggregation and transportation costs may limit collective marketing. The Consortium should continue to promote ACE's services, and ACE should hold training courses that explain warehousing and collective marketing.

Productivity

Productivity per unit of land or labor is essential for the estimation of gross margins, one of the most important Feed the Future indicators. INVC did not report yield data in fiscal year (FY) 2013, but in FY2014 it reported groundnut yields of 0.87 metric tons/ha (MT/ha) and soybean yields of 0.67 MT/ha—7 percent and 11 percent below their respective baseline levels of 0.93 MT/ha and 0.75 MT/ha. However, it would be premature to conclude that INVC has not been able to increase the productivity of beneficiaries based on this data.

There are many obstacles to measuring and estimating productivity and/or profitability of groundnut and soybean enterprises in Malawi. The country does not have a culture of systematically measuring/estimating crop performance per unit of area or labor force used. This severely restricts informed decision-making and the management of a crop portfolio.

Even without an accurate measure of productivity, farmers can gauge their food requirements and consumption, the need for production inputs, and, in a very limited way, access to the market, which enables them to buy necessary consumables, including food and services. At present, it is not possible to determine the increase in productivity due to promoted agricultural production technologies and

practices. The lack of reliable measurements of productivity has been compounded by floods and droughts, pests and diseases, and/or delayed planting. The interplay of production and harvested area is embedded in the thinking of interviewees, but, except for the Consortium, there is no evidence of a project-wide effort to measure productivity and teach farmers to use that information to assess their success or failure in the current season and plan for the next season. (See the "Integration of Nutrition and Value Chains—Increasing Agricultural Income" section below.)

Agriculture sub-partners should train District Officers on productivity, who in turn should train those below them to reach farmers. Productivity training should consider how farmers gauge food requirements and consumption, the need for production inputs, and access to markets to procure necessary consumables. Linking a culture of measurements with successful farm management practices should not only contribute to more legume household consumption—it should also bring more disposable income to households.

Pakachere should develop behavioral change messages that address the importance of properly measuring productivity through radio programs, jingles, and drama performances. These messages will be extremely useful for farmers with low or no literacy and numeracy skills. In the short run, lead farmers should be more explicitly trained by NSAFAM and FUM, with the ultimate goal to share with others the importance of measurement to understand crop performance. BCC would serve as a useful complement to reinforce these messages. For literate and numerate farmers, there should be training or refresher modules for basic measurements and math, and building and interpreting crop budgets that follow the principles of managerial economics.

Collective Marketing

The Consortium has supported collective marketing options for farmers predominantly through ACE, giving them leverage in negotiating for their crops by providing them with market intelligence. The Consortium and sub-partners have a good understanding of collective marketing, but knowledge about and presence of collective marketing narrows at the district, EPA/village, and farmer levels. District-level officials, extension agents, Group Village Headmen (GVH), Lead Farmers, Model Farmers, and farmers understand collective marketing as a way to secure seed and sell produce, with little or no mention of the use of storage services as a group. Farmers in 11 of 25 focus groups said they sold legumes collectively. The majority sell individually to NASCOMEX, to which they are loyal because they receive seed on credit, or buyers who visit their villages.

Adoption of collective marketing, mostly association-led selling and, to a lesser extent, hedging, is taking place. It is more rooted in Mchinji and Lilongwe. A challenge for the Consortium is to more widely disseminate knowledge of collective marketing's benefits and responsibilities and support farmers accessing markets. Incomplete understanding of what options are available limits farmers' choices. Farmers have learned how to follow marketing recommendations, but they have not been trained as decision-makers. Therefore, the Consortium should ascertain how beneficiaries are given the opportunity to access markets, make decisions, store produce, add value to legumes, and develop and strengthen alliances with processors and alternative input suppliers. AEDOs and AFOs should clarify to farmers that they have options other than NASCOMEX, but that it will take time to create options for other outlets. AEDOs and AFOs should train farmers as decision-makers.

NASCOMEX has an effective monopoly on the market, with NASFAM providing seeds and training at the outset and NASCOMEX buying and selling what farmers produce. NASFAM needs to find a point whereby it supports and empowers its members as decision-makers, including the possibility that it may not be in the best interest of the smallholders to sell to NASCOMEX.

Nutrition

The INVC BCC Strategy on Nutrition and Agriculture Value Chains in Malawi is implemented through Farmers Clubs and the Community Care Group (CCG) Model. It prioritizes 15 nutrition behaviors and practices, focusing on four categories: maternal antenatal care (ANC) and diet, breastfeeding, complementary feeding, and hygiene. The CCG Model demonstrates potential for scale-up and coverage using a peer interpersonal model, but it could be better implemented with improved coordination, training, capacity development, and supportive supervision. Furthermore, the model needs to be more closely coordinated with routine community growth monitoring through Child Health Days in collaboration with government extension-level Health Surveillance Assistants (HSAs) to monitor stunting impact and develop a counter-referral system for identification and referral of malnourished children. Examples of how the BCC Strategy can be optimized include focusing more on high-quality "timed and targeted counseling" and improving the coordination and reach of the drama groups.

Women are still confused about when and how frequently to attend ANC, and taking iron-folic acid vitamin supplements. Of the four categories, these behaviors have the least frequent uptake. Breastfeeding behaviors are largely recognized and understood by beneficiaries, although poorer mothers less frequently exhibited behaviors, with some variability along socioeconomic factors. Some breastfeeding practices (e.g., proper attachment and holding the baby in a correct/comfortable position) need reinforcement and improvement. Mothers/caregivers understand basic complementary feeding, but most rely on feeding children under 2 thin porridge, fail to provide children food from the six food groups in the national dietary guideline (staples, vegetables, fruits, legumes and nuts, foods from animals, and fats and oils), and cannot afford a more diverse diet.

For hygiene, most caregivers recognize the need for hand washing at the four critical times: before cooking (food preparation), before eating, before handling a baby, and after using the toilet or disposing of feces. However, most households do not have a hand washing station or soap, and most are not regularly practicing hand washing with soap. Most caregivers are using only plain water to wash their child's hands after defecation and before eating, or not washing their hands at all. Finally, open defecation and use of latrines needs to be addressed, especially among children under 5.

Local Capacity Development

INVC has implemented an LCD component to help its partners better implement the project and prepare to become direct USAID awardees. To develop local capacity, INVC agreed that three local sub-partners be empowered with effective management practices and financial systems, with potential to receive future U.S. Government awards during the life of the project. Seven local sub-partners were selected to conduct activities in different components: ACE, CADECOM, FUM, NASFAM, Nkhoma Hospital, Pakachere, and the Civil Society Agriculture Network (CISANET).

INVC sub-partners have benefited from support from extra staff and training, which have increased their capacity to comply with USAID procedures in finance, M&E, and project management. Organizational Capacity Assessment Tool (OCAT) scores improved for most sub-partners, but most called for a more holistic approach to their own capacity development, following a schedule and objectives aligned with their organizations, including coaching. Sub-partners requested financial support and external business expertise to accomplish capacity building goals.

The Consortium's efforts have helped build partners' capacity to comply with USAID requirements. To sustain the success achieved so far, the Consortium needs to pay more attention to supporting partners' capacity development plans. It has helped to develop their capacities comprehensively, especially in financial and project management; it has also helped them implement capacity development plans, but more work is needed in sub-partners' priorities. The OCAT contains the dimensions, including new dimensions, of a well-capacitated organization. The Consortium needs to raise awareness on what these dimensions mean and how important they are to sub-partners.

Because sub-partners are at different stages of development, they need different levels and types of intervention. The Consortium should be able to tailor interventions to each partner, and should invest more time in change management, knowledge management, stakeholder involvement, and developing new opportunities. These are new concepts—ones sub-partners do not yet appreciate. The Consortium and the sub-partners should use the capacity development plans as the terms of reference for both parties. Delivering capacity development through provision of staff, training, coaching, and mentoring creates synergy, but this should be well-linked and coordinated. This can be achieved by establishing practices and systems for reflection and learning.

Integration of Nutrition and Value Chains

Agriculture-nutrition causal impact pathways can serve as a conceptual and operational framework for program and policy design and evaluation. Three pathways are identified in nutrition-sensitive value chain development:

- *Agriculture as a source of food—food production for own-household consumption*: Hypothetically, increased production of groundnut and soybeans, as a result of INVC intervention, will allow farmers to consume more legumes, following the strategy of "Sell some. Keep some. Invest some."
- *Agriculture as a source of income—agriculture production increases income and food expenditure*: Hypothetically, soybeans and groundnuts sold in the market, as a result of INVC intervention, will increase household income and improve purchasing power.
- *Agriculture and food prices affecting purchasing power and food consumption patterns*: This pathway involves agricultural policy and food price that affect purchasing power and food consumption patterns.

INVC agriculture-nutrition model: INVC aims to advance food security and nutrition, and reduce rural poverty through an agriculture-led integrated economic growth and nutrition strategy. The project initially targeted 100,000 children under 5 with nutrition interventions and at least 275,000 rural households through either nutrition or agriculture-based interventions or both. Under INVC's

extension (April 24, 2015-October 31, 2016), the target to reach children under 5 was revised upward to 175,000.

Project structure/levels of implementation: Level 1: The INVC Consortium—project management and technical staff. Development Alternatives Inc. (DAI), Save the Children International (SCI), and Michigan State University (MSU) were in the original Consortium. DAI has assumed SCI's activities in the extension phase.

Level 2: Local sub-partners—direct implementing sub-partners (FUM, NASFAM, and CADECOM), including technical and business service providers [ACE, CISANET, and the International Institute of Tropical Agriculture (IITA)].

Level 3: District-level stakeholders—Government of Malawi district officials, including District Agricultural Development Officers, District Agricultural Extension Methodologies Officers, Agribusiness Officers, District Nutrition Officers, District Environmental Health Officers, Food and Nutrition Officers, and Maternal and Child Health Nutrition Coordinators.

Level 4: EPA/village level—including GVH agricultural extension agents, HSAs, Nutrition Assistants (NAs) and Nutrition Promoters (NPs), Lead Farmers, and Model Farmers. It is at this level where Farmers Clubs and CCGs are operational, and INVC's "integration point of entry" for agriculture and nutrition is supposed to rest, integrating agriculture and nutrition interventions as a unified framework that combines both thematic areas.

Level 5: Beneficiaries—Farmers Club members, NPs, CCG Volunteer, Lead Mothers, and households that include PLW and mothers/caregivers of children under 5.

Differing definitions of agriculture-nutrition integration: Different levels of INVC stakeholders define and practice agriculture-nutrition integration differently. Some describe it as synchronizing institutional structures, some see it as an overlay of two components, and others see it as coordination, although this is not happening. Farmers believe agriculture-nutrition integration occurs in their backyard gardens, where they grow a variety of vegetables. Despite the project's one-time distribution of amaranth and pumpkin seeds, farmers reported having limited resources to procure vegetable seeds and other agricultural inputs for backyard gardens. Lack of such resources prevents diversification of the gardens, resulting in limited dietary diversification.

The Consortium should hold a stakeholder workshop to discuss the meaning of integration and expected stakeholder roles and responsibilities. At all levels, each stakeholder needs to understand the importance of collaboration and coordination of agriculture and nutrition activities.

Coordination of agriculture and nutrition activities: Agriculture and nutrition activities are not coordinated throughout the levels of stakeholders. Although FUM and Nkhoma have collaborated on activities, across districts this has not been the case with NASFAM and Nkhoma. NASFAM is willing to work with Nkhoma, but this willingness has not been reciprocal. INVC's agriculture and nutrition components should be closely coordinated, even coordinated for the first time to better serve beneficiaries and have maximum impact. NASFAM and Nkhoma should collaborate, and work with the EPA/extension level to conduct training sessions to teach agriculture and nutrition side-by-side. A Lead Farmer should accompany every NP who visits a village to reinforce agriculture-nutrition integration.

Post-harvest practices: Post-harvest practices are an integral part of the food production system. Use of best practices for post-harvest handling and management along the entire food supply chain contributes to value chain competitiveness, increased incomes, and safe, high-quality nutritious foods. INVC sub-partners should continue to train AEDOs and AFOs to build the capacity of Lead Farmers in post-harvest practices to facilitate the production of nutritious foods. They should train farmers about the benefits of warehousing and link them with local storage facilities.

Increasing agricultural income: The development hypothesis behind INVC assumes that if market-led value chain development is integrated with improved nutrition-related behaviors, then rural household incomes will increase and the nutritional status of women and children will improve. Though the Consortium has collected data using a range of indicators, including some that address agricultural productivity, the data quality is limited because collection did not use Feed the Future methodology. Consequently, it is difficult to ascertain agricultural income and assess if increased income has actually improved the nutritional status of women and children.

To tackle this, the Consortium is directly gathering data in the field and setting up systems to provide a comprehensive picture of progress measured against performance indicators. To strengthen M&E and the quality of value chain data, the Consortium should continue to develop its M&E systems to provide more precise measurements and gather field data as it is available. All district and EPA/village extension stakeholders and farmers should be trained in M&E so they can capture and document progress. Farmers, especially those who are key players in their own development, need accurate information to make informed decisions about their own livelihoods.

Backyard gardens: INVC works to increase agricultural production through the targeted legume value chains as well as increase consumption of locally adapted, diverse sources of nutrient-dense foods through support for backyard gardens based on locally available solutions. NPs and Lead Mothers in particular have benefitted from backyard gardens, citing this as the most important nutrition intervention that they have received. However, many farmers who have backyard gardens produce few vegetables because they lack access to agricultural inputs, especially seeds.

To scale up support for backyard gardens, the Consortium should continue to work closely with its sub-partners, who should coordinate with AEDOs and AFOs to promote and support backyard gardens. AEDOs and AFOs should help communities procure agricultural inputs, such as improved seeds, fertilizer, linking farmers to reliable agro-input dealers. To promote homestead food production, the Consortium should consider supporting a more comprehensive "homestead food production" model, which is an integrated approach to farming with year-round production of nutrient-dense, micronutrient-rich fruits and vegetables and small animal husbandry.

Food preparation and processing: Household food preparation and processing is important for improving food quality and shelf life, and preserving nutrients and dietary diversification. In collaboration with Lilongwe University of Agriculture and Natural Resources, Nkhoma has conducted training with District Nutrition Officers (DNOs), NAs, and NPs. However, these people lack resources to share this training with beneficiaries, and only limited demonstrations were reported as implemented. Farmers are eager to learn more about food preparation and processing, adding to what they already know and building on family recipes. Nkhoma, NASFAM, and FUM should support DNOs, NAs, and NPs with the

resources they need to trickle down food processing training to Lead Mothers and direct beneficiaries to meet the demand for teaching food preparation and processing at the village level.

Crosscutting: Gender and Equity and Women's Empowerment: Early in 2014, INVC commissioned a gender assessment to sharpen its focus on gender equality and women's empowerment in all aspects of nutrition and agriculture programming.

Starting in FY2014, INVC began to segregate its data by sex for some performance indicators. Data revealed a 1.18:1 female-to-male ratio among those who received U.S. Government-supported short-term agricultural sector productivity or food security training. The ratio was 9.65:1 for training in child health and nutrition, and 1.44:1 for training in the number of hectares under improved technologies or management practices.

All INVC agriculture interventions should incorporate gender equity and women's empowerment. In addition to promoting positive nutrition behaviors and practices, INVC has supported women in the cultivation of groundnut and soybeans to assist with feeding their families and increasing household income. The Consortium should continue to segregate and record its data to assess efforts to promote gender equity and women's empowerment and make adjustments when necessary. Gender equity in the Farmers Clubs and CCGs should be monitored. The Consortium should continue to empower women through targeted agricultural interventions, especially ones that focus on "women's crops," but also other legumes and small-scale horticulture via backyard gardens.

Stakeholders at all levels should adhere to the "do no harm" rule. In empowering women, it is important to remember to do no harm and consider the trade-offs between their roles as caregivers and their time and labor constraints.

1. EVALUATION PURPOSE AND EVALUATION QUESTIONS

In December 2014, the USAID Mission in Malawi tasked the Feed the Future Knowledge-Driven Agricultural Development Project, a USAID-funded activity led by Insight Systems Corporation and the QED Group, LLC, to evaluate the performance of the Feed the Future-funded Malawi Integrating Nutrition in Value Chains (INVC) activity. This evaluation is to ascertain if USAID/Malawi's integrating nutrition in value chain approach is working effectively, and inform future integration efforts and planning. Specifically, this performance evaluation aims to:

- Assess INVC's performance in regard to four primary activity components: value chain competitiveness, agricultural productivity, nutrition, and local capacity development (LCD)
- Assemble key lessons learned from INVC implementation of the four activity components for future agriculture-nutrition projects
- Help inform future agriculture, nutrition, and LCD activity design for USAID/Malawi and other stakeholders

Table 1 lists the six performance evaluation questions that the evaluation is addressing.

Table 1: Performance Evaluation Questions[5]

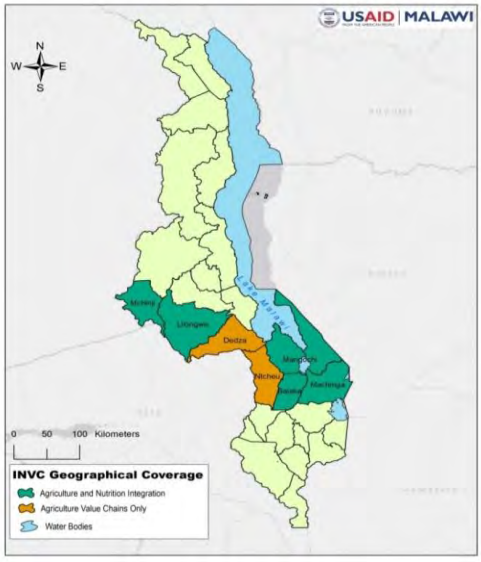
Question 1: Which elements and/or approaches of INVC's integrated model have been most successful in leading to adoption of both the promoted agriculture and nutrition behaviors and practices by beneficiaries? Which elements and/approaches have been least successful?
Question 2: Which of INVC's promoted nutrition behaviors and practices have been most widely adopted by beneficiaries and why? What are the main barriers to effective adoption of the promoted nutrition behavior?
Question 3: Which of the collective marketing approaches promoted by INVC have been most effective in linking beneficiaries to markets? Which collective marketing approaches have most effectively increased the incomes of beneficiaries? What are the main barriers to beneficiaries' participation in collective marketing?
Question 4: To what extent have beneficiaries adopted INVC's promoted agricultural production technologies and practices? What are the main barriers to adoption of these technologies and practices?
Question 5: To what extent has the productivity of soy and groundnut increased for beneficiaries as a result of adoption of the promoted agricultural production technologies and practices? What factors, if any, have impeded increases in productivity even when the technologies and practices were adopted?
Question 6: To what extent have INVC's LCD efforts strengthened the organizational capacity and performance/service delivery of local sub-partners? Which, if any, of the local sub-partners will be ready to become direct USAID awardees by the end of INVC (October 31, 2016)? Of those partners, which, if any, want to become direct USAID awardees?

[5] Performance Work Statement for the Performance Evaluation of USAID/Malawi's INVC Activity. December 2014.

II. PROJECT BACKGROUND

INVC is USAID/Malawi's Feed the Future flagship nutrition-sensitive agriculture activity, implemented in the Feed the Future Zone of Influence (ZOI) in seven districts in Central and Southern Malawi (Lilongwe, Mchinji, Dedza, Ntcheu, Balaka, Mangochi, and Machinga) from April 2012 through October 2016.[6] Lilongwe, Mchinji, Balaka, Mangochi, and Machinga have agriculture and nutrition integration; Dedza and Ntcheu have only agriculture value chains (see Figure 1)[7].

Figure 1. Malawi INVC Coverage



Malawi INVC Goals, Objectives, and Intermediate Results

INVC aims to improve the quality of life of Malawians by reducing poverty and improving nutrition through agricultural transformation, contributing to the overall USAID/Malawi Feed the Future goal to reduce global poverty and hunger. This will be achieved through six intermediate results (IRs) within the Results Framework,[8, 9] as shown in Figure 2 (next page):

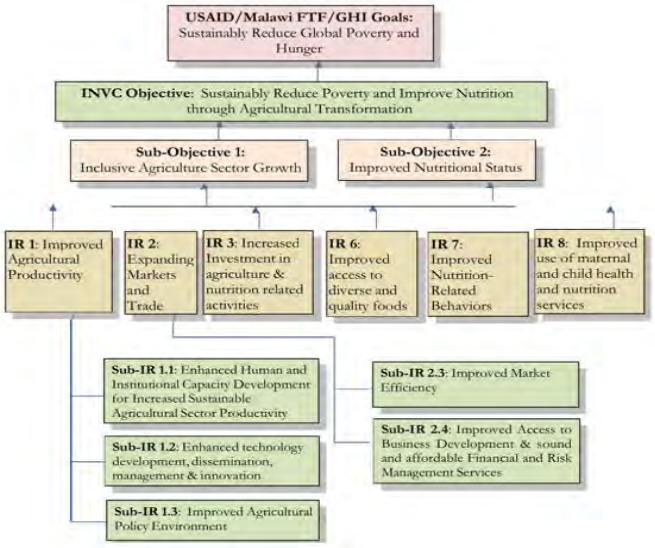
1. IR1: improved agricultural productivity
2. IR2: Expanded markets and trade
3. IR3: Increased investment in agriculture and nutrition-related activities
4. IR6: Improved access to diverse and quality foods
5. IR7: Improved nutrition-related behaviors
6. IR8: Improved use of maternal and child health and nutrition services

[6] INVC was awarded in April 2012 and expected to end in April 2015, but has been extended through October 31, 2016. This evaluation covers April 2012 to December 2014.
[7] INVC expanded nutrition interventions in Balaka, Mangochi, and Machinga in FY2014.
[8] Figure 2 shows only six IRs without IR4 and IR5, possibly because INVC is using the Feed the Future results framework.
[9] Performance Monitoring and Evaluation Plan (PMEP). December 2013. INVC Final—Revised. March 2014.

To achieve the development objectives, INVC focuses its investments and integrates activities within and across the agriculture and health/nutrition sectors, and places great emphasis on building host country capacity to lead and manage its own development.

The development hypothesis underpinning INVC posits that if market-led value chain development is integrated with improved nutrition-related behavior, then rural household incomes will increase and the nutritional status of women and children will improve.[10] The value chain refers to the entire range of goods and services necessary for an agricultural product to move from the farm to the final customer or consumer. Priority value chains include groundnuts and soybeans, both legumes. The project establishes a strategic grants and innovation facility that provides resources to sub-partners so they can implement value chain, nutrition, and service provision activities. Moreover, the project strengthens the capacity of Malawian organizations to implement Feed the Future activities.

Figure 2. Malawi INVC Results Framework



Targeted Populations

INVC target beneficiaries are rural smallholder farmer households that cultivate between 0.5 and 1.2 hectares of land, produce sufficient maize for home consumption, have the potential to increase maize productivity while freeing up land for diversification to legume production, have access to extension services and inputs, and possess the potential for linking to markets. Nutrition interventions target women of reproductive age (WRA), including pregnant and lactating women (PLW) and mothers/caregivers of children under 5, with a particular focus on the 1,000-day window of opportunity from a women's pregnancy to a child's second birthday, therefore focusing on children under 2. Throughout the life of the project, INVC seeks to reach at least 275,000 rural households through agriculture-based or nutrition interventions or both, and at least 175,000 children under 5 through targeted nutrition-specific and nutrition-sensitive interventions.

[10] Performance Work Statement for the Performance Evaluation of USAID/Malawi's INVC Activity. December 2014.

Implementing Partners

INVC is implemented by a consortium of three key partners: Development Alternatives Inc. (DAI), the prime contractor responsible for overall project management and value-chain development, and starting in June 2014, directly implementing nutrition activities in Balaka, Machinga, and Mangochi districts; Save the Children International (SCI), responsible for nutrition and behavioral change; and Michigan State University (MSU), responsible for monitoring and evaluation (M&E) of nutrition and value chain activities. These partners work directly with and through local sub-partners through grants as implementing partners, technical service providers, or business service providers with experience in the agricultural and health/nutrition sectors. The primary sub-partners focusing on agricultural value chains include the National Smallholder Farmers Association of Malawi (NASFAM), the Farmer's Union of Malawi (FUM), and the Catholic Development Commission of Malawi (CADECOM). Sub-partners focusing on nutrition include Nkhoma Hospital, which plays a direct implementation role, and Pakachere Institute of Health and Development Communication, the primary technical service provider leading in behavior change communication strategies for nutrition. Sub-partners providing support to value chain investments include The Agricultural Commodity Exchange for Africa (ACE) and The International Institute for Tropical Agriculture (IITA).

Table 2. Original Components in the Performance Work Statement (PWS) that INVC Addresses[11]

INVC was designed to address five inter-related components:

Advancing Value Chain Competitiveness: improving competitiveness of legume and dairy value chains and access to business development, and extension services

Improving Productivity: improving soil fertility and water resource management for increased productivity

Improving Community Capacity to Prevent Undernutrition: reducing undernutrition by translating increased, diversified food production into improved household diets

Promoting in Innovation: providing grant opportunities for private sector investments to buy down the risk for the poor and the ultra-poor to innovate and invest; providing opportunities for the ultra-poor to access and benefit from the value chain activities[12]

Developing Local Systems Capacity: strengthening local systems to take responsibility and to be accountable for INVC results now and in the future

Project Modification

In its goal to sustainably reduce rural poverty and improve nutrition through the integration of agriculture and nutrition interventions, INVC originally focused on three value chains—dairy, soybeans, and groundnuts—until September 2014. USAID has supported the dairy sector for 10 years, but after an extensive analysis on its value chain, USAID/Malawi decided to discontinue the dairy component from its

[11] PWS for the Performance Evaluation of USAID/Malawi's INVC Activity. December 2014.
[12] This evaluation will not address this component as stipulated in the December 2014 PWS.

Feed the Future strategy and from INVC. Dairy interventions proved to be more expensive than other value chains, and while the dairy sector reached thousands of households, supporting other value chains offered the potential to reach hundreds of thousands of households when scaled up.[13] USAID/Malawi asked INVC to expand to three more districts and work as direct implementers in Balaka, Machinga, and Mangochi (May 2014-present). Other project modifications were made in September 2014, including the discontinuation of the Promoting Innovation component. A Village Savings and Loans (VSL) component was added to improve community members' income and nutrition standards. VSL groups have proven to be effective to mitigate poverty and lack of financial services among the rural poor.[14]

INVC was extended through 2016. Gender was emphasized, requiring the project to hire a dedicated gender specialist. Local capacity development was also emphasized, along with co-location, coordination, and collaboration integration with district governments, other development projects across the sector, and other donors in Lilongwe, Balaka, and Machinga, adhering to USAID/Malawi´s Country Development Cooperation Strategy. The original DAI chief of party was replaced during the last quarter of 2014, and DAI employed a second deputy chief of party in January 2015 to focus exclusively on agriculture.

Evaluation Design, Methods, and Limitations

Below is a discussion of the scope of the evaluation coverage and methodology, the selection of sites and participants, the data collection methods, the quantitative and qualitative analysis of data, the data sources and data-gathering instruments, and the risks and limitations.

The six performance evaluation questions in Table 2 are also listed in the Performance Evaluation Planning Matrix (Annex 6), which includes performance indicators relevant to the questions, data collection method(s), sources to be used, and the targeted stakeholder groups.[15]

- Level 1: The INVC Consortium—project management and technical staff
- Level 2: Local sub-partners—direct implementing partners, including technical and business service providers
- Level 3: District-level stakeholders—Government of Malawi district officials, including District Agricultural Development Officers (DADOs); District Agricultural Extension Methodologies Officers; Agribusiness Officers; District Nutrition Officers (DNOs); District Environmental Health Officers (DEHOs); Food and Nutrition Officers; and Maternal and Child Health Nutrition Coordinators
- Level 4: EPA Extension and Village level—including Group Village Headmen (GVH) agricultural extension agents, Health Surveillance Assistants (HSAs), Lead Farmers, and Model Farmers
- Level 5: Beneficiaries—Farmers Club members, Nutrition Promoters (NPs), Community Care Group (CCG) Volunteer Lead Mothers, and households that include PLW and mothers/caregivers of children under 5

[13] Phone conversation with Lynn Schneider, Feed the Future Coordinator, USAID/Malawi, February 26, 2015.
[14] USAID, Feed the Future, FY2015 First Quarterly Report, INVC Project, Malawi, January.
[15] Annex VI, Inception Report, pp., 37-44.

Evaluation Coverage and Methodology

INVC operates in seven districts in Central and Southern Malawi. In Dedza and Ntcheu, it works only in value chain development. Value chain and nutrition integration first started in Lilongwe and Mchinji. Value chain activities also started in Balaka, Machinga, and Mangochi; activities in nutrition were expanded to these districts in 2014. Villages in these districts have Farmers Clubs working in groundnut and soybean value chains and CCGs that address nutrition. The sub-partners that implement value chain and nutrition programming are NASFAM, FUM, CADECOM (Dedza), Nkhoma Hospital, and Pakachere.

INVC's LCD activities include eight sub-partners: ACE, CADECOM (Dedza), the Civil Society Agriculture Network (CISANET), FUM, NASFAM, Nkhoma, and Pakachere, all of which are located in the cities of Lilongwe, Blantyre, and Dedza.

Selection of Sites and Participants

The PWS requested an evaluation in all seven districts in which INVC operates. After consultations with USAID/Malawi, Lilongwe and Mchinji were selected for over-sampling for agriculture and nutrition components because they have experienced the longest period of implementation, presumably offering the clearest picture of agriculture and nutrition integration. Dedza was given a high priority because it has a large number of beneficiaries and is the only district where CADECOM implements project activities. Balaka and Machinga were selected because of geographic feasibility. Mangochi and Ntcheu were excluded—Mangochi due to time constraints and Ntcheu due to its small number of beneficiaries and because NASFAM, the implementer there, can be evaluated in other districts.

In its evaluation of intervention sites to visit, the Evaluation Team originally considered two factors. The first was the combination of agriculture and nutrition interventions at each site: Sites were selected that included community-based agriculture interventions alone and agriculture and nutrition interventions implemented in the same district. The second factor was the performance level of the implementation partners, who were rated "good" or "fair" in leadership and integration of the nutrition and value chain activities. Upon the request of the Evaluation Team, Consortium staff provided this subjective characterization to gather contrasting information at the district level. However, due to unforeseen events such as funerals and sick personnel, implementation of this contrasting criterion was unfeasible.

For nutrition sampling, nine villages were identified within eight EPAs. The Evaluation Team randomly selected CCG participants, including nutrition promoters (Level 3 in Table 3, next page) and CCG Volunteer Lead Mothers (Level 4), and PLW of children under 5/2 who were direct beneficiaries (Level 5). Within the CCGs, individual Lead Mothers and beneficiaries were randomly selected at the village level.

For value chain sampling, 13 villages were identified in the five districts, covering four districts where both nutrition and value chain activities are carried out, and one with only agricultural activities. A total of 832 people were interviewed, 548 females and 284 males (Table 3).

Data collection methods included document reviews, consultations, individual and focus group discussions, and secondary data. During interviews, the Evaluation Team ensured all direct beneficiaries were segregated by sex to ensure openness.

For the LCD component of this evaluation, only stakeholders at the Consortium and sub-partner levels were interviewed.

Table 3. Coverage of the Performance Evaluation INVC

Stakeholder Level	Nutrition*			Value Chain**			Total
	Female	Male	Total	Female	Male	Total	ALL
1	9	6	15	5	18	23	38
2	7	6	13	1	7	8	21
3	1	2	3	8	26	34	37
4	6	7	13	21	37	58	71
5	242	20	262	248	155	403	665
ALL	**265**	**41**	**306**	**283**	**243**	**526**	**832**

*Mchinji and Lilongwe Districts
**Balaka, Dedza, Lilongwe, Machinga and Mchinji districts

Quantitative and Qualitative Data Analysis

Performance indicators were used to assess progress of results against expected targets and performance of the project against agreed milestones. Measuring these indicators provided the evidence to quantify performance relative to the annual targets.

The evaluation questions were answered in light of the primary qualitative data gathered and, when appropriate, performance indicators have been referred to. Qualitative analysis of information gathered in semi-structured individual and focus group discussions was based on a guide with open-ended questions related to each of the Performance Evaluation (PE) questions as detailed in the Evaluation Planning Matrix.[16]

The basis for qualitative research is the development of field notes prepared following the protocols from the data-gathering instruments. Stakeholders at five different levels were interviewed in the five districts to ascertain five evaluation questions (excluding LCD). The Consortium stakeholders and all but one of the sub-partners were located in Lilongwe (CADECOM in Dedza). District- and EPA-level stakeholders were visited in their corresponding districts. The majority of stakeholders interviewed were at the village level (665 out of 832). Complete sets of interviews at the district level were examined to assess the diversity of responses by different levels of stakeholders, and summaries were prepared for each level. At the village or farmer level, notes were segregated by sex to ascertain possible differences.

Emphasis was placed at the village or direct beneficiary level to glean the nuances of technology adoption, productivity, competitiveness, and training. The Evaluation Team compiled lists of topics identified by different stakeholders and came to a consensus about the most relevant based on frequency of occurrence to elucidate patterns of behavior or practices. The dominant responses regarding the INVC components in terms of the six evaluation questions were identified.

[16] Harden, A. et al. (2004); Thomas, J. et al., (2004); Dixon-Woods, M., S. Agarwhal, D. Jones, B. Young, and A. Sutton. (2005); Noblit, G.W. and R.D. Hare. (1988).

Data Sources

Performance indicators and measures originated in the Performance Monitoring and Evaluation Plan and used in the Performance Indicator Tracking Table (PITT) (2015), as well as annual reports, were useful to ascertain the quantitative performance of the project in relation to the PE questions.[17]

The Evaluation Team used an Organizational Capacity Assessment Tool (OCAT) to evaluate different aspects of institutional development, and analyzed results of the different OCATs conducted in 2014. Outcomes from the OCATs and specific capacity development plans developed by the sub-partners were investigated.

Further, the Evaluation Team relied on workplans, quarterly reports, annual reports, and technical documents provided by INVC. A complete annotated list of documents is provided in Annex 8 with bibliography.

Data-Gathering Instruments

Five Interview Discussion Guides were developed for each level of stakeholder for nutrition and value chains. (See Annex 7 for detailed data collection instruments.)

1. Level 1: The INVC Consortium
2. Level 2: Local sub-partners
3. Level 3: District-level stakeholders
4. Level 4: EPA-Extension and Village level
5. Level 5: Beneficiaries

Risks and Limitations

The methodology proposed for this evaluation has risks and limitations that may undermine the reliability of its findings. The Evaluation Team is aware of at least two types of risks and limitations: data quality and institutional dynamics.

Data limitations: The unavailability of high-quality baseline data limited the establishment of trends and comparative analysis of project performance. Gross margins for Fiscal Year (FY) 2013 relied on sub-partners' estimates that did not follow the Feed the Future methodology,[18] and yields were not reported for that year. In 2014, data collection improved with the use of a structured questionnaire addressing most of the Feed the Future data requirements to measure gross margins per hectare. The indicators in the PMEP may not always represent the complexity of the processes being assessed, such as the integration of nutrition and value chain development or the interaction of factors that hinder adoption or behavioral change. To add depth to the data captured in the most recent PITT, the Evaluation Team used qualitative methods. Relying extensively on qualitative data, however, can have the limitation of not being representative if such data rests on anecdotal information. To address this, the Evaluation Team conducted data collection and analysis systematically by triangulating across multiple sources (stakeholder categories), methods (individual and group interviews), and investigators to ensure the reliability and validity of findings and conclusions.

[17] Annex II, Quantitative Assessment of INVC.
[18] Feedback from USAID on 15-05.

Institutional dynamics: The apparent high turnover of INVC staff and local partners may have hampered institutional memory beyond what was documented in written reports. People contacted for possible interviews were not available.

III. FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

This section covers the key findings, conclusions, and recommendations for each of the evaluation questions as outlined by the PWS. They have been ordered in this section to follow a more logical technical format rather than the explicit evaluation question. For the reader's reference they are ordered by:

- Technology Adoption (Q5)
- Productivity (Q4)
- Collective Marketing (Q3)
- Local Capacity Development (Q6)
- Nutrition (Q2)
- Integration (Q1)

Within each section, findings, conclusions, and recommendation are discussed under a collection of themes.

A. TECHNOLOGY ADOPTION

New Agricultural Technologies and Practices

Evaluation Question: To what extent have beneficiaries adopted INVC's promoted agricultural technologies and practices? What are the main barriers to adopt of these technologies and practices?

With the objective of inclusive agriculture sector growth through advancing value chain competitiveness and improving productivity, INVC has promoted a range of agricultural technologies and practices for groundnut and soybean value chains. These include the introduction of land preparation practices, improved seed varieties, cultivation practices, harvesting and drying practices, post-harvest practices and processing, storage, and marketing.[19] (See Table 4 on the next page.) Some of these technologies and practices are discussed in detail below; however, a more general discussion about adoption is in order here.

There is always a time lag between the introduction and acceptance of new agricultural technologies and practices. Adoption is a mental process through which an individual passes from learning about a new idea to its acceptance. Awareness of a new idea comes first, followed by interest in it when the person seeks information about it. Next, an evaluation-application decision takes place on whether to try it, then a trial of the new technology/practice. Full-scale adoption is the last step. Most farm practices are functionally interrelated, and the adoption of one practice often makes possible the adoption of others.[20] In all districts, men and women farmers reported using INVC-promoted technologies and practices (i.e., using high-yielding seeds, adopting ridge spacing, plant spacing, double rows, weeding, and crop rotation). Not all farmers practiced intercropping, because some had not been trained in the practice, had not had an opportunity to try it, or thought it would result in competition with one another.[21] Although farmers

[19] INVC Annual Workplan FY014-Final, 2013.
[20] Bohlen, et al., 2015.
[21] Interview #5M-5-23-04-1005.

have been trained how to use herbicides and pesticides, most admitted they could not afford them. Farmers knew about harvest practices, but their knowledge of aflatoxin was incomplete.

Table 4. Agricultural Technologies and Practices

Groundnut Technologies	**Soybean Technologies**
1. Use of CG7 seeds 2. Post-harvest processing 3. Grading and packaging	1. Use of Serenade or Tikalore seeds 2. Use of inoculant 3. Post-harvest handling and processing 4. Grading and packaging
Practices	**Practices**
1. Source of seeds among farmers 2. Ridge spacing 3. Plant spacing 4. Double row planting 5. Doubled-up legumes (inter-cropping with pigeon pea) 6. Crop rotation practices 7. Application of herbicides or pesticides 8. Weeding practices 9. Knowledge of harvest time 10. Harvesting and drying practices 11. Marketing among farmers 12. Implementation of safety standards 13. Implementation of quality standards 14. Storage 15. Marketing practices 16. Selling in the shell	1. Source of seeds among farmers 2. Ridge spacing 3. Plant spacing 4. Double-row planting 5. Doubled-up legumes (inter-cropping with pigeon pea) 6. Crop rotation practices 7. Application of herbicides or pesticides 8. Weeding practices 9. Knowledge of harvest time 10. Harvesting and drying practices 11. Marketing among farmers

Sorting was rudimentary, grading was not practiced, and farmers' collective marketing (or marketing options in general) was limited due to not having a range of buyers to whom to sell.[22] These practices are discussed in more detail this section and under the collective marketing question of this report. In sum, farmers appeared to be well-trained and versed in what they learned, but actual application could not be verified without follow-up field visits outside the scope of this evaluation.

A different story was told at the EPA level. Agriculture Field Officers (AFOs) reported farmers were reluctant to adopt the first year, but between FY2013-FY2014, farmers started ridge spacing, plant spacing, double-rows, and weeding. District-level officials (i.e., DADOs and AFOs) attributed slow adoption to a low level of education. They reported a 50 percent adoption rate in the first year farmers were trained and a 60-70 percent adoption rate in the second year. An 80 percent adoption rate was expected this year. AFOs also said women are early adopters, and that men are more inclined to adopt something new after seeing positive results.[23] (See "Innovators and Early Adopters" below.)

The sub-partners—NASFAM, FUM, and CADECOM—once again perceived adoption differently. They estimated lower application rates of 25 percent the first year, 35 percent the second year, and 50

[22] Interview #5F-3-18-04-1245; Interview #5F-2-10-04-1400.
[23] Interview #3-1-14-0-1030.

percent expected in the third year. One key informant from NASFAM noted that farmers are not opposed to trying new things, but have limited land and tolerance for risk.[24]

> **Lesson Learned**
>
> "Farmers are not averse to trying new things, but they have small plots of land and have a low tolerance for risk since their food security and livelihoods depends on what they produce and how. If a mistake is made, it can have dire consequences."
>
> —INVC sub-partner

Careful not to speculate on general percentages, the Consortium, having collected its own data, reported the number of farmers/others who used improved technologies or management practices as a result of U.S. Government assistance was 22,797 in 2013 and 135,114 in 2014. The total number of hectares under improved technologies and practices were reported to be 18,714 in 2013 and 42,426 in 2014.[25] The Consortium said "labor is a limiting factor" and "the biggest barrier is time." With only a few years of information upon which to draw, the Consortium concluded "it is too early to tell about long-term adoption."[26]

INVC performed above target levels in terms of farmers applying technologies and practices in FY2013 and FY2014; in terms of the number of hectares under improved management, it more than doubled its annual targets.[27]

Introducing Groundnuts and Soybeans in the Crop Portfolio

Prior to INVC implementation, an analysis of staple and cash crops in Malawi identified legumes as having the strongest business case (returns to the economy and smallholders), greatest potential for nutrition and gender benefits, and best opportunities for leveraging U.S. Government, Government of Malawi, and other donor resources. Focus on groundnuts and soybeans is expected to contribute to a diversified diet, improve protein in the diet, and reduce stunting. Moreover, the increased availability of nutritious foods resulting from value chain interventions is expected to reinforce nutrition efforts.[28]

Although the evaluation PWS focuses on determining the adoption and barriers to adoption of agricultural technologies and practices, it does not address the adoption of the specific legumes, including groundnuts and soybeans, which are the foundation of INVC's agricultural activities. As shifts in commodity selection are important for farmers, it is worth discussing them in reference to new technologies and practices.[29]

The average household in the Zone of Influence (ZOI) consists of five members with 0.81 ha of arable land, 80 percent of which is used for maize production with the balance allocated among other commodities such as tobacco, cassava, and sweet potato. Farmers have a choice of additional crops to grow.[30] Yet, when farmers were introduced to groundnuts and soybeans, they chose to add these in their crop portfolio.

[24] Interview #2-1-28-04-900.
[25] INVC Annex II, 2015.
[26] Interview #1-1-12-03-1400; Interview #1-1-26-03-800.
[27] INVC Annex II, 2015.
[28] INVC RFP, 2011.
[29] USAID-Malawi PWS, 2014.
[30] INVC Request for Proposal, 2011.

Findings

In 2013, the total hectares under improved technologies or management practices as a result of U.S. Government assistance for groundnuts and soybeans was 18,714. In 2014, this increased to 42,426 ha. In 2013, the average farmer received support for 0.82 ha; this decreased to 0.31 ha in 2014. Both these numbers are high considering the average farmer in INVC has 0.81 ha and on 80 per cent of his land he is growing maize, with only 20 percent left over to grow cotton, tobacco, or other crops like groundnuts and soybeans. Hence, something appears to be incorrect in the number of hectares reported, unless INVC is servicing land owners with large plots of land, the land is counted twice, or farmers have "used," not necessarily adopted, cost-free seed.

As discussed in the following section, "Innovators and Early Adopters," women were key in trying these new crops. Women have favorable attitudes to trying something new; in fact, these crops are referred to as "women's crops."[31]

Conclusions

NASFAM- and CADECOM-supported farmers offered free groundnut and soybean seeds via a seed recovery system (see "Seed and Inoculum Distribution System" below) were not required to plant them. They deliberately chose to grow these crops despite other options. Notwithstanding the land and labor constraints they face, farmers clearly believe that the potential benefits of growing these crops outweigh choosing other crops in their limited crop portfolio, where a misinformed choice can have severe consequences for food security and livelihood.

Recommendations

Assess legume cultivation in the ZOI. USAID should follow up on the ongoing University of North Carolina impact evaluation of INVC to assess groundnut and soybean cultivation in the ZOI. Farmers who did not grow these crops prior to INVC should be surveyed to assess their ongoing cultivation to determine if they grew these crops only during INVC implementation or if they permanently adopted them in their portfolio.

Innovators and Early Adopters

INVC promotes a range of land preparation and management practices, new improved seed varieties, cultivation practices, harvesting and drying technologies, post-harvest handling practices, and marketing strategies.[32] The first to try these are innovators and early adopters, followed by the early majority, late majority, and late adopters. Innovators and early adopters are motivated by new ideas and are willing to take risks. The early majority waits for positive results from a new idea, the late majority relies on friends and neighbors as confirming sources of information, and late adopters, sometimes referred to as laggards, join last.[33]

[31] Interview #2-1-08-04-1500.
[32] INVC Annual Workplan FY2014—Final, 2013.
[33] Bohlen, et al., 2015.

Findings

A Consortium staff member reported that 30 percent of farmers are men and 70 percent of farmers are women. Lead Farmers are split 50/50 between men and women.[34]

Finding

In Malawi culture, women are perceived as having more favorable attitudes to trying something new. They are seen as more patient than men, more willing to try a new approach, and have it pay off later. Conversely, men are viewed as looking for immediate benefits or wanting to see beneficial results from a demonstration plot.

Women have traditionally grown subsistence crops, such as groundnuts and soybeans, which are seen as secondary crops that help feed the family and produce additional income. These crops are the last to be planted and the last to be allotted hectares.[35] However, when income is derived from groundnuts and soybeans, these crops gain prominence and men take an interest in them.[36] This corresponds to research conducted in June 2014 regarding the roles of men and women in groundnut and soybean value chains.[37]

Sub-partners confirmed that legumes are viewed as "women's crops."[38] Sub-partners also explained that women are innovators and early adopters: "Women start off with new practices/approaches and then men take over. That is the culture in Malawi. Women from the beginning want to be more active, more involved. Women are patient, willing to wait, let things develop, and pay off later. Men are looking for immediate pay-off."[39]

District-level officials confirmed women as innovators and early adopters, and said men made decisions to try something new after seeing the benefits: "Men want to see results from a demonstration."[40]

At the EPA level, an association business manager and his AFO colleagues added that more farmers would use new technologies and practices with "additional trainings [and] behavior reinforcement," and with Lead Farmers offering continual encouragement.[41]

In Dedza, one of four women-only focus groups interviewed reported that they adopted INVC practices. These women confirmed that they are the most likely one in the family to grow legumes, try a new practice, and share any derived income with the household.

Conclusions

Farmers apply new technologies and practices at different times. The first to adopt are innovators or early adopters. Women farmers are seen as innovators and early adopters; this trait is recognized as a cultural distinction between the sexes.

Women predominately grow groundnuts and soybeans to feed their families and increase household income. Women farmers admitted being the first to apply new farming technologies and practices.

[34] Interview #1-1-7-04-800.
[35] Interview #1-1-7-04-800.
[36] Interview #1-1-04-1500.
[37] Cook, et al., 2015.
[38] Interview #2-1-08-04-1500.
[39] Interview #2-1-28-04-1730.
[40] Interview #3-1-14-04-1030.
[41] Interview #4-2-13-04-1400.

Women farmers are viewed as patient and willing to wait for positive results. Men want to see the results up front, although this might be mitigated with additional training and behavior reinforcement.

Recommendations

Tap the potential of women. The Consortium and sub-partners should emphasize reaching out to women farmers as innovators and early adopters.

Training for men. Men should receive training and reinforcement training to influence them.

EPA-level demonstration plots. At the EPA level, Agriculture Extension District Officers (AEDOs) and AFOs should assist with the establishment of demonstration plots to show potential early majority, late majority, or late adopters the benefits of changing their farming habits earlier. While AEDOs and AFOs can work with Lead and Model Farmers to set up demonstration plots in their villages, the EPA office site itself can be a good central location to have a demonstration plot for cultivating groundnuts and soybeans, highlighting all INVC-promoted technologies and practices. This can serve as a training field to show farmers throughout the season how each farming practice is ideally implemented.

Recommendation

To encourage more innovators and early adopters to try new technologies and practices for growing legumes, AEDOs and AFOs can set up a demonstration plot on the site of the local EPA office to exhibit best practices.

Find profitable markets and create demand. AEDOs and AFOs should also help farmers find profitable markets and create a demand for the groundnuts and soybeans that farmers are growing. In this way, other farmers can be persuaded to take up legume production and new technologies and practices.

Behavior change. Pakachere, in collaboration with the Consortium and sub-partners, should craft behavior change messages via radio programs and jingles and community drama performances by the Pakachere Traveling Theatre to create awareness about and encourage legume production and new technologies and practices.

Seed and Inoculum Distribution System

Malawian crop productivity is below the global standard because farmers do not have access to improved adaptable seed varieties.[42] To stimulate cultivation of groundnuts and soybeans and improve agricultural productivity, INVC has sought to strengthen the seed supply system and support the distribution of soybean inoculum.[43]

Findings

With guidance and support from the Consortium, sub-partners NASFAM and CADECOM distributed certified improved seed varieties (e.g., CG7, Serenade, and Tikolore) to farmers.[44] During 2014-2015, NASFAM alone distributed 467,978 kg of soybean seeds to 38,998 farmers and 142,023 kg of groundnut

[42] AGRA, 2015.
[43] DAI-Malawi, 2015.
[44] Interview #1-1-27-04-1200.

seeds to 9,468 farmers.[45] The third agriculture sub-partner, FUM, did not provide any seeds to its farmers; instead, it directed them to agro-dealers from which they can buy certified seed.[46]

NASFAM and CADECOM operate a seed recovery system through which farmers receive 12 kg of soybean seed or 15 kg of groundnut seed. After harvest, farmers "repay" this loan with 2 kg for every kilogram they receive.

The Consortium reported the seed recovery system does not work well. Not only were the return rates low—28 percent for soybeans and 37 percent for groundnuts for NASFAM, and 29 percent for groundnuts for CADECOM—the purity and cleanliness of the seed was poor. The Consortium reported NASFAM had to clean, sort, and discard impurities. Depending on the district, NASFAM had to remove 2-21 percent of groundnuts and 1-41 percent of soybeans. The Consortium speculated low recovery and quality rates were the result of farmers unwilling to return seed to the association through which it was procured and instead sell as much as they could.[47] As one Consortium member noted, "In the end, farmers need to take what they can, which often does not mean the best variety for the local district conditions."[48]

The sub-partners readily acknowledged seed distribution is a problem. NASFAM said farmers perceive that they are paying seed back to NASFAM and do not understand that they are paying it back to their own Farmers Association—really paying themselves back. NASFAM confirmed the low recovery rates and said the high-quality seed that was expected back was often mixed with other varieties. There was no penalty to farmers who did not pay back any seed.[49]

District-level officials confirmed that farmers who received seeds from NASFAM and CADECOM planted them and liked the varieties. Farmers reported to AFOs good germination rates and yields in difficult climate conditions, such as Dedza, which is characterized by cool weather. What NASFAM got back, however, was a mix of seeds—CG7+Chalimbana+Nsinjiro/other. NASFAM also reported that, due to labor constraints, it was unable to sort all the seed it got back before redistribution the following year. This diluted the seed stock.[50]

In every district, men and women farmers reported growing the groundnut and soybean varieties that were distributed to them and said they liked them. In every district, these farmers also reported seed shortages, complaining not every farmer got seed, not every farmer got as much seed as he wanted, and that seed was distributed first to Lead or Model Famers or NPs before regular farmers.[51]

Along with distributing soybean seeds, INVC promoted the use of soybean inoculum to significantly boost production by approximately 20 percent. NASFAM distributed *GlyciMax* soybean inoculum to farmers. Inoculum requires cool storage conditions, so it was stored in an air-conditioned environment until distributed.[52]

[45] DAI-Malawi, 2015.
[46] Interview #2-1-28-04-900.
[47] DAI-Malawi, 2015.
[48] Interview #1-1-26-03-800.
[49] Interview #2-1-28-04-1730.
[50] Interview #3-3-20-04-930.
[51] Interview #5M-5-23-04-1500; Interview #5M-5-23-04-1005.
[52] DAI-Malawi, 2015.

All farmers who received inoculum in Lilongwe (one out of six focus groups), Mchinji (five out of eight focus groups), and Machinga (three out of four focus groups) reported using it. Like the seeds, however, there was not enough for everyone; distribution was uneven. All farmers interviewed in Balaka (three out of three focus groups) reported that they received training on inoculum, but none received protective masks or gloves to mix it. In one Balaka village, a focus group of men farmers were told to use plastic bags instead of gloves.[53] In another Balaka village, in the absence of masks, women farmers used scarves to cover their mouths.[54]

Conclusions

Farmers who received improved groundnut and soybean seeds planted them, accepting these new varieties. In fact, seeds were in such demand that farmers complained about shortages and wanted more seeds.

The seed recovery system does not work, as recognized by the Consortium. There is a low recovery rate, no penalty for not returning seeds, a misunderstanding on the part of farmers on exactly who they are repaying seed to, and the seeds that are returned are unclean and mixed.

NASFAM does not have the resources to clean and sort the returned seeds. Therefore, the seeds that are redistributed to farmers the following year have been diluted. If this continues, each year farmers will receive fewer and fewer high-quality seeds.

Recommendations

Continue to distribute high-quality seeds. NASFAM and CADECOM should continue to distribute high-quality groundnut and soybean seeds as an incentive to introduce farmers to improved varieties. Distribution should continue each season throughout the life of the project. However, farmers should be restricted to receiving seeds for only two years. This should allow them enough time to appreciate the benefits of the new varieties. Distribution should be an incentive, not a subsidy. After the first distribution, AEDOs and AFOs should link farmers with certified seeds suppliers that carry the improved varieties so that by the second year farmers have a relationship with a supplier from which to purchase seeds the third year.

Recommendation

INVC should distribute high-quality groundnut and soybean seeds to introduce new improved varieties to farmers, but only for two seasons. This should be an incentive to try these new varieties, not a subsidy. After the first season, extension staff should introduce farmers to reliable certified seed suppliers so by the end of the second year they have a relationship with a supplier from whom they can buy the varieties in the third year.

Discontinue NASFAM's seed recovery program. NASFAM's seed recovery program should be discontinued. Farmers have not paid back seed as anticipated by amount or quality, and as it is not effective to sort all the mixed returned seed. Diluted seed mixtures should not be redistributed to farmers in successive years. It would be beneficial for farmers to create village seed banks to serve their communities. This self-help strategy would help maintain genetic diversity in crops. With a village seed bank, farmers could

[53] Interview #5M-5-23-04-1005.
[54] Interview #5M-4-21-04-145.

pay a small fee and withdraw free seed and pay this back with additional seed after harvest. However, in light of the NASFAM seed recovery program, there is no indication this would be successful.

Ensure the cold chain. During distribution, NASFAM should ensure that the cold chain is maintained to get inoculum from the point of origin to remote farmers. *GlyciMax* must be protected from excessive temperature ranges, and once seeds are treated they have a short planting window.[55]

Provide protective equipment to farmers. When inoculum is distributed, NASFAM should ensure that each farmer receives protective equipment (e.g., a mask and gloves) from an AFO.[56]

Consider self-inoculating soybean seeds. The Consortium should consult with sub-partner IITA to explore the option of self-inoculating soybean seeds. IITA/Nigeria has been working on soybeans that will inoculate with the indigenous Rhizobium in local soils.[57]

Intercropping with Pigeon Peas

Intercropping is the cultivation of two or more crops at the same time in the same field. Its common goal is to produce a greater yield on a given plot by making use of resources otherwise not utilized by a single crop. Intercropping contributes to risk minimization, reduction of soil erosion, pest and disease control, and increased income and food security.[58]

A major crop in Africa, pigeon pea is an excellent companion crop for intercropping. One of the most drought-tolerant legumes, it has a strong potential to increase the sustainability of cropping systems. In Malawi, smallholder farmers grow pigeon pea for local consumption and exports; after groundnuts and soybeans, it is the most important legume crop. Farmers who grow pigeon pea have food at a time when all other legumes have been harvested. It provides cash to farmers and requires few inputs. Available estimates for Malawi indicate that 65 percent of the pigeon pea produced is consumed on farm, 25 percent is exported, and 10 percent is traded on domestic markets.[59]

Findings

To promote intercropping pigeon pea with groundnuts and soybeans, a Consortium staff member reported that as a part of its Crop Management Training, the Consortium developed a module on "Doubled-Up Legume Technology: Soybean or Groundnut Mixed with Pigeon Peas," which included a handout covering the advantages and growth habits of pigeon peas.[60] This staff member reported that the training was offered to approximately 9,000 extension workers and Lead Farmers, who in turn trained Farmers Club members. The staff member said data reported more than 79,000 farmers received this training.[61]

[55] Noyozymes, 2015.
[56] Monsanto, 2012.
[57] Gunashekar, 2013.
[58] Ouma & Jeroto, 2010.
[59] Mathews, Jones, & Saxena, 2001; Bulletin of Tropical Legumes, 2013.
[60] INVC Doubled-Up Legume Technology Trainer Handout, 2013.
[61] Consortium email to Jeffrey Engels, Re: Feedback on the PPT from INVC and 3 Things, dated Tuesday, May 19, 2015, 3:22 a.m.

Still, the Evaluation Team found a low acceptance rate of intercropping in the ZOI. In Lilongwe, no one in the six focus groups interviewed was intercropping, although one focus group of women expressed willingness to try intercropping if they were provided trial seed.[62] In Mchinji district, two of eight focus groups of women from two villages reported intercropping. In Dedza, there was no intercropping, but there was also no training, except for a Lead Farmer who admitted he did not want to intercrop for fear goats would eat the pigeon peas once his groundnut crop was harvested. In Balaka, two of three women focus groups said they had been trained in intercropping. Both groups admitted, however, that they had not tried intercropping. One focus group said it had not tried intercropping because this was the first year they were growing soybeans. The other focus group said that they had not tried intercropping because they were concerned that pigeon peas could compete with their soybeans. In Machinga, three out of four focus groups received training in intercropping from NASFAM, and one in eight farmers in the one focus group that did not receive training was advised by NASFAM not to mix crops.[63] The Evaluation Team did not hear this from any other focus group.

Conclusions

Although 79,000 farmers in the ZOI have been trained in intercropping, the acceptance rate has been low. Some farmers explained they had not intercropped because this was their first year to grow soybeans, but this should not have prevented them from intercropping. For other farmers, there was a concern about pigeon peas competing with their primary crop, so they misunderstood how intercropping works and its benefits.

Recommendations

Continue intercropping training. AFOs should continue to train farmers in the benefits of intercropping. This training should make clear that it is acceptable to mix crops and that pigeon peas will not compete with the primary crop (i.e., groundnuts or soybeans). For farmers who have already learned about intercropping, reinforcement training should be conducted so any misunderstandings, such as crops conflicting with each other, are clarified.

Collaborate with the Soils, Food, and Healthy Communities (SFHC) project and Africa Rising. The Consortium would benefit from collaborating with SFHC and Africa Rising. SFHC uses agroecological methods to improve food security and nutrition in Northern Malawi. It is affiliated with the Malawi Farmer-to-Farmer Agroecology Project launched by Ekwendeni Hospital in collaboration with Western University, Chancellor College (University of Malawi), the University of Manitoba, Presbyterian World Service and Department, Canadian Food Grains Bank, and Cornell University.[64] SFHC's goals overlap with INVC's, focusing on legume diversification to improve food security and child nutrition. SFHC reported that 9,000 farmers have

Recommendation

The Consortium would benefit from collaborating with SFHC and Africa Rising, both of which seek to improve farming systems to increase dietary diversity and improve child nutrition through the promotion of legume production.

[62] Interview #5F-1-15-04-1500.
[63] Interview #5F-1-15-04-1500; #5F-2-10-04-1400; #5M-2-9-04-900; #5M-3-18-04-1000; #5F-4-21-04-1000; #5M-5-23-04-1400.
[64] *http://soilandfood.org*.

adopted intercropping with its assistance.[65] Africa Rising promotes sustainable intensification of key farming systems in Eastern and Southern Africa, including Malawi. It has worked with sub-partner IITA on doubled-up legume technology in Dedza and Ntcheu. MSU and IITA have conducted research on increasing pigeon pea productivity in doubled-up legume cropping systems.[66]

Herbicides and Pesticides

Crop production in Malawi is limited by factors such as climatic conditions, low soil fertility, and plant diseases and pests. Disease and pest outbreaks have traditionally been high, causing crop losses of up to 30 percent. To combat this, Malawi depends on herbicides and pesticides, all imported. It was reported that for those who can afford it, pesticides are primarily used, followed by herbicides, and mostly in tobacco, cotton, and maize fields.[67]

For INVC-targeted legumes, a variety of diseases and pests reduce yields. Major diseases for groundnuts are Rosette Virus and Groundnut Rust; pests include white grubs, aphids, and termites. Major diseases for soybeans are Soybean Rust and Soybean Cyst Nematode; pests include aphids, caterpillars, and pod-sucking bugs that seriously reduce seed quality.[68]

To address insects and diseases, the Consortium has produced training programs and materials for "Integrated Pest Management in Soybean and Groundnut in Malawi." Trainer handouts from the Consortium cover the control of insects, diseases, and weeds through cultural practices and chemicals, and include pesticide safety guidelines.[69] The trainer handouts do not cover biological controls, but the scouting field exercises that accompany the training include the identification of beneficial biological predators.[70]

Findings

All the men and women farmers from six focus groups in Lilongwe reported that neither NASFAM nor FUM trained them in herbicide or pesticide use, although one focus group reported learning about plant protection products from non-project government extension staff.[71] Four of eight focus groups in Mchinji reported receiving herbicide/pesticide training, but one male focus group reported that they would rely on AFOs for support if they had a disease or pest problem.[72] In Dedza, one out of four focus groups reported receiving herbicide/pesticide training from CADECOM.[73] In Balaka, two of three focus groups said they were promised herbicide/pesticide training, but that occurred in only one village according to one female focus group.[74] None of the farmers interviewed in Machinga received any

[65] Biodiversity for Food & Nutrition Project, 2015.
[66] *http://africa-rising.net*.
[67] MOA Pest Management Plan, 2012.
[68] DARS, 2013.
[69] INVC IPM Trainer Handout, 2014.
[70] Consortium email to Jeffrey Engels, Re: Feedback on the PPT from INVC and 3 Things, dated Tuesday, May 19, 2015, 3:22 a.m.
[71] Interview #5M-1-11-04-1100.
[72] Interview #5M-2-10-04-1500.
[73] Interview #5M-3-18-04-1145.
[74] Interview #5F-4-21-04-1100.

training. Across all districts, farmers reported they could not afford herbicides and pesticides, even if they knew what product to buy.[75]

Men and women farmers in all districts reported using cultural practices such as planting high-quality groundnut and soybean seeds (see "Seed and Inoculum Distribution System" above), proper plant spacing, removing infected plants from their fields, and weeding. All farmers interviewed reported weeding, but the frequency varied. One of eight male focus groups in Mchinji reported weeding only once.[76] One of four male focus groups in Dedza reported weeding three times.[77] The rest reported weeding twice; one male focus group in Mchinji said weeding depended on rain patterns.[78]

Conclusions

Insect and disease management is a part of the package of technologies and practices that INVC offers farmers, but only nine out of 25 focus groups interviewed received training—one focus group of six in Lilongwe; six of eight in Mchinji; one of four in Dedza; one of three in Balaka; and none in Machinga. The training materials that have been developed include pesticide safety guidelines recommending the use of masks, gloves, and appropriate footwear that farmers cannot afford. The guidelines also recommend washing clothes and showering after pesticide application, but many villagers do not have easy access to water. On the whole, farmers cannot afford, and hence cannot adopt, plant-protection products.

Conclusion

Although farmers have been trained in the use of plant-protection products to control unwanted vegetation and pests, most cannot afford to purchase them.

Recommendations

New approaches to pest/weed management. Because so many farmers interviewed cannot afford to purchase pesticides and herbicides, emphasis should be placed elsewhere regarding pest/weed management. Beyond scouting field exercises that help farmers identify beneficial biological predators, AEDOs and AFOs should train farmers in more depth about biological controls, and also expand their knowledge of crop management controls (e.g., refuse management, mulching, and strategic controls), planting location, and timing of planting/harvesting. Furthermore, the Consortium should conduct research to investigate the market for organic groundnuts and soybeans to sell in affluent markets or to be used for value-added products confined to organic crops.

Aflatoxin

Aflatoxin is a fungus that infects groundnuts in the field and during storage.[79] It is found widely in cereals and nuts in subtropical and tropical climates around the world. It is toxic at certain concentrations, causing weight loss, tumors, hemorrhaging, miscarriages, liver cancer, and even death. Aflatoxin contamination is a serious problem in Malawi, made more acute during and following alternative dry and wet periods (i.e., drought followed by rain showers), such as the country has experienced the last few

[75] Interview #5M-1-1-11-04-1100; Interview #5M-2-10-04-1500; Interview #5M-3-18-04-1145; Interview #5F-4-21-04-1100.
[76] Interview #5M-2-10-04-1050.
[77] Interview #5M-3-18-04-1000.
[78] Interview #5M-2-9-04-900.
[79] Engels, 2011.

years. Following an aflatoxin epidemic in 1994-95, the area under groundnut production in Malawi decreased by 23 percent, from 89,000 to 69,700 MT.[80] Another epidemic of aflatoxin contamination broke out in 2012.[81] An organization that promotes collective marketing and has established a warehouse network in six districts reported that no reasonable storage facility would accept groundnuts because they would contaminate other crops.[82] In Dedza, farmers confirmed that, historically, they have had to discard as much as 50 percent of their crop because of aflatoxin contamination.[83]

To address aflatoxin, INVC has promoted measures to reduce contamination, such as encouraging the use of certain seed varieties, early planting to benefit from maximum soil moisture, ridge planting, proper field management, ensuring appropriate maturity at harvest, drying groundnuts using the Mandela Cock drying method, and storing unshelled groundnuts in dry sacks off the ground in well-ventilated areas. INVC training manuals used to train EPA extension agents, who in turn train Lead Farmers to educate other farmers in their communities, contain additional post-harvest abatement procedures.[84] To the extent that these practices have undertaken, aflatoxin risk is reduced.

Findings

During field interviews, 13 of 25 focus groups reported receiving training in aflatoxin mitigation (one of six in Lilongwe; six of eight in Mchinji; three of four in Dedza, zero of three in Balaka, and three of four in Machinga). Farmers who received training were following aflatoxin abatement procedures. *At the pre-harvest level, however, farmers were adhering to field management practices because they believed doing so would increase yield—not because they wanted to reduce aflatoxin.* At the post-harvest level, farmers understood plant drying and storage controlled the fungus. Farmers who did not receive training or did not retain what they learned employed farming practices unconducive to aflatoxin control. In Lilongwe, one female focus group out of six that did not receive training reported that they were still spreading groundnuts on the bare ground to dry, believing that infected nuts only tasted bad and were devoid of vitamins. In Machinga, one of four male focus groups that did not receive training thought rotating their crops was all they had to do to avoid infection. And in an extreme case in Mchinji, one focus group of women farmers reported they sorted their groundnuts, sold the best ones, and kept and ate the ones they knew were contaminated, mixing them with vegetables.[85]

Conclusions

While some farmers interviewed received general aflatoxin training and reported using proper prevention methods, others thought aflatoxin is only a post-harvest issue or misunderstood the seriousness of its health threat and what to do about it. Without a clear understanding of the pervasive, severe, and ubiquitous nature of aflatoxin, farmers are putting their groundnut crops and health at risk.

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[80] (SADC/ICRISAT Groundnut Project, 1996) (see: http://www.researchgate.net/profile/Lava_Kumar2/publication/262449769_A_Century_of_Research_on_Groundnut_Rosette_Disease_and_its_Management._Information_Bulletin_no._75/links/0a85e53bc4a74a5ab3000000.pdf

[81] *FoodWorldNews.com*, 2012.

[82] Interview #2-1-08-04-1500.

[83] Interview #5F-3-18-04-1245.

[84] INVC Groundnut Harvesting, 2014.

[85] Interview #5F-1-02-04-945; Interview #5F-1-15-04-1500; Interview #5M-5-23-04-1400; Interview #5M-2-09-04-1530.

Recommendations

Training and reinforcement. All farmers growing groundnuts should be trained in aflatoxin abatement. Those who have been trained should receive reinforcement training, to emphasize the seriousness of fungal contamination that can affect their livelihoods and health.

Develop aflatoxin training materials. The Consortium should develop training materials that are devoted specifically to aflatoxin issues to emphasize their importance. These materials should cover the broad spectrum of aflatoxin hazards, from aflatoxin growth in the field through post-harvest to the dangers of consuming infected groundnuts. During training, AEDOs and AFOs should stress to farmers that fungal growth is not limited to post-harvest. Training should underscore limiting aflatoxin in the field (e.g., by using lime, should farmers be able to afford it), farm yard manure, and cereal crop residue at the time of sowing that reduces aflatoxin. Lime enhances groundnut wall thickness and pod filling and decreases fungal infection.[86] Farmers should also be encouraged to mulch and compost.

Behavior change. Pakachere, in collaboration with the Consortium and sub-partners, should jointly craft behavior change messages via radio programs and jingles and contribute to community drama performances by the Pakachere Traveling Theatre to create awareness about aflatoxin contamination. These messages should cover production through post-harvest handling, stressing the seriousness of aflatoxin and the health risks associated with consuming foods contaminated by the fungus.

Storage and Warehousing

Storage and warehousing are important agricultural marketing functions. Storage involves holding/preserving goods from the time of harvest until they are needed for processing or consumption. Storage protects products from deterioration and ensures their continual flow in the market. Warehouses are constructed to protect the quantity and quality of stored products.[87] To increase value chain efficiency, INVC has supported storage and warehouse options for legumes.[88]

Findings

The Consortium has supported storage and warehouse options predominately through its sub-partner ACE. ACE is an agricultural commodity platform that operates in the spot and forward markets. It aims to give small-scale farmers leverage in negotiating for their crops by providing them with reliable market information. It offers three services—a warehouse receipt system (WRS) that allows farmers to deposit a commodity at a certified storage facility until it is profitable to sell and receive a receipt that can be used to get financing from a bank; a Bid Volume Only (BVO) and Offer Volume Only (OVO) system, two types of commodity auctions; and Bid and Offer Matching, whereby buyers and sellers trade during a live electronic auction.[89]

During the first quarter of 2015, the Consortium reported that the annual targets for deposits under the WRS were exceeded and that farmers were recognizing the benefits of this method of storing and

[86] Engels, 2011.
[87] Tnau Argitech Portal, 2015.
[88] DAI-Malawi, 2015.
[89] Interview #2-1-08-04-1500.

marketing crops. Although ACE did not accept groundnut deposits, farmers deposited 7,794 metric tons (MT) of soybeans via the WRS.[90]

While discussing collective marketing, an INVC staff member noted that a commodity exchange was not the market and that "farmers do not want a piece of paper [a warehouse receipt]; it does not mean anything to them."[91] The staff member went on to say the BVO and OVO approach has worked only with a single sale of soybeans and that it is expensive for ACE to find sellers when prices go down.

ACE, which relies on NASFAM to advertise its marketing and warehousing services to its farmers, stated, "There is no serious collective marketing going on."[92] However, farmers are not accessing ACE directly: NASFAM Commodity Marketing Exchange (NASCOMEX), the commercial branch of NASFAM, purchases farmers' crops and sells them through ACE.

ACE operates 12 rural warehouses and 28 certified storage sites in 15 districts throughout Malawi. Though ACE has several trucks, farmers themselves must arrange to get their crops to its warehouses. This can be costly, especially because of poor road conditions in remote rural areas. Of the two legumes promoted by INVC, ACE has worked only with soybeans; it does not accept groundnuts due to aflatoxin. ACE said, "No storage unit in its right mind would store [groundnuts] … they can contaminate everything."[93]

Throughout the five districts visited and 25 focus groups interviewed for this evaluation, all men and women farmers reported storing their crops in their homes. Once harvested, groundnuts and soybeans were packaged in 50-kg bags, which farmers reported storing off the ground (on raised pallets) and in dry, well-ventilated conditions. One male focus group and one female focus group of three in Balaka reported that NASFAM had trained them how to do this but had not promoted ACE's services.[94] One male focus group and one female focus group of three in Dedza and one male focus group of four in Machinga explained that they brought their crops in from the field as soon as possible and stored them in their homes because they were afraid of thieves.[95]

One female focus group of six in Lilongwe and one female focus group of four in Machinga reported they shelled their groundnuts before storing them in bags in the house.[96]

Only one male focus group of eight in Mchinji expressed dissatisfaction with storing their crops in their homes. They said they would like to warehouse their crops, and understood that long-term storage would provide them with a higher price upon sale.[97]

Conclusions

ACE offers a range of marketing services, of which WRS has received the most attention. Promotion of WRS is still in its early stages, so there is not a long history of deposits. This might be due to "famers

[90] DAI-Malawi, 2015.
[91] Interview #1-1-7-04-800.
[92] Interview #2-1-08-1500.
[93] Interview #2-1-08-1500.
[94] Interview #5M-4-21-04-145.
[95] Interview #5M-3-18-04-1245.
[96] Interview #5F-1-15-04-1500; Interview #5F-5-23-04-1230.
[97] Interview #5M-2-9-04-900.

not wanting a piece of paper," their immediate need for cash, or high aggregation and transportation costs.[98] (See the next section on collective marketing.)

ACE, which has a growing warehouse network, will accept soybeans but not groundnuts due to potential aflatoxin contamination of other crops.

ACE relies on NASFAM to promote its marketing and warehousing services to farmers, but NASFAM has trained farmers to store crops in their homes.

Some farmers are shelling their groundnuts before storage, increasing the risk of aflatoxin contamination.

There is limited understanding of the presence of warehousing and the benefits of storing crops in warehouses.

Recommendations

Continue to promote warehousing. The Consortium should continue to support the promotion of ACE's warehouse services, with ACE directly holding training events to explain the storage, warehouse, and collective marketing benefits it offers. These events should be co-sponsored by NASFAM or FUM, which should be encouraging farmers to store their crops in warehouses instead of in their houses.

Encourage affordable transportation. AEDOs and AFOs should help farmers identify affordable transportation services for their crops from remote locations to certified warehouses.

Explore bridge financing. The Consortium should explore options for bridge financing for farmers. AEDOs and AFOs should train Group Action Committees/Farmers Clubs on how bridge financing works, bridging the gap between harvest, when the price of their crop is lowest, and several months later when the price is highest.

Behavior change. Pakachere should develop radio programs, jingles, and drama productions in villages that promote the benefits of proper storage, warehousing, and collect marketing.

AEDOs' and AFOs' aflatoxin containment training should include teaching farmers that their groundnuts are at increased risk of aflatoxin contamination if they store the crop in their houses, which are not temperature and humidity controlled environments. Training should also emphasize that groundnuts shelled prior to storage are also at risk of contamination, and that the nuts should be kept in their shells for as long as possible.

B. PRODUCTIVITY

INVC approaches productivity by strengthening two interacting systems: the household farming system and the market system related to groundnut and soybean value chains.[99] The household farming system is an intricate agricultural system that maximizes farmers' utility derived from their economic activities.

[98] Interview #1-1-7-04-800.
[99] INVC RFP, 2011.

The smallholder enterprises (one for each crop)—and the household that supports and benefits from them—are surrounded by and linked into a broader market system (regional, national, or global). INVC was envisioned to *induce behavioral change* along the value chain to improve productivity.

Evaluation Question: To what extent has the productivity of soy and groundnut increased for beneficiaries as a result of adoption of promoted agricultural production technologies and practices? What factors, if any, have impeded increases in productivity even when the promoted technologies and practices were adopted?

The performance indicators reveal that yields of groundnuts and soybeans in FY2014—0.87 MT/ha and 0.67 MT/ha, respectively—were 7 percent and 11 percent below the baseline levels (0.93 MT/ha and 0.75 MT/ha, respectively).[100] However, it would be premature to conclude that the project has not been able to increase the productivity of beneficiaries based on this data. (See Table 5.)

Table 5. Productivity Indicator, INVC

Indicator	Baseline	FY 2013			FY 2014		
		Target	Result	(R/T)	Target	Result	(R/T)
Productivity (MT/ha)*							
Groundnut	0.934					0.865	93%
Soybean	0.748					0.669	89%

*R/T=result/baseline; Source: PITT (2015)

The Evaluation Team found that there are many obstacles to measuring the productivity and/or profitability of groundnuts and soybean enterprises. Production measured by the number of bags per plot or per household is relatively easy, but measurement requires additional measurement of the land or labor used in production. To address this, the Consortium started a systematic assessment of productivity in 2014 through the *Household Annual Beneficiary Agricultural Outcome Survey*.[101]

To fully answer the evaluation question(s) and provide context to evaluate productivity under INVC, four issues are discussed: productivity and legume household consumption, measurements, recordkeeping, and training.

Productivity and Legume Household Consumption

Findings

Focus group discussions (25) revealed the interplay between productivity, legume household consumption, and limiting production factors such as land, labor, and capital. Unless stated otherwise, all figures below are recalled six to 10 months after harvest.

Lilongwe district. Productivity of soybeans reported by Lead Farmers before INVC was in the range of 0.55 to 0.77 MT/ha; after INVC interventions, soybean productivity increased to 1.1 MT/ha. In contrast, the yield of groundnuts remained at 1 MT/ha after INVC interventions such as land preparation, crop management, harvest and post-harvest practices, storage, and marketing. Productivity of soybeans

[100] Annex II, Quantitative Assessment based on PITT (2015). The effect of productivity on gross margins is discussed when addressing the Evaluation Question on Integration.
[101] Household Annual Beneficiary Agricultural Outcome Survey, 2015.

reported by farmers was 2 to 3 MT/ha, but for groundnuts it was 0.7 to 0.8 MT/ha. Farmers keep 33 percent of their soybeans for household consumption or as seed for the next season and sell the remaining grain.[102]

Mchinji district. AEDOs, Agriculture Extension Development Coordinators, AFOs, DADOs, ABSs, and District Agricultural Extension Methodologies Officers mentioned that by following INVC guidelines farmers could harvest 1.3 MT/ha of groundnuts and between 1.5 and 2.2 MT/ha of soybeans. Productivity of soybeans ranged from 0.5 MT/ha in a bad year to 1.5 MT/ha in a good year. Farmers sell 75 percent of their crop and the remaining is used for household consumption and seed for the next season. Productivity of groundnuts is around 1MT/ha, and the amount of produce sold ranges from 60 to 80 percent. Farmers pointed out that their approach to facing food insecurity in their households depends on their total landholdings and the number of people in the household. Those who are more vulnerable tend to consume larger proportions of what they harvest. Further, farmers prioritize each crop for household consumption: soy, 17 percent; groundnuts, 27 percent; and maize, 60 percent.[103]

Dedza district. Groundnut cultivation prevails in Dedza. Lead Farmers reported that yields before INVC ranged from 0.77 to 1.10 MT/ha. After INVC, yields ranged from 1.65 to 2.20 MT/ha. Farmers reported yields between 1.2 to 5MT/ha (the latter being an over estimation, considering the 0.86 MT/ha mean reported by INVC). Farmers sell one-half of their harvest; one-third is consumed by the household and the remainder is kept for planting in the next season.[104]

Balaka district. In Balaka, farmers could not plant on time for the first year (2013-2014); they are still waiting to harvest for the second year (2014-2015). Hence, they are unable to report productivity. They mentioned, however, that the price of produce is definitively an aspect they take into account. When the price of soybeans can be as high as 300 Malawian kwacha per kg, farmers tend to lean toward soybeans; however, the planting cost prevents them from cultivating larger areas because they are short of labor and/or cash to pay for laborers.[105]

Machinga district. Machinga farmers reported yields of about 1.25 MT/ha for soybean and between 0.4 MT and 0.75 MT/ha for groundnuts. However, one farmer reported 750 kg in one-quarter of an acre, or 7.5 MT/ha (another overstating of crop productivity). Farmers sell 66 percent of their harvested soybeans; 25 percent is consumed in the household and the rest is kept as seed.[106]

When trying to ascertain the components for productivity, farmers interviewed tended to increase the number of bags harvested and reduce the harvested area. This suggests that farmers know that yield or productivity is high when harvested area diminishes, when production increases, or when these factors are combined. When left unchallenged, farmers provided yields as high as 7.5 MT/ha for both groundnuts and soybean. The more educated extension staff and the Lead Farmers were much more conservative in their estimates, but they do not measure weight or plot area/number of labor hours in the calculation of yield.

[102] Interview #5F-1-15-04-1500; Interview #5M-1-15-04-1340; Interview #5F-1-1-04-1100.
[103] Interview #5M-2-10-04-1050; Interview #5M-2-10-04-1500; Interview 5M-2-09-04-1530; Interview #5M-2-9-04-900; Interview #5F-2-10-04-1400; Interview #5F-2-09-04-1030; Interview #4-1-14-04-1430; Interview #3-1-14-04-1430.
[104] Interview #5F-3-18-04-1425; Interview #5F-3-18-04-835.
[105] Interview #5M-4-21-04-1450; Interview #F-4-21-04-1245.
[106] Interview #5M-5-23-04-845; Interview #5M-5-23-04-1005; Interview #5F-5-23-04-1230; Interview #5M-5-23-04-1400.

NASFAM is aware of the problem related to measuring productivity, key for on-farm decision-making, and has released a training manual that will address the knowledge gap.

Conclusions

Even without an accurate measure of productivity, farmers can gauge their food requirements and consumption, the need for production inputs, and, in a very limited way, access to the market, which enables them to buy necessary consumables, including food and services.

At present, it is not possible to determine the increase in productivity due to promoted agricultural production technologies and practices. The lack of reliable measurements of productivity has been compounded by floods and droughts, pests and diseases, or delayed planting.

The interplay of production and harvested area is embedded in the thinking of interviewees, but, apart from Consortium activities, there is no evidence of a project-wide effort to measure productivity and teach farmers to use that information to assess their success/failure in the current season and plan for the next season.

Recommendations

Training. Agriculture sub-partners should train district officers on productivity, who in turn should train those below them to reach farmers. Productivity training should consider that farmers gauge food requirements and consumption, the need for production inputs, and access to markets to procure necessary consumables. Linking a culture of measurements with successful farm management practices should contribute not only to more legume household consumption but also bring more disposable income to households.

Behavior change. Pakachere should develop behavioral change messages addressing the importance of properly measuring productivity. This can be done through radio programs, jingles, and theater plays. These messages will be extremely useful for farmers with low or no literacy and numeracy skills. For literate and numerate farmers, there should be training or refresher training modules for basic measurements and math, and building and interpreting crop budgets that follow the principles of managerial economics.

Measurements

Findings

There is not a culture in Malawi of precisely measuring crop performance per unit of area or per unit of labor force used. Currently, district officials, AFOs, NASFAM, CADECOM, FUM extension personnel, and Lead Farmers do not precisely measure productivity. When asked about how to measure productivity in the field, AFOs and Lead Farmers answers were hesitant or ambiguous. If uncertainty or ambiguity prevails among those who support farmers, one cannot expect accurate answers from farmers themselves. Farmers who average 0.81 ha landholdings are more concerned about production than yields, but they do rotate their crops, which in turn determines changes in plot allocation for different crops year to year. Yield is a fundamental component in the calculation of gross margins, a key

performance indicator, yet the uncertainty associated with yield is extremely high because famers do not weigh their produce or measure their plots.

Conclusion

Informed decision-making for the crop and farm management portfolio is almost non-existent because there is no quantitative evidence to assess the tradeoff between crops and limiting land, labor, or capital.

Recommendation

Training. Agriculture sub-partners should conduct training for AEDOs and AFOs to sharpen the numerical skills of extension personnel and promote hands-on exercises with farmers to assist them in measuring the weight of their produce and the area of their plot. When training farmers in productivity, AEDOs and AFOs should use and teach the use of metric tapes and scales.

Recordkeeping

Findings

There is little evidence of recordkeeping among farmers. If farmers are literate or numerate, they do not appreciate the value of recordkeeping or have the skills to do it. They lack basic tools for documentation, such as paper and pencils. Good farm management requires following changes in land allocation (e.g., changes in plot size due to new or different crops, landscaping, or land conservation practices), the cost of inputs, on-farm crop prices or prices at the closest point of aggregation, and the cost of transportation or storage. Therefore, the margin of error is an issue in the *Household Annual Beneficiary Agricultural Outcome Survey, January 2015*. This survey relies on recall-based figures about food legumes, as well as other crops such as staple and cash crops.

Conclusions

Lack of on-farm records about productivity, costs of inputs and produce, and transportation and storage costs pose a challenge to enhancing farmers' decision-making skills. Lack of records also makes it difficult for INVC to properly populate key data to estimate performance.

Recommendations

Conduct spot surveys. The Consortium, which is already carrying out spot surveys to alert extension personnel and farmers about crop performance in different locations, should continue to conduct the surveys.

Encourage behavior change. The Consortium should design a mechanism to attract farmers to adopt a culture of "first measure and then decide." Behavioral change messages can play an important role in promoting recordkeeping.

Training in recordkeeping. Sub-partners should train AEDOs and AFOs in recordkeeping. These groups can then train farmers. Competitions can be held between Lead Farmers to determine the accuracy of crop records. Prizes of seed or measuring instruments such as scales, tapes, or even Global Positioning

Systems to measure irregular plots could be offered as incentives to promote measurements and verification.

Additional Training

Findings

Farmers who offered productivity figures claimed that they needed additional training from NASFAM to further improve.

Conclusions

There is a need to enhance the level of knowledge among district officers, Lead and Model Farmers, and farmers to measure productivity. Given appropriate support, farmers are likely to be good trainers of trainers to promote measurements of productivity and profitability. Farmers take an interest in doing this.

Recommendations

Training. Sub-partners should provide basic training needed to enhance the knowledge of district extension officers, AFOs, and Lead Farmers to measure crop productivity and begin learning about crop profitability through a culture of learning by doing. AEDOs and AFOs should organize village events that promote accurate estimates of productivity, rewarding Lead Farmers who accurately measure productivity and implement recordkeeping for planning purposes.

C. COLLECTIVE MARKETING

Evaluation Question: Which of the collective marketing approaches promoted by INVC have been most effective in linking beneficiaries to markets? Which collective marketing approaches have most effectively increased the incomes of beneficiaries? What are the main barriers to beneficiaries' participation in collective marketing?

Value chain competitiveness is a key area of focus for INVC. The four primary features of INVC's value chain approach are a market systems perspective; a focus on end markets and demand; an understanding of the role of value chain governance (i.e., the relationship between buyers and suppliers); and recognition of the importance of inter-firm relationships.[107] Applying the value chain approach to groundnuts and soybeans should enhance the competitiveness of these value chains and increase household rural incomes. Interventions should lead to strengthened capacity of processors and agribusinesses to meet domestic and/or export market demands, and of smallholder suppliers to meet buyer demands. At the same time, these interventions are intended to diversify household incomes and food sources beyond maize (to include groundnuts and soybeans, where appropriate and profitable) and give beneficiaries access to nutritional education to improve their diet.[108]

Analysis of the performance indicators in the PITT related to collective marketing shows that the number of private enterprises, women's groups, trade and business associations, and community-based

[107] INVC Request for Proposal, 2011.
[108] Modified from the INVC RFP, 2011, Annex C, pp. 9-10.

organizations (CBOs) benefited was 15 percent above target in FY2013 and FY2014. (See Table 6.) The number of private enterprises and CBOs receiving assistance and individuals receiving short-term agriculture or food security assistance was above target levels (in the range of 3-24 percent). The value of incremental sales for groundnuts and soybeans were 8 percent above the target for FY2013 and the figure reported for FY2014 underwent a Data Quality Assessment (DQA). There were no exports in FY2013. Soybean exports in FY2014 were 21 percent of its target. The value of private sector investments on food chain leveraged by Feed the Future was 194 percent above its target in FY2014.[109] Although the performance indicators show that INVC reached or exceeded some of its targets, the indicators do not reveal how this has happened or identify elements that hinder project performance or address the rationale for their target values.

Table 6. Performance Indicators Related to Collective Marketing

Indicator	Baseline	FY 2013			FY 2014		
		Target	Result	(R/T)	Target	Result	(R/T)
No. Private enterprises (for profit), producer organizations, water users associations, womens groups, trade and business organizatoins and CBOs receiving USG assistance	0	3,980	4,510	113%	8,000	9,228	115.4%
No. Indiv. Who have received USG supported short-term agric. Sector productivity of food security training	0	51,000	52,438	103%	100,000	123,493	123.5%
Value of incremental sales ($) (collected at the farm of soybeans and groundnuts attributed to FtF implementation	0	123,000	133,096	108%		8,197,322	
Value of exports ($) of targeted agricultural commodities as a result of USG assistance	0	N/A	N/A		2,000,000	420,000	21.0%
Value of new private sector investments ($) in agriculture sector or food chain leveraged by FtF	0	0	0		500,000	1,471,640	294.3%

R/T=result/target (percent); Source: PITT (2015)

Through open-ended individual and focus group interviews, the Evaluation Team found two recurring themes. First, the intra-household economy of rural households in Malawi is complex because it is subject to food insecurity, labor and land limitations, and a lack of links to markets where farmers can negotiate pricing for their crops. Second, farmers are accustomed to following suggested marketing behaviors but have not been trained as decision-makers. Specific marketing approaches are discussed below.

Collective Marketing of Legumes

The Consortium has supported collective marketing options for farmers predominantly through ACE, giving small-scale farmers leverage in negotiating for their crops by providing them with market intelligence. ACE offers three services: the WRS allows farmers to store and sell grain at their

[109] Annex II, Quantitative Assessment based on PITT (2015).

convenience with a receipt that can be used as a collateral for short-term loans; auctions to sell; and an option whereby buyers and sellers trade during a live electronic auction.

Findings

Consortium staff, ACE, FUM, and NASFAM understand the modalities of collective and individual marketing such as contract farming, bulking and aggregation, group negotiation, forward contracts, WRS, spot sales, hedging, the BVO and OVO systems, bid and offer matching, and auctions.

All Consortium staff interviewed mentioned the existence of collective marketing. Three out of five sub-partners mentioned collective marketing for farmers in five districts. ACE mentioned that NASCOMEX is accessing their collective marketing facilities (WRS, BVO, and OVO) with soybeans purchased from the farmers who cooperate with NASFAM through its program that supplies seed for farmers' associations at the Group Action Committee (GAC) level. It is ACE's belief that farmers should have a choice to sell on the spot, store and sell later, and/or process their products. ACE is trying to reach out to soybean producers, but it does not work with groundnut producers because of the risk of aflatoxin contamination. Although ACE has certified warehouses, it depends on NASFAM to advertise its services.[110]

In general, district-level officials, extension agents, Village Heads, Lead Farmers, Model Farmers, and farmers understand "collective marketing" as a way to secure seed and sell produce, with little or no mention of the use of storage services as a group. District officials mentioned that farmers collectively market in Balaka, Dedza, and Lilongwe. In Mchinji and Machinga, however, collective marketing *is not practiced* because unfavorable climatic conditions have prevented farmers from harvesting enough produce or because farmers opt to sell individually. Extension Planning Area (EPA)/village extension personnel directly in contact with farmers confirmed that farmers are not selling collectively in Mchinji.

In 11 of 25 focus groups, farmers revealed that they sell legumes collectively, but the majority (14 of 25) sell individually or have not been able to sell at all because they had meager crops as a result of unfavorable weather conditions. In Dedza, where there appears to be a tradition of collective marketing associations, none of the focus group participants was able to participate in collective marketing.[111] In Mchinji and Lilongwe districts, nine out of 14 focus groups mentioned collective marketing as a practice.

Collective marketing practices in Balaka and Machinga have not been disseminated as much as in Mchinji and Lilongwe, based on limited number of interviews with different levels of stakeholders. This analysis shows a more optimistic scenario than that of the *Household Annual Beneficiary Agricultural Outcome Survey (2015)*, in which only 7 to 11 percent of the famers growing legumes have knowledge of collective marketing- or association-led selling.[112] While acceptance of new practices takes time, the top-down cascade effect begins at the sub-partner level.

[110] Interview #1-1-7-04-800; Interview #1-1-12-04-1400 and Interview #2-1-08-04-1500.
[111] Interview #2-1-16-04-1530; Interview #5F-3-18-04-835; Interview #5M-3-18-04-1000; Interview #5M-3-18-04-1145; Interview #5F-3-18-04-1245.
[112] *Household Annual Beneficiary Agricultural Outcome Survey (2015)*, pp. 39 and 55.

Conclusions

Adoption of collective marketing—mostly association-led selling and, to a lesser extent, hedging—is taking place. It is more rooted in Mchinji and Lilongwe districts, where INVC has been operating longer. Farmers have learned how to follow marketing recommendations, but they have not been trained as decision-makers.

Stakeholder knowledge about collective marketing narrows from the Consortium level to the farmer. A challenge for the Consortium is to more widely disseminate knowledge of the benefits and responsibilities (i.e., governance) associated with collective marketing and assist farmers to more easily access markets. Incomplete understanding of what options are available to farmers limits their choices.

Recommendations

Specific Consortium actions. The Consortium needs to ascertain how beneficiaries are given the opportunity to access markets, make decisions, store produce, add value to groundnut and soybeans, develop and strengthen alliances with processors and alternative input suppliers, and revise the definition of collective marketing in light of INVC goals.

Develop other outlets. AEDOs and AFOs should clarify to farmers that NASCOMEX is not their only option, but that it will take time to create options for other outlets.

Training. AEDOs and AFOs should train farmers to be decision-makers.

Behavior change. NASFAM, CADECOM, or FUM should encourage organized farmers to purchase inputs and services, and store or sell to *new buyers that they have identified*.

Marketing Inputs and Outputs

Findings

Collective marketing presents farmers with an option to acquire inputs and services for crop farming, to sell or store produce, and access credit. However, farmers still perceive that options to buy and sell as a group are not readily available. ACE operates a forward market system whereby the spot price at the initial storage point plus transportation and storage cost is equal to the futures price.[113]

Farmers have not been encouraged to develop relationships with a variety of buyers or input/service providers. Farmers do not trust buyers who come to their villages because they suspect that they use inaccurate scales.[114]

Currently, the value chain stops at the commodity exchange level. INVC needs to work on processing/value addition with its sub-partners. The addition of processing to the marketing chain could provide an easy link to nutritious foods. As one Consortium staff stated, "No one can eat raw soybeans."[115] Processing is a missed opportunity. A program can be developed for import substitution to

[113] Interview #1-1-7-04-800.
[114] Interview #5F-3-18-04-835; Interview #5M3-18-04-1000; Interview#5F-2-10-04-1400; Interview5M-1-11-04-100.
[115] Interview, 1-1-7-04-800.

counter South African and Chinese imports. Today, domestic cooking is seen as food processing, which of course it is not.[116]

Generally, farmers in NASFAM districts believe their only option is to sell both legumes to NASFAM´s commercial arm, NASCOMEX. Therefore, NASCOMEX has an effective monopoly on the market, providing seeds and training at the beginning of the agricultural season and buying and selling what farmers produce. In contrast, FUM advises only small, medium, and large farmers about their production and marketing options. FUM has managed to bring together groups of buyers and sellers to sign memoranda of understanding in Dedza district. Large buyers include large processors such as the Export Trading Group, Sunfed, and Afri-Nut that will purchase raw groundnuts for processing into peanut butter and peanut oil.[117] NASFAM has relied on fair trade networks to link groundnut producers with export markets.[118]

Conclusions

The commodity exchange is not the same thing as the market, and INVC cannot afford to wait for ACE to develop markets. Farmers can benefit from market development, but instead middlemen/ NASCOMEX benefit the most.[119] If properly trained, the democratically elected groups that manage a network of 750 Village Aggregation centers could foster farmers' management skills to increase income.

NASCOMEX has an effective monopoly on the market. It provides seeds and training at the outset, then buys and sells what farmers produce.

Although NASFAM has played a key role in transferring technologies and practices promoted by INVC through its development branch, NASCOMEX prevents farmers from making decisions about marketing options, as farmers sell as soon as they harvest. Farmers are loyal to NASFAM/NASCOMEX; even though they would like to receive more for their produce, they trust NASCOMEX as a fair player. This establishes a scenario whereby farmers depend on organizations that provide valuable services but at the same time forget that they control the sale of their crop, storing, or value-adding processing.

There are opportunities for value-adding collective marketing options for domestic demand or for import substitution, but this requires knowledge of markets and organized legume supply chains.

Recommendations

Facilitate collective marketing with specific actions. To improve collective marketing, it is essential to build trust among farmers through transparency; strengthen governance of farmers associations; encourage farmers to collectively aggregate at warehouse centers; and have farmers collect 10-50 MT of crop, depending on the organization, to sell to larger buyers so farmers can obtain the best possible prices.[120]

[116] Interview, #1-1-12-03-1400.
[117] Interview #2-1-28-04-900.
[118] Smith, A. M. 2013. Fair trade governance and diversification: the experience of the National Smallholder Farmer´s Association of Malawi. Geoforum 48:114-25; Interview #1-1-26-03-800; Interview #1-1-7-04-800; Interview #1-1-12-04-1400; Interview #2-1-08-04-1500.
[119] Interview #1-1-7-04-800.
[120] Interview #2-1-28-04-1730; Interview #2-1-28-900.

Training. AEDOs and AFOs need to train farmers so they can be in charge of their own livelihoods. Training is needed on crop decision-making to assess the interplay of costs and revenue. Tools and training to understand trade-offs among crops that compete for land, labor, and capital are needed. For example, crop budgets and seasonal prices would be a good start for literate and numerate farmers. Additionally, marketing options should be incorporated in the analysis of options for farmers to decide collective or individual marketing strategies benefiting from ACE facilities for soybeans or ADMARC facilities for groundnuts.

Behavior change messaging. Pakachere should use drama to communicate behavioral change messages that convey general management principles and problem-solving skills for illiterate or innumerate farmers.

Conduct market research. The Consortium, sub-partners, and Farmers Clubs need to research the market, find new buyers, develop business plans, and—perhaps using district pilots—demonstrate that it is possible to link micro and small value-added enterprises with regional markets.

Address the default NASFAM/NASOCOMEX monopoly. NASFAM and its commercial branch, NASCOMEX, must find a point whereby the former supports and empowers its members as decision-makers, including educating smallholders that it may not be in their best interest to sell to NASCOMEX. (Unlike NASFAM, NASCOMEX is a for-profit organization. NASCOMEX profits do not necessarily accrue to the beneficiaries, and most farmers do not realize that.)

Small Enterprise Development

Findings

There is considerable enthusiasm in farming communities for developing micro and small enterprises in value addition. Farmers are eager to participate in value-adding activities for a profit, and they acknowledge the need for training in food processing and economic managerial skills to run a business.[121]

Some cooperative members realize that they have potential to aggregate 150-180 MT of soybeans per year. With this volume to sell or store, a cooperative can command a good price when it decides to sell. However, cooperatives would like to learn how to use value addition to go beyond commodity exchange. Transforming soybean into soy milk, soy meat, or cooking oil on a commercial scale requires technical expertise and managerial economic skills that farmers lack. Although farmers realize that their villages need suitable infrastructure such as buildings, water, power, and good roads, they would like to know the feasibility of linking with processors to take their soy, process it, and then distribute and sell the final product. Farmers in villages with infrastructure that can support a processing plant would like to carry out feasibility studies to explore the processing options to assess market demand.[122]

Conclusions

Capacity building is needed to empower farmers to make collective decisions beyond commodity exchange to invest and implement business plans. Knowledge of business development and financial services, and programs for startup of value-adding businesses is lacking. Women have more limited

[121] Interview #4-1-14-04-1430.
[122] Interview #4-1-14-04-1430.

access to labor and cash to embrace these activities than men; they also have lower literacy levels.[123] The newly created VSL system can promote collective entrepreneurial ventures.[124]

Recommendations

Business plan training. Sub-partners should train AEDOs and AFOs in business plan development so they can train Lead Farmers and famers to identify community assets and formalize business plans that could be eligible for financing through the VSL or other financial mechanisms. Farmers need to be given the choice and receive support for value-addition options.

Use VSL to promote commercial processing. The Consortium and sub-partners should promote CBOs and especially women to commercially process soybeans and groundnuts, accessing the services of VSL. (Women are more familiar with food preparation than men, although they face more socioeconomic and cultural limitations.)

Facilitate business-related competitions. NASFAN, FUM, and CADECOM should encourage district-level competitions to develop business plans beyond commodity exchanges, insert value-added products that are in demand, and expand employment opportunities in rural and sub-urban communities. Sub-partners should also organize ZOI business development competitions to promote interactions among potential entrepreneurs, cooperatives, or farmers associations from different districts.

Training

Findings

Farmers have been trained in collective marketing, but some have not had an opportunity to try it. Some farmers wanted to sell collectively last year, but weather conditions reduced their yields, leaving them without sufficient crop to market. Despite training, many farmers do not trust each other to aggregate. They fear theft at aggregation centers, price fluctuations, and shrinkage losses.[125] Less than 8 percent of farmers who grow food legumes have used INVC's recommended marketing options;[126] yet, the Evaluation Team found that 11 out of 25 groups say they use collective marketing. This discrepancy between the *Household Annual Beneficiary Agricultural Outcome Survey* and our limited qualitative data should be addressed in a further study.

Conclusions

Capacity building is needed to help farmers understand mechanisms to access new markets or buyers and the potential to leverage better negotiations when large volumes of produce are put on sale. Efficient governance in storage and marketing practices in the local associations (GAC level) is a precondition to develop strategic relationships with market actors who are perceived as unreachable or against farmers' interests.

[123] Cook, K., Manfre, C, Kamoto, J, and Kalagho, K. (2014). Feed the Future, Integrating Nutrition and Value Chains, Malawi: Gender and Value Chain Assessment. Cultural Practice, LLC, Bethesda, MD.
[124] USAID, Feed the Future, FY2015 First Quarterly Report, Integrating Nutrition and Value Chains Project, Malawi, January.
[125] Interview #3-2-14-1500.
[126] Household Annual Beneficiary Agricultural Outcome Survey, 2015, pp. 39 and 55.

Recommendations

Promote "learning by doing." The Consortium, CADECOM, FUM, and NASFAM should promote "learning by doing" at various levels, including sorting and grading; managing aggregation points; decision-making for storing or selling; and considering value-adding ventures.

Governance training. The Consortium, CADECOM, FUM, and NASFAM should train farmers associations in governance. Farmers need to understand membership benefits and responsibilities.

D. NUTRITION

Evaluation Question: Which of INVC's promoted nutrition behaviors and practices have been most widely adopted by beneficiaries and why? What are the main barriers to effective adoption of the promoted nutrition behavior?

For this evaluation question, we will first discuss INVC's Behavior Change Communication (BCC) strategy on nutrition and agriculture value chains in Malawi and its CCG Model. Then we discuss promoting nutrition behaviors and practices through the four identified areas on which INVC focuses on: maternal antenatal care (ANC) and diet, breastfeeding, complementary feeding, and hygiene. Each section presents background, findings, conclusions, and recommendations. To evaluate which promoted nutrition behaviors and practices beneficiaries have most widely adopted or not adopted, the Evaluation Team looked at the initial implementation period of April 2012-April 2015. Because most nutrition activities did not start in Balaka, Mangochi, or Machinga until late 2014, this evaluation question looks at only these nutrition behaviors and practices in Lilongwe and Mchinji districts.

Background: BCC Strategy

The BCC strategy on nutrition and agriculture value chains was developed to "reduce undernutrition among under children under 5 and enhance improved production, storage, processing, and consumption of soybeans, groundnuts, milk, and their associated products among smallholder farmers."[127] The strategy identified the targeted audience, desired changes, and obstacles to improve nutrition and value chains, and identified the communication channels, messages, key partners, indicators, assumptions, and risks. The BCC strategy also addresses "adaptive technologies that improve agricultural value chain competitiveness and nutritional outcomes.[128]" It was rolled out through interpersonal communication and the peer contact component through the CCG Model in Lilongwe and Mchinji, where INVC was first implemented. Later, the "Theatre for Development" (i.e., drama groups) component was added, as were focused mass media radio messages and jingles.

Drafting of the initial BCC strategy began in 2012. After some refinements, it was published in January 2013, defining 40 key behaviors.[129] At the beginning of 2014, INVC prioritized 15 behaviors and practices to be promoted (see Table 7, next page) through a set of counseling cards featuring focused BCC messages. These cards were created to help the messages cascade to the Nutrition Promoters (NPs), Care Group Volunteer (CGV) Lead Mothers, and the direct beneficiary—households with

[127] BCC Strategy on Nutrition and Agriculture Value Chains in Malawi. INVC. Robert M. Chizimba and Malawi INVC staff. January 2013.
[128] *Ibid.*
[129] *Ibid.*

pregnant and lactating women (PLW) and mothers of children under 5.[130, 131] The original Government of Malawi Infant and Young Child Feeding National counseling cards used by the CGVs promoted 51 or more different behaviors. The government's Scaling up Nutrition (SUN) materials promoted approximately 40 behaviors.[132, 133]

Table 7. Malawi INVC Prioritized Promoted Nutrition Behaviors and Practices

Maternal ANC and Diet
1. Women seek ANC as soon as they suspect that they may be pregnant
2. Pregnant women attend ANC at least four times during the duration of pregnancy
3. Pregnant women eat more nutritious food
4. Lactating women eat more nutritious food
Breastfeeding
5. Mothers give only breast milk for the first six months (exclusive breastfeeding)
6. Mothers breastfeed for longer duration
7. Mothers hold the baby in a correct/comfortable position during breastfeeding
8. Mothers attach young babies properly
9. Mothers breastfeed as much or more during illness and recuperation
Complementary Feeding
10. Caregivers encourage children to eat extra food during recovery from illness
11. Caregivers prepare and feed children 6-9 months old soft and thick meals
12. Caregivers feed children 6-24 months fruits, vegetables, legumes, animal foods, and fats for nutrient density
13. Caregivers prepare and feed their children the recommended amount of food
Hygiene
14. Caregivers will wash their hands with soap or ash at the four critical times
15. Children's hands will get washed with soap or ash after stool and before food

A set of working counseling cards was published in October 2013; the final cards with the refined prioritized messages were published in September 2014.[134, 135] The criteria used to prioritize the selected

[130] A team of short-term technical assistance including Kathleen Kurt (DAI), Adrienne Seibert (SCI), and Judian McNulty (independent) worked with Nkhoma, Pakachere, NASFAM, FUM staff, and the BCC and nutrition specialist to refine and prioritize these behaviors to 15 behaviors and practices to be promoted in February 2014.

[131] *Kabuku Ka Uphungu Opititsa Patsogolo Kadyedwe Koyenerera Ka Ana Osaposera Zaka Ziwiri*. "A Booklet for Counselling on Feeding for Children Under 2." Feed the Future. INVC, Malawi. September 2014.

[132] Adapted by the global UNICEF Infant and Young Child Feeding Counseling Cards (*http://www.unicef.org/nutrition/images/Counselling_Cards.pdf*) and the Malawi Infant and Young Feeding-National Counseling Cards (Available at: *http://www.wvi.org/sites/default/files/MPCG_CounsellingCards_V2.pdf*). This integrated set of cards was designed for use by facility-based service providers. They were adapted from materials originally developed with support by University Research Co., LLC, including job aids produced in Tanzania (with funding provided by USAID/PEPFAR to the Quality Assurance Project, now known as the Health Care Improvement Project); in Kenya (with UNICEF funding); and in Uganda (under the USAID-funded URC/NuLife Project).

[133] SUN Community Training Manual. August 2014.

[134] *Kabuku Ka Uphungu Opititsa Patsogolo Kadyedwe Koyenerera Ka Ana Osaposera Zaka Ziwiri*. "A Booklet for Counselling on Feeding for Children under 2." Feed the Future. INVC, Malawi. September 2014.

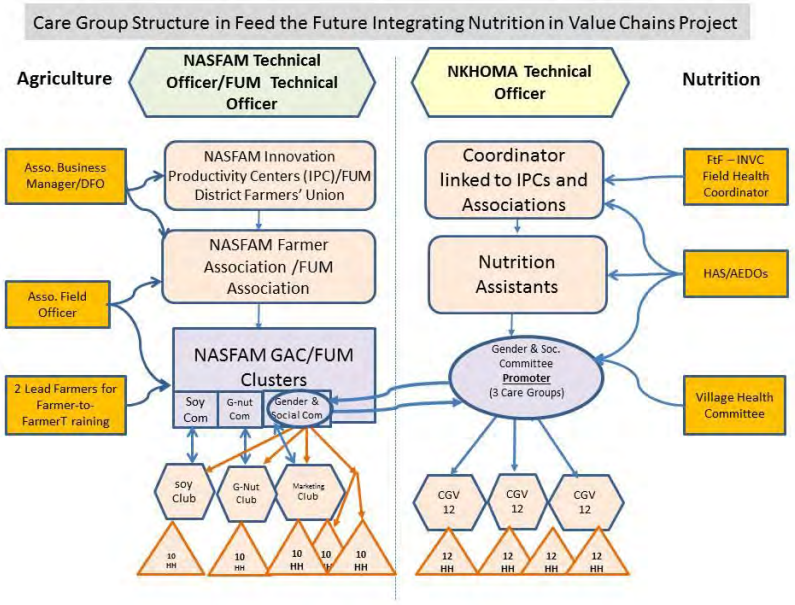
[135] *Kabuku Ka Uphungu Opititsa Patsogolo Kadyedwe Koyenerera Ka Ana Osaposera Zaka Ziwiri*. "Working Title: A Booklet for Counselling on Feeding for Children under 2." Feed the Future. INVC, Malawi. October 2013.

behaviors included the feasibility of implementing the needed activities in the remaining project timeframe; the likely impact on stunting reduction; non-prioritization of behaviors already practiced by more than 70 percent of the population;[136] and elimination of other behaviors likely to be promoted by other implementing partners. INVC took care to combine several sub-behaviors.[137]

The INVC CCG Model

INVC uses the CCG Model to increase household food consumption and nutrition by improving knowledge and practices to ensure diet diversity and appropriate care and feeding practices for pregnant and PLW and children under 5. The CCG Model is proven to mobilize communities to engage in health programming and help contribute to community ownership and sustainability.[138] Figure 3 shows the INVC CCG structure, and Table 8 (next page) shows the globally recognized definition of CCG.

Figure 3. The INVC Care Group Structure



Source: Care Group Training Manual for Promoters and Care Group Volunteers. May 15. INVC.

[136] According to Kathleen Kurtz, due to lack of a baseline for INVC, the project used data from the following sources to determine behaviors already practiced by >70 percent of the population: Malawi Demographic Health Survey (national and central region) National Statistical Office and ICF Macro. 2011. Malawi Demographic and Health Survey 2010. Zomba, Malawi, and Calverton, Maryland, USA: NSO and ICF Macro, CARE Maziko baseline conducted in neighboring districts of Kasungu and Dowa in 2013, FAO FICA Phase II baseline report conducted in Kasungu and Mzimba districts.

[137] Feed the Future-INVC Behavior Change Communication Workshop Report. Ufulu Gardens Conference Center, Lilongwe. February 19-21, 2014.

[138] CORE Group, staff of Food for the Hungry and World Relief. *http://www.caregroupinfo.org*.

Table 8. CCG Definition[139]

Membership: A CCG is a group of 10-15 volunteers. (INVC has 12 CGV "Lead Mothers." These women are community-based health educators who regularly meet with project staff for training and supervision.)

Household Visits: CGCs are different from typical mothers' groups in that each CGV is responsible for regularly visiting 10-15 of her neighbor households. (INVC CGVs visit 11 additional households), sharing what she has learned and facilitating behavior change at the household level.

Scaling up Behavior Change: CCGs create a multiplying effect to equitably reach every beneficiary household with interpersonal BCC. They also provide the structure for a community health information system that reports on new pregnancies, births, and deaths detected during home visits. (INVC CCGs currently do not report on new pregnancies, births, and deaths in a consistent matter.)

Source: CORE Group, staff of Food for the Hungry and World Relief. http://www.caregroupinfo.org. Adapted from USAID CORE Group. Available at: http://www.caregroupinfo.org and INVC documents.

Initially, INVC nutrition staff identifies NASFAM or FUM clusters in an EPA and then conducts sensitization meetings with cluster members targeting the GAC or Gender & Social Committees. The NASFAM and FUM organizational cluster, the GAC, or the Gender & Social Committees then recruit interested Farmers Club members who are interested in becoming NPs through a call for applications.[140]

It is important to note that not all CCGs are started through Farmers Clubs. Some are started in EPAs or villages where there are no Farmers Clubs. NP candidates are short-listed and approved by GVHs, interviews are conducted, and successful candidates are selected using specific criteria by Nkhoma staff including Nutrition Assistants (NAs) and District Nutrition Coordinators in collaboration with the GVHs.[141, 142] Once NPs are selected, they are trained in the CCG Model,[143] essential nutrition actions, the SUN Community Training Manual,[144] food processing (since 2015),[145] and INVC's routine monitoring. The CCG Model training for NPs is being facilitated by the District Nutrition Coordinators (both INVC and Nkhoma); the training materials then cascade to NAs, NPs, and the Lead Mothers.

NPs are supposed to develop action plans on community mobilization and roll out CCG activities. Once selected and trained, NPs register all of the households in the village with PLW and mothers of children under 5. In collaboration with the NP, GVH then typically define 12-household clusters, based on proximity. The GVH is a traditionally recognized local leader overseeing a group of proximate villages as part of the government administrative structure for community organizing. A GVH usually covers about four villages. NP roles and responsibilities also include "establishing working relationship with HSAs in growth monitoring, immunization and supplementation and other health and nutrition activities."

[139] Adapted from USAID CORE Group. Available at: *http://www.caregroupinfo.org* and INVC documents.
[140] See Malawi INVC form, "Application form for promoter role."
[141] See Malawi INVC "Feed the Future-INVC and NASFAM: Promoter Interview Questions" (and scoring).
[142] Criteria for the NPs includes willingness and interest to volunteer, ability to speak English ("conversant in English well enough to train other individuals in Chichewa"), and some formal education.
[143] Care Group Training Manual for Promoters and Care Group volunteers (Malawi INVC). September 2013.
[144] SUN Community Training Manual. August 2014.
[145] Training of Trainers in Food Preparation and Utilization. Developed by Malawi INVC Project through the Lilongwe University of Agriculture and Natural Resources (LUANAR) Department of Food Science and Technology. February 2015.

It is important to note that INVC previously registered only mothers with children under 3, targeting children under 2 and adding another year to account for the three-year project period. Since January 2015, INVC has targeted more broadly to include mothers/caregivers of children under 5. Supervision for the NPs is conducted by Nkhoma NAs and INVC staff in Lilongwe, including District Nutrition Coordinators and NAs, but is dependent on available funding and transport.

Figure 4. INVC Nutrition Behavior Counseling Cards Used in the CCG Model



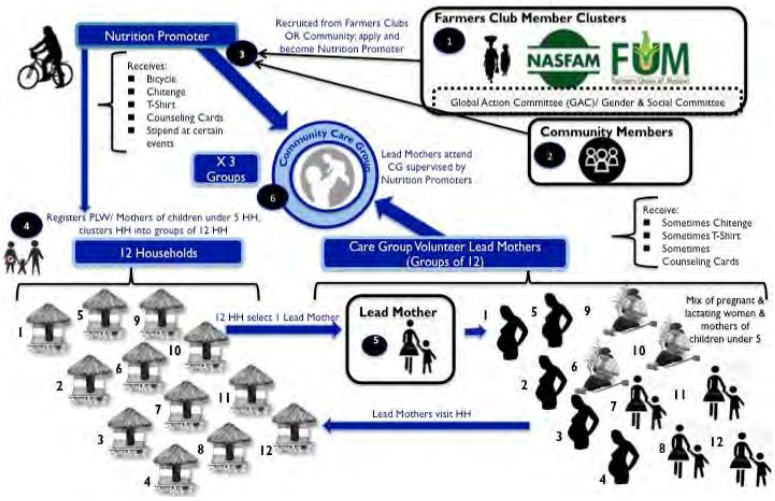
The household clusters then select a CGV Lead Mother, who demonstrates some traits as a role model, as defined and agreed upon by the community. An essential element is having women serve as role models (early adopters) and to promote adoption of new practices by their neighbors.[146] These CGV Lead Mothers are then formed into CCGs facilitated by NPs that meet twice a month. The Lead Mothers are trained by NPs using the INVC counseling cards and their notes from their training on the CCG Model. (The training materials are available in English only.[147])

The CGV Lead Mothers act as key change agents to influence households to adopt promoted nutrition behaviors while increasing the demand to improve diets (e.g., by promoting dietary vegetable diversity through backyard gardens or through promoted value chain legumes) and increasing the demand for nutrition services (e.g., growth monitoring and promotion or vitamin A supplementation). The Lead Mothers then make subsequent monthly visits to their 12 households, (since their household is included in the 12 households that form a Care Group), transferring the knowledge they receive through the twice-monthly CCG meeting.[148]

The CCG Model, illustrated in Figure 5 (next page), was piloted in Malawi under the Title II Improving Livelihoods through Food Security project.[149] During this performance evaluation, the "Establishing Care Group Criteria"[150] was used to help measure the quality of the CCGs that are being scaled up through INVC. Annex 4 contains more information about INVC nutrition material findings, positive feedback, and limitations and recommendations for the materials that are being used for nutrition within the project. Annex 3 provides an overview of the INVC CCG Model Project Structure and Procedures.

[146] Establishing Care Group Criteria. (revised November 12, 2010).
[147] Care Group Training Manual for Promoters and CGVs.
[148] According to the Care Group Training Manual for Promoters and Care Group Volunteers, May 15. One CGV is selected for every 10-12 households. Each of these volunteers should be responsible for regularly visiting and teaching 10-12 beneficiary households (including her own household).
[149] Integrated Community Based Nutrition Intervention using the Care Group Model, 2008. Title II Improving Livelihoods through Food Security Program, Catholic Relief Services, Malawi.
[150] Establishing Care Group Criteria (revised November 12, 2010). Available at: *http://www.caregroupinfo.org.*

Figure 5. INVC CCG Model[151]



Findings

According to INVC, across the five districts where nutrition and agriculture activities are implemented, 50 percent of CCG members are the same registered households that include members of Farmers Clubs through NASFAM and FUM.[152]

Nutrition Promoters. Of the 273 NPs being trained through INVC, 162 (59.3 percent) are male and 111 (41 percent) are female. Barriers to being a NP may include the stipulation that each must "be conversant in English well enough to train other individuals in Chichewa" and because the project initially did not offer a stipend, which may limit working mothers' ability to join. This evaluation acknowledges that INVC has decided to begin paying NP stipends starting in May 2015. There may also be a potential biased selection because NPs are approved by GVHs across districts. Most NPs were familiar with their roles and responsibilities and how to recruit Lead Mothers and the recruitment criteria to use. NPs did not report that they have developed action plans on community mobilization and rollout of Care Group activities.

As required by INVC, each NP had no more than three sets of CCGs of 12 household members each representing 12 households (36 total members maximum), and they led their CCG at least twice a month. Most NPs were familiar with the required CGV report form[153] and the NP report forms, but there was consensus that these forms were difficult to use and that the Lead Mothers had difficulty with them. NPs reportedly lacked motivation to conduct the twice-a-month CCG meetings due to lack of incentives and working materials. These included no food or allowance offered for outreach; no funds for communications (e.g., phone or phone vouchers), making it difficult to communicate with the Lead Mothers about visits; lack of bicycle maintenance; no backpack provided for carrying materials; lack of supportive supervision; and, often, lack of the hardcover notebooks and writing materials to record

[151] Mucha, N. From INVC Focus Group and Key Informant Interviews, May 2015.
[152] Benjamin E. Lentz. Chief of party DAI, Confirmation email May 5, 2014. This comes from INVC registration forms and also from our recent beneficiary validation exercise where we sampled from our beneficiary list to "ground truth" the beneficiaries listed by the project.
[153] See the Care Group Cluster member registration form.

visits. A few NPs also mentioned that they could not afford soap to wash their clothes, and because they felt like they should set an example for Lead Mothers, they would not visit them for this reason. NPs in Lilongwe and Mchinji acknowledged that distance was also a key challenge to meeting with the Lead Mothers: households were sometimes more than 4-6 km away—a three-hour bicycle ride.

CCGs are held in local community venues such as schools, churches, and under-5 clinics. NPs are reportedly using only the counseling cards that were translated into Chichewa, as all other materials [including the Care Group Training Manual for Promoters and Care Group Volunteers; the Training Manual for Community-Based Drama Groups; the SUN Community Training Manual (developed by the Malawian Government); the Seasonal Food Availability Calendar; the Legume-Based Recipe Book (INVC); and the recently developed Training of Trainers in Food Preparation and Utilization] have not been translated into Chichewa. The SUN Community Training Manual was reportedly translated into Chichewa to be used by NPs, but no NPs in Lilongwe and Mchinji were aware of it. (See Annex 4 for findings and recommendations for the INVC nutrition materials.) The NPs also noted that there are not enough counseling cards distributed for all Lead Mothers.

Supervision of NPs from Nkhoma NAs was found to be inconsistent and erratic, with some NPs not even knowing who their NA supervisor was. Much more supervision was found in Mchinji than in Lilongwe. NPs expressed that they would feel a lot more encouraged if they had consistent supervision. In some cases, NPs insisted, "Some of the problems have not been resolved until today. The NAs are 'always in a hurry.'"

NPs agreed that the underlying causes of undernutrition in their communities include poverty; food insecurity (unavailability of food), especially during the lean season; poor dietary quality due to lack of resources to buy diverse, high-quality food; lack of knowledge or ignorance of caregivers, including the inability to prepare appropriate foods (both due to a lack of knowledge and/or lack of resources); and the lack of agricultural inputs, particularly high-quality seeds and improved seed varieties. NPs universally believe that malnutrition has decreased in their communities from a result of INVC CCGs. For example, NPs in Lilongwe commented that "people are getting less frequency of disease, and pregnant women are giving birth to healthy babies." In Mchinji, an NP commented, "now women are able to go to the under 5 clinic with their children—they didn't do that before," "hygiene has changed significantly—now there are toilets and rubbish pits," " there are less undernourished children," "before the Care Groups came, they [the community] thought the good foods are for the rich only."

Lead Mothers. Lead Mothers recognized underweight, wasting, Odema (especially during lean season), and stunting as main nutrition problems in their communities. No micronutrient deficiencies were cited. Lead Mothers also agreed that the underlying causes of undernutrition in their communities include poverty and food insecurity (unavailability of food), especially during the lean season; poor dietary quality due to lack of resources to buy diverse, high-quality food; climate change causing erratic rains; problems with soy, groundnut, and maize yields; and the lack of agricultural inputs, particularly high-quality seeds, improved seed varieties, and fertilizers. Only some Lead Mothers (28 percent of the focus groups) recognized that poor feeding and caring practices of infants and young children were a major cause of malnutrition.

Lead Mothers reported that they were generally selected to participate in a CCG as Lead Mothers by their peers, who used criteria including hard-working, caring, and the ability to write and read. Mothers

joined at different stages of pregnancy, during breastfeeding, or if they thought they may be pregnant. At least half of the Lead Mothers were members of NASFAM; some were members of FUM and others were not in a Farmers Club. Lead Mothers reported that there were up to 12 Lead Mothers in a CCG.

Lead Mothers demonstrate a good understanding of their role as CGV Lead Mothers and often mention teaching about hygiene and cleanliness, breastfeeding, eating diverse selections from the six food groups, and teaching about clean cook stoves. They said that CCGs generally meet at least twice a month at a primary school, the under-5 clinic, and churches. They are supervised by NPs at least once or twice a month. Lead Mothers, similar to NPs, reportedly lacked motivation to conduct the twice-monthly home visits to beneficiaries due to lack of incentives and working materials or other obstacles. Many reported that they did not have the hardcover notebooks or reporting forms to record their home visits. For example, a Lead Mother in Mchinji commented that she "finished the forms so [I] didn't visit this last month," and many Lead Mothers commented that they "try to visit the households twice a month." A Lead Mother from Lilongwe (Mngwangwa) commented that her "last visit was in December of 2014, difficult because of the rains—busy everyone was at church." Many Lead Mothers from the focus group interviews were not practicing the recommended behaviors (e.g., hand washing with soap), which presents a challenge for them to be role models for other mothers.

Direct Beneficiaries. All (100 percent) beneficiary mothers/caregivers reported that their Lead Mothers had visited them during the previous months. There was consensus that Direct Beneficiaries were recruited to join the household clusters' CCG by the chief or GVH or through an NP. Direct Beneficiaries are aware of the roles and responsibilities of the Lead Mothers. They admitted that they benefitted from Lead Mothers, especially in terms of improving household hygiene, "for example, taking care of households, toilets, having a shower separate from the toilet, making mud stoves, making a place where to dry plates," and hygiene during food preparation. They also mentioned that they are learning how to feed infants and young children, when to go to the under-5 clinic and about the six food groups. They are encouraged to go to ANC early, to eat healthy food when pregnant, and learn how to make a backyard garden.

Surprisingly, almost no Direct Beneficiaries were members of NASFAM/FUM. Only one of the focus groups commented that their Lead Mother encouraged them to join, "but no one joined because NASFAM or FUM [is] not available" in their community. In some cases, if their Lead Mothers informed them about these Farmers Clubs, they could not join because they did not have the money or clubs were not available in their area. Additional barriers to joining a Farmers Club that were mentioned included that they never heard of it, they were not available in their village, and they did not have enough money to pay the registration fee. Direct observations of the Direct Beneficiaries reveal that they generally are less educated than Lead Mothers, which may affect household income.

Growth monitoring. Some NPs were trained in growth monitoring, mainly weighing a child using the Salter Scale. In some cases, NPs are assisting HSAs to conduct growth monitoring during routine monthly community growth monitoring and biannual Child Health Days by helping to weigh children with hanging Salter Scales and recording the weight in the Child Health Passport. In some cases, NPs do not have scales, so they just check that the mother/caregiver has a Health Passport and to see the last time they came for growth monitoring; however, nothing is recorded. Obviously, this is a big disincentive for mothers/caregivers to attend growth monitoring.

It has been noted by the NPs that, in most cases, there are no height boards at the community growth monitoring sessions in the community outreach and sometimes at the Child Health Days with the HSAs. HSAs also reported lack of height board equipment. Although a height board is typically available at the health facility, mothers who are hard-to-reach and in rural areas generally only attend community outreach where they receive growth monitoring. Therefore, HSAs are unable measure the height of children 2 and older to record height-for-age (stunting) in many communities, despite INVC's goal to reduce stunting. Many NPs reported challenges with participating in growth monitoring activities because there was no facilitation of an agreement between government HSAs and NPs. Most NPs report they are not working with HSAs during events such as biannual Child Health Days. However, those NPs who do have an established relationship with HSAs play an important role, along with Lead Mothers, to mobilize the community to participate in these growth-monitoring events.

One challenge noted by all HSAs interviewed (13) in Lilongwe and Mchinji is that all community volunteers, including NPs, receive a stipend for helping with large-scale community health events such as the Child Health Days, but HSAs lack the funds in their Child Health Day budget to pay NPs for their participation.[154] HSAs admitted that they did not want NPs to help this year because they did not have funding for stipends.

It should be noted that some NPs have good relationships with their HSAs, contingent on self-effort or from the facilitation of INVC or Nkhoma District Nutrition Coordinators or NAs. NPs recognized that many mothers from the community could not interpret their growth cards. In addition, a number of NPs were trained in how to use the mid-upper arm circumference tapes for the identification, referral, and follow-up of children with acute malnutrition, but only one to two people (out of 41) feel confident enough to use the tape for acute malnutrition screening.

BCC strategies. There was a lack of sufficient formative research to inform the program design and develop the INVC BCC strategy.[155] INVC mostly used a review of existing qualitative data from formative research in Malawi to inform the strategy. Two focus group discussions in Chiwamba and Chigonthi in Lilongwe were used to look into the demand for complementary food products and to examine food beliefs, current practices, barriers, and the current level of awareness.[156] In addition, in September 2013, Pakachere conducted a qualitative formative research through four focus group discussions in selected communities in Lilongwe and Mchinji to establish current beliefs and practices toward nutrition among pregnant mothers, lactating mothers, and children under 2.[157, 158] The chief executive officer of Pakachere admitted that they "designed a shortened Positive Deviance Inquiries process because the original model did not have the budget." With INVC support, Pakachere has produced radio jingles called *Tidyenji* ("What nutritious foods should we eat?"), aimed at educating CCG

[154] The HSAs have a budget for Child Health Days under the Environmental Health Section of the Ministry of Health and Population.

[155] There was some Demand for Complementary Food Products—Focus Group Discussions and Providing Technical Support for Effective Implementation of Social and Behavior Change Communication Interventions. Formative Research on Pregnant Women in Lilongwe and Mchinji Districts. September 2013.

[156] Demand for Complementary Food Products—Focus Group Discussions. September 27, 2013.

[157] Providing Technical Support for Effective Implementation of Social and Behavior Change Communication Interventions. Formative Research on Pregnant Women in Lilongwe and Mchinji Districts. INVC. September 2013.

[158] Four focus groups were conducted in Lilongwe and Mchinji districts with WRA who had at least one child under 2.

members and the community at large on nutrition. Pakachere also plans to use a "radio magazine" format for radio programs lasting up to 30 minutes.

Interpersonal communication. Evidence has demonstrated that high-coverage peer counseling approaches have been able to significantly change behavior. Both the NPs and Lead Mothers have not been trained on any type of community counseling, only a one-time training[159] on the CCG Model and an overview of the counseling cards. Therefore, the NPs and Lead Mothers are only randomly selecting one of the counseling cards for their CCG or home visit to present on a monthly basis with no guidance of behavior selection and timing.

Supervision and financial management. Supervision is lacking because Nkhoma has not had, for various reasons, sufficient budget for transportation (e.g., motorbikes and fuel stipends), for the NAs to be able to conduct supervision. Weak financial management, including delayed submission of nutrition budget projections, and poor pipeline planning resulting in delayed allocation of funding for project implementation has caused delays and in some cases gaps in project activities. Nkhoma NAs reported that they were not given safety equipment such as helmets to use with the motorbikes. The chief of party reported that the issue of enough resources for fuel and helmets is being remedied with Nkhoma. There are currently no supervision quality improvement checklists, as no system is in place.

Drama groups. Pakachere implements the drama groups with their own traveling master drama group, which has been trained and trains other locally formed community drama groups in Lilongwe and Mchinji to conduct joint performances in communities. Reportedly, 123 drama performances were conducted that reached an estimated 26,924 community members in Lilongwe and Mchinji, supporting CCG activities at the community level.[160] As learned from the INVC Behavior Change Communication Workshop in Lilongwe in February 2014, "The community drama groups are a good channel for reaching the wider community and targeted secondary audiences, such as husbands, and are particularly useful for portraying how families can overcome barriers."[161] However, care needs to be taken to ensure that the content of the messages is correct and gender-sensitive, and the information is prioritized by the project. It is unclear if the content has been vetted; apart from one interview with the chief executive officer in Lilongwe, Pakachere did not follow up with further information and was unable to provide the Evaluation Team with the content of the songs and jingles after repeated contact. However, in a few cases in the focus group interviews with the Lead Mothers, the songs Pakachere taught them, though translated, had some issues. In one case, a song the Lead Mothers were singing about taking chickens away from husbands and giving them to children might actually do more harm than good. In Lilongwe (Chitsime) and in Mchinji (Msitu) Direct Beneficiaries commented that drama groups influenced them to change behaviors related to nutrition and health since they began receiving home visits from a Lead Mother.

Coordination challenges. Only some of the NPs reported that they have seen the dramas performed by the Pakachere and local drama groups. Some reported that they worked well with Pakachere, but many said Pakachere has not coordinated drama group outreach with them. The NPs who have seen the community mobilization and drama groups admit that the groups are more helpful than the CCGs in

[159] Both INVC and Nkhoma District Nutrition Coordinators and NAs are facilitating the current training for the NPs.
[160] FY2015. First Quarterly Report. Feed the Future. INVC, Malawi. Covering Period: October 31-December 2014. Final draft January 30.
[161] INVC Behavior Change Communication Workshop Report. Ufulu Gardens Conference Center, Lilongwe. February 19-21, 2014.

getting the targeted messages across to the greater community, because everyone in the community attends.

Project design. There are implementation differences related to incentives, such as NPs gaining monthly stipends, between CCGs and other large-scale CCGs that were implemented through USAID's Wellness and Agriculture for Life Advancement project in Southern Malawi, which ended in August 2014.[162] Another implementation difference is the involvement of HSAs in the CCG Model design, and the training cascade for the CCGs; within the INVC project, HSAs are not involved as they were under the Wellness and Agriculture for Life Advancement project.

Coordination with local government authorities. (For nutrition activities, both the district-level authorities in Mchinji and Lilongwe district authorities were unable to meet during the time the nutrition evaluation specialist was in Lilongwe due to commitments with the European Union.) The HSAs reported that there currently is no coordination and collaboration with district-level government authorities, including DNOs, DEHOs, Food and Nutrition Officers, and the Maternal and Child Health Nutrition Coordinators. There is limited coordination with the HSAs in both Lilongwe and Mchinji, although the HSAs in Mchinji were more familiar with INVC than the ones in Lilongwe.

Conclusions

Using the CCG Model can improve nutritional status in children at scale and at low cost, and it shows sufficient promise to merit further application. However, the model and its implementation can benefit from some improvements, including improved community growth monitoring; more focus on high-quality "timed and targeted counseling"; optimizing caring and feeding through the use of improved, more coordinated behavior change strategies; improving the coordination and reach of the drama groups; adjusting project design to standardize national protocols and incentives for CCG participants; and closer coordination with local government authorities.

Recommendations

Continue promoting the 15 prioritized nutrition behaviors and practices and add more priority behaviors with low coverage of practice. Continue re-enforcing all 15 prioritized nutrition behaviors and practices. INVC or the U.S. Government should invest in high-quality formative research to identify which nutrition behaviors and practices need the most attention. As the findings from the more than 306 individuals who participated in this evaluation demonstrate, mothers and caregivers need more targeted communication and promotion of behaviors and practices that are currently not being widely practiced. Gaps identified include birth spacing, diarrhea, iron-folic acid for pregnant women, vitamin A supplementation for children 6 months to 5 years, and promotion of children under 5 using a latrine. INVC should also consider promoting "BabyWASH" to interrupt the key fecal-oral vectors of babies' hands and hand-to-mouth activity, also paying attention to animal feces. This requires improving baby hygiene, including hand washing at key times, creation of a hygienic and protective play environment, hygienic food preparation and infant feeding, household hand washing, and sanitation interventions.

[162] Key Informant Interview, April 12, 2015; 3-5 p.m. with Nutrition Specialist Martin Tembo, from November 6, 2012-September 1, 2014. Key Informant Interview, March 25, 2015, Catherine Mkangama, technical support for INVC from Save the Children, 2012-2015.

For all nutrition behaviors, focus on high-quality "timed and targeted counseling." This involves delivering health messages when behaviors can best be put into practice (i.e., timed counseling) and targeting messages to those who practice the behaviors and influence behaviors. For example, women with newborns and their mothers-in-law are given information about breastfeeding, and mothers and fathers of 6-month-old babies are given information on complementary feeding. This will require additional training on counseling. Both NPs and Lead Mothers should facilitate mother/caregiver discussions based on standardized, scheduled messages through the INVC counseling cards and take-home printed materials to improve practices tailored to household situations. The Lead Mothers should keep an individual behavioral record to better enable the BCC program to track which behaviors have the best uptake and which are lagging. The mothers/caregivers can also track their own household behaviors with the Lead Mothers through a household behavior change negotiation card and be able to compare their progress with peers.

Growth monitoring. NPs need to be properly trained in community growth monitoring and counseling with user-friendly job aids and screening for acute malnutrition to be able to properly help the HSAs conduct comprehensive routine anthropometric, dietary, and clinical growth assessment and counseling.[163] NPs' skills should be strengthened to weigh children, record the weight on the Child Health Passport, and interpret and regularly review the growth charts. Support can include development of simple, user-friendly job aids to conduct and record growth monitoring during outreach to prevent and address early growth faltering. NPs and Lead Mothers should be trained to proactively engage caregivers on charting the growth and nutritional status of their child, link growth trends to child feeding and illness patterns, provide encouraging feedback about their child's growth, and offer small doable actions through a visual checklist of the 15 prioritized behaviors if the child falters (e.g., is underweight and/or stunted), referring the child for treatment if severely malnourished during community growth monitoring promotion sessions.

INVC should invest in height boards or collaborate with UNICEF to provide the boards for the HSAs to use during routine community growth monitoring outreach and Child Health Days, because most mothers/caregivers do not routinely attend health facilities. This way, INVC can record height-for-age to measure the impact of CCGs on stunting in the villages where they have coverage. INVC can use the national SUN job aides for measuring height/length. Although these height boards are available at some health facilities, most mothers/caregivers do not make it to the facilities for growth monitoring. However, equipment such as these height boards and scales should not be given to the NPs; instead, the HSAs' anthropometric equipment should be mapped out, after which INVC could support it.

Furthermore, if NPs are going to be trained in screening for acute malnutrition by using mid-upper arm circumference tapes, the project should support the community identification and referral of malnourished children as stipulated in the Community Management of Acute Malnutrition (CMAM) guidelines.[164] This requires coordination with the District Health Office (District CMAM focal persons)

[163] The current primary visual job aids used are a set of flipchart cards provided by the Baby Friendly Community Initiative program and UNICEF. The fronts of these two-sided cards have images of recommended health and nutrition practices for infants and young children under 2; the backs have related information for community workers. However, additional job aids are needed.

[164] CMAM guidelines (2013; Section 2 focuses on community outreach, including understanding community social and cultural characteristics, conducting community dialogue, training community-based service providers, case finding and referral, and screening and follow-up).

and the Ministry of Health, whose staff are responsible for the management, implementation, and supervision of CMAM services. Originally, this activity was planned under INVC's Task 4, "Increase Access to and Utilization of Key Nutrition-Related Services Among Targeted Populations Including Community Surveillance and Referrals," Sub-Task 4, "to promote improved complementary feeding and management of acute malnutrition."[165] The activity details are:

> "INVC support will aim to rehabilitate malnourished children with locally available nutritious foods while those who are well-nourished will be instructed on simple skills and knowledge. Each promoter will coordinate *Thanzi* sessions while each volunteer will conduct learning hearth sessions and follow up home visits. Prior to health *Thanzi* sessions, nutrition screening will be conducted to establish baseline measurements and growth monitoring will be used to identify newly malnourished and monitor the nutritional status of children graduating from the sessions. Care Group Volunteers will be trained in nutrition screening and will then conduct community screening of children to identify and refer malnourished children to health facilities.
>
> "Household Follow-Up by Care Group Volunteers: Households with malnourished children will be closely followed up by care group volunteers to provide general support and prevent deterioration or relapse of malnutrition."[166]

It is recommended that the issue of incentives for NPs (i.e., monthly stipends) be taken up to the national level and that the Malawian Government, in collaboration with nutrition implementing partners and through the SUN coordination mechanisms, reach consensus to standardize the approach to CCGs.

Coordination with local government authorities. It is recommended to coordinate and collaborate with district-level government authorities, including DNOs, DEHOs, Food and Nutrition Officers, and Maternal and Child Health Nutrition Coordinators, for planning and implementing INVC nutrition activities. Not only is it important to keep the local government authorities in the loop about project implementation—they can also be an asset to help facilitate activities and improve the operational enabling environment.

Involve, train, and work with the HSAs to be consistent with a mainstreamed national approach for CCGs. It is recommended that INVC lead a national consensus process with the Malawian Government and the SUN process for the acceptance of one standard CCG Model and relevant guidelines/manuals to scale up coordination with other partners that have implemented or are currently implementing CCGs (e.g., Wellness and Agriculture for Life Advancement project implementing partners, Catholic Relief Services, Save the Children, World Relief, and Project Concern International). It is recommended to formalize agreements between INVC and HSAs, and train HSAs in the CCG Model using the same counseling cards. The project should also set up a system by which HSAs could supervise NPs during Community Growth Monitoring and Promotion (but not supervise the NPs in general). This will facilitate a more effective system for Growth Monitoring and Promotion and ensure involvement of the critical extension-level health focal people: the HSAs within the CCG Model.

[165] Annual Workplan FY2014. Feed the Future. INVC, Malawi. Covering Period: October 1, 2013-September 30, 2014. Final—Revised.
[166] *Ibid*.

Drama groups. Drama groups and performances need to be better coordinated centrally within INVC among Pakachere, Nkhoma, and the HSAs to take advantage of opportunities to work together in the same communities at the same time to achieve greater impact. Both NPs and the HSAs said that they were not aware of when the drama group would perform in their village, and that in some cases the dramas would be performed in a different part of the community at the same time as other health outreach. These short performances could be conducted in collaboration with other high-impact community events, such as Child Health Days, to leverage the opportunity to reach a greater audience. It would be ideal if the content of the dramas coincided with the CCG counseling cards so that the messages align and are mutually reinforced. It is also important that INVC technical staff vet all drama topics and performances to ensure correct content and context. Ideally, performances should be tested prior to scale-up.

Materials. There are some essential operational materials missing that NPs and Lead Mothers need to function in their roles, including sufficient quantities of the basic laminated counseling cards, hardcover notebooks and writing materials, backpacks to carry materials, raincoats and/or umbrellas during the rainy season, and INVC Registration and Volunteer Report forms. It is also important to supply other teaching materials required for cooking demonstrations, as NPs are now asked to use their own resources, which has resulted in the demonstrations not being conducted. One set of cooking materials should be provided for the NPs so that they are well-equipped to conduct a proper cooking demonstration with the Lead Mothers and the greater community to provide an opportunity for practical hands-on skills building. USAID/Cambodia's Helping Address Rural Vulnerabilities and Ecosystem Stability Program has had success with monthly cooking demonstrations, for which it provides ingredients, eating and food preparation utensils, water and fuel. The community can be asked to select foods readily available in most homes, gardens, and/or local markets for sustainability.

Demonstrations should emphasize the importance of dietary diversity through the different food groups and the available selected foods. This also provides an opportunity to conduct "clean cooking" to learn about and address the barriers to the acceptability of changing household or community cooking practices.[167] This gives the opportunity to move "beyond hardware and technology to address human behavior, especially given that clean cooking requires many interrelated actors to practice complex behaviors consistently and correctly over time" to save energy and preserve nutrients while cooking to improve nutrition.[168]

Regular community-wide cooking demonstrations conducted with the NPs and Lead Mothers can help influence households to value the benefits of improved cooking solutions because men are usually the decision-makers—even though women experience the greatest risks from household air pollution. Routine community cooking demonstrations can also help change household eating habits and behaviors, such as home fortification for complementary feeding. Recent evidence also highlights that "it appears that it is not enough to address personal perceptions and behaviors; interventions must include activities

[167] Brendon Barnes, Julia Rosenbaum, Sumi Mehta, Kendra N. Williams, Kirstie Jagoe & Jay Graham (2015) Behavior Change Communication: A Key Ingredient for Advancing Clean Cooking, Journal of Health Communication: International Perspectives, 20:sup1, 3-5, DOI: 10.1080/10810730.2014.996305.

[168] *Ibid*.

(gender-sensitive cooking demonstrations) that reflect the relationships in the household as well as social norms and national regulations."[169]

It may also be necessary to provide the NPs teaching materials for garden demonstration plots, including watering cans, hoes, and improved vegetable starter seeds. This way, the community can share seeds and multiply them. NPs and Lead Mothers would also like to have their bikes maintained and/or to receive transport allowance. Ideally, NPs could also be provided with phones and vouchers to facilitate communication, as currently it is very difficult to communicate on a regular basis. These phones could also be used for innovative BCC strategies to harness the power of mobile technologies to improve access to information on nutrition-specific behaviors as well as nutrition-sensitive health and agricultural practices, especially for farmers and women. Private-public partnerships with telecommunications companies such as Airtel should be considered to develop SMS (i.e., texting) services that promote key stunting prevention behavior change with reminders, updates, and motivational/inspirational messages. Finally, there are also inconsistencies with the distribution of *chitenges* and T-shirts. Not all Lead Mothers receive them, so there needs to be more quality assurance to ensure everyone is receiving the same incentives.

Training. NPs and Lead Mothers would also like additional training, including refresher training for the CCG Model and targeted behaviors, and then leadership skills training.

Supervision of CCGs. INVC should improve supervision efforts for the implementation of CCGs. First, there needs to be sufficient budget allocated for supervision at all levels; such allocations should include enough funds for safe transport and fuel. Consistent supportive supervision methods must also be implemented, and Quality Improvement and Verification Checklists for staff and volunteers can serve to reinforce the most important elements of the CCG Model. This can reinforce a regular communication and feedback loop, and can prevent problems such as misinterpretation of the counseling cards and inconsistent use of participatory methods. It would also help staff and volunteers have a greater sense of ownership.

Monitoring of CCGs. The quality of CCG monitoring needs to be improved and reporting simplified. NP CCG Registration and Report Forms are reportedly difficult to complete, and NPs and Lead Mothers were not fully trained and need more user-friendly forms. There have been reports of running out of forms, so INVC must also ensure that the people reporting have enough forms. Additionally, the monitoring process should be mapped out and checked on a regular basis to ensure that it is functional.

Maternal ANC and Diet

Findings

1. Women seek antenatal care as soon as they suspect they may be pregnant

Nutrition Promoters. Many NPs can provide the correct answer: attend ANC as early as possible once pregnancy is confirmed. But some are confused and answer after one or three months.

[169] Nicholas J. Goodwin, Sarah Ellen O'Farrell, Kirstie Jagoe, Jonathan Rouse, Elisa Roma, Adam Biran & Eric A. Finkelstein (2015) Use of Behavior Change Techniques in Clean Cooking Interventions: A Review of the Evidence and Scorecard of Effectiveness, Journal of Health Communication: International Perspectives, 20:sup1, 43-54, DOI: 10.1080/10810730.2014.1002958.

Lead Mothers. Many Lead Mothers can correctly answer that women should seek ANC as early as possible once pregnancy is confirmed. (In 71 percent of focus groups, at least one person answered correctly.) However, there was still a lot of hesitation before answering, as well as misconceptions about ANC attendance. Findings demonstrate that although many women know the importance of attending ANC, most start it in the third and fourth trimester. For example, many Lead Mothers answered after three months. Others had misconceptions about how long a woman should wait after a missed period, and said that one cannot attend ANC until at least four months had passed because then missed periods would mean a possible pregnancy.

Direct Beneficiaries. Only about 50 percent of Direct Beneficiaries answered that women should seek ANC as soon as they suspect they may be pregnant. Again, there was some confusion here, and some beneficiaries said that pregnant women should not attend ANC until after four or six months of pregnancy. In terms of practice, Direct Beneficiaries first attended ANC after two, three, or four months of pregnancy. Reasons given for late attendance included not realizing they were pregnant because they were using family planning methods, advice of nurses and HSAs to delay or skip attendance if they are healthy, and superstitions with announcing pregnancy early.

2. Pregnant women attend ANC at least four times during the duration of pregnancy

Nutrition Promoters. NPs were confused about the number of times to attend ANC. Answers included every month and at least four times. Furthermore, if women look healthy at their first ANC, health personnel (e.g., nurses, midwives, and facility-based staff) may advise them to delay further ANC until the last trimester or wait three to four months before their next visit. This is believed to stem from overcrowded health facilities, whereas facility-based staff tries to prevent overcrowding and additional visits. Because the focus group discussions did not include facility-based staff, this needs to be further investigated to find out more about their reasoning to recommend less than the four ANC visits for women without complications that may also prevent proper monitoring for complications. An additional reason for not going to ANC many times was the long distances to health facilities and lack of transport.

Lead Mothers. Lead Mothers are confused about the number of times during pregnancy women should attend ANC. Only 14 percent (one of seven focus groups) answered correctly. Main barriers were advice from facility-based health personnel not to attend as much ANC or to begin it later in pregnancy. They acknowledge that, when they have a problem, they should rush to the hospital. It was unclear if NPs were giving them the correct advice. But because the NPs were also confused about the number of times to attend ANC, the correct number needs to be reinforced.

Direct Beneficiaries. When Direct Beneficiaries were asked how many times they attended ANC when they were pregnant, there was some inconsistency. At least 42 percent reported that they attended only once. At least 57 percent reported that they attended at least four times, which is the standard. Others said they attended every other month or each month up to the ninth month. Pregnant women were reportedly instructed by community health workers or nurses at facility-based health centers regarding number of ANC visits and frequency. Again, other reasons for not attending included long distances. Respondents also mentioned a new government policy that encourages husbands to attend ANC, which creates a new barrier to attendance.

3. Pregnant women eat more nutritious food

Nutrition Promoters. Most NPs mentioned that pregnant women should eat locally available, nutritious foods from the six food groups, but they did not necessarily discuss these food groups. They did mention consumption of fruits and vegetables, especially green leafy vegetables. Some mentioned that pregnant women should increase their intake of yellow and orange foods such as carrots (but did not mention why), diversify their food, and drink sweet beer (*thobwa*, made with fermented corn). Most NPs said that pregnant women should not be picky about what they eat. NPs encourage consumption of other locally available foods, such as mice (*mbewa*), grasshoppers, and fresh or dried fish. A few people mentioned iron tablets. Across focus groups, women answered that antimalarial Fansidar was a good food choice; thus, there seems to be confusion about the difference between vitamin supplements and preventative medicine.

Lead Mothers. Eighty-five percent of the focus group for Lead Mothers answered that pregnant woman can eat locally available nutritious foods from the six food groups. Once again, however, these six food groups were not cited by name (staples, vegetables, fruits, legumes and nuts, foods from animals, and fats and oils). When asked to recite the six food groups, the Lead Mothers had difficulty. At least 42 percent said that pregnant women should eat more fruits; 70 percent answered that women should eat more vegetables, including green vegetables, amaranth, pumpkin leaves, leafs of beans, and orange-fleshed sweet potato. Seven percent said women should eat meat if it is available. A few focus group participants mentioned *mbewa*, oils, and carbohydrates, and remarked that pregnant women should not be picky.

Direct Beneficiaries. Direct Beneficiaries reportedly changed the way they ate when they became pregnant. Fifty-seven percent of the focus groups had one person who reported that they increased their beef intake. More than 57 percent of women reported that they increased their intake of fruits and locally available vegetables at every meal, including vitamin A-rich carrots, papaya, pumpkins, and mangos. Again, the six food groups were cited but not identified. *Nsima*, soy, and *mbewa* were also mentioned. At least 57 percent also reported that although they know what nutritious foods they should increase, they generally "eat the same way" and "ate the same food because of no money to buy other food." Key barriers reported include lack of finances and lack of locally available diverse food.

Iron-folic acid supplementation for pregnant women. Although taking vitamin supplements is not a prioritized behavior, we asked whether or not pregnant women are encouraged to do so. There was quite a bit of confusion here, with only a few NPs mentioning iron tablets. No one mentioned iron-folic acid. A few people answered vitamin A; some answered zinc. Apparently, this advice is not in the counseling chart. There was even more confusion from the Lead Mothers, who again confused vitamins with antimalarials, particularly Fansidar. Forty-two percent responded with antimalarials; 42 percent answered iron, and 28 percent answered folate. Again, no one answered iron-folic acid, which was the correct answer.

4. Lactating women eat more nutritious food

Nutrition Promoters. NPs answered that breastfeeding women can eat healthier by consuming more diverse foods, such as fruits, green vegetables, sweet beer, and cooked cassava. NPs reported that mothers should increase "yellow and orange" foods, including carrots and orange-fleshed sweet potatoes, which are high in vitamin A. However, they did not report increasing intake of other foods.

Lead Mothers. Lead Mothers answered that breastfeeding women should eat more nutritious foods. Fifty-seven percent said they should eat meals prepared from the six food groups (but again did not identify the food groups) and locally available vegetables. Other promoted foods that were mentioned include mangos, sweet beer, carbohydrates, meats, and beans. There was no mention that women should take vitamin A supplements within eight weeks after delivery, or that they should eat two extra meals per day. None of the Lead Mothers acknowledged that breastfeeding women should increase food intake.

Direct Beneficiaries. When Direct Beneficiaries were asked what nutritious foods they ate when they were breastfeeding, they agreed that they tried to eat more meals prepared from the six food groups and to increase their intake of pumpkin, maize flour (*nsima*), and okra. Again, key barriers are not having the resources to buy more nutrient-dense foods and a variety (diversity) of foods. Many of the Direct Beneficiaries have backyard gardens but still struggle with the lack of resources to obtain high-quality seeds and fertilizers to grow diverse foods. None of the Direct Beneficiaries acknowledged that breastfeeding women should increase food intake while breastfeeding.

Conclusions

Antenatal care. Findings demonstrate that most women are aware of the importance of attending ANC; however, they are not necessarily aware of when to first attend. Knowledge decreases from NPs to Lead Mothers to Direct Beneficiaries. Most women are attending ANC after the first or even the second trimester.

Antenatal care attendance. Findings demonstrate that most women are confused about the number of times a pregnant women should attend ANC and are often decreasing their visits due to health worker advice.

Pregnancy, breastfeeding, and nutritious food. Findings show that there is generally medium-low knowledge regarding the essential foods that a pregnant or breastfeeding woman must eat. In some cases, the women know what they should be eating but are not doing so due to barriers, including lack of resources and food insecurity (unavailability and unaffordability), especially seasonal food insecurity.

Recommendations

Re-enforce messages. Re-enforce the ANC messages and address the health care worker advice to attend ANC later and less frequently.

Update the counseling chart. Add the *Iron-Folic Acid Supplementation for Pregnant Women* message to the counseling chart. A complementary message, it goes hand in hand with the message for PLW to eat more nutritious foods.

The counseling chart mentions only the six food groups; it does not discuss which vitamins are in which foods. Education needs to be passed on about the vitamins that different foods and vitamin supplements contain.

Stronger emphasis on BCC. USAID should consider a stronger emphasis on BCC through both interpersonal communication and widespread information and educational communication materials for dietary diversity focusing on promotion of a healthy, balanced diet through the six food groups, diversifying staple foods (e.g., maize) to add other staples such as rice, cassava, orange-fleshed sweet

potatoes, and bananas. There should also be an emphasis on promoting nutrient-dense and micronutrient-rich foods, especially those high in vitamin A, iron, and iodine.

Increase focus on food security. Increase focus on food security to increase food availability through supporting increased availability and quality of diverse foods through agricultural production and/or small animal breeding.

Increase beneficiary access. Increase beneficiary access to foods from own-production or the markets by sustainably increasing income though integrating nutrition-sensitive income-generation activities such as VSL into CCGs as an ideal platform.

Breastfeeding

Findings

1. Mothers give only breast milk for the first six months (exclusive breastfeeding)

Nutrition Promoters. All NPs have widespread knowledge about early initiation of breastfeeding, and there is consensus that a baby should be put to the breast within 30 minutes after birth. There is also widespread knowledge and consensus that a mother should exclusively breastfeed her infant for at least six months. There was also consensus among all NPs, Lead Mothers, and Direct Beneficiaries that exclusively breastfed infants younger than 6 months who get diarrhea should not get water to replace loss of fluids. Almost everyone answered this question correctly. However, NPs admitted that this behavior is a challenge in the community because, when a baby who is younger than 6 months cries, the mother sometimes thinks it is hungry because she is not able to produce enough breast milk; she may then try to stop the crying by giving her baby a little porridge made with water. In addition, some NPs said that mothers feed their babies at five months because of the superstition that babies will refuse supplementary food unless they begin to eat it early in life.

Lead Mothers. All (100 percent) of the focus groups had at least one participant who answered that mothers should put a baby to the breast within 30 minutes after birth. In terms of duration of exclusive breastfeeding, at least 71 percent of focus groups answered that a mother should exclusively breastfeed for at least six months. Twenty-eight percent answered that mothers should exclusively breastfeed for a year.

Direct Beneficiaries. There is a widespread understanding of early initiation of breastfeeding among Direct Beneficiaries. Forty-three percent responded that a baby should be put to the breast within 30 minutes after birth; 57 percent responded that a baby should be put to the breast within one hour. In one focus group in Mchinji (EPA Msitu, Kathyuka village), they were unsure of how soon after birth a baby should be put to the breast.

2. Mothers breastfeed for longer duration

Nutrition Promoters. All NPs had widespread knowledge that a mother should breastfeed in total for up to two years or longer. Most mothers said that two years is the maximum. A few answered two years and two months.

Direct Beneficiaries. All (100 percent) of direct-beneficiary focus groups had widespread knowledge that a mother should breastfeed (in total) for up to two years or longer.

3. Mothers hold the baby in a correct/comfortable position during breastfeeding

Nutrition Promoters. NPs had widespread knowledge and could demonstrate holding a baby in a correct/comfortable position during breastfeeding, especially the cradle position. They knew how to hold the baby to the belly: Mother and baby should face each other, the left hand should hold the baby's buttock, and the child's face and mother's nipple should be together.

Lead Mothers. Lead Mothers had widespread knowledge and could demonstrate holding a baby in a correct/comfortable position during breastfeeding, and at least 57 percent could demonstrate holding a baby in the cradle position. All (100 percent) answered that a mother should hold the baby to the belly, and the mother and baby should face each other and that the child's face and mother's nipple should be together. Eighty-five percent answered that the left hand should hold the baby's buttock for support during breastfeeding.

Direct Beneficiaries. At least 86 percent of Direct Beneficiaries had widespread knowledge of how breastfeeding women should hold their babies, with most describing the cradle position. However, practice of this is another issue. Many beneficiaries brought their children with them to the focus group and breastfed, and it was observed that many mothers were not using the right positions and the infant appeared to struggle to feed.

4. Mothers attach young babies properly

Nutrition Promoters. NPs had widespread knowledge and could demonstrate attaching a baby correctly when they breastfeed. NPs mentioned waiting until their baby's mouth is opening wide and wants to start feeding, ensuring that the baby's tummy is facing the mothers body, ensuring that the baby's whole body is supported, and ensuring that the baby's nose is facing the nipple.

Lead Mothers. Lead Mothers had partial knowledge about correct attachment for young babies. At least 28 percent answered correctly about attachment (i.e., that a mother should wait until her baby's mouth is opening wide and wants to start feeding). Eighty-five percent mentioned that a baby's tummy should be facing the mother's body and that the mother should ensure the baby's whole body is supported. At least 57 percent mentioned that a baby's nose should be facing the nipple.

Direct Beneficiaries. Direct Beneficiaries had widespread knowledge on some of the basics for how breastfeeding women should hold their baby. At least 86 percent could explain that the baby's tummy should be facing the mother's body, that the left hand should hold the baby's buttock to ensure that the whole body is supported, and the baby's nose and mother's nipple should be facing each other. However, again, this practice was observed differently with the attending breastfeeding mothers, who were failing to attach babies to the breast appropriately. Therefore, key barriers could be laziness, the mother being occupied with other activities, lack of accountability, and lack of forming a habit.

5. Mothers breastfeed as much or more during illness and recuperation

Nutrition Promoters. NPs had widespread knowledge that they should continue to breastfeed while either the mother or the baby is sick or ill; however, they did not mention increasing breastfeeding. They also

demonstrated feeding the baby when the child is sick by squeezing the breast milk into a cup (hand-expressed breast milk and cup feed). They also acknowledged taking the baby and the mother to the hospital if they were too sick. In addition, NPs could easily recognize the key signs of child illness, including high temperature, lethargy or difficulty waking/weakness, vomiting, convulsions, and diarrhea.

Lead Mothers. Lead Mothers had widespread knowledge that mothers should continue to breastfeed while either the mother or the baby is sick or ill; however, they did not mention increasing breastfeeding. About 71 percent responded that a mother should continue breastfeeding, and 28 percent responded that a mother should force a baby to breastfeed. They also demonstrated feeding the baby when the child is sick by squeezing the breast milk into a cup (hand-expressed breast milk and cup feed). They emphasized not stopping the breastfeeding and encouraging the baby to continue breastfeeding. They also acknowledged taking the baby and the mother to the hospital if they were too sick. The Lead Mothers could also widely recognize the key signs of child illness: All (100 percent) answered temperature/high fever and not eating or drinking; 85 percent answered vomiting; 28 percent answered the child looks unwell or was not playing normally; 57 percent answered lethargy or difficulty waking/weakness; and 57 percent answered diarrhea, but only after significant probing. Only 14 percent answered fast or difficult breathing. Other signs mentioned include failure to urinate, failure to breastfeed, paleness, loss of appetite, and yellow eyes.

Direct Beneficiaries. At least 71 percent of Direct Beneficiaries knew to continue breastfeeding when a child is sick or ill; most mothers commented that they would force the child to breastfeed. At least 28 percent commented that a sick baby could be fed by squeezing the breast milk into a cup (hand-expressed breast milk and cup feed), "even the husband can help." For children older than 6 months, the Direct Beneficiaries agreed that they should be served "watery porridge." They also acknowledged rushing the baby and the mother to the hospital if they were too sick. All (100 percent) Direct Beneficiary focus groups recognized that lack of appetite/not eating or drinking is a key sign of child illness. At least 85 percent mentioned high fever/temperature, looks unwell/not playing normally/crying; 58 percent mentioned diarrhea and lethargy or difficulty waking/weakness; and 42 percent mentioned vomiting.

Conclusions

Early initiation of breastfeeding. Findings demonstrate that most women are aware of the importance of initiating breastfeeding early and put the baby to the breast within 30 minutes after birth. Findings also demonstrate that most mothers are practicing breastfeeding within 30 minutes.

Exclusive breastfeeding. Findings demonstrate that most women are aware of the importance of exclusively breastfeeding for the first six months. Findings demonstrate that, despite most women knowing that they should exclusively breastfeed for the first six months, not all mothers are actively practicing this and introduce complementary foods early due to cultural beliefs and superstitions. This corroborates the 2010 Demographic Health Survey findings that, nationally, children are exclusively breastfed for 3.7 months.[170]

[170] National Statistical Office (NSO) and ICF Macro. 2011. Malawi Demographic and Health Survey 2010. Zomba, Malawi, and Calverton, Maryland, USA: NSO and ICF Macro.

Duration of breastfeeding. Findings demonstrate that most women are aware of the importance to breastfed for a longer duration, with most answering up to two years or longer, although some are confused about the total duration. Findings demonstrate that most women are practicing breastfeeding for a longer duration, which corroborates the findings of the 2010 Demographic Health Survey that the median duration of any breastfeeding is 23.7 months.[171]

Birth spacing. Total fertility rate is high in Malawi, averaging 5.5 births per women in 2012 and more than 14 percent of women have an unmet need for birth spacing (2010 Demographic Health Survey). [172, 173] Women from the focus groups reported difficulty sustaining breastfeeding due to poor birth spacing—having additional babies when they are still breastfeeding other children under 2, and reported difficulty having enough breast milk.

Holding the baby correctly during breastfeeding. Findings demonstrate that most women are knowledgeable about the correct position to hold a baby in during breastfeeding. However, practice demonstrates otherwise, perhaps due to laziness and engagement in other activities while breastfeeding.

Correct attachment during breastfeeding. Findings demonstrate that many women have widespread knowledge of how to attach a baby properly when breastfeeding. However, women with lower socio-economic status (i.e., Lead Mothers and Direct Beneficiaries) are less likely to know how to correctly attach and do not practice optimal infant feeding practice.

Mothers breastfeed as much or more during illness and recuperation. Findings demonstrate that most women have widespread knowledge that they should continue to breastfeed while either the mother or the baby is sick or ill. However, they do not express the knowledge that the breastfeeding should be increased. About one-third of women said that a sick baby could be fed by hand-expressed breast milk and cup feed. However, mothers acknowledged that cultural barriers/superstitions with that practice might inhibit its adoption.

Signs of child illness. Findings demonstrate that most women have widespread knowledge of the signs of child illness, such as temperature/high fever, not eating or drinking, vomiting, looking unwell or not playing normally, lethargy or difficulty waking/weakness. Diarrhea was mentioned much less often.

Recommendations

Early initiation of breastfeeding, exclusive breastfeeding, duration of breastfeeding. Continue to promote early initiation, exclusive and longer duration of breastfeeding, emphasizing longer duration and discouraging the introduction of complementary foods before six months. Optimal birth spacing and coordination with family planning programs to improve health and nutritional outcomes should also be promoted.

[171] National Statistical Office (NSO) and ICF Macro. 2011. Malawi Demographic and Health Survey 2010. Zomba, Malawi, and Calverton, Maryland, USA: NSO and ICF Macro.

[172] Countdown to 2015: Maternal, Newborn and Child Survival, 2013; UNICEF The State of the World's Children 2014 in Numbers.

[173] NSO and ICF Macro. 2011. Malawi Demographic and Health Survey 2010. Zomba, Malawi, and Calverton, Maryland, USA: NSO and ICF Macro.

The risks for poor nutritional status dramatically decrease when births are spaced at least three years, and continue to decrease the longer births are spaced.[174]

Holding the baby correctly/attachment for breastfeeding. INVC should promote holding and attachment to women who are breastfeeding, and ensure that supervisors in the CCG cascade are mentoring mothers on this practice.

Breastfeeding as much or more during illness and recuperation. Continue to promote and emphasize increasing breastfeeding during illness.

Diarrhea. INVC should increase promotion of community awareness that diarrhea as a key sign of childhood illness, as well as prevention of diarrhea through improved water, sanitation, and hygiene, and responsive feeding to mitigate repeated episodes of diarrhea.

Complementary Feeding

Findings

1. Caregivers encourage children to eat extra food during recovery from illness

Nutrition Promoters. NPs had partial knowledge about what caregivers should encourage children to eat during recovery from illness. Once again, they mentioned the six food groups without discussing them, in addition to "watery" porridge, groundnut-fortified porridge, vegetables, sweet beer, and fruits such as bananas.

Direct Beneficiaries. All (100 percent) Direct Beneficiaries say they encourage their child to eat when they are sick/ill. However, only 57 percent mention that they should feed simple foods such as porridge to children older than 6 months. Only a few mothers (28 percent) mentioned feeding more diversified foods more frequently.

2. Caregivers prepare and feed children aged 6-9 months soft and thick meals

Nutrition Promoters: NPs had widespread knowledge that children should start receiving complementary foods at 6 months. However, they did not mention the consistency of the meal.

Lead Mothers. All (100 percent) Lead Mothers had widespread knowledge that children should start receiving complementary foods at 6 months. Again, however, they did not mention the consistency of the meal. In fact, it was often mentioned that they should feed them "watery porridge."

Direct Beneficiaries. All (100 percent) Direct Beneficiaries have widespread knowledge that breastfed children should start receiving solid foods in addition to breast milk (complementary foods) at 6 months. However, in practice, mothers are feeding their children only three times a day (71 percent), and they mention feeding porridge to children between "6-9 months," but do not mention consistency.

[174] Rutstein, S. 2003. Effect of Birth Intervals on Mortality and Health: Multivariate Cross Country Analyses. Presentation to the USAID-sponsored Conference on Optimal Birth Spacing for Central America, held in Antigua, Guatemala.

3. Caregivers feed children aged 6-24 months fruits, vegetables, legumes, animal foods, and fats for nutrient density

Nutrition Promoters. NPs responded that children aged 6-24 months should eat the six food groups—again without naming the groups—and fruits, vegetables, and porridge. Only some NPs responded that porridge could be fortified with soy, groundnuts, vegetables, oil, milk, or mashed bananas. Some NPs also mentioned meat or local alternatives such as mice (*mbewa*) and grasshoppers. NPs also responded about how it is important to advise caregivers not to cook okra with bicarbonate and to avoid over-cooking food to avoid losing nutrients.

Lead Mothers. At least 42 percent of Lead Mothers mention vegetables, fats, and oils. Fourteen percent mention legumes (groundnuts) and animal-sourced foods. Most mention maize flour (*nsima*) fortified with small fish and vegetables. They also mention sweet beer and *mbewa*.

Direct Beneficiaries. Forty-two percent of Direct Beneficiaries recall having fed children aged 6-24 months the day before with locally available vegetables, including pumpkin leaves, blackjack, amaranths, rabe, Chinese cabbage, mustard leaves, cassava leaves, okra, bean leaves, gonni-soppu/weed, and velvet beans. Eighty-five percent say they fed children maize in the form of porridge and/or *nsima*. They also mention other staples such as boiled and fried potatoes, and small fish. They mention legumes and nuts less frequently, but noted bambara nuts, groundnuts, soybeans, beans, and cow peas. Key barriers include lack of resources to produce and buy diverse foods such as milk (lack of cows or goats), groundnuts (lack of seeds), and meat (lack of small animals and livestock). Many also complain that because their maize yields are low, they do not have the resources to buy the flour they need during the lean season.

Vitamin A supplementation. Vitamin A supplementation was not one of the targeted nutrition behaviors, and there was some confusion when we asked the caregivers, "Which children and how often should they receive vitamin A supplementation?" NPs were the most accurate and answered after six months, twice a year, and up to age 5. Seventy-one percent of Lead Mothers could answer between six months and age 5, but only 57 percent knew that the child needed vitamin A supplementation twice a year.

4. Caregivers prepare and feed their children the recommended amount of food

Nutrition Promoters. NPs had widespread knowledge about the amount of food caregivers should feed their children 1-2 years of age. Most NPs answered five times a day; some answered four times a day. Typically, they mentioned *nsima*, beans, fruit, meat, and vegetables. Other common responses included porridge (sometimes fortified with groundnuts) in the morning; fruits at 10 a.m.; *nsima* with beans and vegetables for lunch; porridge with groundnut flour or sweet beer for a snack at 4 p.m.; and *nsima*, fish, and amaranth for dinner.

Lead Mothers. Twenty-eight percent answered three times a day and 71 percent answered four times a day, showing that Lead Mothers do not have the knowledge or are demonstrating that mothers and caregivers should feed the child at least five times per day. Key barriers seem to be lack of resources, especially lack of available food and money to buy the food. When a mother/caregiver is asked what food she is preparing for her children, she generally answers a porridge fortified with soy for breakfast; *nsima* in the afternoon; porridge and occasionally fruits, beans, and vegetables at 4 p.m.; and sweet beer for snacks.

Direct Beneficiaries. Asked how many times they had fed their children aged 1-2 the previous day, 71 percent of Direct Beneficiaries said an average of four times; 28 percent said three times. Direct Beneficiaries acknowledge that they do not have enough resources (a barrier) to feed their children a diverse diet and try to use what locally available foods they have, such as "maize and pumpkin for snacks three times daily" for those who have sufficient maize yields. Others try to feed their children *nsima* porridge and fortify it with beans, locally available vegetables, soybeans, groundnuts, egg yolks, oil, sugar, salt, and maize depending on resources and what is available in the household. Only one focus group mentioned increasing milk consumption; another one mentioned not overcooking vegetables so that they remain "a bright color."

Conclusions

Complementary feeding/caregivers need better awareness of preparing soft, thick meals. Findings demonstrate that most women have widespread knowledge that they should start complementary foods when a child is 6 months old. However, they do not have knowledge about the consistency of the meal. Furthermore, the mothers/caregivers are not discussing how to prepare complementary foods to make it the correct consistency (i.e., soft and thick).

Eating during illness. Findings demonstrate that women do not necessarily have the knowledge about what caregivers should encourage children to eat while they have an illness.

Caregivers are not familiar with the six food groups. Findings demonstrate that although at least half of women know what food groups to feed their children under 2, they fail to mention all of the six food groups. However, they do acknowledge the "six food groups." More important, findings demonstrate that women are not feeding children the six food groups in practice, and that they are rarely fortifying complementary foods with nutrient-dense foods due to barriers such as the lack of resources to grow and/or buy nutrient-dense and diverse foods, and the poor availability of these foods in their villages.

Caregivers do not prepare and feed their children the recommended amount of food. Findings demonstrate that mothers are also not familiar with the correct number of times to feed their children. (Most answer four times a day.) Barriers for children eating the recommended amount of food include lack of resources to buy/grow food and lack of available diverse food.

Recommendations

Complementary feeding. Focus on promoting BCC messaging and counseling for age-appropriate frequency, amount, texture (thickness), variety, responsive feeding, and hygiene. There is a need to emphasize responsive, frequent hygienic feeding with the correct consistency and dietary diverse foods, as many mothers and caregivers are feeding their children thin porridge and a high concentration of staple foods. Mothers could benefit from widespread community cooking demonstrations on the preparation of age-appropriate complementary foods using locally available nutrient-dense and dietary diverse foods. It would be beneficial to integrate early childhood development, focusing on caregiver

recognition of infant cues of hunger/satiety, responding quickly and directly to build regulatory skills, use of cups and spoons, and home fortification of porridge for children aged 6-24 months.[175]

Lead Mothers should assist with the tracking and follow-up of growth of monitoring during outreach to prevent and address early growth faltering. They should also be trained to proactively engage caregivers for responsive feeding and on charting the growth and nutritional status of their child; linking growth trends to child feeding and illness patterns; providing encouraging feedback about their child's growth and offering small, doable actions if the child falters (underweight and/or stunted); and referring the child for treatment if he/she is severely malnourished. Non-compliant caregivers and caregivers whose children are failing to thrive should be counseled at the household level through negotiated small, doable actions on improved family diet, caregiving, and living conditions, and they should be linked with food aid or complementary food supplements where available.[176] Ethiopia has a household negotiation card with such actions in a pictorial checklist that INVC may duplicate as a best practice in Malawi.

Hygiene

Findings

1. Caregivers will wash their hands with soap or ash at the four critical times[177]

Nutrition Promoters. NPs commented that hygiene has changed significantly since the CCGs started with improved clean environments, including toilets, rubbish pits, and hygiene. NPs have widespread knowledge to wash their hands at three of the four critical times: after using the latrine/defecation, after attending to a child who has defecated, and before eating food. Only some NPs mentioned to wash hands before the last critical time—before cooking/food preparation.

Hand washing station. Most NPs do not have a hand washing station but can explain how to make one out of a used water bottle. (Water bottles are locally available.) NPs commented that most people are not using hand washing stations because they are lazy (consensus) or said they are "just learning this behavior and adopting and it will take time." NPs also responded that when people use hand washing stations, they use them near a latrine, adding that if the stations are not placed near a latrine, people will forget to wash their hands. Most NPs acknowledge that soap is not available, but that ashes that have been strained from a fire can be used to wash hands.

Lead Mothers. All (100 percent) Lead Mothers responded to wash hands before food preparation, and 85 percent responded that hands should be washed after using the latrine (defecation) and after attending to a child who has defecated or had his/her diaper changed. Only 28 percent said hands should be washed before feeding children.

Hand washing station. Eighty-five percent of Lead Mothers answered that hand washing stations should be near a latrine, but only 14 percent answered that a station should be placed near a food preparation

[175] Multisectoral Interventions for Healthy Growth. Ma del Carmen Casanovas, Chessa K. Lutter, Nune Mangasaryan, Robert Mwadime, Nemat Hajeebhoy, Ana Maria Aguilar, Ciro Kopp, Luis Rico, Gonzalo Ibiett, Doris Andia and Adelheid W. Onyango. JohnWiley & Sons Ltd Maternal and Child Nutrition (2013), 9 (Suppl. 2), pp. 46-57.

[176] Failure to thrive refers to children whose current weight or rate of weight gain is significantly lower than that of other children of similar age and gender.

[177] The critical times are before cooking (food preparation), before eating, before handling a baby, and after using the toilet or disposing of feces.

area. Most Lead Mothers do not have a hand washing station; if they do, it is a made from a plastic water bottle. Barriers for hand washing stations include not enough resources or availability in the community to buy a safer, sturdier station (i.e., stations are made of plastic bottles, children play with the stations, or people use an open water basin). Furthermore, hand washing it is not a widespread habit, so it is difficult to adapt.

Direct Beneficiaries. Direct Beneficiaries have widespread knowledge to wash their hands at the following critical times: after using the latrine/defecation (85 percent) and after attending to a child who has defecated (changing a diaper) (85 percent). However, only 28 percent acknowledge the other critical times—before eating food and before cooking/food preparation.

Hand washing station. About half of Direct Beneficiaries said that they had a special place for hand washing in their households. About 71 percent said that soap or ashes were present. Similar to the NPs and Lead Mothers, Direct Beneficiaries are using makeshift hand washing stations made with one large and one small water bottle.

2. Children's hands will get washed with soap or ash after defecation and before food

Nutrition Promoters. NPs have widespread knowledge that a child's hands should be washed with soap or ash after defecation and/or a diaper change and before eating food. They also mentioned after a child has spent time playing.

Lead Mothers. Lead Mothers had varying knowledge about when to wash a child's hands with soap or ash. Seventy-one percent said after defecation or attending to a child who defecated, 57 said before feeding or eating food, 42 percent said before food preparation.

Direct Beneficiaries. Direct Beneficiaries reportedly wash their child's hands after defecation (85 percent), before feeding (71 percent), and after playing (14 percent). Again, before food preparation was not mentioned. Most beneficiaries are washing their hands with just plain water. Only a few women in each focus group reported having soap available; some reported using ash when soap was not available.

Conclusions

Most caregivers wash their hands with soap or ash at three of the four critical times. Findings demonstrate that women have widespread knowledge to wash their hands at three of the four critical times: after using the latrine/defecation, after attending to a child who has defecated, and before eating food. However, only some women mentioned washing hands before the last critical time—before cooking/food preparation.

Hand washing station. Findings demonstrate that most households do not have a hand washing station with soap; if they do, it is near the latrine. Furthermore, most households have only a simple hand washing station, made from either two plastic bottles (a smaller one with holes in it to dip into a larger one, then let the water drain out) or from a simple water basin into which they dip a cup. Findings also demonstrated that most households are using plain water to wash their hands, if they wash their hands at all. Very few households are buying soap for a variety of reasons, including lack of motivation and barriers such as availability and affordability, and non-permanent, makeshift hand washing stations that

are easily broken (i.e., plastic water bottles and basins). Some households use ash if soap is not available—if they practice hand washing at all.

Children's hands will get washed with soap or ash after defecation and before food. Findings demonstrate that women have widespread knowledge that a child's hands should be washed with soap or ash after defecation and/or a diaper change and before eating food. However, in practice, caregivers are mostly just using plain water in these situations. Most households are not using soap due for the same reasons mentioned above. Barriers include lack of a learned sustained behavior change (habits) and open defecation habits for children under 5.

Recommendations

Conduct an intense hand washing with soap behavior change campaign. The campaign should address hygiene and sustained behavior change to wash hands at the four critical times and use a hand washing station. It should address cultural and social barriers to hand washing and for household decision-making to buy soap. Hand washing with soap innovations could include using ultraviolet light to see germs before and after washing. Furthermore, the campaign should assess predictors of functional hand washing stations (i.e., water availability and access), current hand washing practices, soap availability and use, household decision-making processes, and current hand washing stations.

INVC should also support local solutions for the development of more permanent hand washing stations. Best practices can be learned from the *Mikono Misafi* (Clean Hands) project in Kenya, which triggers behavior change by sensitizing the community through hand washing with soap training and allows locals to develop more sustainable solutions for hand washing stations. In addition, any behavior change campaign must strongly promote safe feces disposal for humans (adults, infants, and young children) and animals.

Promote latrine use for children under 5 and clean sanitary environment. There is a need to promote use of a latrine for children under 5 to prevent open defecation and to ensure that the environment where children play and eat is free from contamination. Promoting latrines will also help prevent young children (newborns to 18-month-olds) from ingesting feces, a cause of environmental enteric dysfunction, an inflammation of the gut associated with the presence of abnormal gut bacteria (microbes) that prevents proper absorption of nutrients.[178]

Promote improved sanitation facilities (latrines) in rural areas.[179, 180] Households that do not have access to improved sanitation facilities (e.g., latrines), defined as one that hygienically separates human excreta from human contact, especially in rural areas, leads to contaminated drinking water and leaves communities and individuals vulnerable to infections and diseases, including diarrhea, and repeated

[178] Environmental Enteric Dysfunction–an Overview. Rosie J Crane, Kelsey DJ Jones, James A Berkley, CMAM FORUM Technical Brief. August 2014.

[179] Flush toilet, piped sewer system, septic tank, flush/pour flush to pit latrine, ventilated improved pit latrine, pit latrine with slab, composting toilet, special case. Source: Joint Monitoring Program for Water Supply and Sanitation, Estimated on the Source and use of Water Sources and Sanitation Facilities, Updated April 2014. Available at: *http://www.wssinfo.org/definitions-methods/watsan-categories.*

[180] An improved sanitation facility is defined as one that hygienically separates human excreta from human contact. Source: WHO and UNICEF definitions of improved drinking-water source on the JMP website, WHO, Geneva, and UNICEF, New York, accessed on June 10, 2012.

periods of acute malnutrition and mortality.[181] Unimproved latrines and unhygienic environments can also increase the risk of environmental enteric dysfunction.[182] Promotion of improved latrines through increasing a households' access to locally available latrine "hardware" infrastructure, combined with a targeted behavior change campaign, can influence households to purchase improved latrines, graduating from the more common shared and unsanitary pit latrines.

Address household decision-making and barriers to buy soap. More "triggers" need to be used to encourage households to buy soap so that they routinely use it while hand washing. This may require formative research to understand the motivations, barriers, and enabling factors for households to decide to buy soap when they are not willing to buy it or cannot afford it.

E. LOCAL CAPACITY DEVELOPMENT

INVC's capacity building interventions have been designed to, among other crosscutting issues such as nutrition, gender sensitivity, climate change, and HIV/AIDS, transfer the knowledge and skills necessary for targeted beneficiaries to independently perform those tasks, access services unaided, and otherwise continue to develop those functions of the value chain which involve them with minimal external assistance.[183]

Evaluation Question: The extent that INVC's LCD efforts have strengthened the organizational capacity and performance service/service delivery of local sub-partners. Local sub-partners ready and willing to become direct USAID awardees by the end of INVC.

To develop local capacity, INVC agreed that three local sub-partners be empowered with effective management practices and financial systems with potential to receive future U.S. Government awards in the life of project.[184] Seven local sub-partners were selected to conduct activities in various components: ACE (collective marketing), CISANET (policy analysis), CADECOM (groundnut value chain development), FUM and NASFAM (groundnut and soybean value chain development), Nkhoma (nutrition), and Pakachere (BCC). An LCD strategy was developed in 2012.

INVC LCD Strategy

The Consortium was asked to: assess local partners' capacity, develop alliances with private enterprises with the potential to receive support from USAID, and design an approach to capacity development. The expected deliverables were:

1. Local partners able to facilitate value chain development
2. Local partners able to contribute to improved community capacity to prevent undernutrition
3. Local partners with effective management practices and financial systems that allow them to receive direct USAID awards and contracts

[181] Selected Major Risk Factors and Global and Regional Burden of Disease. Lancet 360, 1347-1360. 2002. Available at: *http://www.ncbi.nlm.nih.gov/pubmed/12423980.*

[182] Lunn, PG. The Impact of Infection and Nutrition on Gut function and Growth in Childhood. Proceedings of the Nutrition Society. 59: 147-154. 2000. Available at: *http://www.ncbi.nlm.nih.gov/pubmed/10828184.*

[183] USAID. (2012). Annual Workplan FY2012, p. 106.

[184] USAID. (2012). Annual Workplan FY2012, p. 13.

4. Private sector firms engaged in partnerships supported by the INVC innovation and investment facility contributing to INVC Feed the Future Development objectives

INVC employed a number of approaches to achieve these deliverables. This evaluation focused on the third deliverable.[185]

INVC conducted organizational self-assessments for the partners in 2012. In 2012, they used a version of USAID's OCAT that was abandoned after a newer version had been developed and adopted. The new OCAT was used November 2013 and October 2014. LCD involves conducting a baseline using the OCAT, developing a prioritized plan, and implementing the identified interventions. The OCAT is to be repeated annually to determine progress in an implementing partner's capacity over time.

INVC employed a three-pronged/three-level strategy: the national level; Farmers Organizations at the district level; and Lead Farmer at the household level. This assessment focused on the national level. The process started with a self-assessment using the OCAT, developing a prioritized action, implementing interventions, and conducting a follow-up organizational assessment. INVC used a comprehensive approach that combined training, coaching, mentoring, and provision. Much of the LCD support has involved recruitment of staff and improving M&E and financial management systems.

INVC has four technical working groups: Finance, M&E, Soy and Groundnuts, and Nutrition and Health. These groups meet at least once per quarter to discuss issues affecting their work and how to address them. In addition, INVC organized partner consultative workshops (June 2013, March 2014, and June 2014) at which partners and the project could talk, reflect, and learn together. The partners perceived these meetings to be useful. This type of meeting possibly needs to be offered more consistently (e.g., quarterly or biannually). The key challenge is that the agreements from these meetings are not usually implemented.

This section is organized as follows. The process and analytical model used for data analysis is discussed first, followed by findings, conclusions and recommendations.

Analytical Model: Levels of Complexity

This model describes an ideal "capacitated organization" developed by the Community Development Resource Association.[186] To do this, the model looks at three key questions:

1. What elements must a capacitated organization have? These elements are quite similar to those in the OCAT:
    - Vision: The sense of focus and the change the organization wants to bring about in society
    - Culture: An organization's norms and values, and how these help or hinder the organization
    - Relationships: How well people in the organization and the partnership relate
    - Strategy: How the organization intends to accomplish its mission
    - Structure: How roles and responsibilities are shared within and among organizations

[185] USAID. (2013). Annual Workplan FY2013, p. 4.
[186] Ubels, Acquaye-Badoo and Fowler, 2010: Capacity Development in Practice, London, Francis and Taylor.

- Policies, systems, and procedures: How to bring about consistency in decision-making in the organization
- Skills: Whether the organizations have sufficient skill sets or ability to develop them
- Financial and material resources: The adequacy of things such as finances, equipment, and office space

2. How to balance addressing all the elements for a holistic capacity development effort? It is much easier to address the lower elements (e.g., skills training and financial and material resources) than upper elements (e.g., vision and culture).

3. What methods are used to ensure effective capacity development service provision? For financial and material resources, providing money is the simplest intervention to develop capacity. Upper element levels involving skills acquisition are addressed by process interventions such as facilitation, coaching, mentoring, reflection, and learning.

Findings

Findings are summarized in Tables 9 below and 10 (p. 69). Table 9 presents the OCAT with the capacity development activities that INVC generally facilitated with the implementing partners. Table 10 summarizes the changes in OCAT ratings, capacity development issues prioritized, and interventions. The last part of this section presents an assessment of the capacity development delivery mentioned INVC used.

Table 9. The Eight Dimensions of the OCAT

Dimension	Elements	Activity Taken	Suggestions
Governance	Vision/mission, organizational structure, composition and responsibility of board, legal status, and succession planning	• NASFAM is reviewing its vision/mission, structure, composition of the board, and succession planning. • No partner board member participated in this assignment. • CISANET conducted a succession planning exercise.	• Align INVC's vision and mission to those of the partners in order to internalize and align results sought. • Most partners indicated governance especially as an area needing attention.
Administration	Operational policies, systems and procedures; travel policies, systems, and procedures; procurement, fixed asset control; branding/marking	• All partners are developing these policies, systems, and procedures. • This is the area on which most capacity development efforts have focused.	• Give more mentoring support beyond mere training support in developing and using these policies.

Dimension	Elements	Activity Taken	Suggestions
Human Resources Management	Job description; recruitment and retention; staffing levels; personnel policies, staff payment and salary history document, staff performance; volunteer/intern policies	• Partners are taking these measures slowly.	• It is important to recognize that the partners are at different stages of development. Be more patient with the smaller organizations and provide expertise to the larger organizations. The expertise must be beyond training.
Financial Management	Financial planning; financial systems; financial control; financial documentation and audits; financial reporting; cost sharing	• All partners are working on this. • They are quite slow with cost sharing.	• Encourage partners to use the new systems. • Avoid changing goal posts.
Organizational Management	Strategic planning, workplan development, change management, knowledge management; stakeholders' involvement and new opportunity development	• Partners are generally not implementing this, especially for strategic planning.	• Encourage partners to use their strategic plans more intentionally and to develop plans from them. • Provide awareness of the other issues, as they are still new to many partners.
Program Management	Donor compliance; sub-grant management, technical reporting, community involvement; culture and gender	• Most of the partners are working on donor compliance and technical reporting.	• Provide more training on community involvement and culture and gender, and show how these relate to the program.
Program Performance Management	Program implementation status, field oversight, standards, supervision, ME& and quality assurance	• Partners working on their monitoring and evaluation systems and practices (DQA).	• Invest more in field oversight and quality assurance.
Leadership and Team Dynamics	Communication; team dynamics	• Minimal actions have been taken.	• Develop reflection and learning systems and practices for the partners.

Source: INVC and author's assessment.

OCAT has all the elements of a capacitated organization; the tool represents an ideal organization. This means that the partners at the lesser stages of development may not be able to prioritize some of the important aspects of capacity development.

Some dimensions are particularly critical, such as financial management and program performance management. The other elements may take time to develop depending on the organization's stage of development and the level of support from INVC.

The partners will not prioritize issues they do not feel strongly about, even though they may be important (e.g., the role of the board). No board member participated in the interviews because they

were "busy." Leadership and team dynamics, though extremely important, are too abstract for most of the partners.

Some areas of OCAT are new in Malawi, including in the organizational management dimension, which includes change management, knowledge management, stakeholders' involvement, and new opportunity development. To make a proper self-assessment, partners feel they need more awareness on these capacity issues and how they work in their organizations.

In sum, OCAT is comprehensive enough to ensure a capacitated organization.

Each implementing partner also developed a capacity development plan. Table 10 presents how the identified and prioritized capacity development issues were addressed. The OCAT rates recorded in column 1 are average rates of all eight dimensions per organization and the difference between the 2013 2014 rates. The second column shows partners' capacity dimensions priorities. The fifth column presents the specific issues under the prioritized dimensions where the partners had their capacity development priorities (differences in rating between 2013 and 2014).

Table 10. Capacity Development Issues and Interventions

Organization	Dimensions	Period Covered		Priority Issues / Dimensions Elements	Intervention Carried Out
		Nov. 2013	Oct. 2014		
ACE OCA rates Baseline Nov. 2013= 2.4 Progress Oct. 2014= 3.1	Governance	2.3	2.9	• Structure (4, 3) • Inactive board (3.5, 3)	ACE board met and endorsed the OCAT recommendation of meeting twice a year
	Human Resources	1.8	2.8	• Job description (4, 3)	No intervention carried out
	Organizational Management	2.7	3.2	• Strategic plan (1, 4) • Workplan development (3.5, 3.5)	Developed business plan
	Financial Management	2.2	3.3	• Financial procedures between ACE Ltd and ACE Trust (4, 4)	• Developed some procedures in finance and M&E • The SAGE financial system installed in ACE
	Administration	2.3	3.1	• No guidelines/policy for branding and fixed assets control (1, 2.5)	• Guidelines have been developed and incorporated into the administration manual

Organization	Dimensions	Period Covered		Priority Issues / Dimensions Elements	Intervention Carried Out
		Nov. 2013	Oct. 2014		
CADECOM OCA rates Baseline Nov. 2013= 3.3 Progress Oct. 2014= 3.0	Governance	3.3	3.2	• Ineffective board (3, 3.5)	• Governance training
	Program Performance Management	3.0	3.0	• Ineffective project implementation (3.3, 3.5) • Data quality control (3.3, 2.5)	• Hired an M&E officer
	Administration	3.1	2.9	• No policy on cost sharing (3.3, 3.5) • No policy on branding (2, 1) • No policy on volunteer/interns	• Developed an intern administrative policy • Developed policy guidelines incorporating into admin. manual
	Financial Management	3.3	3.2	• No cost sharing (3, 4)	• Developed financial policy
CISANET Baseline Nov. 2013: 3.4 Progress Oct. 2014: 3.5	Governance	3.1	3.6	• Succession plan unclear (2.4, 3)	• No intervention carried out
	Administration	3.1	2.9	• No procurement policy (2.6, 3)	• Reviewing procurement policies
	Human Resources Management	2.9	3.2	• No job description (2.8, 3) • No staffing and intern policy (1.5, 3) • Staffing level leading to poor financial reporting and quality assurance (2.5, 3)	• Developed job description
	Financial Management	3.2	3.3	• No cost sharing (2.5, 2.5)	• No intervention carried out
	Leadership & Management Skills	2.8	4.0	• Ineffective decision-making	• No intervention carried out
	Organizational Management	3.2	3.7	• No business plan	• Strategic plan, business plan developed
FUM Baseline Nov. 2013: 3.4 Progress Oct. 2014: 3.5	Governance	3.6	4.0	• Ineffective board (3.3, 4)	• Board training
	Program Performance Management	3.1	3.0	• Weak M&E system	• Project management training • M&E training (DQA)
	Human Resources Management	3.4	3.7	• Annual staff increment not based on annual staff appraisals (3.8, 4)	• No intervention carried out
	Financial Management	3.2	3.4	• No cost sharing policy (3.5, 3)	• Finance management training

Organization	Dimensions	Period Covered		Priority Issues / Dimensions Elements	Intervention Carried Out
		Nov. 2013	Oct. 2014		
NASFAM Baseline Nov. 2013: 3.0 Progress Oct. 2014: 2.9	Governance	3.1	2.9	• Reflecting on NASFAM core identity (3.2, 2.5)	• Identify reflection carried out • Consultancy on organization transformation
	Financial Management	3.2	3.5		• Training on financial management
	Program Performance Management	3.0	2.3		• Training in M&E
NKHOMA OCA rates Baseline Nov. 2014: 3.1 Progress Oct. 2014: 3.4	Organizational Management	2.8	3.0	• Strategic planning expired in 2013 (2, 2)	• Developed a new strategic plan
	Human Resource Management	3.2	2.7	• Vacancies on nutrition coordinators and assistance (3, 2)	• Three Nutrition Coordinators and seven NAs recruited and assigned
	Program Performance Management	3.6	2.8	• No M & E officer (3.3, 2.5)	• Officer recruited
PAKACHERE OCA rates Baseline Nov. 2014: 3.1 Progress Oct. 2014: 3.4	Program Performance Management	2.5	2.8	• Ineffective project implementation (3, 3) • Data quality control (2, 3) • Need for an M&E officer (2, 2)	• Training in M&E.
	Financial Management	3.3	3.8	• Inconsistence to adherence to financial reporting (3, 4) • No cost sharing (1, 3)	• Training in finance
	Administration	3.3	3.3		• Training in admin.

Source: Interviews and INVC Annual Reports.

Generally, the average OCAT rates increased from 2013 to 2014 with the exception of NASFAM and Nkhoma. NASFAM said this was because "they now understood their situation better." Nkhoma was still recovering from a high volume of staff turnover.

Priorities are mostly in capacity areas of policies required by USAID. All the partners have financial systems in place, such as financial controls, financial documentation, audits, financial reporting, and compliance. Generally, the partners do not have cost sharing, time sheet, and intern policies.

It is important to note that, in addition to "the USAID policy requirements," the Consortium follows up on the partner action plans and provides support based on identified gaps. Some capacity gaps only required a partner to take action with INVC mentorship, coaching, and supervision. Such gaps include reviewing organograms, developing staff job descriptions, developing branding, intern policies, and time management.

External assistance via consultancy support was provided to partners to fill gaps. Examples of INVC's response to partners' capacity development plans include:

- NASFAM to hire an external consultant (business development specialist) to assist on the transformation change process. The consultancy looked at NASFAM's capacity challenges, holistically focusing on foundational, directional, and operational challenges.
- ACE hired a consultant with INVC support to develop a Sage Financial Package, and another consultant facilitated development of business plan.
- Nkhoma has an embedded business advisor to assist in building its capacity in financial and administrative skills.
- CISANET reviewed its strategic plan and developed its business plan.

The capacity development results show that:

- All the implementing partners benefited by being supported with extra staff; some of the existing staff also received financial support. This support has enabled the partners to increase their reach, especially in the field.
- INVC training events have strengthened partners' capacities to be compliant with USAID procedures in finance, M&E, and project management.
- The participants were left on their own to implement higher elements of capacity development. Some partners, including FUM, were able to address more issues than others. FUM is more organized to access resources and more developed overall. FUM and similar partners were more committed and had access to resources to fund the interventions.
- Partners felt they would have obtained better results if INVC supported the implementation of the issues they prioritized. The partners perceived that INVC supported the USAID requirements more than the partners' other capacity development issues.

Methods for Capacity Development Delivery

The Consortium employed a number of methods to deliver capacity development to the partners. These included supporting partners by recruiting extra staff, providing collective training, and coaching and mentoring for individual partner organizations.

Recruiting staff for partners. INVC supported implementing partners with staff. This helped them increase their reach in the field. INVC also helped improve conditions of service, including improving partner staff's salaries. Some partners complained that INVC did not support them to hire staff such as M&E personnel.

Training. INVC is now running a series of monthly training courses, with topics such as project management, financial management, and procurement. All training is based on USAID priorities and partners' collective capacity development priorities. The courses have been helpful in raising partners' awareness and developing their capacity. The approach in the current sessions is more focused on sharing experiences and best practices, and providing helpful guidance documents.

Although partners said the training activities were useful, some said they were not tailor-made for them. CISANET board members, for example, did not attend a board training because they felt it was too basic. INVC felt that the training on procurement was too sophisticated for the partners.

The training courses hinge on addressing and guiding on issues of governance, administration, finance, and programming for overall capacity development—issues that require more than knowledge acquired in a training workshop. Partners may need closer, hands-on support. Therefore, training must be intentionally linked to coaching and mentoring support in each organization.

Coaching and mentoring. INVC invested a lot of time in coaching and mentoring. Though partners acknowledged the benefit of this effort, they observed that the coaching and mentoring was not well organized. There was no properly documented program for the mentoring activities. NASFAM was the only partner that could explain whether INVC coached or mentored them on the other identified dimensions of capacity development. In other words, INVC coached and mentored partners on USAID requirements but not as much on their capacity prioritized issues.

Capacity development service providers. INVC staff, consultants, and technical specialists provided the capacity development support. The partners felt INVC was a good service provider because staff understood the project. The staff were particularly apt with issues concerning what information partners needed to know about the project. These staff are the most qualified to work as coaches and mentors. Partners did, however, raise two concerns: high INVC staff turnover that disturbs the continuity of their effort and lack of properly coordinated mentoring and coaching strategy by INVC staff.

The participants expressed that some of the training provided by consultants was not customized for their specific need, citing the procurement and governance training as examples. Most of the time, training sessions are not enough. It is important to help participants move from acquiring knowledge to putting it into practice. It is important for consultants to put more effort in follow-up by linking their sessions to mentoring and coaching.

Technical specialists have played a key role in the partner organizations. Sometimes, technical specialists play the role of consultants. For example, Nkhoma has an embedded business advisor to assist in building its financial and administrative capacities. Technical specialists have an advantage of being with an organization for a long time; they can also provide coaching and mentoring services, sharing in-depth knowledge of their fields. Technical advisors may not have enough work to justify being hired for a full-time position, but could improve the chances for employment if they can do jobs outside of their specialty or can work with a number of organizations simultaneously.

Constraints for the implementing partners:

1. There was not adequate time to create rapport between implementing partners and INVC, and integration between INVC's mission and visions and its partners was not sufficient. In preparation for project startup, there was inadequate "capacity development awareness." Not much work was done to explain the INVC LCD program, to discuss expectations and anticipated challenges, and to proactively deal with them.
2. There were no mechanisms on how the perceived benefits of the OCAT would trickle down to the field offices.

3. INVC assumed the partners had higher capacity levels than they actually had. Because of this, partners' capacities were pushed to the limit and they became slow in to implement project activities. Meanwhile, INVC had to deliver on its targets. This created a crisis in INVC's coordination role. In some cases, INVC became an implementer.

4. Disbursement of funds to partners was slower than it should have been due to delays in clearing the submitted financial liquidations to INVC. Poor supporting financial documentation was one reason for this problem. On the other hand, partners complained that some of the requirements were impractical. They mentioned examples of situations where it was not possible to find authentic receipts.

5. Partners cited lack of clarity on roles and responsibilities, and micromanaging. They complained that INVC sometimes took roles they felt they should be handling or gave these roles to consultants (e.g., for district-level training workshops and procurements). INVC bypassed the partner office to work with beneficiaries or field staff directly. This is related to point No. 3, INVC assuming that partners had higher capacity levels than they actually did.

6. There were too many changes in procedures from INVC, which disrupted partners' efforts. For example, inconsistencies in M&E protocols created confusion on the ground, especially during data collection.

7. High staff turnover undermined LCD efforts and lowered institutional memory. This was found in both the Consortium and the sub-partners. The Consortium has lost about 90 percent of its staff since inception. High turnover also led to a lack of continuity in certain critical activities.

8. The implementing partners felt that the partnership was largely skewed toward INVC, leaving little space for them to participate effectively as partners. One person referred to "executive arrogance" when INVC forced partners to take actions they were not comfortable with, such as combining extension staff and Lead Farmers in training. Another example is the allocation of resources and decision-making: INVC usually sends consultants to conduct training for Farmer Organizations; the implementing partners feel they would have made a better and more cost-effective choice. Some partners complained that INVC sometimes "imposed" its activities without considering their schedules.

9. Coordination is also a challenge. Many Consortium staff may have a program targeting one implementing sub-partner organization staff member, but instead of organizing one trip, different Consortium staff come separately in quick succession. This is sometimes seen as disruptive.

10. Personal opinions in INVC occasionally superseded organizational positions, resulting in conflicting opinions.

11. Partners felt that INVC failed to recognize them as institutions, with responsibilities and priorities going beyond being implementing partners. For example, one partner said that they are expected to accept any invitation from INVC, even if the time is inconvenient.

Lessons Learned

An organization's choice of its capacity issues depends on its level of development. More established organizations will normally choose higher capacity development issues; less developed organizations will ignore such issues. As a capacity development initiative, INVC needs to raise awareness of the issues less developed organizations ignore and their role and importance in operations.

Some capacity elements are quite new in Malawian organizations and not properly appreciated. Examples include change management, knowledge management, stakeholders' involvement, and new opportunity development. INVC needs to raise awareness of these elements.

INVC applies a comprehensive model of capacity development. This involves promoting USAID requirements and supporting implementing partners' capacity development plans. However, the project must support partners' capacity development plans more actively.

Providing capacity development through approaches such as providing staff, training, coaching, and mentoring creates synergy, but the combination of approaches must be linked and coordinated. The use of staff, technical specialists, and consultants is also important.

The combined use of staff, technical specialists, and consultants is important if they are used effectively for targeted capacity building.

Conclusions

INVC efforts have helped build partners' capacity to be compliant to USAID requirements. In order to sustain the success achieved so far, INVC needs to pay more attention to supporting partners' capacity development plans.

There are a few USAID policies that the partners have not yet adopted (e.g., time sheets, cost sharing, and volunteer policies).

The OCAT contains all the dimensions of a well-capacitated organization. INVC needs to raise awareness on what these dimensions mean and how important they are to the organizations.

INVC has helped to comprehensively develop partners' capacities, especially in the areas of financial management and project management. It has also helped partners to implement capacity development plans.

The Consortium has helped to develop partners' capacities comprehensively, especially in the areas of financial management and project management. The Consortium has also helped partners to implement capacity development plans, though more work is needed in implementing sub-partners' capacity development plans, especially sub-partners' priorities.

Two out of seven sub-partners stated that agreements in the Technical Working Groups are seldom implemented.

INVC has used training, mentoring, and coaching to deliver capacity development. However, the project and its partners must coordinate more effectively. They must also work together to develop systems for reflection and learning in the partner organizations.

Recommendations

Tailor interventions. Because partners are at different stages of development, they may need different levels and types of interventions. INVC should be able to assess this and tailor interventions to the needs of each partner.

Raise awareness of particular elements. INVC needs to invest more and raise awareness in elements of some dimensions, including change management and knowledge management. Stakeholders must be more involved in developing new opportunities. These are new and not well-appreciated by partners.

Focus on capacity development plans. INVC and its partners must use capacity development plans as a common term of reference.

Establish systems for reflection and learning. Providing capacity development through approaches such as providing staff, training, coaching, and mentoring creates synergy, but the combination of the approaches must be well-linked and coordinated. Establishing reflection and learning systems and practices creates an organizational framework to achieve this.

Proper use of all staff. The combined use of staff, technical specialists, and consultants as capacity development service providers is important. INVC must ensure these staff are used to their fullest potential in the areas for which they are best suited.

Balance attention and time given to capacity development and project implementation. Currently, capacity development is suffering because the primary focus is project implementation. USAID should consider reducing INVC's project implementation targets so capacity development gets more attention.

Ensure proper relationships between INVC and the partner organizations. INVC must ensure timelines and priorities reflect partners' needs. This should be documented in a memorandum of understanding and must be reviewed regularly.

Improve harmonization. INVC must harmonize all partner's work agendas, and ensure donors and partners are coordinated.

F. INTEGRATION

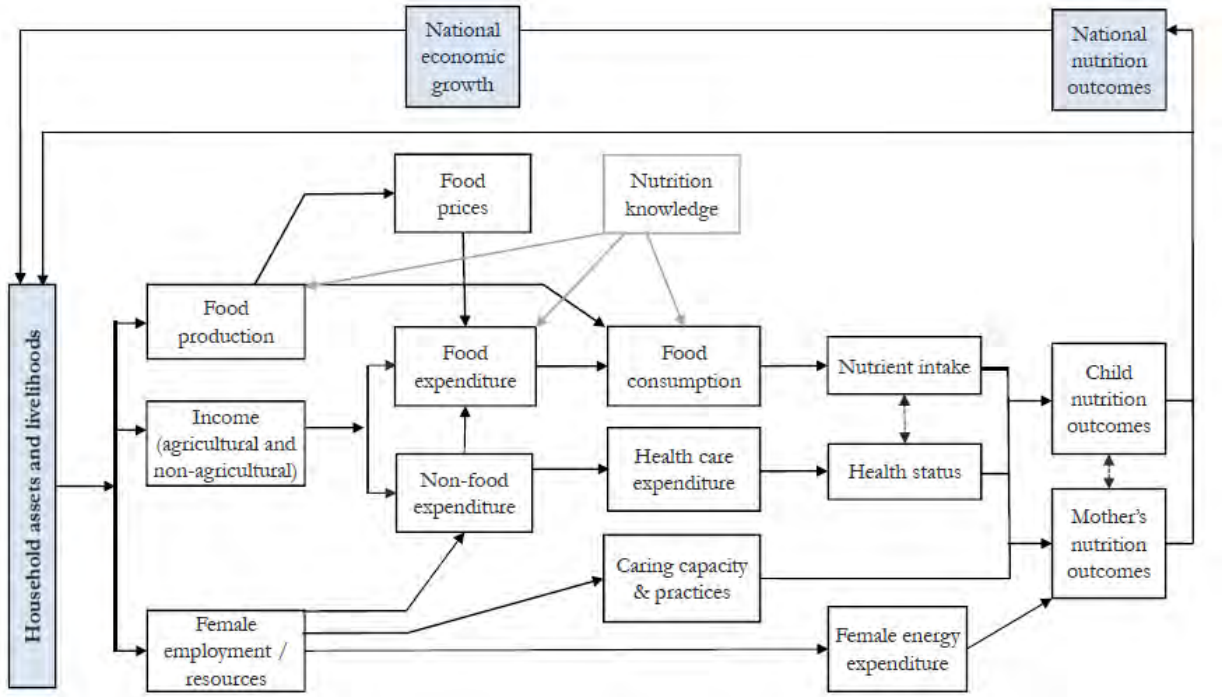
Evaluation Question: Which elements and/or approaches of INVC's integrated model have been most successful in leading to adoption of both the promoted agriculture and nutrition behaviors and practices by beneficiaries? Which elements and/or approaches have been least successful?

Agriculture-nutrition causal impact pathways can serve as a conceptual and operational framework for program/policy design and evaluation. (See Figure 6 on the next page.)

First, ***explicit nutrition goal/objectives*** need to be set at the beginning of an agricultural intervention or program's planning process. Second, it is essential to ***identify the different pathways*** through which an intervention and/or program can have an impact on nutrition. Once these pathways have been identified, the current evidence base needs to be considered and the pathways thoroughly planned and discussed with the implementers, along with the country context and possible implications Third, the implementation phase

of the program should deliver ***intermediate results*** and document them, and the program impact pathways should be continually tested.[187, 188]

Figure 6. Agriculture-Nutrition Causal Impact Pathways: Nutrition-Sensitive Value Chains



Source: Agriculture to Nutrition: Pathways and Principles–Pathways from Agriculture to Nutrition, adapted from Gillespie et al., 2013 by Anna Herforth and Jody Harris with SPRING, 2014.

Within INVC, there are three main agriculture-nutrition impact pathways:

1. Pathway 1: Agriculture as a Source of Food: Food Production for Own-Household Consumption
2. Pathway 2: Agriculture as a Source of Income: Agriculture Production—Increases Income and Food Expenditure
3. Pathway 3: Agriculture and Food Prices Affecting Purchasing Power and Consumption Patterns of Food

These are discussed in detail on the following pages. Figure 7, at the end of the discussion on page 81, illustrates and summarizes the three pathways.

[187] Scaling up in Agriculture, Rural Development, and Nutrition. Overview: Pathways, Drivers, and Spaces. Johannes F. Linn. International Food Policy Research Institute (IFPRI), June 2012.
[188] Agriculture Programming for Nutrition Guiding Principles—Draft—FAO, September 2012.

Pathway 1: Agriculture as a Source of Food: Food Production for Own-Household Consumption

The most fundamental and direct pathway from agriculture to nutrition is agriculture as a source of food, whereby farm households increase nutrient-dense food production for their own household's consumption.[189, 190, 191, 192] For INVC, the assumption is that the increase of production of groundnuts and soybeans will allow farmers to consume the extra yields and "Sell Some. Keep Some. Invest Some." Increasing the availability, access, and consumption of nutrient-dense foods through own-production, including filling seasonal gaps or increasing purchases of food by rising incomes through household food production, contributes to improved food security and diets in farm households.[193, 194, 195] The key assumption here is that an increase in agriculture production output and own-consumption will bring forth changes in nutritional status within the targeted households. This entails, however, a focus on more nutritious food production for consumption, not only to increase household calories but also to increase micronutrient/nutrient intake of nutrient-dense food to improve nutritional outcomes by beneficiary households.[196, 197] Agriculture production affects the food available for household consumption, including its diversity, quality, and price.[198, 199] Dietary diversity is recognized as a key element of high-quality diets.[200] INVC works to increase agricultural production through the targeted legume value chains as well as increase consumption of locally adapted, diverse sources of nutrient-dense foods through its support for backyard gardens.

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[189] Improving Nutrition Through Multisectoral Approaches Agriculture and Rural Development. International Bank for Reconstruction and Development/ International Development Association or The World Bank. January 2013. Accessed at: *http://search.yahoo.com/r/_ylt=A0oG7lZL2ndRfTcAettXNyoA;_ylu=X3oDMTE1OWVyNmoyBHNlYwNzcgRwb3MDMwRjb2xvA2FjMgR2dGlkA01TWTAwNV8xMTk-/SIG=14q1pi4i9/EXP=1366837963/**http%3a//www.securenutritionplatform.org/Documents/Improving%2520Nutrition%2520through%2520Multisectoral%2520Approaches_full%2520doc.pdf*.

[190] From Agriculture to Nutrition: Pathways and Principles. Feed the Future. Nutrition Global Learning and Evidence Exchange (N-GLEE) Jody Harris, Anna Herforth, Washington, February 2013. Adapted from: Stuart Gillespie, Jody Harris, and Suneetha Kadiyala, 2012. Available at: *http://www.spring-nutrition.org/sites/default/files/1.6%20GLEE%20presentation_pathways%20and%20principles_harris.pdf*.

[191] Impact Pathways from Agricultural Research to Improved Nutrition and Health: A Literature Analysis and Recommendations for Research Priorities, Potential CGIAR Research Priorities. Patrick Webb. 2013.

[192] GAIN IDS Discussion Paper: Nutritious Agriculture by Design: A Tool for Program Planning. Spencer Henson, John Humphrey, Bonnie McClafferty. April 2013. Accessed at: *http://www.ids.ac.uk/files/dmfile/GAIN-IDSDiscussionPaper.pdf*.

[193] Smallholder Agriculture's Contribution to Better Nutrition. Steve Wiggins & Sharada Keats. Overseas Development Institute. Report commissioned by the Hunger Alliance. March 2013.

[194] From Agriculture to Nutrition: Pathways, Synergies and Outcomes. The International Bank for Reconstruction and Development / The World Bank. Agriculture and Rural Development Department. 2007. Available at: *http://siteresources.worldbank.org/INTARD/825826-1111134598204/21608903/January2008Final.pdf*.

[195] Combating Micronutrient Deficiencies: Food-Based Approaches. The Food and Agricultural Organization of the United Nations (FAO). M. Arimond, C. Hawkes, M.T. Ruel, Z. Sifri, P.R. Berti, J.L. Leroy, J.W. Low, L.R. Brown and E.A. Frongillo. 2011. Available at: *http://www.fao.org/docrep/013/am027e/am027e.pdf*.

[196] From Nutrition Plus to Nutrition Driven: How to Realize The Elusive Potential of Agriculture for Nutrition? International Food Policy Research Institute IP. Nevin Scrimshaw International Nutrition Foundation. Lawrence Haddad. April 2013. Available at: *http://www.ingentaconnect.com/content/nsinf/fnb/2013/00000034/00000001/art00005*.

[197] GAIN IDS Discussion Paper: Nutritious Agriculture by Design: A Tool for Program Planning. Spencer Henson, John Humphrey, Bonnie McClafferty. April 2013. Accessed at: *http://www.ids.ac.uk/files/dmfile/GAIN-IDSDiscussionPaper.pdf*.

[198] An Introduction to Nutrition-Agriculture Linkages. MINAG/DE Research Report 72E. Maputo, Mozambique: Directorate of Economics, Ministry of Agriculture. Chung, K. 2012. Available at: *http://fsg.afre.msu.edu/mozambique/WP72Chung.pdf*.

[199] von Braun et al., 2010.

[200] Animal Source Foods to Improve Micronutrient Nutrition and Human Function in Developing Countries. Operationalizing Dietary Diversity: A Review of Measurement Issues and Research Priorities. Marie T. Ruel. IFPRI. American Society for Nutritional Sciences. 2003. Available at: *http://jn.nutrition.org/content/133/11/3911S.full.pdf*

Pathway 2: Agriculture as a Source of Income: Agriculture Production—Increases Income and Food Expenditure

The second pathway focuses on agriculture as a source of income through marketed sale of agricultural produce or wages earned by agricultural workers, leading to increased expenditure on food.[201, 202, 203, 204] For INVC, the assumption is that the marketed sale of groundnuts and soybeans (as "cash crops") produced by smallholder farmers with assets will increase household income and improve purchasing power. In this second pathway, income from the sale of surplus production now assumes a primary role, while production for the household's own-consumption becomes supplemental. Increases in income can improve household food security, food consumption, and individual food intakes.[205]

INVC makes several assumptions about small and medium-size landholders with land available for crop diversification: They have at least 0.5 to 1.2 hectares of land to cultivate; they produce sufficient maize for home consumption; they have the potential to increase maize productivity while freeing up land for diversification to legume production; they have access to extension services and inputs; and they possess the potential for linking to markets.[206] However, some focus group reported that some farmers are landless laborers/rural wageworkers. In theory, increases in agricultural production increases household food availability, access, and food security, and improves diet quality, but it is important to caution that increased income from agricultural production alone will not lead to improved diets and improved nutrient intake.[207, 208, 209, 210]

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201 Impact Pathways from Agricultural Research to Improved Nutrition and Health: A Literature Analysis and Recommendations for Research Priorities, Potential CGIAR Research Priorities. Patrick Webb. 2013.

202 From Agriculture to Nutrition: Pathways and Principles. Feed the Future. Nutrition Global Learning and Evidence Exchange (N-GLEE) Jody Harris, Anna Herforth, Washington, February 2013. Adapted from: Stuart Gillespie, Jody Harris, and Suneetha Kadiyala, 2012. Available at: *http://www.spring-nutrition.org/sites/default/files/1.6%20GLEE%20presentation_pathways%20and%20principles_harris.pdf*.

203 From Agriculture to Nutrition: Pathways, Synergies and Outcomes. The International Bank for Reconstruction and Development / The World Bank. Agriculture and Rural Development Department. 2007. Available at: *http://siteresources.worldbank.org/INTARD/825826-111111134598204/21608903/January2008Final.pdf*.

204 Improving Nutrition Through Multisectoral Approaches Agriculture and Rural Development. International Bank for Reconstruction and Development/ International Development Association or The World Bank. January 2013. Accessed at: *http://search.yahoo.com/r/_ylt=A0oG7lZL2ndRfTcAettXNyoA;_ylu=X3oDMTE1OWVyNmoyBHNlYwNzcgRwb3MDMwRjb2xvA2FjMgR2dGlkA01TWTAwNV8xMTk-/SIG=14q1pi4i9/EXP=1366837963/**http%3a//www.securenutritionplatform.org/Documents/Improving%2520Nutrition%2520through%2520Multisectoral%2520Approaches_full%2520doc.pdf*.

205 From Agriculture to Nutrition: Pathways, Synergies and Outcomes. The International Bank for Reconstruction and Development / The World Bank. 2007. Accessed at: *http://siteresources.worldbank.org/INTARD/825826-111111134598204/21608903/January2008Final.pdf*.

206 Average landholding in Malawi was 1.13 hectares and the majority of farmers are categorized as medium-sized land holders owning 0.75-3.0 hectares. Source: Malawi Second Integrated Household Survey (IHS-2) 2004-2005, National Statistics Office, Zomba, 2005.

207 The Micronutrient Impact of Multisectoral Programs Focusing on Nutrition: Examples from Conditional Cash Transfer, Microcredit with Education, and Agricultural Programs. Jef L. Leroy, Marie Ruel, Ellen Verhofstadt, Deanna Olney., International Food Policy Research Institute (IFPRI). 2008. Available at: *http://micronutrientforum.org/innocenti/Leroy-et-al-MNF-Indirect-Selected-Review_FINAL.PDF*.

208 GAIN IDS Discussion Paper: Nutritious Agriculture by Design: A Tool for Program Planning. Spencer Henson, John Humphrey, Bonnie McClafferty. April 2013. Accessed at: *http://www.ids.ac.uk/files/dmfile/GAIN-IDSDiscussionPaper.pdf*.

209 Henson, S.J., Humphrey, J., McClafferty, B. and Karim, Z. (2012a) Assessing the Integration of Agriculture and Nutrition in USAID Target Programs: Findings from a Rapid Assessment in Bangladesh, Brighton and Washington, D.C.: Institute of Development Studies and Global Alliance for Improved Nutrition.

210 Henson, S.J., Humphrey, J., McClafferty, B. and Waweru, A. (2012b) Assessing the Integration of Agriculture and Nutrition in USAID Target Programs: Findings from a Rapid Assessment in Kenya, Brighton and Washington, D.C.: Institute of Development Studies and Global Alliance for Improved Nutrition.

Pathway 3: Agriculture and Food Prices Affecting Purchasing Power and Consumption Patterns of Food

The third pathway involves agricultural policy and food prices that affect purchasing power and food consumption patterns.[211] Increases in agriculture food production improve the access and availability of food while decreasing food and non-food crop prices for consumers in the domestic economy.[212, 213, 214, 215, 216]

Reductions in real food market prices can have enormous benefit. They affect accessibility and the potential to purchase more or different types of foods. They increase household food security, and they improve the quality of consumers' diets.[217, 218, 219]

With INVC, U.S. Government investment to increase agriculture production of groundnuts and soybeans should increase the access and availability of the two crops while decreasing the price to consumers. This is the ideal; however, there has not been enough groundnut and soybean production at this stage to affect prices in the market.

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[211] Strengthening the Role of Agriculture for a Nutrition Secure India. Suneetha Kadiyala P.K. Joshi, S. Mahendra Dev, T. Nanda Kumar, Vijay Vyas. December 2011. Accessed at: *http://www.ifpri.org/sites/default/files/publications/indiapnote122011.pdf.*

[212] Maximizing the Nutritional Impact of Food Security and Livelihoods Interventions: A Manual for Field Workers. ACF International, July 2011. Available at: *http://www.actionagainsthunger.org/sites/default/files/publications/maximising_the_nutritional_impact_of_fsl_interventions_0.pdf.*

[213] From Agriculture to Nutrition: Pathways, Synergies, and Outcomes. The International Bank for Reconstruction and Development / The World Bank. Agriculture and Rural Development Department. 2007. Available at: *http://siteresources.worldbank.org/INTARD/825826-1111134598204/21608903/January2008Final.pdf*.

[214] Improving Nutrition Through Multisectoral Approaches Agriculture and Rural Development. International Bank for Reconstruction and Development/ International Development Association or The World Bank. January 2013. Accessed at: *http://search.yahoo.com/r/_ylt=A0oG7lZL2ndRfTcAettXNyoA;_ylu=X3oDMTE1OWVyNmoyBHNlYwNzcgRwb3MDMwRjb2xvA2FjMgR2dGlkA01TWTAwNV8xMTk-/SIG=14q1pi4i9/EXP=1366837963/**http%3a//www.securenutritionplatform.org/Documents/Improving%2520Nutrition%2520through%2520Multisectoral%2520Approaches_full%2520doc.pdf.*

[215] Impact Pathways from Agricultural Research to Improved Nutrition and Health: A Literature Analysis and Recommendations for Research Priorities, Potential CGIAR Research Priorities. Patrick Webb. 2013.

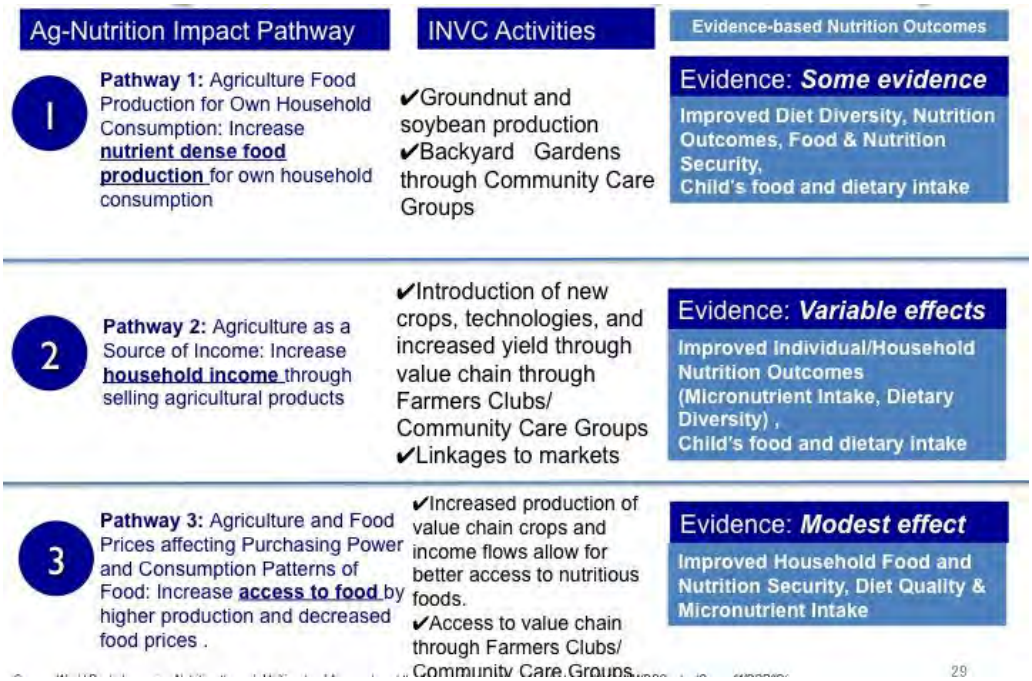
[216] GAIN IDS Discussion Paper: Nutritious Agriculture by Design: A Tool for Program Planning. Spencer Henson, John Humphrey, Bonnie McClafferty. April 2013. Accessed at: *http://www.ids.ac.uk/files/dmfile/GAIN-IDSDiscussionPaper.pdf.*

[217] Combating Micronutrient Deficiencies: Food-based Approaches. The Food and Agricultural Organization of the United Nations (FAO). M. Arimond, C. Hawkes, M.T. Ruel, Z. Sifri, P.R. Berti, J.L. Leroy, J.W. Low, L.R. Brown and E.A. Frongillo. 2011. Available at: *http://www.fao.org/docrep/013/am027e/am027e.pdf.*

[218] From Agriculture to Nutrition: Pathways and Principles. Feed the Future. Nutrition Global Learning and Evidence Exchange (N-GLEE) Jody Harris, Anna Herforth, Washington, February 2013. Adapted from: Stuart Gillespie, Jody Harris, and Suneetha Kadiyala, 2012. Available at: *http://www.spring-nutrition.org/sites/default/files/1.6%20GLEE%20presentation_pathways%20and%20principles_harris.pdf.*

[219] Tackling the Agriculture-Nutrition Disconnect in India (TANDI). Gillespie et al. March 2013. Available at: *http://www.unscn.org/files/Annual_Sessions/UNSCN_Meetings_2013/Gillespie_agriculture_nutrition_25_March_2013_MoM.pdf.*

Figure 7. Agriculture-Nutrition Impact Pathways



Source: World Bank. Improving Nutrition through Multisectoral Approaches. Available at: http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2013/02/05/000356161_20130205130807/Rendered/PDF/751020WP0Impro00Box374299B00PUBLIC0.pdf

INVC Agriculture-Nutrition Integrated Model

INVC aims to advance food security and nutrition and reduce rural poverty through an agriculture-led integrated economic growth and nutrition strategy. The project was designed to integrate agricultural productivity and increase household income paired with nutrition interventions to improve nutritional status. It is based on the understanding that purposeful investments in agriculture are essential for and contribute to positive impacts on nutritional status in food systems. INVC improves agriculture production and the quality of nutrient-dense value chains, specifically groundnuts and soybeans. The project also promotes nutrition BCC to improve prioritized nutrition behavior and practices, and supports community nutrition activities targeted at PLW and mothers and caregivers of children under 5. From April 2012-April 2015, INVC targeted to reach 100,000 children under 5 with nutrition interventions, and at least 275,000 rural households through nutrition or agriculture-based interventions or both.[220] Under the INVC extension (April 24, 2015-October 31, 2016), the target to reach children under 5 was revised upward to 175,000.[221]

Project Structure and Development

The INVC project structure involves five levels of stakeholders: the INVC Consortium, local sub-partners, the district level, the EPA/village level, and Direct Beneficiaries.

[220] USAID PMEP. (2014). INVC, Final-Revised, March.
[221] INVC Annex II. (2015) PITT. INVC.

Findings

Agriculture and nutrition programming cascades down through each of the project levels to reach beneficiary households.[222]

Consortium level. Project activities begin at the Consortium level, where the core team manages implementation. The Consortium originally consisted of three partners: DAI, SCI, and MSU. As of this writing, SCI has withdrawn from the extension phase of the project; DAI has assumed its activities.[223]

Local sub-partner level. The Consortium initially implemented the project by working with and through local sub-partners (via grants under contract) for direct implementation of agriculture-nutrition activities in Lilongwe and Mchinji districts. At the same time, INVC worked with its sub-partners to identify key capacity gaps and develop capacity building action plans. Given the work the sub-partners have to do within these plans and their continuing challenges with USAID compliance with administrative and finance capacity dimensions, since 2014 the Consortium has adopted a hybrid model approach.[224] With this approach, local sub-partners are still directly implementing agriculture-nutrition activities in Lilongwe and Mchinji, but now DAI is directly implementing nutrition activities in Balaka, Mangochi, and Machina districts. DAI's direct involvement is meant to streamline and accelerate development activities and gains for beneficiaries.

Primary sub-partners for agriculture are NASFAM, FUM, and CADECOM. Supplementing their activities have been ACE, IITA, and CISANET. The main primary sub-partner for implementation of nutrition activities is Nkhoma Hospital, with Pakachere contributing BCC activities, including the implementation of drama groups and radio jingles.

The district level. The sub-partners work through the Government of Malawi at the district level, involving DADOs, District Agricultural Extension Methodologies Officers, Agribusiness Officers, DNOs, and MCHMs, but this level is a pass-through level with limited involvement in agriculture and nutrition activities.

EPA/Village Extension level. District-level officials work through EPA offices within Agricultural Development Divisions, involving AEDOs.[225] Senior HSAs and HSAs[226] work under the Environmental Health Section of the Ministry of Health and Population at the extension level. Finally, GVHs are traditionally recognized local leaders overseeing a group of villages as part of the government administrative structure for the purposes of community organizing at the extension level. It is at the EPA/village level where Farmers Clubs and CCGs are operational and where INVC's "integration point of entry" for agriculture and nutrition is supposed to lie, integrating agriculture and nutrition interventions as a unified framework to combine both thematic areas. However, at this level there are

[222] Rodríguez, A., Engels, J. & Mucha, N. (2015).
[223] Interview #1-1-27-04-1200.
[224] INVC First Quarterly Report FY2015, 2015.
[225] The Ministry has been further divided—administratively and technically—into eight Agricultural Development Divisions, headed by program managers. These divisions are divided into EPAs, which are further divided into EPA sections. Under the Decentralization Program, the Ministry has reconstituted the former RDPs as DADOs under the District Assemblies. The EPAs, and their sections, are now organized as the lower-level structures under the DADOs, in some cases after redrawing boundaries to accommodate the EPAs within the boundaries of each district.
[226] Originally trained to work as environmental health monitors, data collectors and researchers are increasingly taking on the duties of nurses and are being imparted to these under-recognized but important health workers.

disconnects between the coordination of activities between Farmers Clubs and CCGs farmers groups (through NASFAM and FUM) and CCGs recruit village-level direct beneficiaries. NPs, who lead the CCGs, are selected from NASFAM and FUM GACs and gender and social committees, but thereafter they often implement their activities separately and do not coordinate with their agriculture counterparts.

Direct Beneficiary level. At this level, assistance is provided to Direct Beneficiaries—groundnut and soybean Farmers Clubs and CCG members, including PLW and mothers/caregivers of children under 5 (before January 2015, children under 3).

Conclusions

INVC is implemented through a Consortium that manages the oversight of the project and provides technical assistance. It has worked with and through local sub-partners to promote agriculture-nutrition activities. Most agriculture-nutrition activities are implemented directly through local sub-partners, which helps build their capacity to potentially graduate from being a U.S. Government sub-partner to a prime partner. Recently, though, the Consortium began to directly implement nutrition interventions in three districts—Balaka, Machinga, and Mangochi. In so doing, it aims to reduce structural complexity and accelerate service delivery through the EPA/village level, where Direct Beneficiaries are served through Farmers Clubs and CCGs.

Recommendations

Future USAID agriculture-nutrition projects should be streamlined for operational efficiency and effectiveness. Such projects should be designed with fewer layers of stakeholders to reach the intended beneficiaries. Within the Consortium, sub-partners should have embedded staff in the same office that work alongside Consortium staff for coaching, mentoring, and capacity building, and to directly implement development activities. This would avoid INVC's complicated structure with multiple and co-located levels of implementation where service delivery has been diminished and hampered a coordinated, harmonized approach to agriculture and nutrition that direct implementation by the Consortium now hopes to change.

Differing Definitions of Agriculture-Nutrition Integration

INVC focuses on the integration of agriculture and nutrition interventions through value chains with its goal to sustainably reduce rural poverty and improve nutrition. It is important to have a clear understanding of what this integration entails for agriculture and nutrition to achieve impact.

Findings

Defining agriculture-nutrition integration. Different levels of INVC stakeholders define and practice agriculture-nutrition integration differently. It is conceptually articulated more clearly at the Consortium and sub-partner levels, although it is not always agreed upon at which level integration takes place. Other stakeholders (e.g., Farmers Club members, NPs, and Lead Mothers) perceive integration differently: not as a process, but as individual activities.

An INVC Consortium staff member described integration as "synchronizing institutional structures." This means bringing together sub-partners, the district level, and CCGs/Farmers Clubs *in harmony*. It also means program delivery—meeting deliverables (e.g., agriculture training, cooking demonstrations, and home food processing) via collaboration between agriculture partners and nutrition partners and messaging to farmers/PLW and mothers of children under 5, and supporting the sale, retention, and consumption of groundnuts and soybeans (e.g., the key behavior change message, "Sell some. Keep some. Invest some.").

Finding

Currently, INVC project stakeholders do not have a clear definition of integration. While recognizing this, INVC explains that it integrates at three different levels:

1. *Organizational integration*: INVC is integrating agriculture and nutrition on a structural level through management, coordination, planning, and M&E to improve the enabling environment for this integration.
2. *Integration of nutrition-sensitive agriculture interventions and activities*: INVC explains that it is trying to integrate agriculture and nutrition though joint interventions and activities, such as joint agriculture and nutrition cooking demonstrations within the EPAs and using the promoted legume value chains to encourage home food processing for added value for nutrient-dense home consumption (i.e., complementary foods).
3. *Integrating agriculture and nutrition into its BCC campaign*: The campaign targeted both promoted nutrition and agriculture behaviors and practices through joint messaging such as the "Sell Some. Keep Some. Invest Some." key behavior change message in which farmers are encouraged to sell some of their groundnuts and/or soybeans for income, keep some for home consumption, and invest some of the yield for the next growing season.

Source: Interview #1-1-27-04-1200.

Another Consortium staff member described integration more broadly, as "an overlay [of nutrition] on top of the agriculture component." Integration is seen as taking place at the sub-partner level ("it is up to the sub-partners to do what is necessary"), at the EPA/village extension level ("extension agents and lead farmers can simply promote messages when they convey agricultural advice"), and at the direct beneficiary level ("integration occurs by processing at the household level").[227]

An agriculture sub-partner described integration as working "hand in hand" with the nutrition sub-partners, and admitted to working with other donors on nutrition projects and implementing its own distinct, independent nutrition programs. Other agriculture sub-partners described integration in terms of conducting their agriculture activities and letting nutrition sub-partners do the same but without coordinating.[228]

At the district level, interviewed DADOs and AEDOs defined integration as the coordination of agriculture and nutrition activities, but said they did not see this happening. Officials interviewed in Mchinji said there was no coordination in the project. In Lilongwe, Balaka, and Machinga, officials reported knowing Nkhoma and said NPs came to their districts, but they said there was no coordination through or visit with district stakeholders. In Lilongwe, one interviewee said, "Nkhoma Hospital comes to the EPA but does not invite [Farmer Organization Facilitators] or anyone else; it simply goes directly to Community Care Groups' members."[229]

[227] Interview #1-1-27-04-1200; Interview #1-1-26-03-800; Interview #1-1-7-04-1500.
[228] Interview #2-1-28-04-900.
[229] Interview #3-1-14-04-1030; Interview #3-2-14-04-1500; Interview #3-4-16-1000; Interview #3-5-22-04-930.

At the EPA level, when a GAC chair, HSAs, GVHs, and AFOs were interviewed, they confirmed their understanding of integration was the same as those at the district level, but they also did not see any coordination in their areas, except for Mchinji, where Nkhoma held training courses and coordinated with NASFAM, although this had happened only once. In Lilongwe, Lead Farmers confirmed Nkhoma personnel came to their villages, but said they were not invited. In Balaka, Lead Farmers said they wanted to work with NPs and coordinate activities, emphasizing they did not "want to operate separately."[230]

At the Direct Beneficiary level, almost all villagers defined the intersection of agriculture and nutrition as manifest through household backyard gardens, and food preparation and processing of groundnuts and soybeans. In Lilongwe, a group of male villagers specifically described the supply of seeds for household gardens, which INVC did once, as the integral factor. At the same time, farmers reported having limited resources to procure vegetable seeds and other agricultural inputs for their backyard gardens, in which they grew maize, tomatoes, onions, pumpkin leaves, rape, sweet potatoes, and Chinese cabbage. While villagers admitted INVC did not introduce them to the concept or practicality of household gardens to diversify their diets, many reported learning from NPs or AFOs from NASFAM or FUM how to prepare/process legumes for groundnut porridge and cakes, and soy meat, buns, and milk. Not all those who learned how to make soy milk, however, could make it unless they had access to fresh water.[231]

Integration through existing Farmers Clubs. INVC does a good job at leveraging the existing Farmers Club platforms (through GACs and Gender and Social Committees) to engage PLW and mothers of children under 5 in CCGs. As one senior management interviewee commented, "A good number of partners have come to INVC to learn from them from their integrating platform for agriculture and nutrition." However, interviews revealed that, in some cases, PLW and mothers are recruited through Farmers Clubs, yet CCG activities are generally implemented separate from Farmers Clubs.

Using CCGs as an integrated platform. When INVC first started, it intended to use the GAC (NASFAM) or clusters in FUM to recruit CCG NPs. This has been the main intersection point of agriculture-nutrition integration. It is fair to acknowledge that the new project design, in use since November 2014, is expanding this integration into new districts (i.e., Mangochi, Balaka, and Machinga). Although NPs are recruited from the Farmers Clubs, only 50 percent of the cascading members (Lead Mothers and Direct Beneficiaries) are Farmers Clubs members.

Conclusions

Conclusion

Agriculture and nutrition activities are not coordinated throughout the various levels of stakeholders.

Defining agriculture-nutrition integration. Different levels of INVC stakeholders define and practice agriculture-nutrition integration differently. Some describe it as synchronizing institutional structures, some as an overlay of two components, and others as coordination, although this is not happening. The practice of integration is assigned to the sub-partners, the EPA level, or farmers' households.

Farmers themselves saw the integration of agriculture and nutrition occurring in their backyard gardens, where they grow a range of vegetables. Many had backyard gardens before INVC, and those who did

[230] Interview #4-1-14-04-1430; Interview #4-2-13-04-1400; Interview #4-4-14-04-915; Interview #4-5-22-04-1300.
[231] Interview #5M-1-02-04-1100; Interview #5F-4-21-04-1100; Interview #5F-2-10-04-1400.

not are being taught how to establish them through CCGs. Notwithstanding the project's one-time distribution of vegetable seeds (amaranth and pumpkin), farmers reported having limited resources to procure seeds and other agricultural inputs for backyard gardens. Lack of such resources prevents diversification of backyard gardens, resulting in limited dietary diversification.

Recommendations

Clarify Integration and building consensus. The Consortium, which has the most comprehensive definition of the integration of agriculture and nutrition, should hold a stakeholder workshop to discuss the meaning of integration and the expected roles and responsibilities of each stakeholder. At all levels, each stakeholder needs to understand the importance of collaboration and coordination of agriculture and nutrition activities.

Diversification through backyard gardens. At the beneficiary level, AEDOs and AFOs should support backyard gardens to increase dietary diversity by helping farmers connect with reliable seed suppliers and agro-input dealers in their areas to procure seeds, inputs, and tools. AEDOs and AFOs should also provide training on winter planting and composting for backyard gardens.

Coordination of Agriculture and Nutrition Activities

Findings

The ideal collaborative relationship is manifest between FUM and Nkhoma. FUM reported it promoted agriculture alongside nutrition, and "work[ed] hand in hand with Nkhoma." FUM said Nkhoma asked it to set up appointments in communities where it was well-established, and it sometimes accompanied Nkhoma on visits when the hospital taught about backyard gardens and the importance of legume consumption. This has not been the case with other stakeholders. In practice, agriculture and nutrition activities predominately run parallel instead of being inextricably intertwined.[232]

At the district level, NASFAM AFOs in Balaka described a story similar to the one FUM told when Nkhoma first began to work in its EPAs. However, after Nkhoma made contacts in the district, NPs set up their own meetings and did not collaborate further. The AFOs lamented that they wanted a coordinated program, "a joint nutrition plan and joint delivered programs."[233] In Machinga, both AEDOs and AFOs complained that "there is no integration between agriculture and nutrition [in our EPAs]."[234] NPs visited Machinga EPAs but did not coordinate any activities through the district. Machinga AEDOs and AFOs also asked for collaboration between the district and NPs. Lilongwe AFOs said the same: Nkhoma came to their EPAs but never included them in their activities.[235]

There is a similar lack of coordination at the EPA/village level. NASFAM reported Nkhoma "coordinates" with it in Mchinji by telling it when it goes to an EPA. In Machinga, a GAC chair and GVHs reported "there [is] no integration in [our] areas."[236] The responsibility of perpetuating a divide between agriculture and nutrition does not solely lie with Nkhoma. In Balaka, a NASFAM coordinator reportedly

[232] Interview #2-1-28-04-900.
[233] Interview #3-4-16-04-1000.
[234] Interview #3-5-22-04-930.
[235] Interview #3-1-14-04-1030.
[236] Interview #4-5-22-04-1300.

told NPs specifically not to coordinate any programs with Lead Farmers,[237] telling them they could go out in the field with Lead Farmers but were to do no "cross-training," which the Lead Farmers said was exactly what they wanted.[238]

Conclusions

INVC agriculture and nutrition activities are not coordinated throughout the different levels of stakeholders. FUM and Nkhoma have collaborated on activities; NASFAM and Nkhoma have not. Though NASFAM is willing to work with Nkhoma, Nkhoma has not reciprocated. Furthermore, uncoordinated activities at the EPA/village extension level have led to beneficiaries not having the advantage of joint cross-training in agriculture and nutrition.

Conclusion

Different levels of INVC stakeholders define and practice agriculture-nutrition integration differently. Some describe it as synchronizing institutional structures, some as an overlay of two components, and others as coordination, although this is not happening. The practice of integration is assigned to the sub-partners, the EPA level, or to farmers' households.

Recommendations

Improve coordination. INVC's agriculture and nutrition components need to be closely coordinated—even coordinated for the first time—to better severe beneficiaries and have maximum impact.

NASFAM and Nkhoma should collaborate. They should also work at the EPA/extension level to conduct training sessions to teach agriculture and nutrition side-by-side. Each NP who visits a village should be accompanied by a Lead Farmer to reinforce the integration of agriculture and nutrition.

Joint training sessions can include the 15 prioritized nutrition behaviors and practices (and be expanded to include messages on birth spacing, diarrhea, iron-folic acid for pregnant women, and vitamin A supplements for children aged 6 months to 5 years). At the same time, Lead Farmers can participate in backyard garden demonstrations and practical cooking and tasting sessions with legumes.

Post-Harvest Practices

Post-harvest practices are an integral part of the food production system. The use of best practices for post-harvest handling and management along the entire food supply chain contributes to value chain competitiveness, increased incomes, and safe, high-quality nutritious foods. Post-harvest best practices are especially necessary to control the quality of harvested groundnuts and soybeans promoted by INVC and to reduce aflatoxin levels in groundnuts.

Findings

Within the context of advancing value chain competitiveness, INVC has implemented upgrading strategies for groundnuts and soybeans. This includes improving post-harvest curing and drying practices. To avoid aflatoxin contamination in groundnuts, these practices stress proper drying, in-shell

[237] Interview#4-4-14-04-915.
[238] Interview #4-2-13-04-1400.

aggregation, marketing, hand-powered or motorized mechanical shelling instead of wetting and hand shelling, and mechanical grading.[239]

Best Practices

In 2014, the Consortium built the capacity of its sub-partners in crop management and post-harvest handling. Training cascaded down to lower levels and more than 25,000 AFOs, Lead Farmers, Assistant Lead Farmers, and field staff under NASFAM, FUM, and CADECOM were trained in post-harvest practices. This allowed Farmer Organizations to link their members with at least an Assistant Lead Farmer in a 1:15 ratio to provide information on post-harvest practices.

In 2014, the Consortium built the capacity of its sub-partners in crop management and post-harvest handling. It held 197 training sessions attended by 2,784 participants, with approximately 25 percent coming from NASFAM, which sometimes sent more than one participant to an event. Sub-partners, in turn, trained district-level organizations and cooperatives.[240] Training cascaded to lower levels, and more than 25,000 AFOs, Lead Farmers, Assistant Lead Farmers, and field staff under NASFAM, FUM, and CADECOM were trained in post-harvest practices and other farming practices. This training allowed farmer organizations to link their farmers with at least an Assistant Lead Farmer in a 1:15 ratio to provide information on post-harvest practices.

Farmers in all districts reported being knowledgeable about when their crops reached maturity. Some farmers counted calendar days from planting; others relied more on sight, monitoring their plants for groundnuts with plump seeds and dark marks inside pods, and soybeans with a mature brown color. Groundnut farmers described uprooting their plants and soybean farmers described cutting plant stalks and threshing them.[241]

Farmers differed only slightly on how they dried groundnuts. Only one of six focus groups in Lilongwe and one of eight in Machinga reported leaving plants in the field for two to three days in windrows;[242] the rest took their harvest home because they were afraid thieves would steal anything left in the field. Once home, groundnuts were cured and dried, the Mandela Cock drying method being the most preferred.[243] Only one focus group of eight in Mchinji reported drying groundnuts on A-frames.[244] Prior to INVC training, farmers reported drying groundnuts on the roof of their houses, which they admitted was difficult to monitor and the groundnuts over-dried.[245] Groundnuts were sorted only in groups of good and bad; they were not graded. In all districts, men and women farmers reported storing groundnuts in the shell in 50-kg bags off the ground and away from the walls to facilitate air flow.[246] Groundnuts were sometimes sold in the shell; if shelled, they were hand-shelled. No farmer mentioned mechanical shelling or grading.

Soybeans were also brought back to farmers' houses to dry on the ground on mats or tarps, sorted by good and bad but not graded, and stored in 50-kg bags in their homes.[247] One of eight focus groups in

[239] INVC Annual Workplan FY2014-Final, 2013.
[240] INVC Annual Progress Report FY2014, 2015.
[241] Interview #5M-2-10-04-1050; Interview #5M-2-10-04-1500.
[242] Interview #5F-5-23-04-1230.
[243] Interview #5M-2-9-04-900.
[244] Interview#5M-2-10-04-1500.
[245] Interview #5M-5-23-04-845.
[246] Interview #5M-5-23-04-1005.
[247] Interview #5M-2-10-04-1500.

Mchinji reported feeding "bad" soybeans to livestock. One of three focus groups in Balaka requested assistance on how to store soybeans in warehouses, sell when prices are high, and learn about bridge financing options.[248]

Conclusions

INVC has successfully trained its sub-partners in post-harvest practices, with NASFAM representatives receiving the most training. NASFAM, FUM, and CADECOM have subsequently trained district and EPA/village field staff who have, through Lead Farmers, reached beneficiaries with post-harvest best practices. Better and deeper learning can occur when Lead Farmers work with smaller groups of farmers.

Farmers knew when and how to harvest their crops. They used different drying methods, and were anxious to get their crop home immediately after harvest for fear of having it stolen in the field.

Farmers did not grade their groundnuts and soybeans, only distinguishing between "good" and "bad" during sorting. They did not follow the INVC Harvesting and Post-harvest Management Training Handout, which provides grading scales for Grades A-E.[249]

Groundnuts and soybeans were stored in 50-kg bags in farmers' homes. Most of the farmers interviewed lived in small mud brick homes that could not accommodate a large number of bags, and there was insufficient air circulation in these tight spaces to properly control moisture content and, in the case of groundnuts, aflatoxin.

Recommendations

Post-harvest training. INVC sub-partners should continue to train district- and EPA/village-level extension workers to build the capacity of Lead Farmers in post-harvest practices to facilitate the production of nutritious foods. With fewer farmers to teach, Lead Farmers can spend more time with each farmer to assure better and deeper learning.

Promote low-tech drying. AEDOs and AFOs should continue to promote low-tech drying approaches such as the Mandela Cock method to reduce moisture content in groundnuts and reduce aflatoxin contamination.

Promote warehousing. AEDOs and AFOs should train farmers about the benefits of warehousing and link them with local storage facilities. Warehouses allow proper storage and temperature and humidity control. Aggregating goods in a single location will stimulate farmers to consider collective marketing, another practice INVC promotes.

Provide technical assistance. EPA/village-level trainers should also provide technical assistance to Farmers Clubs and CCGs about how to preserve food through home food storage and expand household knowledge of value-added processing to prolong the shelf life of nutritious foods.

[248] Interview #5M-4-21-04-145.

[249] INVC Groundnut Harvesting and Post-harvest Management, 2014; INVC Soybean Harvesting and Post-harvest Management, 2014.

Increasing Agricultural Income

The development hypothesis underpinning INVC assumes that if market-led value chain development is integrated with improved nutrition-related behaviors, then rural household incomes will increase and the nutritional status of women and children will improve. Legumes, specifically groundnuts and soybeans, are INVC's value chain priorities.[250]

Findings

In 2014, the Consortium continued to implement main components of the project to increase agricultural incomes. These included advancing value chain competitiveness by increasing access to markets, value-chain efficiency, and credit and finance; fostering a strong business environment; improving agricultural productivity by increasing access to agricultural inputs, new technology, and extension and advisory services; and promoting risk mitigation efforts.[251]

The project's PITT demonstrates the gross margins per unit of land for groundnuts and soybeans.[252] The baseline for the gross margin per hectare for groundnuts was $340. The target for FY2013 was set at $137, and $393 was achieved; the target for FY2014 was set at $145, and $319 was achieved. The baseline for the gross margin per hectare for soybeans was set at $151. The target for FY2013 was set at $171, and $259 was achieved; the target for FY2014 was set at $200, and $170 was achieved.[253] See Table 11 for details.

Table 11. Gross Margins for Groundnuts and Soybeans, FY2013 and FY2014

Indicator	Baseline	FY2013			FY2014		
		Target	Result	(R/T*)	Target	Result	(R/T)
Gross Margins ($/ha)							
Groundnut	340	137	393	287%	145	319	220%
Soybean	151	171	259	151%	200	170	85%

** R/T=result/target (percent); Source: INVC Annex II, 2015.*

According to the PITT, the gross margin per hectare for groundnuts increased 187 percent against the target in 2013 and 120 percent against the target in 2014. The targets for 2013 and 2014 were set below the baseline. In addition, the target for 2014 was not adjusted upward accordingly after the result in 2013. The gross margin per hectare for soybeans increased 51 percent above target in 2013; it was 15 percent below target in 2014.[254] Although the targets set for soybeans were closer to their baseline and more realistic than groundnuts, they, too, were not adjusted upward accordingly after the 2013 result.

Commenting on these figures, USAID reported the baseline numbers were based on secondary sources that did not use Feed the Future methodology. Equally, the gross margin data for 2013 did not use standard Feed the Future methodology; instead, estimates from the sub-partners were used. In 2014, data collection improved by using a structured questionnaire addressing most of the Feed the Future

[250] PWS, 2014.
[251] USAID-Malawi PWS, 2014.
[252] INVC Annex II. (2015) PITT. INVC-Malawi.
[253] INVC Annex II, 2015.
[254] INVC Annex II, 2015.

data requirements to measure gross margins per hectare.[255] These changes in the way the indicators were quantified limit their utility to determine trends of results achieved.

The Consortium is in the process of monitoring partner progress, gathering data for M&E databases to track performance indicators, and making partner field visits to improve data quality.[256] And, despite the PITT figures, the Consortium reported "it is too early to tell if adoption [of recommended technologies and practices] has improved productivity [which results in increased agricultural incomes]."[257]

Commenting on their own agricultural incomes, Farmers Club members and CCG participants complained of poor yields due to "old and stale seeds and seeds that did not germinate." They also mentioned unfavorable weather conditions, such as erratic rains/floods or drought that adversely affected their production in 2014. They expected low yields in 2015 due to the drought.[258] A Consortium staff member confirmed "there was a 30 percent drop in production in some districts due to poor quality seed … This year [2015] Malawi is facing a drought situation."[259]

In Balaka and Machinga, this is the first year farmers are growing groundnuts and soybeans. They have not harvested their crops as of this writing, so they are uncertain what income they will receive.[260]

Conclusions

INVC is implementing a range of agriculture activities within its mandate that are intended to increase rural household incomes to improve the nutritional status of women and children.

The Consortium has collected data using a range of indicators, including some that address agricultural productivity, but without Feed the Future methodology, the data quality is limited. Therefore, it is difficult to ascertain agricultural income and assess if increased income has actually improved the nutritional status of women and children. To address this, the Consortium is directly gathering data in the field and setting up systems to provide a comprehensive picture of progress measured against performance indicators. Poor weather conditions that resulted in poor value chain yields in 2014—and that will affect yields in 2015—will result in limited income for farmers. In some districts where farmers have just begun to grow INVC priority crops, it is uncertain what income they will obtain.

Recommendations

Strengthen M&E and the quality of value chain data. The Consortium should continue to develop its M&E systems to provide more precise measurement and gather value chain field data as it is available.

M&E training. All district and EPA/village extension stakeholders and farmers should be trained in M&E so they can capture and document progress. Farmers, especially, who are key players in their own development, need accurate information to make informed decisions about their livelihoods.

[255] USAID (2015). Comment [U29], INVC PE Evaluation_USAID Feedback_05.15.2015, USAID-Malawi, Lilongwe, Malawi.
[256] DAI-Malawi, 2015.
[257] Interview #1-1-26-03-800.
[258] Interview #5F-5-23-04-1230; Interview #5M-5-23-04-1400.
[259] Interview #1-1-26-03-800.
[260] Interview #5M-4-21-04-145; Interview #5F-4-21-04-1245.

Improve access to high-quality seeds. AEDOs and AFOs should link farmers with reliable certified seed suppliers so they can procure high-quality seeds to avoid poor germination rates and reduced yields and income.

Backyard Gardens

INVC works to increase agricultural production through the targeted legume value chains as well as increase consumption of locally adapted, diverse sources of nutrient-dense foods through support for backyard gardens based on locally available solutions. This includes not only supporting farmers who are members of Farmers Clubs to grow groundnuts and soybeans, but also providing CCG members with support to establish or improve their backyard gardens. Thereafter they are encouraged to grow nutrient-dense vegetables such as black jack, Catwhiskers, Amaranthus, local rape, and pumpkin seeds. Nkhoma, in collaboration with NASFAM, FUM, AEDOs, and Agriculture Extension Development Coordinators, has trained Nutrition Promoters and Lead Mothers to develop and manage backyard gardens and initially distribute starter seeds throughout their communities.[261]

For 2014, INVC reported promoting the cultivation and consumption of nutrient-dense green leafy vegetables, especially among PLW and children under 5. In the last quarter of 2015, INVC trained 342 Lead Mothers and farmers on the importance of establishing backyard gardens; 14,752 such backyard gardens were established in Lilongwe and Mchinji. These efforts were supplemented with nutrition messages via radio jingles and CCG sessions that supported the importance of backyard gardens and the consumption of nutrient-dense vegetables.[262]

Findings

Promotion of backyard gardens through CCGs. Nkhoma has collaborated with NASFAM, FUM, and AEDOs to train NPs, who in turn have worked with Lead Mothers to promote backyard gardens.

Lead Mothers have promoted backyard gardens, but they admitted having limited time to do so. They also reported lack of access to agricultural inputs, including improved vegetable seed varieties. The majority of Lead Mothers reported that training on backyard gardens was one of the most important types of training they received from the project, and expressed interest in receiving high-quality agricultural inputs and tools. Previously, Lead Mothers received seeds for Amaranthus and pumpkin leaves from Nkhoma.

While AEDOs and Agriculture Extension Development Coordinators have been tasked with encouraging farmers to establish backyard gardens, they admitted most of the farmers with whom they work had gardens before INVC. This was borne out by 25 value chain focus groups across all districts. In only four focus groups did interviewees say they did not have backyard gardens. Three focus groups in Mchinji said only 2/15, 9/15, and 10/15 of the participants had backyard gardens.[263] And one focus group in Machinga said only 4/16 had backyard gardens.[264] In addition to field crops grown for income, farmers have traditionally grown a range of vegetables for personal consumption. Nutrition interviewees

[261] INVC Annual Workplan FY2014—Final, 2013.
[262] INVC First Quarterly Report FY2015, 2015.
[263] Interview #5F-2-09-04-1030, Interview #5F-2-10-04-915, Interview #5M-2-09-04-1530.
[264] Interview #5M-5-23-04-845.

told a different story. NPs in Mchinji stated all the households they worked with had a backyard garden, and those in Lilongwe estimated that as many as 70 percent of the households they worked with had a backyard garden.

Backyard gardens for diversification. Farmers across all districts confirmed that, when they have enough time and seeds, they rely on backyard gardens to diversify their diets in addition to what they grow in their fields. Farmers in only one village of six in Lilongwe reported that Nkhoma did not train them in backyard gardening. On average, 85 percent of Lead Mothers and 59 percent of nutrition Direct Beneficiaries reported having a backyard garden.

Farmers Club members in Lilongwe reported growing cabbage, maize, tomatoes, Irish potatoes, beans, Chinese cabbage, mustard, rape, cassava, and pumpkin. To this list, farmers in Mchinji added potatoes, sweet potatoes, sugar cane, and onions. Balaka farmers also mentioned growing okra and eggplant.[265] Farmers requested information about growing other vegetables and assistance to procure high-quality seeds for their gardens.[266]

Conclusions

NPs and Lead Mothers have especially benefitted from being trained about backyard gardens, citing this as the most important nutrition intervention they have received. They would benefit from access to improved agricultural inputs.

Prior to INVC promoting backyard gardens, most farmers traditionally had gardens in which they grow (depending on time and resources) a wide variety of local vegetables that improve dietary diversity. However, many farmers who have backyard gardens do not yield many vegetables because they lack access to agricultural inputs, especially improved seed varieties. All farmers are eager to learn more about what they can grow and need assistance to obtain quality seeds.

While INVC specifically encourages the growing of black jack, Catwhiskers, local rape, Amaranthus, and pumpkin, only Amaranthus and pumpkin seeds have been distributed to CCGs.

Recommendations

Scale up support for backyard gardens. The Consortium should continue to work closely with its sub-partners, who in turn should work with agricultural extension agents to coordinate more closely to promote and support backyard gardens. INVC should understand that many farmers have gardens but are interested in receiving additional support to help to procure seeds and learn about nutrient-dense crops that they do not grow.

Input procurement assistance. AEDOs and AFOs should help communities procure agricultural inputs such as improved seeds and fertilizer and link farmers to reliable agro-input dealers. They should assist farmers to multiply seeds on their own and encourage community seed sharing.

Support homestead food production. The Consortium should consider supporting a more comprehensive homestead food production model, an integrated approach to farming with year-round production of

[265] Interview #5F-2-09-04-1430; Interview #5F-1-11-04-1215; Interview #5M-2-09-04-1530; Interview #5F-4-21-04-1245.
[266] Interview #5M-1-02-04-1100.

nutrient-dense, micronutrient-rich fruits and vegetables and small animal husbandry. This is especially important to help diversify home consumption of food because beneficiaries reported that they lacked access to fruits and animal-source foods, especially meat, eggs, and milk. This approach would diversify food production and address seasonal food insecurity during the "lean season," creating more resilience to climatic shocks that cause unpredictable crop yields and providing income from small animals and improving nutrition with animal-source foods.

Increase access to information about diversifying diets. The "Legume-Based Recipe Book," developed in November 2014, should be updated to include recipes with nutrient-dense vegetables. This cookbook needs to be simplified, translated into Chichewa, and include user-friendly illustrations for an illiterate audience. Also, training in food processing should be supplemented by project-supported cooking demonstrations and tasting sessions (e.g., cooking materials and food for the demonstrations).

Support better coordination between AFOs and CCGs. With assistance from AFOs, CCGs can be centers of agricultural extension advice. CCG members can learn about a range of nutrient-dense crops to grow in backyard gardens. More emphasis should be placed on encouraging farmers to grow black jack and Catwhiskers, high-priority crops that farmers interviewed did not have in their backyard gardens.

Food Preparation and Processing

INVC promotes food preparation and processing to increase farmers' access to diverse, high-quality foods. Food preparation and processing are broadly defined as "any change that is made to a food to alter its eating quality or shelf life."[267] More specifically, food preparation is when meals are prepared to feed families, and food processing is when there is a change from the basic raw materials into edible food products that provide variety to diets. According to the Food and Agriculture Organization of the United Nations, without processing, as much as 50 to 60 percent of fresh food can be lost between harvest and consumption.[268] INVC supports food processing to improve food quality and storage life in several ways.[269]

In its Annual Workplan for FY2014, INVC planned to conduct community- and household-level food preparation and processing activities, with Nkhoma training CCGs how to process, store, and utilize different ingredients into nutritious foods and targeting mothers/caregivers of children 6-24 months old and pregnant women. The program included cooking demonstrations based on recipe guides developed by INVC that incorporated legumes in infant and young child feeding formulations. Its focus was on processing foods farmers were already growing, such as soy into milk or corn-soy blend for home consumption. In its FY2015 First Quarterly Report, INVC confirmed NPs held 240 food processing, utilization, and preservation sessions, with each NP conducting at least two food processing sessions. In addition, three new District Nutrition Coordinators and nine NAs were trained in "Training of Trainers in Food Preparation and Utilization" by the Lilongwe University of Agriculture and Natural Resources' Department of Food Science and Technology in the last quarter of 2014.[270]

[267] Food and Agriculture Organization of the United Nations Food Preparation & Processing, 2015.
[268] *Ibid*.
[269] INVC Annual Workplan FY2014—Final, 2013
[270] INVC Annual Workplan FY2014—Final, 2013; INVC First Quarterly Report FY2015, 2015.

Findings

At the district and EPA/village levels in Lilongwe and Mchinji, District Nutrition Coordinators, NAs, and NPs confirmed they had been trained in food processing. However, most said they had been unable to share this training with beneficiaries due to a lack of financial resources and inputs to promote food processing practices. CCG members in Lilongwe who did receive training complained that they had learned only theory and were not given a practical cooking demonstration.

In five of the seven districts, Farmers Club members reported receiving some training in food preparation and processing, and said they were applying what they learned. In the two districts where there was no training, Dedza and Ntcheu, there was no nutrition mandate; nonetheless, farmers reported incorporating groundnuts and soybeans as ingredients in their foods and making groundnut porridge and soy milk. In other districts, most NASFAM-supported farmers learned how to make roasted peanuts, peanut powder, peanut butter, soy milk, soy porridge, soy meat, and soy cakes, and how to dry vegetables at home. Farmers from one NASFAM-supported village in Balaka who received training early on indicated they were eager to learn more.

FUM-supported farmers presented a mixed picture across villages. Some had been trained; some had not. Those who had not been trained were processing legumes anyway, using family recipes.[271]

Farmers in Machinga reported cultivating groundnuts and soybeans for the first time this year. Others reported that, due to poor weather conditions, most of their crop was damaged, so opportunities to process food were limited.[272]

Conclusions

The importance of household food preparation/processing. Household food preparation and processing is important for improving food quality and shelf life, and for preserving nutrients and dietary diversification. With Lilongwe University of Agriculture and Natural Resources, Nkhoma has trained District Nutrition Officers, NAs, and NPs; however, these trainees lack resources to share their knowledge with beneficiaries, and only limited demonstrations were reported as being implemented. Of the agriculture sub-partners, NASFAM is performing the best, followed by FUM. Many villagers learned a variety of ways to prepare and process groundnuts and soybeans, but not all learned with the benefit of a practical cooking demonstration. Farmers in Balaka have not grown a crop yet, nor a crop sufficient, to process. Farmers are eager to learn more about food preparation and processing, adding to what they already know, and building on family recipes.

Recommendations

More training. INVC should support District Nutrition Coordinators, NAs, and NPs with the resources to cascade food processing training to Lead Mothers and Direct Beneficiaries to meet the demand for teaching food preparation and processing classes at the village level. Trainers need to have sufficient funds to train via practical demonstrations and tasting sessions.

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[271] Interview #5M-1-02-04-1100; Interview # 5F-3-18-04-1245; Interview #5M-1-11-04-1100; Interview #5F-1-11-04-1215; Interview #5-4-21-04-1100; Interview #5F-1-11-04-1100.

[272] (Interview #5F-5-23-04-1230; Interview #5M-5-23-04-1400).

Training activities should be conducted in collaboration with community-wide cooking demonstrations that feature locally available, nutrient-dense foods, and emphasize complementary foods for children under 5 and balanced food for the entire household. This way, villagers can learn by watching how legumes can be prepared/processed in the household to diversify their diets.

The Consortium should consider funding CADECOM to provide food preparation/processing training in Dedza.

Crosscutting: Gender Equity and Women's Empowerment

Early in 2014, INVC commissioned a Gender Assessment to sharpen the focus of the project on gender equality and women's empowerment in all aspects of nutrition and agriculture programming. This was to promote, support, and facilitate gender-equitable approaches. Targeting women and addressing gender equity issues contributes to women's empowerment by increasing women's access to—and control over—income and enhances their role in decision-making related to household expenditures in communities and society as a whole.[273]

Findings

Starting in FY2014, INVC began to segregate its data by sex. This revealed that the number of individuals who received U.S. Government-supported short-term agricultural sector productivity or food security training had a 1:18 female-to-male ratio. The number of children under 5 reached by INVC nutrition programs via the CCG Model had a 1.08:1 girl-to-boy ratio. The number of children under 5 reached by INVC nutrition programs such as Child Health Days had a 1.04:1 girl-to-boy ratio. The number of people trained in child health and nutrition had a 9.65:1 female-to-male ratio. As for the number of hectares under improved technologies or management practices, the female-to-male ratio was 1.44:1.

As discussed in the "Innovators and Early Adopters" section, the Evaluation Team found women involved with INVC have been innovators and early adopters of new farming technologies and practices. Furthermore, they have traditionally grown subsistence crops like groundnuts and soybeans, which are often referred to as "women's crops." In Malawian culture, women have a favorable attitude to trying something new, are willing to wait to see the benefits, and will share any derived income with the household.

The Evaluation Team did not find any differences between men and women as a result of patrilineal and matrilineal systems in Malawi.

Conclusions

Gender equality and women's empowerment are crosscutting factors for INVC in the linkage between agriculture and nutrition. The project has only recently begun to capture this with field data.

[273] The Micronutrient Impact of Multisectoral Programs Focusing on Nutrition: Examples from Conditional Cash Transfer, Microcredit with Education, and Agricultural Programs. Jef L. Leroy, Marie Ruel, Ellen Verhofstadt, Deanna Olney., International Food Policy Research Institute (IFPRI). 2008. Available at: *http://micronutrientforum.org/innocenti/Leroy-et-al-MNF-Indirect-Selected-Review_FINAL.PDF.*

INVC has emphasized working with women in agriculture and nutrition. In addition to promoting positive nutrition behaviors and practices, it has supported women in the cultivation of groundnut and soybeans to assist with feeding their families and increasing household income. In fact, women have been innovators and early adopters of INVC-promoted new technologies and practices.

Recommendations

The Consortium should continue to aggregate and record its data to assess the project's efforts to promote gender equity and women's empowerment and make adjustments when necessary. Examining gender equity within the Farmers Clubs and CCGs should be monitored.

Research has found that agricultural interventions associated with improvements in household dietary intake and nutritional status had one of two key characteristics: either women played a critical role in the intervention or the interventions included a nutrition education and behavior change component.[274] Greater control by women at all stages of the agriculture nutrition pathway will reflect their preferences and priorities more and potentially lead to their greater control of income to improve household food security and nutrition outcomes.[275, 276]

The Consortium should continue to empower women through targeted agricultural interventions, especially ones that focus on "women's crops" but also other legumes and small-scale horticulture via backyard gardens.[277] In fact, all INVC agriculture interventions should incorporate gender equity and women's empowerment.[278, 279]

Employment through agriculture increases women's ability to influence household decisions and resource allocations relating to food, health, and care, contributing to improved nutritional status for the household.[280, 281, 282] The empowerment of women elevates their status and control over income and household resources, which directly improves household and children's health and nutrition outcomes.

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[274] Can Interventions to Promote Animal Production Ameliorate Undernutrition? American Society for Nutrition. The Journal for Nutrition. Leroy and Frongillo. 2007. Available at: *http://jn.nutrition.org/content/137/10/2311.abstract.*

[275] From Nutrition Plus to Nutrition Driven: How to Realize the Elusive Potential of Agriculture for Nutrition? International Food Policy Research Institute IP. Nevin Scrimshaw International Nutrition Foundation. Lawrence Haddad. April 2013. Available at: *http://www.ingentaconnect.com/content/nsinf/fnb/2013/00000034/00000001/art00005.*

[276] From Agriculture to Nutrition: Pathways, Synergies, and Outcomes. The International Bank for Reconstruction and Development / The World Bank. Agriculture and Rural Development Department. 2007. Available at: *http://siteresources.worldbank.org/INTARD/825826-1111134598204/21608903/January2008Final.pdf.*

[277] Improving Nutrition Through Multisectoral Approaches Agriculture and Rural Development. International Bank for Reconstruction and Development/ International Development Association or The World Bank. January 2013. Accessed at: *http://search.yahoo.com/r/_ylt=A0oG7lZL2ndRfTcAettXNyoA;_ylu=X3oDMTE1OWVyNmoyBHNlYwNzcgRwb3MDMwRjb2xvA2FjMgR2dGlkA01TWTAwNV8xMTk-/SIG=14q1pi4i9/EXP=1366837963/**http%3a//www.securenutritionplatform.org/Documents/Improving%2520Nutrition%2520through%2520Multisectoral%2520Approaches_full%2520doc.pdf.*

[278] Can Interventions to Promote Animal Production Ameliorate Undernutrition? American Society for Nutrition. The Journal for Nutrition. Leroy and Frongillo. 2007. Available at: *http://jn.nutrition.org/content/137/10/2311.abstract.*

[279] The Importance of Gender in Linking Agriculture to Sustained Nutritional Outcomes Agriculture and Nutrition Global Learning and Evidence Exchange (AgN-GLEE) Bangkok, Thailand. Hazel Malapit and Shakuntala Haraksingh Thilsted. March 20, 2013.

[280] GAIN IDS Discussion Paper: Nutritious Agriculture by Design: A Tool for Program Planning. Spencer Henson, John Humphrey, Bonnie McClafferty. April 2013. Accessed at: http://www.ids.ac.uk/files/dmfile/GAIN-IDSDiscussionPaper.pdf

[281] Impact Pathways from Agricultural Research to Improved Nutrition and Health: A Literature Analysis and Recommendations for Research Priorities, Potential CGIAR Research Priorities. Patrick Webb. 2013.

[282] From Agriculture to Nutrition: Pathways and Principles. Feed the Future. Nutrition Global Learning and Evidence Exchange (N-GLEE) Jody Harris, Anna Herforth, Washington, February 2013. Adapted from: Stuart Gillespie, Jody Harris, and

Stakeholders at all levels should adhere to the "do not harm" rule. (See Table 12 below.) When empowering women, it is important to remember to do not harm and consider the trade-offs between their respective roles as caregivers and their time and labor constrains. The Consortium should ensure that women are represented in all elements of project activities, including project design at the community level, but sub-partners need to ensure that CCGs are designed with sufficient flexibility to ensure they do not add a large work burden to women.

Equally, it is important to remember not to disempower men, because disempowerment can lead to gender imbalances and harm (e.g., increases in gender-based violence).

Table 12. Mainstreaming Gender Equity: Do No Harm

When mainstreaming gender equity and women's empowerment into nutrition-sensitive agriculture interventions/programs, it is important that they do not unintentionally harm nutrition or women.[283] For example, women's increased workload can harm food production for the household, because women are often responsible for producing homestead gardens or other agricultural products for own-household consumption.[284] Gender-based violence can also be an unintended consequence of women's empowerment activities. Women's time demands and excessive workload and energy expenditure can limit their opportunities for earning income through agriculture.

Source: Improving Nutrition Through Multisectoral Approaches. Agriculture and Rural Development. The World Bank. 2013.

Suneetha Kadiyala, 2012. Available at: *http://www.spring-nutrition.org/sites/default/files/1.6%20GLEE%20presentation_pathways%20and%20principle_harris.pdf.*

[283] Improving Nutrition Through Multisectoral Approaches. Agriculture and Rural Development. The World Bank. 2013.

[284] FANTA.

ANNEX 1. PROGRAM DESIGN, MANAGEMENT, AND OPERATIONAL DECISION-MAKING

In addition to the results of the six performance evaluation questions, there were several program design, management, and operational decision-making issues that affected the quality of INVC implementation and the achievement of overall results and impact. In alignment with USAID's performance evaluation definition (see below), we will briefly discuss some of the main findings collected from stakeholders at different levels.

Definition of Performance Evaluation

> Focuses on descriptive and normative questions: **what a particular project or program has achieved** (either at an intermediate point in execution or at the conclusion of an implementation period); **how it is being implemented**; how it is perceived and valued; whether **expected results** are occurring; and other questions that are pertinent to **program design, management, and operational decision-making.** Performance evaluations often incorporate before-after comparisons, but generally lack a rigorously defined counterfactual.

Source: Checklist for Reviewing Scopes of Work for Performance Evaluations. Available at: http://pdf.usaid.gov/pdf_docs/pnadu534.pdf.

PROGRAM DESIGN: PARTNERSHIP STRUCTURE

The design of the partnership structure and the active engagement of partners and stakeholders, including the partner country government, local civil society, local government authorities, and other U.S. Government agencies, is an essential component of the USAID program design process. Initial INVC design underestimated the time needed to manage a sub-grants management process, the goal of which was to work with local NGOs to implement so they would become USAID direct prime partner grantees.[285] In 2012, local nutrition and agriculture expert organizations were asked to submit a one- to three-page concept paper to verify the suitability of their proposal/business idea in meeting fund objectives. These papers were to be prepared before submitting a full application or a full proposal.[286]

The initial project period was from April 2012 to April 24, 2015. However, the selection process was delayed because it took eight months for Nkhoma to submit a full proposal. Sub-agreements for the nutrition activities were awarded in May 2013. Therefore, startup and implementation of program activities did not begin until June 2013. Between June-September 2013, Nkhoma worked alongside NASFAM and FUM to sensitize the GACs regarding the CCG nutrition intervention and solicit nominations for Nutrition Promoters. CCG did not actually start until the end of 2013.

Recommendation. Vet local sub-partners. It may have been beneficial to vet the potential local sub-partners with the submission of the original proposal. A stakeholder analysis with clearly defined roles and clear mechanisms to evaluate progress to help determine which local NGOs should be included in the project could have avoided delays. This initial consultation process would be helpful to identify local NGOs that could compete for USAID-direct awards (e.g., contracts, grants, or cooperative agreements).

[285] Key Informant Interview, April 12, 2015; 3-5PM with Martin Tembo, Nutrition Specialist from November 6, 2012-September 1, 2014.

[286] See: Call for Proposals on Innovative Approaches to Integrating Nutrition Through Improved Value Chain Performance.

Project Design Sustainability

INVC was designed to build demonstrable local demand and ownership through direct implementation by local sub-partners. In addition its community-based mobilization design through FCs and CCGs, the project encourages a broad segment of the community to have a stake in the project activities. However, the CCG activities as designed might not be sustainable after the closeout because the project does not use existing community structures as Care Groups do in other countries. Furthermore, a number of incentives may not be sustainable, including the planned Nutrition Promoter monthly stipend and the existing package for Nutrition Promoters that includes bicycles, *chitenge*s, T-shirts, hardcover notebooks, and stipends at certain events.

Expanding from the question on LCD, the project design has not enabled the sub-partners to graduate to prime partners. Inadequate capacity development and planning has not allowed this transition, which will be critical for maintaining development gains after the project ends.

Lack of Collaboration with Local Government Authorities: The INVC design for implementation of nutrition activities does not involve the district authorities to help to analyze, implement, and evaluate activities and strengthen the enabling environment. INVC nutrition staff does not attend national or district-level nutrition coordination meetings. Furthermore, leverage of the extensive national "1,000 Special Days" stunting reduction campaign BCC package and materials that were developed by the National SUN task force has been limited. Village-level Health Surveillance Assistants are not consistently involved, with most of the collaboration involving Nutrition Promoters assisting HSA during community growth monitoring sessions and, sometimes, Child Health Days. The HSA have mentioned that they will not have budgets to support the stipend for Nutrition Promoters in this year's biannual Child Health Days. This lack of local government engagement (e.g., publicly managed arrangements and government processes and questions) prevents sustainability after funding ends.

Recommendation. The project should coordinate more closely with local government authorities to improve the enabling environment and increase longer-term sustainability. For nutrition activities, INVC should align with the Malawi Scaling up Nutrition (SUN) structures and participate in its national meetings, including sending a representative to the National Nutrition Committee and participation in the National TWG. Furthermore, the District Nutrition Coordinators and Nutrition Technical Advisors should be liaising and planning activities with the District Nutrition Coordinating Committee (DNCC), including the District Nutrition Officers (DNO), DEHOs, Food and Nutrition Officer (FNO), and the Maternal and Child Health Nutrition Coordinator (MCHN).

INVC should integrate the Malawi 1,000 Special Days stunting reduction campaign education, communication, and advocacy materials into its project design and make sure that project activities are aligned with national nutrition policies and plans, including the National Nutrition Policy and Strategic Plan 2013 and the 1,000 Special Days National Nutrition Education and Communication Strategy (NECS) 2012 to 2017.

Malawi 1,000 Special Days Stunting Reduction Campaign



Source: SUN National Nutrition Education & Communication Strategy

PROGRAM DESIGN: AGRICULTURE-NUTRITION INTEGRATION

INVC does a good job at leveraging the extensive platform for Farmers Clubs to engage PLW and mothers of children under 5 in CCGs, which are often started within FC. However, CCG activities are implemented vertically to the Farmers Clubs. In addition, many stakeholders recognized that INVC's targeted stakeholders are different for FC (i.e., "farmers with assets") than CCG's (i.e., vulnerable PLW and mothers of children under 3/5), making it difficult to integrate ag-nutrition activities for populations that need different levels of support. For example, vulnerable women targeted in CCG are often subsistence farmers who experience hunger during the lean season and need basic subsistence support such as social transfers (e.g., food and cash transfers[287, 288]), while smallholder farmers with assets who have basic access to land need improved technologies and training to increase their yields.

There is a missed opportunity to improve nutrition from value chain agricultural production to consumption. Most of the CCG counseling cards focus on promoting health-specific nutrition behaviors and practices such as breastfeeding and ANC attendance rather than address nutrition-sensitive agricultural behaviors that could target PLW as well as farmers with assets, such as improved agricultural inputs, time- and labor-saving technologies, and intercropping.

Promote Gender Equality and Female Empowerment: Project effectiveness depends upon targeting approaches to the needs, roles, and constraints of men and women of all ages in project design, implementation, and evaluation. On track, INVC has completed a gender analysis assessment—a

[287] Transforming Cash Transfers: Beneficiary and Community Perspectives on Social Protection Programming. Overseas Development Institute. December 2012. Available from: *http://transformingcashtransfers.org.*

[288] These interventions are also sometimes referred to as social transfers, "predictable transfers to households or individuals, both in-kind and cash, including public works programs." They can be conditional or unconditional, depending on whether recipients are required to engage in specific behaviors as a condition for access.

mandatory component of the strategic and design planning processes—and has conducted project monitoring and evaluation. The assessment should be used to eliminate gaps between the status of males and females, and reflect the different roles, responsibilities, and expertise of women and men.

MANAGEMENT: LEADERSHIP & STEWARDSHIP

In an organizational context, stewardship refers to management's responsibility to properly utilize and develop its resources, including its people, property, financial assets, and delivery of services. In a number of key informant interviews, staff and non-staff at all levels discussed the difficulty with the management style of the former chief of party. Challenges reported with chief of party's leadership included failure to build and maintain effective work teams and follow-up delegations to staff; failure to communicate early and effectively with staff, clients, funding, and other stakeholders; conflict with use of rational approaches in making decisions that affected INVC staff and sub-partner organizations; and an inability to make staff feel welcome to effectively plan and run meetings. These challenges led to an inability to use appropriate leadership styles to ensure optimum staff productivity, resulting in staff de-motivation and attrition, and failure to resolve interpersonal and organizational conflicts.

Recommendations. The chief of party and top management staff must lead the project from the outset of the design process, and all relevant staff must be involved in decision-making. The designated project design team must be enabled to oversee the analysis, conceptualization, and detailed design aspects of the project. Collaboration, consultations, and peer reviews with experts should be used, but the chief of party and management staff must assume a leading role to create an organizational enabling environment. A system of checks and balances with proper feedback mechanisms may prevent poor leadership from affecting the quality of program implementation.

Sub-Partner Conflict

There was "major friction between the last [chief of party] and SC in general. There was reportedly a communication disconnect at multiple levels. SC expected to receive short-term technical assistance as part of their sub-partner package, but the chief of party did not approve this assistance. There were reportedly very sensitive meetings between the chief of party, other staff, and SC staff. One person said, "People at SC felt disrespected." The former chief of party would reportedly represent INVC without involving SC. In the original agreement, SC was supposed to provide the deputy chief of party, the nutrition technical specialist, the local capacity development advisor, and local nutrition short-term technical assistance. However, there was disagreement about staffing and approvals. As a result, SC informed the Consortium on March 31, 2015, that it would not continue with INVC during the extension.

Sub-Partner Disagreement about Expansion Districts

Stakeholders reported misunderstandings and ongoing dispute throughout implementation concerning INVC expansion into the "surge" districts of Balaka, Machinga, and Mangochi. USAID/Malawi asked INVC to expand to three more districts, working through INVC as direct implementers. The chief of party reportedly did not consult Save the Children, the designated technical assistance partner for nutrition, during decision-making and implementation of expansion into these districts, creating more tension. DAI decided to directly implement the nutrition activities without consulting SC or other

nutrition stakeholders.[289] SC "felt uncomfortable," because it was a major decision for which it was not consulted. This lack of communication caused a lot of conflict and weakened partner relationships. Furthermore, INVC was using the same nutrition staff for the expansion that it was using for Lilongwe and Mchinji, causing the quality of implementation to suffer in those two districts.

Nutrition Activities Implementation Gap

The planning of an impact evaluation by the Feed the Future FEEDBACK project through implementing partner University of North Carolina, Chapel Hill, in collaboration with local partner Lilongwe University of Agriculture and Natural Resources (LUANAR), created a gap in nutrition activities. The group conducting this impact evaluation, which included USAID, requested that nutrition activities in Nkhoma cease, primarily affecting CCGs that had been started in approximately 62 communities from October 2013 to January/March/May 2014, so that the impact evaluation design could conduct a randomization and select control groups. Many project stakeholders viewed this cessation of activities as unethical, because communities were asked to stop activities.

MANAGEMENT: FINANCIAL MANAGEMENT

Weak financial management, including delayed submission of nutrition budget projections, and poor pipeline planning resulting in delayed allocation of funding for implementation has caused delays and, in some cases, gaps in project activities.

A number of difficulties have been reported with financial management at Nkhoma, including issues with timely financial management, lack of internal financial controls, late submission of budgets, and delays in reporting and disbursements. Although DAI requested Nkhoma to employ an accountant, one was not hired. In August 2014, INVC employed a short-term business process advisor to work on improving Nkhoma's business processes. The initial term of employment was six months, but that was extended to nine months. The advisor was still working with Nkhoma as of April 2015.

Recommendations. Recommendations include planning the summary and detailed budget ahead of time using the project Results Framework to account for results and activities related to project outcomes. Ideally, the budget should be presented by input and outcome (output or purpose-level achievement). Each sub-partner should budget for all contributions (fund sources), and project costs should be included by year.

Pipeline management—the amount of funds obligated but not yet spent—should be improved. To monitor how much money sub-partners are spending under the award, INVC should provide technical assistance to track the pipeline and the rate at which they are spending their obligation (i.e., the "burn rate"). This would require quarterly analysis of sub-partners' commitments, known as the "obligated amount." (This is different from the "award amount," which is the total expected to be obligated over the life of the grant.) If partners are aware of their pipeline and given initial guidance to budget, they will be able to more accurately manage all their funds. It will be particularly important to pay more attention to sub-partner burn rates. More detailed financial plans could include USAID funding requirements by

[289] Site interviews with Key Informant Interview, April 12, 2015; 3-5PM with Martin Tembo, Nutrition Specialist from November 6, 2012-September 1, 2014. Catherine Mkangama, Ben, Robert.

fiscal year and account for the life of the project, illustrating the link to the project Results Framework, and outlining any other pertinent directives.

MANAGEMENT: HUMAN RESOURCES and STAFF ATTRITION

There have been challenges related to human resources throughout implementation, including high attrition rates, low levels of motivation, skill imbalances, poor management, and lack of technical and management staff in relation to project objectives and implementation.

The main factors identified that cause lack of motivation for nutrition staff (i.e., District Nutrition Coordinators and Nutrition Assistants) were lack of resources to complete roles and responsibilities and conduct field work (e.g., fuel, motorbikes, and protective helmets); lack of essential office equipment (e.g., computers to complete reports and everyday tasks); lack of a competitive pay scale within salaries; lack of communication and feedback mechanisms; lack of inter-professional exchange; and lack of positive supervision. Staff attrition has disrupted activities ranging from general project management and timely allocation of budgets to nutrition CG site supervision.

There was a lack of motivation across the different levels of the CCG. The project did not get the level of collaboration from Health Surveillance Assistants it expected, because they were not involved in training or project implementation. Incentives at all levels are lacking for nutrition activities, affecting the quality of implementation.

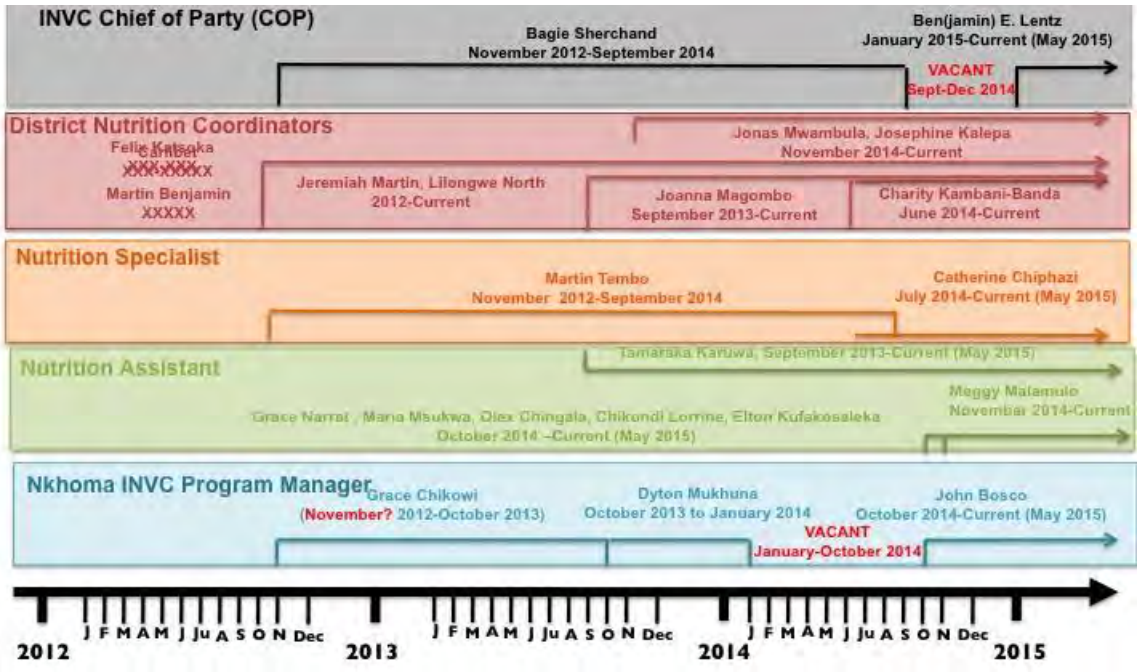
Nkhoma Staff Attrition

At first, Nkhoma had only a nutritionist. Project Manager Grace (2012-September 2013) resigned because the other CCGs were paid and in this project they weren't resigned.—M & E Officer, and later on recruited the District Nutrition Coordinators.[290]

Recommendation. It would be beneficial to implement approaches to improve morale and motivation, including evidence-based performance measures. It may also be beneficial to implement an incentive and disincentive program through which personnel are rewarded for exemplary performance and sanctioned or helped to improve for non-performance.

[290] Key Informant Interview, April 12, 2015; 3-5PM with Martin Tembo, Nutrition Specialist from November 6, 2012-September 1, 2014.

Staff Attrition



Supervision and Feedback

Nutrition staff from Nkhoma have reported that there is not a feedback loop for project planning and implementation. Nutrition Promoters have reported little or no on-site supervision from District Nutrition Coordinators and Nutrition Assistants. External supervision is irregular.

Recommendations. Recommendations include regular, documented, scheduled feedback noting strengths and weaknesses and emphasizing positive, supportive supervision. There must be a stronger system of supportive supervision cascading from the District Nutrition Coordinators to the Nutrition Assistants to the Nutrition Promoters and the CGV Lead Mothers. The District Nutrition Coordinators, Nutrition Assistants, and Nutrition Promoters will need specific guidance and/or training on supportive supervision, facilitated by job aids such as site supervision checklists and protocols, such as UNICEF's tool for Supportive Supervision/Mentoring and Monitoring for Community IYCF. Contingent on their greater involvement and participation, HSAs could be involved in the supportive supervision cascade to assume a stronger role in supporting the promoters and CGVs. The cascade needs to be documented and reviewed regularly at staff meetings, allowing staff to report on challenges and successes.

MANAGEMENT: COMMUNICATIONS and OPERATIONAL DECISION-MAKING

Communication

Though a feedback loop was encouraged, stakeholders on all levels reported a lack of communication and open, routine meetings. The local sub-partners reported that they did not feel like the chief of party heard or openly received their ideas. Lower-level implementation staff (e.g., District Nutrition Coordinators and Nutrition Assistants) also reported that they were not actively involved in work-

planning and program design. When they were approached for feedback, they were often never consulted about why decisions were made or what final management outcomes were decided upon.

Recommendations. It is important to establish mechanisms to equally acknowledge the views, interests, perceptions, and positions of all staff and stakeholders.

Decision-Making and Project Planning

Stakeholders at different levels reported a lack of coordinated planning and decision-making. This included difficulties in determining resources needed, whether these resources were readily available, and sources of additional support, if needed, when planning activities in workplans.

Recommendation: Improve work-planning and budgeting: There needs to be more advance budget planning and support for workplan development. It has been reported that guidance for workplan development was often limited—and then activities were cut with little explanation. Proactive, participatory work-planning and budgeting can improve implementation, including sufficient budget for transport, critical safety equipment (e.g., helmets for motorcycles), and ample funding for active supervision that cascades down (e.g., District Nutrition Coordinators supervising Nutrition Assistants, who in turn supervise Nutrition Promoters). It may be beneficial to review similar projects and experiences in comparable situations to help plan implementation. For example, CCGs have been very successful in Mozambique, and there is a large scale Ag-nutrition project in Zambia.[291, 292]

[291] Reducing Child Global Undernutrition at Scale in Sofala Province, Mozambique, using Care Group Volunteers to communicate health messages to mothers, Thomas P Davis, Jr, Carolyn Wetzel, Emma Hernandez Avilan, Cecilia de Mendoza Lopes, Rachel P Chase, Peter J Winch, Henry B Perry.

[292] Realigning Agriculture to Improve Nutrition (RAIN) project is a five-year (2011-2015) project to reduce the prevalence of stunting though integrated agriculture, nutrition and health interventions.

ANNEX 2. QUANTITATIVE ASSESSMENT BASED ON THE PITT (2015)

SUMMARY

Below are the six main questions of this Performance Evaluation and their corresponding performance summaries based on the most recent Performance Indicator Tracking Table (PITT).

1. Which elements and/or approaches of INVC's integrated model have been most successful in leading to adoption of both the promoted agriculture and nutrition behaviors and practices by beneficiaries?

PE Summary: INVC outperformed its targets in agriculture such as the use of INVC promoted technologies and practices, and the number of hectares under improved management. In nutrition and health, training was 8.6% of its target in FY13 due to a late start but it was four times above the target level in FY14; the number of children receiving support was nine times the target level in FY13 and it was 70.4% of its target in FY14.

2. Which of the INVC´s promoted nutrition behaviors and practices have been most widely adopted by beneficiaries and why? What are the main barriers to effective adoption of the promoted nutrition behaviors?

PE Summary: Four outcome indicators (stunting, Minimal Acceptable Diet (MAD), women's dietary diversity, and exclusive breast feeding) did not have results as outcome indicators take longer to be observed, preventing assessment of performance. Training in health and nutrition was 8.6% of its target in FY13 due to a late start but it was four times above the target level in FY14. The number of children receiving support was nine times the target level in FY13 and it was 70.4% of its target in FY14.

3. Which of the collective marketing approaches promoted by INVC has been the most effective in linking beneficiaries to markets?

PE Summary: Number of private enterprises, women's groups, trade and business associations and community-based organizations (CBOs) benefited 15% above targets in FY13 and FY14. The number of private enterprises and CBOs receiving assistance; and individuals receiving short-term agricultural assistance or food security were above target levels (in the range of 3% to 23%). The value of incremental sales for groundnuts and soybeans were above the target for FY13, no target exists for FY14, and it was 5 times larger than the target set for FY15. There were no exports in FY13, but in FY14 exports more than doubled its target. Values of private sector investments or food chain leveraged by Feed the Future were 40% and 194% above their targets in FY13 and FY14, respectively.

4. To what extent have the beneficiaries adopted INVC´s promoted agricultural production technologies and practices?

PE Summary: The project performed above target levels in terms of farmers adopting technologies and practices in FY13 and FY14; in terms of the number of hectares under improved management it more than doubled its annual targets.

5. To what extent has the productivity of soy and groundnut increased for beneficiaries as a result of adoption of the promoted agricultural production technologies and practices?

PE Summary: Gross margins of both groundnuts and soybeans in FY13 and FY14 were well above target levels except soybeans in the second year (11% below target) due to unfavorable weather conditions. The number of private enterprises applying new technologies and management practices was three times above target levels in the FY13 and FY14. Farmers using new technologies; the number of private enterprises and CBOs receiving assistance; individuals receiving short-term agriculture or food security have been above target levels (ranging from 3% to 23%). Yields of groundnuts and soybeans in FY14 were 8% and 11% below the baseline levels, respectively. Value of agricultural loans exceeded by 28 and 21 times the targets for FY13 and FY14, respectively. The value of private sector investment exceeded its target by 40% in FY13 and by 194% in FY14.

6. To what extent have INVC´s LCD efforts strengthened the organizational capacity and performance/service delivery of local sub-partners?

PE Summary: OCA scores in FY13 and FY14 were 24% and 13% above targets, respectively. The number of private enterprises applying new technologies and management practices was three times above target levels in FY13 and FY14. The number of private enterprises and CBOs receiving assistance; and individuals receiving short-term agriculture assistance or food security has been above target levels (3% to 23%). Training in health and nutrition was 8.6% of its target in FY13 due to a late start but it was four times above the target level in FY14. The number of children receiving support was nine times the target level in FY13 and it was 70.4% of its target in FY14.

Gender Equity

Starting in FY14 some data was segregated by sex. The number of individuals who have received USG-supported short-term agricultural sector productivity or food security training has a 1.18 female to male ratio. The number of children under five reached by INVC nutrition programs (Care Group Model) had a 1.08 girl to boy ratio. The number of children under five reached by INVC nutrition programs (Child Health Days), had a 1.04 girl to boy ratio. The number of people trained in child health and nutrition had a 9.65 female to male ratio. With the regards to the number of hectares under improved technologies or management practices, the female to male ratio was 1.44.

INVC Performance

This section presents a narrative of the performance of indicators related to the PE questions. While it is acknowledged that the indicators may not directly contribute to respond the evaluation questions they provide contextual and measurable scenarios for the questions. The Performance Indicator Tracking Table is presented at the end of the performance summary for question No. 6

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Question / PE Summary	Indicator No., assessment for FY13 and FY14
Q1. Which elements and/or approaches of INVC's integrated model have been most successful in leading to adoption of both the promoted agriculture and nutrition behaviors and practices by beneficiaries? PE Summary: INVC outperformed its targets in agriculture. In nutrition and health, training was 8.6% of its target in FY13 due to a late start but it was four times above the target level in FY14; the number of children receiving support was nine times the target level in FY13 and it was 70.4% of its target in FY14.	6. Number of farmers and producers who have applied new technologies or management practices as a result of INVC assistance. In FY13 and FY14 the project reached respectively 22,797 and 135,114 beneficiaries, 8.5% and 20.6% above the targets. Target levels for FY15 and FY16 were set to 140,000 and 150,000, respectively. 9. Number of hectares under improved technologies or management practices as a result of INVC assistance (for soybeans and groundnuts). In FY13 and FY14 the total number of hectares under improved technology or management practices, 18,714 and 42,426, respectively, was more than twice their targets. 20. Number of people trained in child health and nutrition through INVC supported health-area programs. In FY13 the project activities started late and trained 1,409 people or 8.6% of its target but in FY14 it trained 201,692 people or more than four times its target. 21. Number of children under five reached by INVC-supported nutrition programs. The project reached 147,272 children in FY13, 47.3% above target and 112,560 children in FY14, 70.4% of its target.

Question/PE Summary	Indicator No., assessment for FY13 and FY14
2. Which of the INVC´s promoted nutrition behaviors and practices have been most widely adopted by beneficiaries and why? What are the main barriers to effective adoption of the promoted nutrition behaviors? PE Summary: Four outcome indicators (stunting, MAD, Women's dietary diversity, and exclusive breast feeding) did not have results (outcome indicators take some time to be observable), preventing measurement of performance, though annual targets for these indicators have been modified. Training in health and nutrition was 8.6% of its target in FY13 due to a late start but it was four times above the target level in FY14. The number of children receiving support was nine times the target level in FY13 and it was 70.4% of its target in FY14.	2. Stunting: Prevalence of stunted children under 3 years of age in INVC-assisted communities. The baseline was 47.3% and target for FY16 was set to 44%. No results were reported; no performance was measured. 17. Minimum Acceptable Diet (MAD): Prevalence of children 6-23 months in INVC-assisted communities receiving a minimum acceptable diet. Baseline was 11%, target FY14 20%, target FY15 13%, and target FY16 15%. No results were reported; no performance was measured. 18. Women's Dietary Diversity: Mean number of food groups consumed by women of reproductive age (15 to 49 years) in INVC-assisted communities. The baseline was 4.1%, target FY13 3%, target FY14 4%, target FY15 4.5%, and target FY16 15%. No results were reported; no performance was measured. 19. Exclusive breastfeeding: Percent of children 0-5 months of age who are exclusively breastfed in INVC-assisted communities/ targeted Districts. The baseline was 72%, the target FY14 75%, the target FY16 78%, and the target FY16 85%. No results were reported; no performance was measured. 20. Number of people trained in child health and nutrition through INVC supported health-area programs. In FY13 the project activities started late and trained 1,409 people or 8.6% of its target but in FY14 it trained 201,692 people or more than four times its target. 21. Number of children under five reached by INVC-supported nutrition programs. The project reached 147,272 children in FY13, 47.3% above target and 112,560 children in FY14, 70.4% of its target.

Question/PE Summary	*Indicator No.*, assessment for FY13 and FY14
3. Which of the collective marketing approaches promoted by INVC has been the most effective in linking beneficiaries to markets? PE Summary: The number of private enterprises, women's groups, trade and business associations and CBOs benefited 15% above targets in FY13 and FY14. The number of private enterprises and CBOs	*5. Number of private enterprises, producer organizations and community based organizations (CBOs) that applied new technologies or management practices as a result of INVC assistance.* Private enterprises, producer organizations and CBOs that applied new technologies or management practices reached was 1803 in FY13 and 8,093 in FY14, more than three times their targets. A new target level will be adjusted in 2015. *7. Number of private enterprises (for profit), producer organizations, water user associations, women´s groups, trade and business associations and CBOs receiving INVC assistance.* The number of private enterprises, producer organizations, water user associations, or

Question/PE Summary	*Indicator No.*, assessment for FY13 and FY14
receiving assistance; and individuals receiving short-term agriculture assistance or food security were above target levels (in the range of 3% to 23%). The value of incremental sales for groundnuts and soybeans were above the target for FY13 and "probably" were 5 times larger than the target set for FY15. There were no exports in FY13 but in FY14 exports more than doubled its target. Values of private sector investments or food chain leveraged by Feed the Future were 40% and 194% above their targets in FY13 and FY14, respectively.	women's groups and business associations and CBOs was 4,510 in FY13 and 9,228 in FY14, or approximately 15% above their targets. *8. Number of individuals who have received INVC supported short-term agricultural sector productivity or food security training.* The project reached 52,438 individuals in FY13 and 9,228 in FY14 with short-term agricultural sector productivity advice, 3% and 23% above their targets, respectively. *12. Value of incremental sales (collected at farm level) of soybeans and groundnuts attributed to INVC implementation.* The value of incremental sales collected at farm level for groundnuts and soybeans was $133,096 in FY13, 8.2% above the target level. In FY14 the value was $7.5 million (no target for that year) but a DQA in 2015 adjusted the target level at $1.5 million in FY15 and $2.0 million by FY16. *13. Value of exports of targeted agricultural commodities as a result of INVC assistance.* The project did not have exports in FY14 but $420,000 was exported in FY14, more than double its target for that year. [All soybean exports] *16. Value of new private sector investment in the agriculture sector or of food chain leveraged by INVC implementation.* The value of private sector investment in the agriculture sector or food chain leveraged by Feed the Future increased from $140,500 in FY13 to $1,471,640 in FY14, 40% and 194% above the corresponding targets. The revised target for FY15 and FY16 is $250,000 and $1,000,000, respectively.

Question/PE Summary	*Indicator No.*, assessment for FY13 and FY14
4. To what extent have the beneficiaries adopted INVC´s promoted agricultural production technologies and practices? PE Summary: The project performed above target levels in terms of farmers adopting technologies and practices in FY13 and FY14; in terms of the number of hectares under	6. Number of farmers and producers who have applied new technologies or management practices as a result of INVC assistance The number of farmers and others that have applied new technologies or management practices in FY13 was 22,797 and 135,114 in FY14, 8.5% and 20.6% above their corresponding targets. Target levels for FY15 and FY16 were set to 140,000 and 150,000, respectively. 9. Number of hectares under Improved technologies or management practices as a result of INVC assistance (for soybean and groundnuts). The number of total hectares under improved technologies or management practices as a result of USG assistance for soybean and groundnuts

improved management it more than doubled its annual targets.	increased from 18,714 in FY13 to 42,426 in FY14, more than twice their corresponding targets.

Question/PE Summary	***Indicator No.*, assessment for FY13 and FY14**
5. To what extent has the productivity of soy and groundnut increased for beneficiaries as a result of adoption of the promoted agricultural production technologies and practices? PE Summary: Gross margins of both groundnuts and soybeans in FY13 and FY14 were well above target levels except soybeans in the second year (11% below target) due to unfavorable weather conditions. The number of private enterprises applying new technologies and management practices was three times above target levels in the FY13 and FY14. Farmers using new technologies; the number of private enterprises and CBOs receiving assistance; individuals receiving short-term agriculture assistance or food security have been above target levels (ranging from 3% to 23%). Yields of groundnuts and soybeans in FY14 were 8% and 11% below the baseline levels. Value of agricultural loans exceeded by 28 and 21 times the targets for FY13 and FY14, respectively. Similarly, but more modestly, the value of private sector investment exceeded its target by 40% in FY13 and by 194% in FY14.	*3. Gross margins per unit of land for soybean and groundnut.* Gross margin per hectare for groundnut was $393 in FY13 and $351 in FY14, 287% and 240% above target levels. In contrast, gross margin for soybean was $259 in FY13, 151% above its target and $178 in FY14, 11% below its target. Weather conditions in FY14 affected soybean performance. *5. Number of private enterprises, producer organizations and community based organizations (CBOs) that applied new technologies or management practices as a result of INVC assistance.* Private enterprises, producer organizations and CBOs that applied new technologies or management practices reached was 1803 in FY13 and 8,093 in FY14, more than three times their targets. Target level to be adjusted in 2015. *6. Number of farmers and producers who have applied new technologies or management practices as a result of INVC assistance.* The number of farmers and others that have applied new technologies or management practices in FY13 was 22,797 and 135,114 in FY14, 8.5% and 20.6% above their corresponding targets. Target levels for FY15 and FY16 were set to 140,000 and 150,000, respectively. *7. Number of private enterprises (for profit), producer organizations, water user associations, women´s groups, trade and business associations and community based organizations (CBOs) receiving INVC assistance.* The number of private enterprises, producer organizations, water user associations, or women's groups and business associations and CBOs was 4,510 in FY13 and 9,228 in FY14, or approximately 15% above the corresponding target levels. *8. Number of individuals who have received INVC supported short-term agricultural sector productivity or food security training.* The project reached 52,438 individuals in FY13 and 9,228 in FY14 with short-term agricultural sector productivity advice, 3% and 23% above the target levels, respectively.

Question/PE Summary	*Indicator No.*, assessment for FY13 and FY14
5. To what extent has the productivity of soy and groundnut increased for beneficiaries as a result of adoption of the promoted agricultural production technologies and practices?	*11. Yield of soybean and groundnut.* The baseline yields for groundnuts and soybeans were 0.934 tons/ha and 0.748 tons/ha, respectively. However, there are only results for groundnuts (0.865 tons/ha) and soybeans (0.669 tons/ha) in FY14. Target levels for FY15 were set at 1.05 tons/ha and 0.95 tons/ha for groundnuts and soybeans, respectively. *14. Value of agriculture and rural loans disbursed.* The value of agricultural and rural loans increased from $3,300,000 in FY13 to $6,293,867 in FY14, a 28 and 21 times compared to their corresponding targets. A DQA adjusted targets for FY15 and FY16, $8 million and $12 million, respectively. *16. Value of new private sector investment in the agriculture sector or of food chain leveraged by INVC implementation.* The value of new private sector investment in the agriculture sector of food chain leveraged $140,500 in FY13–40.5% above target and $1,471,640 in FY14—194% above target. A DQA adjusted targets for FY15 and FY16, $250,000 and $1,000,000, respectively.

Question/PE Summary	Indicator No., assessment for FY13 and FY14
6. To what extent have INVC´s LCD efforts strengthened the organizational capacity and performance/service delivery of local sub-partners? PE Summary: OCA scores in FY13 and FY14 were 24% and 13% above targets, respectively. The number of private enterprises applying new technologies and management practices was three times above target levels in FY13 and FY14. The number of private enterprises and CBOs receiving assistance; and individuals receiving short-term agriculture assistance or food security has been above target levels (3% to 23%). Training in health and nutrition was 8.6% of its target in FY13 due to a late start but it was four times above the target level in FY14. The number of children receiving support was nine times the target level in FY13 and it was 70.4% of its target in FY14.	4. Score, percent of combined key areas of organizational capacity amongst INVC direct and indirect local implementing partners. Baseline was 37.5%, 62% in FY13 or 24% above target, 80% in FY14 or 13% above target. 5. Number of private enterprises, producer organizations and community based organizations (CBOs) that applied new technologies or management practices as a result of INVC assistance. Private enterprises, producer organizations and CBOs that applied new technologies or management practices reached was 1803 in FY13 and 8,093 in FY14, more than three time their targets. The target level will be adjusted in 2015. 7. Number of private enterprises (for profit), producer organizations, water user associations, women´s groups, trade and business associations and community based organizations (CBOs) receiving INVC assistance. The number of private enterprises, producer organizations, water user associations, or women's groups and business associations and CBOs was 4,510 in FY13 and 9,228 in FY14, or approximately 15% above the corresponding target levels. 8. Number of individuals who have received INVC supported short-term agricultural sector productivity or food security training. The project reached 52,438 individuals in FY13 and 9,228 in FY14 with short-term agricultural sector productivity advice, 3% and 23% above the target levels, respectively. 20. Number of people trained in child health and nutrition through INVC supported health-area programs. In FY13 the project activities started late and trained 1,409 people or 8.6% of its target but in FY14 it trained 201,692 people or more than four times its target. 21. Number of children under five reached by INVC-supported nutrition programs. The project reached 147,272 children in FY13, 47.3% above target and 112,560 children in FY14, 70.4% of its target.

PERFORMANCE INDICATOR TRACKING TABLE

No.	Type	Performance Indicator	Baseline	FY13		FY 14		FY 15		FY 16	
				Target	Result	Target	Result	Target	Result	Target	Result
GOAL: SUSTAINABLY REDUCE POVERTY AND IMPROVE NUTRITION THROUGH AGRICULTURAL TRANSFORMATION											
Project Objective 1: Inclusive Agricultural Sector Growth											
1	Impact	Daily Per capita expenditure of USG target beneficiaries	$ 1.20							$ 1.38	
Project Object 2: Improved Nutritional Status Especially of Women and Children											
2	Impact	Prevalence of stunted children under 5 years of age	47.3%							**44%**	
Intermediate Result 1: Improved Agricultural Productivity											
3	Out-come	Gross margin per unit of land or animal of selected product									
		Dairy	$93	$71	$79.98	100	$447	N/A	N/A	N/A	N/A
		Groundnut	$340	$137	$393	145	$319	400		410	
		Soybean	$151	$171	$259	200	$170	185		189	
Sub-Intermediate Result 1.1: Enhanced Human and Institutional Capacity Development for Increased Sustainable Agriculture Sector Productivity											
4	Out-come	Score, Percent of combined key areas of organizational capacity amongst USG direct and indirect local implementing partners	37.50%	50	62	70	80	80		80	
5	Out-come	Number of private enterprises, producer organizations, water user's associations, women's groups, trade and business associations, and community based organizations that applied improved technologies or management practices as a result of USG assistance.	0	500	1,803	2,500	8,093	650*		750*	
6	Out-come	Number of farmers and others who have applied improved technologies or management practices as a result of USG assistance	0	21,000	22,797	112,000	135,114	140,000*		150,000*	

No.	Type	Performance Indicator	Baseline	FY13		FY 14		FY 15		FY 16	
				Target	Result	Target	Result	Target	Result	Target	Result
7	Output	Number of private enterprises (for profit), producer organizations, water users associations, women groups, trade and business organizations and CBOs receiving USG assistance	0	3,805	4,510	8,000	9,228	700		850	
8	Output	Number of individuals who have received USG supported short-term agricultural sector productivity of food security training	0	51,000	52,438	100,000	123,493	130000		150000	
Sub-Intermediate Result 1.2: Enhanced Technology Development, Dissemination, Management and Innovation											
9	Out-come	Total Hectares under improved technologies or management practices as a result of USG assistance (for soybean and groundnuts)	0	8,000	18,714	20,000	42,426	45,000		60,000	
10	Out-come	Yield of soybean, groundnut, and milk Soybean (tons/ha)									
		Groundnut (tons/ha)	0.934				0.865	1.05		1.3	
		Soybean (tons/ha)	0.748				0.669	0.95		1.05	
		Milk (liters per cow)	685	972	1,070	1,027	2,417	n/a		n/a	
11	Output	Number of rural households benefiting directly from USG interventions	0	50,490	79,258	240,000	286,173	250,000		275000	
Intermediate Result 2: Expanding Markets and Trade											
12	Out-come	Value of incremental sales (collected at the farm) of soybeans and groundnuts attributed to Feed the Future implementation	0	123,000	133,096		7,482,518 .24**	1,500,000 *		2,000,000 **	
13	Out-come	Value of exports of targeted agricultural commodities as a result of USG assistance (S)	0	N/A	NA	2,000,000	$420,000	1,000,000		5,000,000	
Sub-Intermediate Result 2.4: Improved Access TO Business Development and Financial and Risk Management Services											
14	Out-come	Value of agricultural and rural loans	0	116,334	3,300,000	300,000	6293867* *	8,000,000 .00		12,000,00 0	

No.	Type	Performance Indicator	Baseline	FY13		FY 14		FY 15		FY 16	
				Target	Result	Target	Result	Target	Result	Target	Result
15	Output	Number of MSME's including farmers receiving business development services from USG assisted sources.*	0	50	206	350*	415	8,000*		30,000*	
Intermediate Result 3: Increased Investments in Agriculture and Nutrition Related Activities											
16	Output	Value of new private sector investment in the agriculture sector or food chain leveraged by Feed the Future implementation	0	100,000	0	500,000	0	250,000**		1,000,000 **	
Intermediate Result 6: Improved Access to Diverse and Quality Foods ****											
17	Out-come	Prevalence of children 6-23 months receiving a minimum acceptable diet	11%	-	N/A	20%	N/A	13%		15%	
18	Out-come	Women's dietary diversity: Mean number of food groups consumed by women of reproductive age (15 to 49 years)	4.1	3	N/A	4	N/A	4.5		5	
19	Out-come	Total quantity of targeted nutrient-rich value chain commodities produced by direct beneficiaries set aside for home consumption	0	N/A	N/A	N/A	N/A	TBD		TBD	
Intermediate Result 7: Improved Nutrition Related Behaviors											
20	Outco me	Percent of 0-5months children exclusively breastfed in target district	72%	-		75%		78		85	
Intermediate Result 8: Improved Use of Maternal and Child Health and Nutrition Services											
21	Output	Number of people trained in child health and nutrition through USG-supported programs	0	16,359	1,409	48,600	201,692	250,000		300,000	
22	Output	Number of children under five reached by USG-supported nutrition programs	0	16,200	147,272	160,000	112,560	175,000		175,000***	

** Indicator to undergo rigorous validation process in 2015, target may be revised according to the results.*
*** Indicator to underwent a DQA in 2015 and reported number will be revised, target adjustment to follow.*
****This number refers to those served through the Care Group Model only.*
Source: INVC, April 2015.

ANNEX 3. INVC COMMUNITY CARE GROUP MODEL PROJECT STRUCTURE AND PROCEDURES

Staff Structure and Functions:
INVC (DAI/SC):
1 Deputy Chief of Party (DCOP), BCC Specialist (Nutrition)
1 Nutrition Specialist
1 Associate Nutrition Specialist
4 District Nutrition Coordinators (1) Lilongwe North, 1) Lilongwe South, 1) Mchinji, 1) Balaka, Mangochi and Machinga
20 Nutrition Assistants (7 Lilongwe, 3 Machinga, 1 Mangochi, 0 in Mchinji, 2 Balaka)
Nkhoma:
1 INVC Program Manager
3 Nutrition District Coordinators (1) Lilongwe North, 1) Lilongwe South, 1) Mchinji)
7 Nutrition Assistants (Lilongwe)
X Nutrition Assistants (Mchinji)
Monitoring and Evaluation Coordinator (Vacant)
XX# Supervisors, and 120 Nutrition Promoters
Community Care Group Model Project Structure
Initial Training of Trainers (TOT) for Nutrition Promoters and Community Care Group Volunteer Lead Mothers
Ad hoc supervisory visits to the project communities to support Care Group meetings and other community mobilization activities depending on funds availability
Technical support from INVC District Nutrition Coordinators and Nutrition Specialist through periodic field visits
Care Group Model Structure and Functions:
Care Group Volunteer Lead Mothers (approximately 1 for each 12 households) are selected by beneficiary mothers and the Group Village Headman in consultation with project field staff
Nutrition Promoter meets with a Care Group (composed of about 12 Care Group
Volunteer Lead Mothers) twice a month
One new set of health promotion messages are taught to the Care Group
Volunteer Lead Mothers at each meeting
Each Care Group Volunteer Lead Mothers promotes positive behaviors during the subsequent 2 weeks to the 11 mothers for which she is responsible, using the newly learned health promotion message

ANNEX 4. MALAWI INVC NUTRITION MATERIAL FINDINGS, POSITIVE FEEDBACK, LIMITATIONS AND RECOMMENDATIONS

Material	Date Developed	Positive Feedback	Limitations	Recommendations
Care Group Training Manual for Promoters and Care Group Volunteers (INVC)	September 2013	• Some say they used the notes they wrote during the workshop when the manual was discussed.	• Only available in English • Most Care Group Volunteer Lead Mothers do not have a copy. • Some Nutrition Promoters say they have it, but since it is in English they do not reference it.	• Simplify and make more user-friendly, including illustrations and more visuals. • Translate to Chichewa
Training Manual for Community-Based Drama Groups	Month, 2013		• Only available in English	• Simplify and make more user-friendly. • Develop a job aid for drama group performances • Publish the songs and jingles that are used. • Translate to Chichewa
SUN Community Training Manual (developed by Govt. of Malawi)	August 2014		• Developed by GOM, never adapted for the project. • Only available in English • Not user-friendly • Some Nutrition Promoters say they have it, but no one actively uses	• Translate to Chichewa • Simplify and make more user-friendly.

Material	Date Developed	Positive Feedback	Limitations	Recommendations
Infant and Young Child Feeding Cards "A Booklet for Counseling on Feeding for under 2 years Children"	September 2014	• Developed by GOM, adapted for the INVC project to emphasize the 15 prioritized behaviors in September 2014. • Nutrition Promoters, CGV Lead Mothers and direct beneficiaries all find these counseling cards very helpful.		• Request from Health Surveillance Assistants to be trained with these counseling cards and receive copies. • Change to read "A Booklet for Counseling on Feeding for Children under 5 years"
Seasonal Food Availability Calendar,	September 2014	• No one is familiar with this tool besides the District Nutrition Coordinators so there was no feedback available.	• Only available in English • Reportedly not used; no one familiar with it.	• Simplify seasonal calendar, see FEWSNet seasonal calendars[293] • Make available to Nutrition Promoters, CGV, direct beneficiaries.
Legume-Based Recipe Book (INVC)	November 2014	• Nutrition Promoters, CCG Lead Mothers and Beneficiaries have not used it.	• Only available in English	• Translate to Chichewa • Simplify and make more user-friendly. • Include illustrations of food and photos of final recipes.
Training of Trainers in Food Preparation and Utilization	February 2015	• Used by District Nutrition Coordinators and Nutrition Assistants for initial training, they find the training useful. • Developed by Malawi INVC Project through LUANAR Department of Food Science and Technology	• Only available in English • Observation is would be useful if in Chichewa and if it had photos and easy to use illustrations.	

[293] For example, see Zambia's Seasonal Food Calendar at: *http://www.fews.net/southern-africa/zambia/seasonal-calendar/december-2013*.

ANNEX 5. EVALUATION STATEMENT OF WORK

Performance Work Statement for the Performance Evaluation of
USAID/Malawi's Integrating Nutrition in Value Chains Activity

December, 2014

C.1. Introduction and Background
Integrating Nutrition in Value Chains (INVC) is USAID/Malawi's Feed the Future flagship activity, implemented in seven districts in Central and Southern Malawi, from April 2012 through October 2016. The goal of INVC is to sustainably reduce rural poverty and improve nutrition through the integration of agriculture and nutrition interventions. Until September 2014, INVC focused on three value chains: dairy, soy, and groundnut. After extensive analysis on the dairy value chain, USAID/Malawi decided to drop dairy from its FEED THE FUTURE strategy and from INVC. Since the beginning of FY 2015, INVC has focused only on the soy and groundnut value chains, which USAID/Malawi has determined offer the highest economic and nutritional return on investment, and ability to take to scale in the FEED THE FUTURE Zone of Influence (ZOI).

INVC was originally designed to address the following five inter-related components:

1. Advancing Value Chain Competitiveness – improve the competitiveness of legume and dairy value chains and access to business development, and extension services;
2. Improving Productivity – improve soil fertility and water resource management for increased productivity;
3. Improving Community Capacity to Prevent Under-nutrition – reduce under-nutrition by translating increased, diversified food production into improved household diets;
4. Promoting Innovation – provide grant opportunities for private sector investments to buy down the risk for the poor and ultra-poor to innovate and invest; provide opportunities for the ultra-poor to access and benefit from value chain activities;
5. Developing Local Systems Capacity – strengthen local systems to take on responsibility and be accountable for INVC results now and in the future.

INVC contributes directly to USAID/Malawi's 2013-2017 Country Development Cooperation Strategy (CDCS) Development Objective 2: Sustainable Livelihoods Increased, and to cross-cutting Sub-Intermediate Results - SIR 1: Capacity of Institutions Improved; SIR 2: Use of Technology and Innovation Increased; SIR 4: Positive Behaviors Adopted; and partly, SIR 3: Policy and Systems Strengthened.

The development hypothesis underpinning INVC is that if market-led value chain development is integrated with improved nutrition-related behavior then rural household incomes will increase, and the nutritional status of women and children will improve.

This is a subset of the larger CDCS integration hypothesis which states that: if assistance is integrated then development results will be enhanced, more sustainable, and lead to achievement of our CDCS goal: Malawians' quality of life improved.

An impact evaluation, led by the University of North Carolina, is currently underway to test the development hypothesis of INVC. Thus, USAID/Malawi does not intend for this performance evaluation

to test INVC's development hypothesis or to test for INVC's impact on high-level outcomes. This evaluation, as explained further below, shall assess the performance of INVC in the four main components of the activity: value chain competitiveness, agricultural productivity, nutrition, and local capacity development (LCD).

INVC Implementing Partners

INVC is implemented by a consortium of three key partners: Development Alternatives Inc. (DAI), Save the Children International (SCI), and Michigan State University (MSU), with DAI as the prime. The three partners work directly with and through local sub-partners (grants under contract) that are active in the agricultural and health/nutrition sectors. The primary sub-partners focusing on agricultural value chains include: National Smallholder Farmers Association of Malawi (NASFAM), Farmer's Union of Malawi (FUM), and Catholic Development Commission of Malawi (CADECOM). INVC also works with the Agricultural Commodity Exchange for Africa (ACE) and the International Institute for Tropical Agriculture (IITA) as key technical assistance partners providing support to the value chain investments. The primary nutrition sub-partner is Nkhoma Hospital, and Pakachere Institute of Health and Development Communication is the primary sub-partner for behavior change communications.

C.2. Purpose of the Performance Evaluation

The purpose of this evaluation is to assess INVC's performance in the four primary components of the activity (value chain competitiveness, agricultural productivity, nutrition, and LCD), to glean key lessons learned from the implementation of INVC in all four areas, to determine whether any of the local sub-partners will be ready to become direct USAID awardees by the end of INVC, and to help inform future agriculture, nutrition, and LCD activity design for USAID/Malawi and other stakeholders.

C.2.1. Target Areas and Groups

The successful evaluation team must implement the evaluation at different levels (national, district, and community), targeting different stakeholders involved in the activity. INVC is implemented in rural areas of seven districts in Central and Southern Malawi comprising the Feed the Future ZOI: Mchinji, Lilongwe, Dedza, Ntcheu, Balaka, Mangochi, and Machinga. The integrated agriculture and nutrition interventions are implemented in five of the seven districts (Mchinji, Lilongwe, Balaka, Machinga, and Mangochi), while two of the seven districts (Dedza and Ntcheu) receive only agriculture interventions. Figure 1 illustrates the geographic distribution of INVC interventions.

Within the Feed the Future ZOI, INVC targets rural households that engage in agricultural activities and have parcels of land between 0.5 to 1.2 hectares (1.25 to 3 acres) each, are self-sufficient in maize (staple crop), and are motivated to engage in production of high value nutritious crops such as legumes. INVC's life of project targets are to reach at least 275,000 rural households either through nutrition or agriculture-based interventions or both, and to reach at least 150,000 children under three years of age with a wide range of nutrition-related interventions.

C.3. Objectives of the INVC Performance Evaluation

As outlined in section C.2 above, the main objective of this evaluation is to assess and document the extent to which INVC has contributed to achieving its objectives in the four key focus areas of the activity. To achieve this objective, the performance evaluation must do the following:

1. Conduct a comparative analysis of INVC's key performance indicators at baseline and in FY 2015 to assess changes in the indicators and performance against targets.
2. Document key lessons learned, best practices, successes, and challenges across the four components of INVC, and in relation to all of the evaluation questions.

3. Document any differences in benefits accrued to male and female beneficiaries, as well as differences in men's and women's adoption of the promoted practices and behaviors (note that gender dynamics must be addressed for each evaluation question).
4. Ascertain the extent to which INVC advanced the competitiveness of the targeted value chains; improved productivity of the targeted value chains; and strengthened community capacity to prevent under-nutrition.
5. Determine the extent to which INVC developed and strengthened the capacity of local sub-partners.
6. Determine whether any of INVC's local sub-partners will be eligible and willing to become direct USAID awardees by the end of the INVC contract.
7. Identify any internal and external factors that affected the implementation and performance of INVC.
8. Propose any recommendations based on the findings that would help inform future programing in the areas of agriculture, nutrition, and LCD.

C.3.1. Evaluation Questions

The Contractor must, at a minimum, address the following questions:

1. Which elements and/or approaches of INVC's integrated model have been most successful in leading to adoption of both the promoted agriculture and nutrition behaviors and practices by beneficiaries?
   a. Which elements and/or approaches have been least successful?
2. Which of INVC's promoted nutrition behaviors and practices have been most widely adopted by beneficiaries and why?
   a. What are the main barriers to effective adoption of the promoted nutrition behaviors?
3. Which of the collective marketing approaches promoted by INVC have been most effective in linking beneficiaries to markets?
   a. Which collective marketing approaches have most effectively increased the incomes of beneficiaries?
   b. What are the main barriers to beneficiaries' participation in collective marketing?
4. To what extent have beneficiaries adopted INVC's promoted agricultural production technologies and practices?
   a. What are the main barriers to adoption of the promoted agricultural technologies and practices?
5. To what extent has the productivity of soy and groundnut increased for beneficiaries as a result of adoption of the promoted agricultural production technologies and practices?
   a. What factors, if any, have impeded increases in productivity even when the promoted technologies and practices were adopted?
6. To what extent have INVC's LCD efforts strengthened the organizational capacity and performance/service delivery of local sub-partners?
   a. Which, if any, of the local sub-partners will be ready to become direct USAID awardees by the end of INVC (October 31, 2016)? Of those partners, which, if any, want to become direct USAID awardees?

C.3.2. Tasks

The Contractor must perform the following tasks as part of this scope of work:

1. Draft and submit Inception Report
2. Develop the evaluation methodology
3. Test and verify the evaluation methodology
4. Deploy a field team
5. Collect the relevant data to inform the evaluation
6. Conduct oral debrief meetings with USAID on the preliminary findings of the evaluation
7. Host a stakeholder's workshop to present the draft evaluation findings for their validation and inputs
8. Draft and submit Final Evaluation Report

C.4. Results: Deliverables and Outputs

The Contractor must furnish the following deliverables and reports:

1. Inception Report

The inception report must describe the conceptual framework the evaluator will use to undertake the evaluation and the justification for selecting this approach. It must detail the evaluation methodology (i.e. how each question will be answered by way of data collection methods, data sources, and sampling). The report must also contain a workplan, which indicates the phases in the evaluation with key deliverables and milestones. USAID/Malawi will review this report and the Contractor must receive COR's approval of the report before it begins implementing the evaluation plan. The inception report must clearly document and discus how gender analysis will be integrated into the design of the evaluation.

The Inception Report must at least contain the following:

- A workplan which outlines the timeline for phases in the evaluation with key deliverables and milestones, and key personnel responsibilities.
- Complete set of evaluation questions, elaborated on as necessary. Any questions added during the contract negotiations must be clearly indicated, and any deleted questions must be mentioned with the reason as to their exclusion.
- Discussion of the overall approach of the evaluation, highlighting the conceptual model(s) adopted. This must incorporate an analysis of the intervention logic of the program.
- Discussion of risks and limitations that may undermine the reliability and validity of the evaluation results.
- Specification of indicators or indices that must be used as a guide in answering each evaluation question.
- Discussion of the data collection and data analysis methods that will be used for each question. This discussion must state the limitations for each method and include the level of precision required for quantitative and qualitative methods and value scales or coding used for qualitative methods. Standard data collection methods for USAID evaluations are: surveys, questionnaires, interviews, focus groups, document review, and observations.

- Detail key data sources that will be selected to answer each evaluation question.
- Explanation of how existing data will be incorporated and used to answer the evaluation questions.
- If applicable, discussion of the sampling methods and details. Include area and population to be represented, rationale for selection, mechanics of selection, sample size (for each unit of analysis), sample precision, and confidence and limitations.
- Summarized evaluation methodology in an evaluation planning matrix that must contain the following column headings: evaluation question, measure(s) or indicator(s), data collection method(s), data source, design strategy/framework for each question, sampling methodology, data collection instrument(s) for each question and data analysis methodology on each evaluation question.
- Discussion of logistics of carrying out the evaluation. Include specific assistance that will be required from USAID, such as providing arrangements for key contacts within the Mission or Government of Malawi.
- Appended draft instruments for data collection specific to questions and indicators in the evaluation.

2. Evaluation Methodology

The performance evaluation must utilize the mixed methods research design employing both quantitative and qualitative methods to strengthen the validity of the findings and provide room for data triangulation. The Contractor must describe and document the methodological approach that will be used and this should follow USAID evaluation best practices. The model must include an evaluation framework and assessment tools for each evaluation question and highlight the conceptual model(s); specify the measurement criteria to be used to respond to each question. It must discuss any risks and limitations that may undermine the reliability and validity of the evaluation results.

In order to ensure the maximum value for learning and use, a description of the proposed evaluation methodology must include the following, at a minimum:

- Methods of data collection: The Contractor must clearly highlight the different methods and tools that will be utilized to collect both quantitative and qualitative data, such as structured questionnaires for beneficiary household interviews; analysis of secondary data/outputs from performance monitoring system; focus group interviews with beneficiary farmers; key informant interviews with USAID staff, implementing partners or government staff, community leaders, and other stakeholders.
- Sampling (if applicable): The Contractor must propose how sampling will be done and propose the appropriate sample sizes required to ensure scientific rigor.
- Data analysis: The Contractor must provide the plan for analysis of all qualitative and quantitative data collected. This should include how different secondary sources of data collected by INVC (e.g. annual beneficiary surveys and/or outputs from performance monitoring system) will be utilized to answer the evaluation questions.

Constraints to Data Collection and Analysis

Below are the anticipated constraints to be met during data collection and analysis.

- Comparative analysis: Due to data quality concerns about the INVC baseline data, it will be difficult for the Contractor to conduct a comparative analysis of the performance indicators at baseline and end-line. Data collection methods employed during baseline for a number of indicators were not in line with the Feed the Future recommended methodology; hence, this data is of limited use. USAID will engage with the Contractor on how the comparative analysis should be done in the face of these limitations.
- \Language: Most beneficiary farmers, community leaders or frontline staff (partners or government) will not be comfortable to communicate in English, hence the Contractor must include individuals fluent in Chichewa in the evaluation team to assist with translations during focus group discussions and key informant interviews. The Contractor must not use INVC staff as translators.

3. Debriefing Meeting

The Contractor must debrief USAID on the preliminary findings of the evaluation in Lilongwe following completion of the fieldwork and preliminary analysis. This meeting must provide a summary of analytical results, and discuss challenges, successes, and the way forward. The Contractor must deliver an oral presentation of the evaluation findings, conclusions, and recommendations for each question to USAID, prior to finalizing the draft evaluation report. The evaluation Team Leader will be required to routinely update the evaluation point of contact at USAID/Malawi on the progress of the evaluation.

4. Findings Workshop

The Contractor must present the key findings, conclusions and recommendations at a half-day stakeholder's workshop in Lilongwe. The Contractor shall be responsible for costs, logistics, and managing invitations to this workshop. The Contractor must produce a summary/brief (max. 3 pages) of key findings, conclusions, and recommendations to be distributed to stakeholders during the workshop.

5. Final Evaluation Report

The Contractor must submit a final evaluation report that is based on analyzed facts and evidence and fully addresses all of the evaluation questions. The report must be no more than 40-50 pages in length (excluding annexes) and comply with the Checklist for Assessing USAID Evaluation Reports (see annexes). After taking into account all the new information and feedback provided on the final oral briefings and draft evaluation report, the Contractor must submit 15 hard-bound copies and an electronic version of the report to USAID/Malawi. The Contractor must also submit an electronic version in an appropriate media including all tools and products of the evaluation, including instruments and data in data formats suitable for re-analysis.

The Contractor must ensure that Appendix I of the USAID Evaluation Policy – Criteria to Ensure the Quality of the Evaluation Report – is followed. This includes:

- The evaluation report must represent a thoughtful, well-researched and well organized effort to objectively evaluate what worked in the project, what did not and why;
- Evaluation reports must address all evaluation questions included in the scope of work;
- The evaluation report should include the scope of work as an annex. All modifications to the scope of work, whether in technical requirements, evaluation questions, evaluation team composition, methodology or timeline need to be agreed upon in writing by the technical officer;

- Evaluation methodology must be explained in detail and all tools used in conducting the evaluation such as questionnaires, checklists and discussion guides will be included in an annex in the final report;
- Evaluation findings will assess outcomes and impact on males and females;
- Limitations to the evaluation must be disclosed in the report, with particular attention to the limitations associated with the evaluation methodology (selection bias, recall bias, unobservable differences between comparator groups, etc.);
- Evaluation findings must be presented as analyzed facts, evidence and data and not based on anecdotes, hearsay or the compilation of people's opinions. Findings must be specific, concise and supported by strong quantitative or qualitative evidence;
- Sources of information must be properly identified and listed in an annex;
- Recommendations must be supported by a specific set of findings; and should be action-oriented, practical and specific, with defined responsibility for the action.
- The final evaluation report must contain the following sections:
- Executive Summary: This section shall be 3-5 pages in length and must summarize the purpose, project background, evaluation design and methodologies including main evaluation questions, key findings, conclusions, and recommendations and lessons learned from the evaluation.
- Background: This section must provide a brief description of the project that highlights the scope of the project, project development hypothesis, activities undertaken in the project, key impact indicators of the project and impact areas of the project. Other activities that complemented the project activities directly or indirectly in the intervention districts must also be highlighted.
- Methodology: This section must detail the methodology and related research protocols undertaken in conducting the evaluation, data collection, analysis, selection criteria/sampling, and related constraints or limitations encountered during the project implementation and evaluation.
- Findings: Empirical facts collected during the evaluation: This section must present findings from the evaluation. The evaluation findings must be presented as analyzed facts, evidence, and data, and not based on anecdotes, hearsay or the compilation of people's opinions. The evaluation findings must assess key outcomes and impacts as structured around the organizational framework of the evaluation questions. The findings must be specific, concise and supported by strong quantitative and qualitative evidence analyzed through scientifically plausible methodologies. Sources of information used in arriving at the findings must be properly acknowledged and listed in an annex.
- Conclusions (Interpretations and judgments based on the findings): Evaluation conclusions must be presented for each key finding. The Conclusions must logically follow from the gathered data and findings. These must be explicitly justified. If and when necessary, the evaluator must state his/her assumptions, judgments, and value premises so that readers can better understand and assess them.
- Recommendations (Proposed actions for management): This section must precisely and clearly present recommendations that must be drawn from specific findings. The recommendations must be stated in an action-oriented fashion, must be practical, specific, and with defined responsibility for the requisite action. The recommendations presented in this section must follow the evaluation questions as the organizational framework.

- References: This section must include all documents reviewed, including background documentation and records of technical data application and decision-making.
- Annexes: These may include, but not be limited to, statement of work, tools used in conducting the evaluation such as questionnaires, checklists, discussion guides, sources of information, etc.

C.5. Team Composition

The Contractor must propose an evaluation team which is diverse and has expertise in all of the key components of INVC. As a means of building local capacity to undertake evaluations, the team must have at least one local expert as a key member. The local expert will also help to provide context and linkages to key stakeholders. At a minimum, the team should comprise the following key personnel: Evaluation Team Leader, Agriculture Productivity and Value Chain Competitiveness Expert, Health and Nutrition Expert, and Local Capacity Development Expert.

Below is a list of the proposed key personnel for the evaluation team and their roles and responsibilities.

1. The Team Leader (Team Leader):

Key duties:

- Oversee all the evaluation activities and provide overall oversight and management of the evaluation team.
- Ensure quality of evaluation outputs and timely submission of each deliverable.
- Plan and coordinate stakeholder meetings and field visits, and be responsible for payments of local logistical needs and local staff working with the team.
- Lead the preparation of the evaluation report and presentation of the key evaluation findings and recommendations to the USAID/Malawi team and other key stakeholders.
- Qualifications and experience:
- Should have at least a Master's degree in Social Sciences, Development Studies, Agriculture, or related field, and at least 10 years of experience evaluating international development programs, preferably with experience evaluating agriculture, food security, nutrition, and/or local capacity development programs.
- In-depth knowledge of USAID evaluation requirements.
- Strong management and administrative skills, with experience managing the evaluation of integrated programs.
- Demonstrated knowledge of the development field, with more than 10 years of work experience in sub-Saharan Africa, preferably Southern Africa, including Malawi.
- Excellent communication and writing skills, analytical skills, interpersonal skills, team management, and leadership skills.
- Demonstrated ability to meet deadlines.

2. Agriculture Productivity and Value Chain Competitiveness Expert (Team Member):
    - Should have at least a Master's degree in agricultural marketing, agribusiness, agronomy, agricultural economics or related field.
    - Minimum of 7 years of experience in international value chain competitiveness, agricultural development, food security, or economic growth programs.

- Experience in conducting value chain studies and/or evaluations in Southern Africa, preferably in Malawi.
- Strong background in gender integration and women's empowerment.
- Good analytical, writing, and presentation skills.
- Demonstrated ability to meet deadlines

3. Health and Nutrition Expert (Team Member):
    - Should have at least a Master's degree in nutrition or related field, with significant study in maternal and child nutrition, nutrition programming, community nutrition, or public health and nutrition.
    - Minimum of 7 years of experience in international maternal, child health, and nutrition, or food security and nutrition programs.
    - Experience conducting health and nutrition studies and/or evaluations in Southern Africa, preferably in Malawi.
    - Strong background in gender integration and women's empowerment.
    - Good analytical, writing, and presentation skills.
    - Demonstrated ability to meet deadlines.

4. Local Capacity Development (LCD) Expert (Team Member):
    - Should have at least a Master's degree in Development Studies, Social Studies, Public Administration, or other relevant field.
    - Minimum of 5 years of experience in the field of institutional capacity development, and a proven track record of working on design and/or evaluation of capacity development programs for the NGO sector.
    - Proven experience in conducting studies and/or evaluations on LCD in Southern Africa, preferably in Malawi.
    - Good analytical, writing, and presentation skills.
    - Demonstrated ability to meet deadlines

The INVC team is expected to collaborate with the evaluation team to provide key documents and information through meetings and key informant interviews. The evaluation team can contact INVC partners and other key stakeholders directly to request information and meetings.

C.6. Place of Performance

The place of performance is Central and Southern Malawi, covering all seven INVC focus districts (see map above). The extent of travel will be determined by the evaluation design and data needs as agreed upon between the Contractor and USAID/Malawi. The Sustainable Economic Growth (SEG) Office M&E Specialist will serve as the primary Point of Contact and Contracting Officer's Representative (COR) for the evaluation. The performance evaluation is expected to begin in February 2015.

C.7. Logistics

The Contractor will be responsible for all logistics, including coordinating all travel to the seven Feed the Future focus districts, lodging, printing, office space, equipment and car rentals, financing from the contract award, and managing dissemination of results. USAID/Malawi's SEG Office will provide support to set up initial meetings with key government officials, implementing partners, and other stakeholders.

C.8. Existing Sources of Information

The Mission will share the following documents with the successful evaluation team to facilitate the desk review:

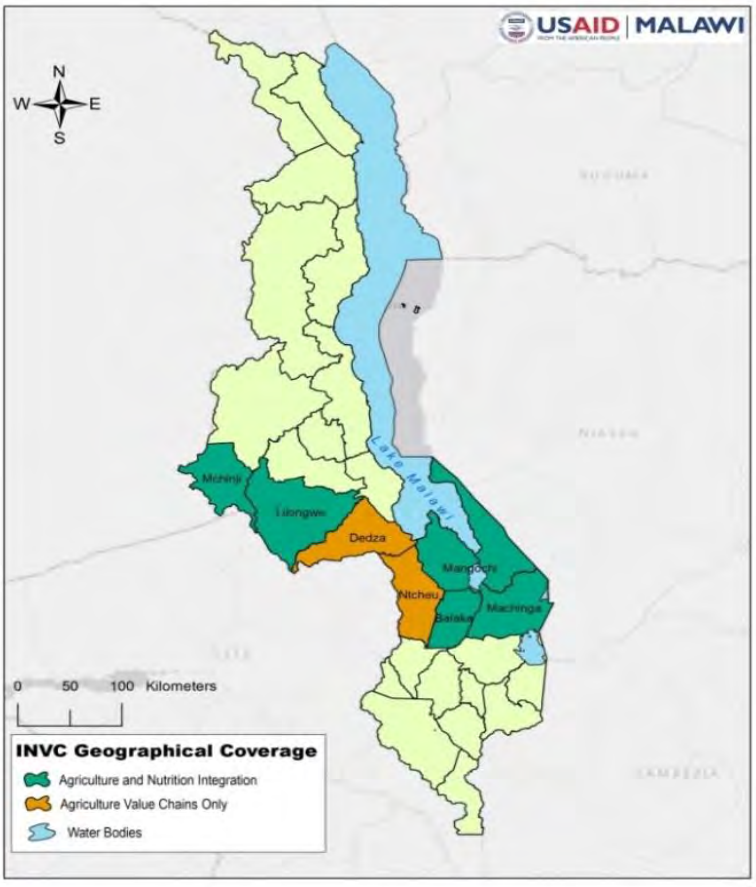
1. INVC Statement of Work (original and expanded)
2. INVC Annual Beneficiary survey reports (FY2014)
3. INVC Quarterly progress reports (FY2012 – FY2015)
4. INVC baseline survey report (Nutrition)
5. INVC Performance Monitoring and Evaluation Plan (PMEP)
6. Annual Workplans (FY2012 – FY2015)
7. INVC Indicator Tracking Table (FY2014 – FY2015)
8. Checklist for Assessing USAID Evaluation Reports
9. USAID Evaluation Policy

ANNEX 6. INCEPTION REPORT OVERVIEW

Malawi Integrating Nutrition in Value Chains Project Background

Integrating Nutrition in Value Chains (INVC) is USAID/Malawi's Feed the Future flagship nutrition-sensitive agriculture project, implemented in the Feed the Future 'Zone of Influence (ZOI)' in the rural areas of seven Districts in Central and Southern Malawi (Mchinji, Lilongwe, Dedza, Ntcheu, Balaka, Mangochi, and Machinga), from April 2012 through October 2016.[294] Balaka, Mangochi, Machinga, Mchinji, and Lilongwe Districts have agriculture and nutrition integration while Dedza and Ntcheu Districts have agriculture value chains only (see Figure 1). Initially, Nutrition activities started in Lilongwe and Mchinji and expanded into Balaka, Mangochi and Machinga in FY 2014 (July of 2014).

Figure 1: Malawi INVC Project Coverage

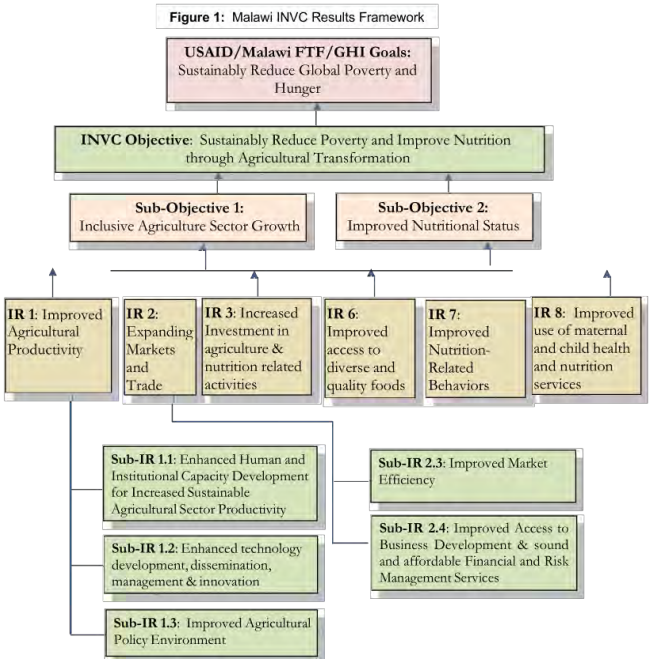


Malawi INVC Goals, Objectives, and Intermediate Results: INVC aims to improve the quality of life of Malawians by reducing poverty and improving nutrition through agricultural transformation, contributing to the overall USAID/Feed the Future/Malawi goal to reduce global poverty and hunger.

[294] INVC was awarded in April 2012 and expected to end in April 2015, but has been extended through October 31, 2016. This evaluation covers the period April 2012 to December 2014.

This will be achieved through six intermediate results within the Results Framework,[295, 296] as shown in Figure 2: IR1) improved agricultural productivity, IR2) Expanding markets and trade, IR3) Increased investment in agriculture and nutrition related activities, IR6) Improved access to diverse and quality foods, IR7) Improved nutrition-related behaviors, and IR8) Improved use of maternal and child health and nutrition services. To achieve the development objectives, the INVC focuses its investments and integrates activities within and across the agriculture and health/nutrition sectors, and places great emphasis on building host country capacity to lead and manage its own development. The development hypothesis underpinning INVC posits that if market-led value chain development is integrated with improved nutrition-related behavior, then rural household incomes will increase and the nutritional status of women and children will improve.[297] The value chain refers to the entire range of goods and services necessary for an agricultural product to move from the farm to the final customer or consumer. Priority value chains include groundnuts and soybeans, both legumes. The project established a strategic sub-granting mechanism to directly fund local sub-partners to help achieve INVC's objectives. Moreover, the project strengthens the capacity of Malawian organizations to implement Feed the Future activities. INVC also supports community programs that encourage behavior change in nutrition.

Figure 2: Malawi INVC Results Framework



Targeted Populations: INVC target beneficiaries are rural smallholder farmer households that cultivate between 0.5 and 1.2 hectares of land, produce sufficient maize for home consumption, have the potential to increase maize productivity while freeing up land for diversification to legume production, have access to extension services and inputs, and possess the potential for linking to markets. Nutrition interventions target women of reproductive age (WRA) including pregnant and lactating women (PLW) and mothers/caregivers of children under five with a particular focus on the 1,000 Days window of opportunity from a women's pregnancy to a child's second birthday, therefore focusing on children

[295] The picture below shows only six IRs without IR4 and IR5, because INVC is using th Feed the Future results framework and Feed the Future's IR4 and IR5 are not relevant for INVC.

[296] Performance Monitoring and Evaluation Plan (PMEP). December 2013. Malawi Integrating Nutrition In Value Chains (INVC) Final – Revised. March, 2014.

[297] Performance Work Statement for the Performance Evaluation of USAID/Malawi's Integrating Nutrition in Value Chains (INVC) Activity. December 2014.

under two years of age. Throughout the life of the project INVC seeks to reach at least 275,000 rural households through agriculture-based or nutrition interventions or both, and reach at least 150,000 children under five years of age through targeted nutrition-specific and nutrition-sensitive interventions.

Implementing Partners: INVC is implemented by a consortium of three key partners: Development Alternatives Inc. (DAI), Save the Children International (SCI) and Michigan State University (MSU). DAI provides overall management and oversight of the project and it also directly implements nutrition activities in Balaka, Machinga and Mangochi. SCI provides technical guidance and assistance for nutrition and MSU provides monitoring and evaluation support to the project. The three partners work directly with and through local sub-partners through grants under contract that function as either direct implementing partners, technical service providers, or business service providers with experience in both the agricultural and health/nutrition sectors:

- The primary local sub-partners focusing on agricultural value chains include:
    - **National Smallholder Farmers Association of Malawi (NASFAM)** works across the INVC zone of influence except for the District of Dedza. With 120,000 members, its mission is to improve the livelihoods of smallholder farmers by developing and promoting commercial farming through the delivery of capacity building programs that boost agricultural productivity.
    - **Farmer's Union of Malawi (FUM)** works in Dedza, Lilongwe, and Mchinji Districts. It is an umbrella organization for farmer groups. Like CISANET, FUM seeks to improve agricultural policy and it develops institutional capacity of farmer organizations, promotes gender equity and develops and implements climate change strategies.
    - **Catholic Development Commission of Malawi (CADECOM)** works only in Dedza district under Feed the Future-INVC. It implements programs in thematic areas that include agriculture, nutrition and food security, access to markets and income generating activities, and climate change strategies.

- Key technical assistance local sub-partners providing support to the value chain investments include:
    - The **Agricultural Commodity Exchange for Africa (ACE),** it is an internet-based regional agricultural commodity exchange that operates in the spot and forward markets as a virtual trading platform it gives small scale farmers leverage in negotiating the sale of their crops. The ACE trading system is comprised of three systems, a warehouse receipt system and ACE Bid Volume Only, Offer Volume Only System and Bid and Offer Matching. It provided INVC farmers a mechanism to collectively market their product**.**
    - The **International Institute for Tropical Agriculture (IITA**) is an organization that operates in Malawi and has international reach.
    - The **Civil Society Agriculture Network (CISANET),** headquarter in Lilongwe, has a national reach as a policy advocacy organization, its work includes climate smart agriculture and market and international trade as central themes. Recently the INVC has worked with CISANET to support two industry associations— Soya Association of Malawi (SOYAMA) and the Dairy Industry Development Programme (DIDP). CISANET will offer industry association incubation services to these organizations and other industry led groups.

- The primary nutrition local sub-partners include:
    - **Nkhoma Hospital**-plays a direct implementation role of nutrition activities within Lilongwe and Mchinji. Nkhoma leads the Care Group Model scale-up including training of extension workers through the National Malawi Scaling up Nutrition (SUN) Community Training

Manual[298] including essential nutrition actions (ENA) and use of adapted National Infant and Young Child Feeding (IYCF) community counseling materials.[299] Nkhoma also trains Nutrition Promoters to conduct community cooking demonstrations[300] and food processing, utilization and preservation demonstrations to facilitate promotion of dietary diversification. Finally, Nkhoma conducts routine project monitoring and evaluation.

- **Pakachere Institute of Health and Development Communication (PIHDC),** is a technical service provider sub-partner leading in behavior change communication (BCC) strategies for nutrition. PIHDC was sub-granted in June 2013 as a technical service provider to help INVC develop a "Behavior Change Communication Strategy on Nutrition and Agriculture Value Chains In Malawi"[301] and develop the overall BCC strategy and develop interpersonal communication, community/social mobilization, media, and advocacy through complementary communication activities and a wide variety of mutually reinforcing communication channels for focused behavior change such as theatre for development, radio messages, etc. PIHDC assisted INVC to plan and implement BCC activities such as drama performances, production and airing of a radio program, supervision and mentorship of community-based drama groups. Finally, they recently planned and implemented a "Social and Behavior Change Communication" (SBCC) training workshop for Nkhoma technical staff and GOM nutrition technical staff.

Components that Malawi INVC Addresses
INVC was designed to address the following five inter-related components: **Advancing Value Chain Competitiveness**—improving competitiveness of legume and dairy value chains and access to business development, and extension services; **Improving Productivity**—improving soil fertility and water resource management for increased productivity; **Improving Community Capacity to Prevent Undernutrition**—reducing undernutrition by translating increased, diversified food production into improved household diets; **Promoting in Innovation (no longer a component)**—providing grant opportunities for private sector investments to buy down the risk for the poor and the ultra-poor to innovate and invest; providing opportunities for the ultra-poor to access and benefit from the value chain activities;[302] **Developing Local Systems Capacity**—strengthening local systems to take responsibility and to be accountable for INVC results now and in the future.

Source: Performance Work Statement for the Performance Evaluation of USAID/Malawi's Integrating Nutrition in Value Chains Activity. December, 2014.

Project Modification: In its goal to sustainably reduce rural poverty and improve nutrition through the integration of agriculture and nutrition interventions, the INVC originally focused on three value chains—dairy, soybeans, and groundnuts—until September 2014. Historically, USAID supported the dairy sector for ten years, but after an extensive analysis on the dairy value chain, USAID/Malawi decided to drop dairy from its Feed the Future strategy and from INVC. Dairy interventions proved expensive in comparison to other value chains, and while the dairy sector reached thousands of households, supporting other value chains offered the potential to reach hundreds of thousands of

[298] Scaling Up Nutrition in Malawi Sun Community Training Manual. August, 2014. This manual is designed for extension workers working directly with communities in both government and non-governmental organizations.

[299] Kabuku Ka Uphungu Opititsa Patsogolo Kadyedwe Koyenerera Ka Ana Osaposera Zaka Ziwiri. September, 2014.

[300] Lead mothers are trained on how to prepare Likuni porridge using soy and groundnuts, home production of soya milk, enriching green leaFYvegetables with oil and groundnut powder and preparation of rich snacks for under-five children i.e. adding groundnut flour to pawpaws.

[301] Behavior Change Communication Strategy on Nutrition and Agriculture Value Chains in Malawi. January 2013.

[302] This evaluation will not address this component as stipulated in the Performance Work Statement (PWS), December 2014, because this component was dropped from the INVC expanded SOW and is no longer part of the activity.

households when scaled up.[303] In addition, after the Data Quality Assessment (DQA) was conducted by USAID in October of 2013 a number of indicators were dropped from the Performance Monitoring and Evaluation Plan (PMEP) to simplify reporting and remove indicators that were no longer relevant to the project.[304] In addition, the 'Promoting Innovation' (d) was dropped from the five inter-related components from the INVC project. Recently, for FY 2015, INVC added a village savings and loan (VS & L) component. INVC is exploring the utilization of VS&L clubs as a significant contributor to improving the income and nutrition standards of community members. In addition, INVC increased emphasis on gender equity and women's empowerment. Gender equality and women's empowerment are crosscutting factors in the linkage between agriculture and nutrition and ALL agricultural interventions should mainstream gender equity and women's empowerment.[305, 306] INVC recently hired a dedicated Gender Specialist to integrate gender throughout the INVC project. Furthermore INVC increased emphasis on strengthening local capacity development to look at the potential for INVC sub-partners to eventually graduate to prime recipients of USAID funding. INVC also recently modified its approach to project implementation within the Districts by focusing on '*3-C integration'*—co-location, coordination and collaboration with district governments, other development projects across sectors, and other donors, especially in the new implementation Districts of Balaka, Machinga, and Mangochi in line with USAID/Malawi's Country Development Cooperation Strategy (CDCS). To strengthen technical assistance and coordination for agriculture, INVC also added a second Deputy Chief of Party (DCOP) hired through DAI. Furthermore there was a change in the Chief of Party (COP) in January 2015.[307]

Terminology and Conceptual Model

The major terms that will be used in the evaluation include: nutrition-sensitive agriculture, agriculture-nutrition impact pathways, value chain, dietary diversity, gender, and integration.

Nutrition-sensitive agriculture: there is widespread consensus that nutrition-sensitive agriculture program design and policy need to incorporate *explicit nutrition goals/objectives and actions (interventions)* and *measurement* of nutritional outcomes/impacts with clearly defined indicators.[308, 309, 310, 311, 312] Evidence and experience demonstrate that explicit nutrition objectives maximize positive nutritional impacts and

[303] Phone conversation with Lynn Schneider, Feed the Future Coordinator, USAID/Malawi, 26 February 2015.

[304] The indicators that were removed include: Reduction in Child Anemia: Percentage (%) change prevalence of any anemia in children 6-59 months of age; Number of CSOs capacity increased to monitor and prevent undernutrition and to conduct appropriate referrals to appropriate care; Number of agricultural and food security cadres (i.e., local agricultural workers, trainers, and volunteers) trained to integrate nutrition improvement into agriculture, value chain development, and livelihood activities.

[305] Can Interventions to Promote Animal Production Ameliorate Undernutrition? American Society for Nutrition. The Journal for Nutriton. Leroy and Frongillo. 2007. Available at: http://jn.nutrition.org/content/137/10/2311.abstract

[306] The Importance of Gender in Linking Agriculture to Sustained Nutritional Outcomes Agriculture and Nutrition Global Learning and Evidence Exchange (AgN-GLEE) Bangkok, Thailand. Hazel Malapit and Shakuntala Haraksingh Thilsted. March 20 , 2013.

[307] The new COP was approved for INVC officially in December 2015 and began remotely with Home Office consultations effective 1 Jan 2015 and arrived in Malawi to take up new position on 17 Jan 2015.

[308] Synthesis of Guiding Principles on Agriculture Programming for Nutrition. The Food and Agricultural Organization of the United Nations (FAO). February 2013. Available at: http://www.fao.org/docrep/017/aq194e/aq194e.pdf.

[309] Widespread agreement on the need for a nutrition explicit goal objective includes consensus from major nutrition multilateral and implementing partners including: Bioversity Internatonal, European Commission, FANTA, FAO, Save the Children UK, UNSCN, the World Bank and World Vision.

[310] From Agriculture to Nutrition: Pathways, Synergies and Outcomes. The International Bank for Reconstruction and Development / The World Bank. 2007. Accessed at: http://siteresources.worldbank.org/INTARD/825826-1111134598204/21608903/January2008Final.pdf

[311] Berti et al. (2004)

[312] GAIN IDS Discussion Paper: Nutritious Agriculture by Design: A Tool for Program Planning. Spencer Henson, John Humphrey, Bonnie McClafferty. April 2013. Accessed at: http://www.ids.ac.uk/files/dmfile/GAIN-IDSDiscussionPaper.pdf

minimize harm within agricultural interventions and programs.[313] Including explicit nutrition goals into agricultural interventions/programs requires consideration of primary agricultural goals (and the processes by which these are set), measuring nutrition indicators and careful management of trade-offs as well as expectations.[314]

Agriculture-nutrition impact pathways are based on a conceptual framework (see Figure 3) that has been developed to define and characterize the impact of agricultural interventions (i.e. increased agriculture productivity) for improved nutrition. The agricultural-nutrition impact pathway framework identifies pathways by which agriculture may contribute directly and indirectly to improved nutritional outcomes and how evidence of impact may be gathered along these pathways. Agriculture-nutrition causal impact pathways are explicitly planned and detailed pathways for improving nutritional status along with other goals that can be measured through agriculture interventions. These pathways can serve as a beginning step for a conceptual and operational framework for program/policy design and evaluation.
A ***value chain*** is a supply chain in which value is added to the product as it moves through the chain. It is described by the series of activities and actors along the supply chain, and what and where value is added in the chain for and by these activities and actors. This includes all the actors (including producers, processors, distributors, and retailers) that participate in bringing a product or service from its conception to its end use in the market, as well as the extent and type of relationships between these actors. The term 'value chain' refers to the inter-linked enterprises, services and activities required to produce and supply products to "downstream" buyers including final consumers. They are referred to as value chains because value is added at each stage of production, transformation and distribution.[315, 316]

Dietary diversity is defined as the number of individual food items or food groups consumed over a given period of time.[317] It can be measured at the household or individual level through use of a questionnaire. Most often it is measured by counting the number of food groups rather than food items consumed. The type and number of food groups included in the questionnaire and subsequent analysis may vary, depending on the intended purpose and level of measurement. At the household level, dietary diversity is usually considered as a measure of access to food, (e.g. of households' capacity to access costly food groups), while at individual level it reflects dietary quality, mainly micronutrient adequacy of the diet. The reference period can vary, but is most often the previous day or week.[318, 319] Dietary

[313] Synthesis of Guiding Principles on Agriculture Programming for Nutrition. The Food and Agriculture Organization of the United Nations (FAO). February 2013. Accessed at: http://www.fao.org/docrep/017/aq194e/aq194e.pdf

[314] Positioning Nutrition in the Post-2015 Debate. Institute of Development Studies (IDS). Lawrence Haddad. March 14, 2013.

[315] Value Chains for Nutrition. Prepared for the IFPRI 2020 international conference "Leveraging Agriculture for Improving Nutrition and Health," February 10–12, 2011, New Delhi, India. Corinna Hawkes and Marie T. Ruel. Updated June 2011.

[316] Integrating Very Poor Producers into Value Chains Field Guide. Dan Norell and Margie Brand for World Vision through the FHI 360-managed FIELD-Support LWA. Available at: *http://microlinks.kdid.org/sites/microlinks/files/resource/files/Field%20Guide%20FINAL%20with%20bleed%2010.17%20(1).pdf*

[317] Ruel, MT. 2003. Operationalizing dietary diversity: A review of measurement issues and research priorities. Journal of Nutrition 133:3911S-3926S. 2003

[318] FAO. 2011. Guidelines for measuring household and individual dietary diversity. Food and Agriculture Organization of the United Nations, Rome, Italy.

[319] World Food Programme (WFP). 2009. Comprehensive Food Security & Vulnerability Analysis Guidelines. United Nations World Food Programme, Rome, Italy.

diversity is strongly associated with nutrient adequacy, is widely recognized as being a key dimension of diet quality, and is reflected in food-based dietary guidelines. [320, 321 ,322, 323]

Gender is a social construct that refers to relations between and among the sexes, based on their relative roles.[324] It encompasses the economic, political, and socio-cultural attributes, constraints, and opportunities associated with being male or female. As a social construct, gender varies across cultures, is dynamic, and open to change over time. Because of the variation in gender across cultures and over time, gender roles should not be assumed but investigated. Note that "gender" is not interchangeable with "women" or "sex."

With the recent series of systematic reviews on the impact of agriculture and nutrition there has been much focus on the 'integration of agriculture and nutrition.'[325, 326] Recently there has been an active discussion of what this integration means within the agriculture and nutrition community through the USG-supported Food Security and Nutrition (FSN) network forum. Does the term 'integration' necessitate that every activity is integrated? Or does it more broadly imply that the program has integrated objectives? Or does it imply the integration of a community mobilization approach?[327] While conducting our evaluation, the Evaluation Team will examine nutrition integration within an agricultural value chain and more clearly define 'integration' in this context. Currently, the INVC project does not have a clear definition of integration that they are using. While recognizing this, INVC explains that they integrate at three different levels: 1. ***Organizational Integration***: in which they are integrating agriculture and nutrition through on a structural level through the management, coordination, planning, monitoring and evaluation to improve the enabling environment for this integration; 2. ***Integration of nutrition-sensitive agriculture interventions/activities***: INVC explains that they are trying to integrate agriculture and nutrition though joint activities and interventions such as joint agriculture and nutrition cooking demonstrations within the EPA's and using the promoted legume value chains to encourage home food processing for added value for nutrient-dense home consumption (i.e. complementary foods); 3. Finally, INVC is ***integrating agriculture and nutrition into its behavior change communication campaign*** targeted both promoted nutrition and agriculture behaviors and practices through joint messaging such as their *'Sell Some. Keep Some. Invest Some'* key behavior change message in which farmers are encouraged to sell some of their groundnuts/soya beans for income, keep some for home consumption, and invest some of the yield for the future growing season.

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[320] Nutrition Division/Meeting Programming and Documentation Service, FAO, 2013 adapted from the International Symposium on Food and Nutrition Security: Food-based approaches for improving diets and raising levels of nutrition, FAO, 2010 (http://www.fao.org/ag/humannutrition/24259-0306025ae307fac11c643947408a112d.pdf).

[322] An Introduction to Nutrition-Agriculture Linkages. MINAG/DE Research Report 72E. Maputo, Mozambique: Directorate of Economics, Ministry of Agriculture. Chung, K. 2012. Available at: http://fsg.afre.msu.edu/mozambique/WP72Chung.pdf

[323] Dietary Diversity as a Measure of the Micronutrient Adequacy of Women's Diets in Resource-Poor Areas: Summary of Results from Five Sites. Arimond, Mary, et al. 2011 *(http://www.fantaproject.org/downloads/pdfs/WDDP_Summary_Report_Jul2011.pdf)*

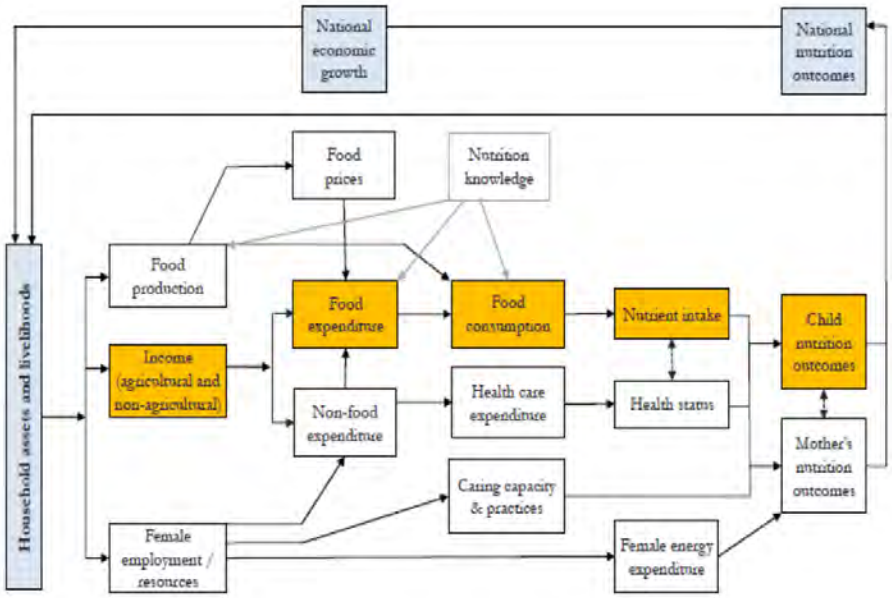
[324] Tips for Integrating Gender Into USAID Agriculture Sector Solicitations. Washington, DC: U.S. Agency for International Development (USAID). 2010

[325] Arimond M, Hawkes C, Ruel M, Sifri Z, Berti P, LeRoy J, Low J, Brown L, Frongillo E. 2011.Agricultural Interventions and Nutrition: Lessons from the Past and New Evidence, in Thompson B, and Amoroso L. (eds.) Combating micronutrient deficiencies: food-based approaches. Rome, Italy: Food and Agriculture Organization of the United Nations/CABI International, chapter 3, pp 41-7

[326] Masset E, Haddad L, Cornelius A, Isaza-Castro J. 2011. A Systematic Review of Agricultural Interventions that aim to Improve Nutritional Status of Children. London: EPPI-Centre, Social Science Research Unit, Institute of Education. University of London.

[327] http://www.fsnnetwork.org/document/integration-agriculture-and-nutrition

Figure 3: Agriculture Nutrition Causal Impact Pathways: Nutrition-Sensitive Value Chain



Source: Agriculture-Nutrition Causal Pathways Framework, derived from Gillespie et al., 2013 by Anna Herforth and Jody Harris with SPRING, 2014.

Agriculture-nutrition causal impact pathways can serve as a beginning step for a conceptual and operational framework for program/policy design and evaluation. First, ***explicit nutrition goal/objectives*** are set at the beginning of an agricultural intervention or program's planning process. Then it is essential to ***identify the different pathways*** through which an agricultural intervention and/or program may have a nutritional impact on nutrition. The current evidence-base should be taken into consideration while examining the nutritional impact along the agriculture nutrition pathway.[328] These pathways need to be thoroughly planned and discussed with the implementers, along with the country context and possible implications. During the implementation phase of the pathway the program should deliver ***intermediate results***, document and continually test program impact pathways. [329, 330]

Maximizing the nutritional impact of agricultural interventions involves continuous examination and strengthening of each component in the pathway and preventing negative impacts and harm that undermine the pathways. In summary, articulating a clear agriculture-nutrition pathway is necessary, supported by explicitly defined ***goals/objectives***, ***actions/interventions***, ***intermediate results,*** and ***indicators.*** Throughout our evaluation we will look systematically at what nutrition goals and objectives were defined at the onset through agricultural interventions and define and analyze the nutrition-sensitive actions and interventions. Furthermore, we will examine how the nutrition-related intermediate results and indicators have been tracked and monitored throughout the life of the project and how nutritional status and adoption/dissemination of technologies and practices have been measured through agricultural interventions, if at all.

[328] GAIN IDS Discussion Paper: Nutritious Agriculture by Design: A Tool for Program Planning. Spencer Henson, John Humphrey, Bonnie McClafferty. April 2013. Accessed at: http://www.ids.ac.uk/files/dmfile/GAIN-IDSDiscussionPaper.pdf

[329] Scaling up in Agriculture, Rural Development, and Nutrition. Overview: Pathways, Drivers, and Spaces. Johannes F. Linn. International Food Policy Research Institute (IFPRI), June 2012.

[330] Agriculture Programming for Nutrition Guiding Principles – DRAFT – FAO, September 2012.

Analysis of the Intervention Logic of the Program

In Malawi, the demand for nutritious food or diet is constrained both by the lack of dietary knowledge, and by limited access to a nutritious diet. However, recently, the Country Development Cooperation Strategy (CDCS) Impact Evaluation Baseline Results revealed that many respondents have knowledge of a balanced diet, but lack the ability to grow or produce the necessary food to sustain a nutritious, dietary diverse diet.[331] In order to address the latter constraint, there is a need to increase the availability of nutritious food while increasing farmers' income. INVC intends to integrate the agricultural productivity and increasing household income with nutrition interventions to improve nutritional status. Below is a description of the core elements of the INVC model.[332]

Improved Agricultural Production and Household Income

Increased agriculture production and competitiveness accrue to increased household income. The focus in INVC is on legume value chains, specifically soybeans and groundnuts.

With 95% of soybean production derived from smallholder farmers, soybean demand continues to increase due to a growing demand nationally and regionally for poultry meat, eggs, and soy processed products, such as soy pieces, flour, and oil.[333] Soybeans, on national markets, are increasingly sought to meet demand for animal feed, corn-soy blend (CSB)-which can be used for complementary fortified foods, soy pieces, and vegetable oil. Hence, demand remains high from the poultry industry to national processors. In addition, Zimbabwe presents a strong export opportunity depending on soybean pricing and meeting regional level quality standards. Against these advantages loom disadvantages: the uncertain supply of soybean seed quantity and quality, low availability of rhizobium inoculants, in addition to uncertainty about nationally-produced inoculant, low production and utilization, inadequate knowledge of soybean grades and standards in trading, a slow process for setting standards for fortified food products, and overall weak value chain organization.

With groundnuts, there is the potential to increase their profitability by 51% by improving management practice without increasing cash input.[334] Groundnuts are also re-emerging as an export crop due to regional demand in South Africa, the DRC, and SADC member states. To increase agricultural productivity, there is a need to strongly support the seed system, production management training and extension, and improved harvesting and postharvest handling. With value-added processing and additional training and extension activities that promote good grades, Good Agricultural Practices, HACCP standards, and the further enhancement of marketing product quality. Essential to this process, however, is educating stakeholders vertically up the value chain on how to mitigate the risk of aflatoxin contamination. Presently, aflatoxin contamination hampers market expansion, value-addition, and utilization as food and incorporation in fortified foods.

Within the INVC model village level, smallholder farmers belong to Farmers Clubs (FC) that promote and facilitate access to agricultural inputs, such as seeds and rhizobium inoculants, for legume value chains (soybeans and groundnuts). Farmer´s clubs are supported with knowledge and information by a lead farmer in the intermediary tier but the Farmer´s clubs belong to Group Action Committees (CGA), either Gender, Nutrition and HIV Group (GNHIVG) or Farming/Marketing Groups. The Lead Farmer in the village is trained by Field Officers from any of the Technical Service Providers (TSPs) such as NASFAM, FUM and CADECOM with TSPs overseeing the technical support. These organizations link farmers with agro-dealers, participate in input/seed distribution, develop lead farmers, provide training in

[331] USAID Malawi Country Development Cooperation Strategy Impact Evaluation Baseline Report. February 2015.
[332] This description is based on Figure 1, Evaluation Impact Inception Report (2014)
[333] INVC FY2014 Revised Workplan Final, December 2013, p.21.
[334] Referencing Simtowe et al. 2009. In INVC FY2014 Revised Workplan Final, December 2013, p. 23.

market development and collective marketing for expanded sales, and promote structured trade through forward contracting, offer and bid volume only auctions, and the warehouse receipt system.

Improved Nutritional Status

In accordance with the INVC Results Framework,[335] increased agricultural production will improve nutritional status by three agriculture-nutrition impact pathways: 1) Increasing access to diverse and quality food (IR 6) by a) higher agricultural production and decreased food prices contributing to improved nutrition outcomes, b) increasing household income through selling agricultural products, contributing to improved nutrition outcomes, and c) the increase of nutrient-dense food production for own household consumption through promotion of home gardens as well as the promotion of the new legume value chains for own consumption to diversify the diet, contributing to improvement in women and children's nutritional outcomes. The second and third agriculture-nutrition impact pathways that improve nutritional status include: 2) facilitating access to nutrition behavior change communication and education through participation in Community Care Groups and Farmers Clubs to improve nutrition-related behaviors (IR 7), 3) linkages/referrals to improved use of maternal and child health and nutrition services (IR 8).

At the community-level direct beneficiaries are reached through the household-level including pregnant and lactating women (PLW), and mothers, caregivers and fathers of children under five through participation in Community Care Groups (CCG) facilitated by Nutrition Promoters. Nutrition Promoters and the cascaded Community Care Group Lead Mothers and Fathers act as key change agents to influence households to adopt promoted nutrition behaviors while also increasing the demand to improve one's diet (i.e. through promotion of dietary diverse vegetables through backyard gardens or through promoted value chain legumes) and increasing the demand for nutrition services (i.e. growth monitoring and promotion or vitamin A supplementation). A sensitization meeting is conducted with either Global Action Committee (GAC) or within the Gender & Social Committee of the National Association of Smallholder Farmers of Malawi (NASFAM) and the Farmers Union of Malawi (FUM) organizational clusters. A call for applications for the position of the Nutrition Promoter is issued, and candidates are short-listed as well as interviews conducted. Successful candidates are selected using specific criteria. Once Nutrition Promoters are selected they are trained in the Care Group Model and INVC project routine Monitoring and Evaluation (M&E). Nutrition Promoters develop action plans on community mobilization and roll out Care Group activities. Supportive supervision for the Nutrition Promoters is facilitated by both the Nkhoma Hospital project technical staff, as well as the INVC decentralized District staff including District Coordinators and Nutrition Assistants. There is coordination and collaboration with District-level government authorities including: District Nutrition Officers (DNO), District Environmental Health Officers (DEHO), District Agricultural Development Officer (DADO), Food and Nutrition Officer (FNO) and the Maternal and Child Health Nutrition Coordinator (MCHN).

The Nutrition Promoters, in collaboration with community and village members select Community Care Group volunteers-lead mothers/fathers to form health and nutrition-oriented Community Care Groups at the village/community level. Community Care Group volunteers-lead mothers/fathers are selected and clusters of households are formed into Community Care Groups facilitated by Nutrition Promoters that meet on a monthly basis. All households with pregnant & lactating women with children under five years of age within the village are registered. Theses households are then the recipients of monthly home visits by the CCG volunteers. In some cases, these same registered households are also Farmer Club members through NASFAM and FUM. INVC consortium is in the process of mapping this overlap

[335] Performance Monitoring and Evaluation Plan (PMEP). December 2013. Malawi Integrating Nutrition In Value Chains (INVC) Final – Revised. March, 2014.

out and we hope some data will be available to use in this evaluation. This **integration point of entry** will be interesting to examine the potential reinforcement of mutual-beneficial activities and behavior change messages to improve nutrition.

Key nutrition activities include:

- **Social and Behavior Change Communication (SBCC**) for nutrition through targeted community activities including: theatre for development, radio jingles, radio programs, and public service announcements;
- **Promotion of Dietary Diversity:** The promotion and cultivation of high nutrient-dense value chain crops (i.e. soybeans, groundnut, and vegetables in backyard gardens). The promotion of dietary diversification through behavior change communication, including the promotion of home backyard gardens;
- **Promotion of Household and Community Food Processing:** Facilitation of household and community-level food processing activities and demonstrations to add value through nutrition;
- **Promotion of Fortified Complementary Foods with Promoted Value Chain crops:** Facilitation of fortified complementary foods (FCFs) with soy for children aged 6-to-24 months;
- **Support for Community-based Growth Monitoring and Promotion (GMP):** INVC has supported GMP through directly funding local government authorities to conduct both routine bi-annual Child Health Days as well as routine monthly GMP outreach through Extension-level Health Surveillance Assistants (HSA). In some cases, the trained Nutrition Promoters accompany and assist the HSA with this GMP.
- **The Promotion and Support of vitamin A supplementation and deworming** through local government authorities through bi-annual Child Health Days in some villages.
- **Rapid Acute Malnutrition Screening and Referral**: Despite the plans within the INVC workplan to conduct rapid acute malnutrition community identification, screening and referral of malnourished children to health facilities for children under five years of age, these activities have not yet begun.
- **Community Complementary Feeding and Learning Sessions (CCFLS):** Despite the plans within the INVC workplan to improve exclusive breastfeeding and complementary feeding through Community Complementary Feeding and Learning Sessions (CCFLS), *'Thanzi sessions'* these activities have not yet begun.
- **Promotion of improved complementary feeding practices**;
- **Promotion of improved Hygiene and Sanitation** including: improved latrines, improved water sources, food hygiene, waste management, the promotion of hand washing with soap (HWWS), how to set up a household hand washing station, and household water treatment.

The overall support for the direct implementation of nutrition activities within Lilongwe and Mchinji is led by Nkhoma Hospital, based in Lilongwe supported by INVC project oversight staffed by two District Nutrition Coordinators. Nkhoma Hospital is supported by the international technical assistance partners' Save the Children Federation Inc. (STC) and DAI. Recently, DAI began direct implementation of nutrition activities within Balaka, Machinga and Mangochi (since July 2014). INVC also enhances the enabling environment for execution of nutrition activities and conducted extensive stakeholder mapping where Feed the Future interventions are implemented including: non-government organizations (NGOs), theatre groups (existing and emerging), HSA, AEDO, and Information Officers. In addition, INVC core consortium members conduct and participate in coordination and technical working group

(TWG) meetings with key nutrition stakeholders at the national, District, and Extension/Village levels.[336] Finally, the INVC consortium helps conduct supportive supervision, mentoring, and coaching of partners.

Developing Local Institutional Capacity

The achievement of some intermediate results such as improved agricultural productivity, increased investment in agriculture, and nutrition related activities depends upon some cross-cutting intermediate results. One of them is enhanced human and institutional capacity development for increased sustainable agricultural sector productivity. In addition to sub-granting to local organizations to provide agriculture and nutrition services and improving their technical capacity to improve the quality of service delivery, INVC provides technical assistance to improve the organizational capacity of a number of organizations including: CADECOM, CISANET, FUM, NASFAM, and Nkhoma in which INVC provides extensive support and oversight to these technical service providers while concurrently executing a capacity development plan. Sub-partner organizations had organizational capacity assessments (OCA) that identified capacity gaps. Assessment of the organizational capacity gaps of these partners informed programmatic decisions regarding future institutional capacity building approaches and activities. Training, mentoring and coaching interventions aim to develop their capacity and move them to level where they can deal directly with USAID as awardees. Besides the international technical assistance from INVC, the Malawi Institute of Management is another key institution that provides technical assistance in local institutional capacity.

Purpose of the Evaluation

In December 2014, the USAID mission in Malawi tasked the Feed The Future Knowledge-Driven Agricultural Development (KDAD)—a USAID-funded activity led by Insight Systems Corporation, and the QED Group, LLC—to evaluate the performance of the Feed the Future funded ***Malawi Integrating Nutrition in Value Chains (INVC)*** project. The evaluation will ascertain if USAID/Malawi's integrating nutrition in value chain approach is working effectively and it will also further inform integration efforts and future planning. The purpose of this Performance Evaluation is to:

- **Assess INVC's performance of four primary components of the activity**—1) value chain competitiveness, 2) agricultural productivity, 3) nutrition, and 4) local capacity development (LCD);
- **Assemble key lessons learned for future agriculture-nutrition projects** from the implementation of the INVC in all four above mentioned areas;
- **Determine whether any local sub-partners will be eligible and willing to become direct USAID prime partner awardees** at the end of the INVC;
- **Help inform future agriculture, nutrition, and LCD activity design** for USAID/Malawi and other stakeholders.

This largely qualitative performance evaluation will incorporate and complement lessons learned from other recent quantitative and qualitative studies. For example, this study will build on the quantitative information generated by:

[336] Participates in all technical working group meetings and other platform sessions on nutrition organized by DNHA, the Ministry of Health and the Ministry of Agriculture and Food Security; Participating in the National Technical Working Group on BCC; Information, Education and communication Review Committee under the Health Education Unit. District executive committee meetings, National Nutrition Committee meeting, National Scaling up Nutrition taskforce meetings, Infant and Young Child Feeding (IYCF) TWG, Micronutrient TWG, National Fortification Alliance, National Program for control of aflatoxins.

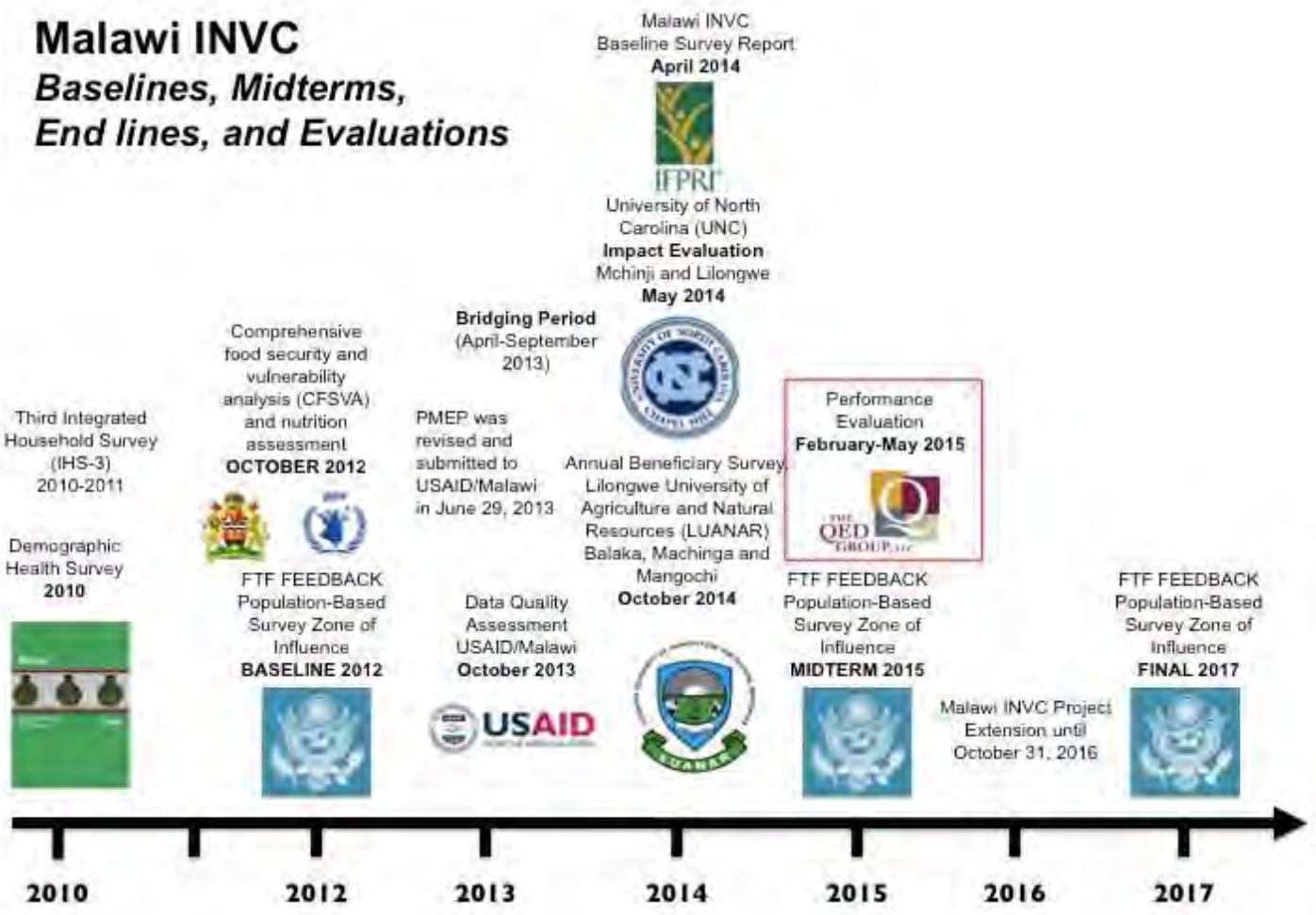
- **Impact Evaluation:** The Feed the Future FEEDBACK mechanism partner—the University of North Carolina (UNC)—which conducted the baseline for an Impact Evaluation in Mchinji and Lilongwe Districts in Sept-Oct 2014. This impact evaluation is still underway and will be completed in 2017.
- **Annual Beneficiary Surveys:**
    - INVC through the Lilongwe University of Agriculture and Natural Resources (LUANAR) conducted an Annual Beneficiary Survey for agriculture in all seven Districts in August-September 2014[337] and
    - Nutrition Baseline Survey[338]: LUANAR conducted the Beneficiary Population-Based Nutritional Baseline Survey in August 2014 targeting the three additional nutrition districts (Balaka, Machinga, and Mangochi).
- **Quantitative Malawi INVC Baseline Survey**: The International Food Policy and Research (IFPRI) conducted a quantitative Malawi INVC Baseline Survey. [See Figure 4 for the estimated timeline].

The performance evaluation will seek to coordinate and align its evaluation design with the Contractor's Performance Monitoring and Evaluation Plan (PMEP), such that the evaluation will appraise the activity's performance against the targets and results outlined in the PMEP plan, in alignment with the questions within the Performance Work Statement (PWS). The INVC consortium and its local partners will serve as key informants throughout the performance evaluation process. Close collaboration between INVC consortium and its local sub-partners, third party evaluators, and USAID will be essential throughout the short life of the activity. However, while the evaluation process requires clear and substantive collaboration with the INVC implementing team consortia, the third party will remain as an external and impartial evaluator of outcomes linked to factors that hinder or enhance project performance.

[337] Household Annual Beneficiary Agricultural Outcome Survey. 2013/14 Annual Evaluation of INVC. Lilongwe University of Agriculture and Natural Resources. January 2015.

[338] Beneficiary Population-Based Nutritional Baseline Survey. Balaka, Machinga and Mangochi
Beatrice Mtimuni, PhD. Lilongwe University of Agriculture and Natural Resources (LUANAR) October 15, 2014.

Malawi INVC Draft Baselines, Midterms, End lines and Evaluation Timeline



OVERALL APPROACH: EVALUATION DESIGN AND METHODOLOGY

Below is a discussion of the scope of the evaluation coverage, key and secondary data sources that the Evaluation Team will be consulting for analysis, data collection and design strategy, data collection instrument(s), and how they will be used to conduct this evaluation. Finally, risks and limitations as well as the importance of integrating gender into the evaluation are addressed. The *Performance Evaluation Planning Matrix* contains the six key evaluation questions, the relevant Performance Monitoring Evaluation Plan (PMEP) indicators, the data collection method(s) and sources to be used are specified as well as the targeted stakeholder groups (please see Annex A). Prior to approval of this inception report and complimentary workplan and prior to the field trips, additional detailed questions were developed for each level of stakeholder with detailed interview discussion guides and instruments. Refer to Annex B for the Work Schedule.

Prior to conducting stakeholder consultations and interviews, the Evaluation Team will interview relevant INVC critical implementing partners such as the Prime Partner-DAI and the INVC Consortium Partners- Michigan State University and Save the Children Federation Inc. The table below lists the six performance evaluation questions that this evaluation will be addressing.

Performance Evaluation Questions

Question 1: Which elements and/or approaches of INVC's integrated model have been most successful in leading to adoption of both the promoted agriculture and nutrition behaviors and practices by beneficiaries?
Question 2: Which of INVC's promoted nutrition behaviors and practices have been most widely adopted by beneficiaries and why?
Question 3: Which of the collective marketing approaches promoted by INVC have been most effective in linking beneficiaries to markets?
Question 4: To what extent have beneficiaries adopted INVC's promoted agricultural production technologies and practices?
Question 5: To what extent has the productivity of soy and groundnut increased for beneficiaries as a result of adoption of the promoted agricultural production technologies and practices?
Question 6: To what extent have INVC's LCD efforts strengthened the organizational capacity and performance/service delivery of local sub-partners?

Source: Performance Work Statement for the Performance Evaluation of USAID/Malawi's Integrating Nutrition in Value Chains Activity. December, 2014

The evaluation team will reach various levels of stakeholders and direct beneficiaries in the seven districts to gather information through various **evaluation methods** including consultations, document reviews, direct observations, key informant interviews: individual and group, focus group discussions and secondary data analysis. Primary information will be complemented with secondary information and data sources available in INVC reports and other sources. There are a total of 5 main stakeholder groups that we will try to receive qualitative input from including: 1) **the INVC Consortium**– both Lilongwe Management/Technical Staff; 2) **Local sub-partners**–direct implementing partners INVC Consortium District Level Management/Coordination Staff, technical service providers and financial service providers; 3) **District-level stakeholders**-especially GOM District level staff that have been involved in implementation of INVC activities; 4) **Extension Planning Area (EPA)/Village**-level stakeholders within the government; 5**) Direct Beneficiaries: Community Volunteers** including the Group Action Committees (GAC) = multiple Farmer Groups represented, Lead Farmers (both men and women), Assistant Lead Farmers, Farmers Clubs (FC) (10-12 farmers) for both Soya bean and Groundnuts and for nutrition the trained men and women that are Nutrition Promoters, and the Community Care Group Volunteers (CGV)(lead Mothers/Fathers.). Lastly 5.1) **Direct Beneficiaries: Households** including for

nutrition the Community Care Group Households including Pregnant and Lactating Women (PLW) and mothers/caregivers of children under 5/2 (including fathers of children under 5/2) and for agriculture the Farmers Clubs Members whom are smallholder farmers with assets and both men and women. See the table below for more details on the targeted stakeholders. In addition to the stakeholders mentioned above, the Evaluation Team anticipates identifying other individuals and organizations during the course of the evaluation by recommendations from others involved in the project that can offer insights on project performance and future directions, and we will interview them accordingly. The Evaluation Team will keep a log of all contacts and selected photos.

Performance Evaluation Stakeholder Groups and Questions

No.	Stakeholder	Evaluation Questions					
		Q1	Q2	Q3	Q4	Q5	Q6
1	**INVC Consortium:** ▪ Development Alternatives Inc. (DAI) ▪ Michigan State University ▪ Save the Children Federation Inc. **1.1. INVC Lilongwe Management/Technical Staff**	☐	☐	☐	☐	☐	☐
2	**Local Sub-Partners** (direct implementing partners, technical service providers and financial service providers) **INVC Consortium District Level Management/Coordination Staff** ▪ Implementing Partner Coordinator / Innovation Productivity Center Coordinator (IPC) ▪ Assistant Field Officers (AFO)-Agriculture ▪ District Nutrition Coordinators Nutrition Assistants ▪ Agricultural Commodity Exchange for Africa (ACE) ▪ Catholic Development Commission of Malawi (CADECOM) ▪ Civil Society Agriculture Network (CISANET) ▪ Farmer's Union of Malawi (FUM) ▪ International Institute for Tropical Agriculture (IITA) ▪ National Smallholder Farmers Association of Malawi (NASFAM) ▪ Nkhoma Hospital ▪ Pakachere Institute of Health & Development Community (PIHDC)	☐	☐	☐	☐	☐	☐
3	**District Level** Government of Malawi District level: ▪ District Commissioner ▪ Director of Planning and Development (DPD) ▪ District Agricultural Development Officer (DADO) (Head) ▪ District Agricultural Extension Methodologies Officer (AEMO) ▪ Agribusiness Officer (ABO) ▪ District Nutrition Officer (DNO) ▪ District Environmental Health Officer (DEHO) ▪ District Agricultural Development Officer (DADO) ▪ Food and Nutrition Officer (FNO) ▪ Maternal and Child Health Nutrition Coordinator (MCHN)	☐	☐	☐	☐	☐	
4	**Extension Planning Area (EPA)/Village Level** ▪ Group Village Heads (GVH) ▪ Village Head (VH) ▪ Group Action Committees (GACs) ▪ Agriculture Extension Development Coordinator (AEDC)		☐	☐	☐	☐	

Performance Evaluation Stakeholder Groups and Questions

No.	Stakeholder	Evaluation Questions					
		Q1	Q2	Q3	Q4	Q5	Q6
	▪ Agriculture Extension Development Officers (AEDO) ▪ Senior Health Surveillance Assistants (S-HSA) ▪ Health Surveillance Assistants (HSA)						
5	**Direct Beneficiaries: Community Volunteers** Agriculture: ▪ Group Action Committees (GAC) = multiple Farmer Groups represented ▪ Lead Farmers (both men and women) ▪ Assistant Lead Farmers ▪ Farmers Clubs (FC) (10-12 farmers)[339] ▪ Soy Group ▪ Groundnut Group Nutrition: ▪ Nutrition Promoters (Trained Men And Women) ▪ Community Care Group Volunteers (CGV)(Lead Mothers/Fathers)[340]	☐	☐	☐	☐	☐	
5.1	**Direct Beneficiaries: Households** ▪ Community Care Group Households ▪ Pregnant and Lactating Women (PLW) ▪ Mothers/Caregivers of children under 5/2 ▪ Fathers of children under 5/2 ▪ Farmers Clubs Members: Smallholder Farmers (both men and women)	☐	☐	☐	☐	☐	

Levels and Key Stakeholders

Level	Role	Nutrition	Agriculture
National/Central Level	INVC Consortium-Lilongwe	▪ Development Alternatives Inc. (DAI) ▪ Michigan State University (MSU) ▪ Save the Children Federation Inc. (SC)	
	INVC Consortium-District-Decentralized Focal Persons	Balaka	District Nutrition Coordinator-Nutrition, & Nutrition Assistants; Assistant Field Officers (AFO)-Agriculture
		Dedza	No Nutrition focal person as no nutrition activities; Assistant Field Officers (AFO)-Agriculture
		Lilongwe	District Nutrition Coordinator & Nutrition Assistants; Implementing Partner Coordinator / Innovation Productivity Center Coordinator (IPC); Assistant Field Officers (AFO)-Agriculture
		Machinga	District Nutrition Coordinator-Nutrition and Assistant Field Officers (AFO)-Agriculture
		Mchinji	District Nutrition Coordinator & Nutrition Assistants; Assistant Field Officers (AFO)-Agriculture

[339] As advised by USAID/Malawi, in the Districts with nutrition interventions, Farmers Club-both lead farmers and beneficiaries should also be asked Q1.

[340] Community Care Groups should be asked about Q1 as well, since we want to find out if they are also adopting the promoted ag behaviors in addition to the nutrition behaviors, and why.

Levels and Key Stakeholders

Level	Role	Nutrition	Agriculture
	Local Sub-Partner Implementing Partners	▪ Nkhoma Hospital	▪ Catholic Development Commission of Malawi (CADECOM) ▪ Civil Society Agriculture Network (CISANET) ▪ Farmer's Union of Malawi (FUM) ▪ National Smallholder Farmers Association of Malawi (NASFAM)
	Local Sub-Partner Technical Service Providers	▪ Pakachere Institute of Health and Development Communication[341]	▪ Agricultural Commodity Exchange for Africa (ACE) ▪ Civil Society Agriculture Network (CISANET) ▪ International Institute for Tropical Agriculture (IITA)
	Local Sub-Partners Business Service Providers	▪ No business service providers	▪ Agricultural Commodity Exchange for Africa (ACE)
DISTRICT	Key District Gov't Stakeholders	• **Food and Nutrition Officer** • District Commissioner[342] • Director of Planning and Development (DPD) ▪ ***District Agricultural Development Officer (DADO)** (Head) • ***District Nutrition Officer (DNO)**[343] ▪ District Health Officer (DHO) ▪ District Environmental Health Officer (DEHO)(report to DHO) ▪ ***Maternal and Child Health Nutrition Coordinator (MCHN)**[344]	▪ District Commissioner ▪ Director of Planning and Development (DPD) ▪ ***District Agricultural Development Officer (DADO)** ▪ ***Food and Nutrition Officer**

[341] Note that Pakachere is based in Blantyre. It will be easiest for you to meet with Pakachere when you travel to the Southern Region to visit Balaka, Machinga, Mangochi

[342] The District Commissioner is involved in sensitization, lobbying, orientation, and training.

[343] The District Nutrition Officer is a new cadre of mid-level management nutrition managers that will coordinate, plan and manage nutrition interventions at the District level. In some cases the former Food and Nutrition Officer was recruited to fulfill this role but recruitment is inconsistent in each District. The roles and responsibilities have not necessarily been defined yet as it is a new cadre, which creates confusion at the District level. In Lilongwe-2 1 East and 1 for West this position has been filled according to INVC since 2012 although this needs to be verified.

[344] The Maternal and Child Health Nutrition Coordinator (MCHN) is involved in Malawi INVC Nutrition Promoter training cascade and reports to the District Environmental Health Officer (DEHO)

Levels and Key Stakeholders

Level	Role	Nutrition	Agriculture
EXTENSION PLANNING AREAS	Extension	▪ Traditional Authority Chief[345] ▪ Group Village Heads (GVH) ▪ ***Agriculture Extension Development Coordinator (AEDC)** ▪ **Senior Health Surveillance Assistants (S-HSA)**[346] ▪ **Health Surveillance Assistants (HSA)**[347]	▪ Traditional Authority ▪ ***Agriculture Extension Development Coordinator (AEDC)** ▪ **Agriculture Extension Development Officers (AEDO)** ▪ **Group Village Heads (GVH)**[348] ▪ **Group Action Committees (GACs)**
DIRECT BENEFICIARIES: COMMUNITY	Direct Beneficiaries: Community Volunteers	▪ **Nutrition Promoters**[349] (men and women) ▪ **Community Care Group Volunteers (CGV)**(Lead Mothers/Fathers)	▪ Lead Farmers[350] (for many different subjects, including nutrition) ▪ Assistant Lead Farmers ▪ Farmers Clubs (10-12 farmers) ▪ Groundnut Group ▪ Soybean Group
	Direct Beneficiaries: Households	▪ **Community Care Group Households** ▪ Pregnant and Lactating Women (PLW) ▪ Mothers/Caregivers of children under 5/2 ▪ Fathers of children under 5/2	▪ Smallholder Farmers (both men and women)

Figure 5 provides an illustration of the main stakeholders that the Evaluation Team will interview by level performance evaluation methodology. Basically, we will be speaking and meeting with stakeholders from 5 main levels: the national/central/project administration level which includes the INVC consortium and sub-partners and any national ministries representation, etc., as necessary that have been involved in project implementation and management from the central level. At the District level we will be meeting and interviewing key District GOM staff and INVC project staff that have been involved in project implementation and management. At the Extension Planning Area/Village level the Evaluation Team will be meeting with key GOM extension staff and community counterparts that have participated in or helped facilitate INVC project activities. The Evaluation Team will also be meeting with direct project beneficiaries including the trained community volunteers: Nutrition Promoters, Community Care Group volunteers (CGV) and Farmers Clubs leaders as well CG and FC direct beneficiary members whom are the direct beneficiaries of the INVC project interventions. These stakeholders include PLW and caregivers of children under 5 and smallholder farmers. The Evaluation Coverage & Methodology section next discusses how many Districts and villages the Evaluation Team will be meeting with.

[345] The Traditional Authority Chief is a traditional leader that reports to Director of Planning and Development

[346] The Senior Health Surveillance Assistants (HAS) report to the Environmental Health Officer at the District level.

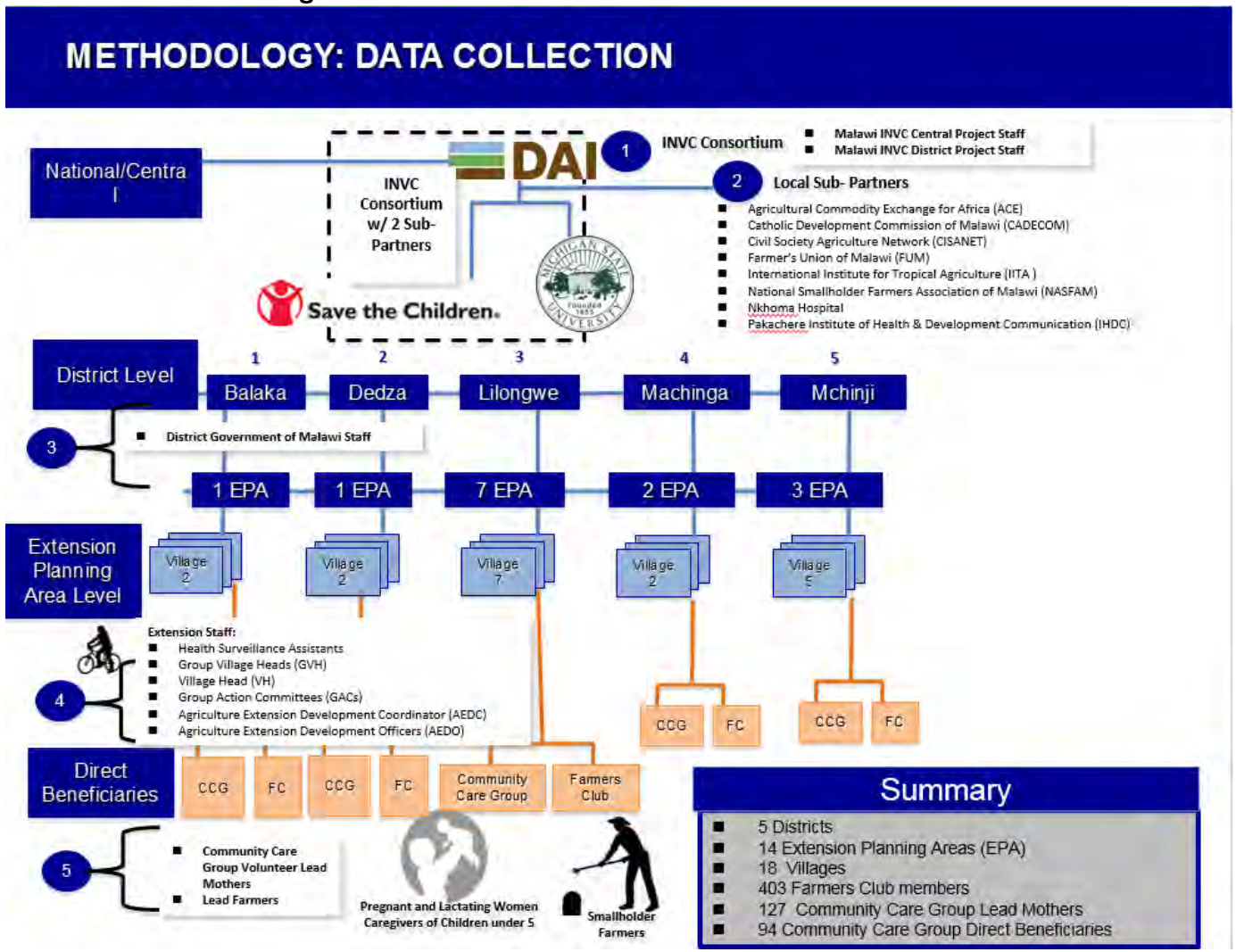
[347] The Health Surveillance Assistants (HSA) at the Extension Planning Area level reports to Senior Health Surveillance Assistant

[348] The Group Village Headman (GVH) is an informal grouping of villages rather than a defined geographic-administrative area; however, GVHs do fit roughly within Sections which serve as the geographic subdivision below EPAs. The Group Vilage Headmans report to the Traditional Authority Chief.

[349] which work with multiple CCGs, as well as Lead Mothers/Fathers, which together constitute a CCG. Need to better understand the CCG structure

[350] Lead Farmers works with 50 individual famers/5 clubs w/10 members.

Figure 5: Performance Evaluation Stakeholder Selection



Evaluation Coverage & Methodology
In accordance with INVC's Scope of Work (SOW), "the Contractor must emphasize the achievement of significant coverage ("saturation") of nutrition interventions within the five targeted districts rather than spreading interventions thinly over the districts". The INVC project operates in seven districts in the central and southern part of Malawi. In all but two districts (Dedza and Ntcheu) INVC is only working in value chain development. The integrated approach, nutrition and value chains started in Lilongwe and Mchinji Districts followed by Balaka, Machinga and Mangochi Districts. Villages in the districts have Community Care Groups and Farmers Clubs (only Farmers Clubs in Dedza and Ntcheu Districts). Local sub-partners are present at the National/Central, District, EPA/Village and community levels. The INVC consortium supports these local sub-partners.

Site Selection & Selection of Focus Group Participants
The INVC project operates in seven districts in the central and southern part of Malawi. In all but two districts (Dedza and Ntcheu) INVC is only working in value chain development. The integrated approach, nutrition and value chains started in Lilongwe and Mchinji Districts in 2013 followed by Balaka, Machinga and Mangochi Districts in July 2014. Villages in the districts have Community Care Groups and Farmers Clubs (only Farmers Clubs in Dedza and Ntcheu Districts). Local sub-partners are present at the National/Central, District, EPA/Village and community levels. The INVC consortium supports these local sub-partners.

This performance evaluation will assess program delivery from October 2012 (Q4 FY2013)-to the end December 2014 (Q1FY2015). To evaluate the performance of INVC activities, the Evaluation Team developed the evaluation design considering two factors for the comparative intervention sites: 1) **Performance level of implementing partners**—both 'good' and 'fair' performers in terms of leadership and integration of nutrition and value chain activities (upon request of the evaluation team INVC staff provided this subjective characterization to gather contrasting information at the district level) and 2) **combination of agriculture and nutrition interventions**—both community-based agriculture interventions alone; and agriculture + health/nutrition interventions implemented in the same district.

INVC has just begun nutrition activities following a direct implementation (no partner) as well as agriculture activities (with NASFAM) in Balaka, Machinga, and Mangochi in July of 2014. An additional factor is the *varied intervention sites* that include a number of combinations of implementing partners (i.e. some Districts may have Community Care Groups, support for Child Health Days and support for Farmers Clubs with both value chains while other Districts may only have Farmers Clubs focusing on one value chain).

The PWS requested the performance evaluation in seven Districts (Balaka, Dedza, Lilongwe, Machinga, Mangochi, Mchinji and Ntcheu) where the project has operated; after conversations with USAID/Malawi[351] the Districts of Lilongwe and Mchinji were selected for inclusion with over-sampling of villages since these Districts have had the longest periods of implementation and therefore are able to provide a clear picture of the extent through which agriculture and nutrition are integrated. Dedza District is also given high priority not only because of its large number of beneficiaries, but also because it is the only district where CADECOM works. Placing a priority on Dedza enables a thorough review of CADECOM's performance.

Balaka and Machinga Districts were selected as two additional Districts to gather information due to feasibility of travel and limited time. In an effort to prioritize under time constraints, the team will not

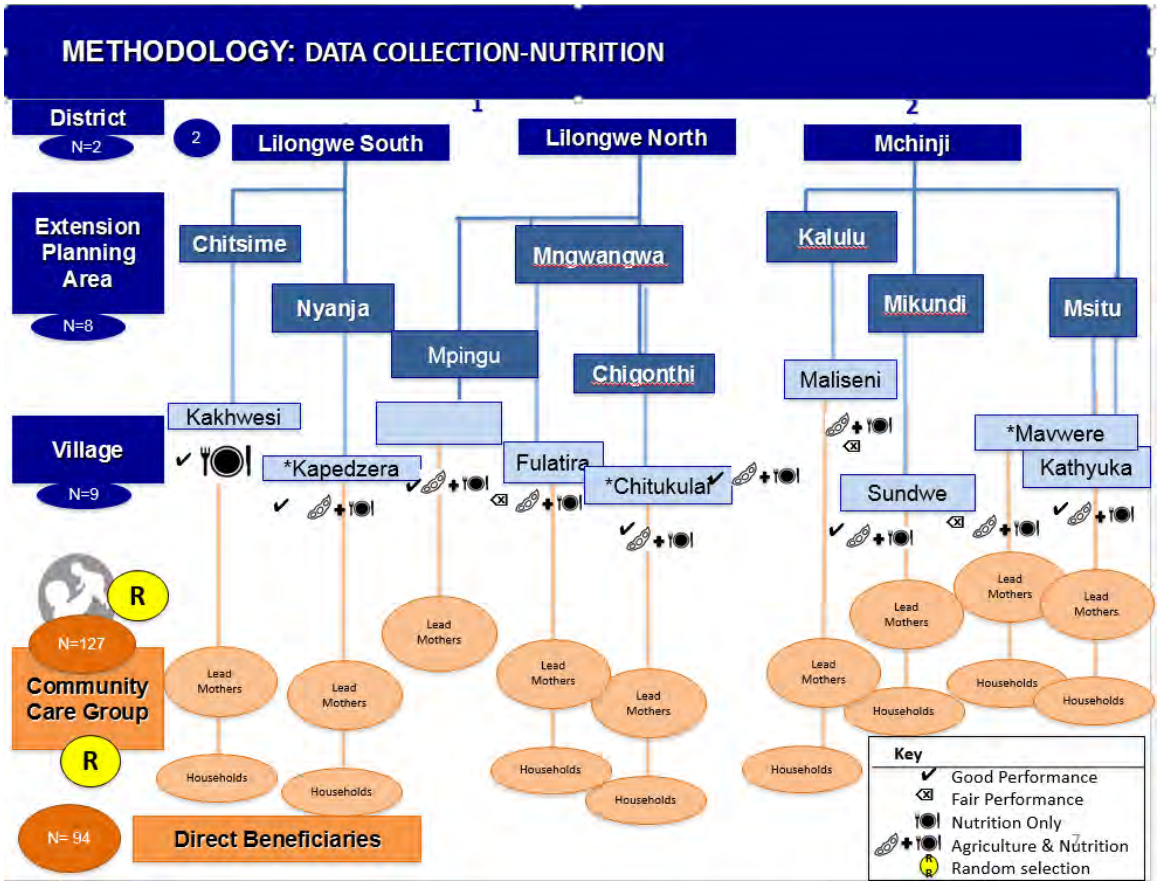
[351] March 11, 2015.

visit Ntcheu due to: 1) its small number of beneficiaries; and 2) the fact that the performance of the implementer in this district—NASFAM—can be evaluated in most other districts that the team will visit.

Nutrition Sampling and Value Chain Sampling

Nutrition: A total of 10 Extension Planning Areas, 10 villages were identified. The Team will be selecting at least 14 Community Care Groups (CCG) with the total lists provided by INVC in which we will meet with two Community Care Groups that focus on lead fathers with male participants. Figure 6 presents the locations of the villages where information will be gathered.

Malawi INVC Performance Evaluation Coverage: Nutrition



Value Chain: The team will visit the same villages in Lilongwe and Mchinji Districts described above. In the Dedza District where only agriculture activities occur, two villages will be visited. In the Balaka and Machinga Districts, where both nutrition and value chain activities occur, the team will visit two villages per district. Overall, value chain data will be drawn from 14 Extension Planning Areas, four districts and 14 villages. In each village there will be two focus group discussions with beneficiaries, one for women and another for men, for a total of 28 focus group discussions.

The following Figure 7 denotes data gathering locations for value chain and nutrition activities.

Data Gathering Locations

District	EPA-Village (performance, g=good; f=fair	
	VC + Nutrition	VC only
Lilongwe North*	Chingothi-Malawi (g) Mngwangwa-Fulatira (f) Chiwamba-Chapongo (g)	
Lilongwe South*	Chitsime-Ngozo (f) Nyanja-Chimphedzu (g) Chitekwere-Mphengan (g)	
Mchinji	Msitu-Kankhande (f) Mikundi-Sundwe (g) Chiosha-Kathuka (g) Kalulu-Maliseni (f)	
Balaka	Utali-Semani (g) Ulongwe-Magombe (g) Mputu (f)	
Machinga	Domasi- (g) Mtumbi- (g)	
Dedza		Kanyama-Komekon (g) Kanyama-Mbozi (g)

*Lilongwe District is partitioned into north and south by INVC for operational reasons

In addition to Districts that have agriculture-only or agriculture and nutrition interventions simultaneously the table below shows the varying coverage and fluctuating presence of a number and combination of different partners (i.e. implementing partners, local sub-partners, technical service providers) within each District. Throughout the evaluation it will be important to note these different variations of administration and technical assistance and report on the potential differences in project impact according to the PE questions found.

INVC Partner Coverage by District

	Balaka	Dedza	Lilongwe	Machinga	Mangochi	Mchinji	Ntcheu
Integrating Nutrition in Value Chain Consortium							
DAI (Prime Partner)			■				
Michigan State University (MSU)			■				
Save the Children Federation Inc. (STC)			■				
Local Sub-Partners							
Implementing Partners							
Agricultural Commodity Exchange for Africa (ACE)							
Catholic Development Commission of Malawi (CADECOM)	■	■	■	■	■	■	■
Civil Society Agriculture Network (CISANET)							
Farmer's Union of Malawi (FUM)		■	■			■	
National Smallholder Farmers Association of Malawi (NASFAM)	■		■	■	■	■	■
Nkhoma Hospital (April-September 2013)			■			■	
Technical Service Providers							
International Institute for Tropical Agriculture (IITA)							
Pakachere Institute of Health & Development Community (PIHDC) (April-September 2013)							
Business Service Provider							
Agricultural Commodity Exchange for Africa (ACE)							

Sources INVC March 2015 and District Coordination Workplan Amendment. Feed The Future. Integrating Nutrition In Value Chains Project, Malawi. April 2014. Please note that Agricultural Commodity Exchange for Africa (ACE), Civil Society Agriculture Network (CISANET), International Institute for Tropical Agriculture (IITA) and Pakachere Institute of Health & Development Community (PIHDC) are service providers and therefore do not directly implement within the Districts. Please note that the core INVC consortium-DAI, MSU and STC administer the INVC project from Lilongwe. DAI has only recently (July 2014) began directly implementing nutrition interventions/activities in Balaka, Machinga and Mangochi Districts.

Data Collection Methods

The table below summarizes data collection methods and analysis that will be used for each question. This performance evaluation will mostly rely on qualitative methods with some quantitative comparison of baseline data despite the lack of quality baseline data. The Evaluation Team will analyze the baseline data and progress against targets to the extent possible. We plan to discuss this issue with USAID/Malawi as well as USAID/Washington once this inception report is approved to think about possible solutions. Standard data collection methods for USAID evaluations include: consultations, document reviews, direct observations, key informant interviews, individual and group focus group discussions, and secondary data analysis. In accordance with the integration of gender equity within USAID programming we will ensure that all direct beneficiaries are segregated into male and female groups to allow for open discussion whereas beneficiaries feel comfortable sharing.

Summary of Data Collection Methods

No.	Data Collection Method	Description	Key Stakeholders
1	**Consultations**	Consultations with various individuals will be held to gather information, discuss the INVC project and seek advice in order to help answer the performance evaluation questions.	*DAI* *INVC Consortium* *USAID*
2	**Document Review**	Document review is a formalized technique of data collection involving the examination of existing records or documents. For this evaluation all existing INVC project reports, workplans, evaluations and any other documentation will be reviewed in addition to any key Feed the Future guidance documents.	*Performance evaluators*
3	**Direct Observations**	Direct observations of project sites and implementation will be used in which the evaluators will directly observe and record what he or she is watching as a means to enhance the answers to the performance evaluation questions.	*Performance evaluation consultants direct observation of project site*
4	**Key Informant Interviews: Individual and Group**[352]	Simply stated, key informant interviews involve interviewing a select group of individuals who are likely to provide needed information, ideas, and insights on a particular subject. Characteristic to key informant interviews are: 1) they are qualitative interviews and are conducted using interview guides that list the topics and issues to be covered during a session. The interviewer frames the actual questions in the course of interviews. The atmosphere in these interviews is informal, resembling a conversation among acquaintances; 2) only a small number of informants are interviewed who are selected because they possess information or ideas that can be solicited for key responses to the INVC performance evaluation questions. The number of key informants usually ranges from 15 to 35; our team will interview a minimum of 40 key informants subject to availability and time. Such interviews should not, however, be confused with formal and informal surveys in which a relatively large number of people are interviewed.	*All stakeholders involved in INVC project*
5	**Focus Group Discussion (FGD)**	A focus group is a small group selected from a wider population and sampled, as by open discussion, for its members' opinions about or emotional response to a particular subject or area. We will be conducting Focus Groups discussions with direct beneficiaries of the INVC project with an average of 7-10 individuals, led by a bilingual facilitator and a note taker. Focus groups for direct beneficiaries will be conducted for men and women separately to ensure that all perspectives are heard, and to help the team to better understand the different ways in which men and women have participated in and been affected by INVC.	*Farmers Groups* *Community Care Groups* *Direct Beneficiaries*

[352] Conducting Key Informant Interviews In Developing Contries. Usaid Program Design And Evaluation Methodology Report NO. 13. Krishna Kumar, Senior Analyst. (Center for Development Information and Evaluation, A.I.D.). Agency for International Development December 1989. Available at: http://pdf.usaid.gov/pdf_docs/PNAAX226.pdf

Summary of Data Collection Methods

No.	Data Collection Method	Description	Key Stakeholders
6	**Secondary Data Analysis**	Secondary data analysis will be conducted of the additional data that has previously been collected (primary data) that is utilized by a person other than the one who collected the data. Secondary data will include Project level, National, District, and Village-level and data. Secondary data is often used in social and economic analysis, especially when access to primary data is unavailable.	*Performance evaluation consultants*

Consultations
The Evaluation Team will consult with key stakeholders for planning the evaluation and probing more important information to gather specific information for the evaluation questions.

Document Review
The Evaluation Team will review strategic documents in relation to the USAID Feed-the-Future initiative and the USAID INVC workplans, PMEP, quarterly and annual reports, nutrition and value chain development literature, and miscellaneous documents to assess:

- Progress against the deadlines specified in the approved Workplan and indicator targets specified in the PMEP;
- Implementation context including institutional framework and socio-economic conditions;
- Links with national strategies and other projects.

Annex D provides details regarding the documents available for this evaluation. The review of both indicators data and an assessment of reported progress versus workplan mandated milestones will give the team an initial sense of the areas where Malawi INVC is achieving expected results and where there are challenges in any of the four components, in different districts and with certain stakeholders.

Direct Observations
Our evaluation team will take advantage of meeting with numerous stakeholders at various levels and travel to field sites within all five Districts to perform direct observations of project sites and implementation which will be used in which the evaluators will directly observe and record what he or she is watching as a means to enhance the answers to the performance evaluation questions. In terms of nutrition, efforts will be made to use the Nutrition Community Care Group Observation checklist to look for community observations that may be able to enhance findings such as environment (i.e. hygiene and sanitation), observed feeding and caring practices of children in the community, status of housing and perceived assets, appearance of CG beneficiaries (i.e. clothing, etc.) perceived gender roles, etc.

Key Informant Interviews: Individual and Group
The Evaluation Team will conduct semi-structured interviews with Discussion Guides with both key informants and individuals and group interviews with stakeholders at different levels (i.e., Central/Project level, District, Village/Extension, and direct beneficiaries) in five Districts. Both agriculture and nutrition interventions will be looked at in Balaka, Lilongwe, Mchinji, and Machinga Districts while agriculture-only interventions will be looked at in Dedza District where only value chain activities take place. Evidence will be gathered using semi-structured interviews and focus groups in seven districts during a three to four-week period. Telephone conferences with different stakeholders will be conducted due to distance or scheduling limitations but also teleconferences may be required for information triangulation.

The following groups will be targeted:

Consortium and Local Sub-Partners: Interviews will be held with members of the consortium and other stakeholders operating at the Central/National scale (officials at the Ministries of Health and Agriculture, and USAID staff). The consortium partners will be interviewed followed by the local sub-partners who have received technical assistance by the consortium. The Evaluation Team will hold discussions with local organization staff including management and administrative staff and those who have participated in planning, designing and implementing INVC's integrated model. All (3) INVC consortium partners: DAI (Prime Partner), Michigan State University (MSU) and Save the Children Federation Inc. (STC) will be interviewed as well as all (8) sub-partners including: Agricultural Commodity Exchange for Africa (ACE), Catholic Development Commission of Malawi (CADECOM), Civil Society Agriculture Network (CISANET), Farmer's Union of Malawi (FUM), International Institute for Tropical Agriculture (IITA), National Smallholder Farmers Association of Malawi (NASFAM), Nkhoma Hospital, and Pakachere Institute of Health & Development Community (PIHDC) which is based in Blantyre. Guided implementing partner discussions will be used for interviewing all of the implementing partners from INVC including direct implementing partners, technical service providers and business service providers.

Nutrition Local Sub-Partners
The Evaluation Team will meet with the two local sub-partners for nutrition-Nkhoma Hospital which is responsible for overall nutrition technical oversight implementation of nutrition-specific intervention implementation mainly in the health sector within Lilongwe and Mchinji as well as Pakachere Institute of Health & Development Community (PIHDC) who is the technical assistance partner to develop the behavior change communication (BCC) strategy for nutrition and facilitation of the roll-out of BCC strategy where the integration of nutrition in value chains will be implemented. With these partners the Evaluation Team will document which nutrition activities and interventions they believe have contributed most to the improved nutrition behaviors and practices that have been most widely adopted or the barriers they have encountered in the current structure and project interventions.

Agriculture Local Sub-Partners
We will meet with technical sub-partners, Agricultural Commodity Exchange for Africa (ACE), International Institute for Tropical Agriculture (IITA), and Civil Society for Agriculture Network (CISANET). These organizations technically support the local sub-partners in a variety of ways. The ACE offers access to a collective marketing network comprised of a bid volume only system, offer volume only system, bid and offer matching, and a warehouse receipt system. These mechanisms allow for groundnut and soybean farmers to collectively market their crop to sell at the most opportune time to receive the highest profit. IITA provides technical support on legume production, access to improved seeds and inoculants; in addition, they also support climate smart agriculture. CISANET is a policy advocacy organization that works on agriculture and food policy issues with emphasis on food security. The Team will meet with them to determine the specific activities that contributes to enhance INVC's work.

Local Government Authorities and INVC Project Staff: Within each District the team will meet with key Local Government Authorities (LGA) who have been involved with INVC project implementation. This includes the District Commissioner, the Director of Planning and Development (DPD), the District Nutrition Officers (DNO), District Environmental Health Officers (DEHO), District Agricultural Development Officer (DADO), Food and Nutrition Officer (FNO) and the Maternal and Child Health Nutrition Coordinator (MCHN).

Consultations and key interviews with District-level implementing stakeholders involved in the implementation of INVC—including GOM District staff as well as key INVC staff who implement at the District level including: District Nutrition Coordinators and Nutrition Assistants will determine not only

if it is a conducive enabling/operational environment within the INVC project but also to probe what key nutrition-specific and nutrition-sensitive interventions have been implemented within their District and how these interventions have or have not been designed to address determinants of behavior change by reducing key barriers (i.e. cultural, social and economic barriers) and increasing key enablers (i.e. access to health services, access to nutritious foods).

At the district level, consultations will be conducted in key group interviews with the Director of Planning and Development, Agricultural Extension Methodologies Officer (AEMO), District Agricultural Development Officer (DADO), and Food and Nutrition Officer, also from the district but the Team expects to meet in the field with the Agricultural Extension Development Officer (AEDO) and the Agriculture Extension Development Coordinator (AEDC). It is expected that these individuals will supply important insights into the adoption of agricultural production technologies and practices as well as collective marketing as promoted through the sub-partners.

Direct Beneficiaries: Community Care Group Volunteers: Nutrition Promoters and Lead Mothers and Fathers *Consultations and key informant interviews Community Care Group Volunteers: Nutrition Promoters and Lead Mothers and Fathers* will help determine their knowledge of improved behaviors and practices. Key questions will be asked regarding their knowledge of key nutrition behaviors and practices (i.e. for how long should babies be exclusively breastfed (no liquids, food etc.). This will measure the effectiveness of the trainings and capacity development they received as well as any training they received to effectively communicate.

Direct Beneficiaries: Lead Farmers, Assistant Lead Farmers, Groundnut Farmers Clubs and Soybean Farmers Clubs. Consultations and key informant interviews with these individuals will identify to what extent farmers have adopted agricultural production technologies and practices and why or why not. They will contribute to understanding which collective market approaches have been most effective to linking them to markets or not. In addition, the Team will learn to what extent the productivity of their crops has increased as a result of newly introduced project technologies and practices.

Focus Group Discussions
Within the Districts where there is the integrated nutrition and agriculture interventions as well as within the agriculture-only interventions we will be conducting Focus Groups discussions with direct beneficiaries of the INVC project with an average of 7-12 individuals in each group (Community Care Groups have about 11 members plus the CCG volunteer lead mother/father), led by a bilingual facilitator and the evaluation note taker. Emphasis will be placed to conduct ***focus groups with the direct beneficiaries within the Community Care Groups and the Farmers Clubs*** to gauge what promoted nutrition and agriculture behaviors and practices have been most widely adopted by beneficiaries and why and what are the key barriers and key enablers of this behavior change. Key beneficiaries include PLW and mothers/fathers of children under 5/2 as well as smallholder farmers-both males and females The Evaluation Team will discuss what approaches the INVC used and probe into why or why not beneficiaries adopted the new nutrition and/or agricultural behaviors and practices to better understand barriers and motivations for improving nutrition and/or agricultural practices based on project interventions (e.g. improved agricultural technologies, access to improved seed varieties, facilitation to key services or infrastructure, access to Child Health Days, etc.). The focus groups will also be an important mechanism to determine which activities/approaches/elements of INVC have most successfully enabled the adoption of the promoted behaviors and practices. Within all of the performance questions we will not only look at the barriers of program implementation but also at what approaches have been most successful. Interactive dialogue will also probe about social and cultural barriers to adopting improved nutrition and/or agricultural behaviors and practices despite project

interventions such as matrilineal vs. patrilineal issues, cultural feeding practices, supportive or non-supportive behaviors and actions by direct influencers, including partners/fathers, grandmothers, mothers-in-law, other family members, and peers.

Direct Beneficiaries: Groundnut and Soybean Farmers. Separately, for males and females, the Team will focus on agricultural technology, practices, adoption, and collective marketing mechanisms, which have reached them through a cascade of implementing stakeholders to build their capacity and expand their economic opportunities. We will seek to determine what barriers prevent adoption and how they can be overcome. **Lead Farmers, Assistant Lead Farmers, Groundnut Farmers Clubs and Soybean Farmers Clubs:** the Team will benefit from these individuals to understand the layer between farmers and farmer associations at the district level using the same thematic question that are asked to male and female farmers.

Direct Beneficiaries: Households: In terms of ***direct beneficiaries*** for the recipient households of the nutrition and/or agriculture interventions the team expects to include a mix of men and women (mothers and pregnant and lactating women as well as fathers who participate in Care Groups as Lead fathers) for nutrition activities and a mixed presence of smallholder farmers-both men and women in value chain activities. The Team expects to hold more than 40 focus groups. In terms of nutrition the evaluation team will interview **direct beneficiaries**—including pregnant and lactating women, mothers and caregivers (i.e. fathers) of children under five years who have participated in Community Care Groups. The Team will also interview smallholder farmers who have received assistance and training in legume (soybean and groundnut) value chain development.

Participants in the focus groups will be probed to discuss what are the nutrition and/or agricultural priority behaviors and desired changes, behavioral determinants (barriers and enablers) that may prevent or encourage adoption (e.g. access to agricultural inputs, access to land, exclusive breastfeeding or community growth monitoring to improve a child's growth, lack of access to seeds to grow home gardens, lack of hand washing facilities to wash hands with soap after visiting the toilet). The Evaluation Team will discuss what INVC activities and/or BCC materials have led them to adopt key behaviors (i.e. community-based growth monitoring and promotion and comparing their child's growth might have led them to feed their child better). This will help define what INVC project integrated components contribute the most to behavior change.

SECONDARY DATA ANALYSIS

Secondary evidence such as reports, population based surveys (i.e. Demographic Health Survey, Feed the Future FEEDBACK, Comprehensive Food Security Analysis, etc.) literature reviews, newspapers, cables, email will be used as they may be available to the evaluation team.

Data Analysis

Quantitative and Qualitative

Performance indicators will be used to assess progress of results against expected targets and performance of the project against agreed milestones. The indicators stand as a quantification of performance relative to the LOP target. The role of the Evaluation Team is to answer the questions in light of data gathered and if appropriate to refer to the indicators. Qualitative analysis of information gathered in semi-structured key informant interviews and targeted focus groups will be based on a guide with open-ended questions related to each of the six proposed questions as detailed in the Evaluation

Planning Matrix, and also related to indicators in the PMEP. [353] The basis in qualitative research is the development of field notes. In the first stage of the evaluation, the team will identify key information as issues or topics included in the stakeholders narratives for assessing the evaluation questions. In the second stage, the team will compile lists of topics identified by individual teams (two persons per team) and will come to a consensus regarding the most relevant based on frequency of occurrence to elucidate patterns of thinking and behavior. In the third stage, after all data has been collected, data analysis will involve coding interview responses according to the most relevant topics. In the fourth and final stage, a detailed analysis will be conducted of the combined coded responses to identify the dominant responses regarding the INVC components in terms of the six evaluation questions. In the Evaluation Planning Matrix the Team has included the PMEP indicators that are related to each question. The findings for the different questions may or may not help to triangulate our findings. But the Team understands it is important to keep in mind that each question is somehow linked to project indicators. Outcome indicators should be more useful than output indicators but because of the relative short life span of the project (less than three years, it may be difficult to observe outcomes than inputs). For this evaluation, triangulation between team members and across stakeholders is more relevant than triangulation using the indicators.

Only responses provided by at least three interviewees representing at least two stakeholder categories will be considered as valid evidence for a finding. If a diverse range of answers are given, the team will discuss this in the evaluation report and this will also provide evidence that a future analyst could possible address. The more interviewees across numerous categories who independently articulate a particular view about a particular component in the project, the stronger the evidence for that particular finding.

Data Sources

Performance Indicators and Measures

In accordance with the SOW the Evaluation Team will "conduct a comparative analysis of INVC's key performance indicators at baseline and in FY 2015 to assess changes in the indicators and performance against targets. [354]" The Evaluation Team will triangulate data as possible from the various baseline sources from the INVC project including the PMEP, Malawi USAID INVC Baseline Surveys Report, the Beneficiary Population-Based Nutritional Baseline Survey for Balaka, Machinga and Mangochi[355] and other baseline data sources from the project. These baseline data will be compared to annual progress reports and surveys such as the Household Annual Beneficiary Agricultural Outcome Survey, 2013/14' to try and determine progress against targets. Most importantly, this evaluation will assess and document the extent to which INVC has contributed to achieving its objectives in the four key focus areas of activity. The evaluation follows the set of questions provided in the Performance Work Statement as a guideline to unfold the four components or thematic areas

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353 Harden, A. et al. (2004), Applying systematic review methods to studies of people's views: an example from public health research. Journal of Epidemiology and Community Health, 58, 794-800; Thomas, J. et al., (2004), Integrating qualitative research trials with trials in systematic reviews, British Medical Journal, 328, 1010-1012.

354 Performance Work Statement for the Performance Evaluation of USAID/Malawi's Integrating Nutrition in Value Chains Activity

December, 2014.

355 Beneficiary Population-Based Nutritional Baseline Survey for Balaka, Machinga and Mangochi. Beatrice Mtimuni, PhD. 15 October 2014. LUANAR.

Organizational Capacity Assessment Tool (OCAT) Assessments

The Organizational Capacity Assessment Tool (OCAT) is designed for a variety of purposes. It can be used, as a whole or in part, to: a) serve as a diagnostic instrument to determine the stage of organizational maturity and the specific changes needed to strengthen an NGO's development; b) establish a baseline measure of the existing structure and capability of an NGO; c) monitor and evaluate progress toward the organizational development objectives of an NGO; d) serve as a means to educate NGO staff users about the components and attributes of an effective NGO; e) create a strong and shared commitment to change within the NGO; f) assess training needs of the staff of an NGO and provide a framework for a training curriculum; g) complement financial audits and program impact reports to provide a comprehensive evaluation of the viability or potential for growth of an NGO; h) obtain a rapid assessment or 'snapshot' of the NGO by administering selective questions and i) serve as a basis on which to design improved systems and procedures. INVC conducted training to build the governance, technical, operational and financial capabilities required across organizations and based on the eight institutional dimensions of the Organizational Capacity Assessment Tool (OCAT) used to assess each grantees and develop capacity building efforts with the goal of transitioning partners toward being prime partners and fully capable of receiving grants directly from USAID.

The Evaluation Team will analyze the results of the OCATs that have been conducted. The Team will analyze the outcomes from the previously conducted organizational capacity assessments as well as any specific capacity development plans that were developed with sub-partners.

INVC Workplans, PMEP, Quarterly Reports

The Evaluation Team will utilize all the INVC project workplans, quarterly, annual reports and PMEP that have been provided to us. A complete annotated list of documents will be provided in the final document.

Agriculture Data Sources

The PMEP of the INVC project provides agricultural information that supports the indicators, and in some instances baseline figures are provided. The *'Household Annual Beneficiary Agricultural Outcome Survey, 2013/14'* includes data from the seven districts that comprise the area of influence of the project. This primary source of data provides vast information about what the project is doing in groundnut and soybean value chains. Furthermore, it disaggregates data by sex. Because it was specifically designed to quantify the interventions introduced by the project, it is key to refer to this source from land preparation and crop cultivation to harvest and postharvest practices and technologies. Agricultural data provided by the Central Statistics Organization of Malawi are generally not disaggregated for soybean and groundnuts.

In addition, the Team will draw on a significant amount of literature provided by and about the INVC. More specifically this will include Quarterly and Annual Reports, Workplans and Amendments, Spots Surveys, IFPRI documents, Socioeconomic Profiles of Lilongwe District 2006, Socioeconomic Profile for Mangochi 2003, Socioeconomic Profile for Ntchue and documents produced by the sub-partners, be they implementing, technical service or business providers.

Nutrition Data Sources

Key data sources for nutrition will include the 'Beneficiary Population-Based Nutritional Baseline Survey for Balaka, Machinga and Mangochi. Beatrice Mtimuni, PhD. 15 October 2014. LUANAR' that

reflects the baseline survey of community based nutrition (in Balaka, Machinga and Mangochi) that provided INVC with representative baseline data on Minimum Acceptable Diet (MAD), Women's Dietary Diversity (WDD), stunting, and exclusive breastfeeding for the INVC beneficiary population. Furthermore we will look at the 'Malawi USAID INVC Baseline Surveys Report[356] 'that reports findings from three baseline surveys conducted to inform the Malawi USAID INVC project. The nutrition baseline survey was administered in Balaka, Machinga, and Mangochi Districts. We will review current INVC program quarterly and annual reports as well as any other relevant nutrition program documents to get information on the current status of implementation and progress. Other Data Sources: Another important data source will be the formative research that Pakachere Institute of Health & Development Community (PIHDC) conducted focusing on exclusive breastfeeding, age appropriate initiation of complementary feeding, feeding frequency and dietary diversity, and nutrition behaviors. This formative research was conducted to identify locally appropriate recommendations, factors that enhance and solutions to barriers for nutrition behaviors and practices.[357] Formative research methods include the positive deviance inquiry (PDIs) method and market surveys. In order to develop effective and well-targeted messages, Pakachere IHDC conducted a qualitative formative research in selected communities to establish current beliefs and practices towards nutrition among pregnant mothers, lactating mothers and children under two years. We will use this formative research to inform the effectiveness of the Care Group Model, Positive Deviance Inquiries (PDI) and community mobilization activities to promote nutrition desired behaviors in selected Extension Planning Areas (EPAs) in Lilongwe and Mchinji.

Secondary Data Sources

Other existing secondary data sources from published National and District data (e.g. Comprehensive Food Security and Vulnerability Analysis (CFSVA) and nutrition assessment[358], the Demographic Health Survey (DHS) 2010[359], the team will obtain government record keeping at the District level, household level government surveys which may be used to measure program progress or impact. Secondary data from relevant literature reviews, newspapers, cables, email will be used as they may be available to the evaluation team.

Data Collection

Nutrition Interventions: As part of our analysis and depending on cooperation with the INVC consortia, it will be important to map out key nutrition interventions and combination of nutrition and nutrition and agriculture interventions as well as agriculture-only interventions that were implemented in various Districts and compare the interventions to the results of the improved nutrition behaviors and practices that are apparent from the beneficiary baseline and the responses from this performance evaluation interviews with beneficiaries including Community Care Groups (CCG) participants including pregnant and lactating women (PLW) and mothers/caregivers of children under 5. The Team will analyze the INVC combination of agriculture, nutrition and BCC activities and interventions that are used to influence and mobilize direct beneficiaries to adopt improved nutrition behaviors and practices by District. The Team will identify distinct areas where coordination/collaboration occurred with multiple nutrition implementing partners to implement nutrition interventions and where other characteristics such as the intensity of co-located agriculture and nutrition investments or key cultural issues

[356] Malawi USAID INVC Baseline Surveys Report International Food Policy Research Institute (IFPRI) and Lilongwe University of Agriculture and Natural Resources at Bunda Campus (LUANAR).

[357] Providing Technical Support for Effective Implementation of Social and Behavior Change Communication Interventions. Formative Research on Pregnant Women in Lilongwe and Mchinji Districts. September 2013.

[358] Comprehensive food security and vulnerability analysis (CFSVA) and Nutrition Assessment, 2012. World Food Program.

[359] National Statistical Office (NSO) and ICF Macro. 2011. Malawi Demographic and Health Survey 2010. Zomba,Malawi, and Calverton, Maryland, USA: NSO and ICF Macro.

(matrilineal or patrilineal) occur that may affect adoption of improved nutrition and/or agricultural behaviors and practices.

Value Chain Interventions: For the data collection on agricultural interventions, the Team will contextualize the activities of the project by interviewing members of the INVC Consortium. At the local sub-partners level the Team will speak with NASFAM, FUM and CADACOM, technical services providers –IITA and CISANET, and business providers—ACE. At the district level the Team will interview GOM staff and INVC project staff involved in project implementation and management. At the village/extension level the team will meet with extension staff and community counterparts that will have helped facilitate INVC project activities, famer groups and farmers will follow to determine at base-ground level the of the project activities.

Local Capacity: The capacity of the sub-partners to potentially become USAID direct awardees will be evaluated in regard to improved technical abilities, increased knowledge, changed attitudes, increased professionalism, improved management practices, improved financial control practices, and leadership development. The sup-partners themselves will be interviewed to determine what capacity development interventions have participated in, in contrast to the development capacity training organizations which provided support in these areas.

Instrument(s)

Discussion Guides for Stakeholders

A series of 5 ***Interview Discussion Guides*** will be developed for the following stakeholders for both agriculture and nutrition (a total of 12 Interview Discussion Guides): 1) the **INVC Consortium**-both Lilongwe Management/Technical Staff as well as INVC Consortium District Level Management/Coordination Staff, 2) **Local sub-partners** (direct implementing partners, technical service providers and financial service providers), 3) **District-level stakeholders** relevant within the GOM, 4) E**xtension Planning Area (EPA)/Village-level stakeholders** within the GOM, 5) **Direct Beneficiaries: Community Volunteers** including the Group Action Committees (GAC) = multiple Farmer Groups represented, Lead Farmers (both men and women), Assistant Lead Farmers, Farmers Clubs (FC) (10-12 farmers) for both Soya bean and Groundnuts and for nutrition the trained men and women that are Nutrition Promoters, and the Community Care Group Volunteers (CGV)(Lead Mothers/Fathers). Finally we have level 5.1) the **Direct Beneficiaries: Households** including for nutrition the Community Care Group Households including Pregnant and Lactating Women (PLW) and mothers/caregivers of children under 5/2 (including fathers of children under 5/2) and for agriculture the Farmers Clubs Members whom are smallholder farmers with assets and both men and women. Questions will include the 6 evaluation questions and sub-questions as well as prompts as to the INVC project details that are being evaluated. Questions and sub-questions, and their prompts are provided taking into consideration themes or elements embedded in the results framework, as represented by the PMEP Indicators, or as the Evaluation Team deems necessary. The first table demonstrates the key stakeholders and the relevant evaluation questions that the Interview Discussion Guide will prompt for. The second table demonstrates the key stakeholders (denoted with a *) by both agriculture and nutrition by level including Central/National, District, EPA/Village, and Direct Beneficiaries.

Risks and Limitations

The methodology proposed for this evaluation has its risks and limitations that may undermine the reliability of its findings. The evaluation team is aware of at least two types risks and limitations: data quality and institutional dynamics.

The PMEP Indicators may not always represent the complexity of the processes being assessed such as the integration of nutrition and value chain development or the interaction of factors that hinder adoption or behavioral change. To add depth to the data captured in the PMEP, we will use qualitative methods. However, relying extensively in qualitative data can also have the limitation of not being representative by resting on anecdotal information. To counterweight these potential limitations of qualitative methods, the evaluation team will conduct the data collection and analysis systematically by triangulating across multiple sources (stakeholder categories), methods (individual and group interviews), and investigators, to ensure the reliability and validity of findings and conclusions.

Regarding institutional dynamics, the apparent high turnover of staff in INVC and local partners may hamper the institutional memory beyond the written reports. This could limit our assessment to appreciate some adjustments made by INVC management and local sub-partners at different levels. The Evaluation Team will try to interview staff that used to work in the INVC project to recollect part of the institutional memory.

Selection and positivity bias

When collecting data from a voluntary source, it is often quite difficult to mitigate for bias driven by perhaps strong, and not typical, opinions of those that volunteer. Focus groups will attempt to be chosen at random when feasible. In addition to being mindful of potential risks, increasing our data collection pool and using comparative analysis across respondents will help glean which responses are the least positive from the selection for example.

Analysis of Findings, Conclusions and Recommendations

As a part of this evaluation, a half-day workshop will be conducted to discuss the findings, conclusions and recommendations to attest that the outputs of this evaluation are congruent with the stakeholders' perceptions and the recommendations are actionable and useful to inform decision-making and program development. Observations and recommendations from this process will be integrated in the evaluation report. Each question will be addressed according the four objectives of the evaluation: 1) performance of the four components; 2) lessons learned about what works; 3) local partner's ability and willingness to carry on with INVC goal and objectives; and 4) to inform agriculture, nutrition, and local capacity development activity design. Environment, culture, and gender, as well as institutions will be addressed to contextualize the conclusions and recommendations. To facilitate the use of the recommendations for management and programmatic purposes, they will be characterized by time framework, (i.e., short, medium and long term).

WORKPLAN SCHEDULE, KEY DELIVERABLES, AND MILESTONES

We present three phases of activities to conduct this evaluation:

- **Phase 1: Literature Review and Inception Report Development:** The vast literature reviewed for this evaluation was divided thematically among: value chain development, crop productivity, nutrition-sensitive agriculture, and agriculture-nutrition impact pathways, local capacity development and qualitative methods in public health and social science. See Annex C.
- **Phase 2: In-Country Data Collection, Data Analysis, Draft Findings and Debriefing with USAID/Malawi and Stakeholders:** Evidence collected from the in-country desk review and that from the interviews with stakeholders will be organized thematically. The analysis will

rely on factual information, verifiable by triangulation across stakeholders, researchers, and methods (individual and group interviews). The Evaluation Team will start the fieldwork in Lilongwe where data gathering instruments will be tested and refined, then the team will move to Mchinji. These are the most relevant districts where INVC has been operating the longest in both nutrition and value chain. The team expects to cover these two districts during the first two weeks. During the second and third week the team expects to visit Balaka, Dedza and Machinga. A first iteration of the findings and conclusions will be used for the first draft report and the presentation to stakeholders.

- **Phase 3: Performance Evaluation Finalization:** USAID will provide feedback from the first draft report supplemented by the half-day workshop with the stakeholder for vetting the findings, conclusions, and recommendations. The feedback will be used for further adjustment or refinement of the document. It may be necessary to interview more stakeholders or conduct follow-up interviews to verify or expand the platform of evidence.

Key deliverables and deadlines are as follows. A more detailed schedule in calendar format is provided in Annex B.

Key Deliverables and Work Schedule

Deliverables and Field Trips	Date
PHASE 1: Literature Review and Inception Report Development ***February 23-March 6, 2015***	
In-Briefing meeting	March 11, 2015
Draft Inception Report/Workplan to USAID	March 24, 2015
PHASE 2: In-Country Data Collection, Data Analysis, Draft Findings and Debriefing with USAID/Malawi and Stakeholders ***April 1-May 8, 2015***	
Pre-testing instruments	April 1-3
Field trips (Lilongwe, Mchinji, Districts)	April 6-11
Field trips (Lilongwe, Balaka and Dedza Districts)	April 13-18
Field trips (Lilongwe, Balaka and Machinga Districts)	April 20-25
Draft Report—Findings, Conclusions and Recommendations to USAID	May 8
Briefing to USAID	April 30
Workshop with stakeholders	May 12
PHASE 3: Performance Evaluation Finalization ***May 15-29, 2015***	
USAID provides comments	May 15
Team Submits updated draft to KDAD	May 22
International consultants depart from Malawi	May 22
Internal Review	May 26
KDAD edits	May 27-28
Submit to USAID	May 29

Logistics

Examination of the Workplan demonstrates that there are less than three weeks allotted for data collection from the different categories of stakeholders. Over the course of 21 days, the Team will need to interview stakeholders at different levels in seven districts. To accomplish this, the Team will be divided into pairs, comprising two groups. One group will be comprised of a nutrition specialist and an interpreter. A value chain specialist, team leader and an interpreter will comprise the second group.

Each group is expected to conduct four group interviews or focus groups per day and have time to prepare corresponding field notes.

After data collection, the Team will have seven days to analyze its datasets and deliver a first draft of findings, conclusions, and recommendations per research question to USAID at a debriefing. Often, while analyzing research data, the Team might deem it necessary to follow-up with some interviewees for clarification on certain issues and to ensure proper triangulation of information. Also, during this time, the Team might need to conduct follow-up interviews with some key stakeholders who may not necessarily be located in Lilongwe. In so doing, this could mean relying only on telephone communication for information verification.

ANNEX 7. SOURCES OF INFORMATION

Primary Data: Key informant Interviews Agriculture				
1		800	Lilongwe	26-Mar
1		800	Lilongwe	7-Apr
5	F	1100	Lilongwe	7-Apr
5	M	1340	Lilongwe	7-Apr
5	F	1500	Lilongwe	7-Apr
2		1500	Lilongwe	8-Apr
5	M	900	Mchinji	9-Apr
5	F	1030	Mchinji	9-Apr
5	M	1530	Mchinji	9-Apr
5	M	1000	Mchinji	10-Apr
5	M	1050	Mchinji	10-Apr
4	F	1245	Balaka	10-Apr
5	F	1400	Mchinji	10-Apr
5	M	1500	Mchinji	10-Apr
5	F	1100	Lilongwe	11-Apr
1		1400	Lilongwe	12-Apr
4		1430	Lilongwe	14-Apr
3		1430	Mchinji	14-Apr
3		1500	Mchinji	14-Apr
5	M	1340	Lilongwe	15-Apr
5	F	1500	Lilongwe	15-Apr
2		1530	Dedza	16-Apr
5	F	835	Dedza	18-Apr
5	M	1000	Dedza	18-Apr
5	M	1145	Dedza	18-Apr
5	F	1245	Dedza	18-Apr
5	F	1425	Dedza	18-Apr
4	F	1245	Balaka	21-Apr
5	M	1450	Balaka	21-Apr
5	M	845	Balaka	23-Apr
5	M	1005	Balaka	23-Apr
5	F	1230	Balaka	23-Apr
5	M	1400	Balaka	23-Apr
2		900	Lilongwe	28-Apr
4		1430	Lilongwe	28-Apr
2		1730	Lilongwe	28-Apr

Primary Data: Key informant Interviews Nutrition

Meetings-Interview Log for INVC Performance Evaluation, March-April 2015										
#	**Date**	**Time**	**Name**	**F**	**M**	**Title**	**Organization**	**Telephone**	**Email**	**Location**
1	March 11, 2015	10:00 AM	Lynn Schneider			Feed the Future Coordinator	USAID	265.992.961.588	lschneider@usaid.gov	Lilongwe
2			John Edgar			Office Chief/Sustainable Economic Growth	USAID	265.999.960.036	jedgar@usaid.gov	Lilongwe
3			Abel Nyoni			M&E Specialist, Sustainable Economic Growth	USAID	265.922.593.635	anyoni@usaid.gov	Lilongwe
4	March 12, 2015	10:00 AM	Ben Lentz			COP	INVC-Malawi	265.099.255.6174	Ben_Lentz@dai.com	Lilongwe
5			Lourdes Martinez			DCOP, Agricultural Productivity & Value Chains	INVC-Malawi	265.99.255.3357	Lourdes_matinez@invc-malawi-com	Lilongwe
6			Robert M. Chizimba			DCOP, BCC Specialist (Nutrition)	INVC-Malawi	265.99.996.8186	Robert_Chizimba@invc-malawi.com	Lilongwe
7			Jim Phillips		X	M&E Specialist	INVC-Malawi	265.999.88.4449	Jim_phillips@invc-malawi.com	Lilongwe
8			Henry Gaga			Value Chain Competitiveness Specialist	INVC-Malawi	265.99.255.6180	Henry_gaga@invc-malawi.com	Lilongwe
9			Nobel Moyo			Organizational Capacity Building Specialist	INVC-Malawi	265.99.988.4453	nobel_moyo@invc-malawi.com	Lilongwe
10			Heshan Peiris			Agribusiness Specialist & Grant Manager	INVC-Malawi	265.99.957.2989	heshan_peiris@invc-malawi.com	Lilongwe
11			Wenham Mpelembe			Operations Manager	INVC-Malawi	265.99.496.2060	Wenham_Mpelembe@invc-malawi.com	Lilongwe

Meetings-Interview Log for INVC Performance Evaluation, March-April 2015										
#	**Date**	**Time**	**Name**	**F**	**M**	**Title**	**Organization**	**Telephone**	**Email**	**Location**
12			Flora Gitari			Financial Accounting/Admin. Director	INVC-Malawi	265.1.755.734/6/7 Gen.	_	Lilongwe
13			Martina Fongyen			Project Manager, Africa Region	DAI/HQ-Bethesda, USA	301.771.7272	martina_fongyen@dai.com	Lilongwe
14	March 17, 2015	8:00 AM	Lourdes Martinez			DCOP, Agricultural Productivity & Value Chains	INVC-Malawi	265.99.255.3357	Lourdes_matinez@invc-malawi-com	Lilongwe
15			Henry Gaga			Value Chain Competitiveness Specialist	INVC-Malawi	265.99.255.6180	Henry_gaga@invc-malawi.com	Lilongwe
16			Harry Bottenberg			Ag Productivity Improvement Technical Support	INVC-Malawi	265.992.660.690	Harry_Bottenberg@invc-malawi.com	Lilongwe
17			Micheal Makina			Program Manager Value-Chain Coordinator	INVC-Malawi	265.994.962.283	Michael_Makina@invc_malawi.com	Lilongwe
18	March 17, 2015	8:00 AM	Robert M. Chizimba			DCOP, BCC Specialist (Nutrition)	INVC-Malawi	265.99.996.8186	Robert_Chizimba@invc-malawi-com	Lilongwe
19			Aisha Alhassan			Associate Nutrition Specialist	INVC-Malawi	265.99781.3946	Aisha.alhassan@dai.com	Lilongwe
20			Jeremiah Martin			Dist. Nutrition Coordinator, Lilongwe North	INCV-Malawi	265.99.496.2284	Martin_jeremiah@dai.com	Lilongwe
21			Charity Kambank-Banda			Dist. Nutrition Coordinator, Lilongwe South	INVC-Malawi	265.99.988.4447	Charity_banda@invc.malawi.com	Lilongwe
22			Carlibet Makamo			Dist. Nutrition Coordinator, Mchinji District	INVC-District			Lilongwe
23			Catherine Chipazi			Nutrition Specialist, covers Balaka, Machinga, & Mangoch	INVC-District		_	Lilongwe

Meetings-Interview Log for INVC Performance Evaluation, March-April 2015										
#	**Date**	**Time**	**Name**	**F**	**M**	**Title**	**Organization**	**Telephone**	**Email**	**Location**
24	March 17, 2015	2:00 PM	Nobel Moyo			Organizational Capacity Building Specialist	INVC-Malawi	265.99.988.4453	nobel_moyo@invc-malawi.com	Lilongwe
25	March 17, 2015	2:00PM	Ben Lentz			COP	INVC-Malawi	265.099.255.6174	Ben_Lentz@dai.com	Lilongwe
26			Jim Phillips			M&E Specialist	INVC-Malawi	265.999.88.4449	Jim_phillips@invc-malawi.com	Lilongwe
27			Robert M. Chizimba			DCOP, BCC Specialist (Nutrition)	INVC-Malawi	265.99.996.8186	Robert_Chizimba@invc-malawi-com	Lilongwe
28	March 24, 2015	1 PM to 4:30 PM	John Bosco Kasitomu		X	Integrating Nutrition into Value Chains (INVC) Program Manager	Nkhoma Hospital Public Health Center	995466860	kasitomu@inbox.com	Lilongwe
29			Joanna Magombo	X		District Nutrition Coordinator, Mchinji District	Nkhoma Hospital Public Health Center	0998-360-973	joanamagombo@yahoo.com	Lilongwe
30			Jonas Mwambula		X	District Nutrition Coordinator, Lilongwe South	Nkhoma Hospital Public Health Center	0999-959932	cjmwambula@gmail.com	Lilongwe
31			Josephine Kalepa	X		District Nutrition Coordinator, Lilongwe North	Nkhoma Hospital Public Health Center	884173863	josophinekalepa@yahoo.com	Lilongwe
32	March 25, 2015	1PM-3PM	Catherine Mkangama							Lilongwe
33	March 25, 2015	3 PM-9 PM	Joanna Magombo	X		District Nutrition Coordinator, Mchinji District	Nkhoma Hospital Public Health Center	0998-360-973	joanamagombo@yahoo.com	Lilongwe
34			Jonas Mwambula		X	District Nutrition Coordinator, Lilongwe South	Nkhoma Hospital Public Health Center	0999-959932	cjmwambula@gmail.com	Lilongwe
35			Josephine Kalepa	X		District Nutrition Coordinator, Lilongwe North	Nkhoma Hospital Public Health Center	884173863	josophinekalepa@yahoo.com	Lilongwe

Meetings-Interview Log for INVC Performance Evaluation, March-April 2015										
#	**Date**	**Time**	**Name**	**F**	**M**	**Title**	**Organization**	**Telephone**	**Email**	**Location**
36	March 26, 2015	3-5 PM	Gena Pearson	X		Associate Gender and Village Savings and Loan Officer (VSL) (Formerly the Business Process Advisor for the Dairy Sector)	Development Alternative Inc. (DAI), Malawi Integrating Nutrition into Value Chains (INVC)		Gena_pearson@dai.com	
37	March 30, 2015	3PM-4PM	Maggie Mzungu	X		Head of Member Service and Outreach	Farmers Union of Malawi (FUM)	Tel: +265 (0) 1 750 229 / 222 Cell: +265 (0)999 898 97		
38	March 30, 2015	5PM-9 PM	Simon Sikwese		X	Pakachere CEO	Pakachere Institute of Health & Development Community (PIHDC)	0999963305 111 627 031	ssikwese@pakachere.org	Lilongwe (but based in Balntyre)
39	April 1, 2015	10 AM-5PM	Grace Narrat	X		Nutrition Assistant, Lilongwe North, Chiwamba & Chigonthi	Nkhoma Hospital Public Health Center	099-1627962	narratg@gmail.com	Lilongwe
40			Maria Msukwa	X		Nutrition Assistant, Lilongwe North, Chigonthi & Mngwangwa	Nkhoma Hospital Public Health Center	0997-697-567	Mariamsukwa37@gmail.com	Lilongwe
41			Tamala Karuwa	X		Nutrition Assistant, Lilongwe North, Mpindu & Chileka	Nkhoma Hospital Public Health Center	0991-799010	takaruwa@gmail.com	Lilongwe
42			Olex Chingala		X	Nutrition Assistant, Lilonwe South, Mpenu, Nyanja, Chiteawere	Nkhoma Hospital Public Health Center	0888-160845	Olex.chingala@yahoo.com	Lilongwe
43			Meggy Malamulo	X		Nutrition Assistant, Lilongwe South, Yanjn & Lomba	Nkhoma Hospital Public Health Center	0999-722295	malamulomegg@yahoo.com	Lilongwe

Meetings-Interview Log for INVC Performance Evaluation, March-April 2015										
#	**Date**	**Time**	**Name**	**F**	**M**	**Title**	**Organization**	**Telephone**	**Email**	**Location**
44			Chikondi Lorrine	X		Nutrition Assistant, Lilongwe, Chitsime & Thawale	Nkhoma Hospital Public Health Center	884439004	mpondachikondi@gmail.com	Lilongwe
45			Elton Kufakosaleka		X	Nutrition Assistant, Lilongwe North, Ukwe, Mngwangwa	Nkhoma Hospital Public Health Center	0884-282194	Kufakosalekaed0515@gmail.com	Lilongwe
46	April 3, 2015	12PM-3PM	Ben(jamin) E. Lentz		X	Malawi Integrating Nutrition into Value Chains Chief of Party (COP)	Development Alternative Inc. (DAI), Malawi Integrating Nutrtition into Value Chains (INVC)	Tel: +265.1.755.734/36/37 Cell: +265.099.255.6174 Fax: +265.1.755.735	Ben_Lentz@dai.com	Lilongwe
47	April 5, 2015		Aisha Alhassan	X		Associate Nutrition Specialist	Development Alternative Inc. (DAI), Malawi Integrating Nutrtition into Value Chains (INVC)	265 0997813946	Aisha.alhassan@dai.com	Lilongwe
48	April 7, 2015	6:00 PM	Robert Chizimba		X	Deputy Chief of Party/Behavior Change Communication Specialist	Development Alternative Inc. (DAI), Malawi Integrating Nutrtition into Value Chains (INVC)	265 99-996-8186	Robert_Chizimbe@invc-malawi.com	Lilongwe
49	4/8/2015, Confirmed via text	6:00 PM	Jeremiah Martin		X	District Nutrition Coordinator, Lilongwe North	Development Alternative Inc. (DAI), Malawi Integrating Nutrtition into Value Chains (INVC)	+265 0994962284	Martin_jeremiah@dai.com	Lilongwe

Meetings-Interview Log for INVC Performance Evaluation, March-April 2015										
#	**Date**	**Time**	**Name**	**F**	**M**	**Title**	**Organization**	**Telephone**	**Email**	**Location**
50	April 8, 2015		Charity Kambani-Banda	X		District Nutrition Coordinator, Lilongwe South	Development Alternative Inc. (DAI), Malawi Integrating Nutrtition into Value Chains (INVC)	+265 0999884447	Charity_banda@invc.malawi.com	Lilongwe
51	April 8, 2015		Catherine Chipazi	X		Nutrition Specialist, Based in Lilongwe-covers Balaka, Machinga and Mangochi	Development Alternative Inc. (DAI), Malawi Integrating Nutrtition into Value Chains (INVC)	(+265) 0999884442		Lilongwe
52	April 12, 2015		Martin Tembo		X	Former Nutrition Specialist, INVC	Save the Children Malawi	(+265) 0992 6 61 975	Martin.tembo@savethechildren.org	Lilongwe
53	April 10, 2015	6-8 PM	Michael Makina		X	Program Manager Value Chain Coordinator	Development Alternative Inc. (DAI), Malawi Integrating Nutrtition into Value Chains (INVC)	(+265) 0994962283	Michael_Makina@nvc-malawi.com	Lilongwe
54	April 13, 2015	6-8 PM	Yoas Mvula		x	Nkhoma Health Coordinator	Nkhoma Hospital Public Health Center	(+265) 0998951485; (+265) 0991774757	yoas.mvula@gmail.com	Lilongwe
55	April 22, 2015	11:00 AM	Katherine Kurtz	X		Former Remote Nutrition Technical Assistance from DAI	Independent Now		kurzkathleen@gmail.com	Washington, D.C.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
				Lilongwe North: Mkukura Village		
	6	7	8	9	10	11
	NATIONAL HOLIDAY	**Lilongwe South:** 1) Chitsime-Kakhwesi 2) Nyanja-Kapedzera	**Lilongwe North:** 1) Mngwangwa-Fulatira 2) Chigonthi: Chitukula	**Mchinji:** 1) Kalulu-Maliseni 2) Mikundi-Sundwe **Mchinji:** 1) Msitu-Maliene 2) Mikundi-Sundwe	**Mchinji:** 1) Msitu-Mavwere 2) Msitu-Kathyuka **Mchinji:** 1) Msitu-Mavwere 2) Msitu-Cholowelera	**Lilongwe:** NPs morning ½ day **Lilongwe North:** Chizere-Dongolosi
13	14	15	16	17	18	19
Mchinji: NPs afternoon ½ day	**Mchinji–Day 6** District/extension staff **Mchinji:** 1) Lilongwe City 2) Chitsime	**Lilongwe District:** District/extension staff **Lilongwe South:** Chitekwele-Mphwenga	**Balaka:** District		**Dedza:** 1) Kanyama-Mkomeko 2) Kanyama-Mbozi	
20	21	22	23	24	25	26
Dedza: District	**Balaka:** 1) Utale-Chakanza 2) Utale-Chambuluka	**Machinga:** District	**Machinga:** 1) Domasi-Puteya 2) Mtuwi-Chibamba			

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ANNEX 8. NON-DISCLOSURE AGREEMENT

Disclosure of Any Conflicts of Interest

Name	Dr. Abelardo Rodríguez
Title	Team Leader
Organization	Insight Systems Corporation
Evaluation Position?	[X] Team Leader [ ] Team member
Evaluation Award Number *(contract or other instrument)*	AID-OAA-C-13-00137
USAID Project(s) Evaluated *(Include project name(s), implementer name(s) and award number(s), if applicable)*	Integrating Value Chains in Nutrition (INVC) Project (Consortium: DAI, Save-the-Children, Michigan State)
I have real or potential conflicts of interest to disclose.	[ ] Yes [X] No
If yes answered above, I disclose the following facts: *Real or potential conflicts of interest may include, but are not limited to:* 1. *Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated.* 2. *Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation.* 3. *Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project.* 4. *Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(s) are being evaluated.* 5. *Current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose project(s) are being evaluated.* 6. *Preconceived ideas toward individuals, groups, organizations, or objectives of the particular projects and organizations being evaluated that could bias the evaluation.*	

I certify (1) that I have completed this disclosure form fully and to the best of my ability and (2) that I will update this disclosure form promptly if relevant circumstances change. If I gain access to proprietary information of other companies, then I agree to protect their information from

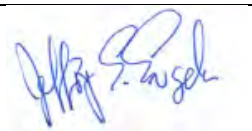
unauthorized use or disclosure for as long as it remains proprietary and refrain from using the information for any purpose other than that for which it was furnished.

Signature	
Date	5 May 2015

Name	Dr. Jeffrey E. Engels
Title	Value-Chain Specialist
Organization	QED Group, LLC
Evaluation Position?	☐ Team Leader ☒ Team member
Evaluation Award Number *(contract or other instrument)*	AID-OAA-C-13-00137
USAID Project(s) Evaluated *(Include project name(s), implementer name(s) and award number(s), if applicable)*	Integrating Value Chains in Nutrition (INVC) Project (Consortium: DAI, Save-the-Children, Michigan State)
I have real or potential conflicts of interest to disclose.	☐ Yes ☒ No
If yes answered above, I disclose the following facts: *Real or potential conflicts of interest may include, but are not limited to:* 7. *Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated.* 8. *Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation.* 9. *Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project.* 10. *Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(s) are being evaluated.* 11. *Current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose project(s) are being evaluated.*	

12. Preconceived ideas toward individuals, groups, organizations, or objectives of the particular projects and organizations being evaluated that could bias the evaluation.	

I certify (1) that I have completed this disclosure form fully and to the best of my ability and (2) that I will update this disclosure form promptly if relevant circumstances change. If I gain access to proprietary information of other companies, then I agree to protect their information from unauthorized use or disclosure for as long as it remains proprietary and refrain from using the information for any purpose other than that for which it was furnished.

Signature	
Date	25 May 2015

Disclosure of Any Conflicts of Interest

Name	Noreen Mucha
Title	Nutrition Specialist
Organization	QED Group, LLC
Evaluation Position?	☐ Team Leader X Team member
Evaluation Award Number *(contract or other instrument)*	AID-OAA-C-13-00137
USAID Project(s) Evaluated *(Include project name(s), implementer name(s) and award number(s), if applicable)*	Integrating Value Chains in Nutrition (INVC) Project (Consortium: DAI, Save-the-Children, Michigan State)
I have real or potential conflicts of interest to disclose.	☐ Yes XX No

If yes answered above, I disclose the following facts:

Real or potential conflicts of interest may include, but are not limited to:

1. *Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated.*
2. *Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation.*
3. *Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project.*
4. *Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(s) are being evaluated.*
5. *Current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose project(s) are being evaluated.*
6. *Preconceived ideas toward individuals, groups, organizations, or objectives of the particular projects and organizations being evaluated that could bias the evaluation.*

I certify (1) that I have completed this disclosure form fully and to the best of my ability and (2) that I will update this disclosure form promptly if relevant circumstances change. If I gain access to proprietary information of other companies, then I agree to protect their information from unauthorized use or disclosure for as long as it remains proprietary and refrain from using the information for any purpose other than that for which it was furnished.

Signature	Noreen Mucha, M.P.A.
Date	May 6, 2015

ANNEX 9. AGRICULTURE INSTRUMENTS

PERFORMANCE EVALUATION OF USAID/MALAWI
INTEGRATING NUTRITION IN VALUE CHAINS

1

Integrating Nutrition in Value Chain (INVC) Consortium

INTERVIEW DISCUSSION GUIDE: AGRICULTURAL VALUE CHAINS

FEED THE FUTURE
KNOWLEDGE DRIVEN
AGRICULTURAL DEVELOPMENT

Interview Discussion Guide at National Level (Prime-Consortium)

DAI/Prime
Save-the-Children/Consortium
Michigan State/Consortium

Before the interview we must communicate the following:

"Good morning/afternoon. Thank you for meeting with us. We are here today on behalf of the United States government. We would like to understand how well the INVC project is doing that helps improve farming and how and what foods are consumed. We want to learn how well the project is doing so that it can be improved. Your experiences, views, knowledge and opinions are valuable in this process and we would like you to share with us what you know and your experiences. There are no right or wrong answers.

To ensure that we are in a safe place to share openly and honestly, can we agree to the following ground rules?

- **Confidentiality** – that we will keep private what we speak about in this discussion.
- **Honesty** – tell us what you really know and feel about each topic of discussion, not what you think we want you to say – just share openly.
- **Participation** – it is very important that each of you give your opinions about the questions being asked and your experiences.
- **Respect:** let us respect each other's views as we want to know all of your different opinions.

Please feel free to express yourselves– you will not be judged for your opinion.

I hope that you will find it interesting to share information with us. Before we start, are there any questions?"

Informant information	
Name of informant(s):	
Name of organization:	
Level of stakeholder(s) **(Prime, Consortium Partner, IP, TSP, BSP, District, Village, Beneficiaries):**	
Contract information (if available):	
District:	**Village:**
Number of informants:	
Sex (M/F):	
Interviewer:	
Note taker:	
Interpreter:	
Date:	
Location:	

<table>
<tr><th colspan="3">Questions regarding the adoption of INVC s promoted agricultural technologies and practices. [Questions will be asked per crop.]</th></tr>
<tr><td>What new agricultural technologies and practices promoted by the project have farmers most adopted per district?

Have women farmers adopted the same technologies and practices as men farmers?

Please explain why or why not.</td><td colspan="2">Prompts
1. Groundnuts/2. Soy beans

1. Mchinji; 2. Lilongwe; 3. Dedza; 4. Ntcheu; 5. Balaka; 6. Mangochi; 7. Machinga</td></tr>
<tr><td></td><td>Groundnuts Technologies
1 Use of CG7 seeds
2 Harvesting & drying technologies
3 Post-harvest processing
4 Grading and packaging

Practices
1 Ridge spacing
2 Plant spacing
3 Source of seeds among farmers
4 Crop rotation practices
5 Weeding practices
6 Knowledge of harvest time
7 Marketing among farmers
8 Implementation of safety standards
9 Implantation of quality standards
10 Storage
11 Marketing practices</td><td>Soy beans Technologies
1 Use of Serenade or Makwacha varieties
2 Post-harvest handling
3 Grading and packaging

Practices
1 Ridge spacing
2 Plant spacing
3 Source of seeds among farmers
4 Crop rotation practices
5 Weeding practices
6 Knowledge of harvest time
7 Marketing among farmers
8 Implantation safety standards
9 Implementation of quality standards
10 Storage
11 Marketing</td></tr>
<tr><td>Of the technologies and practices that have been adopted by farmers, what proportion of farmers have adopted them?</td><td colspan="2">Prompts
1. Groundnuts; 2 Soy beans
• (1-5%, 6-10%, 11-15%, 16-20%, 20%+)</td></tr>
<tr><td>Of those adopted technologies and practices, to what degree have they been used?</td><td colspan="2">Prompts
1. Groundnuts; 2. Soy beans
• Often
• Sometimes</td></tr>
</table>

Is this the same for women and men? Please explain.	• Seldom • Never
Of the adopted technologies and practices, are these helping farmers face extreme weather conditions (i.e. heavy rain, drought, etc.). Please explain.	*Prompts* • Yes/No

Questions regarding barriers to adopting promoted agricultural technologies and practices? [Questions will be asked per crop.]	
Why have farmers not applied improved farming technologies and practices for their groundnut/soy bean crop?	*Prompts* 1. Groundnuts; 2. Soy beans • **Land ownership** ○ If do not own land, not worth the time/labor to apply practices for one season • **Physical geography/topography** ○ Access to land ○ Landholding size ○ Suitability of technologies/practices to local agro-ecological environment • **Work load** ○ Health/age ○ Lack of labor-labor requirements too great; unable to command family labor; unable to pay for hired labor ○ Weeding ○ Complicated • **Cost/economy** ○ No access to financing/credit, not flexible, poorly timed to seasons ○ Cost for herbicide, fertilizer, or other inputs ○ Low market price for product, insecure, unreliable prices ○ Cost of renting land (if owned land is not enough ○ Poor access to markets ▪ Input markets ▪ Output markets • **Traditions** ○ Traditions in farming-traditional farmer values (rigidity to change)

<table>
<tr><td></td><td>

Habit-lack of willingness
Unwilling to have collectively owned resources/technology
Other family member makes decision related to production practices (who?)

Behavior

Mistrust
Culture in community and/or family
Lack of knowledge/understanding (no Extension services)

Biophysical
Soil properties; water

</td></tr>
<tr><td>What technologies and practices have not been adopted by farmers <u>per district</u>?

Is this different for women farmers and men farmers?

If yes, please explain how.</td><td>Prompts

1. Mchinji; 2. Lilongwe; 3. Dedza; 4. Ntcheu; 5. Balaka; 6. Mangochi; 7. Machinga

<table>
<tr><td>Groundnuts
Technologies
1 Use of CG7 seeds
2 Harvesting & drying technologies
3 Post-harvest processing
4 Grading and packaging

Practices
1 Ridge spacing
2 Plant spacing
3 Source of seeds among farmers
4 Crop rotation practices
5 Weeding practices
6 Knowledge of harvest time
7 Marketing among farmers
8 Implementation of safety standards
9 Implantation of quality standards
10 Storage
11 Marketing practices</td><td>Soy beans
Technologies
1 Use of Serenade or Makwacha varieties
2 Post-harvest handling
3 Grading and packaging

Practices
1 Ridge spacing
2 Plant spacing
3 Source of seeds among farmers
4 Crop rotation practices
5 Weeding practices
6 Knowledge of harvest time
7 Marketing among farmers
8 Implantation safety standards
9 Implementation of quality standards
10 Storage
11 Marketing practices</td></tr>
</table>
</td></tr>
<tr><td>What would it take for farmers to use improved farming technologies and practices for their groundnut/soy crop:
(1) Between now and 2016?
(2) After 2016?</td><td>Prompts

Additional technical support from:

Lead Farmer or Assistance Lead Farmer
Extension Officer
NASFAM/FUM/CADECOM field officer

</td></tr>
</table>

	○ Other (please specify) • Free or subsidized input distribution from: ○ NASFAM/FUM/CADECOM or other (please specify) • Access to land • Land ownership • Access to credit/financial services • Better access to input markets • Better access to output markets • More market information for the crop • Other (please specify)

Questions regarding the extent to which productivity of groundnuts and soy beans has increased resulting from the adoption of promoted agricultural technologies and practices. [Questions will be asked per crop.]	
Has farmers' production per area increased for groundnuts and/or soy beans after using new farming technologies and practices? Please describe by district.	*Prompts* 1. Groundnuts; Soybeans • Yes/No 1. Mchinji; 2. Lilongwe; 3. Dedza; 4. Ntcheu; 5. Balaka; 6. Mangochi; 7. Machinga
If yes, how do you know this has happened? Do you have any data on changes in yields or production? If yes, how has this been measured?	*Prompts* 1. Groundnuts; 2. Soy beans • Yes/No • Metric tons per hectare • Bags per hectare • Other (specify)
What new farming technologies and/or practices have increased farmers' yields per district and EPA? Is this different for women farmers and men farmers? If yes, please explain how.	*Prompts* 1. Mchinji; 2. Lilongwe; 3. Dedza; 4. Ntcheu; 5. Balaka; 6. Mangochi; 7. Machinga **Groundnuts** **Technologies** 1 Use of CG7 seeds 2 Harvesting **Practices** 1 Ridge spacing 2 Plant spacing 3 Source of seeds among farmers 4 Crop rotation practices 5 Weeding practices **Soy beans** **Technologies** 1 Use of Serenade or Makwacha varieties **Practices** 1 Ridge spacing 2 Plant spacing 3 Source of seeds among farmers 4 Crop rotation practices 5 Weeding practices

	6 Knowledge of harvest time 7 Application of pesticides or herbicides 8 Planting doubled-up legumes (inter-cropping with pigeon pea)	6 Knowledge of harvest time 7 Application of pesticides or herbicides 8 Planting doubled-up legumes (inter-cropping with pigeon pea)

Questions regarding impediments that have prevented increases in productivity even after promoted technologies and practices were adopted. [Questions will be asked per crop.]

Have you observed cases where yields have not been increased even after farmers have adopted new technologies and practices? If yes, why do you think this happened? Why have farmers' yields not increased even when they adopted new farming technologies and practices?	*Prompts* 1 Groundnuts; 2 Soy beans • Yes/No • Adopted some technologies but not the full package • Lack of access to input • Seeds • Fertilizer • Inoculant • Pesticides/herbicides • Other (please specify) • Poor quality inputs ○ Seeds ○ Fertilizer ○ Inoculant ○ Pesticides/herbicides ○ Other (please specify) • Counterfeit seeds • Counterfeit fertilizer • Inputs applied incorrectly (quantity & time) ○ Which: ▪ Seeds ▪ Fertilizer ▪ Inoculant ▪ Pesticides/herbicides ▪ Other (please specify) ○ Why: ▪ Late delivery ▪ Late purchase of inputs ▪ Insufficient training • Practices applied incorrectly • Applied some improved technologies and practices but not others • Degraded environment • Rainfall (delayed, early cessation, too much/little)Pests: Type of pest (if farmer knows) • Disease: Type of disease (if farmer knows) • Other climate or weather related conditions or events

Questions regarding collective marketing approaches promoted by the INVC that have been most effective in linking farmers to markets. [Questions will be asked per crop.]

Of the collective marketing approaches the INVC promotes (with and through its sub-partners), which has been the most successful in linking farmers to markets?	*Prompts* • Outgrower scheme • Bulking and aggregation • Grouped negotiation • Forward contracts • Warehouse Receipt System • Spot sales • Hedging • Bid Volume Only (BVO) System • Offer Volume Only (OVO) System • Bid & Offer Matching • Other type of auction (specify) • Other (please specify)
Why do you think these marketing approaches have been more successful than others? Please explain <u>for each one</u> that you said was most successful in linking farmers to markets.	*Prompts* • Access to new markets • Access to marketing information/pricing • Reduction of marketing costs • Increased income <u>List:</u> • Outgrower scheme • Bulking and aggregation • Grouped negotiation • Forward contracts • Warehouse Receipt System • Spot sales • Hedging • Bid Volume Only (BVO) System • Offer Volume Only (OVO) System • Bid & Offer Matching • Other type of auction (specify) • Other (please specify)
Please discuss how these successful marketing approaches have been effective: (1) Across districts; (2) Between the various sub-partners; (3) Across markets; (4) Between women and men.	*Prompts* Districts: 1. Mchinji; 2. Lilongwe; 3. Dedza; 4. Ntcheu; 5. Balaka; 6. Mangochi; 7. Machinga Sub-partners: • NASFAM (sub partner) • FUM (sub partner • CADECOM (sub partner) • ACE (BSP) • CISANET (TSP) • ITTA (TSP)

	• Nkhoma Hospital • Pakachere (IHDC)
For each of the marketing approaches that you think has been successful, do you think farmers will be able to continue using these marketing approaches to sell their products: (1) Between now and 2016? (2) After 2016? Why or why not? Please explain.	*Prompts* • Yes/No <u>List:</u> • Outgrower scheme • Bulking and aggregation • Grouped negotiation • Forward contracts • Warehouse Receipt System • Spot sales • Hedging • Bid Volume Only (BVO) System • Offer Volume Only (OVO) System • Bid & Offer Matching • Other type of auction (specify) • Other (please specify)
What is the relationship between the farmer and the buyer for these collective marketing approaches? Please explain per approach. Do farmers work through the Association or Group Action Committee or Farmers' Club?	*Prompts* • Strong • Good • Weak • Yes/No
Of the Farming/Marketing Groups that are using collective marketing, can they sustain relationships with large buyers? If yes, please explain how.	*Prompts* • Yes/No • Sufficient capacity exists • Relationships are strong • Other (please specify)
Have all INVC farmers benefited equally in regard to: (1) All districts? (2) EPAs? (3) Women vs. men? Please explain how	*Prompts* • Yes/No

Questions regarding which collective marketing approaches have most effectively increased the income of farmers. [Questions will be asked per crop.]	
Which collective marketing approaches have most increased the income of farmers per district?	*Prompts* 1. Groundnuts/2. Soy beans

	1. Mchinji; 2. Lilongwe; 3. Dedza; 4. Ntcheu; 5. Balaka; 6. Mangochi; 7. Machinga • Outgrower scheme • Bulking and aggregation • Grouped negotiation • Forward contracts • Warehouse Receipt System • Spot sales • Hedging • Bid Volume Only (BVO) System • Offer Volume Only (OVO) System • Bid & Offer Matching • Other type of auction (specify) • Other (please specify)
Have all farmers benefitted equally? Please explain.	• Yes/No
Has the income of women farmers who participated in collective marketing increased as much as men? Why or why not?	• Yes/No
How much do you think each of these approaches increased farmers' income (by percentage)?	*Prompts* By percentage: • Outgrower scheme (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Bulking and aggregation (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Grouped negotiation (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Forward contracts (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Warehouse Receipt System (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Spot sales (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Hedging (1-5%, 6-10%, 11-15%, 16-20%, 20%+)

	• Bid Volume Only (BVO) System (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Offer Volume Only (OVO) System (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Bid & Offer Matching (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Other type of auction (specify) (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Other (please specify) (1-5%, 6-10%, 11-15%, 16-20%, 20%+)

Questions regarding which collective marketing approaches have most effectively increased the income of farmers. [Questions will be asked per crop.]	
What are the biggest obstacles for farmers to collectively market groundnuts and/or soybeans per district? Are these obstacles the same for women and men?	*Prompts* 2. Groundnuts/2. Soy beans 1. Mchinji; 2. Lilongwe; 3. Dedza; 4. Ntcheu; 5. Balaka; 6. Mangochi; 7. Machinga • No information about this from ○ NASFAM ○ FUM ○ CADECOM ○ Farmer Clubs ○ Group Action Committees ○ Other (please specify) • No coordination/facilitation from ○ NASFAM ○ FUM ○ CADECOM ○ Farmer Clubs ○ Group Action Committees ○ Other (please specify) • Loyalty to existing buyers • Unwillingness to organize/work together—on local, regional, national level • Coordination problems • No rural markets • Distance to markets-high cost of transportation • Mistrust of association, traders, or other • Mistrust of the collective marketing process • Need access to cash right after harvest, cannot wait for collective marketing • Crop did not meet minimum quality standards or grades required ○ Moisture content ○ Aflatoxin

Please explain if there is a difference and why.	○ Other fungal contamination ○ Other (quality issue—please specify) • Lack marketing information knowledge • Lack of information on market prices • Lack of knowledge collective marketing=lower transaction costs of accessing inputs/produce markets • Political pressure from middlemen
What do you think would have to happen for farmers to collectively sell their crop: (1) Between now and 2016? (2) After 2016?	*Prompts* • Information about this from ○ NASFAM ○ FUM ○ CADECOM ○ Farmer Clubs ○ Group Action Committees ○ Other (please specify) • Coordination/facilitation from ○ NASFAM ○ FUM ○ CADECOM ○ Farmer Clubs ○ Group Action Committees ○ Other (please specify)

Questions regarding which elements/approaches of the INVC integrated model have been most successful leading to the adoption of both promoted agriculture and nutrition behaviors/practices by beneficiaries.	
Your project works *with* and *through* local sub-partners to improve value chains and nutrition behaviors and practices. Please briefly describe your sub-partners' activities.	*Prompts* • NASFAM (sub partner) • FUM (sub partner • CADECOM (sub partner) • ACE (BSP) • CISANET (TSP) • ITTA (TSP) • Nkhoma Hospital • Pakachere (IHDC)
Have your agriculture sub-partners' activities to improve agricultural technologies and practices been effective? For each partner, please explain how and why they have or have not been effective.	*Prompts* • Yes/No
If your agriculture sub-partners' activities have been effective, can they be more effective?	*Prompts* • Yes/No

If yes, please explain.	• Broader reach • Deeper reach • Alternative activities (if so, explain) • Other (please specify)
Have your nutrition sub-partners' activities to improve nutrition behaviors and practices been effective? For each nutrition partner, please explain how and why they have or have not been effective at improving nutrition behaviors and practices.	*Prompts* • Yes/No
If your nutrition sub-partners' activities have been effective, can they be more effective? If yes, please explain.	*Prompts* • Yes/No • Broader reach • Deeper reach • Alternative activities (if so, explain) Other (please specify)
The "I" in INVC stands for integration. How do you define this in the context of the project?	*Prompts*
Are there any particular aspects of the INVC's integrated agriculture-nutrition approach that stand out as having been most effective at facilitating integration? Please explain which aspects and why.	*Prompts* • Yes/No
Which elements or approaches of the INVC activity and consortium of partners best facilitated integration? Please explain.	*Prompts*
Which sub-partners most effectively facilitated integration? Please explain.	*Prompts* • NASFAM (sub partner) • FUM (sub partner • CADECOM (sub partner) • ACE (BSP) • CISANET (TSP) • ITTA (TSP) • Nkhoma Hospital • Pakachere (IHDC)
Which sub-partners least effectively facilitated integration? Please explain.	*Prompts* • NASFAM (sub partner) • FUM (sub partner • CADECOM (sub partner) • ACE (BSP) • CISANET (TSP)

	• IITA (TSP) • Nkhoma Hospital • Pakachere (IHDC)
Did any sub-partners act as barriers to effective integration? If so, please explain how.	*Prompts* • NASFAM (sub partner) • FUM (sub partner • CADECOM (sub partner) • ACE (BSP) • CISANET (TSP) • IITA (TSP) • Nkhoma Hospital • Pakachere (IHDC)

Questions regarding which elements/approaches have been least successful.	
Which of your sub-partners' agriculture activities have been least successful?	*Prompts* • Implementing • Technical services • Business services
If your sub-partners' agriculture activities have not been successful, is there a way they can be successful? If yes, please explain.	*Prompts* • Yes/No • Broader reach • Deeper reach • Alternative activities (if so, explain) • Other (please specify)
Which of your sub-partners' nutrition activities have been least successful?	*Prompts* • Implementing • Technical services
If the sub-partners' nutrition activities have not been successful, is there a way they can be successful? If yes, please explain.	*Prompts* • Yes/No • Broader reach • Deeper reach • Alternative activities (if so, explain) • Other (please specify)
Beyond the delivery of agriculture and nutrition activities implemented by the sub-partners, what other factors have affected integration and the adoption of the promoted behaviors and practices? Please explain.	*Prompts* • Factors: ○ Administrative ○ Technical ○ Logistical ○ Leadership ○ Managerial ○ Financial controls/Accounting ○ HR/personnel/staff retention

	○ Limited capacity ○ Other (please specify)

PERFORMANCE EVALUATION OF USAID/MALAWI INTEGRATING NUTRITION IN VALUE CHAINS

2

Integrating Nutrition in Value Chain (INVC) Local Sub-Partners

INTERVIEW DISCUSSION GUIDE: AGRICULTURAL VALUE CHAINS

FEED THE FUTURE
KNOWLEDGE DRIVEN
AGRICULTURAL DEVELOPMENT

Interview Discussion Guide at Sub-Partner Level
-Implementing Partners: CADECOM/FUM/NASFAM
-Technical Service Providers (TSP): IITA/CISANET
-Business Service Provider: (BSP): ACE

Before the interview we must communicate the following:

"Good morning/afternoon. Thank you for meeting with us. We are here today on behalf of the United States government. We would like to understand how well the INVC project is doing that helps improve farming and how and what foods are consumed. We want to learn how well the project is doing so that it can be improved. Your experiences, views, knowledge and opinions are valuable in this process and we would like you to share with us what you know and your experiences. There are no right or wrong answers.

To ensure that we are in a safe place to share openly and honestly, can we agree to the following ground rules?

- **Confidentiality** – that we will keep private what we speak about in this discussion.
- **Honesty** – tell us what you really know and feel about each topic of discussion, not what you think we want you to say – just share openly.
- **Participation** – it is very important that each of you give your opinions about the questions being asked and your experiences.
- **Respect:** let us respect each other's views as we want to know all of your different opinions.

Please feel free to express yourselves– you will not be judged for your opinion.

I hope that you will find it interesting to share information with us. Before we start, are there any questions?"

Informant information	
Name of informant(s):	
Name of organization:	
Level of stakeholder(s) **(Prime, Consortium Partner, IP, TSP, BSP, District, Village, Beneficiaries):**	
Contract information (if available):	
District:	**Village:**
Number of informants:	
Sex (M/F):	
Interviewer:	
Note taker:	
Interpreter:	
Date:	
Location:	

Questions regarding the adoption of INVC s prompted agricultural technologies and practices. [Questions will be asked per crop.]		
What new agricultural technologies and practices promoted by the project have farmers most adopted per district?	*Prompts* 1. Groundnuts/2. Soy beans 1. Mchinji; 2. Lilongwe; 3. Dedza; 4. Ntcheu; 5. Balaka; 6. Mangochi; 7. Machinga	
	Groundnuts Technologies 1 Use of CG7 seeds 2 Harvesting & drying technologies	**Soy beans Technologies** 1 Use of Serenade or Makwacha varieties 2 Post-harvest handling

Have women farmers adopted the same technologies and practices as men farmers? Please explain why or why not.	3 Post-harvest processing 4 Grading and packaging **Practices** 1 Ridge spacing 2 Plant spacing 3 Source of seeds among farmers 4 Crop rotation practices 5 Weeding practices 6 Knowledge of harvest time 7 Marketing among farmers 8 Implementation of safety standards 9 Implantation of quality standards 10 Storage 11 Marketing practices	3 Grading and packaging **Practices** 1 Ridge spacing 2 Plant spacing 3 Source of seeds among farmers 4 Crop rotation practices 5 Weeding practices 6 Knowledge of harvest time 7 Marketing among farmers 8 Implantation safety standards 9 Implementation of quality standards 10 Storage 11 Marketing
Of the technologies and practices that have been adopted by farmers, what proportion of farmers have adopted them?	*Prompts* 2. Groundnuts; 2 Soy beans • (1-5%, 6-10%, 11-15%, 16-20%, 20%+)	
Of those adopted technologies and practices, to what degree have they been used? Is this the same for women and men? Please explain.	*Prompts* 2. Groundnuts; 2. Soy beans • Often • Sometimes • Seldom • Never	
Of the adopted technologies and practices, are these helping farmers face extreme weather conditions (i.e. heavy rain, drought, etc.). Please explain.	*Prompts* • Yes/No	

Questions regarding barriers to adopting promoted agricultural technologies and practices? [Questions will be asked per crop.]	
Why have some farmers not applied improved farming technologies and practices for their groundnut/soy bean crop?	*Prompts* 2. Groundnuts; 2. Soy beans • **Land ownership** ○ If do not own land, not worth the time/labor to apply practices for one season • **Physical geography/topography**

	○ Access to land ○ Landholding size ○ Suitability of technologies/practices to local agro-ecological environment • **Work load** ○ Health/age ○ Lack of labor-labor requirements too great; unable to command family labor; unable to pay for hired labor ○ Weeding ○ Complicated • **Cost/economy** ○ No access to financing/credit, not flexible, poorly timed to seasons ○ Cost for herbicide, fertilizer, or other inputs ○ Low market price for product, insecure, unreliable prices ○ Cost of renting land (if owned land is not enough ○ Poor access to markets ▪ Input markets ▪ Output markets • **Traditions** ○ Traditions in farming-traditional farmer values (rigidity to change) ○ Habit-lack of willingness ○ Unwilling to have collectively owned resources/technology ○ Other family member makes decision related to production practices (who?) • **Behavior** ○ Mistrust ○ Culture in community and/or family ○ Lack of knowledge/understanding (no Extension services) • **Biophysical** • Soil properties; water
What technologies and practices have not been adopted by farmers <u>per district</u>?	*Prompts* 1. Mchinji; 2. Lilongwe; 3. Dedza; 4. Ntcheu; 5. Balaka; 6. Mangochi; 7. Machinga

Is this different for women farmers and men farmers? If yes, please explain how.	**Groundnuts** **Technologies** 1 Use of CG7 seeds 2 Harvesting & drying technologies 3 Post-harvest processing 4 Grading and packaging **Practices** 1 Ridge spacing 2 Plant spacing 3 Source of seeds among farmers 4 Crop rotation practices 5 Weeding practices 6 Knowledge of harvest time 7 Marketing among farmers 8 Implementation of safety standards 9 Implantation of quality standards 10 Storage 11 Marketing practices **Soy beans** **Technologies** 1 Use of Serenade or Makwacha varieties 2 Post-harvest handling 3 Grading and packaging **Practices** 1 Ridge spacing 2 Plant spacing 3 Source of seeds among farmers 4 Crop rotation practices 5 Weeding practices 6 Knowledge of harvest time 7 Marketing among farmers 8 Implantation safety standards 9 Implementation of quality standards 10 Storage 11 Marketing practices
What would it take for farmers to use improved farming technologies and practices for their groundnut/soy crop: (3) Between now and 2016? (4) After 2016?	*Prompts* • Additional technical support from: ○ Lead Farmer or Assistance Lead Farmer ○ Extension Officer ○ NASFAM/FUM/CADECOM field officer ○ Other (please specify) • Free or subsidized input distribution from: ○ NASFAM/FUM/CADECOM or other (please specify) • Access to land • Land ownership • Access to credit/financial services • Better access to input markets • Better access to output markets • More market information for the crop • Other (please specify)

Questions regarding the extent to which productivity of groundnuts and soy beans has increased resulting from the adoption of promoted agricultural technologies and practices. [Questions will be asked per crop.]

Has farmers' production per area increased for groundnuts and/or soy beans after using new farming technologies and practices? Please describe by district.	*Prompts* 1 Groundnuts; 2 Soy beans • Yes/No 1. Mchinji; 2. Lilongwe; 3. Dedza; 4. Ntcheu; 5. Balaka; 6. Mangochi; 7. Machinga	
If yes, how do you know this has happened? Do you have any data on changes in yields or production? If yes, how has this been measured?	*Prompts* 1. Groundnuts; 2. Soy beans • Yes/No • Metric tons per hectare • Bags per hectare • Other (specify)	
What new farming technologies and/or practices have increased farmers' yields per district? Is this different for women farmers and men farmers? If yes, please explain how.	*Prompts* 1. Mchinji; 2. Lilongwe; 3. Dedza; 4. Ntcheu; 5. Balaka; 6. Mangochi; 7. Machinga	
	Groundnuts **Technologies** 1. Use of CG7 seeds 2. Harvesting **Practices** 1 Ridge spacing 2 Plant spacing 3 Source of seeds among farmers 4 Crop rotation practices 5 Weeding practices 6 Knowledge of harvest time 7 Application of pesticides or herbicides 8 Planting doubled-up legumes (inter-cropping with pigeon pea)	**Soy beans** **Technologies** 1 Use of Serenade or Makwacha varieties **Practices** 1 Ridge spacing 2 Plant spacing 3 Source of seeds among farmers 4 Crop rotation practices 5 Weeding practices 6 Knowledge of harvest time 7 Application of pesticides or herbicides 8 Planting doubled-up legumes (inter-cropping with pigeon pea)

Questions regarding impediments that have prevented increases in productivity even after promoted technologies and practices were adopted. [Questions will be asked per crop.]

Have you observed cases where yields have not been increased even after farmers have adopted new technologies and practices? If yes, why do you think this happened? Why have farmers' yields not increased even when they adopted new farming technologies and practices?	*Prompts* 1 Groundnuts; 2 Soy beans • Yes/No • Adopted some technologies but not the full package • Lack of access to input • Seeds • Fertilizer • Inoculant • Pesticides/herbicides • Other (please specify) • Poor quality inputs ○ Seeds ○ Fertilizer ○ Inoculant ○ Pesticides/herbicides ○ Other (please specify) • Counterfeit seeds • Counterfeit fertilizer • Inputs applied incorrectly (quantity & time) ○ Which: ○ Seeds ○ Fertilizer ○ Inoculant ○ Pesticides/herbicides ○ Other (please specify) ○ Why: ○ *Late delivery* ○ *Late purchase of inputs* ○ *Insufficient training* • *Practices applied incorrectly* • Applied some improved technologies and practices but not others • Degraded environment • Rainfall (delayed, early cessation, too much/little) • Pests ○ Type of pest (if farmer knows) • Disease ○ Type of disease (if farmer knows) • Other climate or weather related conditions or events

Questions regarding collective marketing approaches promoted by the INVC that have been most effective in linking farmers to markets. [Questions will be asked per crop.]	
Are you involved with promoting the project's collective marketing to link farmers to markets? Please explain.	*Prompts* 1. Groundnuts/2. Soy beans • Yes/No
If yes, which collective marketing approach are you promoting?	*Prompts* 2. Groundnuts/2. Soy beans • Outgrower scheme • Bulking and aggregation • Grouped negotiation • Forward contracts • Warehouse Receipt System • Spot sales • Hedging • Bid Volume Only (BVO) System • Offer Volume Only (OVO) System • Bid & Offer Matching • Other type of auction (specify) • Other (please specify)
Do women and men participate equally in collective marketing? Please list which collective marketing approaches: (1) Men participate in (2) Women participate in	*Prompts* 1. Groundnuts/2. Soy beans • Yes/No • Outgrower scheme • Bulking and aggregation • Grouped negotiation • Forward contracts • Warehouse Receipt System • Spot sales • Hedging • Bid Volume Only (BVO) System • Offer Volume Only (OVO) System • Bid & Offer Matching • Other type of auction (specify) • Other (please specify)
Are you aware that the project has promoted collective marketing through an agricultural commodity exchange?	*Prompts* 1. Groundnuts/2. Soy beans • Yes/No
If you are aware that the project has promoted collective marketing through an agricultural commodity exchange, what exchange approaches have been most successful?	*Prompts* 1. Groundnuts; 2. Soy bean • Warehouse Receipt System • Bid Volume Only (NVO) System • Offer Volume Only (OVO) System

Have these approaches been equally successful for women and men? Please explain.	• Bid & Offer Matching • Other (specify)
For the other collective marketing approaches, which have been most successful? Please explain why.	*Prompts* 1. Groundnuts; 2. Soy bean • Outgrower scheme • Bulking and aggregation • Grouped negotiation • Forward contracts • Spot sales • Hedging • Other type of auction (specify) • Other (please specify) • Access to new markets • Access to marketing information/pricing • Reduction of marketing costs • Increased income
Of these collective marketing approaches, will farmers be able to continue to access these: (1) Between now and 2016? (2) After 2016? Why or why not?	*Prompts* 1. Groundnuts; 2. Soy beans • Yes/No • Market information will continue to flow • Market information could cease • Other (please specify)
Can farmers that participate in collective marketing sustain relationships with large buyers? If yes, through which approaches?	*Prompts* 1. Groundnuts/2. Soy beans • Yes/No • Outgrower scheme • Bulking and aggregation • Grouped negotiation • Forward contracts • Warehouse Receipt System • Spot sales • Hedging • Bid Volume Only (BVO) System • Offer Volume Only (OVO) System • Bid & Offer Matching • Other type of auction (specify) • Other (please specify)

Will women equally be able to sustain relationships with large buyers like men? Please explain.	• Yes/No • Sufficient capacity exists • Relationships are strong • Other (please specify)

Questions regarding which collective marketing approaches have most effectively increased the income of farmers. [Questions will be asked per crop.]	
Which collective marketing approaches have most increased the income of farmers per district? Has the income of women farmers who participated in collective marketing increased as much as men? Why or why not?	*Prompts* 1. Groundnuts; 2. Soy beans 1. Mchinji; 2. Lilongwe; 3. Dedza; 4. Ntcheu; 5. Balaka; 6. Mangochi; 7. Machinga • Outgrower scheme • Bulking and aggregation • Grouped negotiation • Forward contracts • Warehouse Receipt System • Spot sales • Hedging • Bid Volume Only (BVO) System • Offer Volume Only (OVO) System • Bid & Offer Matching • Other type of auction (specify) • Other (please specify)
How much has each of these approaches increased farmers' income (by percentage)?	*Prompts* By percentage: • Outgrower scheme (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Bulking and aggregation (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Grouped negotiation (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Forward contracts (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Warehouse Receipt System (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Spot sales (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Hedging (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Bid Volume Only (BVO) System

	(1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Offer Volume Only (OVO) System (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Bid & Offer Matching (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Other type of auction (specify) (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Other (please specify) (1-5%, 6-10%, 11-15%, 16-20%, 20%+)

Questions regarding which collective marketing approaches have most effectively increased the income of farmers. [Questions will be asked per crop.]	
What are the biggest obstacles for farmers to collectively market groundnuts and/or soybeans per district? Are these obstacles the same for women and men? Please explain if there is a difference and why.	*Prompts* 3. Groundnuts/2. Soy beans 1. Mchinji; 2. Lilongwe; 3. Dedza; 4. Ntcheu; 5. Balaka; 6. Mangochi; 7. Machinga • No information about this from ○ NASFAM ○ FUM ○ CADECOM ○ Farmer Clubs ○ Group Action Committees ○ Other (please specify) • No coordination/facilitation from ○ NASFAM ○ FUM ○ CADECOM ○ Farmer Clubs ○ Group Action Committees ○ Other (please specify) • Loyalty to existing buyers • Unwillingness to organize/work together—on local, regional, national level • Coordination problems • No rural markets • Distance to markets-high cost of transportation • Mistrust of association, traders, or other • Mistrust of the collective marketing process • Need access to cash right after harvest, cannot wait for collective marketing • Crop did not meet minimum quality standards or grades required

	○ Moisture content ○ Aflatoxin ○ Other fungal contamination ○ Other (quality issue—please specify) • Lack marketing information knowledge • Lack of information on market prices • Lack of knowledge collective marketing=lower transaction costs of accessing inputs/produce markets • Political pressure from middlemen
What do you think would have to happen for farmers to collectively sell their crop: (3) Between now and 2016? (4) After 2016?	*Prompts* • Information about this from ○ NASFAM ○ FUM ○ CADECOM ○ Farmer Clubs ○ Group Action Committees ○ Other (please specify) • Coordination/facilitation from ○ NASFAM ○ FUM ○ CADECOM ○ Farmer Clubs ○ Group Action Committees ○ Other (please specify)

Questions regarding which elements/approaches of the INVC integrated model have been most successful leading to the adoption of both promoted agriculture and nutrition behaviors/practices by beneficiaries.	
As the INVC project works *with* and *through* local sub-partners like yourself to improve agricultural value chains and nutrition behaviors and practices, please describe the type of work you do with INVC.	*Prompts* • Implementing • Technical services • Business services
Is your work with INVC improving agricultural technologies and practices successful? Please explain why and how you know.	*Prompts* • Yes/No
If it is successful, can it be more successful? If yes, please explain.	*Prompts* • Yes/No • Broader reach • Deeper reach • Alternative activities (if so, explain) • Other (please specify)

Are you aware of other INVC partners? If yes, which ones?	*Prompts* • Yes/No • NASFAM (sub partner) • FUM (sub partner • CADECOM (sub partner) • ACE (BSP) • CISANET (TSP) • IITA (TSP) • Nkhoma Hospital • Pakachere (IHDC)
Do you know which INVC partners are involved in the same districts that you work in and which ones?	*Prompts* • Yes/No • 1. Mchinji; 2. Lilongwe; 3. Dedza; 4. Ntcheu; 5. Balaka; 6. Mangochi; 7. Machinga • NASFAM (sub partner) • FUM (sub partner • CADECOM (sub partner) • ACE (BSP) • CISANET (TSP) • IITA (TSP) • Nkhoma Hospital • Pakachere (IHDC)
Of the other partners that you know involved in agriculture, please describe their activities.	*Prompts* • Implementing • Technical services • Business services
From what you know of other partners working to improve agricultural technologies and practices, is their work successful? Please explain.	*Prompts* • Yes/No
Can their work be more successful? If yes, how?	*Prompts* • Yes/No • Broader reach • Deeper reach • Alternative activities (if so, explain) • Other (please specify)
Of the other partners that you know involved in nutrition, please describe their activities.	*Prompts* • Implementing • Technical services
Of the other partners involved in nutrition, are their activities to improve	*Prompts* • Yes/No

nutrition behaviors and practices successful? Please explain.	
If the other partners involved in nutrition are successful, can they be more successful? If yes, please explain.	*Prompts* • Yes/No • Broader reach • Deeper reach • Alternative activities (if so, explain) • Other (please specify)
How are agriculture and nutrition activities implemented in the same community? What links are established between the two? Are joint agriculture and nutrition activities coordinated at the: (1) District level? (2) Community level? (3) Household level? How might coordination and links be improved?	*Prompts* • Joint trainings • Information about home processing and food preservation • Backyard diverse gardens • Other (please specify)
Given your understanding of all these organizations, along with your own, which of the agriculture and nutrition activities combined have been most <u>successfully</u> <u>adopted together</u>? Please explain why you believe these agriculture and nutrition activities combined have been successfully adopted together. Would you describe these activities as being 'integrated'? Please explain your understanding/definition of integration. If these activities are integrated, how can they be better integrated? What is needed to make this happen?	*Prompts* • Good implementation • Good coordination • Other (please specify)

Questions regarding which elements/approaches have been least successful.	
Which of your agriculture activities have been least successful?	*Prompts* • Implementing • Technical services • Business services
If your agricultural activities have not been successful, is there a way they can be successful? If yes, please explain.	*Prompts* • Yes/No • Broader reach • Deeper reach • Alternative activities (if so, explain) • Other (please specify)
Which of your other partners' agricultural activities have been least successful?	*Prompts* • Implementing • Technical services • Business services
If your other partners' agricultural activities have not been successful, is there a way they can be successful? If yes, please explain.	*Prompts* • Yes/No • Broader reach • Deeper reach • Alternative activities (if so, explain) • Other (please specify)
Beyond the agricultural activities that you have implemented, what other factors have affected integration and the adoption of the promoted behaviors and practices? Please explain.	*Prompts* • Factors: ○ Administrative ○ Technical ○ Logistical ○ Leadership ○ Managerial ○ Financial controls/Accounting ○ HR/personnel/staff retention ○ Limited capacity ○ Other (please specify)

PERFORMANCE EVALUATION OF USAID/MALAWI INTEGRATING NUTRITION IN VALUE CHAINS

3

Integrating Nutrition in Value Chain (INVC) Consortium District-Level Government Stakeholders

INTERVIEW DISCUSSION GUIDE: AGRICULTURAL VALUE CHAINS

FEED THE FUTURE
KNOWLEDGE
DRIVEN
AGRICULTURAL
DEVELOPMENT

Interview Discussion Guide at District Level
-District Commissioner
-Director of Planning & Development (DAD)

-Agricultural Extension Methodologies Officer (AEMO)
-District Agricultural Development Officer (DADO)
-Food & Nutrition Officer (FNO)
-(District) Agricultural Extension Development Officer (AEDO)—in the field
-(District) Agriculture Extension Development Coordinator (AEDC)—in the field

Before the interview we must communicate the following:

"Good morning/afternoon. Thank you for meeting with us. We are here today on behalf of the United States government. We would like to understand how well an agricultural project is doing that helps improve farming and how and what foods are consumed. We want to learn how well the project is doing so that it can be improved. Your experiences, views, knowledge and opinions are valuable in this process and we would like you to share with us what you know and your experiences. There are no right or wrong answers.

To ensure that we are in a safe place to share openly and honestly, can we agree to the following ground rules?

- **Confidentiality** – that we will keep private what we speak about in this discussion.
- **Honesty** – tell us what you really know and feel about each topic of discussion, not what you think we want you to say – just share openly.
- **Participation** – it is very important that each of you give your opinions about the questions being asked and your experiences.
- **Respect:** let us respect each other's views as we want to know all of your different opinions.

Please feel free to express yourselves– you will not be judged for your opinion.

I hope that you will find it interesting to share information with us. Before we start, are there any questions?"

Informant information	
Name of informant(s):	
Name of organization:	
Level of stakeholder(s) **(Prime, Consortium Partner, IP, TSP, BSP, District, Village, Beneficiaries):**	
Contract information (if available):	
District:	**Village:**
Number of informants:	
Sex (M/F):	
Interviewer:	
Note taker:	
Interpreter:	
Date:	
Location:	

Questions regarding the adoption of INVC s promoted agricultural technologies and practices. [Questions will be asked per crop.]		
To what extent has the advice of the INVC project changed the way that farmers farm? Why? Has this advice been accepted differently for women than men? If yes, please explain how. What farming changes promoted by the project have farmers most accepted? Why?	*Prompts* • Land and crop management • Harvest and post-harvest • New technologies and practices • Other (please specify)	
	Groundnuts **Technologies** 1 Use of CG7 seeds 2 Harvesting & drying technologies 3 Post-harvest processing 4 Grading and packaging **Practices** 1 Ridge spacing 2 Plant spacing 3 Source of seeds among farmers 4 Crop rotation practices 5 Weeding practices 6 Knowledge of harvest time 7 Marketing among farmers 8 Implementation of safety standards 9 Implantation of quality standards 10 Storage 11 Marketing practices	**Soy beans** **Technologies** 1 Use of Serenade or Makwacha varieties 2 Post-harvest handling 3 Grading and packaging **Practices** 1 Ridge spacing 2 Plant spacing 3 Source of seeds among farmers 4 Crop rotation practices 5 Weeding practices 6 Knowledge of harvest time 7 Marketing among farmers 8 Implantation safety standards 9 Implementation of quality standards 10 Storage 11 Marketing practices
Of the changes that have been adopted by farmers, what proportion of beneficiary-farmers have adopted them?	*Prompts* 3. Groundnuts; 2 Soy beans • (1-5%, 6-10%, 11-15%, 16-20%, 20%+)	

Will farmers permanently incorporate these changes in their farming? Why?	*Prompts* • Yes/No
Do these changes in technologies and practices help farmers face extreme weather conditions (i.e. heavy rain, drought, etc.)?	*Prompts* • Yes/No

Questions regarding barriers to adopting promoted agricultural technologies and practices? [Questions will be asked per crop.]	
Why do you think some farmers have not applied improved farming technologies and practices for their groundnut/soy bean crop?	*Prompts* 3. Groundnuts; 2. Soy beans • **Land ownership** ○ If do not own land, not worth the time/labor to apply practices for one season • **Physical geography/topography** ○ Access to land ○ Landholding size ○ Suitability of technologies/practices to local agro-ecological environment • **Work load** ○ Health/age ○ Lack of labor-labor requirements too great; unable to command family labor; unable to pay for hired labor ○ Weeding ○ Complicated • **Cost/economy** ○ No access to financing/credit, not flexible, poorly timed to seasons ○ Cost for herbicide, fertilizer, or other inputs ○ Low market price for product, insecure, unreliable prices ○ Cost of renting land (if owned land is not enough ○ Poor access to markets ▪ Input markets ▪ Output markets

	• **Traditions** ○ Traditions in farming-traditional farmer values (rigidity to change) ○ Habit-lack of willingness ○ Unwilling to have collectively owned resources/technology ○ Other family member makes decision related to production practices (who?) • **Behavior** ○ Mistrust ○ Culture in community and/or family ○ Lack of knowledge/understanding (no Extension services) • **Biophysical** ○ Soil properties; water
What would it take for farmers to apply improved farming technologies and practices for their groundnut/soy crop in the future?	*Prompts* • Additional technical support from: ○ Lead Farmer or Assistance Lead Farmer ○ Extension Officer ○ NASFAM/FUM/CADECOM field officer ○ Other (please specify) • Free or subsidized input distribution from: ○ NASFAM/FUM/CADECOM or other (please specify) • Access to land • Land ownership • Access to credit/financial services • Better access to input markets • Better access to output markets • More market information for the crop • Other (please specify)

Questions regarding the extent to which productivity of groundnuts and soy beans has increased resulting from the adoption of promoted agricultural technologies and practices. [Questions will be asked per crop.]		
I would now like to talk with you about production and yield. By production I mean the number of bags you fill at harvest. By yield I mean the number of bags you fill at harvest given the size of your plot. Has farmers' production per area increased for groundnuts and/or soy beans after using new farming technologies and practices?	*Prompts* 1. Groundnuts; Soy beans • Yes/No	
If yes, how do you know this has happened? Do you have any data on changes in yields or production? How has this been measured?	*Prompts* *1. Groundnuts; Soy beans* • *Yes/No* • Metric tons per hectare • Bags per hectare • Other (please specify)	
What new farming technologies and/or practices have contributed most to increase farmers' yields?	*Prompts* **Groundnuts** **Technologies** 1 Use of CG7 seeds 2 Harvesting **Practices** 1 Ridge spacing 2 Plant spacing 3 Source of seeds among farmers 4 Crop rotation practices 5 Weeding practices 6 Knowledge of harvest time 7 Application of pesticides or herbicides 8 Planting doubled-up legumes (inter-cropping with pigeon pea)	**Soy beans** **Technologies** 1 Use of Serenade or Makwacha varieties **Practices** 1 Ridge spacing 2 Plant spacing 3 Source of seeds among farmers 4 Crop rotation practices 5 Weeding practices 6 Knowledge of harvest time 7 Application of pesticides or herbicides 8 Planting doubled-up legumes (inter-cropping with pigeon pea)

Questions regarding impediments that have prevented increases in productivity even after promoted technologies and practices were adopted. [Questions will be asked per crop.]	
Have you observed cases where yields have not increased even after farmers have adopted new technologies and practices? If yes, why do you think this happened?	*Prompts* 1. Groundnuts; 2. Soy beans • Yes/No • Lack of access to input • Lack of Seeds • Lack of Fertilizer • Lack of Inoculant • Lack of Pesticides/herbicides • Poor quality inputs ○ Seeds ○ Fertilizer ○ Inoculant ○ Pesticides/herbicides ○ Other (please specify) • Counterfeit seeds • Counterfeit fertilizer • Inputs applied incorrectly (quantity & time) ○ Which ○ Seeds ○ Fertilizer ○ Inoculant ○ Pesticides/herbicides ○ Other (please specify) ○ Why: ○ Late delivery ○ Late purchase of inputs ○ Insufficient training • Applied some improved technologies and practices but not others • Degraded environment • Rainfall (delayed, early cessation, too much/little) • Pests ○ Type of pest (if farmer knows) • Disease ○ Type of disease (if farmer knows) • Other climate or weather related conditions or events

Questions regarding collective marketing approaches promoted by the INVC that have been most effective in linking farmers to markets. [Questions will be asked per crop.]	
Are you aware of INVC's efforts to link farmers to markets? If yes, describe.	*Prompts* 1. Groundnuts/2.Soy beans • Yes/No
Do you know what collective marketing is? If yes, please describe.	
Are you aware of the collective marketing approaches that the project has promoted?	*Prompts* • Yes/No 1. Groundnuts/2. Soy beans • Outgrower scheme • Bulking and aggregation • Grouped negotiation • Forward contracts • Warehouse Receipt System • Spot sales • Hedging • Bid Volume Only (BVO) System • Offer Volume Only (OVO) System • Bid & Offer Matching • Other type of auction (specify) • Other (please specify)
Do women and men participate equally in collective marketing? Please explain.	*Prompts* • Yes/No 1. Groundnuts/2. Soy beans
Do you know what an agricultural commodity exchange is? If yes, please describe.	
If you are aware that the project has promoted collective marketing through an agricultural commodity exchange, what approaches have been most successful? Have these approaches been equally successful for women and men? Please explain.	*Prompts* 1. Groundnuts/2. Soy beans • Warehouse Receipt System • Bid Volume Only (NVO) System • Offer Volume Only (OVO) System • Bid & Offer Matching • Other (specify)

Why have these marketing approaches been more successful than others?	*Prompts* 1. Groundnuts/2. Soy beans • Access to new markets • Access to marketing information/pricing • Reduction of marketing costs • Increased income • Other (please specify)
If one the reasons that these approaches have been successful is access to market information, will farmers be able to continue to access this information in the future? Why or why not?	*Prompts* • Yes/No • Market information will continue to flow • Market information could cease • Other (please specify)
Can the Farming/Marketing Groups that use collective marketing sustain relationships with their large buyers? Please explain. If not, what conditions are necessary to main these links?	*Prompts* 1. Groundnuts/2. Soy beans • Yes/No • Sufficient capacity exists • Relationships are strong • Other (please specify)

Questions regarding which collective marketing approaches have most effectively increased the income of farmers. [Questions will be asked per crop.]	
Which collective marketing approaches have most increased the income of farmers? Why? Has the income of women farmers increased as much as men farmers? If not, why not?	*Prompts* 1. Groundnuts/2. Soy beans • Outgrower scheme • Bulking and aggregation • Grouped negotiation • Forward contracts • Warehouse Receipt System • Spot sales • Hedging • Bid Volume Only (BVO) System • Offer Volume Only (OVO) System • Bid & Offer Matching • Other type of auction (specify) • Other (please specify)
How much has each of these approaches increased farmers' income (by percentage)?	*Prompts* By percentage: • Outgrower scheme (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Bulking and aggregation (1-5%, 6-10%, 11-15%, 16-20%, 20%+)

	• Grouped negotiation (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Forward contracts (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Warehouse Receipt System (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Spot sales (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Hedging (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Bid Volume Only (BVO) System (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Offer Volume Only (OVO) System (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Bid & Offer Matching (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Other type of auction (specify) (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Other (please specify) (1-5%, 6-10%, 11-15%, 16-20%, 20%+)

Questions regarding the main barriers to farmers participating in collective marketing. [Questions will be asked per crop.]	
What are the biggest obstacles for farmers to collectively market groundnuts and/or soybeans? Do you think the obstacles are the same for men and women? If so, why? If not, how do they differ? Once a collective marketing group has formed, what obstacles do they encounter?	*Prompts* 1. Groundnuts/2. Soy beans • No information about this from ○ NASFAM ○ FUM ○ CADECOM ○ Farmer Clubs ○ Group Action Committees ○ Other (please specify) • No coordination/facilitation from ○ NASFAM ○ FUM ○ CADECOM ○ Farmer Clubs ○ Group Action Committees ○ Other (please specify) • Loyalty to existing buyers • Unwillingness to organize/work together—on local, regional, national level • Coordination problems • No rural markets

	• Distance to markets-high cost of transportation • Mistrust of association, traders, or other • Mistrust of the collective marketing process • Need access to cash right after harvest, cannot wait for collective marketing • Crop did not meet minimum quality standards or grades required ○ Moisture content ○ Aflatoxin ○ Other fungal contamination ○ Other (quality issue—please specify) • Lack marketing information knowledge • Lack of information on market prices • Lack of knowledge collective marketing=lower transaction costs of accessing inputs/produce markets • Political pressure from middlemen
What do you think would have to happen for farmers to collectively sell their crop: (1) Between now and 2016? (2) After 2016? What would have to happen for more women to participate in collective marketing?	*Prompts* • Information about this from ○ NASFAM ○ FUM ○ CADECOM ○ Farmer Clubs ○ Group Action Committees ○ Other (please specify) • Coordination/facilitation from ○ NASFAM ○ FUM ○ CADECOM ○ Farmer Clubs ○ Group Action Committees ○ Other (please specify)

Questions regarding which elements/approaches of the INVC integrated model have been most successful leading to the adoption of both promoted agriculture and nutrition behaviors/practices by beneficiaries.	
Do you know of any INVC implementing partners?	*Prompts* • Yes/No • NASFAM (sub partner) • FUM (sub partner) • CADECOM (sub partner) • ACE (BSP) • CISANET (TSP) • ITTA (TSP)

	• Nkhoma Hospital • Pakachere (IHDC)
Of the sub-partners that you know involved in agriculture, please describe their activities.	*Prompts* • Implementing • Technical services • Business services
Of the sub-partners that you know involved in agriculture, are their activities to improve agricultural technologies and practices successful? Please explain.	*Prompts* • Yes/No
If the sub-partners' agriculture activities are successful, can they be more successful? If yes, please explain.	*Prompts* • Yes/No • Broader reach • Deeper reach • Alternative activities (if so, explain) • Other (please specify)
Of the sub-partners that you know involved in nutrition, please describe their activities.	*Prompts* • Implementing • Technical services
Of the sub-partners that you know involved in nutrition, are their activities to improve nutrition behaviors and practices successful? Please explain.	*Prompts* • Yes/No
If the sub-partners' nutrition activities are successful, can they be more successful? If yes, please explain.	*Prompts* • Yes/No • Broader reach • Deeper reach • Alternative activities (if so, explain) • Other (please specify)
How are agriculture and nutrition activities implemented in the same community? What links are established between the two? Are joint agriculture and nutrition activities coordinated at: (4) District level? (5) Community level? (6) Household level? How might coordination and links be improved?	*Prompts* • Joint trainings • Information about home processing and food preservation • Backyard diverse gardens • Other (please specify)

Given your understanding of all these organizations, which of the agriculture technologies and practices and nutrition behaviors and practices have been most successful together? Why do you believe this?	*Prompts* • Good implementation • Good coordination • Other (please specify)

Questions regarding which elements/approaches have been least successful.	
Which of the sub-partners' agriculture activities have been least successful? Why? Please explain.	*Prompts* • Implementing • Technical services • Business services
If the sub-partners' agriculture activities were not successful, is there a way they can be more successful? If yes, please explain.	*Prompts* • Yes/No • Broader reach • Deeper reach • Alternative activities (if so, explain) • Other (please specify)
Which of the sub-partners' nutrition activities have been least successful? Why?	*Prompts* • Implementing • Technical services
If the sub-partners' nutrition activities were not successful, is there a way they can be successful? If yes, please explain.	*Prompts* • Yes/No • Broader reach • Deeper reach • Alternative activities (if so, explain) • Other (please specify)

PERFORMANCE EVALUATION OF USAID/MALAWI
INTEGRATING NUTRITION IN VALUE CHAINS

4

Integrating Nutrition in Value Chain (INVC)
EPA/GVH Level Stakeholders

INTERVIEW DISCUSSION GUIDE: AGRICULTURAL VALUE CHAINS

FEED THE FUTURE
KNOWLEDGE DRIVEN
AGRICULTURAL DEVELOPMENT

Interview Discussion Guide at Extension Planning Area (EPA)/GVH Level
-Lead Farmers
-Assistant Lead Farmers
-Traditional Authority Chief
-Group Village Heads (GVHs)

Before the interview we must communicate the following:

"Good morning/afternoon. Thank you for coming to meet with us. We are here today on behalf of the United States government. We would like to understand how well an agricultural project is doing that helps you improve farming and how and what foods you eat. We want to learn how well the project is doing so that it can be improved. Your experiences, views, knowledge and opinions are valuable in this process and we would like you to share with us what you know and your experiences. There are no right or wrong answers.

To ensure that we are in a safe place to share openly and honestly, can we agree to the following ground rules?

- **Confidentiality** – that we will keep private what we speak about in this discussion.
- **Honesty** – tell us what you really know and feel about each topic of discussion, not what you think we want you to say – just share openly.
- **Participation** – it is very important that each of you give your opinions about the questions being asked and your experiences.
- **Respect:** let us respect each other's views as we want to know all of your different opinions.

Please feel free to express yourselves– you will not be judged for your opinion.

I hope that you will find it interesting to share information with us. Before we start, are there any questions?"

Informant information	
Name of informant(s):	
Name of organization:	
Level of stakeholder(s) **(Prime, Consortium Partner, IP, TSP, BSP, District, Village, Beneficiaries):**	
Contract information (if available):	
District:	**Village:**
Number of informants:	
Sex (M/F):	
Interviewer:	
Note taker:	
Interpreter:	
Date:	
Location:	

Questions regarding the adoption of INVC s promoted agricultural technologies and practices. [If farmers cultivate both crops, questions will be asked per crop.]	
The INVC project aims to improve farming and health. Do you know any of the INVC implementing partners?	*Prompts* • Yes/No • NASFAM (sub partner) • FUM (sub partner) • CADECOM (sub partner) • Other ○ ACE (BSP) ○ CISANET (TSP) ○ ITTA (TSP) ○ Nkhoma Hospital ○ Pakachere (IHDC)
Of what are you aware of that is going on in your community as a result of these INVC partners? Please explain.	*Prompts* • Agriculture activities (please specify) ○ By crop/by sex • Nutrition activities (please specify) ○ By sex • Other
What changes have you seen in your community since these INVC partners began working there? Please explain.	*Prompts* 1. Groundnuts; 2. Soy beans ○ By sex • New agricultural technologies & practices • Increased productivity • Collective marketing activities • Maternal antenatal care and diet • Breastfeeding • Complementary feeding • Hygiene
If NASFAM, FUM, and CADECOM was already working in your community, have you noticed any differences in the way they work since they have collaborated with INVC? Please explain.	*Prompts* • Level of engagement • Level of technical assistance • Project management organization • Improved leadership • Improved communications • Other (please specify)
How well do you feel INVC has engaged in community leadership? Please explain.	*Prompts* • A great deal • Much

<table>
<tr><td></td><td colspan="3">• Somewhat
• Little
• Never</td></tr>
<tr><td>In regard to your farming, have you changed anything about the way you farm groundnuts and soy beans over the last three years?</td><td colspan="3">Prompts
1. Groundnuts; 2. Soy beans
• Yes/No</td></tr>
<tr><td>If you changed something, what have you changed?</td><td colspan="3">Prompts

Groundnut Technologies
• Use of CG7 seeds
• Harvesting and drying methods, etc.
Groundnut Practices
• Ridge spacing, plant spacing
• Intercropping with pigeon pea
• Crop rotation, etc.
Soy bean Technologies
• Use of Serenade/Makwacha varieties
• Use of inoculants, etc.
Soy bean Practices
• Ridge spacing, plant spacing
• Source of seeds among farmers
• Intercropping with pigeon pea, etc.</td></tr>
<tr><td>Why did you make this change?</td><td colspan="3">Prompts
• To improve productivity
• To improve quality
• Labor saving
• Other (please specify)</td></tr>
<tr><td>How many members of your Farmer’s Club have made the same or a similar change?</td><td colspan="3">Prompts

• Few
• Some
• All</td></tr>
<tr><td colspan="2">Are there any other farming changes that you or your Club members have made that have not been mentioned?
Groundnuts Technologies
1
2
3
4</td><td>Soy beans Technologies
1
2
3</td><td colspan="2">Prompts

Groundnuts Technologies
1 Use of CG7 seeds
2 Harvesting & drying technologies
3 Post-harvest processing
4 Grading and packaging

Soy beans Technologies
1 Use of Serenade or Makwacha varieties
2 Use of inoculant
3 Post-harvest handling and processing
4 Grading and packaging</td></tr>
</table>

Practices 1 2 3 4 5 6 7 8 9 10 11 12 13 14	**Practices** 1 2 3 4 5 6 7 8 9 10 11 12 13	**Practices** 1 Ridge spacing 2 Plant spacing 3 Source of seeds among farmers 4 Doubled-up legumes (inter-cropping with pigeon pea) 5 Crop rotation practice 6 Application of herbicides or pesticides 7 Weeding practices 8 Knowledge of harvest time 9 Marketing among farmers 10 Implementation of safety standards 11 Implementation of quality standards 12 Storage 13 Marketing practices 14 Selling in the shell	**Practices** 1 Ridge spacing 2 Plant spacing 3 Source of seeds among farmers 4 Doubled-up legumes (inter-cropping with pigeon pea) 5 Crop rotation practices 6 Application of herbicides or pesticides 7 Weeding practices 8 Knowledge of harvest time 9 Marketing among farmers 10 Implementation of safety standards 11 Implementation of quality standards 12 Storage 13 Marketing practices
Do you think these changes help you and your Club members face extreme weather conditions (i.e. heavy rains, drought, etc.)? Please explain.		*Prompts* • Yes/No	
How did you learn about these changes in the way you farm?		*Prompts* • Extension Agent (government or other) • NASFAM/FUM/CADECOM field officer • Radio • Community Theatre • Educational materials/flyers ○ From NASFAM/FUM/CADECOM ○ From Extension worker ○ From other (please specify)	
Will you or your Club members continue with these changes in the future? Please explain why or why not.		*Prompts* • Yes/No	

<table>
<tr>
<td>What would it take for you or your Club members to continue to use these changes when you farm?</td>
<td colspan="2">Prompts
• Additional technical support from:
  ○ Lead Farmer or Assistance Lead Farmer
  ○ Extension Officer
  ○ NASFAM/FUM/CADECOM field officer
  ○ Other (please specify)
• Free or subsidized input distribution from:
  ○ NASFAM/FUM/CADECOM or other (please specify)
• Access to land
• Land ownership
• Access to credit/financial services
• Better access to input markets
• Better access to output markets
• More market information for the crop
• Other (please specify)</td>
</tr>
<tr>
<td>Do you or your Club members plan to make any other changes to the way you farm:
(1) Between now and 2016?
(2) After 2016?

If yes, what changes will be made?</td>
<td colspan="2">Prompts
• Yes/No</td>
</tr>
<tr>
<td></td>
<td>Groundnuts Technologies
1 Use of CG7 seeds
2 Harvesting & drying technologies
3 Post-harvest processing
4 Grading and packaging

Practices
1 Ridge spacing
2 Plant spacing
3 Source of seeds among farmers
4 Doubled-up legumes (inter-cropping with pigeon pea)
5 Crop rotation practice
6 Application of herbicides or pesticides
7 Weeding practices
8 Knowledge of harvest time
9 Marketing among farmers</td>
<td>Soy beans Technologies
1 Use of Serenade or Makwacha varieties
2 Use of inoculant
3 Post-harvest handling
4 Grading and packaging

Practices
1 Ridge spacing
2 Plant spacing
3 Source of seeds among farmers
4 Doubled-up legumes (inter-cropping with pigeon pea)
5 Crop rotation practices
6 Application of herbicides or pesticides
7 Weeding practices
8 Knowledge of harvest time
9 Marketing among farmers</td>
</tr>
</table>

	10 Implementation of safety standards 11 Implementation of quality standards 12 Storage 13 Marketing practices 14 Selling in the shell	10 Implementation of safety standards 11 Implementation of quality standards 12 Storage 13 Marketing practices

Questions regarding barriers to adopting promoted agricultural technologies and practices? **[If farmers cultivate both crops, ask questions separately per crop.]**	
What has prevented you or your Club members from changing the way you farm?	*Prompts* 4. Groundnuts; 2. Soy beans • **Land ownership** ○ If do not own land, not worth the time/labor to apply practices for one season • **Physical geography/topography** ○ Access to land ○ Landholding size ○ Suitability of technologies/practices to local agro-ecological environment • **Work load** ○ Health/age ○ Lack of labor-labor requirements too great; unable to command family labor; unable to pay for hired labor ○ Weeding ○ Complicated • **Cost/economy** ○ No access to financing/credit, not flexible, poorly timed to seasons ○ Cost for herbicide, fertilizer, or other inputs ○ Low market price for product, insecure, unreliable prices ○ Cost of renting land (if owned land is not enough ○ Poor access to markets ▪ Input markets

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Output markets

Traditions

Traditions in farming-traditional farmer values (rigidity to change)
Habit-lack of willingness
Unwilling to have collectively owned resources/technology
Other family member makes decision related to production practices (who?)

Behavior

Mistrust
Culture in community and/or family
Lack of knowledge/understanding (no Extension services)

Biophysical

Soil properties; water

</td>
</tr>
<tr>
<td>Today you have mentioned some specific farming practices. If you or your Club members have not used any of these, why not?</td>
<td colspan="2">
Prompts
<table>
<tr>
<td>Groundnuts Technologies
1 Use of CG7 seeds
2 Harvesting & drying technologies
3 Post-harvest processing
4 Grading and packaging

Practices
1 Ridge spacing
2 Plant spacing
3 Source of seeds among farmers
4 Doubled-up legumes (inter-cropping with pigeon pea)
5 Crop rotation practice
6 Application of herbicides or pesticides
7 Weeding practices
8 Knowledge of harvest time
9 Marketing among farmers</td>
<td>Soy bean Technologies
1 Use of Serenade or Makwacha varieties
2 Use of inoculant
3 Post-harvest handling
4 Grading and packaging

Practices
1 Ridge spacing
2 Plant spacing
3 Source of seeds among farmers
4 Doubled-up legumes (inter-cropping with pigeon pea)
5 Crop rotation practices
6 Application of herbicides or pesticides
7 Weeding practices
8 Knowledge of harvest time
9 Marketing among farmers</td>
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</table>

	10 Implementation of safety standards 11 Implementation of quality standards 12 Storage 13 Marketing practices 14 Selling in the shell	10 Implementation of safety standards 11 Implementation of quality standards 12 Storage 13 Marketing practices
What would it take for your or your Club members to try these new farming changes?	*Prompts* • Additional technical support from: ○ Lead Farmer or Assistance Lead Farmer ○ Extension Officer ○ NASFAM/FUM/CADECOM field officer ○ Other (please specify) • Free or subsidized input distribution from: ○ NASFAM/FUM/CADECOM or other (please specify) • Access to land • Land ownership • Access to credit/financial services • Better access to input markets • Better access to output markets • More market information for the crop Other (please specify)	

Questions regarding the extent to which productivity of groundnuts and soy beans has increased resulting from the adoption of promoted agricultural technologies and practices. [If farmers cultivate both crops, questions will be asked per crop.]	
I would like to talk with you about production and yield. By production I mean the number of bags you fill at harvest. By yield I mean the number of bags you fill at harvest given the size of a farming plot. Has your or your Club members' production per area increased for groundnuts/soy beans after making changes to farming? If so, by how much? Was this increase as much as was expected?	*Prompts* 2. Groundnuts; 2. Soy beans • Yes/No
If yes, how was this measured?	*Prompts* • Metric tons per hectare • Bags per hectare

	• Other	
What new farming changes do you believe contributed to you or your Club members increase in productivity?	*Prompts* **Groundnuts Technologies** 1 Use of CG7 seeds 2 Harvesting **Practices** 1 Ridge spacing 2 Plant spacing 3 Source of seeds among farmers 4 Crop rotation practices 5 Weeding practices 6 Knowledge of harvest time 7 Application of pesticides or herbicides 8 Planting doubled-up legumes (inter-cropping with pigeon pea)	*Prompts* **Soy beans Technologies** 1 Use of Serenade or Makwacha varieties **Practices** 1 Ridge spacing 2 Plant spacing 3 Source of seeds among farmers 4 Crop rotation practices 5 Weeding practices 6 Knowledge of harvest time 7 Application of pesticides or herbicides 8 Planting doubled-up legumes (inter-cropping with pigeon pea)
How do you think these changes contributed?	*Prompts* • In sales • In price (due to quality) of output • Other (please specify)	

Questions regarding impediments that have prevented increases in productivity even after promoted technologies and practices were adopted. [If farmers cultivate both crops, questions will be asked per crop.]	
What do you think might have prevented productivity from increasing even though farming practices were changed?	*Prompts* • 1. Groundnuts; 2. Soy beans • Lack of access to input • Seeds • Fertilizer • Inoculant • Pesticides/herbicides • Other (please specify) • Poor quality inputs ○ Seeds ○ Fertilizer ○ Inoculant ○ Pesticides/herbicides ○ Other (please specify)

	• Counterfeit seeds • Counterfeit fertilizer • Inputs applied incorrectly (quantity & time) ○ Which: ○ Seeds ○ Fertilizer ○ Inoculant ○ Pesticides/herbicides ○ Other (please specify) ○ Why: ○ Late delivery ○ Late purchase of inputs ○ Insufficient training • Practices applied incorrectly • Applied some improved technologies and practices but not others • Degraded environment • Rainfall (delayed, early cessation, too much/little) • Pests ○ Type of pest (if farmer knows) • Disease ○ Type of disease (if farmer knows) • Other climate or weather related conditions or events • Lack of follow-up extension support

Questions regarding collective marketing approaches promoted by the INVC that have been most effective in linking farmers to markets. [If farmers cultivate both crops, questions will be asked per crop.]	
I would like to talk about collective marketing. Collective marketing is when farmers agree to sell together as a group. Do you belong to a Farmers' Club that helps you to market your crop? (Note: This is a courtesy question as all Traditional Authority Chiefs and GVHs belong to Farmers' Clubs, but this will identify if their Club promotes collective marketing.)	*Prompts* • Yes/No (if no, proceed to Question 3b)
Why do you belong to this armers' Club?	*Prompts* • Association with other farmers • Access to knowledge about markets • Access to markets • Increase in price for crops

	• Other (please specify)
How long have you been a member of a armers' Club?	*Prompts* • Less than one year • One year • Two years or more
What is the benefit of belonging to a Farmers' Club?	*Prompts* • Association with other farmers • Access to knowledge about markets • Access to markets • Increase in price for crops • Other (please specify)
If one of the benefits is access to marketing information, how do you access this information? Will you and your Club members be able to continue to access this information in the future? How?	*Prompts* • Radio • Print • Other (please specify) • Yes/No • Market information will continue to flow • Market information could cease • Other (please specify)
While being a member of a Farmers' Club, have you sold your crop together as a group? Why or why not?	*Prompts* • Yes/No • If yes, ○ Groundnut ○ Soy ○ Maize ○ Other (please specify)
Who buys your crops? Please describe the selling process.	*Prompts* 1 Groundnuts; 2 Soy beans • In local markets ○ Vendors ○ Wholesalers ○ Traders ○ Association ○ NASFAM, CADECOM or FUM ○ Aggregators ○ Village Aggregation Center ○ Other (please explain) • Outgrower scheme • Bulking and aggregation • Grouped negotiation • Forward contracts

	• Warehouse Receipt System • Spot sales • Hedging • Bid Volume Only (BVO) System • Offer Volume Only (OVO) System • Bid & Offer Matching • Other type of auction (specify) • Other (please specify)
If you or your Club members are collectively selling your crop, do you have a strong enough relationship with large volume buyers to continue to sell to them without support from NASFAM/FUM/CADECOM?	*Prompts* • Yes/No 1. Groundnuts; 2. Soy beans • Sufficient capacity exists • Relationships are strong • Other (please specify)
Was it easy for you or your Club members to sell your crops through this channel? Why?	*Prompts* • Yes/No 1 Groundnuts; 2 Soy beans • Convenient sale at farm gate • Immediate payment • Crop transportation paid for by buyer • Do not have to bargain selling price • Other (please specify) • No access to local markets • Do not know about ACE or how to access it • Difficult to meet grade and quality standards
If you or your Club members participated in collective marketing, has there been a benefit in collectively selling crops? If so, what? If none, why?	*Prompts* • Received higher price • Increased income • Reduced transaction cost • Access to credit (if through warehouse receipt with ACE, for example)
Do you know what an agricultural commodity exchange is?	*Prompts* • Yes/No If no (interviewer explains what it is)
Have you or your Club members ever sold through an agricultural commodity exchange?	*Prompts* • Yes/No
If you have never sold through an agricultural commodity exchange would you consider doing so? Why?	*Prompts* • Yes/No
Are you aware of what services are available through an agricultural commodity exchange?	*Prompts* • Yes/No

If yes, please identify the services you know about.	• Warehouse Receipt System • Forward contracts • Bid Volume Only (NVO) System • Offer Volume Only (OVO) System • Bid & Offer Matching

Questions regarding which collective marketing approaches have most effectively increased the income of farmers. [If farmers cultivate both crops, questions will be asked per crop.]	
What collective marketing approaches have you or your Club members tried?	*Prompts* 1. Groundnuts; 2. Soy beans • Outgrower scheme • Bulking and aggregation • Grouped negotiation • Forward contracts • Warehouse Receipt System • Spot sales • Hedging • Bid Volume Only (BVO) System • Offer Volume Only (OVO) System • Bid & Offer Matching • Other type of auction (specify) • Other (please specify)
Has collective marketing helped you or your Club members find new markets for your crops?	*Prompts* 1. Groundnuts; 2. Soy beans • Yes/No
Has collective marketing increased your or your Club members' income (if you know)? Please explain how.	*Prompts* 1. Groundnuts; 2. Soy beans • Yes/No • Through better pricing per crop • By being able to market greater volume • A combination of both
Which collective marketing approach increased your or your Club members' income?	*Prompts* 1. Groundnuts; 2. Soy beans • Outgrower scheme • Bulking and aggregation • Grouped negotiation • Forward contracts • Warehouse Receipt System • Spot sales • Hedging

	• Bid Volume Only (BVO) System • Offer Volume Only (OVO) System • Bid & Offer Matching • Other type of auction (specify) • Other (please specify)
If a collective marketing approach has increased your or your Club members' income (if you know), can you tell me by approximately how much (in percentage)?	*Prompts* 1 Groundnuts; 2 Soy beans • Yes/No By percentage: • Outgrower scheme (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Bulking and aggregation (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Grouped negotiation (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Forward contracts (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Warehouse Receipt System (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Spot sales (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Hedging (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Bid Volume Only (BVO) System (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Offer Volume Only (OVO) System (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Bid & Offer Matching (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Other type of auction (specify) (1-5%, 6-10%, 11-15%, 16-20%, 20%+)
Do you or your Club members' plan to collectively sell your crop this year? Please explain why or why not.	*Prompts* 1 Groundnuts; 2 Soy beans • Yes/No
If there is a plan to collective sell your crop, which marketing approach will be used?	*Prompts* 1 Groundnuts; 2 Soy beans • Outgrower scheme • Bulking and aggregation • Grouped negotiation • Forward contracts • Warehouse Receipt System • Spot sales • Hedging • Bid Volume Only (BVO) System • Offer Volume Only (OVO) System

	• Bid & Offer Matching • Other type of auction (specify) • Other (please specify)

Questions regarding the main barriers to farmers participating in collective marketing. [If farmers cultivate both crops, questions will be asked per crop.]	
If you or your Club members have not collectively sold your crop, why was this not collectively sold?	*Prompts* 1 Groundnuts; 2 Soy beans • No information about this from ○ NASFAM ○ FUM ○ CADECOM ○ Farmer Clubs ○ Group Action Committees ○ Other (please specify) • No coordination/facilitation from ○ NASFAM ○ FUM ○ CADECOM ○ Farmer Clubs ○ Group Action Committees ○ Other (please specify) • Loyalty to existing buyers • Unwillingness to organize/work together—on local, regional, national level • Coordination problems • No rural markets • Distance to markets-high cost of transportation • Mistrust of association, traders, or other • Mistrust of the collective marketing process • Need access to cash right after harvest, cannot wait for collective marketing • Crop did not meet minimum quality standards or grades required ○ Moisture content ○ Aflatoxin ○ Other fungal contamination ○ Other (quality issue—please specify) • Lack marketing information knowledge • Lack of information on market prices • Lack of knowledge collective marketing=lower transaction costs of accessing inputs/produce markets • Political pressure from middlemen/small traders
If you or your Club members needed access to cash right away, would bridge financing be an	

option? This type of short-term financing can provide cash to farmers between the time of harvest and the time of later sale of a crop.	• Yes/No
What would have to happen for you or your Club members to collectively sell your crop: (1) Between now and 2016? (2) After 2016?	*Prompts* • Information about this from ○ NASFAM ○ FUM ○ CADECOM ○ Farmer Clubs ○ Group Action Committees ○ Other (please specify) • Coordination/facilitation from ○ NASFAM ○ FUM ○ CADECOM ○ Farmer Clubs ○ Group Action Committees ○ Other (please specify) ○ Support for meeting grade and quality standards ○ Other (please specify)

PERFORMANCE EVALUATION OF USAID/MALAWI
INTEGRATING NUTRITION IN VALUE CHAINS

5

Integrating Nutrition in Value Chain (INVC) Beneficiary Level Stakeholders

INTERVIEW DISCUSSION GUIDE: AGRICULTURAL VALUE CHAINS

FEED THE FUTURE
KNOWLEDGE DRIVEN
AGRICULTURAL DEVELOPMENT

Interview Discussion Guide at Beneficiary Level (Village Level) –Focus Groups segregated by M/F

-Lead Farmers & Assistant Lead Farmers (at Beneficiary Level)
-Groundnut Farmer Clubs (farmers)
-Soybean Farmer Clubs (farmers)
Before the interview we must communicate the following:

"Good morning/afternoon. Thank you for coming to meet with us. We are here today on behalf of the United States government. We would like to understand how well an agricultural project is doing that helps you improve farming and how and what foods you eat. We want to learn how well the project is doing so that it can be improved. Your experiences, views, knowledge and opinions are valuable in this process and we would like you to share with us what you know and your experiences. There are no right or wrong answers.

To ensure that we are in a safe place to share openly and honestly, can we agree to the following ground rules?

- **Confidentiality** – that we will keep private what we speak about in this discussion.
- **Honesty** – tell us what you really know and feel about each topic of discussion, not what you think we want you to say – just share openly.
- **Participation** – it is very important that each of you give your opinions about the questions being asked and your experiences.
- **Respect:** let us respect each other's views as we want to know all of your different opinions.

Please feel free to express yourselves– you will not be judged for your opinion.

I hope that you will find it interesting to share information with each other. Before we start, are there any questions?"

Informant information	
Name of informant(s):	
Name of organization:	
Level of stakeholder(s) **(Prime, Consortium Partner, IP, TSP, BSP, District, Village, Beneficiaries):**	
Contract information (if available):	
District:	**Village:**
Number of informants:	
Sex (M/F):	
Interviewer:	
Note taker:	
Interpreter:	
Date:	
Location:	

<table>
<tr><th colspan="4">Questions regarding the adoption of INVC s promoted agricultural technologies and practices. [If farmers cultivate both crops, questions will be asked per crop.]</th></tr>
<tr><td colspan="2">Have any of you in this group changed anything about the way you farm groundnuts and soy beans over the last three years?</td><td colspan="2">Prompts
1. Groundnuts; 2. Soy beans
• Yes/No</td></tr>
<tr><td colspan="2">If anyone in the group has changed something, what have you changed?</td><td colspan="2">Prompts

Groundnut Technologies
• Use of CG7 seeds
• Harvesting and drying methods, etc.
Groundnut Practices
• Ridge spacing, plant spacing
• Intercropping with pigeon pea
• Crop rotation, etc.
Soy bean Technologies
• Use of Serenade/Makwacha varieties
• Use of inoculants, etc.
Soy bean Practices
• Ridge spacing, plant spacing
• Source of seeds among farmers
• Intercropping with pigeon pea, etc.</td></tr>
<tr><td colspan="2">Why did you make this change?</td><td colspan="2">Prompts
• To improve productivity
• To improve quality
• Labor saving
• Other (please specify)</td></tr>
<tr><td colspan="2">How many of you have made the same or a similar change?</td><td colspan="2">Prompts

• Few
• Some
• All</td></tr>
<tr><td colspan="2">Are there any other changes that any of you have made regarding the way you farm that have not been mentioned?</td><td colspan="2">Prompts</td></tr>
<tr><td>Groundnuts Technologies
1
2
3
4</td><td>Soy beans Technologies
1
2
3
4</td><td>Groundnuts Technologies
1 Use of CG7 seeds
2 Harvesting & drying technologies
3 Post-harvest processing
4 Grading and packaging</td><td>Soy beans Technologies
1 Use of Serenade or Makwacha varieties
2 Use of inoculant
3 Post-harvest handling and processing
4 Grading and packaging</td></tr>
</table>

Practices 1 2 3 4 5 6 7 8 9 10 11 12 13 14	**Practices** 1 2 3 4 5 6 7 8 9 10 11 12 13	**Practices** 1 Ridge spacing 2 Plant spacing 3 Source of seeds among farmers 4 Doubled-up legumes (inter-cropping with pigeon pea) 5 Crop rotation practice 6 Application of herbicides or pesticides 7 Weeding practices 8 Knowledge of harvest time 9 Marketing among farmers 10 Implementation of safety standards 11 Implementation of quality standards 12 Storage 13 Marketing practices 14 Selling in the shell	**Practices** 1 Ridge spacing 2 Plant spacing 3 Source of seeds among farmers 4 Doubled-up legumes (inter-cropping with pigeon pea) 5 Crop rotation practices 6 Application of herbicides or pesticides 7 Weeding practices 8 Knowledge of harvest time 9 Marketing among farmers 10 Implementation of safety standards 11 Implementation of quality standards 12 Storage 13 Marketing practices
Do these changes you have made in farming help you face extreme weather conditions (i.e. heavy rains, drought, etc.)? Please explain.		*Prompts* • Yes/No	
How did you learn about these changes in the way you farm?		*Prompts* • Farmers Clubs, GAC, or association • Lead Farmer • Assistant Lead Farmer • Extension Agent (government or other) • NASFAM/FUM/CADECOM field officer • Radio • Community Theatre • Educational materials/flyers ○ From NASFAM/FUM/CADECOM ○ From Extension worker ○ From other (please specify)	
Do you plan to continue with these changes when you farm? Please explain why or why not.		*Prompts* • Yes/No	

<table>
<tr><td>What would it take for you to continue to use these changes when you farm?</td><td colspan="2">Prompts
• Additional technical support from:
  ○ Lead Farmer or Assistance Lead Farmer
  ○ Extension Officer
  ○ NASFAM/FUM/CADECOM field officer
  ○ Other (please specify)
• Free or subsidized input distribution from:
  ○ NASFAM/FUM/CADECOM or other (please specify)
• Access to land
• Land ownership
• Access to credit/financial services
• Better access to input markets
• Better access to output markets
• More market information for the crop
• Other (please specify)</td></tr>
<tr><td>Do you plan to make any other changes in the future to the way you farm?

If yes, what changes will you be making?</td><td colspan="2">Prompts
• Yes/No

Groundnuts
Technologies
1 Use of CG7 seeds
2 Harvesting & drying technologies
3 Post-harvest processing
4 Grading and packaging

Practices
1 Ridge spacing
2 Plant spacing
3 Source of seeds among farmers
4 Doubled-up legumes (inter-cropping with pigeon pea)
5 Crop rotation practice
6 Application of herbicides or pesticides
7 Weeding practices
8 Knowledge of harvest time
9 Marketing among farmers</td><td>Soy beans
Technologies
1 Use of Serenade or Makwacha varieties
2 Use of inoculant
3 Post-harvest handling
4 Grading and packaging
Practices
1 Ridge spacing
2 Plant spacing
3 Source of seeds among farmers
4 Doubled-up legumes (inter-cropping with pigeon pea)
5 Crop rotation practices
6 Application of herbicides or pesticides
7 Weeding practices
8 Knowledge of harvest time
9 Marketing among farmers
10 Implementation of safety standards</td></tr>
</table>

	10 Implementation of safety standards 11 Implementation of quality standards 12 Storage 13 Marketing practices 14 Selling in the shell	11 Implementation of quality standards 12 Storage 13 Marketing practices

Questions regarding barriers to adopting promoted agricultural technologies and practices? **[If farmers cultivate both crops, ask questions separately per crop.]**	
What has prevented you from changing the way you farm?	*Prompts* 5. Groundnuts; 2. Soy beans • **Land ownership** ○ If do not own land, not worth the time/labor to apply practices for one season • **Physical geography/topography** ○ Access to land ○ Landholding size ○ Suitability of technologies/practices to local agro-ecological environment • **Work load** ○ Health/age ○ Lack of labor-labor requirements too great; unable to command family labor; unable to pay for hired labor ○ Weeding ○ Complicated • **Cost/economy** ○ No access to financing/credit, not flexible, poorly timed to seasons ○ Cost for herbicide, fertilizer, or other inputs ○ Low market price for product, insecure, unreliable prices ○ Cost of renting land (if owned land is not enough ○ Poor access to markets ▪ Input markets ▪ Output markets

<table>
<tr><td></td><td colspan="2">

- **Traditions**
  - Traditions in farming-traditional farmer values (rigidity to change)
  - Habit-lack of willingness
  - Unwilling to have collectively owned resources/technology
  - Other family member makes decision related to production practices (who?)
- **Behavior**
  - Mistrust
  - Culture in community and/or family
  - Lack of knowledge/understanding (no Extension services)
- **Biophysical**
  - Soil properties; water

</td></tr>
<tr><td>Today some of you farmers have mentioned specific new farming practices that you have used. For those of you who have not used any of these, why not?</td><td colspan="2">

Prompts

Groundnuts

Technologies

1 Use of CG7 seeds
2 Harvesting & drying technologies
3 Post-harvest processing
4 Grading and packaging

Practices

1 Ridge spacing
2 Plant spacing
3 Source of seeds among farmers
4 Doubled-up legumes (inter-cropping with pigeon pea)
5 Crop rotation practice
6 Application of herbicides or pesticides
7 Weeding practices
8 Knowledge of harvest time
9 Marketing among farmers
10 Implementation of safety standards

Soy bean

Technologies

1 Use of Serenade or Makwacha varieties
2 Use of inoculant
3 Post-harvest handling
4 Grading and packaging

Practices

1 Ridge spacing
2 Plant spacing
3 Source of seeds among farmers
4 Doubled-up legumes (inter-cropping with pigeon pea)
5 Crop rotation practices
6 Application of herbicides or pesticides
7 Weeding practices
8 Knowledge of harvest time

</td></tr>
</table>

	11 Implementation of quality standards 12 Storage 13 Marketing practices 14 Selling in the shell	9 Marketing among farmers 10 Implementation of safety standards 11 Implementation of quality standards 12 Storage 13 Marketing practices
What would it take for you to try these new farming changes?	*Prompts* • Additional technical support from: ○ Lead Farmer or Assistance Lead Farmer ○ Extension Officer ○ NASFAM/FUM/CADECOM field officer ○ Other (please specify) • Free or subsidized input distribution from: ○ NASFAM/FUM/CADECOM or other (please specify) • Access to land • Land ownership • Access to credit/financial services • Better access to input markets • Better access to output markets • More market information for the crop • Other (please specify)	

Questions regarding the extent to which productivity of groundnuts and soy beans has increased resulting from the adoption of promoted agricultural technologies and practices. [If farmers cultivate both crops, questions will be asked per crop.]	
I would now like to talk with you about production and yield. By production I mean the number of bags you fill at harvest. By yield I mean the number of bags you fill at harvest given the size of your plot. Has your production per area increased for groundnuts/soy beans after making changes to your farming? If so, by how much? Was this increase as much as you expected?	*Prompts* 3. Groundnuts; 2. Soy beans • Yes/No

If yes, how did you measured this?	*Prompts* • Metric tons per hectare • Bags per hectare • Other	
What new farming changes do you believe contributed to increasing your productivity? How do you think they contributed?	*Prompts* **Groundnuts** **Technologies** 1 Use of CG7 seeds 2 Harvesting **Practices** 1 Ridge spacing 2 Plant spacing 3 Source of seeds among farmers 4 Crop rotation practices 5 Weeding practices 6 Knowledge of harvest time 7 Application of pesticides or herbicides 8 Planting doubled-up legumes (inter-cropping with pigeon pea)	*Prompts* **Soy beans** **Technologies** 1 Use of Serenade or Makwacha varieties **Practices** 1 Ridge spacing 2 Plant spacing 3 Source of seeds among farmers 4 Crop rotation practices 5 Weeding practices 6 Knowledge of harvest time 7 Application of pesticides or herbicides 8 Planting doubled-up legumes (inter-cropping with pigeon pea)

Questions regarding impediments that have prevented increases in productivity even after promoted technologies and practices were adopted. [If farmers cultivate both crops, questions will be asked per crop.]	
What do you think prevented your productivity from increasing even though you changed your farming practices?	*Prompts* • 1. Groundnuts; 2. Soy beans • Lack of access to input • Seeds • Fertilizer • Inoculant • Pesticides/herbicides • Other (please specify) • Poor quality inputs ○ Seeds ○ Fertilizer ○ Inoculant ○ Pesticides/herbicides

	○ Other (please specify) • Counterfeit seeds • Counterfeit fertilizer • Inputs applied incorrectly (quantity & time) • Which: ○ Seeds ○ Fertilizer ○ Inoculant ○ Pesticides/herbicides ○ Other (please specify) • Why: ○ Late delivery ○ Late purchase of inputs ○ Insufficient training • Practices applied incorrectly • Applied some improved technologies and practices but not others • Degraded environment • Rainfall (delayed, early cessation, too much/little) • Pests ○ Type of pest (if farmer knows) • Disease ○ Type of disease (if farmer knows) • Other climate or weather related conditions or events • Lack of follow-up extension support

Questions regarding collective marketing approaches promoted by the INVC that have been most effective in linking farmers to markets. [If farmers cultivate both crops, questions will be asked per crop.]	
I would like to talk to this group about collective marketing now. Collective marketing is when farmers agree to sell together as a group. Do you belong to a Farmers' Club that helps you to market your crop?	*Prompts* • Yes/No (if not, proceed to Question 3b)
Why do you belong to this armers' Club?	*Prompts* • Association with other farmers • Access to knowledge about markets • Access to markets • Increase in price for crops • Other (please specify)

What is the benefit to you of belonging to a armers' Club?	*Prompts* • Association with other farmers • Access to knowledge about markets • Access to markets • Increase in price for crops • Other (please specify)
If one of the benefits to you is access to marketing information, how do you access this information? Will you be able to continue to access this information in the future?	*Prompts* • Market information will continue to flow • Market information could cease • Other (please specify) • Yes/No
How long have you been a member of a armers' Club?	*Prompts* • Less than one year • One year • Two years or more
While being a member of a Farmers' Club, have you sold your crop together as a group? Why or why not? (ask each farmer)	*Prompts* • Yes/No • If yes, ○ Groundnut ○ Soy ○ Maize ○ Other (please specify)
Who buys your crops? Please describe the selling process.	*Prompts* 1 Groundnuts; 2 Soy beans • In local markets ○ Vendors ○ Wholesalers ○ Traders ○ Association ○ NASFAM, CADECOM or FUM ○ Aggregators ○ Village Aggregation Center ○ Other (please explain) • Outgrower scheme • Bulking and aggregation • Grouped negotiation • Forward contracts • Warehouse Receipt System • Spot sales • Hedging • Bid Volume Only (BVO) System • Offer Volume Only (OVO) System • Bid & Offer Matching

	• Other type of auction (specify) • Other (please specify)
If you are collectively selling your crop, do you have a strong enough relationship with large volume buyers to continue to sell to them without support from NASFAM/FUM/CADECOM?	*Prompts* • Yes/No 1 Groundnuts; 2 Soy beans • Sufficient capacity exists • Relationships are strong • Other (please specify)
Was it easy for you to sell your crops through this channel? Why?	*Prompts* • Yes/No 1. Groundnuts; 2. Soy beans • Convenient sale at farm gate • Immediate payment • Crop transportation paid for by buyer • Do not have to bargain selling price • Other (please specify) • No access to local markets • Do not know about ACE or how to access it • Difficult to meet grade and quality standards
If you participated in collective marketing, do you feel that you have benefited from collectively selling your crops? If so, how? If not, why?	*Prompts* • Received higher price • Increased income • Reduced transaction cost • Access to credit (if through warehouse receipt with ACE, for example)
Do you know what an agricultural commodity exchange is?	*Prompts* • Yes/No If no (interviewer explains what it is)
Have you ever sold through an agricultural commodity exchange?	*Prompts* • Yes/No
If you have never sold through an agricultural commodity exchange would you consider doing so? Why?	*Prompts* • Yes/No
Are you aware of what services are available through an agricultural commodity exchange? If yes, please identify the services you know about.	*Prompts* • Yes/No • Warehouse Receipt System • Forward contracts • Bid Volume Only (NVO) System • Offer Volume Only (OVO) System • Bid & Offer Matching

Questions regarding which collective marketing approaches have most effectively increased the income of farmers. [If farmers cultivate both crops, questions will be asked per crop.]	
What collective marketing approaches have you tried?	*Prompts* 1. Groundnuts; 2. Soy beans • Outgrower scheme • Bulking and aggregation • Grouped negotiation • Forward contracts • Warehouse Receipt System • Spot sales • Hedging • Bid Volume Only (BVO) System • Offer Volume Only (OVO) System • Bid & Offer Matching • Other type of auction (specify) • Other (please specify)
Has collective marketing helped you find new markets for your crops?	*Prompts* 1. Groundnuts; 2. Soy beans • Yes/No
Has collective marketing increased your income? Please explain how.	*Prompts* 1. Groundnuts; 2. Soy beans • Yes/No • Through better pricing per crop • By being able to market greater volume • A combination of both
Which collective marketing approach increased your income?	*Prompts* 1. Groundnuts; 2. Soy beans • Outgrower scheme • Bulking and aggregation • Grouped negotiation • Forward contracts • Warehouse Receipt System • Spot sales • Hedging • Bid Volume Only (BVO) System • Offer Volume Only (OVO) System • Bid & Offer Matching • Other type of auction (specify) • Other (please specify)

Has your income increased as a result of collective marketing? If yes, can you tell me by approximately how much (in percentage)?	*Prompts* 1. Groundnuts; 2. Soy beans • Yes/No By percentage: • Outgrower scheme (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Bulking and aggregation (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Grouped negotiation (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Forward contracts (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Warehouse Receipt System (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Spot sales (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Hedging (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Bid Volume Only (BVO) System (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Offer Volume Only (OVO) System (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Bid & Offer Matching (1-5%, 6-10%, 11-15%, 16-20%, 20%+) • Other type of auction (specify) (1-5%, 6-10%, 11-15%, 16-20%, 20%+)
Do you plan to collectively sell your crop this year? Please explain why or why not.	*Prompts* 1. Groundnuts; 2. Soy beans • Yes/No
If you plan on collectively selling your crop this year, which collective marketing approach will you use?	*Prompts* 1 Groundnuts; 2 Soy beans • Outgrower scheme • Bulking and aggregation • Grouped negotiation • Forward contracts • Warehouse Receipt System • Spot sales • Hedging • Bid Volume Only (BVO) System • Offer Volume Only (OVO) System • Bid & Offer Matching • Other type of auction (specify) • Other (please specify)

Questions regarding the main barriers to farmers participating in collective marketing. [If farmers cultivate both crops, questions will be asked per crop.]	
If you have not collectively sold your crop, how come you did not collectively sell your crop?	*Prompts* 1. Groundnuts; 2. Soy beans • No information about this from ○ NASFAM ○ FUM ○ CADECOM ○ Farmer Clubs ○ Group Action Committees ○ Other (please specify) • No coordination/facilitation from ○ NASFAM ○ FUM ○ CADECOM ○ Farmer Clubs ○ Group Action Committees ○ Other (please specify) • Loyalty to existing buyers • Unwillingness to organize/work together—on local, regional, national level • Coordination problems • No rural markets • Distance to markets-high cost of transportation • Mistrust of association, traders, or other • Mistrust of the collective marketing process • Need access to cash right after harvest, cannot wait for collective marketing • Crop did not meet minimum quality standards or grades required ○ Moisture content ○ Aflatoxin ○ Other fungal contamination ○ Other (quality issue—please specify) • Lack marketing information knowledge • Lack of information on market prices • Lack of knowledge collective marketing=lower transaction costs of accessing inputs/produce markets • Political pressure from middlemen/small traders
If you needed access to cash right away, would you consider bridge financing? This type of short-term financing can provide cash to farmers between the time of harvest and the time of later sale of your crops.	• Yes/No

What would have to happen for you to collectively sell your crop: (3) Between now and 2016? (4) After 2016?	*Prompts* • Information about this from ○ NASFAM ○ FUM ○ CADECOM ○ Farmer Clubs ○ Group Action Committees ○ Other (please specify) • Coordination/facilitation from ○ NASFAM ○ FUM ○ CADECOM ○ Farmer Clubs ○ Group Action Committees ○ Other (please specify) ○ Support for meeting grade and quality standards ○ Other (please specify)

Questions regarding which elements/approaches of the INVC integrated model have been most successful leading to the adoption of both promoted agriculture and nutrition behaviors/practices by beneficiaries.	
The American government project that we are evaluating works with Malawi organizations to help improve farming and what you eat, including what types of food and the variety of foods you eat to make your family healthy, especially for pregnant and lactating mothers and young children under 5 years of age. How many of you here participate in a Community Care Group (CCG)? Do you know of any organizations that work with you to improve your farming and family's health through the foods you eat, especially for pregnant and lactating mothers and children under 5? If yes, please name them? Please briefly describe how you work with each.	*Prompts* • Yes/No • NASFAM (sub partner) • FUM (sub partner • CADECOM (sub partner) • ACE (BSP) • CISANET (TSP) • ITTA (TSP) • Nkhoma Hospital • Pakachere (IHDC) • Farmers Associations • Farming Marketing Groups • Farmers Clubs • Groundnut or Soy Groups • Other (please specify)

Have these organizations provided advice/guidance for you to change the way you farm? If yes, please explain how.	*Prompts* • Yes/No • Providing: o Trainings o Demonstrations o Input supplies o Seed o Inoculant o Other o Introduction to new technologies o Introduction to new practices o Marketing (access)
Is there something else that these organizations can do to help you improve your farming even more? What did these organizations suggest that did not improve your farming? What could they have done to help you improve your farming?	*Prompts* • Yes/No • Assist with: o Improving access to input markets o Improving access to output markets o Improving access to credit/financial services o Access to marketing information o Information on value-added options/processing o Other (please specify)
Do these organizations help you understand the importance of eating different types of foods and a variety of foods to make your family healthier? If yes, please explain how.	*Prompts* • Yes/No • Providing: o Trainings o Cooking/other demonstrations o Information about home processing and food preservation o Backyard diverse gardens o Other (please specify)
If yes, is there something else that they can do to help you even more to improve your health through a variety of foods you eat and other actions?	*Prompts* • More trainings (please specify) • Additional Cooking/other demonstrations • Additional information about home processing and food preservation • Other (please specify)

Is anyone here a member of NASFAM/FUM and also a member of a Community Care Group? If so, what have you learned through these organizations to make your family healthier through eating better, or changing the way you do things? Is anyone here a member of a Community Care Group that is <u>not</u> a member of NASFAM/FU? If so, have you learned anything about growing crops that are better for your health, especially groundnuts and soy beans. Please explain. What Care Group activities taught you about how to make your family's food healthier through crops that you grow? Please explain.	Prompts • Yes/No Maternal antenatal care and diet • Women seek antenatal care as soon as they suspect that they may be pregnant • Pregnant women attend ANC at least 4 times during the duration of pregnancy • Pregnant women eat more nutritious food • Lactating women eat more nutritious food Breastfeeding • Mothers give only breast milk for the first 6 months (exclusive breastfeeding) • Mothers breastfeed for longer duration •Mother hold the baby in a correct/comfortable position during breastfeeding • Mothers attach young babies properly • Mothers breastfeed as much or more during illness and recuperation Complementary feeding • Caregivers encourage children to eat extra food during recovery from illness • Caregivers prepare and feed children 6-9 months old soft and thick meals • Caregivers feed children 6-24 months fruits, vegetables, legumes, animal foods and fats for nutrient density • Caregivers prepare and feed their children the recommended amount of food Hygiene • Caregivers will wash their hands with soap or ash at the 4 critical times • Children's hands will get washed with soap or ash after stool and before food.

Questions regarding which elements/approaches have been least successful.	
In working with these organizations, what has not been helpful to improve the food and the way your family eats? Why?	*Prompts* • Providing: ○ Trainings ○ Cooking/other demonstrations ○ Information about home processing and food preservation ○ Backyard diverse gardens ○ Other (please specify)

ANNEX 10: NUTRITION EVALUATION INSTRUMENTS

Nutrition Direct Observation Village Site Checklist

Observations: Fieldwork descriptions of activities, behaviors, actions, conversations, interpersonal interactions, organizational or community processes, or any other aspect of observable human experience. Data consist of field notes: rich, detailed descriptions, including the context within which the observations were made.

Geographic Information														
Region		Northern		Central		Southern								
District Name		1=Mchinji		2=Lilongwe		3=Dedza		4=Ntcheu		5=Balaka		6=Machinga		7=Mangochi
Village Name														

Extension Planning Area (EPA) Name:		**Traditional Authority (TA) Name** *(if applicable)*	
Group Village Headman (GVH Name)[1]		**Name of Household Head** *(if applicable)*	
Group Action Committee (GAC) Name		**NASFAM or FUM Member** (Y or N)	

	Livelihood Zone		**Shelter and Care**		**Hand washing**
	MW01 - Central Karonga		GOOD =A community that has shelter that appears adequate, dry, and safe.		No Hand washing place
	MW02 - Chitipa Millet & Maize		FAIR = A community that has shelter that needs some repairs but is fairly adequate, dry, and safe.		Hand washing Place with No Supplies
	MW03 - Kasungu Lilongwe Plain		BAD = A community that has shelter that needs major repairs, is overcrowded, inadequate, and/or does not protect beneficiaries them from weather.		Hand washing Place with Incomplete Supplies
	MW04 - Lake Chilwa - Phalombe Plain		VERY BAD = A community that has no stable, adequate, or safe places to live.		Fully Functional Hand washing Station[2]

	MW05 - Lower Shire		**Sanitation Facilities**		**Environment**
	MW06 - Middle Shire Valley		Improved[3]		GOOD: Clean and sanitary physical environment[4]
	MW07 - Misuku Hills		Non-Improved		FAIR: Fair clean and sanitatary environment[5]
	MW08 - Mzimba Self Sufficient		Shared		POOR: Poor sanitary environment[6]
	MW09 - Nkhata Bay Cassava		**Drinking Water Sources**		
	MW10 - Northern Karonga		Improved[7]		
	MW11 - Northern Lakeshore		Non-Improved		
	MW12 - Phirilongwe Hills		Close Water Source[8]		
	MW13 - Rift Valley Escarpment		**Household Durable Goods and Possessions**		
	MW14 - Shire Highlands		Mobile Phone—ask women If they have one (provide visual)		
	MW15 - Southern Lakeshore		Television		
	MW16 - Thyolo Mulunje Tea Estates		Radio		
	MW17 - Western Rumphi & Mumba		Bed		
	National Parks and Reserves		**Fuel efficient stoves-ask women about this (clay)** (provide visual)		
	Urban Areas		Improved latrines (provide visual)		
	Appearance of Beneficiaries				
	Note the condition of their clothing. Are the participants' clothes dirty or have holes in them? Does the CG participants have shoes?				

	Confidence Levels of Focus Group Participants
	High: Very Confident,
	Fair: Confident with some hesitation
	Poor: Not very confident lacks eye contact, etc
	Dominant Ethnic Group

Cultural Factors Notes
[Religious/Cultural barriers and/or taboos and practices that prevents adequate food consumption and dietary diverse food consumption, etc., Matrilineal/patrilineal]
Social Factors Notes

Economic Factors Notes
Gender Factors/Issues Notes

Access to Health Services
[Distance, quality, etc.]
Food Sources and Access Notes

Gender Observation Checklist: All of Malawi INVC Project

	Gender Checklist
	Analysis of gender differences
	1. Participation of women, girls, boys and men gather information on: ○ Roles of women, girls, boys and men for nutrition behaviors and practices ○ Cultural and religious differences addressed within programming for women and men including patriarchieal, etc issues; ○ Differences in women's and men's control over and access to food resources addressed within the project. 2. Reasons for inequalities between women, girls, boys and men are analysed and addressed throughout programming. 3. The gender analysis is reflected in planning documents, annual and quarterly reports and work plans.
	Design of Community Care Groups
	1. CG are designed to reduce women's time spent getting to, at and returning from Community Care Group points 2. CG are designed to reduce the burden that the participation may pose on women beneficiaries: ○ Community care groups are held at times when there are not expected to be harvesting crops, etc. ○ Distance to community care groups is within an hour travel.
	Access
	1. Women's and men's access to community care groups and nutrition services is routinely monitored through spot checks, discussions with communities, etc. 2. Obstacles to equal access are promptly addressed.
	Participation
	1. Women and men take part equally (in numbers and consistency) in roles such as the Nutrition Promoters. 2. Women and men take part equally (in numbers and consistency) in decision-making, planning, implementation and management of nutrition interventions.
	Training/Capacity building
	• An equal number of women and men are participating in training and have equal access to trainings.
	Monitoring and evaluation based on sex and age disaggregated data
	1. Sex- and age-disaggregated data on coverage is collected, analysed and routinely reported on.

	Gender Checklist
	2. Monitoring and evaluation tools are developed in consultation with women and men in the target population to specifically look at the impact of nutrition interventions on women's and men's vulnerability, including in the design of questionnaires that examine how the food needs of women and men have been addressed. 3. The impact of the INVC project on women and men (needs, access and control over resources, physical and human capital, income and livelihood options, etc.) is assessed. 4. Women and men are consulted in the identification of remaining gaps and areas of improvement. 5. Plans are developed and implemented to address any inequalities and ensure access and safety for all of the target population.

Stakeholder Registration & Informant Information Form (All levels)

Malawi Integrating Nutrition in Value Chains Performance Evaluation ***Stakeholder Informant Information***						**Interview Date**			
						Month	**Day**	**Year**	**Time**
	Consultation		Key Informant Interview		Focus Group Discussion		Direct Observation			**2015**	

Informant/ Respondent Information												
Number of Respondents:	1	2	3	4	5	6	7	8	9	10+	☒	**Educational background**
Name of Respondent:												No formal education
Position, Department, Unit:												PSLCE (JCE or PSLCE before 1990)[9]
Phone Number:												A-Levels, O-Levels
Email:												Diploma
Gender (M or F):		Male			Female							Bachelor or Advanced Diploma
Supervisor Name *(if applicable):*												Postgraduate Degree/Masters/Ph.D.

Interviewer/Moderator Information			
Name of Interviewer/Moderator		**Name of Translator:**	
Position, Department, Unit:		**Position, Department, Unit:**	
Phone Number:		**Phone Number:**	
Email:		**Email:**	
		Note Taker Name *(if applicable):*	

Geographic Information

Region		Northern		Central		Southern								
District Name		1=Mchinji		2=Lilongwe		3=Dedza		4=Ntcheu		5=Balaka		6=Machinga		7=Mangochi
Village Name														

Extension Planning Area (EPA) Name:		**Traditional Authority (TA) Name** *(if applicable)*	
Group Village Headman (GVH Name)[10]		**Name of Household Head** *(if applicable)*	
Group Action Committee (GAC) Name		**NASFAM or FUM Member** (Y or N)	

Stakeholder Respondent Information

				Type of Implementing Partner		
	Level of Stakeholder		**Implementing Partner(s)**	**Direct Implementing Partner**	**Technical Assistance Provider**	**Financial Service Provider**
☒		☒		☒	☒	☒
	National/ Central level		INVC Consortium (All) (DAI, MSU and SC)			
	District Level					
	Extension Planning Area Level		Development Alternatives Inc. (DAI)			
	Community Level: Direct Beneficiaries		Michigan State University (MSU)			
			Save the Children Federation Inc. (SC)			
			Agricultural Commodity Exchange for Africa (ACE)			
			Catholic Development Commission of Malawi (CADECOM)			
			Civil Society Agriculture Network (CISANET)			
			Farmer's Union of Malawi (FUM)			

			International Institute for Tropical Agriculture (IITA)			
			National Smallholder Farmers Association of Malawi (NASFAM)			
			Nkhoma Hospital			
			Pakachere Institute of Health & Development Community (PIHDC)			
			Other Partner Name: _____			
Nutrition Activities Participation						

☐ **Behavior Change Communication**	☐ **Dietary diversification Promotion**
☐ Theatre for development	☐ **Home Food Processing Demonstrations**
☐ Radio messages	☐ **Promotion of Backyard Gardens through Care Groups and HH-**
☐ Audio/visual shows	☐ **Promotion of nutrient-dense value chains**
☐ **Care Groups**	☐ **Promotion of sanitation** ☐ **Promotion of hygiene**
☐ **Community-Based Growth Monitoring and Promotion**	☐ **Referral System**
☐ Other: _____	☐ **Promotion/Facilitation of Child Health Days**

Community Care Group Registration

Malawi Integrating Nutrition in Value Chains Community Care Group								Interview Date			
								Month	Day	Year	Time
	Consultation		Key Informant Interview		Focus Group Discussion		Direct Observation			2015	

Implementing Partner Name:	
District Name	
Extension Planning Area (EPA) Name	
Traditional Authority (TA) Name	
GAC/FUM Cluster	

No.	Name	Sex		Village Name	GVH Name	HH Head Name	HH Type	Number of Children								Total Children	Member of NASFAM/FUM, etc.	Date of Join
								Number of Women		Under 6 mo.		6-23 mo. (under 2)		24-59 mo (from 2 to 5 years of age)				
		M	F					Pregnant	Lactating	M	F	M	F	M	F			
1																		
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

11																		
12																		
HH TYPE: 1 Adult Female no Adult Male; 2 Adult Male no adult female; 3 Male and female adults; 4 Child no Adult Member of: 1 NASFAM; 2 FUM; 3 NONE																		

Community Care Group (CCG) Lead Nutrition Promoter Name:
Please enter the name of the lead Nutrition Promoter

Name	Telephone	Email

Community Care Group Volunteer Names:

No.	Name
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

Health Passport: Growth Monitoring Check

These questions are to check the effectiveness of the support from Malawi INVC for Child Health Days and Bi-annual Deworming and Vitamin A supplementation. It also checks if the Nutrition Promoters are assisting Health Surveillance Assistants to conduct routine growth monitoring and promotion (GMP).
Ask both the Community Care Group Volunteer Lead Mothers and the PLW direct beneficiaries to bring their Child Health Passport (including growth chart) to the focus group meeting and we will look at all mother's child growth card and record the findings in the chart below.

No.	Care Group Participant	YES, Seen by interviewer	Not available/ Lost/Misplaced	Never had a card	Don't know/No response
*1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
	TOTAL				

Growth Monitoring and Promotion: Child Growth Card							
No.	Care Group Participant	Date	No Date	Vitamin A	Vitamin A less than 6 months of age	Deworming	Deworming Less than 12 months of age
*1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
TOTAL							

1. COPY DATE FROM THE CARD
2. CHECK "NO DATE" BOX IF CARD SHOWS THAT A VACCINTATION WAS GIVEN BUT NO DATE IS RECORDED
3. FOR DEWORMING PLEASE INDICATE IF CHILD IS LESS THAN 12 MONTHS OF AGE
4. FOR VITAMIN A PLEASE NOTE IF CHILD IS LESS THAN 6 MONTHS OF AGE

Growth Monitoring and Promotion							
No.	Care Group Participant	Attended GMP (Y/N)	Weighed in the Last 4 Months? (Y/N)	Weight Gain	Weight Loss	Weight No Change	Visit from Leader Mother in last 2 weeks? (Y/N)
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							

16							
TOTAL							

Attended GMP: Enter the number of children that attended GMP that month.
Weight Gain: The total number of under-five children who were weighed and have gained weight that month compared to previous month should be recorded here.
Weight Loss: All under five children who were weighed and are losing weight should be recorded here.
Weight no change: record the number of under 5 children who are weighed and find that their weight is the same as the previous month's weight.
Weighed in the Last 4 Months?: Look at growth monitoring card and see if the child has been weighed in the lasts four months.
Visit from Lead Mothers in last 2 weeks? Ask: During the past two weeks, have you received a visit from you Lead Mothers?

Interview Opening: Focus group with Direct Beneficiaries

Thank you very much for coming today. I am working with QED from the U.S. We are conducting a study to assess the impact of the USAID/Malawi Integrating Nutrition into Value Chains (INVC) project. USAID has been doing some programs in this area, and the results of this study will help to inform them on whether their approach is worthwhile or if there are needed improvements. You have been invited to participate in this group discussion because you may be able to provide information about changes in this community in the past year.

If you agree to participate in this study, we would like to ask some general questions about changes you've noticed in this community in the past year. We are seeking your honest opinions and observations from everyone in the group. This interview will take about 1 hour and 30 minutes.

- **Voluntary Participation**: Your participation is completely voluntary. You can choose not to participate now, or at any time between now and the end of the discussion you can leave. There is no penalty or problem if you choose not to participate. Should you feel uncomfortable with any question, you may refuse to answer it.
- **No Payment:** You will not be paid to participate, and there are no direct benefits to you other than knowing your information may help USAID improve its services in Malawi.
- **Permission to Record Conversation:** We also request your permission to record our conversation so that I can remember what was said.

To ensure that we are in a safe environment to share openly and honestly can we agree to the following ground rules?

- **Confidentiality** – that we will keep private what we speak about in this discussion
- **Honesty** – tell us what you really know and feel about each topic of discussion, not what you think we want you to say – just share openly.
- **Participation** – it is very important that each of you give your opinions about the questions being asked and your experiences.
- **Respect:** let us respect each other's views as we want to know all the different opinions around the table. Feel free to express yourselves, this is a safe space – you will not be judged for your opinion. I hope that you will find it interesting to share information with each other.

In our discussions we will discuss a number of maternal and child health care and nutrition practices and other general issues that affect the health and nutrition status of pregnant, lactating women and children up to 2 years. Does anyone have any questions before we start?

PERFORMANCE EVALUATION OF USAID/MALAWI INTEGRATING NUTRITION IN VALUE CHAINS

1

Integrating Nutrition in Value Chain (INVC) Consortium Lilongwe Management/Technical Team

INTERVIEW DISCUSSION GUIDE: NUTRITION

FEED THE FUTURE
KNOWLEDGE DRIVEN
AGRICULTURAL DEVELOPMENT

1. Integrating Nutrition in Value Chain (INVC) Consortium Lilongwe Management/Technical Team

Section 1. INVC Nutrition General Project Questions

1. **Please provide the job descriptions and describe the roles and responsibilities for each level of stakeholder at the central, District, Extension Planning Area (EPA), and the direct beneficiaries for nutrition.**

Integrating Nutrition in Value Chain (INVC) District Level Implementing Staff
District Nutrition Coordinators
Nutrition Assistants
Local Sub Partners: Nutrition
Nkhoma Hospital
Pakachere Institute of Health and Development Communication
District level Government Stakeholders
Food and Nutrition Officer (FNO)
District Agricultural Development Officer (DADO)
District Nutrition Officer (DNO)
Maternal and Child Health Nutrition Coordinator (MCHN)
Extension Planning Area/Extension level Stakeholders
Group Village Headman (GVH)
Senior Health Surveillance Assistants (S-HSA)
Health Surveillance Assistants (HSA)
Direct Beneficiaries
Nutrition Promoters (men and women)
Community Care Group Volunteers (CGV)(Lead Mothers/fathers)
Community Care Group Household Participants: Pregnant and Lactating Women

2. **Please provide us with the overview of how the nutrition local sub-partners were selected.**

Timeline

3. **Please describe the project timeline for nutrition within the greater INVC project year by year.**
4. **Please describe how INVC is decentralized for nutrition?**

Training

5. **Please describe how Nutrition Promoters are recruited and trained.**

6. **Please describe and provide an illustration of the training cascade for the Nutrition Promoter.**
7. **Please list, describe and provide the materials that are used for the Nutrition Promoter trainings.**
8. **Please describe how the training materials for the Nutrition Promoters were developed and who was involved.**

Community Care Groups

9. **Please describe how Community Care Group Volunteers/Lead Mothers/Fathers are recruited and what the criteria for participation is?**
10. **How are the National Association of Smallholder Farmers of Malawi (NASFAM) and the Farmers Union of Malawi (FUM) involved in the Community Care Groups if at all?**
11. **Please explain how this works "Care group structures are formed in the gender and social committees of the farmer groups in National Association of Smallholder Farmers of Malawi (NASFAM) and Farmers Union of Malawi (FUM) at Group Action Committee and cluster levels"?**

Local Government Authority Orientation

12. **How do you orient the local government authorities on the INVC activities including the Community Care Groups?**

Monitoring and Evaluation

13. **Please provide and describe within a few sentences the purpose of each of the monitoring forms that you use to track the nutrition programming in the Malawi INVC project.**
14. **Please explain how you track the key nutrition indicators and the process of reporting. Please describe how you are collecting your baseline data and measuring progress against results.**
    - **Stunting:** Prevalence of stunted children under three years of age in INVC-assisted communities
    - **Exclusive Breastfeeding:** Percent (%) change prevalence of exclusive breastfeeding of children under 6 months of age.
    - **Minimum Acceptable Diet (MAD):** Prevalence of children 6-23 months in INVC-assisted communities receiving a minimum acceptable diet.
    - **Women's Dietary Diversity:** Mean number of food groups consumed by women of reproductive age (15 to 49 years) in INVC-assisted communities.
    - Number of people trained in child health and nutrition through INVC supported health-area programs.
    - Number of people trained in child health and nutrition through INVC supported health-area programs.

15. It is unclear where the baseline data is coming from "Baseline (for 4 nutrition indicators) from secondary data sources". Values for the nutrition impact and outcome indicators will reflect only the five districts where nutrition interventions will be implemented: Mchinji, Lilongwe, Balaka, Machinga, and Mangochi.[11]
16. Targets: I am assuming we are not measuring results against targets for the extension (31 October 2016) Also, assuming that the targets remain for the end date of April 2015? Please confirm.
17. **Reduced malnutrition:** For this indicator we are assuming that reduced malnutrition is reduced stunting? Please confirm. "Project-wide Performance Indicator: Number of children under 5 yrs with reduced malnutrition"
18. **Stunting:** Is the following indicator a reduction of 25% stunting cumulative across regions? Is this percentage points or percentage? "Reduction of stunting (children under five): Percent (%) change prevalence of stunting among children under 5 years of age."
19. **Exclusive Breastfeeding:** Is the following indicator "Percent of children 0-5 months of age who are exclusively breastfed in INVC-assisted communities/ targeted Districts. Targeting Districts (District-wide coverage) or Communities (community/village-wide coverage)? I have seen it written both ways within the documents.
20. **Data Sources:** Which data sources are being used for nutrition baseline and end line and how are the results being tracked and measured over time?
21. These two indicators were dropped off (were in an earlier version)-why? Do activities still include screening for malnutrition and referrals? 1) malnourished children under five referred to health post for evaluation; 2) # children under five screened for malnutrition
22. **Formative Research:** Do you have a copy of the Formative research that Pakachere Institute of Health & Development Communication (IHDC) conducted?

Reporting/Meetings

23. **Please describe any regular reporting and/or meetings for nutrition within the INVC project, with Government stakeholders and for the Community Care Groups**.
    INVC project
    Government stakeholders
    Community Care Groups

Supportive Supervision

24. Please describe any regular supervision for nutrition activities within the INVC project. This includes supervision by INVC Consortia staff for Nakhoma activities as well as any decentralized supervision that is carried out by Nakhoma staff within Lilongwe and Mchinji over the Community Care Groups.

Project Coverage

25. **According to the guidance "The Contractor must emphasize the achievement of significant coverage ("saturation") of nutrition interventions within the five targeted districts rather than spreading interventions thinly over the districts" How are you currently doing this?**
26. **Does the project have an overall targeted coverage rate? If yes, is this coverage rate per District? Per Village?**
27. **Is there any information available on the coverage of the project with regards to total population in the intervention area, total population in need, total population per village, etc? Based on stunting levels?**
28. **How many Districts, Extension Planning Areas (EPA) and Villages are covered for nutrition interventions?**
29. **Targeting: How were INVC project Districts and villages selected for scale-up in Lilongwe and Mchinji?**
30. **Targeting: is there a common understanding and strategic positioning by sector to cover the most affected / vulnerable districts, sub- districts, villages and households?**
31. **Scaling-up: What is your scale-up approach within the Districts? How does INVC anticipate to scale up integrated agriculture-nutrition interventions within each District?**

Nutrition Interventions

32. **Which of the following activities are currently active within Lilongwe and Mchinji as well as in the new "surge Districts" Balaka, Mangochi and Machinga, and please briefly describe each one. (also added the columns of Districts below)**

Nutrition Activities	Lilongwe	Machinga	Mangoch	Mchinji	Balaka
☐ **Behavior Change Communication**					
☐ Theatre for development					
☐ Radio messages					
☐ Audio/visual shows					
☐ **Care Groups**					
☐ **Community-Based Growth Monitoring and Promotion**					
☐ **Community Complementary Feeding and Learning Sessions (CCFLS)-**					
☐ **Dietary diversification Promotion**					
☐ **Home Food Processing Demonstrations**					
☐ **Promotion of Backyard Gardens through Care Groups and HH-**					
☐ **Promotion of nutrient-dense value chains (groundnut and soy)**					
☐ **Promotion of sanitation and hygiene**					
☐ **Referral System**					
☐ **Vitamin A supplementation and Deworming**					
☐ Other: _____					

33. **"In terms of growth monitoring and promotion can you please tell us where the Nutrition Promoters are assisting the Health Surveillance Assistants (HSAs)? Is this tracked somewhere by INVC staff by village?"**

Question 1 Which elements and/or approaches of INVC's integrated model have been most successful in leading to adoption of both the promoted agriculture and nutrition behaviors and practices by beneficiaries? *[See Agriculture Discussion Guide for promoted agriculture behaviors and practices]*

1. **How would you define integration in terms of integrating nutrition into agricultural interventions within the Malawi INVC project?**
2. **What activities have enabled value chain investments to lead to improved consumption of diverse diets?**
3. **What have been the impacts of different approaches linking Agriculture, Nutrition, and Health on both the production and consumption of diverse diets and nutritional status?**
   A) Geographic co-location of partners?
   B) Geographic co-location of both Community Care Groups and Farmers Clubs with overlapping beneficiaries?
   C) Particular lead implementing partners?
   D) Management structure?
   E) Decentralization INVC management structures?
   F) Integration of nutrition cooking and home-processing demonstrations into Farmers Clubs?

4. **Has the introduction of both groundnut and soyabean value chains to increase farmers' incomes resulted in improved nutritional status when not coupled with nutrition programming (i.e. the ag-only intervention areas)? How have you measured this if at all?**

5. **How has INVC created an enabling environment for the integration of nutrition into agriculture with key policy and administrators at the National, District, and Extension Planning Areas within communities and for the Direct Beneficiaries?**
   A) National Level
   B) District Level
   C) Extension/Village Level
   D) Communities
   E) Direct Beneficiaries

Enabling Environment for Nutrition
An enabling environment for nutrition[12] makes is easier for everyone to contribute to nutrition improvement. This includes: 1. Building Awareness: tapping into your audience 2.Making Commitments-which

includes identifying them and making them public 3.Governance arrangements- integrative, 4.Mobilising Resources and making sure they are driven by a plan, 5.Holding Stakeholders Accountable: transparency and civil society are key and finally 6.Capacity and Data to support the stakeholders including transparency and holding to account requires data.

6. **How does Malawi INVC collaborate and coordinate with both sector stakeholders-the agriculture and nutrition/health sectors at each level to encourage adoption of the promoted agriculture and nutrition behaviors and practices by beneficiaries?**
   A) National Level
   B) District Level
   C) Extension/Village Level
   D) Communities
   E) Direct Beneficiaries

7. **How do the Community Care Groups identify and address challenges for adoption of the promoted nutrition behaviors and practices by beneficiaries?**

8. **How do the Farmers Clubs identify and address challenges for adoption of the promoted nutrition behaviors and practices by beneficiaries?**

9. **If a participating Community Care Group Volunteer or household beneficiary has difficulty learning a nutrition behavior and/or practice, how does the Malawi INVC staff, particularly the District Nutrition Coordinator or the Nutrition Assistant help the beneficiaries learn the promoted nutrition behavior and/or practice?**

10. **How is the promotion of nutrition and agricultural behaviors and practices integrated within the INVC program design?**

11. **What incentives (motivation for stakeholders to take an action) do the following groups have to adopt the promoted nutrition behaviors and or/practices?**
    Nutrition Promoters
    Community Care Group Volunteers/Lead Mothers/Fathers
    Community Care Group Direct Beneficiaries-Pregnant and Lactating Women

12. **How are the following groups being encouraged to demonstrate the promoted nutrition and integrated nutrition-agriculture behaviors and or/practices within their community to share what they have learned with others (for example through cooking demonstrations, having a hand washing device that is displayed for others to see in their community within their households) ?**
    Nutrition Promoters

Community Care Group Volunteers/Lead Mothers/Fathers
Community Care Group Direct Beneficiaries-Pregnant and Lactating Women

13. Can Malawi INVC identify what might be potential "harms" caused by promotion of the agriculture and nutrition behaviors and practices by beneficiaries, especially by women?

Do No Harm
When mainstreaming gender equality and woman's empowerment into nutrition-sensitive agriculture interventions/programs it is important that they do not unintentionally harm nutrition or women.[13] For example, woman's increased workload can harm food production for the household, since women are often responsible for producing homestead gardens or other agricultural products for household own-consumption. Gender-based violence can also be an unintended consequence of women's empowerment activities. Women's time demands, excessive workload and energy expenditure can limit their opportunities for earning income through agriculture.

14. How is Malawi INVC mitigating these potential harms?

15. How does Malawi INVC facilitate agriculture backyard garden production diversification, and increase production of nutrient-dense crops (for example underutilized crops such as vegetables)?

16. Which of the following nutrition promotion and education methods that build on existing local knowledge, attitudes and practices have been successful to encourage adoption of both the promoted agriculture and nutrition behaviors and practices by beneficiaries? Why? How do you know?

Nutrition Behavior Change Communication (BCC) Interventions				
Theatre for development	Radio messages	Community Care Groups	Improved seed variety promotion--	Counseling and Key messages through Growth Monitoring Promotion through Child Health Days
Counseling and Key messages through Growth Monitoring	Promotion of Backyard Gardens through	Cooking Demonstrations	Home Food Processing Demonstrations	Interpersonal communication through Ag extension

Promotion through Child Health Days through Monthly Outreach	Care Groups			
Promotion of time saving technologies —(fuel efficient stoves— watering cans)				

Nutrition-Specific Technical Interventions				
Behavior Change Communication	Nutrition Counseling	Community Care Groups	Growth Monitoring Promotion through Child Health Days	Growth Monitoring Promotion through Monthly Outreach
Management of Acute Malnutrition	Promotion of Backyard Gardens through Care Groups	Cooking Demonstrations	Home Food Processing Demonstrations	Vitamin A Supplementation and Deworming & handwashing station, BCC activities

Nutrition-Sensitive Technical Interventions				
Theatre for development	Radio messages	Community Care Groups	Child Health Days	Community Growth Monitoring through Child Health Days
Community Growth Monitoring through Monthly Outreach	Promotion of Backyard Gardens through Care Groups	Cooking Demonstrations	Home Food Processing Demonstrations	

Community Care Group Learning Techniques				
Ice-breaker/ energizer	Discussion	Small group work	Demonstration	Pile-sort
Brainstorm	Role-play			

Question 2
Which of INVC's promoted nutrition behaviors and practices have been most widely adopted by beneficiaries and why?

1. Which of the following targeted behaviors do you think have been widely adopted by targeted beneficiaries and which ones do you think were not and why (see chart next page)?
2. For each behavior describe the 1) What were the programmatic challenges or successes that led to this adoption or non-adoption of the promoted behavior or practice? 2) What programmatic barriers prevented or programmatic successes/innovations encouraged promoted behavior adoption or non-adoption? And 3) What are some potential cultural and or socio-economic barriers and or enablers? 4) What might have been done differently to address challenges?

Maternal and Antenatal Care and Diet	Challenge? Not widely adopted	Success? Widely adopted	Explanation
Women seek antenatal care as soon as they suspect that they may be pregnant			
Pregnant women attend ANC at least 4 times during the duration of pregnancy			
Pregnant women eat more nutritious food			
Lactating women eat more nutritious food			
Breastfeeding			
Mothers give only breast milk for the first 6 months (exclusive breastfeeding)			
Mothers breastfeed for longer duration			
Mother hold the baby in a correct/comfortable position during breastfeeding			
Mothers attach young babies properly			
Mothers breastfeed as much or more during illness and recuperation			
Complementary Feeding			
Caregivers encourage children to eat extra food during recovery from illness			
Caregivers prepare and feed children 6-9 months old soft and thick meals			
Caregivers feed children 6-24 months fruits, vegetables, legumes, animal foods and fats for nutrient density			
Caregivers prepare and feed their children the recommended amount of food			
Hygiene			

Caregivers will wash their hands with soap or ash at the 4 critical times			
Children's hands will get washed with soap or ash after stool and before food			

3. How did INVC determine if behaviors improved especially improved dietary diversity and caring and feeding practices? How did Malawi INVC measure behavior change? Was there any type of formative research conducted at the beginning of the project to gather in-depth information about meal, feeding, and food-related beliefs and behaviors (such as TIPS, etc)?
4. How has Malawi IMVC increased access for PLW and their children from 6-23 months of age to the targeted value chain products-both groundnuts and the soyabean?

Question 4
To what extent have beneficiaries adopted INVC's promoted agricultural production technologies and practices?

1. How does Malawi INVC empower women by ensuring access to productive resources, income opportunities, extension services and information, credit, labor and time-saving technologies (including energy and water services), and supporting their voice in household and farming decisions?

2. Which INVC beneficiaries, and to what degree have adopted INVC's promoted agricultural production technologies and practices?

Key District Government Stakeholders District Commissioner Director of Planning and Development (DPD) District Agricultural Development Officer (DADO) (Head) District Nutrition Officer (DNO) District Health Officer (DHO) District Environmental Health Officer (DEHO)(report to DHO) District Agricultural Development Officer (DADO) Food and Nutrition Officer	**Village/Extension Planning Area Stakeholders** Group Village Heads (GVH) Group Action Committees (GACs) Agriculture Extension Development Coordinator (AEDC) Agriculture Extension Development Officers (AEDO) Senior Health Surveillance Assistants (S-HSA) Health Surveillance Assistants (HSA)	**Direct Beneficiaries: Community Volunteers** Nutrition Promoters (men and women) Community Care Group Volunteers (CGV)(Lead Mothers/Fathers) Lead Farmers (both men and women) Assistant Lead Farmers Farmer Clubs (10-12 farmers**)**
Other: List_____	**Direct Beneficiaries: Households** Community Care Group Households Pregnant and Lactating Women (PLW)	

	Mothers/Caregivers of children under 5/2 Fathers of children under 5/2 Smallholder Farmers (both men and women)	

3. Which INVC beneficiaries, and to what degree have adopted backyard gardens, especially dietary diverse backyard gardens?

1.2

Integrating Nutrition in Value Chain (INVC) Consortium District –Level Management/Implementing Staff

INTERVIEW DISCUSSION GUIDE: NUTRITION

1.2 Integrating Nutrition in Value Chain (INVC) District-level Implementing Staff

Local Sub Partners: Nutrition Technical Assistance

DISTRICT NUTRITION COORDINATORS/NUTRITION ASSISTANTS

SECTION 1: Malnutrition Perception

1. What do you perceive as the major nutrition problems in your community and household?

If the respondent only mentions underlying causes (e.g. poverty, lack of education, etc), try to obtain information on how the respondent sees those underlying causes affect the nutrition status of people (e.g. how does poverty affect nutrition among children).

Problems mentioned:

Tick the appropriate box (es) and take brief notes of any further description. But DO NOT READ OUT THE OPTIONS. Try to obtain the views of the respondents in their words.

☐ Undernutrition
☐ Underweight
☐ Stunting
☐ Wasting
☐ Overweight and obesity
☐ Vitamin or mineral deficiencies, specify which ones: _____
☐ Other: _____

2. What do you think are the causes of existing nutrition problems mentioned:

Tick the appropriate box (es) and take brief notes of any further description. Again DO NOT READ OUT THE OPTIONS. Try to obtain the views of the respondents in their words. If the respondent mentions more causes ask him/her to rank them.

☐ Not enough food (Food insecurity)
☐ Not enough variety of foods available (Poor dietary quality)
☐ Not enough quality of food (Poor dietary quality)
☐ Increasing food prices
☐ Poor health services :Insufficient health services//poor quality of health services
☐ Unhealthy, unclean environment
☐ Poor feeding and caring practices (Inadequate caring practices of infants and young children)
☐ Lack of knowledge (please specify)
☐ Poverty
☐ Natural disasters
☐ Poor water quality
☐ No toilets (Poor sanitation)
☐ No soap available
☐ No hand washing facilities available
☐ No water available

SECTION 2: Nutrition Activities

2.1 What nutrition activities and interventions are you currently implementing (within the last 2 years)?

[Probe for nutrition report, Ask to receive a copy.]

2.2 How is nutrition addressed in INVC's overall annual work plan? Do you think its adequate?

2.3. Do you feel that the nutrition work plan that is within the overall INVC work plan adequately address the main nutrition problems in the Districts and their causes that you mentioned earlier?

Yes	No	Don't know

If no, what is missing?

2.3. Does the annual INVC work plans include operational plans (with defined roles and responsibilities) with an appropriate budget where nutrition is included?

[If operational plans and budget are separate from the plans received, ask to receive a copy of these too.]

Yes	No	Don't know

If no, what is missing?

2.4 What nutrition activities and interventions are planned for this year?

[Probe for nutrition work plan, Ask to receive a copy.]

2.5 Are any nutrition or nutrition-related messages communicated to the communities?

Yes	No	Don't know

If yes, please specify what and through which mechanism

2.6 Are you aware of the Special 1,000 Day Stunting Reduction Campaign and materials? Can you please show them to me.

Yes	No	Don't know

2.6 Are you satisfied with the nutrition or nutrition-related interventions and activities within INVC? What are the success areas and the areas to improve?

Success areas:
Areas to improve:

2.7. What do you perceive as the major barriers and challenges for the community adopting nutrition behaviours or practices in Lilongwe and Mchinji? How could INVC contribute to overcoming these barriers? Please specify any concrete action or input that you could provide within the current level of human and financial resources

Barriers and challenges to scaling up nutrition or nutrition-related action	What INVC could do to overcome those barriers and challenges

2.8 Do you feel there is adequate funding to tackle nutrition within the greater INVC budget?

Yes	No	Don't know

If no, what is missing?

2.9 If no, does INVC have any specific plans or ideas to increase funding?

SECTION 3: Roles and Responsibilities

3.1 Please describe your current roles and responsibilities as a District Nutrition Coordinator and a Nutrition Assistant.

District Nutrition Coordinator	Nutrition Assistant

3.2 Is there a main focal person for nutrition within INVC? (Post, department, unit etc). Within INVC, who has the main responsibility for nutrition?

3.3 What nutrition training do you have? (In-service and pre-service)

District Nutrition Coordinator	Nutrition Assistant

3.4 What other, if any, non-nutrition related responsibilities do you have in your position as a District Nutrition Coordinator/Nutrition Assistant? [Ask to receive a copy of the job description.]

District Nutrition Coordinator	Nutrition Assistant

3.5 Who is your immediate supervisor? How often do you meet and/or discuss activities with them?

District Nutrition Coordinator	Nutrition Assistant

3.6. Are you working with partners in nutrition?

Yes	No	Don't know

If yes, can you give some examples of successful partnerships in nutrition within INVC and indicate the reasons why these partnerships are successful?

3.7. Are you aware of the MOH decentralization in terms of coordination structure for nutrition activities within the Districts? Are you working within this coordination structure? Please explain how.

Yes	No	Don't know

If yes, please explain how you are working in this structure.

3.8 Does a INVC nutrition coordination structure/hierarchy exist?

Yes	No	Don't know

If yes, who participates in this coordination structure? Who is the manager/director?

3.9. How often do you meet within the INVC consortia to discuss nutrition activities?

Frequency of meetings:
Number of meetings in the past 6 months:

SECTION 4: Training & Supervision

4.1. What nutrition related training has INVC conduction in the past two years (January 2013-December 2014)?

Trainings	Participants	Materials used

4.2. What other nutrition related training have you attended at national, regional or international level?

District Nutrition Coordinator	Nutrition Assistant

4.3. How often do you get to visit villages and/or Community Care Groups to supervise or to provide nutrition program support?

Everyday	Every week	Every month	Every quarter
Every 6 months	Every year	Less often	

4.4. What supervisory materials are used? [Ask to see a copy and note title and date]

4.5. How often and what kind of support has INVC nutrition technical team given you during the last two years regarding nutrition programming, planning and implementation? Probe for training, budget support, research, dialogue, field visits.

District Nutrition Coordinator	Nutrition Assistant

4.6. Are you satisfied with the support received from the central Nakhoma and/or INVC level? What are your specific suggestions to improve?

SECTION 5: Monitoring and Evaluation

5.1. What are the most important nutrition-relevant indicators that are routinely collected and/or collated at District level for this program? How often are data collected? [Consult the reference list of indicators.]. Ask to see copy of reports of routine data relevant for nutrition and note whether they are complete and accurate

Nutrition indicators	Frequency of data collection	Information system	Comment (Do data seem to be complete and accurate?)

5.2. How do you use this information?

5.3. Who do you share the nutrition-relevant data with?

5.4. Have you ever received feedback on the information on nutrition that you have sent? And from whom?

5.5. If yes, is this feedback useful? And how do you use this feedback?

5.6. If nutrition research or surveys have been taking place within INVC, have you received reports or data summaries with results?

5.7. Do you use any data management system to analyze or report on the mentioned nutrition data?

Yes	No
If yes, please describe how and which system: If no, how will it be possible to incorporate the nutrition data in an existing system:	

5.8. In your opinion, what should be the top priorities of INVC to improve nutrition?

5.9. Is there anything else that you think you should tell us to have a better understanding about nutrition activities within INVC?

SECTION 6: Nutrition Behaviors and Practices

Question 1
Which elements and/or approaches of INVC's integrated model have been most successful in leading to adoption of both the promoted agriculture and nutrition behaviors and practices by beneficiaries?

1. In your opinion, which elements and/or approaches of INVC's integrated model have been most successful in leading to adoption of both the promoted agriculture and nutrition behaviors and practices by beneficiaries?

Nutrition Behavior Change Communication (BCC) Interventions				
Theatre for development	Radio messages	Community Care Groups	Counseling and Key messages through Growth Monitoring Promotion through Child Health Days	Other: List:_____ _
Counseling and Key messages through Growth Monitoring Promotion through Child Health Days	Promotion of Backyard Gardens through Care Groups	Cooking Demonstrations	Home Food Processing Demonstrations	Other: List:_____ _

through Monthly Outreach				

Nutrition-Specific Technical Interventions				
Behavior Change Communication	Nutrition Counseling	Community Care Groups	Growth Monitoring Promotion through Child Health Days	Growth Monitoring Promotion through Monthly Outreach
Management of Acute Malnutrition	Promotion of Backyard Gardens through Care Groups	Cooking Demonstrations	Home Food Processing Demonstrations	Vitamin A Supplementation and Deworming

Nutrition-Sensitive Technical Interventions				
Theatre for development	Radio messages	Community Care Groups	Child Health Days	Community Growth Monitoring through Child Health Days
Community Growth Monitoring through Monthly Outreach	Promotion of Backyard Gardens through Care Groups	Cooking Demonstrations	Home Food Processing Demonstrations	

Community Care Group Learning Techniques				
Ice-breaker/ energizer	Discussion	Small group work	Demonstration	Pile-sort
Brainstorm	Role-play			

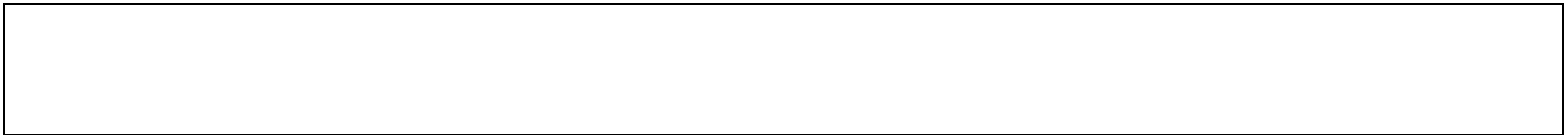
Question 1

1. Which elements and/or approaches of INVC's integrated model have been most successful in leading to adoption of both the promoted agriculture and nutrition behaviors and practices by beneficiaries?

Behavior	Promotion of Backyard Gardens through Care Groups	Cooking Demonstrations	Home Food Processing Demonstrations	Using Value chain crops to fortify foods	Other?
Maternal and Antenatal Care and Diet					
Women seek antenatal care as soon as they suspect that they may be pregnant					
Pregnant women attend ANC at least 4 times during the duration of pregnancy					
Pregnant women eat more nutritious food					
Lactating women eat more nutritious food					
Breastfeeding					
Mothers give only breast milk for the first 6 months (exclusive breastfeeding)					
Mothers breastfeed for longer duration					
Mother hold the baby in a correct/comfortable position during breastfeeding					
Mothers attach young babies properly					
Mothers breastfeed as much or more during illness and recuperation					
Complementary Feeding					
Caregivers encourage children to eat extra food during recovery from illness					

Behavior	Promotion of Backyard Gardens through Care Groups	Cooking Demonstrations	Home Food Processing Demonstrations	Using Value chain crops to fortify foods	Other?
Caregivers prepare and feed children 6-9 months old soft and thick meals					
Caregivers feed children 6-24 months fruits, vegetables, legumes, animal foods and fats for nutrient density					
Caregivers prepare and feed their children the recommended amount of food					
Hygiene					
Caregivers will wash their hands with soap or ash at the 4 critical times					
Children's hands will get washed with soap or ash after stool and before food					

Notes

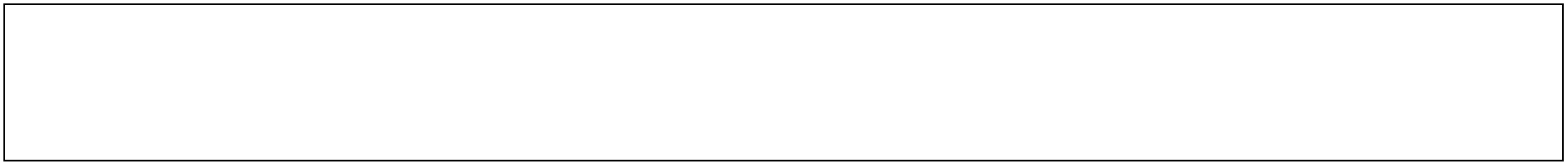


Question 2
2. Which of INVC's promoted nutrition behaviors and practices have been most widely adopted by beneficiaries and why?

Behavior	Adopted?	Challenge to adopt?	Why are these nutrition behaviors and practices widely adopted or widely not adopted?
Maternal and Antenatal Care and Diet			
Women seek antenatal care as soon as they suspect that they may be pregnant			
Pregnant women attend ANC at least 4 times during the duration of pregnancy			
Pregnant women eat more nutritious food			
Lactating women eat more nutritious food			
Breastfeeding			
Mothers give only breast milk for the first 6 months (exclusive breastfeeding)			
Mothers breastfeed for longer duration			
Mother hold the baby in a correct/comfortable position during breastfeeding			
Mothers attach young babies properly			
Mothers breastfeed as much or more during illness and recuperation			
Complementary Feeding			
Caregivers encourage children to eat extra food during recovery from illness			
Caregivers prepare and feed children 6-9 months old soft and thick meals			

Behavior	Adopted?	Challenge to adopt?	Why are these nutrition behaviors and practices widely adopted or widely not adopted?
Caregivers feed children 6-24 months fruits, vegetables, legumes, animal foods and fats for nutrient density			
Caregivers prepare and feed their children the recommended amount of food			
Hygiene			
Caregivers will wash their hands with soap or ash at the 4 critical times			
Children's hands will get washed with soap or ash after stool and before food			

Notes



PERFORMANCE EVALUATION OF USAID/MALAWI INTEGRATING NUTRITION IN VALUE CHAINS

2

Integrating Nutrition in Value Chain (INVC) Local Sub-Partners

INTERVIEW DISCUSSION GUIDE: NUTRITION

FEED THE FUTURE
KNOWLEDGE DRIVEN
AGRICULTURAL DEVELOPMENT

2. Local Sub-Partners (Nutrition)

Local Sub Partners: Nutrition Technical Assistance

NAKHOMA HOSPITAL

- **Nkhoma Hospital:** Nakhoma hospital plays the role of both an implementing partner that provides direct service delivery and implements the project as well as plays a role as a nutrition technical service provider.

PAKACHERE INSTITUTE OF HEALTH AND DEVELOPMENT COMMUNICATION

- **Pakachere Institute of Health and Development Communication:** plays a role as a nutrition technical service provider, particularly in the role of behavior change communication (BCC).

Question 1
Which elements and/or approaches of INVC's integrated model have been most successful in leading to adoption of both the promoted agriculture and nutrition behaviors and practices by beneficiaries?

1. In your opinion, which elements and/or approaches of INVC's integrated model have been most successful in leading to adoption of both the promoted agriculture and nutrition behaviors and practices by beneficiaries?

Nutrition Behavior Change Communication (BCC) Interventions				
Theatre for development	Radio messages	Community Care Groups	Counseling and Key messages through Growth Monitoring Promotion through Child Health Days	Other: List:_____ _
Counseling and Key messages through Growth Monitoring Promotion through Child Health Days	Promotion of Backyard Gardens through Care Groups	Cooking Demonstrations	Home Food Processing Demonstrations	Other: List:_____ _

through Monthly Outreach				

Nutrition-Specific Technical Interventions				
Behavior Change Communication	Nutrition Counseling	Community Care Groups	Growth Monitoring Promotion through Child Health Days	Growth Monitoring Promotion through Monthly Outreach
Management of Acute Malnutrition	Promotion of Backyard Gardens through Care Groups	Cooking Demonstrations	Home Food Processing Demonstrations	Vitamin A Supplementation and Deworming

Nutrition-Sensitive Technical Interventions				
Theatre for development	Radio messages	Community Care Groups	Child Health Days	Community Growth Monitoring through Child Health Days
Community Growth Monitoring through Monthly Outreach	Promotion of Backyard Gardens through Care Groups	Cooking Demonstrations	Home Food Processing Demonstrations	**Production of groundnut; Production of soy Processing of groundnut for home consumption ; Processing of soy for home consumption

Community Care Group Learning Techniques				
Ice-breaker/ energizer	Discussion	Small group work	Demonstration	Pile-sort
Brainstorm	Role-play			

2. What nutrition-sensitive production technologies and practices have you used in the INVC project to increase production of soy and groundnut? How have these promoted technologies and practices helped increase the agricultural productivity as well as improve nutrition?

Nutrition-Sensitive Agriculture Production Technologies				
Agricultural technologies and practices that can reduce the time needed for labor-intensive tasks	**Food processing equipment** that can help farmers earn more income in less time and/ or with less effort	**Physical and mechanical time and labor-saving technologies include those physical equipments used during harvesting, processing and product handling**	**Improved irrigation or water allocation** technologies and systems	**Improved seeds and seed varieties** for nutrient dense crops**.**
Post-harvest handling management technologies that help preserve nutrients	**Storage technologies**	**Soil and water conservation management technologies**	**Time-and-labor saving technologies:** • Colander • Fertilizer • Garden fork • Hand trowel • Hoe • Rake • Shears • Shovel • Spade • Watering can. Herbicide Pesticide	Other: List_____

Nutrition-Sensitive Agriculture Production Practices				
Agroforestry	Biodiversity conservation	Cover crops	Crop management to preserve nutrients	Composting
Intercropping	Nutrient-dense fodder plants	Water management techniques and water conservation	Soil nutrient management	Other: List_____

Behavior

1. Women seek antenatal care as soon as they suspect that they may be pregnant

2. Which elements and/or approaches of INVC's integrated model have been most successful in leading to adoption of the promoted nutrition behaviors and practices for women to seek antenatal care as soon as they suspect they are pregnant?

Behavior
2. Pregnant women attend ANC at least 4 times during the duration of pregnancy

3. Which elements and/or approaches of INVC's integrated model have been most successful in leading to adoption of the promoted nutrition behaviors and practices for women to attend antenatal care at least 4 times during the duration of pregnancy?

Behavior
3. Pregnant women eat more nutritious food

4. Which elements and/or approaches of INVC's integrated model have been most successful in leading to adoption of the promoted nutrition behaviors and practices for pregnant women to eat more nutritious food?

Behavior
4. Lactating women eat more nutritious food

5. Which elements and/or approaches of INVC's integrated model have been most successful in leading to adoption of the promoted nutrition behaviors and practices for lactating women to eat more nutritious food?

Behavior
5. Mothers give only breast milk for the first 6 months (exclusive breastfeeding) [14]

6. Which elements and/or approaches of INVC's integrated model have been most successful in leading to adoption of the promoted nutrition behaviors and practices for mothers to exclusively breastfeed?

Behavior
6. Mothers breastfeed for longer duration

7. Which elements and/or approaches of INVC's integrated model have been most successful in leading to adoption of the promoted nutrition behaviors and practices for mothers to breastfeed for longer duration?

Behavior
7. Mother hold the baby in a correct/comfortable position during breastfeeding

8. Which elements and/or approaches of INVC's integrated model have been most successful in leading to adoption of the promoted nutrition behaviors and practices for mothers to hold the baby in a correct/comfortable position during breastfeeding?

Behavior
8. Mothers attach young babies properly

9. Which elements and/or approaches of INVC's integrated model have been most successful in leading to adoption of the promoted nutrition behaviors and practices for mothers attach young babies properly?

Behavior
9. Mothers breastfeed as much or more during illness and recuperation

10. Which elements and/or approaches of INVC's integrated model have been most successful in leading to adoption of the promoted nutrition behaviors and practices for mothers to breastfed as much or more during illness and recuperation?

Nutrition-Sensitive Agriculture Interventions				
Behavior Change Communication	Nutrition Counseling	Community Care Groups		
Community Care Groups-PLW participation in	Community Care Groups-fathers participation in			

Behavior
10. Caregivers encourage children to eat extra food during recovery from illness

11. Which elements and/or approaches of INVC's integrated model have been most successful in leading to adoption of the promoted nutrition behaviors and practices for children to eat extra food during recovery from illness?

Behavior
11. Caregivers prepare and feed children 6-9 months old soft and thick meals

12. Which elements and/or approaches of INVC's integrated model have been most successful in leading to adoption of the promoted nutrition behaviors and practices for caregivers to prepare and feed children 6-9 months old soft and thick meals?

Behavior
12. Caregivers feed children 6-24 months fruits, vegetables, legumes, animal foods and fats for nutrient density

13. Which elements and/or approaches of INVC's integrated model have been most successful in leading to adoption of the promoted nutrition behaviors and practices for caregivers to feed children 6-24 months of age fruits, vegetables, legumes, animal foods and fats for nutrient density?

Nutrition-Sensitive Technical Interventions				
Theatre for development	Radio messages	Community Care Groups		
Promotion of fortified complementary foods with groundnuts and soybeans	Promotion of Backyard Gardens through Care Groups	Cooking Demonstrations using dietary diverse foods through Care Groups or Farmers Groups	Home Food Processing Demonstrations through Care Groups or Farmers Groups	Other: List:_____ –

Behavior
13. Caregivers prepare and feed their children the recommended amount of food

14. Which elements and/or approaches of INVC's integrated model have been most successful in leading to adoption of the promoted nutrition behaviors and practices for caregivers to prepare and feed their children the recommended amount of food?

Nutrition-Sensitive Technical Interventions				
Theatre for development	Radio messages	Community Care Groups	Promotion of production of groundnut	Promotion of production of soy.
Promotion of fortified complementary foods with	Promotion of Backyard Gardens	Cooking Demonstrations using dietary diverse foods	Home Food Processing Demonstrations through Care	Other: List:_____ –

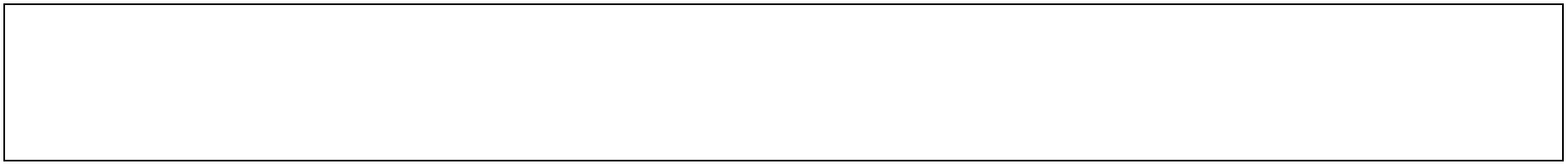
groundnuts and soybeans	through Care Groups	through Care Groups or Farmers Groups	Groups or Farmers Groups	

Question 2
1. Which of INVC's promoted nutrition behaviors and practices have been most widely adopted by beneficiaries and why?

Behavior	Adopted?	Challenge to adopt?	Why are these nutrition behaviors and practices widely adopted or widely not adopted?
Maternal and Antenatal Care and Diet			
Women seek antenatal care as soon as they suspect that they may be pregnant			
Pregnant women attend ANC at least 4 times during the duration of pregnancy			
Pregnant women eat more nutritious food			
Lactating women eat more nutritious food			
Breastfeeding			
Mothers give only breast milk for the first 6 months (exclusive breastfeeding)			
Mothers breastfeed for longer duration			
Mother hold the baby in a correct/comfortable position during breastfeeding			
Mothers attach young babies properly			
Mothers breastfeed as much or more during illness and recuperation			
Complementary Feeding			
Caregivers encourage children to eat extra food during recovery from illness			
Caregivers prepare and feed children 6-9 months old soft and thick meals			

Behavior	Adopted?	Challenge to adopt?	Why are these nutrition behaviors and practices widely adopted or widely not adopted?
Caregivers feed children 6-24 months fruits, vegetables, legumes, animal foods and fats for nutrient density			
Caregivers prepare and feed their children the recommended amount of food			
Hygiene			
Caregivers will wash their hands with soap or ash at the 4 critical times			
Children's hands will get washed with soap or ash after stool and before food			

Notes



PERFORMANCE EVALUATION OF USAID/MALAWI INTEGRATING NUTRITION IN VALUE CHAINS

3

Integrating Nutrition in Value Chain (INVC) District-Level Government Stakeholders

FOCUS GROUP DISCUSSION GUIDE: NUTRITION

FEED THE FUTURE
KNOWLEDGE DRIVEN
AGRICULTURAL DEVELOPMENT

3. District-Level Government Stakeholders[15]

District Level Government Stakeholders
▪ District Agricultural Development Officer (DADO) ▪ District Nutrition Officer (DNO) ▪ Food and Nutrition Officer (FNO) ▪ *Maternal and Child Health Nutrition Coordinator (MCHN)

Section 1: Overview of Malawi INVC Project Support

1.1 What nutrition interventions are you currently aware of that are being conducted through support from Malawi INVC in your District?

Prompt but do not read out loud:

☐ **Behavior Change Communication**
☐ Theatre for development
☐ Radio messages
☐ Audio/visual shows)
☐ **Care Group Model**
☐ **Community-Based Growth Monitoring and Promotion**
☐ **Community Complementary Feeding and Learning Sessions (CCFLS)**
☐ **Dietary diversification Promotion**
☐ **Home Food Processing Demonstrations**
☐ **Promotion of Backyard Gardens**
☐ **Promotion of nutrient-dense value chains**: Legume (soy bean and groundnut) production.
☐ Procurement and distribution of starter seeds
☐ **Promotion of sanitation and hygiene**
☐ **Referral System**: support for referral system for sick and malnourished children identified in the community
☐ **Vitamin A supplementation and Deworming** through Child Health Days
☐ Other: _____

1.2. What nutrition-related activities are Malawi INVC currently participating in or implementing in your District?

Prompt but do not read out loud:

☐ Nutrition Sensitization/Awareness meetings conducted with stakeholders at district and community levels
☐ Mapping Exercise to identify key players and change agents in the project's Extension Planning Areas
☐ Participates in all technical working group meetings and other platform sessions on nutrition organized by DNHA, the Ministry of Health and the Ministry of Agriculture and Food Security
☐ District nutrition coordinators are planning elaborate joint supervision plans with district level staff.
☐ IMVC is developing tools for assessing the quality of training
☐ Other: _____

1.3. What do you perceive as the major nutrition problems in the District and what are the most important causes of these problems?

If the respondent only mentions underlying causes (e.g. poverty, lack of education, etc), try to obtain information on how the respondent sees those underlying causes affect the nutrition status of people (e.g. how does poverty affect nutrition among children).

Problems mentioned:

Tick the appropriate box (es) and take brief notes of any further description. But DO NOT READ OUT THE OPTIONS. Try to obtain the views of the respondents in their words.

☐ Undernutrition
☐ Underweight
☐ Stunting
☐ Wasting
☐ Overweight and obesity
☐ Vitamin or mineral deficiencies, specify which ones: _____
☐ Other: _____
Causes of existing nutrition problems mentioned:
Tick the appropriate box(es) and take brief notes of any further description. Again DO NOT READ OUT THE OPTIONS. Try to obtain the views of the respondents in their words. If the respondent mentions more causes ask him/her to rank them.
☐ Food insecurity
☐ Poor dietary quality
☐ Poor dietary quantity
☐ Increasing food prices:
☐ HIV/AIDS
☐ Insufficient health services/Unhealthy environment/poor quality of health services
☐ Inadequate caring practices of infants and young children
☐ Lack of knowledge (please specify)
☐ Poverty:
☐ Natural disasters
☐ Other (Inadequate water/sanitation, poor water quality

1.3.B. Do you think that the INVC project is addressing these problems?

Notes:

Nutrition Planning

1.4. How does the INVC District Nutrition Coordinator with you about the INVC project on a regular basis?

1.5. Who from the INVC project communicates nutrition or nutrition-related messages to the community? What is the quality of the nutrition promotion and education?

Who does it?		
		Health Surveillance Assistants
		Nutrition Promoters
		Community Care Group Volunteers
What kinds of messages are given?	*(Should include: Dietary diversification, Promotion of Backyard Gardens, Promotion of nutrient-dense value chains: Legume (soy bean and groundnut) production, Promotion of sanitation and hygiene (Improved Latrine, Food Hygiene, Waste Management, Promoting hand washing with soap after visiting the toilet, changing baby's nappies and before eating, How to set up Hand washing facilities, How to purify water, Food Hygiene for Complementary Food), referral system for sick and malnourished children identified in the community, Vitamin A supplementation and Deworming through Child Health Days)*	
What materials are used for these messages?	*Hopefully they will show the Malawi INVC BCC materials.*	

1.6. Are you satisfied with the nutrition or nutrition-related programs and activities in the District implemented by INVC? What are the success areas and the areas to improve?

Success areas:
Areas to improve:

Responsibilities and Coordination

1.7. How often do you meet with INVC counterparts (i.e. INVC District Nutrition Coordinator), and what do you discuss?

Yes	No
If yes, what nutrition issues do you discuss? When was the last time it was discussed?	
Can you give some examples of decisions regarding nutrition made by the District that have been implemented as a result of INVC support?	

Training

1.8. Have any extension workers in the District/villages received training or participated in workshops relevant to nutrition supported by INVC?

Yes	No

1.9. If yes, please note who received the training, what kind of training it was (title of training course, where the training was done, duration of training, etc) and when it took place.

Who?	What kind of training or workshop?	When was the training?

1.10. Do any of these trainings include any follow-up training or post-training supervision?

Describe:

Supervision and Support

1.11. How often and what kind of support has your District received from the INVC project regarding nutrition related programming, planning and implementation?
[Probe for training, research, dialogue, field visits.]

1.12. Are you satisfied with the support received from the INVC Project? What are your specific suggestions to improve?

Monitoring for Nutrition

1.13 What are the most important nutrition-relevant indicators that are routinely collected and/or collated in the District in collaboration with the INVC project? How often are data collected?

Consult the reference list of indicators and programs. Probe for routine data, M&E data. Ask to see copy of reports of routine data relevant for nutrition and note whether they are complete and accurate

Nutrition indicators	Frequency of data collection	How is it collected/compiled and through which system	Comment (Do data seem to be complete and accurate?)

1.14. How do you use this information?

1.15. How do you collect the nutrition-relevant data from the INVC project?

1.16. Have you ever received feedback on the nutrition indicators?

Yes	No	Don't know

1.16.B. If yes, is this feedback useful? And how do you use this feedback?

1.17. If nutrition mapping, beneficiary survey, formative research or surveys have been taking place in your District through INVC Project, have you received any feedback on the results?

Question 1

1. Which elements and/or approaches of INVC's integrated model have been most successful in leading to adoption of both the promoted agriculture and nutrition behaviors and practices by beneficiaries?

Behavior	Promotion of Backyard Gardens through Care Groups	Cooking Demonstrations	Home Food Processing Demonstrations	Using Value chain crops to fortify foods	Other?
Maternal and Antenatal Care and Diet					
Women seek antenatal care as soon as they suspect that they may be pregnant					
Pregnant women attend ANC at least 4 times during the duration of pregnancy					
Pregnant women eat more nutritious food					
Lactating women eat more nutritious food					
Breastfeeding					
Mothers give only breast milk for the first 6 months (exclusive breastfeeding)					
Mothers breastfeed for longer duration					
Mother hold the baby in a correct/comfortable position during breastfeeding					
Mothers attach young babies properly					
Mothers breastfeed as much or more during illness and recuperation					
Complementary Feeding					
Caregivers encourage children to eat extra food during recovery from illness					

Behavior	Promotion of Backyard Gardens through Care Groups	Cooking Demonstrations	Home Food Processing Demonstrations	Using Value chain crops to fortify foods	Other?
Caregivers prepare and feed children 6-9 months old soft and thick meals					
Caregivers feed children 6-24 months fruits, vegetables, legumes, animal foods and fats for nutrient density					
Caregivers prepare and feed their children the recommended amount of food					
Hygiene					
Caregivers will wash their hands with soap or ash at the 4 critical times					
Children's hands will get washed with soap or ash after stool and before food					

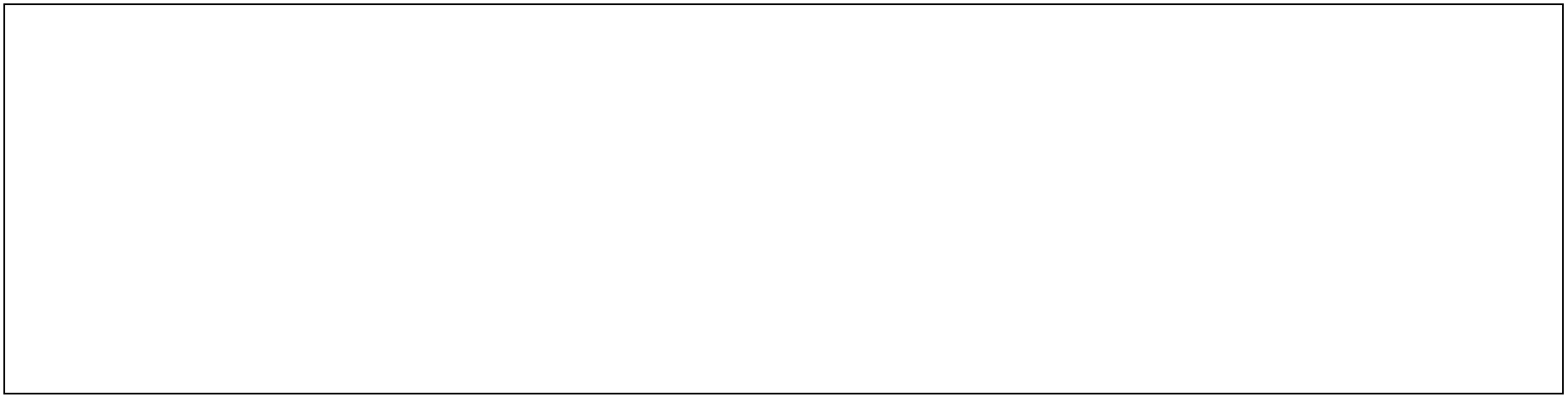
Notes:

Question 2
1. Which of INVC's promoted nutrition behaviors and practices have been most widely adopted by beneficiaries and why?

Behavior	Widely Adopted?	Challenge to widely adopt?	Why are these nutrition behaviors and practices widely adopted or widely not adopted?
Maternal and Antenatal Care and Diet			
Women seek antenatal care as soon as they suspect that they may be pregnant			
Pregnant women attend ANC at least 4 times during the duration of pregnancy			
Pregnant women eat more nutritious food			
Lactating women eat more nutritious food			
Breastfeeding			
Mothers give only breast milk for the first 6 months (exclusive breastfeeding)			
Mothers breastfeed for longer duration			
Mother hold the baby in a correct/comfortable position during breastfeeding			
Mothers attach young babies properly			

Behavior	Widely Adopted?	Challenge to widely adopt?	Why are these nutrition behaviors and practices widely adopted or widely not adopted?
Mothers breastfeed as much or more during illness and recuperation			
Complementary Feeding			
Caregivers encourage children to eat extra food during recovery from illness			
Caregivers prepare and feed children 6-9 months old soft and thick meals			
Caregivers feed children 6-24 months fruits, vegetables, legumes, animal foods and fats for nutrient density			
Caregivers prepare and feed their children the recommended amount of food			
Hygiene			
Caregivers will wash their hands with soap or ash at the 4 critical times			
Children's hands will get washed with soap or ash after stool and before food			

Notes



PERFORMANCE EVALUATION OF USAID/MALAWI INTEGRATING NUTRITION IN VALUE CHAINS

4

Integrating Nutrition in Value Chain (INVC) Extension Planning Area/Village-Level Stakeholders: Health Surveillance Assistants

FOCUS GROUP DISCUSSION GUIDE: NUTRITION

FEED THE FUTURE
KNOWLEDGE DRIVEN
AGRICULTURAL DEVELOPMENT

4. Extension Planning Area/Village-Level Stakeholders: Health Surveillance Assistants

Please note that a combination of both Senior Health Surveillance Assistants (S-HSA) and Health Surveillance Assistants (HAS) will be included in the District meetings at the end, as well as be asked a subs set of questions separately.

SECTION 1: Perceptions of Malnutrition

- **What do you perceive as the major nutrition problems in your extension planning area and community?**

  If the respondent only mentions underlying causes (e.g. poverty, lack of education, etc), try to obtain information on how the respondent sees those underlying causes affect the nutrition status of people (e.g. how does poverty affect nutrition among children).

  Problems mentioned:

  Tick the appropriate box (es) and take brief notes of any further description. But DO NOT READ OUT THE OPTIONS. Try to obtain the views of the respondents in their words.

☐ Undernutrition
☐ Underweight
☐ Stunting
☐ Wasting
☐ Overweight and obesity
☐ Vitamin or mineral deficiencies, specify which ones: _____
☐ Other: _____

- ***What do you think are the causes of existing nutrition problems mentioned:***

Tick the appropriate box (es) and take brief notes of any further description. Again DO NOT READ OUT THE OPTIONS. Try to obtain the views of the respondents in their words. If the respondent mentions more causes ask him/her to rank them.

☐ Not enough food (Food insecurity)
☐ Not enough variety of foods available (Poor dietary quality)
☐ Not enough quality of food (Poor dietary quality)
☐ Increasing food prices
☐ Poor health services :Insufficient health services//poor quality of health services
☐ Unhealthy, unclean environment
☐ Poor feeding and caring practices (Inadequate caring practices of infants and young children)
☐ Lack of knowledge (please specify)
☐ Poverty
☐ Natural disasters
☐ Poor water quality
☐No toilets (Poor sanitation)
☐ No soap available
☐ No hand washing facilities available
☐ No water available

Section 2. Community Growth Monitoring

Routine Monthly Community Growth Monitoring

1. Please describe your role as a Health Surveillance Assistant, and how your role for improving nutrition.

2. **Please describe how you conduct routine, monthly growth monitoring and promotion**

3. **Do you know who your Nutrition Promoters are in your catchment area?**

Yes	No	Don't know/ No response

If yes, are the Nutrition Promoters assisting you with the routine, monthly growth monitoring and promotion? How?

How can Nutrition Promoters better assist you during routine, monthly growth monitoring and promotion?

4. **Do you think that the gender (male or female) of the Nutrition Promoters has implications for working with mothers and pregnant and lactating women, especially with sensitive issues such as breastfeeding?**

Yes	No	Don't know/ No response

If yes, what do you think should be done about this?

5. **Are Nutrition Promoters helping mothers/caregivers to assess the growth of the individual child by counseling caregivers to follow and interpret the growth of child?**

Yes	No	Don't know/ No response

If yes, what have been successes or challenges with this?

6. Are Nutrition Promoters helping you assess the growth performance of the community as a whole?

Yes	No	Don't know/ No response

If yes, what have been successes or challenges with this?

7. Are Nutrition Promoters providing nutrition education at routine, monthly growth monitoring and promotion?

Yes	No	Don't know/ No response

If yes, what have been successes or challenges with this?

8. Are Nutrition Promoters in collaboration with others organizing community mobilization activities at routine, monthly growth monitoring and promotion (for example drama groups)?

Yes	No	Don't know/ No response

If yes, what have been successes or challenges with this? What has worked well and what can be improved?

What has worked well?	What can be improved?

9. Do you have the appropriate equipment for growth monitoring at routine, monthly growth monitoring and promotion?

Yes	No	Don't know/ No response

If no, what equipment are you missing?

Bi-Annual Child Health Days

10. Please describe how you conduct growth monitoring and promotion during Child Health Days.

11. Are the Nutrition Promoters helping you with this activity in your catchment area?

Yes	No	Don't know/ No response

If yes, how are the Nutrition Promoters assisting you with community growth monitoring and promotion at Child Health Days?

How can Nutrition Promoters better assist you with community growth monitoring and promotion at Child Health Days?

12. Are Nutrition Promoters providing nutrition education at with community growth monitoring and promotion at Child Health Days?

Yes	No	Don't know/ No response

If yes, what have been successes or challenges with this?

13. Are Nutrition Promoters in collaboration with others organizing <u>community mobilization activities</u> with community growth monitoring and promotion at Child Health Days (for example drama groups)?

Yes	No	Don't know/ No response

If yes, what type of community mobilization activities?

Community Theatre	Cooking demonstrations	Food Processing Demonstrations	Other:_____	Don't know/ No response

Notes:

If yes, what have been successes or challenges with this? What has worked well and what can be improved?

What has worked well?	What can be improved?

14. Do you have the appropriate equipment for growth monitoring at Child Health Days?

Yes	No	Don't know/ No response

If no, what equipment are you missing?

15. For both routine community growth monitoring at the clinic or community outreach and at Child Health Days: what materials are being used to sensitize the mothers and pregnant and lactating women on growth promotion?

	IYCF Material Counseling Cards (KABUKU KA UPHUNGU OPITITSA PATSOGOLO KADYEDWE KOYENERERA KA ANA OSAPOSERA ZAKA ZIWIRI)	Community Growth Charts	Other:_____	Don't know/ No response
Routine, monthly growth monitoring				

and promotion				
Community growth monitoring and promotion at Child Health Days				

16. **Are you aware of the following material – if yes, ask if they have a copy:**

	Aware (yes/no)	Available (yes/no)
IYCF Material Counseling Cards (KABUKU KA UPHUNGU OPITITSA PATSOGOLO KADYEDWE KOYENERERA KA ANA OSAPOSERA ZAKA ZIWIRI)		
Scaling Up Nutrition and Essential Nutrition Actions Manual		
INVC Recipe Book		
INVC Food Processing Manual		
Don't know/No Response		

17. **For both routine community growth monitoring at the clinic or community outreach and at Child Health Days: What other materials would be useful to use at the community level?**

Other materials:

18. **Are you, as a Health Surveillance Assistant, involved in nutrition education promotion in the community in collaboration with the INVC project?**

Yes	No	Don't know/ No response

If yes, what are you doing?

19. **What nutrition and agriculture value chain messages have you used?**

Using soy beans to improve diet	Using ground nut to improve diet	Other:_____	Don't know/ No response

SECTION 3: Community Care Group Awareness

20. **Do you know what a Community Care Group is?**

Yes	No	Don't know/

		No response

If yes, please explain.

21. Do you know what a Community Care Group Volunteer/Lead Mothers is?

Yes	No	Don't know/ No response

If yes, please explain.

22. Are you familiar with all of your Community Care Groups and the Community Care Group Volunteer Lead Mothers in your extension planning areas?

Yes	No	Don't know/ No response

23. Do you have access to the Community Care Group Volunteer Lead Mothers and beneficiaries' list for your catchment area?

Yes	No	Don't know/ No response

If you do have access how do you use this? If you don't have access-why not?

24. Does Nakhoma staff (District Nutrition Coordinators or Nutrition Assistants) coordinate with you to ensure the referral system for sick and malnourished children identified in the community is effective?

Yes	No	Don't know/ No response

Please explain how the referral system could improve with the Nutrition Promoters within the current extension planning area structure.

SECTION 4: Promotion of Sanitation and Hygiene

25. Do the Community Care Group Volunteers promote hygiene and sanitation in the communities you work in?

Yes	No	Don't know/ No response

If yes, please explain how they promote hygiene and sanitation in the communities you work in.

Potential Hygiene and Sanitation Action	

Encouraging households to construct pit latrines	
Construct a rack for plates	
Make and put up a line for hanging clothes after washing	
Digging a rubbish pit for waste management	
Promoting hand washing with soap after visiting the toilet, changing baby's nappies and before eating	
Set up hand washing facilities	
Help purify water using water guard and chlorine.	
Teach about hygiene practices that promote food safety for complementary foods	

26. What could be improved with support from INVC that would improve promotion of hygiene and sanitation in the communities?

SECTION 5: Training

27. Have you been trained by INVC for nutrition?

Yes	No	Don't know/ No response

If yes, please describe the training and explain what you learned in the training.

Training Name	Purpose	When training was conducted	Who conducted training?

28. Have you been trained by INVC in Social behavior change communication (SBCC) for nutrition?

Yes	No	Don't know/ No response

If yes, please explain what you learned in the training.

29. Are there any other activities that you have participated in with INVC?

Yes	No	Don't know/ No response

If yes, please explain which activities.

30. How can INVC improve their coordination with HSAs?

31. **What extension-level nutrition activities can INVC improve? Please give examples.**

SECTION 6: Nutrition Behaviors and Practices

1. **In your opinion, which of INVC's promoted nutrition behaviors and practices have been most widely adopted by beneficiaries and why?**

Behavior	Widely Adopted?	Challenge to widely adopt?	Why are these nutrition behaviors and practices widely adopted or widely not adopted?
Maternal and Antenatal Care and Diet			
Women seek antenatal care as soon as they suspect that they may be pregnant			
Pregnant women attend ANC at least 4 times during the duration of pregnancy			
Pregnant women eat more nutritious food			
Lactating women eat more nutritious food			
Breastfeeding			
Mothers give only breast milk for the first 6 months (exclusive breastfeeding)			
Mothers breastfeed for longer duration			
Mother hold the baby in a correct/comfortable position during breastfeeding			
Mothers attach young babies properly			
Mothers breastfeed as much or more during illness and recuperation			
Complementary Feeding			
Caregivers encourage children to eat extra food during recovery from illness			
Caregivers prepare and feed children 6-9 months old soft and thick meals			
Caregivers feed children 6-24 months fruits, vegetables, legumes, animal foods and fats for nutrient density			

Behavior	Widely Adopted?	Challenge to widely adopt?	Why are these nutrition behaviors and practices widely adopted or widely not adopted?
Caregivers prepare and feed their children the recommended amount of food			
Hygiene			
Caregivers will wash their hands with soap or ash at the 4 critical times			
Children's hands will get washed with soap or ash after stool and before food			

Notes

PERFORMANCE EVALUATION OF USAID/MALAWI INTEGRATING NUTRITION IN VALUE CHAINS

5

Integrating Nutrition in Value Chain (INVC) Direct Beneficiaries: Community Volunteers

FOCUS GROUP DISCUSSION GUIDE: NUTRITION

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KNOWLEDGE DRIVEN
AGRICULTURAL DEVELOPMENT

PERFORMANCE EVALUATION OF USAID/MALAWI INTEGRATING NUTRITION IN VALUE CHAINS

5.1

Integrating Nutrition in Value Chain (INVC) Direct Beneficiaries: Community Volunteers: Nutrition Promoters

FOCUS GROUP & INTERVIEW DISCUSSION GUIDE: NUTRITION

FEED THE FUTURE
KNOWLEDGE DRIVEN
AGRICULTURAL DEVELOPMENT

5.1 Nutrition Promoters (trained men and women) [16]

Please note that we are bringing all the Nutrition Promoters together in each District (12 for each for a total of 36 Nutrition Promoters) and we will keep them for a ½ day.

SECTION 1: Perceptions of Malnutrition

1. What do you perceive as the major nutrition problems in your community and household?

If the respondent only mentions underlying causes (e.g. poverty, lack of education, etc), try to obtain information on how the respondent sees those underlying causes affect the nutrition status of people (e.g. how does poverty affect nutrition among children).

Problems mentioned:

Tick the appropriate box (es) and take brief notes of any further description. But DO NOT READ OUT THE OPTIONS. Try to obtain the views of the respondents in their words.

☐ Undernutrition
☐ Underweight
☐ Stunting
☐ Wasting
☐ Overweight and obesity
☐ Vitamin or mineral deficiencies, specify which ones: _____
☐ Other: _____

2. What do you think are the causes of existing nutrition problems mentioned:

Tick the appropriate box (es) and take brief notes of any further description. Again DO NOT READ OUT THE OPTIONS. Try to obtain the views of the respondents in their words. If the respondent mentions more causes ask him/her to rank them.

☐ Not enough food (Food insecurity)
☐ Not enough variety of foods available (Poor dietary quality)
☐ Not enough quality of food (Poor dietary quality)
☐ Increasing food prices
☐ Poor health services :Insufficient health services//poor quality of health services
☐ Unhealthy, unclean environment
☐ Poor feeding and caring practices (Inadequate caring practices of infants and young children)
☐ Lack of knowledge (please specify)
☐ Poverty
☐ Natural disasters
☐ Poor water quality
☐ No toilets (Poor sanitation)
☐ No soap available
☐ No hand washing facilities available
☐ No water available

Section 2. Knowledge of Community Care Group Protocols

3. Please describe your role as a Nutrition Promoter.

(The project has a strong peer-to-peer health promotion component. YES ❑ NO ❑)

4. How are the Lead Mothers (or fathers) and the households chosen for participation in the Care Groups and how are they recruited?

(Community Care Group Lead Mothers/fathers volunteers are chosen by the mothers within the group of households that they will serve or by the leadership in the villageYES ❑ NO ❑)[17]

5. How many households do you have in your Care Group?

1-3	4-6	7-10	***10-12**	16+	How many? _____

(CG volunteers will visit no more than 11 households each YES ❑ NO ❑)

6. How many members are in your Care Group?
(The Care Groups will have no more than 12 members including themselves YES ❑ NO ❑)

1-3	4-6	7-10	***10-12**	16+	How many? _____

7. How do you monitor Care Group meeting attendance?
(There are plans to monitor Care Group meeting attendance YES ❑ NO ❑ should be the XXX form)

8. **How often to you contact each of your lead CG Lead Mothers and fathers**?

Once a day	Once a week	Once a month	**Other:_____**		How many? _____

(CG volunteers will contact each of their beneficiary Lead Mothers/fathers at least once a month *YES ❑ NO ❑)*

9. How often do you organize a Care Group Meeting?

(Care Group meeting frequency is planned to be at least once a month *YES ❑ NO ❑)*

10. How many of your Care Group Volunteer Lead Mothers/fathers do you target to reach at least once a month?

(It is planned that 100% of target group households will be reached at least once a month; *YES ❑ NO ❑)*

11. How many of you are attending at least 3 of the last 4 Community Care Group Nutrition Promoter meetings organized by the Nutrition Assistant?

1-3	4-6	7-10	10-12	How many? _____

12. How do you monitor and collect data for the Community Care Groups you organize? Which form do you use?

(There is a plan in place to monitor coverage of Community Care Groups (by Nutrition Promoters) *YES ❑ NO ❑)*

13. **What behavior change do you expect from participation of mothers in the Care Groups that you facilitate?**

(The majority of what is promoted through the Care Groups will create behavior change directed towards reduction of mortality and malnutrition *YES ❑ NO ❑)*

14. What materials do you use when you facilitate your Care Group?

IYCF Material Counseling Cards KABUKUKA UPHUNGUOPITITSA PATSOGOLO KADYEDW	Scaling Up Nutrition and Essential Nutrition Actions Manual	Recipe Book	Food Processing Manual	Sun 1000 Special Days: Community Counseling Package	Other: List_____ __	Don't know/No Response

E KOYENERE RA KA ANA OSAPOSER A ZAKA ZIWIRI						

(The plan mentions that Care Group volunteers will use some sort of visual teaching tool (e.g., flipcharts) to do health promotion at the household level *YES ❑ NO ❑)*

15. How do the Lead Mothers/fathers in the Care Groups actively participate?

(The plan mentions that participatory teaching methods will be used in the Care Groups *YES ❑ NO ❑)*

16. How long do the Care Group meetings that you facilitate last?

30 minutes	1 hour	2 hours	All day	Other: List_____	Don't know/No Response

(The Care Group instructional time (when a Promoter teaches CG volunteers) will be no more than two hours per meeting *YES ❑ NO ❑)*

17. Who supervises you? Who supervises the Care Groups you facilitate? How often?

District Nutrition Coordinator	Nutrition Assistant	Health Surveillance Assistant	No one	Other: List_____	Don't know/No Response

(Supervision of Nutrition Promoters (e.g., data collection, observation of skills) will occur at least monthly by the INVC District Nutrition Assistant *YES ❑ NO ❑)*

Notes:

18. **Do you (the Nutrition Promoter) live close to the Care Group Lead Mothers/fathers?**

Yes	No	Don't know/ No response

(All of a Nutrition Promoters Community Care Group volunteer's beneficiaries will live within a distance that facilitates meetings in a near by place in the community *YES ❑ NO ❑)*

If yes or no, please tell us how far you live from the Care Group Lead Mothers?

19. **Where do you meet for the Care Group? It is within an hour walk from everyones' home?**

Central meeting place in the community	At a Community Care Group Volunteers home	Other:_____	Other:_____	Don't know/ No response

(The Promoter meeting place will be within one hour walk from the CG volunteers' homes *YES ❑ NO ❑)*

20. **Do you receive supervisory visits by Nutrition Assistants to the Community Care Groups that you conduct?**

Yes	No	Don't know/ No response

21. **If yes, please tell us what happens at these visits? What happens during supervision visits? (are practices observed, and is feedback and problem solving conducted in the facility)?**

22. **Are educational materials for nutrition available? What kinds? Do you use them? How?**

Yes	No	

		Don't know/ No response

What kinds of nutrition materials?

How do you use these materials?

23. What forms do you use for reporting? How often? Are they easy to use?

Attendance Registration Form	Care Group Cluster Member Registration Form	Activity Report Form: Nutrition Training	Other:_____	Don't know/ No response

Are these forms easy to use?
What can be improved?

Section 3. Growth Monitoring and Promotion

Routine Monthly Community Growth Monitoring

24. What is growth monitoring?

(Monitors the child's growth, nutritional status and development)

25. Where does growth monitoring take place?

Health Facilities	Outreach clinics	Community-level outreach	Don't know/ No response

Notes:

26. When should children receive growth monitoring from birth until 5 years?

*Every month	Only with immunizations (false)	Other:___	Other:___	Don't know/ No response

27. Do you know a Health Surveillance Assistant in your extension planning area?

Yes	No	Don't know/ No response

If yes, are you assisting them with the routine, monthly growth monitoring and promotion?

Yes	No	Don't know/ No response

How?

If yes, how do you coordinate with them for nutrition activities, especially growth monitoring and promotion?

28. Please describe how you conduct, or assist the HSA to conduct routine, monthly growth monitoring and promotion

29. What resources and/or training would better help you help during routine, monthly growth monitoring and promotion?

30. Do you think that the gender (male or female) of the Nutrition Promoters has implications for working with mothers and pregnant

and lactating women, especially with sensitive issues such as breastfeeding?

Yes	No	Don't know/ No response

If yes, what do you think should be done about this?

31. Are you helping mothers/caregivers to assess the growth of the individual child by counseling caregivers to follow and interpret the growth of child?

Yes	No	Don't know/ No response

If yes, what have been successes or challenges with this?

32. Are you also helping you assess the growth performance of the community as a whole?

Yes	No	Don't know/ No response

If yes, what have been successes or challenges with this?

33. Are you providing nutrition education at routine, monthly growth monitoring and promotion?

Yes	No	Don't know/ No response

If yes, what have been successes or challenges with this?

34. Are you (Nutrition Promoters) in collaboration with others organizing community mobilization activities at routine, monthly growth monitoring and promotion (for example drama groups)?

Yes	No	Don't know/ No response

If yes, please describe which activities and what have been successes or challenges with this? What has worked well and what can be improved?

What community mobilization activities?	
What has worked well?	What can be improved?

32. Do you have the appropriate equipment to conduct growth monitoring at routine, monthly growth monitoring and promotion?

Yes	No	Don't know/ No response

If no, what equipment are you missing?

Bi-Annual Child Health Days

33. Please describe how you conduct or help HSA's conduct growth monitoring and promotion during Child Health Days.

34. What resource would help you better assist HSA with community growth monitoring and promotion at Child Health Days (training, materials, etc.)?

35. Are you providing nutrition education at with community growth monitoring and promotion at Child Health Days?

Yes	No	Don't know/ No response

If yes, please explain the nutrition education and what you are using to teach others.

If yes, what have been successes or challenges with this?

36. Are you (Nutrition Promoters) in collaboration with others organizing <u>community mobilization activities</u> with community growth monitoring and promotion at Child Health Days (for example drama groups)?

Yes	No	Don't know/ No response

If yes, what type of community mobilization activities?

Community Theatre	Cooking demonstrations	Food Processing Demonstrations	Other:_____	Don't know/ No response

Please describe:

What have been successes or challenges with this?

Successes	Challenges

Notes:

What has worked well and what can be improved?

What has worked well?	What can be improved?

37. Do you have the appropriate equipment for growth monitoring at Child Health Days?

Yes	No	Don't know/ No response

If no, what equipment are you missing?

Section 4. Knowledge of Promoted Behaviors and Practices

Ask the question and give time for the Nutrition Promoter to answer. If necessary read out the options.

Which of INVC's promoted nutrition behaviors and practices have been most widely adopted by beneficiaries and why?
Lead Mothers are trained on how to prepare Likuni porridge using soy and groundnuts, home production of soya milk, enriching green leafy vegetables with oil and groundnut powder and preparation of rich snacks for under-five children i.e. adding groundnut flour to pawpaws

38. What is stunting?

Long term undernutrition	defined by low height-for-age	when a child is too short for one's age	Don't know/ No response

39. What causes stunting?

is caused by not eating enough food for long, repeated periods of time,			Don't know/ No response

Behavior

1. Women seek antenatal care as soon as they suspect that they may be pregnant

40. When should women first seek care when they suspect they are pregnant? [18]

***As early as possible once pregnancy is confirmed**	Only when the baby is born	After six months of pregnancy	There is no need for antenatal care	Don't know/No response

Notes:

Behavior

2. Pregnant women attend ANC at least 4 times during the duration of pregnancy

41. How many times during pregnancy should women attend antenatal care?

Once	Twice	Three times	***At least 4 visits**	Don't know/No response
TOTAL				

Notes:

Behavior
3. Pregnant women eat more nutritious food , 4. Lactating women eat more nutritious food

42. How can pregnant women eat healthier when they are pregnant?

Pregnant women should eat two extra meals in between main meals each day for additional energy and nutrients for themselves and their growing baby.	Eat one extra meal a day during pregnancy in addition to regular meals, and two extra meals during breastfeeding	Pregnant women can eat locally available nutritious foods at least 4 from the 6 food groups	Pregnant women can eat more vegetable including amaranth, pumpkin and orange flesh sweet potato	Other:____	Don't know/ No response
Other:					

43. What type of foods can pregnant women eat?

Milk (mkaka)	Locally available	Pregnant women	Pregnant women	Fresh or	Fruits and vegetables	Don't know/

	vegetables like kholowa, nkhwani, chisoso, and animal foods like mazila, nkukhu, mbuzi, ngumbi, mbewa, mbalame, bwannoni, mphalungu, and usipa	can eat more ground nut.	can eat more soy bean	dried fish	with every meal.	No Response
Other:						

44. Should pregnant women should take any Vitamin Supplements?

Yes	No	Don't know/ No response

If yes, which ones?

Iron only	Folate only	Iron and folic acid*	Don't know/ No response

(Throughout pregnancy and for at least 3 months after a baby is born a women needs iron and folic acid to prevent anemia. iron and folic acid tablets as directed by the health worker to prevent anemia)

45. How can breastfeeding women eat healthier?

She should eat meals prepared from the six food groups	She should eat locally available vegetables like kholowa, nkhwani, chisoso, and animal foods like mazila, nkukhu, mbuzi, ngumbi, mbewa,	She should drink plenty of fluids such as water and thobwa to replace	She should take vitamin A supplements within 8 weeks after delivery.	She should eat two extra meals per day.	Don't know/ No Response

	mbalame, bwannoni, mphalungu, and usipa	those lost in breast milk.			
TOTAL					

Behavior
5. Mothers give only breast milk for the first 6 months (exclusive breastfeeding)[19]

46. How soon after birth should a baby be put to the breast?

Within 1 hour*	Within 6 hours	Within 24 hours	After the mother has recovered	Don't know/No Response
TOTAL				

47. For how long should a mother breastfeed for?

up to 3 months`	up to 6 months	up to 1 year	**up to 2 years or longer**	Don't know/No response
TOTAL				

Notes:

48. Do exclusively breastfeed infants who get diarrhea need some water to replace loss of fluids?

Yes (True)	**No (False*)**	Don't know/ No response

49. Should HIV-infected women who choose to breastfeed practice exclusive breastfeeding for 6 months?

Yes (True*)	No (False)	Don't know/ No response

Behavior
6. Mothers breastfeed for longer duration

6.1. For how long should a mother breastfeed for?

up to 3 months`	up to 6 months	up to 1 year	**up to 2 years or longer**	Don't know/No response
TOTAL				

Notes:

Behavior
7. Mother hold the baby in a correct/comfortable position during breastfeeding

50. How should breastfeeding women hold their baby when they breastfed her or him? Ask the Nutrition Promoters to use the baby doll to show the interviewer.

Cradle position (most commonly used)	Sideline, side-lying position (can be used right after delivery, to rest while	Cross cradle position (good for small babies)	Under-arm position (use after caesarean section, if your nipples are	Don't know/No response

	breastfeeding or at night)		painful or if you are breastfeeding twins or a small baby). (4)	
TOTAL				

Notes:

Behavior

8. Mothers attach young babies properly

How do breastfeeding women attach their baby when they breastfeed the correct way? What are the most important things to remember? [Ask Nutrition Promoters to use the e a baby doll to demonstrate how they would attach the baby] [Might need picture cards that demonstrate a good deep & wide mouthed latch, and a poor, tight shallow latch]

	Supporting the breast with a mothers hand	Fingers not too near the nipple	**Wait until her baby's mouth is opening wide and wants to start feeding**	Move her baby quickly onto her breast, aiming his lower lip well below the nipple.	It helps to get the nipple above the centre of the baby's mouth so that it touches and stimulates the palate or effective suckling	Don't know/No response
TOTAL						

	Ensure that the baby's tummy is facing your body	Ensure that the baby's whole body is supported	Ensure that the baby's nose is facing the nipple			
TOTAL						

Notes:

Behavior
9. Mothers breastfeed as much or more during illness and recuperation

51. When a breastfeeding mother's child or they themselves are sick or ill, How should they change the way they feed their child? How should they change the way they eat/?

	When child is sick:		*When mother is sick:*			
	Increase breastfeeding to speed up recovery and reduce weight loss	Reduce breastfeeding	Continue breastfeeding when possible and increase fluids/foods	Reduce breastfeeding		Don't know/No response
TOTAL						

Notes:

Behavior
10. Caregivers encourage children to eat extra food during recovery from illness

52. Sometimes children get sick and need to receive care or treatment for illnesses. What are the signs of illness that would indicate a child needs treatment?

Looks unwell or not playing normally	Not eating or drinking	Lethargic or difficult to wake/weak	High fever	Fast or difficult breathing

Vomits everything	Convulsions	Diarrhea	Other (specify) _____	Don't know/ no response

Any other signs?

53. Should mothers and caregivers encourage a child to eat when they are sick/ill?

Yes	No	Other:_____	Don't know/No response

If yes or no, why or why not?

54. What might a mother or caregiver encourage a child (over 6 months of age) to eat during illness?[20]

Simple foods like porridge and avoid spicy or fatty foods.	Nutritious liquids in addition to breast milk for example homemade fruit juice from mangoes, guavas, oranges, lemons, malambe and bwemba	Small diversified nutritious meals more frequently, child's favorite nutritious foods	Fruits such as mango, papaya, and orange to stimulate the child's appetite.	Don't know/ No response
TOTAL				

Behavior
11. Caregivers prepare and feed children 6-9 months old soft and thick meals

55. When should breastfed children start receiving complementary foods?

At 4-6 months of age	**At 6 months of age***	At 8 months of age	When the child has got teeth	Don't know/ No response

56. Which children should receive Vitamin A supplementation and how often?

All children once a year	All children below 5 years twice a year	**Children between 6 months and 5 years twice a year***	Don't know/ No response

Behavior
12. Caregivers feed children 6-24 months fruits, vegetables, legumes, animal foods and fats for nutrient density

57. What healthy foods can caregivers feed their children 6 months to two years of age?

Vegetables including : Chisoso Luni Mnkhwani Bononge we Lepu Chiyinizi Kamganje Mpilu Chigwada Denje Khwanya	**Legumes & Nuts including**: Gourd Beans (Mphodza) Bambara nuts (Nzama) Groundnuts (Mtedza) Soy beans (Soya) Beans (Nyemba) Pegion Peas (Nandolo) Cow Peas (Khobwe) Green Beans (Nsawawa) Velvet Beans (Nkhungudzu)	**Animal foods including:** Eggs (Mazira) Milk (Mkaka) Grasshoppers (Bwanoni) Birds (Mbalame) Fish (Nsomba) Mice (Mbewa) Nkhunguni Chicken (Nkhuku) Beef (Nyama ya Ng'ombe) Goat (Nyama ya Mbuzi) Mutton (Nyama ya Nkhosa) Termite (Ngumbi) Mafulufute	**Fats and oils including** : Cooking oil (mafuta opikira) Meat fat (mafuta a nyama) Margerine (Majaline) Coconut (kokonati) Avocado pear (mapeyala)	Other:_____	Don't know/ No response

Notes:

Behavior

13. Caregivers prepare and feed their children the recommended amount of food

58. **How many times should a caregiver feed their child (12 up to 24 months) a day?**

Once	Twice	Three times	Four times	Five times	Other:_____	Don't know/No response

[Mothers and caregivers should feed the child at least 5 times per day,3 main meals and nutritious snacks between meals such as vegetables/fruits, sources of vitamin A, and foods prepared with fat – dark green vegetables – chisoso, nkhwani, moringa, bononwe, kholowa, tomato, eggplant, carrot, cabbage, Fruits, like orange, passion fruit, mango, papaya, banana, watermelon, pineapple, avocado, chikondamoyo, chitumbuwa.]

Notes:

59. What types of food should caregivers feed their child (1-2 years old)?

Vegetables including: Chisoso Luni Mnkhwani Bononwe Lepu Chiyinizi Kamganje Mpilu Chigwada Denje Khwanya	**Legumes & Nuts including**: Gourd Beans (Mphodza) Bambara nuts (Nzama) Groundnuts (Mtedza) Soy beans (Soya) Beans (Nyemba) Pegion Peas (Nandolo) Cow Peas (Khobwe) Green Beans (Nsawawa) Velvet Beans (Nkhungudzu)	**Animal foods including:** Eggs (Mazira) Milk (Mkaka) Grasshoppers (Bwanoni) Birds (Mbalame) Fish (Nsomba) Mice (Mbewa) Nkhunguni Chicken (Nkhuku) Beef (Nyama ya Ng'ombe) Goat (Nyama ya Mbuzi) Mutton (Nyama ya Nkhosa) Termite (Ngumbi) Mafulufute	**Fats and oils including** : Cooking oil (mafuta opikira) Meat fat (mafuta a nyama) Margerine (Majaline) Coconut (kokonati) Avocado pear (mapeyala)	Other:_____	Don't know/ No response

Notes:

60. How should caregivers prepare/increase their food for their 1-2 year old child to make it healthier?

Add more nutritious snacks	Increase portions of meat/fish/eggs	Increase the amount of food given to the child so that by 24 months the child is fed 16 tablespoons	Add more vegetables- especially dark green vegetables and high in Vitamin A vegatables: chisoso, nkhwani, moringa, bononngwe, kholowa, tomato, eggplant, carrot, cabbage, .	Add more fruits- especially those high in Vitamin A: Fruits like orange, passion fruit, mango, papaya, banana, watermelon, pineapple, avocado, chikondamoyo, chitumbuwa	Add more foods prepared with fat	Don't know/No response
TOTAL						

Notes:

61. What are some ways that you a caregiver can increase the nutrition of a child (1-2 years of age) by preparing food for or feeding their child?

	Prepare your baby's food before going to work and carry it with you to provide 3 meals a day (INVC)	Feed the child at least 5 meals per day, three main meals and nutritious snacks between meals such as fruits in season, chikondamoyo, zitumbuwa, chiponde cha mtedza etc (SUN Malawi)	Gradually increase the amount of food so that by 24 months, the child is fed 16 Tablespoons (1 table spoon = 15mls)	Don't know/No response
TOTAL				

Notes:

Hygiene

Behavior
14. Caregivers will wash their hands with soap or ash at the 4 critical times

62. Should a household have a special place for hand washing?

	YES	NO	Don't know/No response (skip next question)
TOTAL			

63. **If a household has a special place for hand washing, what items should be present?** [MULTIPLE ANSWERS ALLOWED]

Clean water source	Soap and water	Ashes	OTHER List:_____	Don't know/No response

TOTAL				

Notes:

64. **What are the types of hand washing stations that can be used?**

Water Basin	Tippy Tap	Jug with spout	OTHER List:_____	Don't know/No response (skip next question)
TOTAL				

Notes:

65. **Please describe where a household should put a hand washing station** [MULTIPLE ANSWERS ALLOWED]

	Near the latrine	Near the food preparation area	Near the eating area	OTHER List:_____	Don't know/No response
TOTAL					

Notes:

Behavior

15. Children's hands will get washed with soap or ash after stool and before food

66. When do you wash <u>your</u> hands with soap/ash? (When else?) [MULTIPLE ANSWERS ALLOWED]

	Never	Before food preparation	Before feeding children	After defecation	After attending to a child who has defecated	Other (specify) _____	Don't know/ No response
TOTAL							

67. When do you wash <u>your child's hands</u> with soap/ash? (When else?)
[MULTIPLE ANSWERS ALLOWED]

	Never	Before food preparation	Before feeding children	After defecation	After attending to a child who has defecated	Other (specify) _____	Don't know/ No response
TOTAL							

SECTION 4: Malawi INVC Project Support Coverage

1. In summary, what community activities have you participated in and/or learned about?

[Prompt but do not read out loud:]
Behavior Change Communication
☐ Have seen theatre for development performances
☐ Have heard radio messages regarding nutrition
☐ Participated in a Community **Care Groups**
☐Learned how to track the growth of my child (**Community-Based Growth Monitoring and Promotion)**
☐Learned how to improve the diversity of your diet (**Dietary diversification Promotion)**
☐Learned how to grow new or more healthy foods/crops **(Agricultural Production)**
☐ Soy bean) production
☐ Groundnut production
☐How to grow a **backyard Gardens**
☐ How to grow nutritious foods that make your family healthy (example: vegetables such as amaranth, pumpkin, orange flesh sweet potato)
☐ Received starter seeds for vegetable gardens)(for example for amaranth or pumpkin)
☐ Other vegetables: list:_____
☐How to process food at home to make it more nutritious (**Home Food Processing Demonstrations)**
☐ Soy processing for home consumption
☐ Groundnut processing and preparation of groundnut foods
☐Other vegetables: list:_____
☐Learned how to use simple items to keep food longer **(Food Storage)**
☐ What? for Soy bean storage
☐ Burlap bags to keep groundnuts in
☐ How to bury orange flesh sweet potatoes to keep them fresh longer
☐ Other:_____
☐**Improved Sanitation**
☐Learned about improved latrines
☐Waste Management
☐**Improved hygiene**
☐Learned about Food Hygiene
☐Promoting hand washing with soap after visiting the toilet, changing baby's nappies and before eating
☐Learned how to set up household hand washing facilities
☐Learned how to treat water to make it clean to drink
☐Learned about food hygiene for complementary food
☐ Participated in Child Health Days to have **Vitamin A supplementation and Deworming** for children under 5
☐ Participated in monthly community growth monitoring and promotion (along with immunizations) where the Nutrition Promoter was present.
☐ Other: _____

5.2

Integrating Nutrition in Value Chain (INVC)
Direct Beneficiaries: Community Care Group Volunteers: Lead Mothers

FOCUS GROUP & INTERVIEW DISCUSSION GUIDE: NUTRITION

FEED THE FUTURE
KNOWLEDGE DRIVEN AGRICULTURAL DEVELOPMENT

5.2 Community Care Group Volunteers: Lead Mothers

SECTION 1: Malnutrition Perception

1. What do you perceive as the major nutrition problems in your community and household?

If the respondent only mentions underlying causes (e.g. poverty, lack of education, etc), try to obtain information on how the respondent sees those underlying causes affect the nutrition status of people (e.g. how does poverty affect nutrition among children).

Problems mentioned:

Tick the appropriate box (es) and take brief notes of any further description. But DO NOT READ OUT THE OPTIONS. Try to obtain the views of the respondents in their words.

☐ Undernutrition
☐ Underweight
☐ Stunting
☐ Wasting
☐ Overweight and obesity
☐ Vitamin or mineral deficiencies, specify which ones: _____
☐ Other: _____

2. What do you think are the causes of existing nutrition problems mentioned:

Tick the appropriate box (es) and take brief notes of any further description. Again DO NOT READ OUT THE OPTIONS. Try to obtain the views of the respondents in their words. If the respondent mentions more causes ask him/her to rank them.

☐ Not enough food (Food insecurity)
☐ Not enough variety of foods available (Poor dietary quality)
☐ Not enough quality of food (Poor dietary quality)
☐ Increasing food prices
☐ Poor health services :Insufficient health services//poor quality of health services
☐ Unhealthy, unclean environment
☐ Poor feeding and caring practices (Inadequate caring practices of infants and young children)
☐ Lack of knowledge (please specify)
☐ Poverty
☐ Natural disasters
☐ Poor water quality
☐No toilets (Poor sanitation)
☐ No soap available
☐ No hand washing facilities available
☐ No water available

SECTION 2: Community Care Group Participation

1.1 **Have you ever participated in a Community Care Group?**

Yes	No	Don't know

1.2. **How were you all recruited to join the Community Care Group?**

Through a Nutrition Promoter	Through a friend	Through ANC services	Through Community Growth Monitoring	

Nominated by neighbors	Nominated by village leadership		Other: List_____	Don't know/No Response

1. 3 If you joined the community care group when pregnant, when in your pregnancy did you join the Community Care Groups?

	First Trimester			Second Trimester			Third Trimester		
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
TOTAL									

2. **If you joined the Community Care Group late in your pregnancy- what are the reasons for joining late? [**Look at recruitment mechanism and late enrollment due to late visits to ANC]

Recruited through ANC care, but did not attend ANC until later	Was not approached by Nutrition Promoter until later in pregnancy	Not aware of the Community Care Group	No Community Care Group available previously	
			Other: List_____	Don't know/No Response

3. How many members are in your Care Group?
(The Care Groups will have no more than 12 members including themselves YES ❑ NO ❑)

1-3	4-6	7-10	***10-12**	16+	How many? _____

4. How many of you are attending at least 3 of the last 4 Community Care Group meetings organized by the Nutrition Promoter?

1-3	4-6	7-10	10-12		How many? _____

5. Please describe your role either as a Community Care Group Volunteer Lead Mothers.

(The project has a strong peer-to-peer health promotion component. YES ❑ NO ❑)

6. Where do you meet for the Care Group? Is it within an hour walk your home? Is it near the other CGVs homes?

(The Promoter meeting place will be within one hour walk from the CG volunteers' homes *YES ❑ NO ❑)*

7. Who supervises your Care Group? How often?

(Supervision of the Care Group (CG Volunteers) by a Nutrition Promoter (e.g., data collection, observation of skills) will occur at least monthly *YES ❑ NO ❑)*

8. What is the role of the Nutrition Promoter in your Community Care Group?

(Supervision of the Care Group (CG Volunteers) by a Nutrition Promoter (e.g., data collection,

9. What does the Nutrition Promoter help you do within your Community Care Group?

10. What are the most important things you learned from the Nutrition Promoter in your Community Care Group?

11. What things do you like the most about what the Nutrition Promoter does in the Community Care Groups?

12. What things would you change about the support from the Nutrition Promoter? What would you improve?

SECTION 3: Community Care Group Volunteer Household Visits

13. How were the clustered households you visit chosen for participation in the home visits?

(CG Lead Mothers/fathers volunteers will be chosen by the mothers within the group of households that they will serve or by the leadership in the village YES ❑ NO ❑)[21]

14. How many households are you responsible for visiting and meeting with?

(CG volunteers will visit no more than 11 households each YES ❑ NO ❑)

15. How do you monitor which households you visit and how often??
(There are plans to monitor household visits YES ❑ NO ❑ should be the XXX form)

16. Did you visit each household in your group in the past month? Is it easy or hard to visit each household at least once a month? If hard, why?

(It is planned that 100% of target group households will be reached at least once a month; *YES ❑ NO ❑)*

17. How long do you visit with the household?

18. How do you involve the mothers/fathers in the household visit?

19. Do you live close to the households that you visit?

Yes	No	Other:_____	Don't know/No Response

(All of a CG volunteer's beneficiaries will live within a distance that facilitates frequent home visitation YES ❑ NO ❑)

20. Do you report how many households you visit to someone? To whom?

Yes	No	To Whom:_____	Don't know/No Response

(There is a plan in place to monitor coverage of households (by CG volunteers)YES ❑ NO ❑)

21. When was the past time your reported this? Which form do you use?

There is a plan in place to monitor coverage of households (by CG volunteers)*YES ❑ NO ❑)*

Attendance Registration Form?			

22. Do you use any materials when you visit the households?

Yes	No		

			Don't know/No Response

(The plan mentions that Care Group volunteers will use some sort of visual teaching tool (e.g., flipcharts) to do health promotion at the household level *YES ❑ NO ❑)*

23. If you use any materials when you visit the households which ones?

IYCF Material Counseling Cards KABUKU KA UPHUNGU OPITITSA PATSOGOLO KADYEDWE KOYENERERA KA ANA OSAPOSERA ZAKA ZIWIRI	Scaling Up Nutrition and Essential Nutrition Actions Manual	Recipe Book	Food Processing Manual	Other: List_____	Don't know/No Response

24. Do you find any of these materials useful? Or not useful? Why or why not useful?

25. What Community Care Group Learning Techniques are you using with the households you visit that you learned from the Community Care Group manual and the Nutrition Promoter?

Community Care Group Learning Techniques				
Ice-breaker/ energizer	Discussion	Small group work	Demonstration	Pile-sort
Brainstorm	Role-play			

25. Who else within the community has helped you learn more about nutrition and agriculture?

Other				
Interactions with Extension	Interactions with FUM	Interactions with NASFAM	Interactions with Health Surveillance Assistants	Interactions with Nutrition Assistants (INVC staff)

workers (AEDO)				
Interactions with District Nutrition Officers	Interactions with other_____	Interactions with Nkhoma		Interactions with peers

SECTION 4: Malawi INVC Project Support Coverage

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☐Learned how to track the growth of my child (**Community-Based Growth Monitoring and Promotion)**
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☐Learned how to grow new or more healthy foods/crops **(Agricultural Production)**
☐ Soy bean) production
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☐ How to grow nutritious foods that make your family healthy (example: vegetables such as amaranth, pumpkin, orange flesh sweet potato)
☐ Received starter seeds for vegetable gardens)(for example for amaranth or pumpkin)
☐ Other vegetables: list:_____
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☐Learned how to use simple items to keep food longer **(Food Storage)**
☐ What? for Soy bean storage
☐ Burlap bags to keep groundnuts in
☐ How to bury orange flesh sweet potatoes to keep them fresh longer
☐ Other:_____
☐**Improved Sanitation**
☐Learned about improved latrines
☐Waste Management
☐**Improved hygiene**
☐Learned about Food Hygiene
☐Promoting hand washing with soap after visiting the toilet, changing baby's nappies and before eating
☐Learned how to set up household hand washing facilities
☐Learned how to treat water to make it clean to drink
☐Learned about food hygiene for complementary food
☐ Participated in Child Health Days to have **Vitamin A supplementation and Deworming** for children under 5
☐ Participated in monthly community growth monitoring and promotion (along with immunizations) where the Nutrition Promoter was present.
☐ Other: _____

PERFORMANCE EVALUATION OF USAID/MALAWI INTEGRATING NUTRITION IN VALUE CHAINS

5.3

Integrating Nutrition in Value Chain (INVC) Direct Beneficiaries: Households: Pregnant and Lactating Women (PLW)/Mothers of Children under 2

FOCUS GROUP & INTERVIEW DISCUSSION GUIDE: NUTRITION

FEED THE FUTURE
KNOWLEDGE DRIVEN
AGRICULTURAL DEVELOPMENT

5.1. Direct Beneficiaries: Households: Pregnant and Lactating Women (PLW)/Mothers of Children under 2

SECTION 1: Malnutrition Perception

1. What do you perceive as the major nutrition problems in your community and household?

If the respondent only mentions underlying causes (e.g. poverty, lack of education, etc), try to obtain information on how the respondent sees those underlying causes affect the nutrition status of people (e.g. how does poverty affect nutrition among children).

Problems mentioned:

Tick the appropriate box (es) and take brief notes of any further description. But DO NOT READ OUT THE OPTIONS. Try to obtain the views of the respondents in their words.

☐ Undernutrition
☐ Underweight
☐ Stunting
☐ Wasting
☐ Overweight and obesity
☐ Vitamin or mineral deficiencies, specify which ones: _____
☐ Other: _____

2. What do you think are the causes of existing nutrition problems mentioned:

Tick the appropriate box (es) and take brief notes of any further description. Again DO NOT READ OUT THE OPTIONS. Try to obtain the views of the respondents in their words. If the respondent mentions more causes ask him/her to rank them.

☐ Not enough food (Food insecurity)
☐ Not enough variety of foods available (Poor dietary quality)
☐ Not enough quality of food (Poor dietary quality)
☐ Increasing food prices
☐ Poor health services :Insufficient health services//poor quality of health services
☐ Unhealthy, unclean environment
☐ Poor feeding and caring practices (Inadequate caring practices of infants and young children)
☐ Lack of knowledge (please specify)
☐ Poverty
☐ Natural disasters
☐ Poor water quality
☐ No toilets (Poor sanitation)
☐ No soap available
☐ No hand washing facilities available
☐ No water available

SECTION 2: Community Care Group Participation

1. **Have you ever been visited by Community Care Group Volunteer/Lead Mothers at your house?**

Yes	No	Don't know

2. Please describe how you participant with the Community Care Group Volunteer/Lead Mothers in your household.

(The project has a strong peer-to-peer health promotion component. YES ❑ NO)

3. Are you a member of NASFAM/FUM?

NASFAM	FUM	Other:	No response/Don't Know

4. If you are not a member of NASFAM/FUM, has your Nutrition Promoter encouraged membership?

YES	NO		No response/Don't Know

Groundnuts

5. Who here grows groundnuts? *(Count the number of people who raise their hands)*

Number of people_____

5.1. Do you save some of the groundnut that you grow to eat at home? If so, how much did you save in the last season (how many bags)?

YES	NO	How many bags did you save?_____	No response/Don't Know

5.2. Who here eats groundnuts?

Count the number of people who raise their hands)

Number of people_____

5.3. Who in the household eats groundnuts?

Mother	Father	Children under 2	Children under 5	Other:_____	Don't know/No response

5.4. If you don't grow them, from where do you get them?

Neighbor	Market	Other:_____	No response/Don't Know

5.5. If you sell some of your groundnut, where do you sell it?

On the street	Farmers Market	Through collection marketing	Other:_____	Don't know/No response
Through an electronic exchange (ACE)	Warehouse			

5.6. How do you add groundnuts to your food or process it?

Groundnut flour	Groundnut peanut butter	Sprinkle on top of food	Use it in sauces		Other:_____	Don't know/No response

Soybean

6. Who here grows soybeans? *(Count the number of people who raise their hands)*

6.1. Do you save some of the soybeans that you grow to eat at home? If so, how much (how many bags)?

YES	NO	How many bags did you save?_____	No response/Don't Know

6.2. If you don't grow them, from where do you get them?

Neighbor	Market	Other:_____	No response/Don't Know

6.3. Who here eats soybeans?

Count the number of people who raise their hands)

Number of people_____

6.4. What do you make with soybeans and what dishes do you prepare?

Make Soy flour	Make Soy milk	Sprinkle on top of food	Use it in sauces	Other:_____	Don't know/No response

6.5. Who in the household eats soybean?

Mother	Father	Children under 2	Children under 5	Other:_____	Don't know/No response

6.6. Do you use soy to add more nutrition to your food?

Use soy flour for complementary foods	Groundnuts and porridge	Traditional greens with peanuts	Other:_____	Don't know/No response

6.7. If you sell some of your soy, where do you sell it?

On the street	Farmers Market	Through collection marketing	Other:_____	Don't know/No response
Through an electronic	Warehouse			

exchange (ACE)				

7. If you plant a backyard garden, what types of vegetables do you grow?

	Vegetables
	Chisoso
	Luni
	Mnkhwani
	Bonongwe
	Lepu
	Chiyinizi
	Kamganje
	Mpilu
	Chigwada
	Denje
	Khwanya
	Others:_____

7.1. Where do you receive your vegetable seeds from?

Neighbors	Government	Other:_____	Don't know/No response

7.2. Have you ever received any seeds from your participation in the Community Care Group?

YES	NO	Don't know/No response

7.3. What type of seeds have you received?

Pumpkin	Amaranth	Other	Don't know/No response

7.4. Have you shared any seeds within your community and/or Care Groups for vegetable gardens?

YES	NO	Don't know/No response

SECTION X: Knowledge of Nutrition Behaviors and Practices[22]

Which of INVC's promoted nutrition behaviors and practices have been most widely adopted by beneficiaries and why?

1. **Have you changed any behaviors related to nutrition and health since you began receiving home visits from a Lead Mothers?**

2. **What influenced you to change these behaviors?** [prompt but do not read out the following nutrition activities]

Nutrition Behavior Change Communication (BCC) Interventions				
Theatre for development	Radio messages	Community Care Group Meetings	Home visits and counseling by Lead Mothers/Father	Counseling and Key messages through Bi-Annual Child Health Days (with growth monitoring and promotion)
Counseling and Key messages through	Promotion of Backyard Gardens	Cooking Demonstrations	Home Food Processing Demonstrations	

monthly, routine Growth Monitoring Promotion (with immunizations)	through Care Groups			

Nutrition-Specific Technical Interventions				
Behavior Change Communication	Nutrition Counseling	Community Care Groups	Growth Monitoring Promotion through Child Health Days	Growth Monitoring Promotion through Monthly Outreach
Management of Acute Malnutrition	Promotion of Backyard Gardens through Care Groups	Cooking Demonstrations	Home Food Processing Demonstrations	Vitamin A Supplementation and Deworming

Nutrition-Sensitive Technical Interventions				
Theatre for development	Radio messages	Community Care Groups	Child Health Days	Community Growth Monitoring through Child Health Days
Community Growth Monitoring through Monthly Outreach	Promotion of Backyard Gardens through Care Groups	Cooking Demonstrations	Home Food Processing Demonstrations	Home visits and counseling by Lead Mothers/Father

3. Where/from whom did you receive these interventions (i.e. Care Group Promoter, Lead Mothers, HSA, NASFAM, Extension officer, Pakachere, Nkhoma, etc.) from?

Other				
Extension workers (AEDO)	FUM	NASFAM	Health Surveillance Assistants	Nutrition Assistants (INVC staff)
District Nutrition Officers	Interactions with other_____	Nakhoma	Lead Mothers	

Maternal and Antenatal Care and Diet

Behavior
1. Women seek antenatal care as soon as they suspect that they may be pregnant

1.1. When should women first seek care when they suspect they are pregnant? [23]

***As early as possible once pregnancy is confirmed**	Only when the baby is born	After six months of pregnancy	There is no need for antenatal care	Don't know/No response

1.2. When did you first attend antenatal care?

	First Trimester			**Second Trimester**			**Third Trimester**		
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
TOTAL									

Behavior
2. Pregnant women attend ANC at least 4 times during the duration of pregnancy

2.1 How many times during your pregnancy did you attend antenatal care?

Once	Twice	Three times	***At least 4 visits**	Don't know/No response
TOTAL				

Notes:

Behavior
3. Pregnant women eat more nutritious food

3.1. When you became pregnant, did you change what you ate? In what way? What types of foods did you eat? Were there any types of food you stopped eating? diet

	Milk (mkaka),	Dried Fish	Fresh Fish		
Locally available nutritious foods at least 4 from the 6 food groups.	Eat locally available vegetables like kholowa, nkhwani, chisoso, and animal foods like mazila, nkukhu, mbuzi, ngumbi, mbewa, mbalame, bwannoni, mphalungu, and usipa	Eat one extra meal a day during pregnancy in addition to regular meals, and two extra meals during breastfeeding.	Throughout your pregnancy and for at least 3 months after your baby is born you need iron and folic acid to prevent anemia.	Eat plenty of fruits and vegetables with every meal.	Don't know/ No Response
TOTAL					

Notes:

Breastfeeding

Behavior
4. Mothers give only breast milk for the first 6 months (exclusive breastfeeding) [24]

4.1. Are you currently breastfeeding?

	YES	NO	Don't know/No Response
TOTAL			

Notes:

4.2. If you are breastfeeding, are you currently giving your child anything other than breast milk, including water, other liquids or other foods? Why?

	YES	NO	Other:____	Don't know/No Response
TOTAL				

Notes:

4.3. How soon after birth should a baby be put to the breast?

Within 1 hour*	Within 6 hours	Within 24 hours	After the mother has recovered	Don't know/No Response
TOTAL				

Notes:

4.4. Did you / do you give your baby under 6 months of age water or coconut water?

Yes	***No**	Don't know
TOTAL		

Notes:

Behavior
5. Lactating women eat more nutritious food

5.1. Did you change what you ate when you began to breastfeed? Or use any Vitamin Supplements?

Ate more meals prepared from the six food groups	Ate more eat locally available vegetables like kholowa, nkhwani, chisoso, and animal foods like mazila, nkukhu, mbuzi, ngumbi, mbewa, mbalame, bwannoni, mphalungu, and usipa	Drank more-plenty of fluids such as water and thobwa to replace those lost in breast milk.	Took vitamin A supplements within 8 weeks after delivery.	She should eat two extra meals per day.	Don't know/ No Response
TOTAL					

Notes:

5.2. What did you eat?

Vegetables including : Chisoso Luni Mnkhwani Bononge we Lepu Chiyinizi Kamganje Mpilu Chigwada Denje Khwanya	**Legumes & Nuts including**: Gourd Beans (Mphodza) Bambara nuts (Nzama) Groundnuts (Mtedza) Soy beans (Soya) Beans (Nyemba) Pegion Peas (Nandolo) Cow Peas (Khobwe) Green Beans (Nsawawa) Velvet Beans	**Animal foods including:** Eggs (Mazira) Milk (Mkaka) Grasshoppers (Bwanoni) Birds (Mbalame) Fish (Nsomba) Mice (Mbewa) Nkhunguni Chicken (Nkhuku) Beef (Nyama ya Ng'ombe) Goat (Nyama ya Mbuzi)	**Fats and oils including** : Cooking oil (mafuta opikira) Meat fat (mafuta a nyama) Margerin e (Majaline) Coconut (kokonati) Avocado pear (mapeyal a)	Other:_____	Don't know/ No respons e

	(Nkhungudzu)	Mutton (Nyama ya Nkhosa) Termite (Ngumbi) Mafulufute			

Behavior
6. Mothers breastfeed for longer duration

6.1. For how long should a mother breastfeed for?

up to 3 months`	up to 6 months	up to 1 year	**up to 2 years or longer**	Don't know/No response
TOTAL				

Notes:

Behavior
7. Mother hold the baby in a correct/comfortable position during breastfeeding

7.1. For breastfeeding women: How do you hold your baby when you breastfed her or him? Ask the mothers to use the doll or baby to show the interviewer.

Cradle position (most commonly used)	Sideline, side-lying position (can be used right after delivery, to rest while breastfeeding or at night)	Cross cradle position (good for small babies)	Under-arm position (use after caesarean section, if your nipples are painful or if you are breastfeeding twins or a	Don't know/No response

			small baby). (4)	
TOTAL				

Notes:

Behavior
8. Mothers attach young babies properly

8.1 For breastfeeding women: How do (or did you) you attach your baby when you breastfeed? What are the most important things to remember? [If mothers have a baby have them demonstrate to you how they would attach the baby, otherwise use a baby doll]

	Supporting the breast with a mothers hand	Fingers not too near the nipple	**Wait until her baby's mouth is opening wide and wants to start feeding**	Move her baby quickly onto her breast, aiming his lower lip well below the nipple.	It helps to get the nipple above the centre of the baby's mouth so that it touches and stimulates the palate or effective suckling	Don't know/No response
TOTAL						

	Ensure that the baby's tummy is facing your body	Ensure that the baby's whole body is supported	Ensure that the baby's nose is facing the nipple			
TOTAL						

Notes:

Behavior
9. Mothers breastfeed as much or more during illness and recuperation

9.1. For breastfeeding women: When you or your child is sick or ill, Do you change anything about the way you feed him or her? How you eat?

	When child is sick:		*When mother is sick:*			
	Increase breastfeeding to speed up recovery and reduce weight loss	Reduce breastfeeding	Continue breastfeeding when possible and increase fluids/foods	Reduce breastfeeding		Don't know/No response
TOTAL						

Notes:

Complementary Feeding

Behavior
10. Caregivers encourage children to eat extra food during recovery from illness

10.1. Sometimes children get sick and need to receive care or treatment for illnesses. What are the signs of illness that would indicate your child needs treatment? (Any other signs?)

Looks unwell or not playing normally	Not eating or drinking	Lethargic or difficult to wake/weak	High fever	Fast or difficult breathing

Vomits everything	Convulsions	Diarrhea	Other (specify) _____	Don't know/ no response

10.2. Do you encourage your child to eat when they are sick/ill?

Yes	No	Other:_____	Don't know/No response

If yes or no, why or why not?

10.3. What might you encourage your child (over 6 months of age) to eat during illness?[25]

Simple foods like porridge and avoid spicy or fatty foods.	Nutritious liquids in addition to breast milk for example homemade fruit juice from mangoes, guavas, oranges, lemons, malambe and bwemba	Small diversified nutritious meals more frequently, child's favorite nutritious foods	Fruits such as mango, papaya, and orange to stimulate the child's appetite.	Don't know/ No response
TOTAL				

Behavior
11. Caregivers prepare and feed children 6-9 months old soft and thick meals

11.1. When should breastfed children start receiving soild foods in addition to breastmilk (complementary foods)?

At 4-6 months of age	**At 6 months of age***	At 8 months of age	When the child has got teeth	Don't know

11.2. How many times did your child between '6 up to 9 months' of age eat solid, semi-solid, or soft foods other than liquids yesterday during the day and at night? (What type of food did he/she eat?) ***NOTE!:***

- *We want to find out how many times the child ate enough to be full.*
- *Small snacks and small feeds such as one or two bites of mother's or sister's food should not be counted.*
- *Liquids do not count for this question.*
- *Do not include thin soups or broth, watery gruels, or any other liquid*.

[USE PROBING QUESTIONS TO HELP THE RESPONDENT REMEMBER ALL THE TIMES THE CHILD ATE YESTERDAY]

Number of times child ate _____	Don't know/No response			

Behavior
12. Caregivers feed children 6-24 months fruits, vegetables, legumes, animal foods and fats for nutrient density

12.1. If you have a children from 6-24 months of age, what food did your child eat yesterday during the day and at night, either separately or combined with other foods. Did your child eat any of the following foods yesterday during the day or at night? Anything else?
[READ THE LIST OF FOODS. CIRCLE THE LETTER IF CHILD ATE THE FOOD IN QUESTION -- MULTIPLE RESPONSES ALLOWED]

	Any pumpkin, carrots, squash or sweet potatoes that are yellow or orange inside?	Any dark green leafy vegetables?[26]	Any fruits such as mango, papaya, and oranges?	Any animal source-foods such as like mazila, nkukhu, mbuzi, ngumbi, mbewa, mbalame, bwannoni, mphalungu, and usipa?
TOTAL				

Any locally available vegetables like kholowa, nkhwani, chisoso, and animal foods like mazila, nkukhu, mbuzi, ngumbi, mbewa, mbalame,	Any Likuni porridge using soy and groundnuts?	Any soft porridge, enriching with soy milk, green leafy vegetables, oil	Don't know/No response

bwannoni, mphalungu, and usipa?			or groundnut flour?	
TOTAL				

Notes:

Behavior
13. Caregivers prepare and feed their children the recommended amount of food

13.1. **How many times did you feed your child (12 up to 24 months) yesterday?**

Once	Twice	Three times	Four times	Five times	Other:_____	Don't know/No response

[Mothers and caregivers should feed the child at least 5 times per day,3 main meals and nutritious snacks between meals such as vegetables/fruits, sources of vitamin A, and foods prepared with fat – dark green vegetables – chisoso, nkhwani, moringa, bononGwe, kholowa, tomato, eggplant, carrot, cabbage, Fruits, like orange, passion fruit, mango, papaya, banana, watermelon, pineapple, avocado, chikondamoyo, chitumbuwa.]

Notes:

13.2. What did you feed your child (1-2 years old)?

Vegetables including: Chisoso Luni Mnkhwani Bononge Lepu Chiyinizi Kamganje	**Legumes & Nuts including**: Gourd Beans (Mphodza) Bambara nuts (Nzama)	**Animal foods including:** Eggs (Mazira) Milk (Mkaka) Grasshoppers (Bwanoni)	**Fats and oils including**: Cooking oil (mafuta opikira) Meat fat (mafuta a nyama)	Other:_____	Don't know/ No response

Mpilu Chigwada Denje Khwanya	Groundnuts (Mtedza) Soy beans (Soya) Beans (Nyemba) Pegion Peas (Nandolo) Cow Peas (Khobwe) Green Beans (Nsawawa) Velvet Beans (Nkhungudzu)	Birds (Mbalame) Fish (Nsomba) Mice (Mbewa) Nkhunguni Chicken (Nkhuku) Beef (Nyama ya Ng'ombe) Goat (Nyama ya Mbuzi) Mutton (Nyama ya Nkhosa) Termite (Ngumbi) Mafulufute	Margerine (Majaline) Coconut (kokonati) Avocado pear (mapeyala)		

Notes:

13.3 Would you have liked to feed your child more food yesterday?

Yes	No	Don't Know/No response

If yes, what prevented you from feeding them more food?

Notes:

13.4 How do you prepare food for your 1-2 year old child to make it healthier?

Add more nutritious snacks	Increase portions of meat/fish /eggs	Increase the amount of food given to the child so that by 24 months the child is fed 16 tablespoons	Add more vegetables- especially dark green vegetables and high in Vitamin A vegatables: chisoso, nkhwani, moringa, bononngwe, kholowa, tomato, eggplant, carrot, cabbage, .	Add more fruits- especially those high in Vitamin A: Fruits like orange, passion fruit, mango, papaya, banana, watermelon, pineapple, avocado, chikondamoyo, chitumbuwa	Add more foods prepared with fat	Don't know/No response
TOTAL						

Notes:

13.5. What are some ways that you can increase the nutrition of your child (12 up to 24 months) by preparing or feeding your child?

	Prepare your baby's food before going to work and carry it with you to provide 3	Feed the child at least 5 meals per day, three main meals and nutritious snacks between meals such as fruits in season,	Gradually increase the amount of food so that by 24 months, the child is fed 16 Tablespoons (1 table spoon = 15mls)	Don't know/No response

	meals a day (INVC)	chikondamoyo, zitumbuwa, chiponde cha mtedza etc (SUN Malawi)		
TOTAL				

Hygiene

Behavior
14. Caregivers will wash their hands with soap or ash at the 4 critical times

14.1. Does your household have a special place for hand washing?

	YES	NO	Don't know/No response (skip next question)
TOTAL			

14.2 If you do have a special place for hand washing, are the following items are present?: [MULTIPLE ANSWERS ALLOWED]

	Soap and water	Ashes	OTHER List:_____	Don't know/No response
TOTAL				

14.3 What type of hand washing station do you use?

Water Basin	Tippy Tap	Jug with spout	OTHER List:_____	Don't know/No response (skip next question)
TOTAL				

14.4 If yes, please describe where you put your hand washing station [MULTIPLE ANSWERS ALLOWED]

	Near the latrine	Near the food	Near the eating area	OTHER List:_____	Don't know/No response

		preparation area			
TOTAL					

Behavior
15. Children's hands will get washed with soap or ash after stool and before food

15.1. When do you wash <u>your</u> hands with soap/ash? (When else?)
[MULTIPLE ANSWERS ALLOWED]

	Never	Before food preparation	Before feeding children	After defecation	After attending to a child who has defecated	Other (specify) _____	Don't know/ No response
TOTAL							

15.2. When do you wash <u>your child's hands</u> with soap/ash? (When else?)
[MULTIPLE ANSWERS ALLOWED]

	Never	Before food preparation	Before feeding children	After defecation	After attending to a child who has defecated	Other (specify) _____	Don't know/ No response
TOTAL							

END OF FOCUS GROUP

SECTION 4: Malawi INVC Project Support Coverage

1. In summary, what community activities have you participated in and/or learned about?

[Prompt but do not read out loud:]
Behavior Change Communication
☐ Have seen theatre for development performances
☐ Have heard radio messages regarding nutrition
☐ Participated in a Community **Care Groups**
☐Learned how to track the growth of my child (**Community-Based Growth Monitoring and Promotion)**

☐Learned how to improve the diversity of your diet (**Dietary diversification Promotion)**
☐Learned how to grow new or more healthy foods/crops **(Agricultural Production)**
☐ Soy bean) production
☐ Groundnut production
☐How to grow a **backyard Gardens**
☐ How to grow nutritious foods that make your family healthy (example: vegetables such as amaranth, pumpkin, orange flesh sweet potato)
☐ Received starter seeds for vegetable gardens)(for example for amaranth or pumpkin)
☐ Other vegetables: list:_____
☐How to process food at home to make it more nutritious (**Home Food Processing Demonstrations)**
☐ Soy processing for home consumption
☐ Groundnut processing and preparation of groundnut foods
☐Other vegetables: list:_____
☐Learned how to use simple items to keep food longer **(Food Storage)**
☐ What? for Soy bean storage
☐ Burlap bags to keep groundnuts in
☐ How to bury orange flesh sweet potatoes to keep them fresh longer
☐ Other:_____
☐**Improved Sanitation**
☐Learned about improved latrines
☐Waste Management
☐**Improved hygiene**
☐Learned about Food Hygiene
☐Promoting hand washing with soap after visiting the toilet, changing baby's nappies and before eating
☐Learned how to set up household hand washing facilities
☐Learned how to treat water to make it clean to drink
☐Learned about food hygiene for complementary food
☐ Participated in Child Health Days to have **Vitamin A supplementation and Deworming** for children under 5
☐ Participated in monthly community growth monitoring and promotion (along with immunizations) where the Nutrition Promoter was present.
☐ Other: _____

Preliminary Nutrition Contacts

Table 1: Preliminary Malawi INVC Nutrition Contacts			
Name	Position/Title	Email	Cell
Malawi INVC Contacts			
Aisha Alhassan	Associate Nutrition Specialist	Aisha.alhassan@dai.com	+ 265 0997813946
Jeremiah Martin	District Nutrition Coordinator, Lilongwe North	Martin_jeremiah@dai.com	+265 0994962284
Charity Kambani-Banda	District Nutrition Coordinator, Lilongwe South	Charity_banda@invc.malawi.com	+265 0999884447
Robert Chizimba	Deputy Chief of Party/Behavior Change Communication Specialist	Robert_Chizimbe@invc-malawi.com	+265 99-996-8186
Carlibet Makamo	District Nutrition Coordinator, Mchinji District	Calibert_Makamo@invi-malawi.com	+265 999884447
Gena	Gender Specialist		
Catherine Chipazi	Nutrition Specialist, Based in Lilongwe-covers Balaka, Machinga and Mangochi	Need	Need
Heshan Peiris	Grants Manager	Heshan_Peiris@invc-malawi.com	+265 0999572989
Mwiza Simkonda	Program M&E Coordinator	Mwiza_Simkonda@invc-malawi.com	+265 0999884451
Shannon Lindsay	Program M&E Coordinator	Shannon_Lindsay@dai.com	+265 0997303510
Adriane Seibert	Remote Nutriton Technical Assistance from Save the Children U.S.	ASeibert@savethechildren.org	
Jim (MSU)			
Ben(jamin) E. Lentz,	COP DAI FTF-Integrating Nutrition in Value Chains (INVC)	Ben_Lentz@dai.com	Tel: +265.1.755.734/ 36/37

Table 1: Preliminary Malawi INVC Nutrition Contacts			
Name	Position/Title	Email	Cell
			Cell: +265.099.255.6174 Fax: +265.1.755.735
Michael Makina? –Ag Emailed March 24, 2015	Program Manager VC Coordinator-	Michael_Makina@nvc-malawi.com	0994962283
Former INVC Malawi Nutrition Staff			
Martin Tembo Called March 24, no answer Talked with March 26	Former Nutrition Specialist		0992 6 61 975
Katherine Kurtz	Former Remote Nutriton Technical Assistance from DAI		Need
Ella Moses Talked with March 24, 2015 will get back with schedule	Former Nutrition Assistant under Nkhoma Hospital		+265 0993 164 191
Catherine Mkangama Meeting for March 25 @ 2 PM at her office near Golden Peacock	Director for Nutrition HIV and AIDS in the Department of Nutrition, HIV and AIDS in the Office of the President and Cabinet, former Support for Service Delivery Integration (SSDI) under Save the Children in Malawi		+256 099 989 0913
Local Sub-Partner: Nakhoma Hospital			
John Bosco Kasitomu	Nakhoma Hospital: INVC Program Manager	kasitomu@inbox.com	0995466860

Table 1: Preliminary Malawi INVC Nutrition Contacts			
Name	Position/Title	Email	Cell
Yoas Mvula	Nakhoma Hospital: Health Coordinator	Yoas.mvula@gmail.com	0998951485
Linga Munthali	Nakhoma Hospital: Nkhoma Public Health Coordinator	lemunthali@gmail.com	0999852645
TBD	Nakhoma Hospital: M & E Officer	N/A	N/A
Joan Magombo	Nakhoma Hospital: Mchinji District Coordinator	kemalirana@gmail.com	0993913826
Jonas Mwambula	Nakhoma Hospital: Lilongwe North District Coordinator	Need email	0991392361 09999959932
Josephine Kalepa	Nakhoma Hospital: Lilongwe South District Coordinator	Need email	0884173863
Edward Gangire	Nakhoma Hospital: Finance/Accounts	edogangire@yahoo.co.uk	0999371608
Yoas Mvula	Nakhoma Hospital: Health Coordinator	Yoas.mvula@gmail.com	0998951485
Linga Munthali	Nakhoma Hospital: Nkhoma Public Health Coordinator	lemunthali@gmail.com	0999852645
Former Nakhoma Hospital Staff			
Janet Guta	First Nutrition Specialist on the Project (dates: XXX)		0888 850 923
Pakachere			
Simon Sikwese	Pakachere CEO	ssikwese@pakachere.org	0999963305 111 627 031

Table 1: Preliminary Malawi INVC Nutrition Contacts			
Name	Position/Title	Email	Cell
Shida Mvula	INVC Program Manager	smvula@pakachere.org	0999043712
Basimenye Nhlema	M & E Officer	bnlhema@pakachere.org	0888209246
Chinthemwa Mkandawire	Finance/Accounts	cmkandawire@pakachere.org	0888952165
NASFAM			
Raymond Mwenitete	INVC Program Manager	rmwenitete@nasfam.org	0999570219
FUM			

Malawi Food Groups

Table 2: Malawi Food Groups[27]	
Food Group	**Type**
Vegetables	Chisoso
	Luni
	Mnkhwani
	Bonongwe
	Lepu
	Chiyinizi
	Kamganje
	Mpilu
	Chigwada
	Denje
	Khwanya
Fruits	Bananas (Nthochi)
	Mapoza
	Mangoes (Mango)
	Guavas (Magwafa)
	Avocado (Mapeyala)
	Oranges (maolenji)
	Tanjarines (Manachesi)
	Pawpaws (Papaya)
	Uapacca Kirkiana (Masuku)

Table 2: Malawi Food Groups[27]	
Food Group	**Type**
	Masau
	Nthuza
	Apples
	Mphomda
	Nkhaka
	Chinese Jujube
	Tamerines
Legumes & Nuts	Gourd Beans (Mphodza)
	Bambara nuts (Nzama)
	Groundnuts (Mtedza)
	Soy beans (Soya)
	Beans (Nyemba)
	Pegion Peas (Nandolo)
	Cow Peas (Khobwe)
	Green Beans (Nsawawa)
	Velvet Beans (Nkhungudzu)
Animal Source	Eggs (Mazira)
	Milk (Mkaka)
	Grasshoppers (Bwanoni)
	Birds (Mbalame)
	Fish (Nsomba)
	Mice (Mbewa)
	Nkhunguni
	Chicken (Nkhuku)
	Beef (Nyama ya Ng'ombe)
	Goat (Nyama ya Mbuzi)
	Mutton (Nyama ya Nkhosa)
	Termite (Ngumbi)
	Mafulufute
Staples	Maize
	Sweet Potatoes
	Millet
	Sorgham
	Irish/European Potatoes
	Cassava
	Yams
	Plantains/Unripe Bananas

Table 2: Malawi Food Groups[27]	
Food Group	**Type**
	Rice
	Bread
Fat and Oils	Cooking oil (mafuta opikira)
	Meat fat (mafuta a nyama)
	Margerine (Majaline)
	Coconut (kokonati)
	Avocado pear (mapeyala)

Visuals to Assist Answering Questions for Households



Improved Latrine

Unimproved Latrine



Hand washing station



Hand washing station



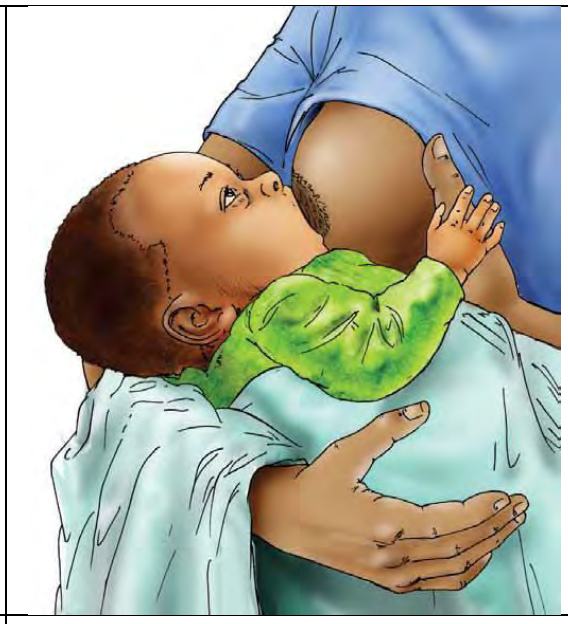
Not Efficient Cookstove



Efficient Cookstove



Good Attachment



Good Attachment



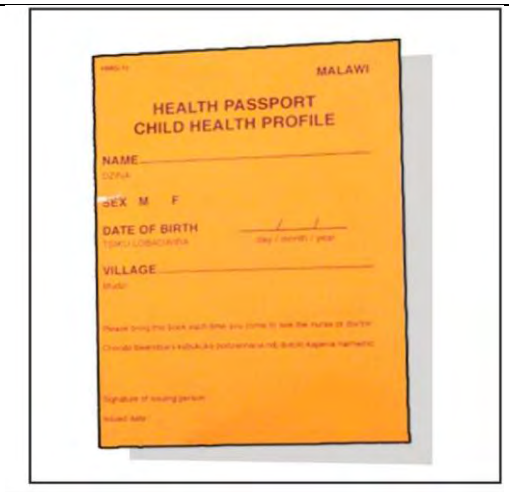
Cradle Position



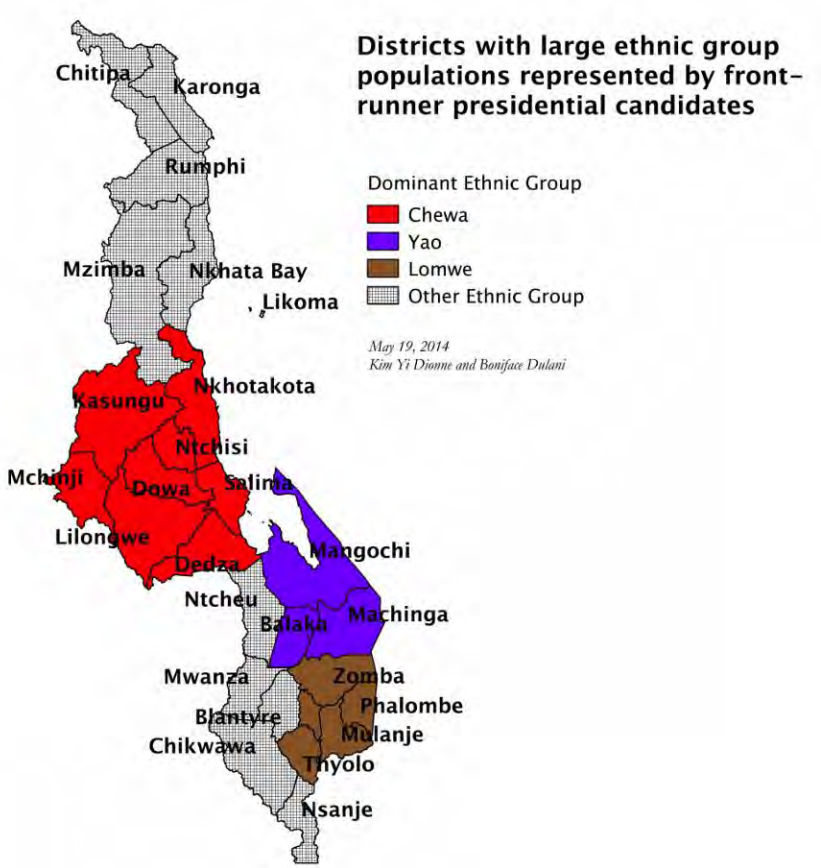
Cross Cradle Position





Side-lying position	Under arm Position
 **Child Health Passport**	

Dominant Ethnic Groups


Districts with large ethnic group populations represented by front-runner presidential candidates
Dominant Ethnic Group
Chewa
Yao
Lomwe
Other Ethnic Group
May 19, 2014
Kim Yi Dionne and Boniface Dulani
Chitipa
Karonga
Rumphi
Mzimba
Nkhata Bay
Likoma
Nkhotakota
Kasungu
Ntchisi
Mchinji
Dowa
Salima
Lilongwe
Dedza
Mangochi
Ntcheu
Balaka
Machinga
Mwanza
Zomba
Phalombe
Blantyre
Mulanje
Chikwawa
Thyolo
Nsanje

ANNEX 10: SOURCES OF INFORMATION

[1] *Please enter the name of the group village headman where the household comes from.*

[2] *(Hand washing Place with Soap and Water)*

[3] *Private facility of the following types: flush or pour-flush to piped sewer system, septic tank, pit latrine, ventilated improved pit (VIP) latrine, pit latrine with slab, or composting toilet.*

[4] *A clean and anitary physical environemtn for infants and young children:clean, safe and protective play and feeding spaces and sanitary physical environments for infants and young children. The environment where children play and eat is free from contamination by human and animal feces and animals in an enclosed structure to prevent contamination of the environment with animal feces.*

[5] *A fair sanitary environment will have a firly clean eniroonment with some issues and not necessarily free from contamination by human and animal feces and animals in an enclosed structure to prevent contamination of the environment with animal feces*

[6] *A poor sanitary environment will have not have a clean eniroonment with major issues and not free from contamination by human and animal feces and animals in an enclosed structure to prevent contamination of the environment with animal feces*

[7] *Source of drinking water is piped water, public tap or standpipe, tube well or borehole, protected spring, protected dug well, or rainwater collection.*

[8] *Water source located on premises, or less than 30 minutes needed to retrieve water.*

[9] *Malawi School Certificate of Education (MSCE), Primary School Leaving Certificate after 1990 is I believe the quality of education.*

[10] *Please enter the name of the group village headman where the household comes from.*

[11] *Performance Monitoring and Evaluation Plan (PMEP). December 2013. Malawi Integrating Nutrition In Value Chains (INVC) Final – Revised. March, 2014.*

[12] *What is an enabling environment for nutrition and how can it be built? Lawrence Haddad, IFPRI University of Zambia September 23, 2014. Available at: http://www.scribd.com/doc/240956740/What-is-an-Enabling-Environment-for-Nutrition#scribd*

[13] *Improving Nutrition Through Multisectoral Approaches. Agriculture and Rural Development. The World Bank. 2013.*

[14] *Using technical language, an infant should be exclusively breastfed from 0-5 months (read as 0 through 5 months, meaning birth through 5.9 months, or 'up to' 6 months), a period of '6 completed months'*

[15] *District level stakeholders include the District Commissioner (DC), the Director of Planning and Development (DPD) who oversee the District Activities and the key technical coordinators/managers for agriculture and nutriton at the District level in agriclulture and nutrition including: the District Food & Nutrition Officer and the District Agriculture Development Officers (DADO).*

[16] *Community Care Groups (CCG) have Nutrition Promoters, which work with multiple CCGs, as well as Lead Mothers/Fathers, which together constitute a CCG.*

[17] *The Nutrition Promoter has to meet with the each of the 12 clustered HHs so that they choose a Lead Mothers. He then has to meet with 12 Lead Mothers who have to identify a care group name.*

[18] *Hence the first ANC visit should be as early as possible in pregnancy, preferably in the first trimester. The last visit should be at around 37 weeks or near the expected date of birth to ensure that appropriate advice and care have been provided to prevent and manage problems such as multiple births (e.g. twins), post-maturity (e.g. birth after 42 weeks of pregnancy, which carries an increased risk of fetal death), and abnormal positions of the baby (e.g. breech, where the baby's head is not the presenting part at birth).*

[19] *Using technical language, an infant should be exclusively breastfed from 0-5 months (read as 0 through 5 months, meaning birth through 5.9 months, or 'up to' 6 months), a period of '6 completed months'*

[20] *Republic of Malawi. Scaling Up Nutrition In Malawi. SUN Community Training Manual. August, 2014*

[21] *The Nutrition Promoter has to meet with the each of the 11 clustered HHs so that they choose a Lead Mothers. He then has to meet with 12 Lead Mothers who have to identify a care group name.*

[22] *These questions have been adapted from a number of key sources including the key USAID/Malawi INVC project 15 prioritized nutrition behaviors, the Scaling Up Nutrition In Malawi SUN Community Training Manual dated August, 2014 that INVC uses to inform their community nutrition programming and adapted from the tested USAID/Mozambique-funded Food for the Hungry (FH) Expanded Impact Child Survival Project Mini-KPC Survey Questionnaire developed in 2007.*

[23] *Hence the first ANC visit should be as early as possible in pregnancy, preferably in the first trimester. The last visit should be at around 37 weeks or near the expected date of birth to ensure that appropriate advice and care have been provided to prevent and manage problems such as multiple births (e.g. twins), post-maturity (e.g. birth after 42 weeks of pregnancy, which carries an increased risk of fetal death), and abnormal positions of the baby (e.g. breech, where the baby's head is not the presenting part at birth).*

[24] *Using technical language, an infant should be exclusively breastfed from 0-5 months (read as 0 through 5 months, meaning birth through 5.9 months, or 'up to' 6 months), a period of '6 completed months'*

[25] *Republic of Malawi. Scaling Up Nutrition In Malawi. SUN Community Training Manual. August, 2014*

[26] *These include cassava leaves, bean leaves, kale, spinach, pepper leaves, taro leaves, amaranth leaves, or other dark green leafy vegetables.*

[27] *Currently in Malawi there are six food groups: 1) vegetables; 2) fruits, 3) legumes & nuts, 4) animal foods, 5) staples and 6) fats & oils*