Improving the Management of Agriculture Demonstration Sites in Food Security Programs

A Practitioner's Guide

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FOREWORD

Demo plots are a common feature of agriculture extension interventions. The majority of the food security programs implemented by World Vision feature demo sites. Demos are also common with other practitioners because they provide a platform to introduce new ideas and allow farmers to experience innovative practices first hand. Despite their popularity, implementation of demos is not always successful and there are many instances where demos fail to convince farmers to adopt new practices.

As part of our quest to enhance collaborative learning and adaptive management, we longed to understand factors affecting the effectiveness of this extension methodology. We found there was not much literature available to guide the implementation of demos. Through a grant from the USAID TOPS program, we embarked on a journey to explore how demos can be made more effective with an aim of producing a guide that program staff and extension agents can use to inform their work.

Many interesting insights emanated from this endeavor. We found that demos have been around for so long that they are implemented almost by default. Demos may not always be picture-prefect but we should remember there is always more than meets the eye. The objectives of a demo should be cultivated together with farmers; they should be clear to allow objective measurement of results. Most importantly, demos should enable farmers appreciate how to experiment and try out new ideas for themselves.

There is a wealth of information we can learn from demos. We have outlined guiding principles across key factors influencing the effectiveness of demos. This publication combines findings from assessing current practices and provides recommendations for improving management of demos. Our hope is that this guide will stimulate dialogue and enhance learning within World Vision and among peer organizations.

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LIST OF ACRONYMS

AAPI – Accelerating Agriculture Productivity Improvement

ACISAI – Asian Centre of Innovation for Sustainable Agriculture Intensification

AESA – Agriculture Extension Support

BADC – Bangladesh Agriculture Development Cooperation

BRRI – Bangladesh Rice Research Institute

CNFA – Cultivating New Frontiers in Agriculture

CREL – Climate Resilient Ecosystems and Livelihoods

CSISA – Cereal Systems Initiative for South Asia

CYMMIT – International Maize and Wheat Improvement Center

DAM – Dhaka Ahasania Mission

DFSA – Development Food Security Activities

EQSS – Enhancing Quality Seed Supply

ENSURE – Enhancing Nutrition, Stepping Up Resilience and Enterprise

ENTERPRIZE – Ensuring Nutrition, Transforming and Empowering Rural farmers, and Promoting Resilience in Zimbabwe

FGD – Focus Group Discussion

FFS – Farmer Field Schools

FSN – Food Security Network

FtF – Feed the Future

ICARDA – International Center for Agricultural Research in the Dry Areas

ICRISAT – International Crops Research Institute for the Semi-Arid Tropics

ICT – Information and Communication Technology

IFDC – International Fertilizer Development Corporation

IRRI – International Rice Research Institute

INSPIRE – Improved Nutrition for Sustainable Production and Increased Resilience for Economic Growth

IPM – Integrated Pest Management

JCF – Jagoroni Chakra Foundation

KII – Key Informant Interview

LSP – Local Service Providers

MoU – Memorandum of Understanding

NARES – National Agriculture Research and Extension Systems

NGO – Nongovernmental Organization

PIA – Program Improvement Award

PKSF – Palli Karma-Sahayak Foundation

PASAM TAI – Programme d'Appui à la Sécurité Alimentaire des Ménages-Tanadin Abincin Iyali

REGIS – Resilience and Economic Growth in Sahel

SRDI – Soil Research Development Institute

TOPS – Technical and Operational Performance Support

USAID – United States Agency for International Development

UDP – Urea Deep Placement

VSL – Village Savings and Loans

TABLE OF CONTENTS

TABLE OF CONTENTS continued

Section 1
Introduction

1.1. BACKGROUND

Agricultural demonstrations (demos) are one of the most common features of agriculture extension. Demos are an important tool for enabling farmers to learn first-hand about improved agricultural production practices. Just as a picture speaks a thousand words, demos can communicate a rich spectrum of messages for farmers. Well-presented demos can play a critical role in enabling adoption. When farmers can see for themselves that a technology works, they are more likely to try it. Conversely, poorly presented demos can negatively affect the learning process and dissuade farmers from adopting a new practice.

Food security projects, including Development Food Security Activities (DFSA)[1], typically include a number of agriculture demos. Despite the ubiquitous nature of agriculture demos, there is surprisingly limited empirical evidence regarding factors that influence their successful implementation. For program managers and agriculture extension teams charged with planning and implementing agriculture demos, the dearth of guidance has created a critical void in capacity.

Against this background, World Vision recently conducted a study to assess prevailing practices in management of agricultural demos across food security programs with the aim of developing guidelines for improving the management of demos. The study was made possible through a Program Improvement Award (PIA) funded by the United States Agency for International Development (USAID) through the Technical and Operational Performance Support (TOPS) program. The study included a review of prevailing practices across food security programs in Bangladesh, Niger, and Zimbabwe, as well as consultations with practitioners and stakeholders from over 18 organizations who are involved in implementing agricultural demonstration sites globally. This publication presents the findings and recommendations stemming from this study.

1.2. SCOPE

The study conducted by World Vision sought to explore what is working and what is not when it comes to management of demos for food security programs. The following queries were explored as part of the study:

1. *What is the scope of demos implemented for food security programs?*
2. *What constraints do implementers face in ensuring successful implementation of demos?*
3. *How do implementers plan and design demos?*
4. *How are stakeholders engaged in establishing demos?*
5. *What costs are involved in establishing demos, and how are these costs managed?*
6. *How is information related to agriculture demos gathered and used?*
7. *How are gender integration and social inclusion addressed when implementing demos?*
8. *How is sustainability factored into the implementation of demos?*

[1]DFSAs are integrated food security programs funded by USAID Food for Peace. They were formerly known as Development Food Assistance Programs (DFAPs). See more at https://www.usaid.gov/what-we-do/agriculture-and-food-security/food-assistance/programs/development-programs.

1.3. METHODOLOGY

1.3.1. Data collection and analysis

Data collection for this study was done in three parts: 1) desk research; 2) a review of case studies in three countries—Bangladesh, Niger and Zimbabwe—which included field visits, key informant interviews (KIIs), focus group discussions (FGDs) with farmers, and stakeholder workshops; and 3) KIIs by phone or email targeting organizations implementing agricultural development programs.

The desk research involved a comprehensive review of materials used to inform the management of agricultural demos. The resources ranged from extension manuals and guides for training farmers to project reports and scientific articles. Each resource was characterized with respect to the questions explored for this study. An initial goal was to compile benchmarking guidelines for effective management of agricultural demonstration sites in food security programs. However, we discovered that agricultural demos are best adapted to the local context and specific practice(s). They are rarely stand alone and are instead paired with other complementary programs. As such, strictly quantitative benchmarks and absolute thresholds are not suitable, and benchmarks were not developed.

Semi-structured interview guides with similar themes were used in both KIIs and FGDs to document characteristics of demos, challenges and lessons learned, best practices, and recommendations for improving the management of demos. The interview guides structured the discussion, but responses were probed to further explore perspectives and issues. A coding system was created for analysis of responses from KIIs and FGDs.

In each case study country, a stakeholder workshop was held where the preliminary findings from the field visits were validated with interview participants and others from government, private sector, civil society, academic and research institutions, and farmer associations. These provided an opportunity for key stakeholders to engage with each other, reflect on strategies, validate preliminary findings, and assess their relevance.

Photo 1. Focus group discussion with farmers in Bangladesh

1.3.2. Sampling

A list of participants in the study is included in Annex A. Table 1 below shows the number of participants targeted in each case study country. Eighteen additional participants representing organizations implementing agricultural development programs that feature demos were interviewed via phone and email for KIIs.

Table 1. Number of participants in focus group discussions and key informant interviews in case study countries

COUNTRY	#OF FGDs	#OF FGD PARTICIPANTS	#OF KIIs
BANGLADESH	10	139	19
NIGER	10	181	16
ZIMBABWE	11	248	20
TOTAL	31	568	55

Organizations were purposefully targeted to capture a wide range of agricultural demo types. Only organizations that had implemented agricultural demos within the last year were included. World Vision spoke with a variety of stakeholders from NGOs to government research and extension agencies to farmer groups, with a focus on food security programs. Effort was made to capture individuals who work on agricultural demos in different capacities, including project managers, researchers and extension agents.

Participants in FGDs were selected by the organization supporting that particular community. In order to capture gender dynamics, efforts were made to interview men and women separately but this was not always possible. About a third of the FGDs involved only women.

1.3.3. Limitations

A few limitations were encountered in conducting the study:

- The selection of sites, projects, and participants was purposeful and not randomized. Random and representative samples reduce bias and are more generalizable, as they reflect the characteristics of the overall population of interest. Because the study timeline was short and access to key stakeholders would have been difficult if randomized, we opted for purposeful sampling and tried to capture variation in agroecologies and different implementers of agricultural demos.
- Due to time constraints and availability of participants, we were not able to visit certain intended projects or align visits with the seasons for certain types of demonstrations. However, the study captured a wide range of views on the subject and environments where demos are implemented.
- The study defined successful management of demos as achieving two goals: 1) seeing is believing—demos should convincingly showcase an improved farming practice or technology, and 2) learning by doing—demos should enable farmers to try the improved practice or technology and learn its advantages in order to make any adjustments required to make it work in their area. Another approach to measuring the success of demos is to evaluate adoption. However, data on adoption was not available in most cases. Adoption also depends on many other factors beyond demos, and rigorous evaluation of this was considered to be beyond the scope of the study.

1.4. WHO IS THE TARGET AUDIENCE?

This guide is intended for practitioners working on DFSAs and similar food security programs that are targeting vulnerable households that include agriculture demos as an extension methodology. Practitioners include technical staff charged with planning and implementing agriculture demonstration sites, program managers providing oversight for implementation of programming components that involve setting up agriculture demonstration sites, and agriculture extension staff working with private and public institutions.

The guide can also be used to inform organizational and government policies related to agriculture extension, giving policy- and decision-makers a better understanding of the factors that influence behavior change in agriculture development. Given that agricultural demos are a critical tool for knowledge transfer and skill building, improving technical and operational efficiency in implementation of demos will contribute toward improved food security and resilience for vulnerable populations.

1.5. HOW IS THE INFORMATION IN THIS GUIDE ORGANIZED?

The guide contains the following sections:

- Section 1 outlines the background, objectives, methodology and target audience of this study, and explains the organization of the publication and how to use this guide.
- Section 2 presents a review of the demos in food security programming, including scope and perceptions of agricultural demos.
- Section 3 presents an analysis of factors affecting implementation of agricultural demos and guiding principles to improve the following aspects of management of agricultural demos:
  - Design and planning
  - Stakeholder engagement
  - Management of costs
  - Constraints and risk mitigation
  - Information management
  - Gender integration and social marginalization
  - Sustainability
- Section 4 provides a summary and conclusions from the study, along with recommendations to enhance the enabling environment and opportunities for learning.
- The final section includes annexes with relevant tools and resources for improving the management of agricultural demos.

1.6. HOW SHOULD THIS GUIDE BE USED?

This guide is intended to be used as a reference manual for practitioners working in agricultural extension. Program managers and technical staff responsible for managing agricultural demos can refer to this guide to gain a better understanding of the factors they should consider to address common constraints and build on best practices for implementing demos. An assessment tool is provided to help practitioners evaluate their own programming against the guiding principles. Practical tools are provided for each guiding principle to help practitioners plan and implement successful demos.

Section 2

Review of demonstrations in food security programs

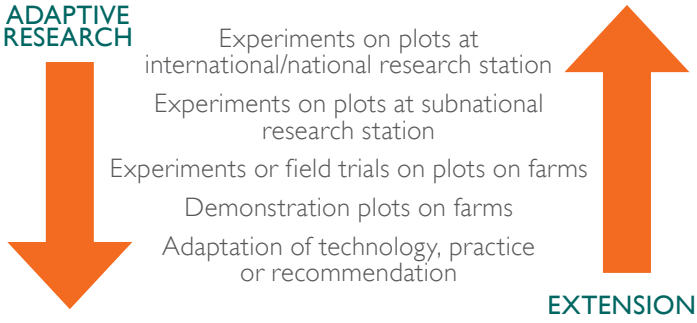
2.1. DEFINING AGRICULTURAL DEMOS

Agricultural demonstrations are used in many contexts around the globe. They are a critical part of an agricultural extension agent's toolkit, and an important strategy for agricultural development programs. Since being pioneered in the United States in the early 1900s (Hancock 1997), they have been adapted for different purposes, such as evaluating results or teaching agricultural methods. They have also informed different types of agricultural practices, ranging from the simple use of improved seeds and mineral fertilizer to complex multi-season practices like conservation agriculture.

In an agricultural demo, the showing can take many forms, but the product or service is typically an innovative agricultural practice or technology, and the farmer is in the role of the prospective consumer.

There are as many names for agricultural demos as there are variations on them. Depending on the context, demos can be referred to as on-farm or field demonstrations, demonstration plots, or even model farms.

Figure 1



Agricultural demos are at the intersection of adaptive agricultural research (testing and evaluation) and agricultural extension (outreach), shown in Figure 1 (adapted from Gibbons and Shroeder, 1983). They can be a means of diagnosing problems with a practice, and adapting that practice to the local context. In part because of their ubiquity and flexibility, there are many different ideas about what exactly an agricultural demo is. For the purposes of this study, World Vision was interested in demos used to disseminate and adapt proven agriculture practices and technologies, as opposed to demos used for research. Research demos are typically implemented under the direction of scientists with strict protocols, which include a comparison between the technology being tested and traditional practice. Dissemination demos, on the other hand, are focused on encouraging the adoption of a specific practice or technology and may be more variable in form.

A

Adoption in the agriculture sector is a process often recognized to have three steps: awareness of the new technology or practice, trying out the technology, and continued use of the technology or practice, or "sustained adoption" (Lindner et al., 1982).

Demonstration: a showing of the merits of a product or service to a prospective consumer.

Z

Based on these characterizations, we settled on the following definition of agricultural demos as referenced in this guide. An agricultural demo is a site set aside to: 1) demonstrate innovative agricultural practice(s) under local conditions, allowing the farmer and community to evaluate the relative merit of the practice ("seeing is believing"); and 2) foster learning and knowledge transfer with respect to the innovative agricultural practice(s) through the site itself, the farmer(s) who are working on the demo, and activities associated with the demo ("learning by doing").

Different sources define agricultural demos as follows:

- ***A field demonstration*** shows technologies or practices in farmer's fields and under farmer's conditions (Bell and Rickman, 2013).
- Gibbons and Shroeder (1983) describe ***on-farm demonstrations*** as a point where adaptive agricultural research and agricultural extension overlap.
- ***Demos*** illustrate the application of appropriate technology, adapted to local conditions, and have predictable outcomes based on a foundation in research (Hancock, 1997).
- ***In-field demonstrations*** help farmers determine how new hybrids, products, and cropping practices compare to standard practices on their farms (Herendeen et al., Undated).

Photo 2. Agricultural demos in Zimbabwe (top), Bangladesh (center), and Niger (bottom)

2.2. SIGNIFICANCE OF AGRICULTURAL DEMOS

The study conducted by World Vision confirmed the belief that agricultural demos are one of the most popular extension outreach methodologies used in food security programs. Virtually all food security programs funded by USAID and other major donors in Bangladesh, Niger, and Zimbabwe include a variety of agricultural demos targeting millions of farmers in total. Table 2 shows the number of demos implemented across the sampled food security programs in the case-study countries as well as the number of farmers targeted through these demos.

Table 2. Number of agricultural demos and farmers targeted in Bangladesh, Niger, and Zimbabwe[2]

PROGRAM	# OF DEMOS	# OF FARMERS TARGETED
Accelerating Agriculture Productivity Improvement (AAPI)	> 3,600	1 million
Agriculture Extension Project (AESA)	153	26,000
Agro Input Project	>400	> 1 million
Climate Resilient Environment and Livelihood (CREL)	800	16,000
Cereal Systems Initiative for South Asia (CSISA) III	55	62,000
Nobolok's Palli Karma-Sahayak Foundation Project	31	13,000
Shushilon Resilient Project	1800	62,000
Total across 7 programs in Bangladesh	> 6,839	> 2.2 million
Livelihoods, Agriculture and Health Interventions in Action (LAHIA)	46	14,400
Programme d'Appui à la Sécurité Alimentaire des Ménages-Tanadin Abincin Iyali (PASAM-TAI)	672	20,000
Resilience and Economic Growth in Sahel (REGIS)	614	400,000
Total across 3 programs in Niger	1332	434,000
AMALIMA	115	39,240
FtF Crop Development Program	90	50,000
Enhancing Nutrition, Stepping Up Resilience and Enterprise (ENSURE)	759	12,500
Total across 3 programs in Zimbabwe	>15,974	>5.3 million

[2]The number of demos and farmers targeted is based on reports provided by program staff. It may not be exact but is an accurate estimate based on information provided.

In addition, the study found that demos are also widely used by government extension agencies, private sector companies, and research institutions.

- In Bangladesh, demos are implemented by the Department of Agriculture Extension (DAE), Bangladesh Rice Research Institute (BRRI), Bangladesh Agriculture Research Institute (BARI), and private sector companies such as Ispahani Ltd. and Metal Agro Ltd. There are also many nongovernmental organizations (NGOs) implementing non-USAID programs who use demo sites, including Shushilan, Nobolok, BRAC and Concern Universal.
- In Niger, demos are implemented by government agencies including the Department of Agriculture Extension and the Department of Livestock, as well as private sector input suppliers such as Halal Ltd. and Amate Ltd. Other organizations such as International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and International Fund for Agriculture and Development (IFAD) are also implementing demos in Niger.
- In Zimbabwe, government agencies implement demos for extension and research: largely seed companies marketing seed varieties. There also many NGOs implementing demos on non-USAID funded programs such as Christian Care in Masvingo, EXTRA in Midlands Province (Gokwe South, Kwekwe and Shurugwi Districts), and Muonde Trust in Midlands province (Zvishavane).

Information gathered through phone interviews also indicates that organizations such as CARE, Fintrac, Mercy Corps, One Acre Fund, and Save the Children use demos regularly in agriculture interventions.

Agricultural demos can be implemented year-round, with different activities demonstrated depending on the cropping calendar. Farmers participate in demos in two primary ways: by hosting a demo or participating in training activities at a demo. Passersby also can be drawn to demos, serving as an advertisement for improved farming practices. Demos can be established by individual farmers, but in most cases they are set up by a group of farmers on an individual farmer's field. Typically one farmer will host one demo, although in some cases a farmer may host multiple demos, or many farmers may host a single demo. The study found that implementers may not know exactly how many farmers are being reached through each demo. The number of farmers reached through demos is usually an estimate. However, demos are designed to reach the maximum number of farmers targeted in extension outreach. There is no official formula, but projects report that 10-30 farmers can be organized around one demo. The ratio of farmers per demo seems to vary widely depending on the types of demos and the resources available to establish demos.

2.3. DIVERSITY OF AGRICULTURAL DEMOS

A wide variety of demos exists across food security programs. Most demos across the programs featured showcase improved crop production practices—particularly certified seed varieties of staple crops. Livestock and aquaculture demos are also featured on food security programs, albeit to a lesser extent. Table 3 shows different types of practices that are commonly promoted through demos in each of the three countries.

Table 3: Types of practices shown on demos

TYPES OF AGRICULTURE PRACTICES	BANGLADESH	NIGER	ZIMBABWE
Agroforestry	1	1	1
Aquaculture	3	0	0
Cattle rearing	1	1	4
Conservation agriculture	2	5	7
Fodder production and live fencing	0	3	1
Horticulture (fruit, vegetables, spices)	4	0	0
Improved cereal varieties (millet, sorghum, maize, rice)	6	8	4
Integrated pest management	3	0	2
Irrigation	1	3	1
Legume varieties (cowpea, groundnut)	0	0	3
Nutrition or homestead gardens	4	1	1
Poultry production	4	1	4
Soil fertility (fertilizer application techniques and composting)	5	5	1
Soil and water conservation[3]	1	0	3

The study also found that practitioners in each country categorize demos in their own unique way.

- In Bangladesh, demos are categorized as either main season or winter demos, depending on the time of year when they are established, which also determines the type of technology showcased. Demos are also categorized as either individual or block demos. Individual demos are single site units usually managed by a farmer working with other farmers in their area. Block demos are an aggregation of demos in one area that are combined on a contiguous stretch of land to build economies of scale, mainly for seed multiplication.
- In Niger, demos are categorized as either single crop or mixed cropping demos. Examples of single crop demos include demos for cereal varieties such as millet, sorghum, and maize. Legume demo sites promote varieties for groundnuts and cowpeas. Mixed demos typically integrate a variety of technologies and practices.
- In Zimbabwe, demos are categorized as either commercial or food security demos. Commercial demos focus on the income pathway and are often run in conjunction with the private sector to promote market products. Food security demos showcase practices designed to increase production and, in some cases, consumption of nutritious foods. Commercial demos can be set up by private sector companies, such as seed companies, which typically establish demos in different parts of the country on the roadside as an advertisement for their products. Demos are also often characterized as mother demos or baby demos in Zimbabwe. Mother demos are primary sites where lead farmers from secondary groups gather to learn about practices that they can showcase in demos set up within their own communities, called baby demos.

[3]Water harvesting, dead-level contours, infiltration pits, mini-dams, or ponds

2.4. POPULARITY OF AGRICULTURAL DEMOS

Demos are widely appreciated by all practitioners and beneficiaries as a critical tool for extension outreach. The popularity of demos can be attributed to the following factors:

a) Seeing is believing

One of the most basic expectations of a demo is that it will serve as an advertisement to persuade farmers to adopt the improved farming practice being promoted. Witnessing the results of an innovative practice firsthand can have a powerful effect. In Zimbabwe, seed companies have long been aware of this and have consistently used demos to promote their products.

b) Learning by doing

Demos provide an opportunity for hands-on learning, enabling farmers to see what does and does not work as they try out new farming technologies. Demos offer an environment that is conducive for adult learning, as adults remember more of what they learn experientially than they do of what they learn orally or visually (Mthinda 2015).

c) Risk management

Demos allow farmers to try a new idea on a small piece of land to make sure it works before they apply it to a wider area. Farmers do not have to adopt practices shown in a demo wholesale. They can select what aspects most appeal to them, and try those on their own farm. This lowers the risk threshold for new technologies, allowing farmers to take on only what they are comfortable trying.

d) Efficiency

Demos can be an efficient way of reaching many farmers, especially when they are built around farmer groups. They provide a useful platform for congregating and training farmers. In situations where a cascading (training of trainers) approach is used for extension outreach, demos serve as a classroom, where lead farmers can meet to learn about innovative practices so they can replicate demos on their farms. Each demo then becomes a locus for learning and dissemination, enabling efficient scale-out of technologies.

e) Tradition

Demos have been used in extension for so long that they have become a default approach. It is hard to imagine an extension system that does not feature demos. Their ubiquity has resulted in some level of automatic thinking among practitioners, making it difficult to envision alternatives to this approach. In such cases, the question is often not whether demos or necessary, but where, when, and how they will be implemented.

2.5. CONCERNS ABOUT AGRICULTURAL DEMOS

2.5.1. Perceptions among practitioners

Although demos are widely appreciated, the study found that practitioners and beneficiaries have significant concerns regarding the implementation of demos on food security programs. Interviews with practitioners captured the following main concerns associated with demos:

a) Weak participatory approach

Poorly implemented agricultural demos can be emblematic of the technology transfer model of agricultural extension, which is a linear, top-down model where knowledge is created by research or industry, then moves to extension agents before finally reaching farmers. Many agricultural demo programs that we encountered did not have a strong participatory approach. Technologies showcased through demos are often introduced externally, and rarely did we find demos showing ideas that farmers themselves had chosen.

Sustainability:
The capacity of a host country entity to achieve long-term success and stability and to serve its clients and consumers without interruption and without reducing the quality of services after external assistance ends" (USAID 2017).

b) Lack of sustainability

Practitioners questioned the sustainability of project impacts. Would farmers' use of demo practices continue without project support? Would learning and gains last after projects concluded?

c) Weak engagement of private sector

Practitioners voiced concern that demonstrations are typical of an earlier model of development that does not adequately engage the private sector, which is necessary to make lasting impacts.

d) Poor fit for purpose

While agricultural demonstrations are a flexible tool, there is concern among donors, academics, and technical staff that they are a default strategy for agricultural programs. The perception is that agricultural demos are best utilized for gaps in knowledge about a practice or a technology and as a platform for farmer learning and experimentation. However, agricultural demonstrations are included in the majority of agricultural program plans that have an advisory component. This inclusion may be without regard to the suitability of a practice for demonstration, to the barriers to using a technology or practice, or to the community needs. Often the primary barrier to using a technology or practice is not related to knowledge, and further demonstrating the technology will do little to overcome these other barriers.

e) Poor presentation

In a general critique regarding the poor presentation of demos, practitioners felt that, in many cases, demos fail to show a clear advantage of using the promoted practice. The picture below from the midterm evaluation of a program implemented in Malawi from 2009 to 2014 captures this concern. The visual impact of a demonstration is important, and there is potential for poorly performing agricultural demos to deter farmers.

Photo 3. Persuasive and unconvincing agricultural demos. TOP: Persuasive–WALA on the right, traditional on the left. BOTTOM: Unconvincing–WALA in the foreground, traditional in the rear.

Photos by Mike DeVries

Another concern by practitioners during in-person and phone-interview KIIs is that decisions made about how to implement agricultural demos can leave the demos seeming artificial to a farmer. Agricultural demos are often sited on land with favorable conditions where they will receive access to special inputs and attention, and the risk of failure is minimized. This may result in a well-presented practice, but can diminish the practice's credibility with respect to how it would perform in a farmer's own field.

2.5.2. Farmer concerns

a) Weak institutional support

In each of the case study countries, farmers expressed concerns regarding poor implementation of and lack of institutional support for the demo. "The site was a failure. They did not bring the input on time, did not pay the agriculture agent on time, and did not supply fuel for the pumps for two months," said a men's group in Niger. Farmers voiced that more frequent visits, more technical support and training, and the timely arrival of supplies would make for better programs.

b) Adoption constraints

Farmers also complained that even when they believe in a demonstrated technology, they do not always have access to it, either because it is not available in the market or because they cannot afford it. In Bangladesh, this concern was especially prominent and was mentioned in each FGD. "We struggle to make the initial investment to do the improved practices," said a women's group in Bangladesh. Farmers in Niger also reported that "most people don't have means to implement the practices."

Despite these concerns, agricultural demos continue to be a prominent and important tool for reaching farmers with innovative technologies. Understanding the reasons why practitioners and beneficiaries like demos—as well as the concerns they have regarding their effectiveness—helped set the stage for defining guidelines to improve implementation of this programming aspect. We found that there is no single "right way" of managing demos. Rather than provide a how-to manual, we found it more appropriate to recommend a set of principles to help practitioners evaluate key factors in implementing demos for food security programs—particularly those targeting vulnerable households. The subsequent section of this publication presents principles across seven significant factors for effective management of agricultural demos on food security programs.

Vulnerable groups are typically comprised of children, pregnant women, the elderly, and the disabled. They are groups of people that have difficulty living a comfortable life, lack development opportunities, and find it difficult to exercise their human rights fully (Sastry & Gade, 2012).

Section 3

Implementation principles

3.1. DESIGN AND PLANNING

Improving the effectiveness of demos requires sound design and planning. In assessing prevailing practices in management of demos, World Vision started by reviewing how demos are designed and planned prior to implementation. Specifically, we sought to understand how implementers go about analyzing whether demos are needed in each context, what kinds of demos are needed, how many demos are needed, what selection criteria is used for host farmers, and the locations of demos. We were also interested in understanding the support structures implementers put in place to ensure consistency in implementation of demos, including provision of oversight and reference materials for the field staff and beneficiaries who manage demos. This section outlines key constraints and lessons across the three case study countries and recommendations for improving the design and planning of demos.

Key takeaways

- Demos tend to be included in program design as a default extension methodology. To avoid this, implementers should carry out formative research at the design phase and during implementation to evaluate the appropriateness of using demos. If demos already exist in the area, what aspects are working well and what constraints need to be addressed to improve the effectiveness of demos? Are demos needed? What alternative methods exist for transferring skills and knowledge to farmer?
- In implementing demos, we should avoid having a top-down approach where external actors introduce ideas into the community without prioritizing the needs and preferences of farmers. Farmers need to be given greater say in the design and planning of demos.
- Demos should be kept simple so it is easy to attribute results to the promoted technology or practice.
- Decisions on demo size and location of demos should be flexible to accommodate the needs of diverse farmer groups.
- Selecting sites where production conditions are most favorable makes the demo less believable. Consider selecting sites where conditions are representative or even less favorable to showcase the potential for restoration of degraded landscapes.
- Start with a few pilots and then let farmers drive the process of scaling up demos. The pilot demos should be done within resource levels that are manageable for farmers in the area.
- Ensure field officers have the capacity to support farmers as they implement demos. Inadequate support is typically a major cause of failure.
- In implementing demos, we should keep in mind that the demo is a means to an end and not an end in itself. The ultimate goal is to help farmers appreciate the value of experimentation and evidence based decision-making in adopting new farming practices.
- The Assessment Tool for improving the management of agricultural demonstration sites in food security programs (Annex C) includes key questions to ask during design and planning phase to ensure demos are effective.

3.1.1. Are agricultural demos needed?

The planning process for demos across food security programs usually starts at the project design phase when the proposal is being developed. Implementers will generally identify demos as a platform for delivering extension support to farmers without questioning whether demos are needed—perhaps because practitioners do not feel there are viable alternatives. Because demos have been a common feature in agriculture extension for so long, they tend to be included almost by default.

Proposals and project design documents may include details regarding the practices to be promoted, the number of demos targeted for implementation, and the resources allotted to support the establishment of demos. Evidence is normally gathered through rapid assessments to identify appropriate practices to be promoted through demos. Figures regarding the number of demos to be implemented are usually estimates based on the number of farmer targeted, the number of practices, and the geographic area to be covered under the program. Estimates for the number of demos planned is often obtained through consultation with government and private sector extension service providers and forms the basis for budgeting. In some instances, implementers may use experience gained working in a certain area to come up with numbers of demos and to design the specifications necessary to put together budgets.

When asked who came up with the idea of conducting demos in their area, farmers in all three case study countries stated that either the program or the program and government extension workers came up with the idea. This shows that in most cases the initiation and planning of demos follows a top-down approach, although there are instances where implementers consult with farmers and local stakeholders to decide if demos are needed.

3.1.2. What kinds of agricultural demos are needed?

As indicated in section 2.3, demos can vary greatly depending on objectives. The study team was interested in knowing how decisions are made regarding the characteristics of demos to be implemented in various areas. While there might be some indications in the proposal of the kinds of demos to be established, this decision is normally made during implementation. The variety of demos depends on the practices being promoted and the guidance provided by extension agents. Sometimes demos are designed with researchers, e.g., from national agriculture research institutes or CGIAR[4] international centers for agriculture research, such as ICRISAT in Niger and Zimbabwe and IRRI in Bangladesh. Researchers may advise on the size, layout and treatments to be included on demos, but this is normally the case only if there is an explicit research objective.

The selection of practices to be promoted is often done by program staff in consultation with government and, in a few cases, private sector extension service providers. The choice of technologies also depends on crop calendars. Implementers demonstrate technologies or methods based on the cultural practice that is most relevant for the time of year, e.g., conservation agricultural demos may be set up to promote practices such as mulching and minimum tillage, but the same demo can be used to showcase post-harvest handling and storage practices near the time of harvest.

Another important factor in the selection process is the number of practices to be promoted. Most demos we saw were promoting multiple technologies in one demo site. Having too many practices demonstrated at one site, however, can make it difficult to understand advantages conferred or attribute differences in outcomes to specific practices. In Bangladesh, the Department of Agriculture Extension (DAE) provided good guidance on the distinction between single technology and package demos[5]. Implementers thus need to work with stakeholders to make sure that the demo is simple enough that farmers can easily monitor the impact of the promoted technology. Other approaches to demos include integrating demos for different activities at model farms. In Zimbabwe, for example, we found that demos for improved livestock housing, home gardening and water harvesting are done in the same homestead. This maximizes the opportunities for learning because farmers can see multiple demos in one place. However, not all host farmers can manage multiple activities well, so implementers should be careful to avoid over-burdening the farmer.

Demo size often depends on availability and the amount of resources provided to demo hosts. Implementers will recommend the size of demos to farmers and government extension agents depending on how much they have budgeted for items like inputs. Farmers do not have much say in determining the characteristics of demos. Often they rely on implementers and government extension agents who are bringing in new ideas that need to be promoted. This reinforces the notion that demos are implemented using a top-down approach. Implementers should give farmers an opportunity to select the kinds of practices they want to demonstrate.

[4]Consultative Group for International Agricultural Research
[5]http://dae.portal.gov.bd/sites/default/files/files/dae.portal.gov.bd/publications/295f75c5_f491_4f9c_bd63_86f3268e231d/Extension_Mannual_Chapt10.pdf

3.1.3. How many agricultural demos are needed?

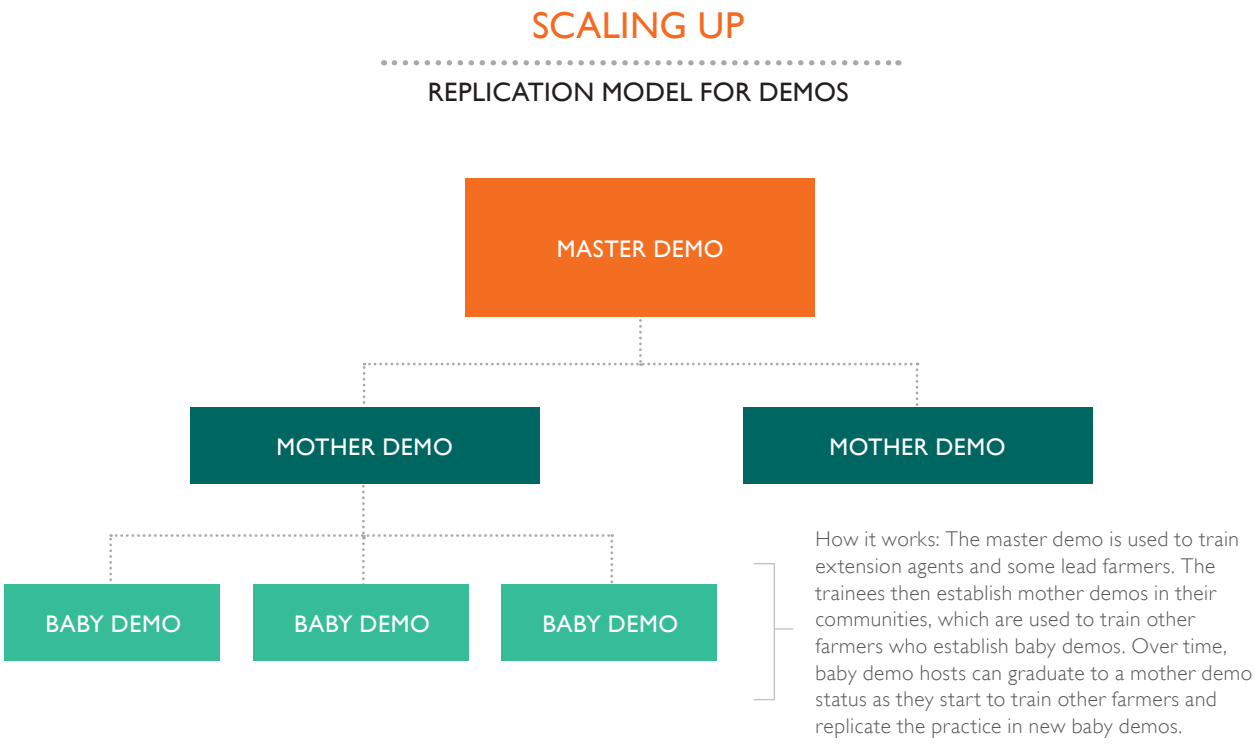
In most cases, program staff will determine how many demos are needed. Government extension staff may be consulted, but ultimately the number of demos to be implemented depends on the availability of resources provided to establish them. The target number of demos is usually prescribed in a proposal tied to the budget; implementers will use this as a guide in deciding how many demos to support in each area. Often farmers will express a desire to have more demos in their vicinity. Government extension officers also indicated that the number of demos are often inadequate compared to the demand.

Although it is hard to prescribe a formula for determining the number of demos needed, implementers should monitor the adequacy of demos during implementation to ensure farmers have reasonable access to them. Implementers can approach this issue the same way you would approach a classroom training. Ideally, each group of 10 to 30 farmers should have access to a demo site. The level of support provided to establish demos can be adjusted over time, but using this number as a guide at the planning phase helps match supply with demand.

Implementers should also consider the terrain and distance farmers must cover to access demos. This can be done through annual monitoring assessments that note how long it is taking farmers to get to a demo and how often they are visiting the demo. Budgets and targets should be flexible to allow adjustments for on-the-ground realities.

To optimize the number of demos, implementers may start by piloting a limited number of demos in the first year and allowing program participants to replicate demos based on the pilots as the project progresses. This would allow farmers to shape the implementation strategy for demos in subsequent years. An example of this is shown in Figure 2, which represents a model used by the ENSURE program in Zimbabwe. The project in this model provides a blueprint for how to set up demos, but local extension agents and farmers can choose what they want to show at the demo. The implementer would make the initial investment, but care should be taken to avoid expensive demos that farmers are unlikely to afford as they replicate the model demo (MercyCorps, 2014).

Figure 2. A replication model for demos



3.1.4. Selection criteria for host farmers

Selection of hosts for demo sites is done through consultation between program staff, government extension agents and local leaders. A few projects have a set of written criteria, but most programs use informal guidelines. The selection of hosts is typically tied to the desired location for the demo, e.g., if preference is to have a demo near a path, then only farmers who have land in such locations will be selected as hosts.

The most common criteria for selecting hosts is a requirement that they be a "progressive farmer." This implies someone who is innovative and whom people consider to be one of the best farmers in the area. This normally leads to the same farmers being selected as hosts by different projects. Even when farmers are given a chance to select a host, elite capture occurs, and the same people end up being selected. Other common criteria for selecting host farmers include:

- The farmer must be willing to contribute towards the cost of implementing the demo
- The farmer must be willing to teach others and have strong pedagogical skills
- For livestock demos the farmer must have cattle, or, for aquaculture demos, a pond

Some projects have a criterion that if a farmer has hosted a demo in the last year they cannot be supported to host another demo again, to give others a chance. A few programs will require a specific number of male and female host farmers.

Community leaders can recommend specific farmers based on criteria provided by programs, sometimes in consultation with farmer groups. In Bangladesh, the assessment found that farmers would discuss among themselves and agree on who would host the demo. In some cases, the selection was based on wealth. Farmers who were poor were selected because they could use the help provided by the project. The projects found that poor farmers were more committed, and worked very hard to meet expectations.

There is no one-size-fits-all approach to defining the criteria for selecting demo hosts. It is important that the project facilitates an objective method for selecting demo hosts and clearly communicates expectations. The host farmer selected needs to be seen as being representative of the target population. The Technical Guidance for Farmer Field Schools[6] (MercyCorps, 2014) provides good guidance on selecting demo hosts.

[6]http://www.fsnnetwork.org/learning-lasts-technical-guidance-farmer-field-schools

3.1.5. Selection of agricultural demo site location

The decision of where to establish the demo is often made by farmers using guidance provided by program staff and government extension agents. The assessment found that the overriding preference is to have a demo located by the roadside or in a busy transport corridor. This is intended to maximize exposure of the demo to farmers in the locality. However, the preference to have demos by the roadside can narrow the choice of farmers who can host demos, since not all farmers will have land in desired locations. Choice of demo site location is dependent on the host. Progressive farmers may have land where conditions are favorable, and this can negate the credibility of the demo. Implementers should consider siting demos in less than favorable environments, e.g., areas where land degradation has occurred but can be reversed as part of the demo.

Another common criterion for selecting the location of a demo is to have it in a central location. In such instances, farmers are considering the proximity of the demo to their homes. Farmers may also consider the accessibility of the site. In Zimbabwe, we found that farmers selected a site that extension officers could visit easily. Some hosts selected a parcel close to their home to make it easier for them to monitor and attend to it. The location of the demo is an important factor to consider in ensuring sustainability.

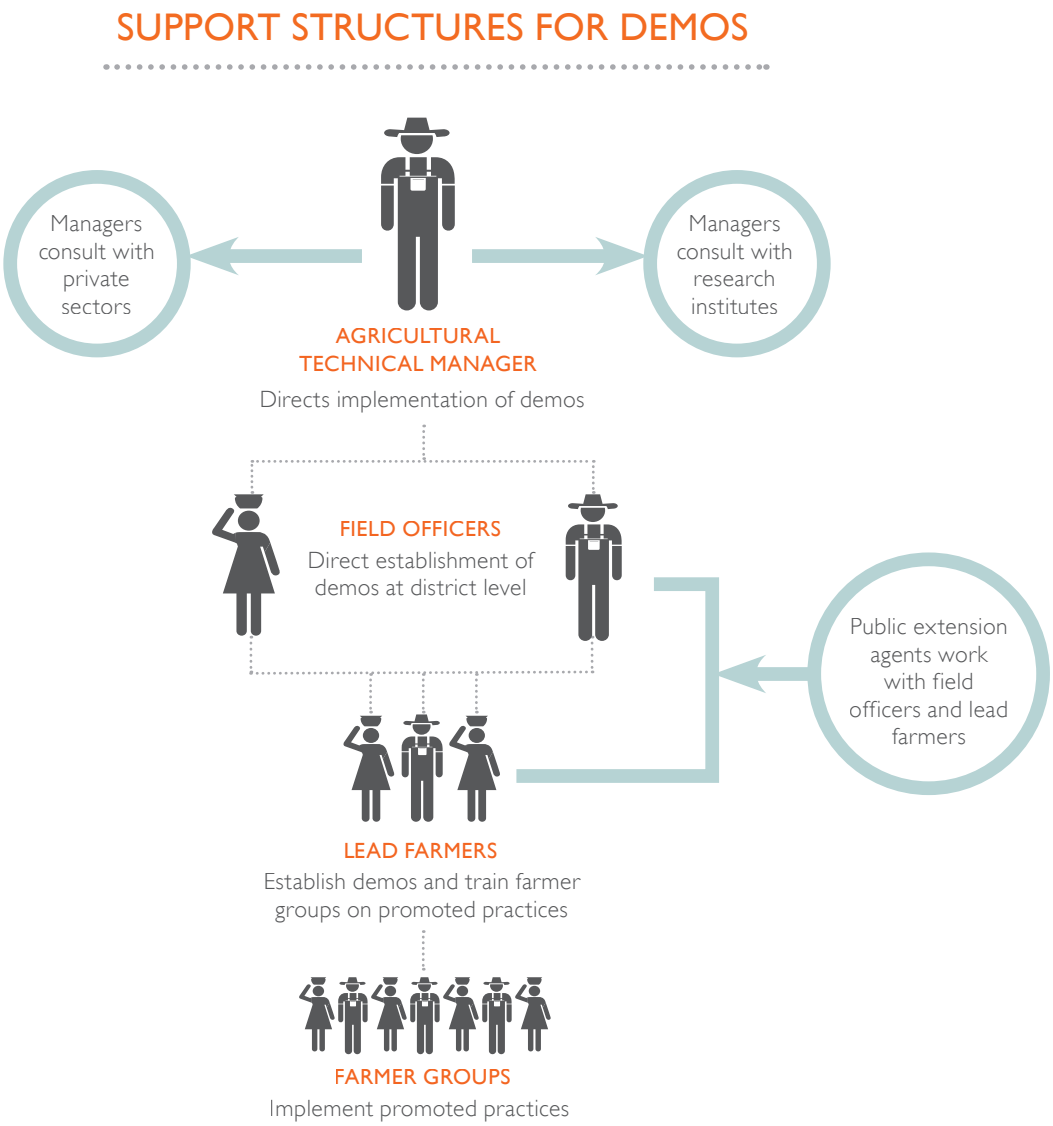
In a few instances, we found that environmental protection is factored as a criterion for selection of demo site location. In Bangladesh, for example, farmers were sensitized to the need to avoid selecting sites where soil erosion was likely, e.g., on a steep slope or by the riverbed. Land use history is considered to ensure that the site is not prone to diseases and pests. Aquaculture and livestock demo sites are particularly sensitive, and we found that their implementers are more likely to have strict requirements. Demo sites that use pesticides, if funded by USAID, adhere to strict guidelines for placement.

3.1.6. Support structures for overseeing agricultural demos

World Vision was interested in understanding how programs go about deciding what support structures they should have to ensure adequate oversight for demos. Lack of adequate oversight was brought up as a common constraint by farmers, and even extension officers admitted to being unable to adequately monitor demos either because they have too large of an area to oversee or because they do not have budget to cover travel costs.

A typical support structure includes a technical manager at the project management unit, a field officer, and a lead farmer who hosts the demo (see Figure 3). Government extension agents may provide support in most cases, but their capacity is also limited, especially when it comes to budget for travel. Private sector agents do not visit as often; they rely on program staff and government extension. Researchers will sometimes support demos, but they make fewer visits compared to extension agents. It is important for programs to ensure a balance in ratio of demo sites to extension agents.

Figure 3. Support structures for demos



3.1.7. Guidance materials

There are few instances where a written guide is provided to ensure consistency in approaches to managing demos. However, most programs do not have written guidelines and approaches are often agreed upon verbally. Where guidelines are provided, extension workers complained that they are too restrictive. Most programs indicated they provide training to lead farmers and demo hosts at the beginning of the season to ensure that everyone is on the same page regarding the methodologies. Ensuring consistency in the approaches used to manage demos is important. Implementers should strive to provide objective principles, allowing for flexibility so that field extension workers can adjust as needed. Guidelines should also be reviewed to ensure they meet standards for quality assurance in demos.

The design and planning processes have a significant impact on the success of demos. If done correctly from the beginning, the likelihood of success in implementing demos increases significantly. The study showed that practitioners may not be doing enough to make the design and planning of demos participatory. To avoid a top-down approach, farmers need to be given more say in how demos are designed and planned. Based on the above observations,
we recommend the following:

1) To improve the design of demos, implementers should evaluate the necessity and design of demos at the pre-design phase of programs. Specific questions should be included in pre-design assessments to evaluate whether demos are needed and, if so, what types of demos and targets would be most appropriate. This should be done in consultation with key stakeholders in agriculture extension, including farmers. Implementers should avoid implementing demos as a default strategy; the design and planning of demos should be evidence-based.

2) Selection of practices and demo types should be done in consultation with stakeholders. A clear distinction should be made between research demos and dissemination demos. Practices should be kept simple so it is easy to attribute impact. Where possible, demos for different activities, e.g., crop production and livestock, home gardening, and water harvesting, should be integrated within a homestead to enhance learning.

3) The selection criteria for demo site hosts should be based on a thorough and objective process. The criteria should take into account positive deviants, e.g., vulnerable farmers who are already practicing sustainable farming practices even though they face many challenges. They should also take into account factors such as inclusion of socially marginalized groups.

4) Implementers should carefully monitor the oversight provided to host farmers and ensure adequate visits are made during the course of implementation. Milestones should be identified when visits will be scheduled by an extension officer and, based on this, each officer should have a schedule that ensures they can visit all demos assigned within their coverage area during the milestones. Where officers find they are unable to make visits as required, the program should consider reducing the number of demos or increasing the support staff, or facilitate visits through public extension workers if they have the capacity. Implementers should provide consistent guidance to field staff and host farmers on how to establish demos.

A

Positive deviants: In communities, there are groups or individuals whose uncommon practices or behaviors lead them to more successful solutions to problems than their neighbors. These individuals or groups are termed positive deviants, and identifying these solutions that already exist within the community is a strategy for problem solving (Lapping et al., 2002).

Z

3.2. STAKEHOLDER ENGAGEMENT

Implementation of demo sites is often dependent on a variety of stakeholders. The study team was interested in understanding how implementers go about engaging and coordinating the participation of stakeholders in implementation of demo sites. We sought to explore the following parameters:

1) Which stakeholders are involved in the implementation of agricultural demo sites?
2) What roles do the various stakeholders play in implementation of demos?
3) What coordination mechanisms do food security programs use to enhance engagement of stakeholders?

Study findings in regard to these queries are presented hereby. We also analyze the constraints implementers face in engaging stakeholders and provide guiding principles for ensuring effective engagement of stakeholders.

Key takeaways

- There is a wide array of stakeholders involved in implementation of demos, including farmers, government departments, NGOs, formal and informal private sector, and local leaders.
- Periodic stakeholder mapping exercises can help assess the capacities, roles, and interests of actors involved in implementation of demos, identify gaps and align capabilities.
- Farmer field days are the most common coordination platform for stakeholders involved in implementation of demos but more regular interactions are needed.
- Bring together all key partners regularly. This will facilitate information sharing and coordination. Projects often rely on farmer field days for coordination of stakeholders around demos but these should be complemented with other mechanisms of interacting on a regular basis.
- Formalize the relationship as a process for clarifying objectives and a commitment to undertake the assigned roles in the partnership.
- Involve the private sector and link them directly with farmer groups and village agents so they can build sustainable relationships
- Where possible, negotiate with private sector and input suppliers to have demo kits that can be distributed directly to farmers as a way of strengthening market access.
- The Assessment Tool for improving the management of agricultural demonstration sites in food security programs (Annex C) includes key questions to ask about stakeholder engagement to ensure demos are effective.

3.2.1. Identification of stakeholders

Across all three case study countries, there was consistency in terms of the categories of actors engaged in the implementation of demo sites. Demos are often initiated or facilitated by development programs working in coordination with farmers, public and private extension service providers, and, in some instances, researchers. Table 4 shows examples of stakeholders across food security programs in the three case study countries.

Table 4. Examples of stakeholders engaged in implementation of demo sites

STAKEHOLDER	BANGLADESH	NIGER	ZIMBABWE
Government extension departments	Department of Agricultural Extension, Union Parishad – LGD, Upazila Parishad – LGD, Department of Fisheries, Department of Livestock	Department of Agricultural Extension, Department of Livestock	Department of Agricultural Extension and Technical Services (AGRITEX), Division of Livestock Production and Development (DLPD), Department of Veterinary Services (DVS)
Private sector	Syngenta, Bayer CropScience, Supreme Seed Company, Global Agrovet, Lal Teer Seed	Amate, Halal	Seed Co, Prime Seed, DuPont Pioneer, Pannar Seed, Klein Karoo (K2), Zaka Super Seeds, National Tested Seeds, Syngenta, Mukushi Seeds, Windmill, Shatberry, Mutema Brothers, Shamu Hatcheries, Montana Carswell Meats, Michview Enterprises, Kadrum Livestock, Valuta Finance Corporation, Metropolitan Bank
Researchers	Bangladesh Rice Research Institute (BRRI), Bangladesh Institute of Nuclear Agriculture (BINA), Bangladesh Agricultural Research Institute (BARI), Bangladesh Jute Research Institute (BJRI), CSISA, CIMMYT, IRRI, ICRISAT, ICARDA, NARES, ACISAI	National Institute of Agricultural Research of Niger (INRAN), University of Maradi, ICRISAT	Crop Breeding Institute (CBI) of the Department of Research and Specialist Services (DRSS), Scientific and Industrial Research Development Centre (SIRDC), CIMMYT, ICRISAT
Farmer organizations		Farmer Union – FUMA Gaskiya	

The study showed there is a diverse range of actors involved in implementation of demo sites. Although NGOs lead the implementation of demos in the majority of programs sampled during the assessment, government research and agencies also implement demos directly with farmers. We found a few examples where farmers are implementing demos on their own without the involvement of development organizations.

Private sector involvement in implementation of demos seems to be focused on delivery of inputs. There were a few instances where private sector companies promoted demos as part of contract farming. In such cases, the demos feature a more comprehensive package of farming practices such as irrigation and post-harvest handling and storage.

3.2.2. Stakeholder roles

To understand how stakeholders are engaged in the management of demos, we analyzed their roles, interests and capacities as shown in Table 5. The complexity of the system surrounding demo sites is reflected in the list of stakeholders and the nuances within each category. For example, within government services there can be many different government departments serving as stakeholders with their own set of guidelines and vision. This creates a unique context for each demo site depending on who is involved and why.

Table 5. Demo sites stakeholders, interests, roles, and capacities

STAKEHOLDER	INTERESTS	ROLES	CAPACITIES
Implementers	Improved food security and resilience	Funding; mobilization; training and technical support; facilitate linkages	Human, Physical, **Financial**
Researchers	Dissemination of innovative technologies, varieties or practices	Data gathering and analysis; training and technical support; influence policy; linkage to innovation	**Human**, Social, Financial
Government Extension Departments	Dissemination of innovative technologies	Coordination; training and technical support	Human, **Social**
Local leadership (decentralized government, traditional and religious leaders)	Community welfare	Social cohesion; community development	Human, Natural, **Social, Political**
Input and equipment suppliers (formal and informal)	Sales; Market share	Product supply; training and technical support	**Physical**, Financial, Human
Output buyers (formal and informal)	Consistent supply and quality products	Off-takers; technical support and training	**Physical, Financial**
Local service providers (LSPs)	Fee for services	Facilitate market linkages; provide training and technical support; coordinate and disseminate information	Human, **Social**
Lead farmers/ demo hosts	Improved food security and resilience	Training and technical support; change agents	Human, **Natural**, Social
Farmers	Improved food security and resilience	Increase productivity and profits	Human, **Natural**, Social
Farmer organizations	Improved service delivery	Facilitate market linkages; provide training and technical support	Human, Social, **Physical**

Farmers can be difficult to discern yet important to leverage. To unpack the complexity, we adopted the Sustainable Livelihoods Framework to assess the roles, interests, and capabilities of each stakeholder (DFID 1999). This framework defines the five types of assets needed for sustainable livelihoods—human, financial, natural, physical and social. Later versions of the framework include political capital, which is the ability to influence policies and enforce regulations. In our case, we consider the assets needed for successful implementation of demos. Table 5 shows the assets that each stakeholder brings to bear. The asset in bold is the strength of that stakeholder. This may vary within context; for example, farmers have most of their assets in natural capital (soils, water, crops), whereas local leaders' strongest assets are in their ability to influence community welfare and government actions (social and political capital).

While no single stakeholder embodies all six assets, we find that collectively, stakeholders cover all the necessary assets. Understanding the capacity of each stakeholder is helpful in assessing the role they may play in successful implementation of demos.

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Human capital: labor, knowledge and skills available to implement demos
Natural capital: the natural resources dedicated to implementing demos
Financial capital: money available to fund demo site activities
Physical capital: the tools and equipment used for implementing demos
Social capital: social resources, including networks for cooperation, mutual trust, and support needed to implement demos

Z

As stakeholders, farmers can be divided into three groups: lead farmers or host farmers, farmer groups, and individual farmers who participate in demo activities. Host farmers play an important role in influencing the perceptions of other farmers around the demo. Motivations of host farmers can be difficult to discern yet important to leverage.

Other stakeholders' roles are easy to overlook, such as local leadership and small- and medium-sized enterprises within the informal private sector that have a significant impact on farmers accessing market opportunities. In all three countries, we found that implementers worked closely with local leaders to select lead farmers and mobilize communities to support demos. Informal private sector actors such as middlemen and village agents interact with farmers and serve as facilitators to strengthen linkages with external actors.

3.2.3. Coordination mechanisms

Across the three countries, the study revealed that projects implementing agricultural demos used the following coordination mechanisms:

- **Farmer field days:** These are gatherings held at the peak of the season to showcase production success stories and lessons regarding showcased technologies. Farmer field days are the most common interaction platform, bringing together NGOs, private companies, government, local leaders and farmers to share demo site achievements and review the factors which contributed to the success of demo sites. In most cases, field days target local leaders, including officials from government, and as a result they can be somewhat political. In Bangladesh, the study found that implementers plan low-key field days managed by farmers in addition to the main event.
- **Coordination meetings:** In all the three countries, the study found that partners regularly hold meetings with development partners to review program activities. For example, INSPIRE in Zimbabwe has a coordinating committee involving Goal, Practical Action, SAT and Palledium. Such meetings may include discussions about demos, but the agenda is usually broader. Decentralized levels of government regularly chair coordination meetings for development partners within their jurisdiction, e.g., at district or ward level. Farmers do not normally participate in these meetings.
- **Activity and periodic reports:** Project field officers compile and share reports about extension activities and plans with partners to ensure that everyone stays updated. These reports, however, circulate among implementers and may not include stakeholders such as private sector and government. Information about demos is often incorporated in large reports with no specific analysis on demos.

3.2.4. Constraints

The study found that although many stakeholders are involved in implementation of demos, coordination mechanisms are often weak. NGOs and farmers are engaged in the process throughout but other stakeholders such as government departments and private sector are engaged occasionally throughout the implementation process. Farmer field days are the only platform where all stakeholders come together to analyze the performance of demos. During the stakeholder workshops held in the three case study countries, participants expressed concerns that this may not be enough to get everyone on the same page given so much has happened at various milestones throughout the growing season. It was noted that poor coordination among stakeholders is often the cause of delays in delivery of inputs for demos and for lack of alignment between farmer needs and demonstrated practices. More regular coordination is required. Other constraints related to coordination include:

- Lack of harmonization in extension messages whereby implementers promote different approaches for the same agriculture technology, e.g., organizations promoting conservation agriculture in Zimbabwe cite different plant-spacing measurements and recommendations for intercropping and application of mulch. This can be confusing for farmers participating in demo sites activities.
- Trust between stakeholders may be compromised if one party fails to perform assigned duties. A common scenario is when input suppliers fail to deliver orders per specifications. In some cases, the inputs delivered are of poor quality, which compromises not only the relationship with stakeholders but also the quality of the demo site.
- Differing motivations and a lack of alignment in objectives among stakeholders can increase the chances of conflict. For example, a number of partners stated it is important to carefully balance the intentions of private sector companies, which is to maximize profits, versus the need to protect farmers rights to control food choices such as the ability to recycle seed or apply mineral fertilizers.
- Imbalance in capacities can also lead to poor coordination among stakeholders. In most cases, implementers of food security programs seek to engage government extension and research departments in implementation of demos. However, the limited capacity of government extension and research agencies often means that the implementation of demo sites will not be sustained once development programs conclude.
- Poor transition planning was also cited as a constraint in engagement of stakeholders. In instances where a development program that was supporting demos comes to an end, we found that information on the demos established is not passed on to future programs. Often there is a breakdown in continuity of demos and the new project is likely to duplicate the effort instead of building on the effort that was made by the first project.

Photo 4. Stakeholder workshop, Bangladesh

Photo 5. Stakeholder workshop, Zimbabwe

Photo 6. Stakeholder workshop, Niger

3.2.5. Recommendations for improving stakeholder engagement

To address the constraints identified in engagement of stakeholders, we recommend the following:

1) One of the main concerns raised is that farmers are not adequately involved in the design and planning of demos. In engaging stakeholders, implementers should ensure farmers are given a voice in key decisions regarding how demos will be established.
2) Implementers are encouraged to undertake stakeholder mapping and assess alignment of capacities, roles, and interests of actors involved in implementation of demos on a regular basis: for example, midway through the season when all actors are engaged. This would help identify areas where stakeholder capacity needs to be improved. It can also bring to light the roles of actors such as middle men, informal traders and local leaders who play an important role in interactions with farmers but are easy to overlook.
3) Implementers should facilitate regular and accessible platforms where stakeholders can interact and jointly reflect on progress and improvements needed to ensure the success of demos. The stakeholder workshops held in each of the three countries are an example of such platforms. Farmer field days are the most common platform for interaction but more regular meetings are needed where stakeholders can learn together. Implementers should facilitate interaction platforms prior to the start of the season where stakeholders can discuss constraints such as late delivery of inputs.
4) To enhance the engagement of private sector, implementers should seek to formalize relationships through Memorandums of Understanding (MoUs). This will help harmonize approaches and objectives. When an MoU exists, implementers should review the objectives regularly and ensure that outcomes related to demo are clearly spelled out and monitored.
5) The study found that most NGOs will source inputs from private sector in bulk for distribution to farmers. While this may be cost-effective, it may weaken the ability of farmers to engage directly with private sector and even research stations that provide inputs such as seed. There are some examples where implementers negotiate with input suppliers to have demo kits[7] that can be distributed directly to demo hosts via local service provider networks. Implementers should also encourage input suppliers to provide technical assistance at demos for production and for improving market linkages.

[7]Demo kits are sample inputs appropriately packaged for use in demo sites.

3.3. COST MANAGEMENT

Significant amounts of resources are expended in implementation of agricultural demo sites. The success of demos depends partly on the availability of financial resources among stakeholders involved in their implementation. World Vision's assessment explored how the costs associated with implementation of demos are managed. The study explored the following questions:

- *What costs are incurred in the implementation of demos?*
- *How are these costs formulated and allocated?*
- *What mechanisms are used to disburse funds associated with implementation of demos?*
- *How do implementers ensure that implementation of demo sites is cost-effective?*

Key constraints, lessons learned and best practices related to the above areas are discussed in this section. This section also provides recommendations on how to improve management of costs and ensure effectiveness of demos.

Key takeaways

- The study identified two types of costs associated with demo sites: 1) direct and indirect costs and 2) monetary and non-monetary costs. Implementers often account for direct and monetary costs, and there is less appreciation for indirect and non-monetary costs.
- Budgeting for demos can be complicated considering the various cost elements and shifts in allocation of costs and market prices overtime. A budgeting tool is required to help implementers adopt a more systematic approach to budgeting for demos.
- The study showed that cost sharing is common. Farmers, implementers (including government agencies), and private sector contribute materials and resources needed for demos. Farmers will typically pay for non-monetary costs such as land and manure while other stakeholders subsidize monetary costs such as seeds.
- Disbursement of resources for demos is done through three main channels: 1) direct provision of inputs; 2) vouchers for inputs; and 3) direct linkages with service providers. Streamlining disbursement mechanisms with market actors can help build sustainability and ensure efficiency.
- There was limited info on how cost effectiveness in demos is factored. Implementers may procure inputs in bulk as a cost saving measure or work with private sector to secure demo kits.
- Constraints for cost management include challenges in budgeting and inadequate allocation of funds to support establishment of the required number of demos. Other common constraints include delays in disbursing funds to service providers, which results in poor implementation and limited capacity of government and farmers to pay for costs after a program phases out subsidies.
- Recommendations include: 1) program staff should engage with administration and finance staff early, before the start of the season, to formulate costs and ensure timely disbursement; 2) strengthen the link between farmers and private sector players using vouchers and reimbursements. Credit programs, village savings and loans groups, and financial literacy programs are all important programs that can support the agricultural demonstrations' success.
- The Assessment Tool for improving the management of agricultural demonstration sites in food security programs (Annex C) includes key questions to ask about cost management and budgeting to ensure demos are effective.

3.3.1. Costs incurred in the implementation of demos

The costs involved in setting up a demo are dependent on the technology and type of demo being set up. Having reviewed costs involved across various types of demos, the study came up with two ways of categorizing costs: direct vs. indirect, and monetary vs. non-monetary. Direct costs are those that can be explicitly linked to implementations of demos. Examples include costs of inputs used to establish the demo (fencing, seed, fertilizer and chemicals), and contributions from farmers in terms of land, labor and other resources like water. In the case of livestock demo sites, direct input costs include costs of stock (animals), housing and veterinary medicines.

Indirect costs are not explicitly linked to the demo but are necessary in ensuring success of the demo. Examples of indirect costs include salaries and time commitment of project staff and public and private extension providers, as well as costs of training, meetings, field days, signage, harvesting structures, transport and other logistics incurred in supporting demo sites. In all the three countries, FGD participants and host farmers recognized direct costs more than indirect costs. This is because direct costs are more visible in demo site operations, and farmers contribute to them. However, key informants (mostly demo site implementers/promoters) were able to identify both direct and indirect costs. Both groups mentioned significant constraints that related to indirect costs. This gap between costs that are known by community stakeholders and costs that are known by promoters may be an indicator of missing collaboration in planning and budgeting, which can create distortions in expectations and understanding of demo sites costs.

Costs can also be classified as either monetary or non-monetary. Monetary costs are costs that you can easily put a dollar amount to while non-monetary costs may not have a market value, and therefore are much harder to assign a value to. Monetary costs associated with seed, fertilizer, pesticides, fencing, equipment, signage, trainings and farmer field days are easy to quantify. Most of them are also direct costs linked to the demo sites. Non-monetary costs are costs that are incurred outside of formal markets. Examples of non-monetary costs include a farmer's own labor, manure, value of the land where the demo is established, value of natural resources including water, and environmental services such as soil and water conservation structures and trees. Farm tools and draft power also fall in this category, and if the demo site host will train other farmers, their time and skills can also be seen as a non-monetary cost. Non-monetary costs are just as important as monetary costs in enabling implementation of agricultural demos, and must be accounted for in order to appreciate and plan for the full cost of implementing demo sites. It was clear from studies in all three countries that most implementers/promoters tend to focus more on monetary than non-monetary costs in budgeting and planning for a demo site. This omission distorts the understanding of demo site costs by both promoters and other stakeholders, and can be a source of conflict between promoters and providers of non-monetary services. When costs are not quantitatively valued, they are rarely viewed as a significant contribution to the implementation of demo sites.

3.3.2. Formulation of costs

The study looked at how implementers come up with costs for the items needed to establish demos. Funds for establishing demos are usually included in program budgets at design phase. Costs are based on estimates and may be adjusted during implementation. Implementers widely cited budgeting as a challenge partly due to lack of clear guidance or tools to help formulate costs for demos. Budgeting for demos can be complicated because it can be very context- and practice-specific and may change over time depending on the cost-sharing mechanisms agreed upon with stakeholders.

During implementation, the study found that implementers will collect info on costs for inputs at the planning phase. Costs are determined by prevailing market prices, which could change over time and with locations. Non-monetary and indirect costs are not budgeted as part of demo site planning as these are already covered by farmers and by the wider budget for extension respectively. The true cost of demos can only be determined when stakeholders work together to consolidate cost data for the various inputs including non-monetary and indirect costs. Improvements are needed in systemizing the formulation of costs for establishment of demos on food security programs.

3.3.3. Allocation of costs

Despite the absence of comprehensive and joint determination of the total cost of implementing a demo site, there was evidence of cost sharing in demos as shown in Table 6.

The most common model for cost sharing is where promoters of the technology pay for monetary costs while farmers cover the non-monetary costs. Promoters could be an implementing NGO, a private sector input supplier, a government department or a combination of these. In some cases, inputs suppliers provide demo kits, which they sell to NGOs for distribution to farmers establishing demos. NGOs typically pay for technical support, training, signage, promotional material, monitoring and field days. In Zimbabwe, a few projects pay for fencing to protect the crop. Implementers often do not provide pesticides partly because of USAID prohibitions but also because they promote integrated pest management practices, which do not require significant investments in agrochemicals. Farmers contribute non-monetary items like land, labor, manure, tools, draft power and facilities.

Table 6. Typical cost allocation in agricultural demos

DIRECT COSTS	WHO TYPICALLY PAYS?		
	Implementer	Farmer	Private Sector
Seed	X	X	X
Fertilizer	X	X	X
Manure		X	
Pesticides and herbicides			X
Fencing	X	X	
Signage	X		X
Improved livestock breeds	X	X	
Veterinary products	X		X
Livestock housing	X	X	
Animal feed/fodder		X	
Aquaculture inputs	X		X
Land		X	
Labor		X	

What mechanisms are used to disburse funds in implementation of demo sites?

The study found that disbursements are made in three forms across the three countries. The most common approach entails providing inputs in in-kind form to farmers as support for establishing demos. NGOs will typically buy inputs from private sector companies or research stations for direct distribution to farmers. In the second approach, implementers provide vouchers, which farmers redeem through agrodealers to get inputs for establishing the demo. The third approach is whereby farmers buy inputs and then get reimbursed by the implementer once they have established the demo. The second and third approaches are aimed at strengthening the linkages with market actors. In Niger, the study found that village agents deliver demo kits to farmers through collaboration with input supplier and the implementer. Streamlining disbursement and delivery mechanisms helps to ensure efficiency, avoid delays in establishing the demo, and strengthen linkages necessary to sustain supply once the programs end.

3.3.4. Cost effectiveness

Across the three case study countries, there was limited information provided on strategies used to ensure that implementation of demos is cost-effective. It was, however, evident from interactions that:

- Where implementers purchase inputs in bulk, they negotiate prices with suppliers. Suppliers may provide transport at a discounted cost.
- Implementers aim to share costs and responsibilities for establishing demos with stakeholders as a way of reducing donor dependence and ensuring cost effectiveness. It is especially common to have food security programs working closely with government departments to utilize their technical capacity.
- Implementers will collaborate with private sector input suppliers to source free samples and demo kits to lower costs.
- Field officers usually oversee activities across different technical sectors while at the same time providing oversight for demos as a cost-saving measure.
- Village agents can be used to lower the cost of facilitating linkages between farmers and market actors. In Niger, village agents play a critical role in helping gather estimates of materials needed to establish demos, and in monitoring and data collection.
- In most cases, implementers target demos around farmer groups, which lowers the cost of delivering training per beneficiary.

Analyzing cost-effectiveness requires implementers to ask if implementation of demos can be made more affordable. Indirect costs such as logistical support for staff and government partners are a significant investment that is not always captured in calculating the cost of demos. Implementers also have to ask if the cost of technology is affordable for farmers. If the technology is too expensive to demonstrate, it is unlikely that farmers will sustainably adopt it.

Cost effectiveness can be measured by comparing the cost of delivering the technology through demos versus the return on investment in terms of increased production of farm produce or higher development objectives such as decrease in levels of malnutrition. It can also be calculated relative to alternative approaches for delivering training and technical support to farmers. Such calculations are complex, and often staff charged with implementing demos may not have the capacity to undertake such analysis. Subsequently, the overriding approach for ensuring cost effectiveness seems to be geared toward minimizing the level of subsidies provided. Demos are generally seen as a cost-effective method, so practitioners may not be necessarily concerned about reducing costs.

3.3.5. Constraints in management of costs

Among the key concerns expressed by practitioners and farmers regarding costs is inadequate budget to support establishment of demos. This often originates at the project design phase where implementers may underestimate the costs of establishing demos. In such situations, the program may implement fewer than the desired number of demos and there is usually not enough flexibility. Other constraints include delays in delivery of inputs to set up the demo when the implementer does not pay the supplier on time. Tied to this is the possibility of poor-quality inputs delivered due to inadequate supervision and implementers trying to rush the process to make up for delays in procurement.

Implementers will often try to phase over costs for demos to government and practitioners, but there is no evidence to show that these stakeholders have the capacity to sustain demos once the project ends. The study showed that implementers find it difficult to gauge when and how to reduce subsidies provided for establishing demos, and this presents the risk of leaving farmers unprepared to sustain learning and application of the demonstrated practice once the project ends. Farmers' non-monetary contributions for implementing demo sites are rarely considered, and this can lead to misleading perceptions about profitability of promoted technologies. Even after implementing demo sites, most programs do not track the costs incurred by different partners in implementing the demo sites—no tools were in place for farmers and partners to document the costs for learning purposes.

3.3.6. Recommendations

1) The study recommends adoption of a more comprehensive approach to budgeting for demos. Implementers should consider the following factors in budgeting and analyzing cost of demos:

    - What is the cost of the technology that we are seeking to demonstrate and how affordable is it for farmers in our area?
    - If it is affordable, what are the direct and indirect costs associated with establishing the demo?
    - Which costs are monetary and which are non-monetary?
    - What is the cost per demo including direct and indirect costs?
    - How many demos do we expect to establish and how does this affect our budget?
    - What cost-sharing mechanisms shall we employ with stakeholders? Who will pay for what?
    - How shall we phase out subsidies and over what time period? What is the capacity of stakeholders and markets to sustain the technology?
    - How are the costs for demos likely to change over time, and how do we account for inflation or market volatility?

    Implementers should review the costs with stakeholders and discuss expectations and capacities for meeting the costs.

2) Use vouchers or reimburse farmers for agreed-upon costs to strengthen linkages between farmers and service providers; this is a best practice that should be encouraged. Farmers participating in demos should be encouraged to participate in micro-credit activities as part of the demo. Work with village agents and/or farmer groups to negotiate bulk discounts for inputs needed at the demo. Where possible, see if suppliers can provide demo kits at a discount.

3) Program staff overseeing planning for demos should engage with their manager and finance and procurements staff early so they understand the requirements for establishing the demos on time. World Vision will follow-up on and engage other implementers to develop a budgeting tool for agricultural demos that will be released following this publication.

3.4. CONSTRAINTS AND RISK MITIGATION

Despite their popularity, implementation of agricultural demos is prone to many challenges. There are many occasions where demos don't turn out as planned. The study team was interested in understanding the challenges implementers and beneficiaries face in management of demos. We sought to explore the following queries:

1) What are the common constraints affecting the implementation of demos?

2) What mitigation measures are employed to address common constraints?

This section outlines findings from the three case study countries as well as key informant interviews with practitioners worldwide. Recommendations are provided.

3.4.1 Common constraints and mitigation strategies

The study identified three types of constraints as explained below.

1) Environmental constraints

Farming is a risky endeavor, and in the context of food security programs, even more so. The populations likely to be targeted are often located in marginal environments and vulnerable to environmental shocks. Not surprisingly, most of the demos observed include a climate-resilient agriculture practice such as conservation agriculture, use of drought- and salinity-tolerant varieties, etc. Despite the investments, implementers and farmers regularly brought up constraints associated with the climate and local environmental context. Drought (Zimbabwe), floods (Bangladesh), late rainfall onset and high winds (Niger) were mentioned frequently. Farmers also brought up challenges related to the soil degradation such salinity (Bangladesh) and erosion (Niger). Pest and disease mentioned included rice borer (Niger) and Fall army worm (Zimbabwe). Attacks by leaf cutter insects, cut worms, and mosaic virus affected horticultural demos in Bangladesh.

Key takeaways

The study identified three categories of common constraints for implementation of demos:

1. **Environmental** constraints include factors related to climatic shocks and stresses such as drought, pest and diseases. Other constraints related to the environment include livestock incursions on demo sites. Implementers and farmers expect a certain degree of failure but there are instances where the shock has been too severe resulting in wide-scale failure despite use of resilient technologies. Such instances provide an opportunity for learning and working with researchers to gather data that can inform the improvement of promoted technologies. Implementers should integrate disaster risk reduction strategies in design and planning of demos.
2. **Institutional** constraints are related to program management and administrative systems. Constraints include poor oversight in ensuring quality and timely delivery of inputs; limited engagement of farmers in selection of technologies and inadequate capacity for technical support. Implementers should put in place systematic mechanisms for quality control including making random inspections prior to delivery, requiring vendors to provide guarantees for quality of their products, and setting up plans to replace defective materials in a timely manner. Implementers should seek to align budget and procurement processes to match agriculture production calendars so that materials and support for demos are delivered on time.
3. **Behavioral** constraints occur due to human error and cultural limitations in applying recommended practices for management of demos. Examples include lead farmers failing to adhere to guidelines, farmers having a different scale for risk aversion than promoters and limited buy-in if the promoted technology fails to produce convincing results. To address these constraints, implementers should apply a behavior change centered approach in design and implementation of demos. This can include conducting barrier analysis to investigate the social and cultural dynamics likely to influence adoption of the technology.

Study participants in Niger and Zimbabwe also brought up livestock incursions as a common constraint. Although fencing is recommended, farmers find it too expensive and in some localities, cutting of trees for timber is forbidden. Farmers also consider that the fencing around a demo cannot be too high and should be made of mesh or other see-through materials so passers-by can still see what is cultivated.

Even where demos are designed to showcase climate-resilient practices such as conservation agriculture, severe shocks and stresses often lead to demo failure. Interestingly, both farmers and implementers anticipate some rate of failure. While this may represent a lost opportunity to showcase a technology, some farmers voiced that they expect failures like this and consider them inevitable and see them as an opportunity for learning more about the strengths and limitations of a practice.

Implementers take into account that not all demos will succeed. In some cases, implementers will have many demos as a way to mitigate the risk of failure. In other instances, the benefit of a practice may only be apparent in the case of a shock. For example, one implementer described the use of nets in aquaculture ponds. This was a new practice promoted by a project in Cambodia that was not appreciated until there was a flood and farmers without nets lost their fish, while those with nets retained them. This underscores the importance of demos as a learning platform even when they do not show obvious benefits in a given season.

Photo 7. Pest attack at a demo site in Zimbabwe

Photo 8. Farmer with rain gauge in Zimbabwe

2) Institutional constraints

Program management and institutional challenges are also common. These include poor selection of practices, program and financial management, and improper sequencing of activities. Farmers in focus group discussions reported the following constraints:

- *Quality of inputs* – Farmers reported limitations in accessing quality inputs such as seeds. In cases where farmers receive poor-quality inputs, limited stocks usually mean farmers cannot get replacement seed on time to salvage the demo.

- *Delivery of inputs* – in most places where food security programs are implemented, input delivery networks are nonexistent or very weak hence projects are filling this role. Delays in delivery of inputs are quite common. The study found that a lack of alignment between budgeting and procurement schedules and seasonal requirements for inputs often leads to delays in setting up demos. Ensuring that all stakeholders are in agreement regarding the timing and delivery mechanisms for inputs is essential for the success of the agricultural demos.

- *Selection of appropriate technologies* – Programs do not appear to adequately involve farmers in selecting the practices they would like to see demonstrated.

- *Number of agriculture extension staff* – All FGDs mentioned the need for more frequent visits, more demo sites, longer-term demo sites, further training and better financial mechanisms as important for establishing the demo and facilitating uptake by other farmers. Practitioners reported that for horticulture crops weekly visits are required, yet some extension agents may be responsible for over 100 demos spread across large geographic distances.

- *Capacity of the agricultural extension staff* – Agricultural extension agents may have limited knowledge of best practices for agricultural demos and limited understanding of new innovative extension practices. Projects reported that sometimes extension agents see their role as bringing information to farmers and do not always recognize the importance of listening.

3) Behavioral constraints

Behavioral constraints cover issues related to human error and cultural limitations in applying recommended practices for management of demos, and include the following:

- *Failure to adhere to guidelines* – In some cases, a proportion of the farmers targeted to host demos fail to follow guidelines provided. The practices may not be easy to implement for many reasons. This could be due to lack of adequate training, competing priorities, complexity of a process etc. Social norms, cultural beliefs and attitudes may also hinder adoption of promoted practices. In Zimbabwe, the study found that farmers do not grow certain crops because it is taboo in their culture. Misconceptions regarding promoted practices can also lead to failure. For example, farmers in Zimbabwe reported being averse to applying manure for fear that if the rains are not good the manure will damage crops. Others do not apply mulch because they believe it will increase the presence of termites, which destroy crops.

- *Risk aversion* – Farmers, and especially very poor farmers, are often risk averse. They may have very different criteria for risks associated with a practice than the researchers who developed and tested it. When asked to allocate or volunteer a plot of land for agricultural demos, farmers tend to give land parcels that are less suitable for cultivation so that it will not reduce the amount of arable land owned by the farmer for their own cultivation. Sometimes the land provided by the farmers does not meet the required criteria in terms of size, location and accessibility. For example, in one community in Niger the land allocated for the agricultural demos was adjacent to the community graveyard. No other community members would go toward that area, making it unusable for farmer observation and learning. There were also reports that the amount of support directed to the host farmers can create hostility towards them and dissuade others from participating and engaging with the demo.

- *Buy-in* - Implementers report that farmers can lose interest in the demo if the result is not strong. Agricultural demos depend on a discernable result, one that is significant enough to convince farmers to try out a practice. They may be less well-suited for practices that bring incremental or less visible gains. If they are to work in that context, there will need to be more time allocated and strong supportive learning programs. Structuring learning around the demo site is just as important as ensuring the demo site presents well. This is particularly true for practices that are more complex and take more time to realize gains, such as conservation agriculture or improved fallow cycles. Similar issues were raised with respect to biopesticides and Integrated Pest Management (IPM) to control pest and disease attacks. In trying to convince farmers to adopt bio-pesticides and IPM methods, these were less successful compared with other marketed pesticides, although there are significant health benefits.

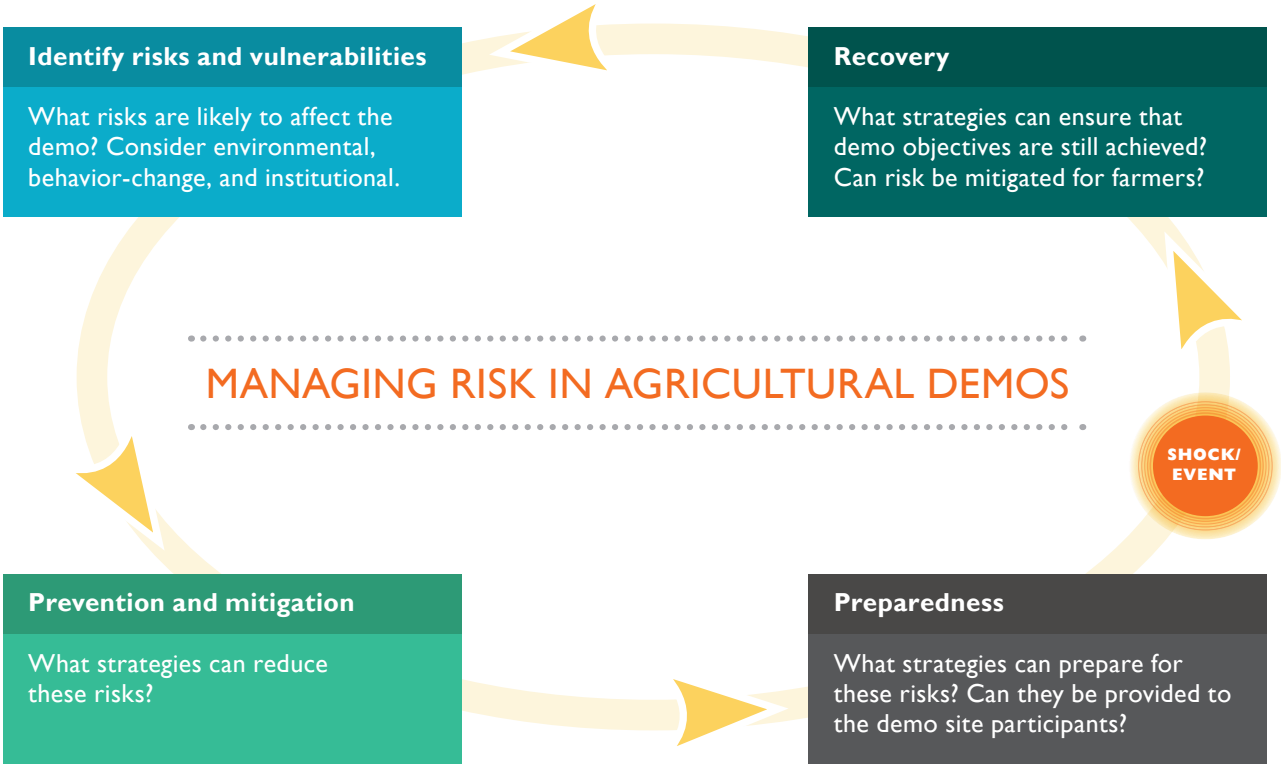
3.4.2. Recommendations

Agricultural demos are fundamentally a risk management strategy. They allow farmers to try out a new idea on a small piece of their land and to adapt the practice and evaluate how it works before deciding to apply it to a larger area. No agricultural practice or system will ever be shockproof, but there are strategies that can reduce the impact of the shock.

1. Integrating disaster preparedness and risk reduction strategies in demos

A unique feature of DFSAs is that they usually include a disaster risk reduction (DRR) component. This entails carrying out risk and vulnerability assessments and developing contingency plans to prepare for and mitigate against natural shocks and stresses. DRR activities are normally done at the community level, but a similar approach can be used to evaluate and put in place contingency plans to address constraints for demos. Implementers should work with farmers and other stakeholders to anticipate constraints including environmental, institutional and behavioral and work to develop risk reduction strategies suitable for their context. Implementers should also consider developing crisis modifiers in design of demos. For example, implementers had to apply crisis modifiers during the 2014-15 Ebola crisis in West Africa where farmers received relief seed stock to re-establish production activities including demos. A crisis modifier assumes a shock will happen and outlines the measures the program will take to mitigate the shock while safeguarding development outcomes. The USAID climate risk screening management toolkit (USAID 2017) is a good example of how implementers can apply a DRR approach to improve agriculture extension. Mitigation strategies can be built into the project design as shown in Figure 4.

Figure 4. Risk reduction and mitigation approach for demos



2. Learning from failure

The study found that most implementers already showcase practices that are considered climate smart such as drought- and salinity-tolerant crop varieties, conservation agriculture, livelihood diversification and efficient irrigation practices. Despite this, there are many instances where the shock is too severe and the technology does not work. Such instances can be an opportunity for learning about the resilience threshold of promoted climate smart agriculture practices. Implementers should be encouraged to help farmers collect data and work with researchers to document lessons learned from such scenarios. In Zimbabwe for example, the study found that implementers have started integrating water harvesting on farms where demo sites are located based on lessons learned from two years of poor rainfall. Technologies such as the introduction of weather indexed crop insurance are still relatively new on food security programs targeting vulnerable households and their feasibility can be explored through demos as part of the learning agenda. Incorporating a learning agenda requires implementers to take a longer-term view of demos and rather than supporting demos for a single season, start integrating strategies to monitor and support demos for consecutive years to achieve learning objectives.

3. Institutional strengthening

Mitigation measures for addressing institutional constraints are discussed in more detail across other chapters of this publication. To address constraints related to poor quality of inputs provided for demos, implementers should put in place systematic mechanisms for quality control. This could include making random inspections prior to delivery, requiring vendors to provide guarantees for quality of their products, and setting up plans to replace defective materials in a timely manner. Where possible, implementers should encourage seed multiplication to improve access to seed.

Late delivery of inputs can be mitigated through better planning and stakeholder coordination. Implementers should seek to align budget and procurement processes to match agriculture production calendars so that materials and support for demos are delivered on time. Stakeholders should advocate to increase the number of agricultural extension staff and include fuel allowance, motorcycles, cameras, mobile phones and other needed equipment in budgets. Where village agents or LSPs are used, they should be trained on risk assessment and mitigation for demos so that when a problem occurs, farmers can consult with them instead of always relying on public extension officers who have limited capacity.

4. Integration of behavior change approaches

Systematic barrier analysis as recommended in the Designing for Behavior Change in Agriculture, Natural Resource Management and Gender curriculum[8] produced through TOPS can help evaluate and address social determinants of adoption for practices featured at demo sites. This can help illuminate how social norms, cultural beliefs and attitudes, and efficacy of training methodologies and technologies promoted affects the success of demos (FSN Taskforce 2013).

8. http://www.fsnnetwork.org/designing-behavior-change-agriculture-natural-resource-management-health-and-nutrition

3.5. GENDER INTEGRATION AND SOCIAL MARGINALIZATION

Although women contribute up to 70 percent of the food production for a family, they often have limited access to and control over means of production, including inputs, land, credit and extension services (Govt of Malawi 2014). This makes it especially difficult for women smallholder farmers to benefit from agricultural productivity and growth. A study done by FAO estimated that if gender inequalities were reduced, yields on women's farms could increase between 20 percent and 30 percent, which would raise agricultural output in developing countries by 2.5 percent to 4 percent (2011). The integration of women into food security projects is essential for livelihood improvements. In this study, we sought to understand the issues related to gender integration in management of demos by exploring the following questions:

- *How are gender disparities addressed in implementation of demonstration sites?*
- *What constraints do women face when it comes to participating and benefiting from agricultural demonstration sites?*

In this section, we highlight observations from the three case study countries as well as KIIs on how gender integration and social marginalization factor into food security program including constraints and challenges. Recommendations are provided on strategies to improve gender integration in the implementation of agricultural demonstration sites.

Key takeaways

- The study found that virtually all food security programs have a clear mandate to integrate gender and targets for the percentage of women trained in agriculture practices
- Several programs have demonstration sites and learning sites that are managed solely by women, but this is not very common. Most demo sites are mixed gender, and although women are targeted to participate in demo activities, the extent of their participation and benefits accrued is not clear.
- Programs may select value chains where women are predominant but it is less common to find demos specifically designed for women.
- Constraints identified include:
    1. *Access* – Women may not be able to access demos that are far from the homestead without being accompanied by a male partner.
    2. *Uneven power dynamics* – Even in cases where women participate in demos, they may not have decision making power.
    3. *Time constraints* – Often domestic work like planting, harvesting, preparing food, and cooking and caring for the family will take long hours which limits the time they can participate in demos.
    4. *Labor constraints* – Agricultural practices like water harvesting and management that require extensive digging and physical labor can be difficult for women to do in addition to the other labor requirements needed to maintain the household.
    5. *Access to extension services* – Where most extension officers are men, cultural sensitivities will often limit their interaction with women. This often means that women are unlikely to host demos or access the support required to successfully manage the demos.
- The study found that although most food security programs target vulnerable households, they typically do not give special attention to the constraints that socially marginalized groups encounter when participating in demos.
- Rarely are the limitations of people with limited mobility or physical disabilities taken into consideration.

3.5.1. Gender integration strategies

The study found that virtually all food security programs have a clear mandate to integrate gender and to specifically target women. Implementers define gender integration as the process of using evidence to make informed decisions on how to decrease constraints and increase benefits to beneficiaries, regardless of gender, within programs and projects. This process starts with a gender analysis. Implementers conducting gender analyses seek to identify key issues contributing to gender inequalities, including how gendered power relations give rise to discrimination, subordination and exclusion in society (CARE 2017).

With respect to demo sites, we found most programs have targets for the percentage of women trained in agriculture practices, or who are in leadership positions including agriculture groups, lead farmers or demo hosts. Several programs have demonstration sites and learning sites that are managed solely by women, but this is not very common.

Most demo sites are mixed gender, and although women are targeted to participate in demo activities, the extent of their participation and benefits accrued is not clear. In the FGDs, all programs reported that women were very active as host and lead farmers. In Bangladesh, some of the gender integration activities included promoting farming as a family business and pursuing technologies and value chains (such as improved jute, small livestock rearing, savings groups, and homestead farming focusing on nutrition) in which women are predominant. Although programs target women, often a criterion for selecting demo site hosts include owning land. In these cases, women from Niger depended on permission and land given to them from either their husbands or fathers. In Zimbabwe, the ENSURE program promotes male engagement in activities traditionally considered women's, such as nutrition gardens.

Gender integration: USAID defines gender integration as the process of identifying and subsequently addressing inequalities surrounding gender during the process of project design, implementation and M&E. This is rationalized by evidence that the roles and power dynamics between men and women impact how an intervention/activity is implemented in a project (USAID, 2012).

Key takeaways

Recommendations for improving gender integration and addressing social marginilization:

- Since the roles and power relations between men and women affect how an activity is implemented, demo sites should be assessed to identify barriers and opportunities for integrating gender.
- As part of the design and planning process for demos, implementers should assess the preferences of women for demos. Women should be targeted not just for participation but also empowered to identify priorities.
- Where possible, implementers should encourage men and women to jointly implement demos. If the culture is not conducive, implementers should plan to have separate demos for men and women.
- To address social marginalization, implementers should conduct sensitization and awareness training for extension agents and farmers so they can be attuned to the needs of socially marginalized groups and account for them in design of demos.
- Practitioners should also advocate for variation in site and host selection criteria to accommodate socially marginalized individuals and groups.

3.5.2. Constraints faced by women

We interviewed men and women separately to see if there are significant differences in opinions about what is working and what is not working in implementation of demos. We did not find significant differences; overall, both men and women were aware of the social constraints faced by women. The following specific constraints for women were noted:

1) *Access* – In Niger and Bangladesh, women may not be able to access demos that are far from the homestead without being accompanied by a male partner. The study found that food security programs often target women to participate in nutrition gardens, which are closer to the homestead, to overcome such cultural constraints. A few programs have other types of demo sites set aside for women, but this is not common.
2) *Uneven power dynamics* – Even in cases where women participate in demos, they may not have decision making power. Some contexts require demo hosts to own arable land of specific size, or have the ability to maintain the demo site. In FGDs from Niger, women and men groups noted that owning land is difficult for women and often they are given less fertile plots, which prevents them from hosting based on criteria. Hosts usually are selected by local leaders and often women are not prioritized in these selections.
3) *Time constraints* – Often domestic work like planting, harvesting, preparing food, and cooking and caring for the family will take long hours. This limits the time they can participate in demos, and priority of household needs will take priority over the care of a demo site.
4) *Labor constraints* – Agricultural practices like water harvesting and management that require extensive digging and physical labor can be difficult for women to do in addition to the other labor requirements needed to maintain the household.
5) *Access to extension services* – In Niger and Bangladesh, the study found that most extension officers are men. Cultural sensitivities will often limit their interaction with women. This often means that women are unlikely to host demos or access the support required to successfully manage the demos unless specific accommodations are made to overcome cultural barriers.

Generally, the study found that implementers are consistently targeting women to participate in agriculture development activities. However, not enough attention is paid to specific barriers women face in accessing demos.

Photo 9. Female farmer in Bangladesh

3.5.3. Recommendations

To improve the participation and benefits accrued by women from demos, the study makes the following recommendations:

1) Gender is socially constructed; it is defined differently around the world and changes over time (Manfre et al., 2013). Since the roles and power relations between men and women affect how an activity is implemented, demo sites should be assessed to identify barriers and opportunities for integrating gender. This is rarely done even in cases where a gender analysis study is conducted on a food security program.
2) As part of the design and planning process for demos, implementers should assess the preferences of women for demos. Women should be targeted not just for participation but also empowered to identify priorities. For example, women preferred cultivated cowpea, groundnut, okra and millet in Niger, and were more involved in demos featuring these crops. Experience has shown that extension efforts that focus on activities that women prioritize, e.g., keyhole gardens, home gardens, vegetable gardens, fruit drying, and low maintenance animals (such as chickens and goats) are more sustainable and contribute more effectively to family well-being than activities where women's preferences are not prioritized.
3) Where possible, implementers should encourage men and women to jointly implement demos. If the culture is not conducive, implementers should plan to have separate demos for men and women. Implementers should negotiate spaces for women and advocate for women to get access to land through leasing or restoring degraded community land that can be cultivated by working with local leaders. Implementers should also engage female extension officers and/or advocate for inclusion of female extension officers in the government and private sector to ensure women have access to information after the completion of the project.

Photo 10. Female demo host in Zimbabwe

> *"[Starting] with women farmers, [letting] them identify the questions and priorities is a very different starting point than thinking about research ideas and then figuring out how to adapt a practice to their needs." —Paul McNamara, Director of USAID-funded INGENAES project*
>
> *"As a member of the poultry group, I have eggs or chickens that I can sell. I am a contributor now to family income; this improves my role in the family." —female farmer, Bangladesh*
>
> *"There are mothers who are leaders and schools for husbands, which have taught men the importance of their wives working and contributing to the household income." —CLUSA project in Niger*

3.5.4. Social marginalization

Socially marginalized groups are defined as those groups of people who are typically disadvantaged or excluded from certain activities of programs and projects because of environmental, economic, social or cultural characteristics (Microlinks 2017). This study defined these groups to include the elderly, chronically ill, disabled, orphans and widows. It is important to note that these groups are not homogenous and there are circumstances and social contexts where the individual experience of marginalization may vary. The study found that although most food security programs target vulnerable households, they typically do not give special attention to the constraints that socially marginalized groups encounter when participating in demos.

Rarely are the limitations of people with limited mobility or physical disabilities taken into consideration. They may be unable to travel far or walk even short distances to demonstration sites. They may encounter unique challenges in replicating promoted practices at their homes without assistance with labor. In Zimbabwe, an FGD from the ENSURE program in Mageza discussed how they sought a way around this challenge by setting up teams within the project to visit and help those in need. Land access can also be a challenge, i.e., where there is a preference for the demo site to be located by the roadside or on fertile land. Socially marginalized groups are unlikely to own land with these characteristics.

The following recommendations are made to address social marginalization:

1) Assess livelihood security in the community to identify socially marginalized individuals as a first stage of a project and conduct a barrier analysis to understand the constraints they face in participation (CARE 2002). Adjust demo targets and timelines with these groups to account for different needs.
2) Conduct sensitization and awareness training for extension agents and farmers so they can be attuned to these types of issues. Consider broadening the team skill sets to include team members or stakeholders knowledgeable about these groups, and representatives of these groups during the design phase of demonstration sites.
3) Practitioners should also advocate for variation in site and host selection criteria to accommodate socially marginalized individuals and groups. Programs can also encourage farmers to work together and consider the needs of socially marginalized groups. This may include considering appropriate technologies building on existing resources.

3.6. INFORMATION MANAGEMENT

Data and information flows serve multiple purposes within agricultural demonstration projects. World Vision explored the following questions regarding information management:

1) What data is typically collected at demo sites?

2) How is the data collected?

3) How is data utilized?

4) What constraints and opportunities exist in data collection and utilization demo sites?

This section outlines typical practices, key constraints and lessons across the three case study countries and makes recommendations for improving information management in agricultural demos.

> *"Data is organized for a monthly meeting; we evaluate problems and try to adjust. Annually, we look at all data and evaluate, discuss what worked and build a plan for upcoming year." —National Research Institute, Bangladesh*
>
> *"The information helps us to correct our mistakes we have made. It helps us to monitor the performance of the demo site." —Women's farmer group, Zimbabwe*

Key takeaways

- Demos can provide a wealth of information that can be used to inform behavior change strategies for agriculture technologies. Four categories of information were identified; 1) administrative data pertains records about meetings and trainings at the demo site; 2; agronomic data reflects cultural practices applied at the demo; 3) climatic data captures weather patterns 4) output data is related to yield and gross margins.
- Data is collected mainly through notebooks provided by program staff or extension officers. Information is captured in hard copies with very few instances where digital platforms are used. Programs provide data collection templates but farmers may use their own formats.
- The study found that most of the data collected is used for reporting purposes. Farmers and extension officers use information collected from demo sites for adaptive management.
- Information management constraints identified include limited capacity of farmers to consistently gather and analyze data due to low literacy levels. Program staff being stretched and lack of standardized record keeping tools stymies ability to consolidate and utilize the data collected at demo sites for adaptive management at the project level.
- To improve information management, programs should help farmers capture info in user friendly formats rather than relying on written format. Approaches such as the use of low cost video for extension as applied by Digital Green are recommended. Data collection templates should be standardized to make it easier to consolidate data across sites. Sharing information with farmers after reporting period and reflecting on lessons learned from the previous season while planning the upcoming season will improve outcomes. Better use of emerging ICT platforms can improve efficiency and data quality.

3.6.1. What data is collected?

The study found that at most demo sites, farmers maintain a register provided by the implementer for record keeping. The types of data collected in the registers varies widely. Table 7 shows the various types of information collected at demo sites as well as who collects the information.

Information collected at demo sites can be divided into four categories:

1) Administrative data – this pertains visits to the demo sites and attendance in training and meetings. Most of this info is collected by host farmers and by NGOs workers and government extension agent who use it for reporting purposes.

2) Agronomic data – this relates to crop production milestones and cultural practices applied at the demo site. NGOs may provide a template for farmers to record this information. However, the ability and consistency of farmers in collecting this data varies greatly. This information is often captured on hard copy records and is hardly consolidated across sites supported by the same organization.

3) Climatic data – this includes information about weather patterns in the area where the demo sites is located. Implementers in some cases will provide a rain gauge and thermometer to help farmers capture basic weather info which they can use to analyze trends and make decisions about when to plant and what varieties of seed are suitable.

4) Output data – this includes information about the volume of crop harvested at the site, the expenses incurred in maintaining the site and the revenue from sales of crops from the site. In rare instances, data is collected on the labor employed to maintain the demo site.

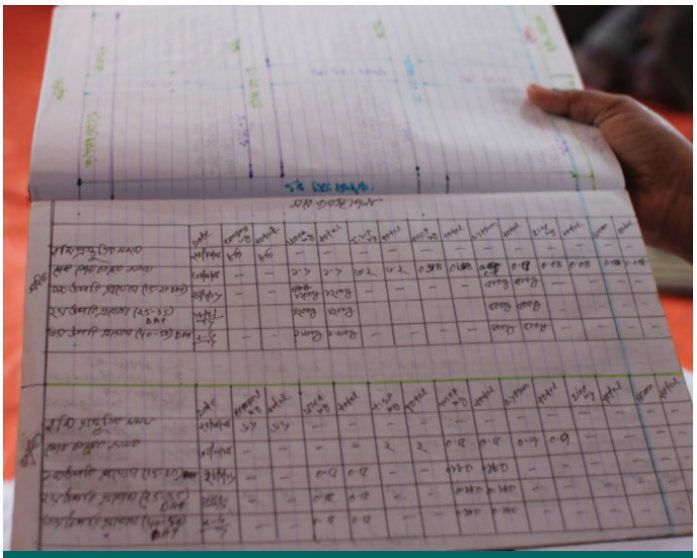


Photo 11. The agricultural demo register of an extension agent in Bangladesh

Photo 12. Lead farmer in Zimbabwe shows his demo site record book

3.6.2. How is data collected?

Data from demo sites is collected at regular intervals throughout the production cycle from planting to harvesting. In most cases, implementers or government extension officers will provide a template for farmers to use in collecting data. Program staff may also collect data directly from demo sites. Researchers have more stringent protocols for data collection and will often collect data themselves with farmers and extension workers supplementing the data they collect.

A small number of organizations in Bangladesh use technology like phones, videos, email or social media to collect data, communicate with farmers and facilitate monitoring. In Zimbabwe, all projects have farmers collecting management information in notebooks or in forms. In one instance, a farmer union in Niger uses Open Data Kit (ODK), an open source tool for mobile data collection. This is an Android phone application that allows implementers to create standardized monitoring forms and easily output spreadsheets of data. Another tool, the LAHIA project, not only provides monitoring templates, but also gives material to be used for measurements such as weighing scales, measuring tapes and rain gauges. There were situations where farmers were illiterate and unable to participate in record keeping. Lead farmers also reported that they remembered management activities and communicated them to extension agents when they visited.

Table 7. Typical data collected at demo sites

TYPE OF INFORMATION	WHO COLLECTS THIS INFORMATION?			
	Host farmer	NGOs	Gov't extension	Private sector agent
ADMINISTRATIVE DATA				
Attendance at trainings and meetings held at the demo site	X	X		
Meeting notes	X	X		
Extension agent visits	X	X	X	
AGRONOMIC DATA				
Date of planting	X	X		
Type of seed used	X	X	X	X
Spacing	X			
Application of fertilizer and/or manure	X			
Days to germination	X			
Application of herbicides/ pesticides	X			
Frequency of weeding	X			
Frequency of irrigation	X			
Incidence of pest and diseases	X		X	
Details about other cultural practices applied at demo e.g., mulching	X	X		
CLIMATIC DATA				
Rainfall recorded at demo site	X			
Frequency of shocks such as drought, flooding, or pest outbreak	X			
OUTPUT DATA				
Volume of crop harvested	X	X	X	X
Expenses (costs incurred to maintain the demo)	X	X		
Labor (number of days spent for different activities)	X			
Revenues collected from sale of produce at the demo site	X	X	X	
Gross margin calculations	X	X	X	

3.6.3. Utilization of data

The study found that most of the data collected is used for reporting purposes. Most programs will include basic analysis of demos in their reports including the types and number of demos established and a general assessment of the performance of demos in the reporting period based on yield and gross margins.

Program staff and extension officers will typically review the data during routine monitoring visits and assist farmers refine and analyze data where needed. During the study, we found examples of demo site registers where extension officers had written recommendations for farmers following a visit e.g. on how to manage a pest infestation. This kind of real time utilization of data to help farmer make decisions regarding management of demos can be very useful in correcting course when a constraint arises.

In Niger, program extension staff did most data collection and farmers played a smaller role in tracking demo plot management. Extension officers typically record program management activities like participation in farmer field days, number and types of trainings. Indicators related to demo site outputs and outcomes impact is usually will be the responsibility of the project's monitoring and evaluation team. Monitoring the demonstration program is vital for good program management and a mandatory component for many projects. USAID FFP projects must have a monitoring plan that has a list of indicators and methods for collecting, managing, and processing data for these indicators; moreover, it must describe how partners share responsibilities for these processes and identify where responsibility lies for finalizing the values (USAID 2015). The gathered data is used to create monthly reports for project staff or donors and was sometimes consolidated to create a regional/provincial report.

In some projects, there was a database where all the information from agriculture extension activities including demo sites was supposed to be added and linked to the indicator performance tracking tables (IPTT). IPTT data is used to monitor program performance at a high level and may not necessary capture trends in demo sites. It is difficult to isolate the impact of any single extension activity, like a demo plot program, on farmers' learning and adoption. We identified only one study that tried to do this for demonstration plots through a random controlled trial (Kondalys 2012). In Zimbabwe, ICRISAT collects data from demo sites annually and uses this to inform approaches for the subsequent season.

Monitoring the demonstration plot through regular extension visits or communication with a farmer can help address the issues of inadequate oversight as well as poor presentation of demonstrations. Regular monitoring visits or communications can head off management problems or pests and disease before they become significant. If these records are compiled and analyzed, they are a way for an extension agent or project director to better understand how the practice is performing across agricultural demos and the constraints encountered by farmers over the season. In one project, lead farmers were given a smartphone that all farmers in the group could use to monitor their crops and access extension advisory services. In another, cell phone communication with extension agents was a primary means of checking in on the plot and farmer. These ICT tools are especially important for horticulture crops that may otherwise require weekly or biweekly visits.

Data collected is also used to promote the featured technology through farmer field days and other dissemination platforms including signboards installed at demo sites. At harvest, the majority of projects record the production from the demo. This information is shared in farmer field days, annual meetings, and workshops with farmers and other stakeholders. It is often discussed between the extension agent and farmer groups, which can build understanding and capacity about the new practice or technology. Some organizations also use video, drama, radio and social media e.g. Facebook and podcasts to promote their practices, while others organizations rely primarily on signboards for sharing information. Farmers use village assemblies to share their successes among other farmers. While many projects use farmer field days, some question the utility of these for learning. Farmer field days can provide other benefits, but are often very large, one-off events, with many stakeholders often with their own distinct agendas. More success was found in learning caravans where farmers move from one farmer's plot to another throughout the season or at the end of the season. These are an opportunity to see variation in how a practice or technology performs on different farms. Some implementers mentioned that, for really good practices, the social diffusion processes may not need much support—the word gets out, or economic gains by those adopting the practice are visible.

3.6.4. Constraints in data collection and utilization

The following constraints we noted:

1) Capacity of farmers – farmers are expected to collect a lot of info at the demo sites but in most cases, targeted participants had limited literacy levels and were not able to consistently collect and analyze the information collected at the demo site. Farmers are also dependent on extension officers to provide templates. In a few cases, farmers used their own format but there was little consistency and rigor when this happens.

2) Bandwidth of extension staff – as alluded to earlier, extension workers are often overburdened with managing expansive areas and too many demo sites. The end result is that extension staff have limited bandwidth to ensure through data collection, analysis and reporting. Farmers are often dependent on technical assistance from program staff and government extension officers to effectively analyze and interpret the data collected at demo sites. The study found that extension officers are not able to provide adequate support in this area. In the end, the data may not be collected consistently and will be underutilized. An example of this was in Zimbabwe where the Fall Army worm was devastating maize during the study period. Data on the epidemic was poorly collected and utilized to inform strategies for control across demo sites partly because extension officers could not respond swiftly to changing circumstances.

3) Limited consolidation of data – the study found that data collected is captured in different formats and in hard copies which makes it hard to consolidate and analyze comprehensively to draw conclusions on trends at a program level.

4) Managing transitions – While the study found that farmers and extension officers use information collected from demo sites for adaptive management[9] regarding production practices at the site, the extent to which the information is used for adaptive management on a broader scale was not clear. Consolidation and regular review of demo site data can help to identify opportunities for strengthening the way demo sites are implemented in subsequent seasons. In Zimbabwe, the ENSURE program conducted a survey of demos showcasing conservation agriculture practices across project implementation sites and the information was used to adjust the design of demos the following season. Such examples where info collected is used to shape management decisions is rare and ought to be encouraged.

5) Mechanisms for sharing info – Farmers expressed concerns that program staff collect information for reporting but may not necessarily share it with farmers once the reports are finalized.


Photo 13. Different types of demo signs can be used to disseminate information on the plot and the host farmer.

9. Adaptive management is a structured decision-making and governance process that allows for flexibility and adjustment as the system outcomes of management and policy decision become better understood (Walters 1986)

3.6.5. Recommendations

1. Programs should aspire to help farmers capture info in user friendly formats e.g. video and discussion forums rather than relying on written format. Approaches such as the use of low cost video for extension as applied by Digital Green are recommended.

2. To make it easier to consolidate data from many demo sites, programs should do more to standardize data collection templates. Standard indicators can be used to measure important metrics from demo sites depending on the technology featured. For monitoring of the agricultural demonstrations, the following tools can be used or adapted:
   – Record keeping worksheet (Havelin et al., 1990) and field day evaluation forms (CARE 2017). Signboards can also be a good source of info on emo sites. Standardizing and refining the content of demo site signboards can improve communication.

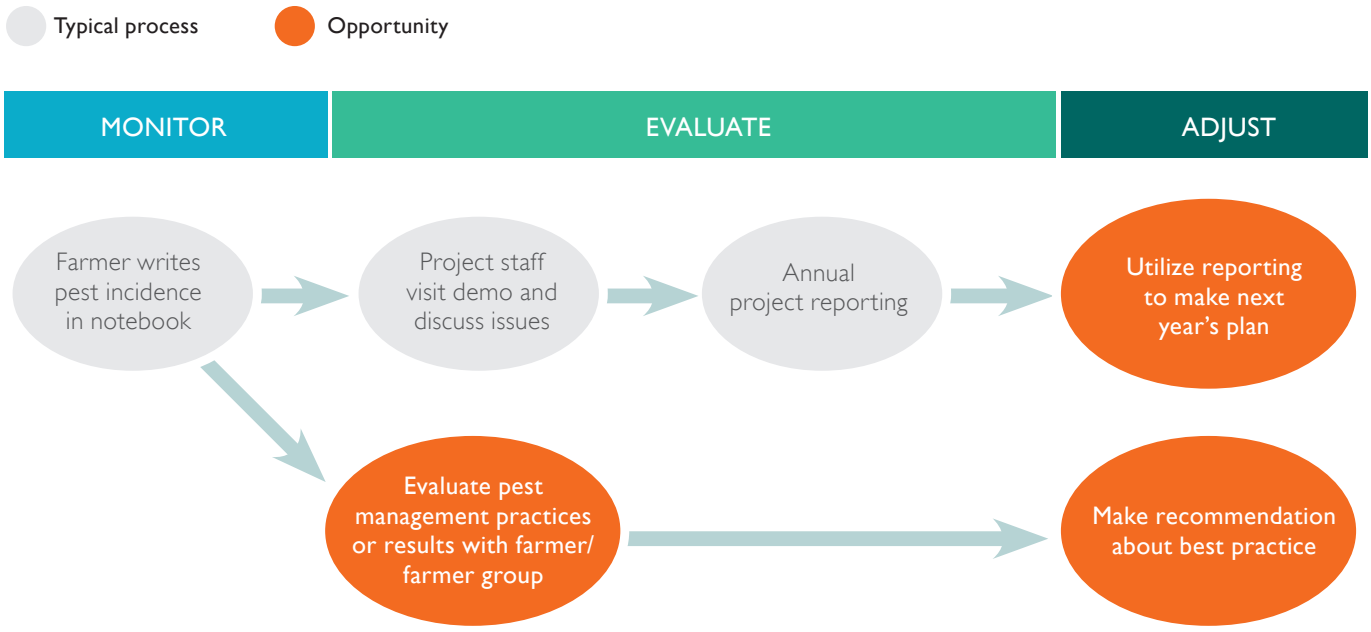
3. Share information with farmers more regularly. Programs should utilize participatory appraisal techniques to evaluate performance of promoted technologies. Examples of protocols include ballot box test of learning and quality control matrices (Kamp 2011).

4. Consolidate data at program level regularly and use it for adaptive management during the season and for subsequent seasons. Demo sites have a wealth of info that could be used to help illuminate important lessons regarding behavior change and factors affecting scale up of climate smart technologies. Programs are encouraged to outline a learning agenda on how to utilize data collected from demo sites to improve extension and food security outcomes.

5. To lessen the burden on program staff and extension officers, programs should train village agents or local service providers in recordkeeping so they can support farmers to ensure data quality. Programs should also seek to improve efficiency of data collection by adopting emerging Information Communication Technology (ICT) tools such as tablets and smart phones. The AESA program in Bangladesh has some good examples of ICT tools applicable for demos.

6. Streamline processes for adaptive management. A few simple additions could expand the potential for this information management system and encourage the addition of adaptive management. See Figure 5 for an example of how projects can make small modifications to existing practices to ensure data is used for adaptive management.

Figure 5. Addition of adaptive management processes to typical information management



3.7. SUSTAINABILITY

Sustainability is an important objective for development programs. Although sustainability is often highlighted in the design of food security programs, it was unclear how it is applied in the management of demos. Stakeholders raised concerns regarding the sustainability of demos, particularly where demos are externally led and rely on inputs that are inaccessible to farmers. We wanted to further understand the underlying issues. The study thus explored the following questions in regards to sustainability in implementation of demos:

1) *How is sustainability defined when it comes to demo sites on food security programs?*
2) *How do implementers seek to achieve sustainability when it comes to demo sites?*

Findings from the three case study countries as well as opinions from key informants are presented to outline constraints, lessons learned, and best practices for addressing sustainability in demos. This section also provides recommendations for improving sustainability of demos.

Key takeaways

- Projects often do not have a clear understanding of how sustainability applies to the agricultural demos and how project exit strategies will impact demonstrations.
- Projects should define sustainability objectives for demonstrations explicitly and ensure that exit planning included these objectives.
- Sustainability in agricultural demo management can focus on:
  - Sustained access to resources
  - Institutions that can provide continued training and capacity building
  - Motivation of the farmers and perceived benefits
  - Linkages to extension services, markets, and strong cohesive communities (Rogers and Coats 2015)
- The Assessment Tool for improving the management of agricultural demonstration sites in food security programs (Annex C) includes key questions to ask about sustainability to ensure demos are effective.

3.7.1. Definition of sustainability

FFP characterizes sustainability on food security programs as building capacity of host country entities to achieve long-term success and stability, and deliver benefits without interruption or reduction in the quality of services after external assistance ends (USAID 2015). Four factors influence sustainability: 1) sustained resources; 2) capacity (both technical and managerial); 3) motivation; and 4) linkages among program entities. FFP also seeks to create self-financing and self-transferring models that will continue to spread under their own momentum both during and after the project. The underlying objective for sustainability is this continuation of benefits. So how does this translate when it comes to demos?

When asked how sustainability is defined for demos, most implementers seemed to think of it in the following ways:

1) That the demo site will continue even after the project stops providing support. From this perspective, implementers expect that another entity—potentially the farmer, extension agents or private sector—would take on the responsibility of maintaining the demo.

2) That other farmers in the area will establish their own demos as a pathway to adopting promoted practices. The expectation here is that the demo established with support from the program will enable other farmers to try out the technology on their own farm. In Zimbabwe, the ENSURE program established mother demos from which lead farmers are expected to establish baby demos to enable scale-up.

3) That the practice promoted at the demo will be adopted by farmers and scaled up. The idea behind this is that demos are meant to encourage farmers to adopt the practice shown at the demo at a much larger scale. This can happen with the host farmers expanding application of the demonstrated technology in their own farm. It can also happen when other farmers in the area adopt the technology on their own farms. Sustainability is this case is translated as adoption of the practices or varieties promoted or disseminated through the demo by participating farmers and other farmers, but the demo itself does not have to continue after support from the project ends. This definition emphasizes demonstrations as a means of disseminating a specific practice or technology.

4) That farmers and stakeholders will continue the practice of learning, using demos for different technologies at present and in the future. The goal here is to nurture learning. Implementers seek to encourage farmers to try out new ideas that can lead to improved farming practices. Sustainability strategies are thus aimed at helping farmers appreciate the concept of establishing demos as a learning tool. The demo itself does not have to continue, but farmers can now use demonstrations as an approach to more systematically try out and evaluate any kind of technology or practice in the future. This definition emphasizes demonstrations as a learning strategy that builds farmers' capacity to test out new ideas.

The study showed that sustainability for demos can have many angles. All the facets stated above contribute towards sustainability in one way or another. Sustainability can be complex to measure, and it is important that implementers and stakeholders explore and agree on the various objectives associated with establishment of demos. In reality, expectations are not always clear for demos; for example, do implementers see a demo as something that should continue for several years, and if so, is there a strategy to ensure this? In some cases, we found demos are planned on a season-by-season basis with no link across seasons and not much thought about sustainability or strategies to achieve it. Most organizations and implementers expected the private sector or government extension services to oversee the continuation of demos after projects' end. We were not able to determine whether or not these institutions see this as a sustainable or functional strategy, or whether project timelines are long enough to build adequate capacity in these stakeholders to take over these roles. Implementers need to clearly define what sustainability goals they want to achieve with demos and develop strategies to achieve these objectives. Establishing common indicators for measuring sustainability together with stakeholders is also needed.

3.7.2. Sustainability strategies for demos

To review sustainability strategies for demos across food security, we chose to reflect on the four factors that determine sustainability and see how these are applied in management of demos:

1) Sustained access to resources
2) Institutions that can provide continued training and capacity building
3) Motivation of the farmers and perceived benefits
4) Linkages to extension services, markets, and strong cohesive communities (Rogers and Coats 2015)

Sustained resources

A common practice among implementers and organizations is providing support in the form of inputs to farmers or farmer groups hosting demo sites for just one or two seasons with declining support in the second season and very little to no support in the last season of the project. All participants in country studies indicated that this phasing out of financial support was the biggest constraint they faced in sustaining the demonstration sites as a learning tool and the likelihood that technologies would be adopted. If the inputs are not available to farmers at an affordable price, chances are that the demo will not lead to sustained adoption. To address this concern, we found that implementers try to work closely with suppliers, particularly private sector input companies, to build strong linkages with farmers. The idea is that once the project ends, farmers will continue to access the inputs from these companies either for demonstration or as regular sales.

Many food security programs support savings and loans groups to help farmers increase their access to credit. Even with increased earnings from VS&L, farmers reported they struggle to access the inputs required to maintain demos on their own and to continue adopting the promoted practices once the project ends. In some cases, programs will support service providers, e.g., by training artisans who make rippers for conservation agriculture and linking them to farmers so that farmers can continue accessing the resources they need. When phasing over project support, farmers and input suppliers raised concerns that usually implementers will withdraw their support prematurely before the linkages are well-established, which undermines sustainability.

Continued training and capacity building

Demos are a critical platform for knowledge transfer and skills building for farmers. During implementation, food security programs look to increase the number of demos and the capacity of lead farmers and extension agents to continue providing the training through demos. To be sustainable, farmers and extension agents need continuous support even after the project ends. However, the study found that stakeholders generally felt that the level of training provided to establish and sustain demos was not adequate during implementation and was virtually absent after the project ends. In most cases, there is an expectation that lead farmers will continue to train other farmers, but we found that demo hosts often lack incentives and support needed to continue training farmers once the project ends. The use of local service providers (LSPs) is a noteworthy attempt to address this problem. LSPs are trained to work with input suppliers to train farmers on new technologies and establish demos where needed. They sustain their services by earning fees from either sale of inputs or helping farmers find better markets for their commodities. A key challenge is ensuring that LSPs can provide holistic training and technical support that addresses practices such as soil and water conservation, seed multiplication and business skills which may not directly generate fees for their services.

Motivation and perceived benefits

Sustainability also depends on the ability of farmers to stay motivated to continue using the technology shown at a demo and to continue demonstrating new ideas. This is tied to the perceived benefits farmers will get from demos. In all three countries, farmers stated that they will continue scaling out adoption of practices that lead to increased yield. In some cases, farmers pointed out benefits such as reduced labor burden (e.g., with use of mulching under conservation agriculture which suppresses weeds) although such benefits were not as obvious and may not reflect significant changes in the farmer's bottom line. Beyond yield, earnings are the most

significant motivation for farmers in setting up demos and adopting new practices.

Women were found to be more appreciative of non-financial benefits. In Bangladesh, women farmers who had established demos for vegetable production indicated they would continue the practice in subsequent years following the initial support from the project because they saw the benefits in improved nutrition of their children. Farmers in Zimbabwe also cited the value of soil and water conservation practices in helping them get through the recent El Niño drought. To enhance motivation, implementers will usually help farmers build social capital by working in groups. In all three countries, practitioners reported that groups that work well together often had better outcomes from demos.

Linkages

Linkages between farmers and other stakeholders in demo site management is critical for sustaining learning and adoption. Consistently, food security programs in all three countries work closely with government and private sector to strengthen linkages that can sustain outcomes from demos once the project ends. There are some constraints to partnering with the private sector. For example, in Niger the private sector has few input suppliers and output market players are not visible. Most private sector actors are working with inputs and commodity crop seeds, so it may not be possible to partner for every technology or practice.

In Bangladesh, implementers pointed out that they ensure sustainability by demonstrating technologies that have a sustainable market. For example, in promoting a new seed variety, sustainability can be enhanced by ensuring that a profitable market exists for the output. If a market exists, the farmers will sustain the technology independent of the project. LSPs are also used to sustain linkages with input suppliers and commodity buyers.

3.7.3. Recommendations to strengthen sustainability of demo sites

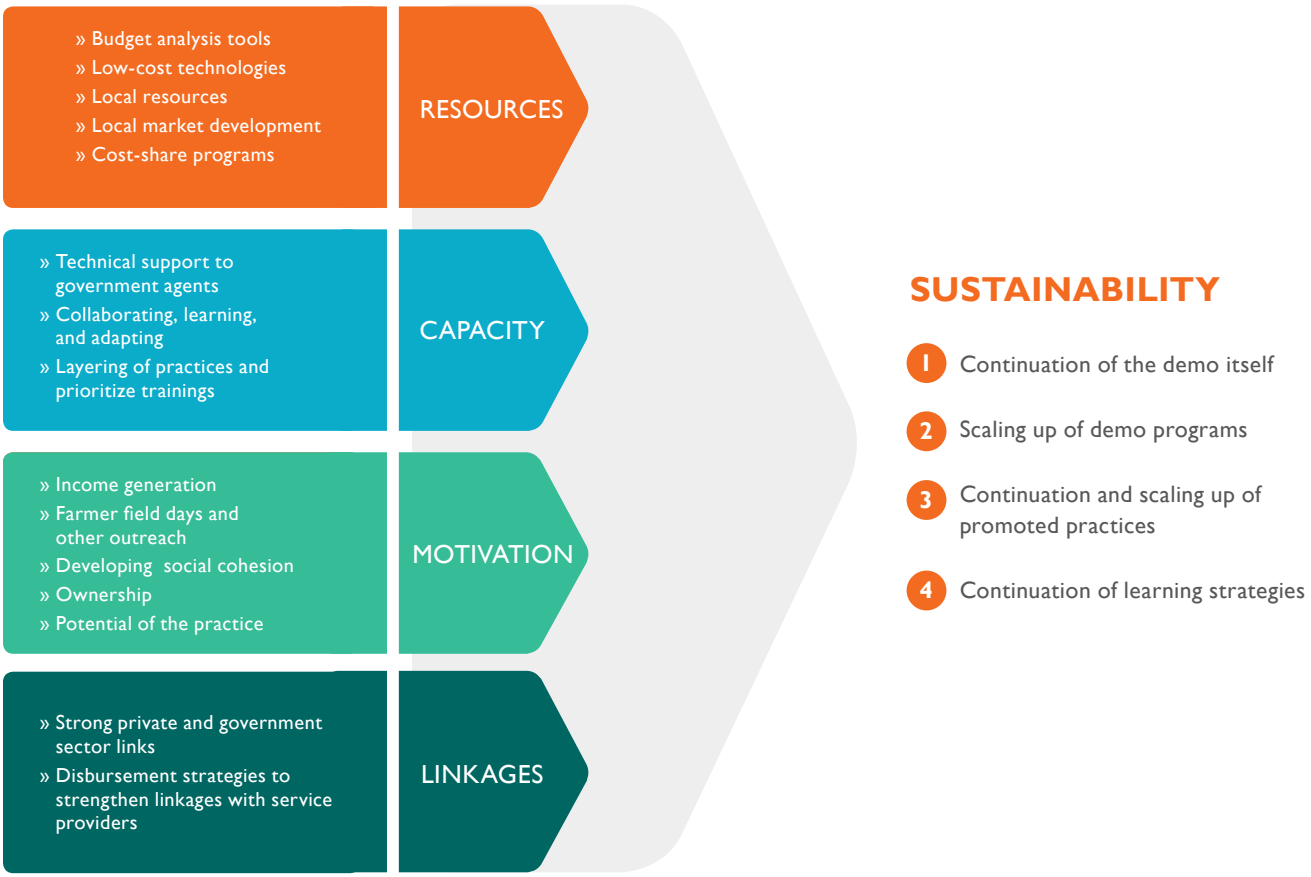
Optimizing the rate at which support for demos is phased out should be carefully considered. For many practices, particularly those involving inputs, improved seeds, or mechanization, like seeders, farmers in FGDs questioned whether they would be able to continue to access these without project support. Good participatory approaches and training take time, especially for farmers to gain enough confidence to teach others. Demo sites typically do not receive funding for training after the life of the project, and this may be needed if farmers are expected to adopt novel practices and technology long-term. Capital-intensive technologies or practices tend to have a low buy-in, and groups that did work well together did not always perceive benefits or achieve ownership.

Figure 6 shows how implementers can enhance sustainability. Employing low-cost technologies and budget analysis tools that highlight full costs of demonstration sites is very feasible to do within a short project lifespan.

Continuous training and capacity building should be prioritized by farmers' immediate needs and possibly other trainings suggested to extension officers or other sectors that plan to work with the farmers for longer periods of time. Showing immediate benefits in improved livelihoods is the most motivating factor, followed by groups that work well together and demonstrate strong social cohesion. Building linkages and trust between various stakeholders can take time, however, and if these linkages and trust are already there, demonstration sites have the potential to catalyze and strengthen these linkages. Strong relationships with the private sector and market linkages are important to ensure continued income opportunities.

Implementers should also keep in mind that sustainability for demos has multiple facets, all of which are important and should be discussed with stakeholders to ensure clarity in objectives, roles and accountability.

Figure 6. Sustainability strategies for demos



Section 4
Conclusion

World Vision identified seven implementation factors that are key determinants of successful agricultural demo programs. Under each of these factors, this study outlines major constraints encountered in implementation, best practices and a set of guiding principles. There is no single way of managing demos that is "the right way." Still, thoughtful engagement by implementers with each of these factors, **Design and Planning, Stakeholder Engagement, Cost Management, Constraints and Risk Management, Gender Integration and Social Marginalization, Information Management, and Sustainability**, will improve the quality of field programs.

World Vision set out to understand how agricultural demos are being managed on food security programs that target vulnerable households. While many practitioners voice skepticism about the efficacy of agricultural demos, there is no doubt that they are widely used. In the three case study countries, Bangladesh, Niger and Zimbabwe, nearly all food security programs funded by USAID and other major donors include a variety of agricultural demos. In total, these targeted several million farmers and showcased numerous types of agricultural practices. Practitioners and beneficiaries value agricultural demos because a good demo can 1) demonstrate an innovative agricultural practice(s) ("seeing is believing"), and 2) foster learning and knowledge transfer ("learning by doing"). While this method is well established, numerous constraints were discussed across three broad categories: environment, behavioral and institutional. These constraints are not insignificant nor are they uncommon, and this underscores the need for a revised approach to agricultural demos.

Implementers must reconsider agricultural demo management starting with the design and planning process. Decisions made early on have a significant impact on the success of the demo. First, implementers should consider whether demos fit well in project objectives or whether they are being included by default or to reach high targets. Selection of practices and demo types should be done in consultation with stakeholders. Many projects reported that practices were selected through participatory methods; however, most focus group discussions referred to the innovative practices as coming from the project rather than being self-generated or adapted by a farmer or a farmer group. The selection criteria for demo site hosts should consider positive deviants—farmers facing constraints typical of their peers but who have somehow overcome common barriers in adopting innovative practices. Agricultural demos are rarely standalone activities. The quality of outcomes from demos is dependent on the ability of field officers to adequately support farmers.

Engaging stakeholders early on is also crucial. Involving the right local actors (from farmers, to local leaders, to private sector to government extension) in the decision-making process regarding establishment of demo sites, selection of practices, and selection of demo hosts will increase ownership and relevance of activities. Understanding the stakeholders to involve, their potential roles, and the capacities that they can contribute can be assessed using stakeholder mapping. Once the right stakeholders are involved, facilitate strong relationships and trust through regular and accessible platforms where stakeholders can interact. Formalize relationships with MoUs when necessary, so that expectations and responsibilities are clear.

Significant amounts of resources are expended in implementation of agricultural demo sites in food security programs, pointing to the importance of cost management. There were differing opinions among implementers about

whether or not a demo is an inexpensive or expensive method of reaching farmers. Some of this disconnect seems to stem from the fact that actual direct costs for a demonstration are not large. The effectiveness of the demo often also requires the provision of training and advisory services and other nonmonetary contributions which can be easily overlooked during the budgeting process. Inadequate budget and delays in procurement often result in poor implementation of demos. Implementers should work closely with stakeholders to define expectations for cost sharing arrangements that are sustainable. Many implementers expressed an interest in a cost management tool and we have created a basic spreadsheet to guide budgeting and better assess costs.

Agricultural demos are fundamentally a risk management strategy and many practices are promoted to enhance climate resilience. No agricultural practice or system will ever be shock-proof, but there are strategies that can reduce the impact of the shock. This study categorized risks associated with establishing demos into environmental, institutional and behavioral. Greater emphasis on assessing vulnerability of planned demos will help improve preparedness and mitigation capacity for addressing common constraints. Demos offer an opportunity to showcase how risk reduction measures such as use of weather-indexed crop insurance or livestock insurance can protect farmers from total loss in the event of a shock. Behavioral constraints can be addressed through more systematic barrier analysis for promoted practices. Application of the Designing for Behavior Change in Agriculture, Natural Resource Management, and Gender curriculum produced through TOPS can help evaluate barriers related to social norms, cultural beliefs and attitudes, and efficacy of training methodologies and technologies promoted (FSN Taskforce 2013). Implementers are encouraged to adopt a behavior-change–centered approach to improve management of demos. Good planning principles can go a long way in alleviating institutional constraints.

We found that most programs have clear objectives for targeting women and, in some cases, concerns were raised regarding the lack of male engagement in nutrition focused interventions. Food security programs carry out gender analysis that can include an assessment of barriers for women to participate in agriculture activities. Often, gender analyses are carried out prior to establishment of demos. A gender analysis lens can be used to assess opportunities and constraints for participation and accrual benefits by women in demos. Setting disaggregated targets for the percentage of women lead farmers or demo hosts would be helpful in further understanding the benefits and constraints for women in agricultural demo programs. We found that social marginalization is not well addressed in demos. Most food security programs target vulnerable households but they may not specifically seek to identify and strengthen the participation of disabled persons and other socially excluded groups in demos. There is need to build greater awareness and skills to address social marginalization among agriculture extension officers. Accessibility of demos for socially marginalized groups should be considered as a criterion for selection demo sites.

Information management was relatively consistent across programs. In most agricultural demos, monitoring was very basic and processes of organizing data seemed insufficient. The farmer, who reports it to the extension agent, usually does this activity or the extension agent can do it on their own. It is one more activity for extension agents who already have many responsibilities and large area to covers. The primary use of the data is to generate project and donor reports. Since demos represent an opportunity to understand how a practice or technology performs under real on farm conditions, the data is compiled and discussed both with project staff and farmers. Simple activities like learning caravans where farmers visit many demos are considered valuable for farmer learning and understanding of variability of performance of the practice. Small investments in compiling these data sets, and planning regular reviews of them, could dramatically increase adaptive management. While agronomic assessments are important, more comprehensive assessments of a new practices performance would be useful, as would assessments of farmer learning.

Sustainability in agricultural demos is not always well-defined. Many of the focus group discussions and key informant interviews reported that demonstration site managers were concerned only with the current season and not with planning for the next season. Sustainability depends on considering what that means for a specific project, project objectives, and the activities with the project. Sustained access to resources, institutions that can provide continued training, motivations, and linkages to extension services are four factors that have to

be considered. This is very difficult in project life spans of three to five years. We suggest employing low-cost technologies and budget analysis tools that highlight full costs of demonstration sites. Continuous training and capacity building should be prioritized by farmers' immediate needs and possibly other trainings suggested to extension officers or other sectors that plan to work with the farmers for longer periods of time.

These guidelines are intended to fill a gap in guidance for practitioners working on food security programs targeting vulnerable households that include agriculture demos as an extension methodology. By building capacity in practitioners, this aims to improve the management of demos, and enhance their effectiveness as an extension tool. Further, based on the guidelines, we created an assessment tool. For each of the implementation factors, we propose a set of questions. These questions encourage reflection at each stage of the implementation process to help identify opportunities to question default assumptions about this deceptively simple method and to strengthen implementation.

In reviewing existing literature and extensive discussions with practitioners, it became apparent that there is a need for more research on best practices and the impact of different agricultural demos on adoption. Particular gaps are related to timing. Current timelines for agricultural demos are set based on project timelines and subsidy of inputs is usually similarly sequenced. Projects reported value from repeating demonstrations or having demonstrations, even of a simple technology for multiple years. More complex technologies may take even longer. Many demos now are concerned with climate-resilient agriculture practice such as conservation agriculture, use of drought, salinity tolerant varieties, etc. Many questions remain about adequate timelines for farmers to explore, test, and adapt different practices, in particular those with more incremental gains or gains at the landscape rather than the field scale, such as land degradation issues or watershed restoration.

The guide and its findings can inform organizational and government policies related to agriculture extension. Policy and decision makers can gain a better understanding of the factors that influence behavior change in agriculture development and agricultural demos specifically. Given that agricultural demos are a critical tool for knowledge transfer and skill building, improving the technical and operational efficiency in the implementation of demos will improve their lasting impact and contribute toward improved food security and resilience for vulnerable populations.

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ANNEXES

Annex A: Study Participant List

BANGLADESH—KEY INFORMANT INTERVIEW PARTICIPANTS	
NAME	ORGANIZATION
Md. Moksed Ali, Program Manager	Cultivating New Frontiers in Agriculture (CFNA)
Abu Nur Elias, Environmental Advisor	CNFA
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Engr. Aktarul Islam, Machinery Development Officer	The International Maize and Wheat Improvement Center (CIYMMT)
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Md. Anowerul Islam, Upazila Agriculture Officer	Department of Agriculture Extension (DAE)
Md. Alauddin, Regional Manager	Agriculture Extension Project, DAM-Dhaka Ahsania Mission
Md. Badiul Alam, Agricultural Extension & Marketing Officer	Agriculture Extension Project, DAM
Dr. Md. Ridwanul Haqaur, Regional Training Coordinator	Agriculture Extension Project, DAM
Fakhrul Islam, Director of Agriculture and Operations	Nabolok, PKSF funded project
Md. Rabiul Bashar, Agriculture Officer	Nabolok, PKSF funded project
Shachindra Nath Biswas, Principal Scientific Officer	Soil Resource Development Institute (SRDI)
S.M. Ziaul Hugque, Regional Coordinator	CREL, Winrock International
Shariful Alam Mony, Field Coordinator	IFDC (AAPI project)
Md. Liakot Ali, Deputy Director	Bangladesh Agriculture Development Cooperation (BADC)
Anonymous, Lead Farmer	Department of Agriculture Extension (DAE)

Annex A: Study Participant List (continued)

NIGER—KEY INFORMANT INTERVIEW PARTICIPANTS	
NAME	ORGANIZATION
Isoufou, Food Security and Livelihoods Manager	Save the Children (LAHIA)
Ibrahim, Market Linkages Coordinator	Save the Children (LAHIA)
Ladime, Supervisor	Save the Children (LAHIA)
Abdul Salam Mahaman, Agriculture Facilitator	World Vision (LAHIA)
Sadou Soumana, Food Security and Livelihoods Coordinator	World Vision (LAHIA)
Saley Boukari, Agricultural Team Leader	Catholic Relief Services (CRS)—DFAP: PASAM-TAI
Abdoulaye Lihida, Program Manager—Horticulture, Commercial and Nutritional	CLUSA (Regis Project)
Dr. Dougbedji Fatondji, Agronomist	International Crop Research Institute for the Semi-Arid Tropics (ICRISAT)
Issaka Laouali, Research Technician	ICRISAT
Mr. Magagi Abdou, Founder/Director	Halal (Input Supplier)
Mr. Amate, Founder/Director	Amate (Seed supplier)
Harouna Abdou Zodi, Regional Head of the Agricultural Extension	AGRA & ICRISAT, Department of Agricultural Extension
Douda Mossi, Chief of Agricultural Extension at the commune level	PMERSA, Department of Agricultural Extension
Dr. Maty Ibrahim, Deputy Regional Director	Department of Livestock
Nouhou Bakoye, Head of Production Activities	PMERSA Project
Elh Mamane Aminou Ali, Executive Director	FUMA Gaskiya

Annex A: Study Participant List (continued)

ZIMBABWE KEY INFORMANT INTERVIEWS	
NAME	ORGANIZATION
Mr. Manyange, Lead Farmer	ENSURE (World Vision & CARE)
Taurai Vhulengoma, Agriculture Officer	ENTERPRIZE (World Vision)
Barbara Sibanda, District Program coordinator	EXTRA (Heifer International)
Tichaona Changa, Project Officer	EXTRA (Heifer International)
Nyarai Muzunde, Project Officer	EXTRA (Heifer International)
Dr. Olivia Mukoku, Deputy Chief of Party	FtF Crop Development Program (LEAD Trust)
Prisca Nyagweta, Area Manager/Staple Crops and Pulses Component Lead	FtF Crop Development Program (LEAD Trust)
Davison Godfrey Mudimu, Chief of Party	FtF Crop Development Program (LEAD Trust)
Hopewell Zheke, Head of Sustainable Agriculture and Livelihoods	INSPIRE (Practical Action)
Tendekayi Mudimu, Extension Advisory	INSPIRE (Sustainable Agriculture Trust (SAT))
Mr. Munetsi Chavizha, Farmer/Director	Independent (Global Gardens)
Samson Woyo, Cluster Lead Farmer	Agritex (ENSURE)
Christine Tsangwa, Cluster Lead Farmer	Agritex (ENSURE)
Savemore Vangirazi, Groundnut Breeder & Principal Research Officer	Department of Research and Specialist Services (DR&SS)
Prince, Maize Breeder	Department of Research and Specialist Services (DR&SS)
Barbara, Soya Beans Breeder	Department of Research and Specialist Services (DR&SS)
Dr. Isaiah Nyangumbo, Regional Cropping Systems Agronomist	CIYMMT
Mr. Magumo Nyikahazdoi, Extension Officer Chimanimani	Department of Agriculture Extension
Obert Maminimini, Crops Officer	U.N. Food and Agriculture Organization (FAO) (LFSP—Livelihoods and Food Security Program)
Basil Mugweni, Livestock Officer	FAO (LFSP)

Annex A: Study Participant List (continued)

PHONE/EMAIL KEY INFORMANT INTERVIEW PARTICIPANTS		
NAME	**ORGANIZATION**	**POSITION**
Dr. Adam Reinhart	USAID FFP	Food Security/Agriculture Advisor
Afia Agyekum	Adventist Development Relief Agency (ADRA)	Agriculture Specialist
Alex Dunlop	Digital Green	Director of Business Development
Dr. Claude Nankam	Food for the Hungry	Agriculture and Climate Change Technical Advisor
Dan White	ACDI/VOCA	Technical Director, Agriculture, Technical Learning & Application
Dr. Manny Reyes	USAID Sustainable Intensification Lab	Research Professor
Dr. Paul McNamara	INGENAES	Associate Professor
Ed Brooks	MercyCorps	Advisor: Agriculture, Economic, and Rural Markets Development
Emily Janoch	CARE	Senior Technical Advisor for Knowledge Management and Learning
Felipe Hernandez	PCI Guatemala	Consultant Proyectos de Desarrollo Rural en Personal
Dr. Geoffrey Heinrich	CRS	Senior Technical Advisor of Agriculture and Environment
Jeffrey Gray	Save the Children	Africa Livelihoods Advisor
Kaitlyn Smoot	One Acre Fund	Program Associate, Innovation Team
Dr. Moffatt Ngugi	USAID Agriculture, Environment and Climate Advisor	USAID Agriculture, Environment & Climate Advisor
O. Maminimini & B. Mugweni	FAO - Zimbabwe	Crops Officer
Ruben Yanez	Fintrac	Senior Production Advisor - Tanzania (MNM)
Sean Carpenter	PCI	Senior Technical Advisor, Agri-Business and Microenterprise
Victor Pinga	SPRING	Agriculture Advisor

Annex A: Study Participant List (continued)

BANGLADESH—FOCUS GROUP DISCUSSIONS					
ORGANIZATION	LOCATION	NUMBER OF FARMER FGDs			
		Male	Female	Mixed	Total
Nobolok	Natundria Village, Rupsha Upazila, Khulnda District	1	1	0	2
Winrock International	Shymnagr, Satkhira	1	1	0	2
Shushilan	Ashashuni, Satkhira	1	1	0	2
Dhaka Ahasania Mission	Narial	1	0	0	1
International Rice Research Institute (IRRI)	Chuknagar, Dumuria Upazila, Khulna District	1	0	0	1
Department of Agriculture Extension (DAE)	Dacope, Khulna	1	1	0	2
TOTAL		**6**	**4**	**0**	**10**

NIGER—FOCUS GROUP DISCUSSIONS					
ORGANIZATION	LOCATION	NUMBER OF FARMER FGDs			
		Male	Female	Mixed	Total
Save the Children (LAHIA)	Guidan Daweye Dan Gantanamaouv Tagaza	0	0	3	3
World Vision (LAHIA)	Guidan Bogouri Men Guidan Bogouri Women Gawaro Guidan Kane mixed	1	1	1	3
Catholic Relief Services (DFAP: PASAM-TAI)	Serkin Hausa	0	0	1	1
PMERSA Project	Don Juan Giure	2	1	0	3
TOTAL		**3**	**2**	**5**	**10**

ZIMBABWE—FOCUS GROUP DISCUSSIONS					
ORGANIZATION	LOCATION	NUMBER OF FARMER FGDs			
		Male	Female	Mixed	Total
Christian Care	Zaka	2	1	0	3
ENSURE (WV & CARE)	Bomero Village, Ward 16 (Machingambi)	2	3	0	5
Agritex	Bikita, Ward 7 (Baradzanwa)	0	0	1	1
FtF Crop Development Program (LEAD Trust)	Gora Village, Ward 5, Marume	0	0	1	1
Muonde Trust	Gudo Township, Mazvihwa, Zvishavane District	0	0	1	1
TOTAL		**4**	**4**	**3**	**11**

Annex B: Examples of resources used to plan agricultural demos

Department of Agriculture Extension (1990). Group Extension Approaches, pg. 123-154 in *Agriculture Extension Manual*. Department of Agriculture Extension, Dhaka, Bangladesh.

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Annex C: Assessment tool for improving the management of agricultural demonstration sites in food security programs

About the Tool

This tool is designed to help implementers of food security programs assess the management of agricultural demos in their programs. It is based on the guidelines outlined in the publication titled the same developed by World Vision.

This tool is to be used in conjunction with the guidelines to evaluate areas that require improvements. Implementers are expected to review the guidelines and then apply this tool as a lens to screen the management practices for demos. We identify seven factors that can influence the effectiveness of demos (design and planning, stakeholder engagement, cost management, constraints and risk management, information management, gender integration and social inclusion and sustainability). For each of these factors, we propose a set of questions that you can reflect on at each stage of the implementation process to help you identify opportunities to strengthen implementation. We consider four stages in the implementation of demos. The first stage is at design phase; this is when you as an implementer are developing your proposal and want to include demos as an extension methodology.

The second stage is at inception phase; this is when you are about to start implementation of your program and you are getting ready to roll out the demos.

The third stage is at monitoring phase; this is when your demos have been established and you are monitoring performance of the featured practice at various demos.

The fourth stage is evaluation and reporting phase; this is at the end of the production cycle and you are now consolidating performance data and preparing to report to your donor.

Each of the stages within the implementation cycles represents specific constraints and opportunities for ensuring demos are effective. This tool helps you document your lessons learned and adapt programming approaches to address the key factors that arise in the course of implementation. This tool can also be used for planning. Once you have identified the areas that need attention, you can come up with a corresponding action plan to enhance outcomes associated with demos.

Annex C: Assessment Tool for improving the management of agricultural demonstration sites in food security programs

Program Design Stage

FACTORS	GUIDING QUESTIONS
Design & Planning	a. Are demos already being implemented in the areas you plan to work? If yes, what successes and/or constraints have been identified that can inform your strategy for designing demos in your new program? b. What practices do farmers in the areas you target want to have featured in demos? c. How many farmers are you expecting to target through demos? What is the average number of farmers you expect to target through each demo and how many demos will you need to reach your target?
Stakeholder Engagement	a. Which stakeholders should you engage in order to develop an effective strategy for implementing demos? b. What are the interests of the each of the stakeholders? What are they aiming to achieve through implementation of demos? c. What roles do you envision for the stakeholders in implementation of demos? What is their capacity? What strengths and weakness do they have for successfully implementing demos?
Cost Management	a. What specific costs will be incurred in implementing demos? How can you budget accurately for these costs? b. What indirect costs should be budgeted to ensure that demos have adequate oversight from extension officers? c. What arrangements can be made with stakeholders for sharing costs and how will this affect the budget for demos over the implementation period?
Risk Management	a. What approaches and tools shall we use to analyze risks and enhance preparedness and management of shocks and stresses? b. How do the programs disaster risk reduction strategies account for demos?
Information Management	a. What indicators will be used to track performance (outputs and outcomes) linked to demos?
Gender & Social Inclusion	a. How will the project's gender integration strategy account for demos? b. How will the project's social inclusion strategy account for demos?
Sustainability	a. How will the project's sustainability and exit strategies account for demos?

Annex C: Assessment Tool for improving the management of agricultural demonstration sites in food security programs

Inception Stage

FACTORS	GUIDING QUESTIONS
Design & Planning	a. How does the strategy outlined in the proposal compare to realities on the ground in terms of what works and what doesn't for implementing demos? b. What objectives do the program and stakeholders want to set for implementation of demos? c. What guidelines can you develop to facilitate objective selection of host farmers and locations for demo sites? d. What training will the field staff, host farmers and extension officers need to have in order to consistently implement quality demos? e. What schedule will you need to follow in supporting implementation of demos?
Stakeholder Engagement	a. Which stakeholders do we need to partner with and can we formalize the partnership to ensure accountability? b. What mechanisms shall we use to coordinate with stakeholders in implementation of demos?
Cost Management	a. How does the budget for demos compare with realities on the ground for implementation of demos? What costs may have increased or decreased and what adjustments need to be made to accommodate these changes? b. What procurement processes and timelines need to be adhered to for sourcing inputs needed to implement demos? c. How will the funds needed to support implementation of demos be disbursed? How can we avoid delays? How can we strengthen linkages between farmers and market actors in disbursing funds for demos? d. How shall we help farmers and other stakeholders plan and meet the financial needs for demos on time?
Risk Management	a. What environmental, institutional and behavioral risks can we anticipate will affect the implementation of demos? b. What risk mitigation measures do we need to consider in ensuring that our demos will be resilient to the above constraints? c. What are the capacity building needs for stakeholders in terms of risk analysis and mitigation for demos?
Information Management	a. What records will farmers and extension officers supporting demos need to keep? b. What resources do we need to provide to ensure timely and reliable collection of data?
Gender & Social Inclusion	a. What specific barriers are women and men likely to encounter in participating in demos? How can these barriers be addressed at inception stage? b. Which groups of people are marginalized in the areas we are targeting and how can we ensure they participate effectively in demos?
Sustainability	a. How can we define sustainability for demos? What objectives shall we pursue with stakeholders to ensure sustainability of demos?

Annex C: Assessment Tool for improving the management of agricultural demonstration sites in food security programs

Monitoring Stage

FACTORS	GUIDING QUESTIONS
Design & Planning	a. How well are farmers able to adhere to the recommendations for establishment of demos? b. What constraints do the ones who may not be able to adhere to the guidelines face and how can these be addressed to improve the presentation of demos?
Stakeholder Engagement	a. Which additional stakeholders need to be included in the implementation of demos that may have been missed at design and inception? b. How can we ensure regular interaction and coordination with stakeholders to review progress and constraints in implementation of demos?
Cost Management	a. How can we assist farmers and extension workers to collect costs associated with implementing the demo including non-monetary and indirect costs?
Risk Management	a. What unforeseen constraints are stakeholders facing in implementing demos? b. What mitigation measures seem to be working for addressing unforeseen constraints?
Information Management	a. How well are the data collection guidelines for demos being applied? What constraints do farmers and extension workers experience and how can these be addressed in the current season and in future seasons? b. How can the information collected about demos be used to improve implementation (adaptive management)? c. What mechanisms are in place to review data collected and ensure quality and reliability of data?
Gender & Social Inclusion	a. What specific constraints do women seem to be facing in participating in demo activities? How can these constraints be addressed in the current and future seasons? b. How well are socially marginalized groups able to participate in demo site activities? What constraints are we observing and how can these be addressed in the current and future seasons?
Sustainability	a. How are the measures designed to ensure sustainability of demos working during implementation? b. What new obstacles can we observe that may affect the sustainability goals for demos? c. What opportunities have arisen to strengthen sustainability of demos?

Annex C: Assessment Tool for improving the management of agricultural demonstration sites in food security programs

Evaluation & Reporting Stage

FACTORS	GUIDING QUESTIONS
Design & Planning	a. What key lessons can we identify from this year's demos regarding the following? • Ability of farmers to drive key decisions regarding establishment of demos • Identification and engagement of positive deviants • Adequacy in number of demos needed to effectively reach targeted farmers • Suitability of demo site locations • Adequacy of support provided to farmers implementing demos
Stakeholder Engagement	a. To what extent did stakeholders engage vis-à-vis expectations in terms of roles and commitment to successful implementation of demo? What constraints have stakeholders faced and what opportunities can we identify to improve the engagement of stakeholders in implementation of demos? b. How can we engage stakeholders to review demo site outcomes in a participatory way?
Cost Management	a. How do the costs budgeted for demos compare with actual costs and what adjustments need to be made in subsequent seasons? b. What is the cost effectiveness of demos in our program? How can we increase the value of benefits and reduce the cost of implementing demos in subsequent seasons?
Risk Management	a. To what extent were the demos designed able to withstand shocks and stresses during the season? b. How can we enhance the resilience of demos in subsequent seasons?
Information Management	a. What lessons can we gather from the information collected from demos this year? b. What is the reliability of data and information collected on demos? What constraints exists in ensuring data quality and how can these be addressed in future? c. How can we effectively disseminate the lessons learned and outcomes from demos to stakeholders?
Gender & Social Inclusion	a. How well did women participate and benefit from demos this year? What constraints did they experience and how can we address these constraints in subsequent years? b. What gender specific constraints did men face in participating and benefiting from demos this year and how can these be addressed in subsequent seasons? c. To what extent did socially marginalized groups participate and benefits in demos this year and how can we address specific constraints and opportunities in subsequent seasons?
Sustainability	a. How were the sustainability objectives accomplished this year? What constraints did we experience in meeting the objectives and how can these be addressed in subsequent seasons?