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# Improving the Management of Agriculture Demonstration Sites on Food Security Programs – A Practitioners Guide



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Acknowledgements: WV staff in Bangladesh, Niger and Zimbabwe; Partners including Winrock International, ICRISAT and CARE and co-authors Shadreck Zhou, Mishadi Perera, Molly Cheatum and Kadie Koeneman

# Study Overview

**Goal:** Develop guidelines for improving management of agriculture demonstration sites

## **Objectives:**

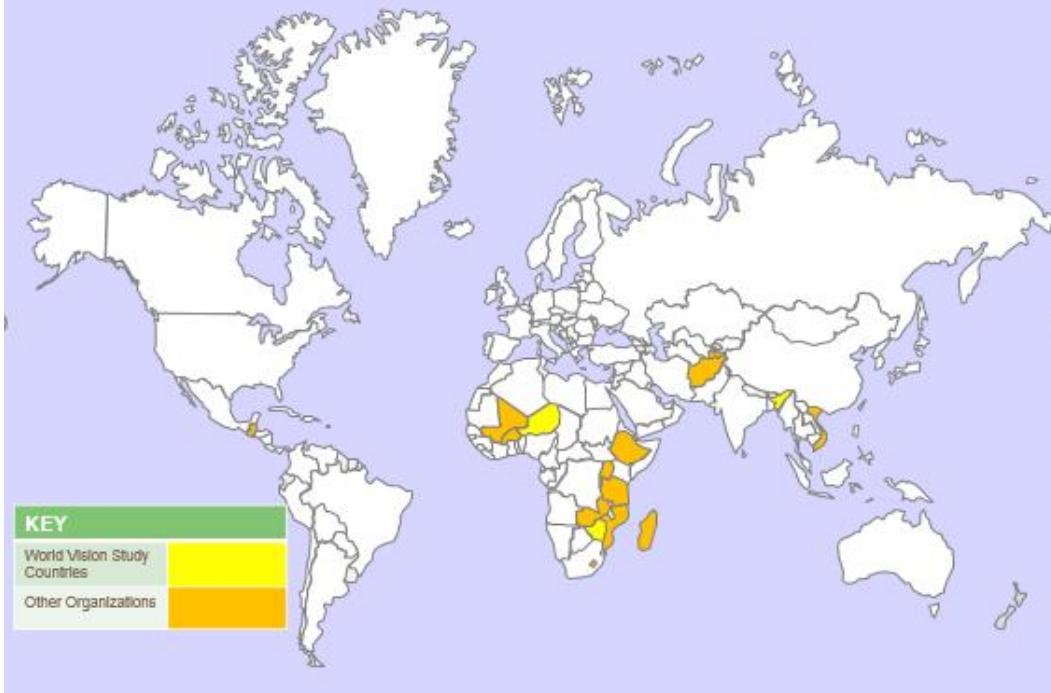
- Assess and document prevailing practices across food security programs in Bangladesh, Niger and Zimbabwe
- Identify key constraints, lessons learned and best practices
- Disseminate findings and provide recommendation for improving management of demos

## **Methodology:**

- Semi structured questionnaire used to evaluate constraints and opportunities for improving management of demos
- 38 key informant interviews conducted with program staff and their partners in Bangladesh, Niger and Zimbabwe
- 31 FGDs done with program participants in the three case study countries
- Stakeholder workshops held in each case study country to vet findings and encourage collaborative learning and adaptive management
- Phone interviews done with 16 program support staff covering programs in 17 countries
- Findings synthesized for analysis, draft guidelines prepared

# Participants – FGDs, KIIs & Phone Interviews

Implementing Countries from Phone Interviews



COUNTRY	# of FGDs	# of KIIs
Bangladesh	10	13
Zimbabwe	11	12
Niger	10	13
<b>TOTAL</b>	<b>31</b>	<b>38</b>

# Study Overview

- We are in the process of finalizing guidelines for publication
- Publication will include
  - Guiding principles for management of demos in food security programs
  - Assessment tool for demos evaluating application of principles
  - Compilation of useful resources for improving management of demos
- **Target audience:** program staff and partners working on food security programs that feature demos
- **Today's goal is two-fold:**
  - 1) Share main findings from study
  - 2) Solicit feedback on guiding principles and recommendations
- Final publication available end of May

# Presentation Outline

## Main Presentation:

1. Significance of demos
2. Perceptions about demos
3. Guiding principles
  - Design & Planning
  - Stakeholder Engagement
  - Management of Costs
  - Risk Management
  - Information Management
  - Gender & Social Inclusion
  - Sustainability



## Group Exercise:

- How can the recommendations be applied in your programs?
- Identify gaps or relevant issues that may have been missed

## Q&A: 15-20 mins

# Definition of Demos

There are as many names for demonstration plots as there are variations on them. They are called field demonstrations, demonstration sites, demos, model farms, model plots, and learning plots.

An agricultural demo:

- Showcases an innovative agricultural practice under local conditions allowing the farmer and community to evaluate the relative merit of the practice (“Seeing is believing”)
- Fosters learning and knowledge transfer with respect to the innovative agricultural practice through the plot itself, the farmer(s) who are working on the demo, and activities associated with the plot (“learning by doing”).

# Significance of Demos

- More than **6,839** demos implemented across seven programs in Bangladesh reaching over **2.2 million** farmers

Program	# of Demos	# of Farmers Targeted
Accelerating Agriculture Productivity Improvement (AAPI)	> 3,600	1 million
Agriculture Extension Project (AESPA)	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
<b>Total</b>	<b>&gt; 6,839</b>	<b>&gt; 2.2 million</b>

# Significance of Demos Contd.

- **1,332** demos implemented across three programs in Niger reaching over **434,400** farmers

Program	# of demos	# of Farmers Targeted
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

- **964** demos across three programs in Zimbabwe reaching more than **101,740** farmers

Program	# of demos	# of Farmers Targeted
AMALIMA	115	39,240
FtF Crop Development Program	90	50,000
Enhancing Nutrition, Stepping Up Resilience and Enterprise (ENSURE)	759	12,500

# Scope of Demos

Demos come in all shapes and sizes

- Bangladesh – winter season demos, composite demos, block demos
- Niger – off-season for demos, FMNR demos, private sector demos
- Zimbabwe – main cropping season, commercial demos, baby and mother demos

Types of Agriculture Practices	Bangladesh	Niger	Zimbabwe
Conservation agriculture – minimum tillage, maximum soil cover, crop rotation and intercropping and land preparation (row spacing, timely planting and weeding)	2	5	7
Nutrition or homestead gardens	4	1	1
Integrated Pest Management	3	0	2
Improved cereal varieties (millet, sorghum, maize, rice)	6	8	4
Horticulture (fruit, vegetables and spices)	4	0	0
Legume varieties (cowpea, groundnut)	0	0	3
Poultry production	4	1	4
Cattle rearing	1	1	4
Fodder production and live fencing	0	3	1
Water harvesting, dead-level contours, infiltration pits, mini-dams, or ponds	1	0	3
Soil fertility – fertilizer application techniques and composting	5	5	1
Farmer Managed Natural Regeneration (FMNR) and Agroforestry	0	1	1
Irrigation	1	3	1
Aquaculture	3	0	0

# Perceptions

## Popularity of Agriculture Demos

- Seeing is believing
- Learning by doing
- Risk management
- Scalability
- Tradition



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# Concerns about Demos

- **Weak participatory approaches**
- **Sustainability** - would farmer's use of practices continue without project support? Would learning and gains last?
- **Inadequate engagement of private sector**
- **Automatic thinking** – demos are seen as a default strategy in agriculture extension. Weak integration of behavior change
- **Quantity compromises quality** - programs may meet targets but fail to meet objectives
- **Poor presentation** - in most cases, demos fail to show a clear advantage of using the promoted practice
- **Credibility** - agricultural demos are often sited on land with favorable conditions to minimize the risk of failure

# Concerns about Demos Contd.

- Farmers concerns centered on the poor implementation of and lack of institutional support for the demo
- Challenges in scaling up or uptake by neighboring farmers
- Climatic shocks and stresses – demos not designed to withstand shocks
- Lack of clear objectives and vague distinction between dissemination and research
- Lack of reference materials

# Guiding Principle # 1: Design and Planning

We sought to understand decision making processes related to design and planning for demos including:

- How do implementers go about deciding if demos are needed and what types of demos are needed?
- Setting targets for number of demos to be established
- Establishing criteria for selection of host farmers
- Lining up implementation resources including guidance for field staff and oversight for demos
- Factors influencing location of demos

# Guiding Principle # 1: Design and Planning

## Genesis of Agriculture demos

- Demos as an idea are typically included in proposals
- Pre-design assessments will identify demos as an existing methodology to be continued.
- Little evidence that assessments are done to evaluate necessity, constraints and opportunities for improving on demos
- 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
- Targets for types and number of demos based on rough estimates

# Guiding Principle # 1: Design and Planning Contd.

- Decisions on types of demos to be established are based on guidance from extension workers and research centers
- Researchers may advise on the size, layout and treatments
- 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.
- Number of demos and size of demo usually determined by implementers and dependent on budget

## Best practices:

- Piloting of different demos in first year and using evidence gathered to inform scale up of demos.
- ENSURE program in Zimbabwe started with master demos then evolved to mother & baby demos
- Farmer field school model with Christian Care in Zimbabwe where every farmer established a demo

# Guiding Principle # 1: Design and Planning Contd.

## Selection criteria for host farmers

- Selection of hosts for demo sites is done through consultation between program staff, government extension agents and local leaders
- Few programs have a set of written criteria
- Selection of hosts typically tied to the desired location for the demo e.g. if preference is to have a demo by the roadside
- The most common criteria for selecting hosts is a requirement that they be a “progressive farmer”.
- Other common criteria for selecting host farmers include:
  - The farmer must be willing to contribute towards the cost of implementing the demo
  - A farmer who is willing to teach others and has strong pedagogical skills
- Community leaders recommend specific farmers based on criteria provided by programs sometimes in consultation with farmers

## Recommendations:

- Programs should facilitate an objective method for selecting demo hosts
- Need to leverage positive deviants

# Guiding Principle # 1: Design and Planning Contd.

## Selection of demo site location

- The decision is often made by farmers based on guidance provided by program staff and government extension agents.
- Preference is to have a demo located by the roadside or in a busy transport corridor to serve as an advertisement
- Another common criteria for selecting the location of a demo is to have it in a central location.
- Environmental protection is factored as a criterion imposed by implementers

## Recommendations:

- Implementers should seek to clearly define criteria for site selection
- Balance the need to have demos by the roadside and ensuring demos are accessible to farmers; do not exclude farmers interior locations; addresses potential environment degradation

# Guiding Principle # 1: Design and Planning Contd.

## Support structures for overseeing demos

- Lack of adequate oversight was brought up as a common constraint by farmers and extension officers
- A typical support structure includes a technical manager at the project management unit, a field officer and then a lead farmer who hosts the demo

## Recommendation:

- Implementers should carefully monitor the ratio of demo sites to extension agents and make adjustments where needed

# Guiding Principle # 1: Design and Planning Contd.

## Technical guidance for field staff:

- Most programs don't have written guidelines on how to managed demos and approaches are often agreed upon verbally
- In Bangladesh, guidelines are provided through government extension agencies which field staff may find restrictive
- Most programs provide training for field staff and lead farmers at beginning of season and this is an opportunity to develop a consistent set of guidelines on approaches to establishing demos

# Guiding Principle # 2: Management of Costs

## We sought to understand:

1. What are the typical costs for implementing demos
2. How are the costs formulated and allocated?
3. What mechanisms are used to disburse funds associated with implementation of demos?
4. How do implementers ensure that implementation of demo sites is cost-effective?

# Guiding Principle # 2: Management of Costs

Direct Costs	Who Typically Pays?		
	Implementer	Farmer	Private Sector
Seed	X	X	X
Fertilizer	X	X	X
Manure		X	
Pesticides & herbicides			X
Fencing	X	X	
Signage	X		X
Improved livestock breeds	X	X	
Veterinary products	X		X
Livestock housing		X	
Animal feed/fodder		X	
Aquaculture inputs	X	X	X
Land		X	
Labor		X	

# Guiding Principle # 2: Management of Costs

## Indirect costs:

- Staff salaries
- Technical support from public and private extension providers
- Training costs (transport, allowances, field days) to support demos

# Guiding Principle # 2: Management of Costs Contd.

## How are these costs formulated and allocated?

- Cost info may not be available at design phase or may vary over time and this makes it difficult to budget
- Most programs seek to minimize the level of direct support provided but there are inconsistencies even with programs operating in the same area
- Tendency is to have farmers, public extension and private sector absorb most of the costs but often their capacity and resources are very limited

## What mechanisms are used to disburse funds associated with implementation of demos?

- Most implementers supply inputs while a few provide vouchers or reimbursement to farmers for inputs
- Timely delivery of inputs is a major challenge

## Recommendations:

- Need for a budgeting tool and flexibility
- Disbursements can be used to strengthen market linkages and overcome logistical hurdles
- Sustainability concerns – need to be more realistic about the capacity of stakeholders in selecting practices to demonstrate

# Guiding Principle # 3: Stakeholder Engagement

## We sought to understand:

- Who are the stakeholders involved in the implementation of demos?
- Roles, interests and capacity of stakeholders
- Coordination mechanisms used for engaging stakeholders

# Guiding Principle # 3: Stakeholder Engagement

## Contd.

### Stakeholder Landscape

STAKEHOLDER	INTERESTS	ROLE	CAPACITY
Implementers	Improved food security and resilience	Funding; mobilization; training and technical support; facilitate linkages	Human, Physical, Financial
Researchers	Dissemination of innovative technologies	Data gathering and analysis; training and technical support; influence policy	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
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

# Guiding Principle # 3: Stakeholder Engagement

## Contd.

### Coordination Mechanisms

- A few instances where MoUs govern the relationship between programs and private sector and/or research institutions
- Farmer field days are the main mode of interaction
- Coordination committees mostly bring together development partners
- Sharing of reports is done but feedback loops are not functional
- Demo signs are used as a way to disseminate info regarding partnerships in demo activities

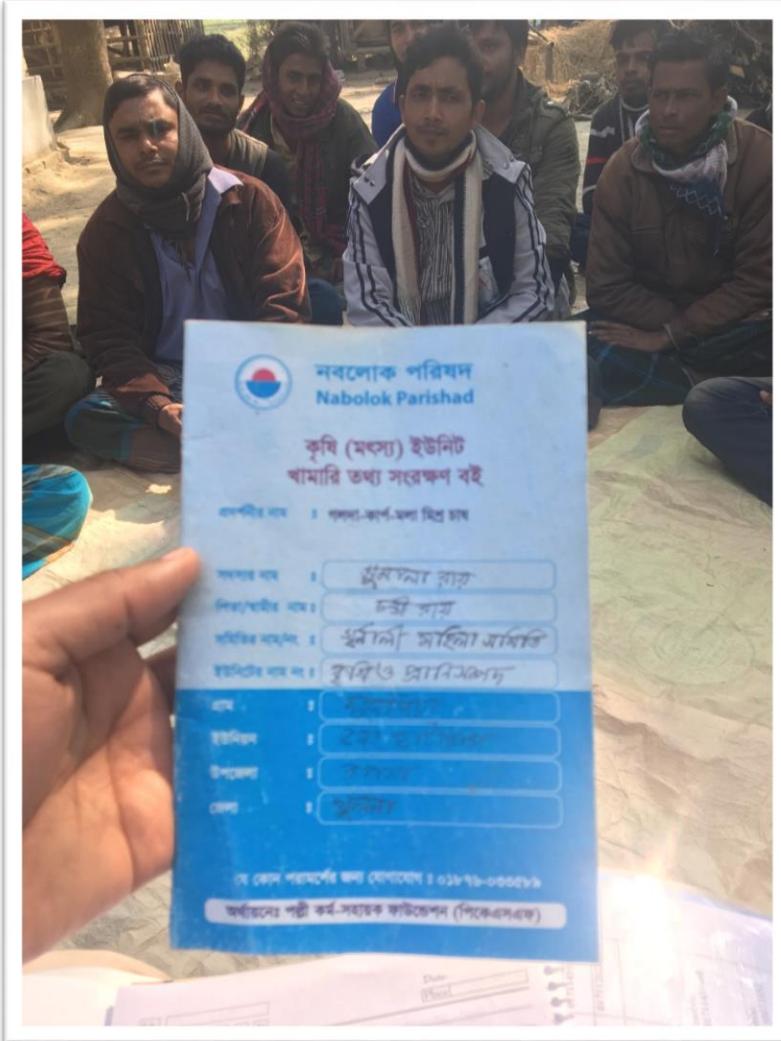
# Guiding Principle # 3: Stakeholder Engagement

## Contd.

### Recommendations for strengthening stakeholder engagement:

- Systematic stakeholder mapping and capacity assessment
- Pay attention to power dynamics – farmers invest the most yet have little say
- MoUs can help in clarifying roles and coordination mechanisms
- Better coordination platforms needed to address delays in delivery and evaluate performance of demos
- Appreciation of the role informal private sector plays

# Guiding Principle # 4: Information Management



We wanted to understand:

- What data is typically collected?
- How is this data collected?
- Are the data being used and if so, how?
- **Monitoring:** ongoing process by which stakeholder assess progress toward goals and objectives
- **Adaptive management:** structured decision-making and governance processes that allow for flexibility and adjustment as understanding of system outcomes from decision are better understood (Walker 1986)

# Guiding Principle # 4: Information Management

## Contd.

How is this data being used?

What data is gathered about the demo?

How is this data collected?

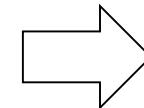
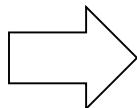
Agronomic: Date of planting, yields (est. by volume), management

Farmer writes in notebook from project

Project staff visit demo several times, discuss records/issues

Evaluate practices with farmer/farmer group

Project reporting and planning



# Guiding Principle # 4: Information Management

## Contd.

### What data is collected?

- Collection of data is not consistent and sometimes missing even basic data

Topic	Indicators
Project management	Number of farmers, number of demos, attendance at trainings, meetings, field days, number of visits
Environmental	Rainfall, shocks (like flood or drought), soil health
Agronomic	Date of planting, weeding, fertilizer application, pest and disease, yield, labor
Other performance indicators	Gross margins, acceptability of practice, household consumption or sales, farmer learning metrics, adoption rate, changes in demand for inputs



# Guiding Principle # 4: Information Management

## Contd.

### What data is collected?

Topic	Indicators
Most common	Date of planting, weeding, fertilizer application, pest and disease, reported yield, shocks (like flood or drought), number of farmers, number of demos
Somewhat common	Gross margins, attendance at trainings, meetings, field days, number of visits, measured yield
Less common	Acceptability of practice, rainfall, labor, soil health, farmer learning metrics
Rare but useful	Household consumption or sales, adoption rate, changes in demand for inputs

# Guiding Principle # 4: Information Management

## Contd.

### How is data collected?



There are many standard templates available for agronomic data and other participatory assessments but collection varied widely

- **Formats:** Ad hoc registers, standard templates, mobile data forms (ODK), cell phones, photos, Facebook groups
- **Frequency of collection:** weekly, monthly, seasonally
- **Who:** Agricultural extension agents, project staff and technicians, farmers
- **Equipment:** weighing scales, GPS, smartphones, measuring tape

# Guiding Principle # 4: Information Management

## Contd.

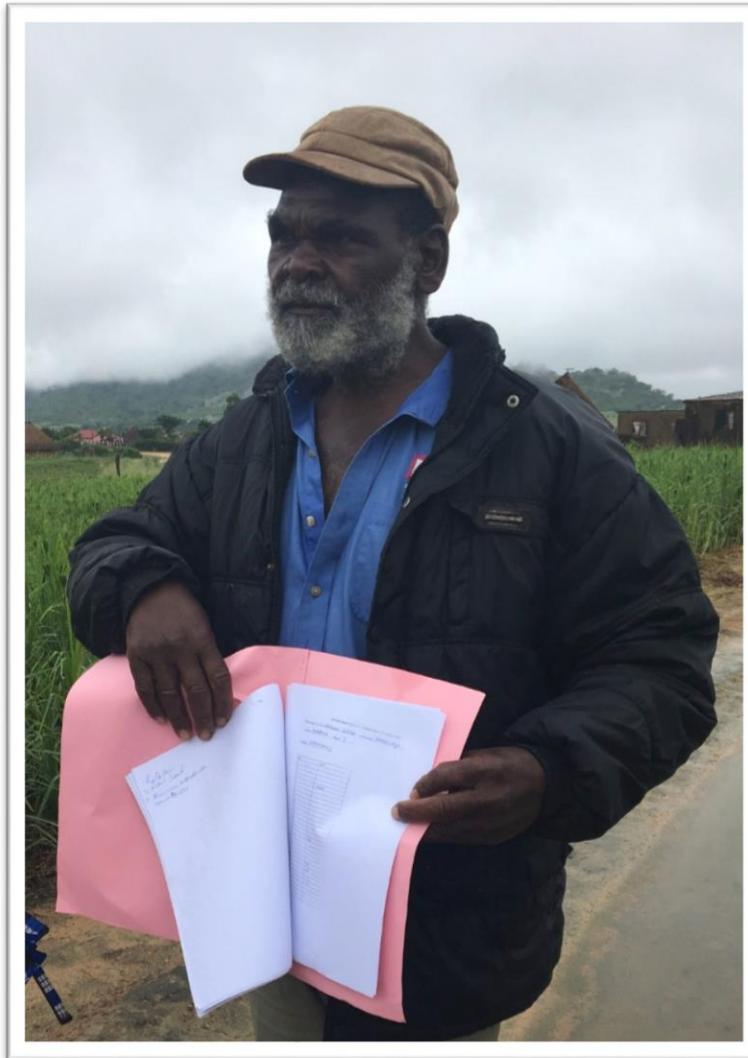


## How is data being used?

- Dissemination
  - Share outcomes of demonstration in meetings or farmer field days
  - Signboards
  - Facilitate learning
    - Video, dramas, Facebook groups, radio
    - Guided tours and visits
    - Trainings
- Monitoring
  - Used to get advice for management, pest and disease
  - Evaluate and understand practices

# Guiding Principle # 4: Information Management

## Contd.

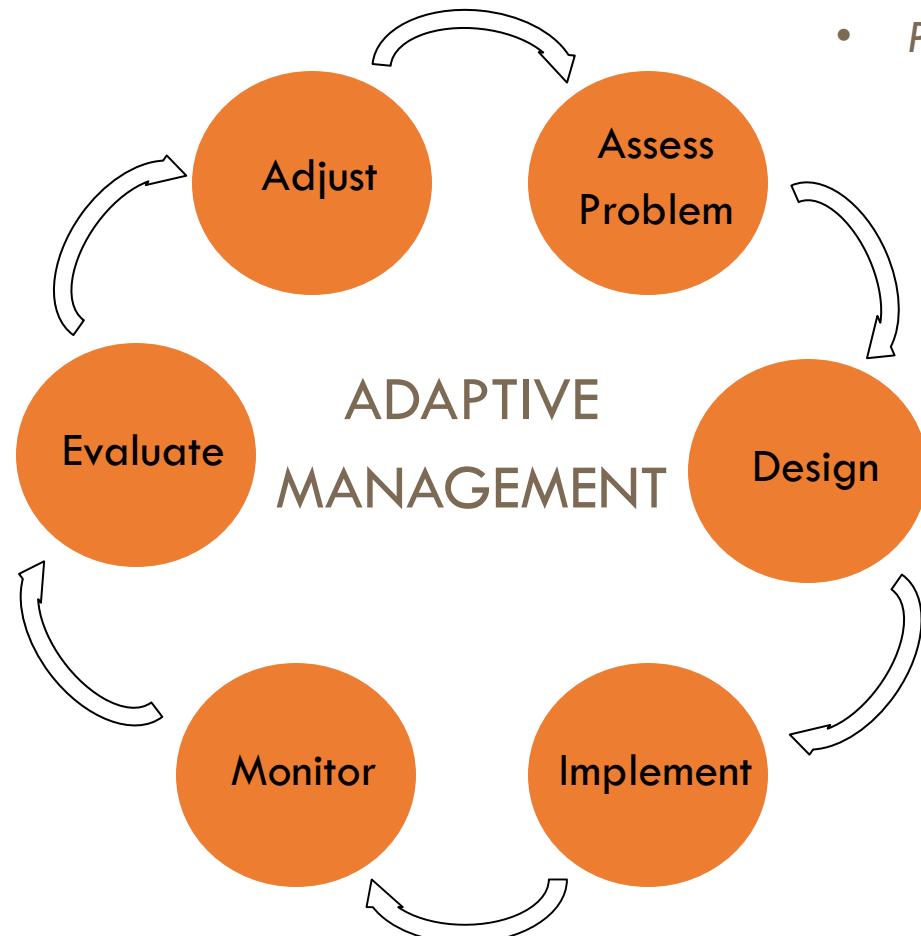


### How is data being used?

- *Project reporting –*
  - Data tracking tools like indicator tracking tables, databases
  - Reports to donors, regional management or ministries

# Guiding Principle # 4: Information Management

## Contd.



### How is data being used?

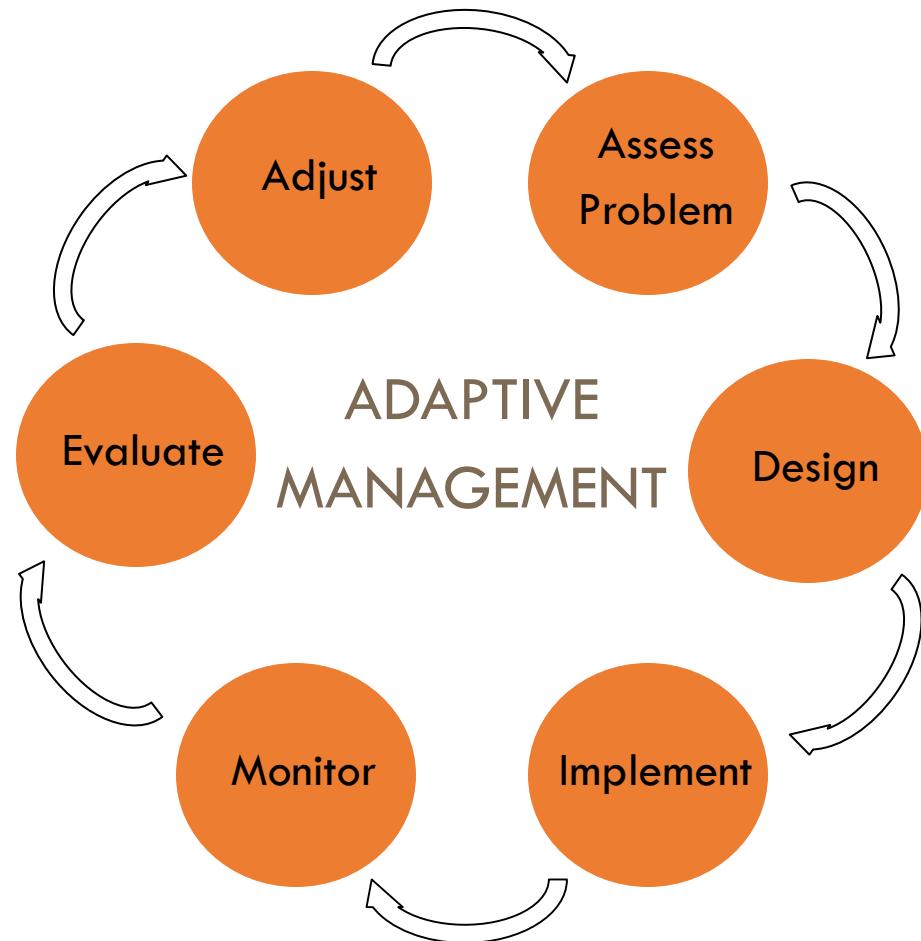
- *Project learning*
  - Identify and adapt best technologies and practices under local conditions/constraints
  - Structured feedback loops to improve current implementation and program planning

“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.”

Research Institute, Bangladesh

# Guiding Principle # 4: Information Management

## Contd.



### Recommendations and Tools

- Collect basic data in a standardized format
- Ensure that data is compiled and shared in a meaningful form with stakeholder (especially farmers)
- There is a lot of information to unpack from a demo and assessments with farmers should go beyond agronomic measurements and use the demo to understand acceptability, trade-offs, labor, etc.
- There are many new ICT tools that can be an opportunity for easier data collection for project management, monitoring of crops and issues, communication and outreach

# Guiding Principle # 5: Risk Management



- Demo plots inherently are a risk management strategy. They allow farmers to try out a new idea on a small piece of land to adapt it and evaluate how it works before applying it to a larger area
- Stakeholders at all levels encountered many challenges with demo site implementation
- **Risk reduction:** strategies that proactively reduce risk/enhance the resilience of a system with respect to local drivers of vulnerability (USAID Technical Ref)
- **Risk mitigation:** strategies employed after a shock or stress to limit the negative impact

# Guiding Principle # 5: Risk Management Contd.



## Environmental constraints:

- Climate risks (flood, drought, late or early onset of rain)
- Pest and disease
- Livestock damage
  - Compensation for demo failure
  - Have many demos in the case of failures/variation
  - Learn for failures/variation
  - Drought resilient varieties
  - Small size of demo
  - Assessment of potential risks

RISK  
MITIGATION

RISK  
REDUCTION

# Guiding Principle # 5: Risk Management Contd.



## Behavior-change constraints:

- Financial constraints
- Failure to follow guidelines
- Risk aversion
- Lead farmer selection

RISK  
REDUCTION

- Lead farmer selection
- Practice selection
- Supporting financial programs
- Close training and monitoring

# Guiding Principle # 5: Risk Management Contd.



## Institutional constraints:

- Quality inputs
- Delivery of inputs
- Adequate staffing and well-trained staff
- Adequate stakeholder engagement in design

RISK  
REDUCTION

- Evaluate supply chain and financing early in project
- Train village level agents
- Set feasible targets and activity plans for extension agents
- Provide adequate training

# Guiding Principle # 5: Risk Management Contd.

## Recommendations



- DFAPs have good tools at the community level to assess shocks, stresses and vulnerable groups and develop action plans
- There is a need to scale these methods to individual activities like demo plot programs and use them to evaluate what practices to use

# Guiding Principle # 6: Social Exclusion and Gender Integration



## Significance:

- The integration of women and marginalized groups in food security projects is essential for livelihood improvements.
- Gender empowerment in agriculture is one of the primary pathways for linking agriculture, food security and nutrition.
- Women are active participants in agricultural activities and often face a significant yield gap relative to male farmers (FAO 2011)

# Guiding Principle # 6: Social Exclusion and Gender Integration Contd.



## Key issues:

- Inclusion of socially marginalized is not a priority for most demonstration sites. When these groups are included, they are specifically targeted from the beginning and activities work to address the context-specific needs and constraints.
- Women in DFAPs and other projects are purposefully included.
- It is important to address constraints to agricultural growth and productivity – time, labor, ownership or access to land or other assets and access to information

# Guiding Principle # 6: Social Exclusion and Gender Integration Contd.



## Lessons learned and best practices:

- Sensitization tools for gender are effective in raising awareness of time constraints for women.
- Activities like aquaculture, home gardens, fruit drying, poultry keeping were identified by women as a priority/feasible.
- Space advocated and negotiated for women's groups for land cultivation can be an avenue for improving livelihoods.

Seed multiplication demos were done for farmers with no/limited land.

FGD, Bangladesh

# Guiding Principle # 6: Social Exclusion and Gender Integration Contd.



## Recommendations:

- As part of project design, do an assessment to identify socially marginalized individuals or groups.
- Use gender as a lens for understanding and implementing demonstration
- Ask the right questions early and include socially marginalized groups and women from the beginning. They can identify priorities, needs and barriers.
- Gender dynamics are context specific and may be fluid. Assessments should be done regularly and sensitizations and training conducted if needed.
- Consider hiring female extension officers and/or advocate for female extension officers in the government or private sector.

# Guiding Principle # 7: Sustainability

- There is a lack of clarity about the definition of sustainability for demo plots
- A project's goals and outcomes determines the definition of sustainability with respect to demo site management. This could be defined in the following three ways:



- The demo site continues after the phase out of the project
- Farmers adopt the practice or varieties promoted through the demo, but the demo itself does not need to continue after the phase out of the project
- Farmers have an understanding of how to evaluate new technologies and practices and use “demos’ to continue to experiment and learn

# Guiding Principle # 7: Sustainability Contd.



## Lessons learned and best practices:

- Employing fee based models like an annual fee or a user fee to fund support.
- Partnering with government extension or the private sector. Trainings to these stakeholders can build capacity and they have different incentives to continue to provide demonstration and learning opportunities.
- Increasing awareness of demonstrated technologies or practices through outreach and involvement of other farmers.

# Guiding Principle # 7: Sustainability Contd.



## Recommendations:

- From the beginning, consider what will happen after the project, and identify sustainability goals and options
- Use the Collaborative, Learning and Adapting approach by USAID to build capacity for learning, knowledge management and problem solving
- Strengthen linkages with service providers for inputs, seeds, pesticides, and assistance.

# Summation of Guiding Principles

**Guiding Principle #1 Design and Planning:** Evaluate specific needs around demos and ensure alignment with farmer needs.

**Guiding Principle #2 Management of Costs:** Ensure flexibility in budgeting and use market systems for disbursement.

**Guiding Principle #3 Stakeholder Engagement:** Incorporate systematic stakeholder mapping and capacity assessment and ensure coordination platforms to address delays in delivery of inputs and services to farmers.

**Guiding Principle #4 information Management:** Encourage participatory data reviews and adaptive management.

# Summation of Guiding Principles Cont.

**Guiding Principle #5 Risk Management:** Integrate risk assessments and contingency planning strategies in design and planning of demos.

**Guiding Principle #6 Social Exclusion and Gender Integration:** Identify specific needs for socially marginalized groups and women around demos.

**Guiding Principle #7 Sustainability:** Define sustainability from the beginning and work with stakeholders to monitor objectives and capacities.

# Group Exercise

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In your assigned groups, discuss the following:

- How can the recommendations be applied in your programs
- Identify gaps or relevant issues that may have been missed

Capture notes and report back in 10 mins

A word cloud centered around the words "thank you" in various languages. The most prominent word is "thank you" in English, which is repeated multiple times in large blue letters. Surrounding it are numerous other words in different languages, each with its phonetic pronunciation in brackets. The languages include German ("danke"), Chinese ("謝謝"), Turkish ("teşekkür ederim"), Spanish ("gracias"), French ("merci"), Italian ("grazie"), Portuguese ("obrigado"), Polish ("dziękuje"), Russian ("спасибо"), Korean ("감사합니다"), and many others. The background is white, and the text is in a variety of colors.