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

PERFORMANCE MONITORING

FACILITATOR'S GUIDE

USAID
FROM THE AMERICAN PEOPLE

This publication was produced for review by the U.S. Agency for International Development (USAID). It was prepared by the Feed the Future Knowledge-Driven Agricultural Development Project (KDAD), Contract Number: AID-OAA-C-13-00137, implemented by Insight Systems Corporation. The opinions expressed herein are those of the author(s) and do not necessarily reflect the views of USAID.

August 2016

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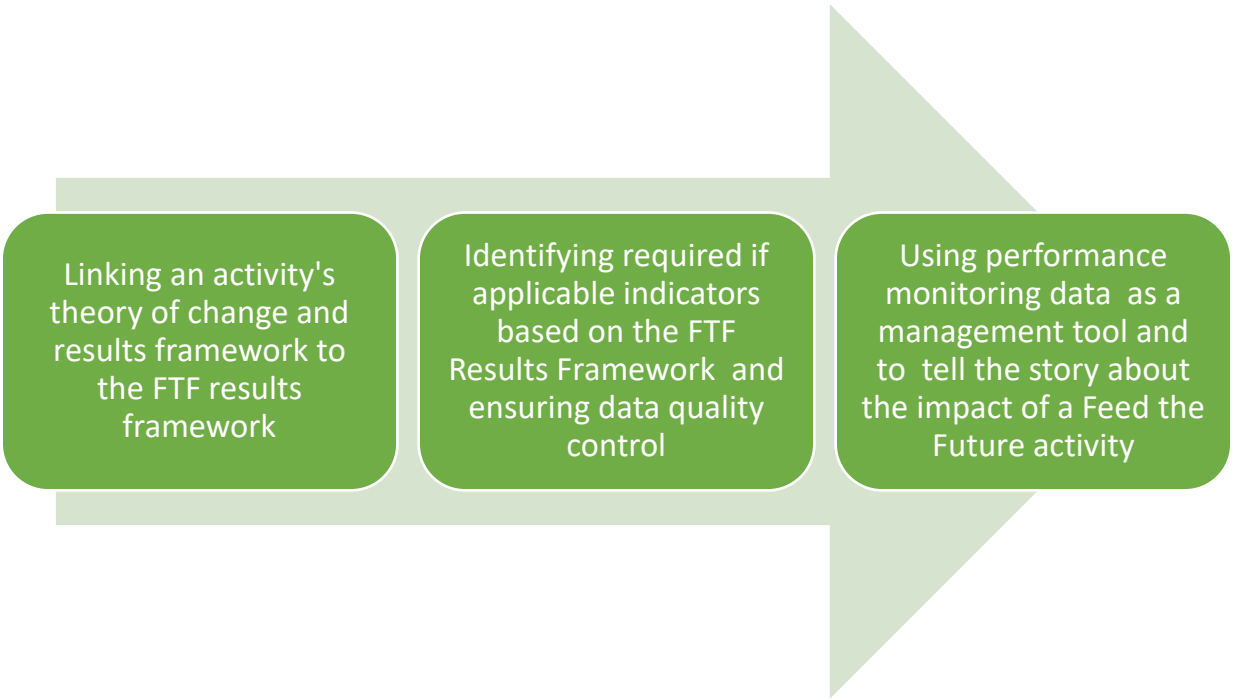
OVERVIEW

A. Introduction

The U.S. Government uses indicator results and performance narratives to monitor and attribute progress to meet Feed the Future's goals of reducing hunger, poverty and under-nutrition. This course prepares individuals to:

- Meet the requirements for reporting performance which link program activities and outcomes to the Feed the Future Results Framework.
- Use performance monitoring as a means for strategic adaptive management of Feed the Future activities.

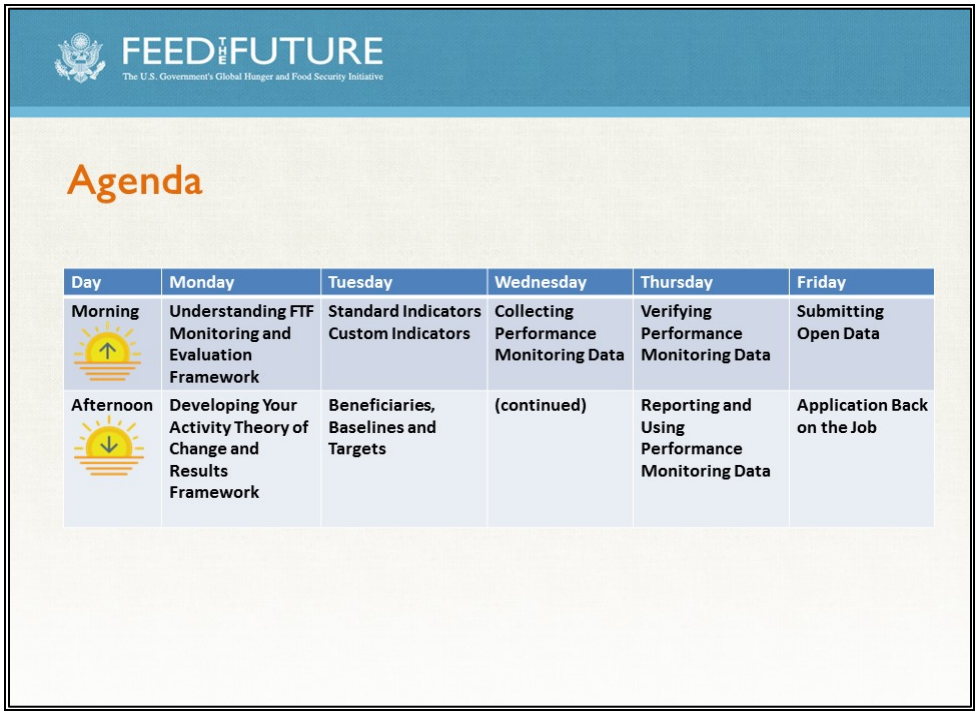
The five-day course steps participants through the process of:



B. Target Audience

The course is designed for USAID and implementing partner staff who are implementing Feed the Future country-level activities.

C. Agenda



Day	Monday	Tuesday	Wednesday	Thursday	Friday
Morning	Understanding FTF Monitoring and Evaluation Framework	Standard Indicators Custom Indicators	Collecting Performance Monitoring Data	Verifying Performance Monitoring Data	Submitting Open Data
Afternoon	Developing Your Activity Theory of Change and Results Framework	Beneficiaries, Baselines and Targets	(continued)	Reporting and Using Performance Monitoring Data	Application Back on the Job

Detailed Agenda

Day	Session	Duration	Time
1 9:00 – 5:30	Opening	30 min	9:00
	Session 1	105 min	9:30
	Break	15 min	11:15
	Session 1 (continued)	30 min	11:30
	Lunch	60 min	12:30
	Session 2	105 min	1:30
	Break	15 min	3:15
	Session 2 (continued)	120	3:30
2 9:00 – 5:30	Start the day	15 min	9:00
	Session 3	105	9:15
	Break	15 min	11:00
	Session 4	75 min	11:15
	Lunch	60 min	12:30
	Session 4 (continued)	15 min	1:30
	Session 5	60 min	1:45
	Break	15 min	2:45
	Session 5 (continued)	150 min	3:00
3 9:00 – 5:00	Start of the Day	15 min	9:00
	Session 6	60 min	9:15
	Break	15 min	10:15

	Session 6 (continued)	120 min	10:30
	Lunch	60	12:30
	Session 6 (continued)	135 min	1:30
	Break	15 in	3:45
	Session 6 (continued)	75 min	4:00
4 9:00 – 5:30	Start the day	15 min	9:00
	Session 7	60 min	9:15
	Break	15 min	10:15
	Session 8	90 min	10:30
	Lunch	60 minutes	12:00
	Session 8 (continued)	90 min	1:00
	Break	15 min	2:30
	Session 8 (continued)	165 min	2:45
5 9:00 – 3:00	Start the day	15 min	9:00
	Session 9	120	9:15
	Break	15 min	11:15
	Application	60	11:30
	Lunch	60 min	12:30
	Application (continued)	30	1:30
	Closing Comments	20 min	2:00
	Evaluation	15 min	2:20

D. Learning Objectives

By the end of the course, participants will be able to:

- Develop a theory of change and a results framework for their FTF activities
- Select required if applicable indicators for their activity results frameworks
- Create custom indicators for their results frameworks
- Define beneficiaries, baselines and targets
- Collect performance monitoring data
- Verify performance monitoring data
- Report and use performance monitoring data
- Submit open data

Specific enabling objectives for each of the learning objectives are shown on the following page.

THE FEED THE FUTURE PERFORMANCE MONITORING COURSE Enables you to use performance monitoring as a means for strategic adaptive management of FTF projects.		Audience: USAID & Implementing Partners: FTF Technical and M&E Staff Managing/implementing Country-level Activities

① Understanding FTF Monitoring and Evaluation Framework
• Strategic Adaptive Management
  • Understand the importance of performance management as a strategic management tool
  • Use the monitoring and evaluation as a "living" document
• Explain the FTF monitoring and evaluation framework
• Differentiate types of indicators
• Identify which indicators are required, required if applicable, whole of government
	② Developing your Activity Theory of Change and Results Framework
	• Articulate a TOC for an activity given the activity description
	  • Draw the causal pathways
	  • Identify assumptions
	• Develop a results framework based on the TOC
	  • identify goal, strategic objectives, intermediate results, sub-intermediate results
	  • Identify, at each level, results necessary and sufficient to achieve the results in the level above, for the selected causal path.
	• Draw the links between the activity results framework and the FTF results framework
		③ Selecting Standard Indicators for your Activity Results Framework
		• Identify performance indicators using the FTF Indicator Handbook
		• Select applicable Required-if-Applicable indicators
		• Select useful indicators for decision-making and public reporting

④ Creating Measurable Custom Indicators • Recognize when you need to create a custom performance indicator and create measurable custom performance indicators • Identify and create measureable custom indicators to monitor your activity performance	**⑤ Defining Beneficiaries, Baselines and Targets** • Identify direct and indirect beneficiaries • Recognize whether a baseline is required • Identify the beneficiary universe for collecting baseline data • Understand methods to collect baseline values and the strengths and limitations of each • Learn approaches to setting targets	**⑥ Collecting Performance Monitoring Data** • Collect data following appropriate protocols and SOPS • Ensuring that best practices in collecting data are followed (Quality Control - QC) • Using mixed methods (e.g., quantitative and qualitative)
⑦ Verifying Performance Monitoring Data • Develop systems to ensure collected data followed best practices you had in place (Data quality assurance - DQA)	**⑧ Reporting and Using Performance Monitoring Data** • Use FTFMS data to report performance • Analyze the data for additional insights on performance • Identify and recognize areas of learning and potential adaptation • Use data to make evidence-based decisions and management adaptations • Draft a performance narrative using FTF templates • Visualizing data	**⑨ Submitting Open Data** • Know the policy and requirements for submitting open data Last updated: 7.18.2016

INFORMATION FOR FACILITATORS

A. How to Use the Facilitator's Guide

The Facilitator's Guide has been constructed to offer clear instruction—for both technical content and training methodology—on how to deliver this course to achieve learning objectives and ensure that the course is presented consistently across sessions and facilitators.

The course is built on principles of experiential learning and tries to be as interactive as possible so participants can learn from engaging and doing. Therefore, the role of the facilitator is critically important in ensuring activities and materials are presented as closely as possible to the process envisaged in this Guide.

Most sessions use the classical learning cycle of:

- Motivating the learner to engage in the content
- Providing information, concepts, theories and models
- Engaging in practice exercises
- Applying the content to the learner's context

Timing for each topic in the session has been captured to ensure participants learn while moving swiftly through the material; furthermore,

the Guide highlights the exact PowerPoint slides to display at each period in the course, as well as materials to reference or provide.

It is important to note that, at points, the Guide will suggest how to exactly state a concept or to frame a question. This is in the service of offering precision in language and process to ensure participants maximize their learning in a compressed period.

Last, there are checklists for pre-course preparation, lists of materials and supplies, suggestions for daily debriefing sessions and other resources to help you prepare for, conduct and wrap up a successful course.

B. Course Evaluations

Part of delivering a successful course is taking the time to reflect on how the course can be improved. This is done both through participant evaluations and facilitator feedback.

It is the facilitator's responsibility to ensure that the course evaluations are:

- distributed
- collected after participants complete them
- scanned and forwarded to the monitoring and evaluation colleague for compilation and review

Facilitators should also write down any improvements to the materials that come from their observations, interactions with participants, and daily debriefs. These notes should be shared with the course owners, Anne Swindale and Salik Farooqi.

C. Delivering a Successful Course

Facilitators are required to do the following before leading the course to review:

- The facilitator's guide, participant's guide, PowerPoints and handouts

- The NUTSENAGE case study
- Review the FTF Indicator Handout

D. Before the Course Begins

- Meet with Anne Swindale and Salik Farooqi, the course owners, and the team who will be facilitating the course to cover:
    - Course updates
    - Presentation and facilitation roles and responsibilities
    - Logistics and administration
    - Review who has registered for the course noting:
        - Their role, sector, geography
        - Area of expertise
        - Familiarity with monitoring and evaluation
- Make sure the references to page numbers in the Participant Guide are correct in your Facilitator Guide
- Gather materials and handouts at least two weeks prior to course.
- Make the needed flipcharts, including:
    - Welcome flipchart with facilitator name(s)
    - Workshop objectives

    - Workshop agenda
    - Course guidelines

- Tell venue staff when the tea break will occur (if the venue is providing food/beverages).
- Ensure venue has correct room setup. This should be given to the venue well in advance, and the facilitator should check the setup as early as possible, preferably the night before the workshop.
- Set up the room
- Think about how you want to group the participants and at each table put out participant materials including the Participant Guide, Feed the Future Indicator Handbook, pens, name tents and any other training materials for each participant.
- Have a variety of music and use it before and after the course each day, as well as during tea breaks
- If there is a picture to be taken, assign responsibility to participants or the facilitator.

E. Conduct Daily Debriefs

Any time you co-facilitate a course, it is good practice to use a consistent debriefing process. This allows the co-facilitation team to work more effectively together and continue to strengthen delivery of course material. If possible, assign somebody to take notes during the session so the debriefing process is even more effective. During the end-of-day debriefs, review the following:

- Check how the day went

- Offer feedback to one another, including areas of strength (praise) and areas for development (constructive reflections)
- Offer observations about participants
- Take notes on the types of questions that arose and what participants had trouble with
- Note any action items resulting from the workshop

F. Ensuring the Physical Space is Conducive to Learning

You will need a training room that comfortably accommodates all. As much as you are able, ensure the room and physical environment is set up to maximize learning:

- Good lighting (natural lighting is preferred)
- Good visibility of presentation slides and speaker as well as other participants
- Good acoustics (can hear speakers and other participants in plenary discussions and the ability to have simultaneous small group discussions)
- Enough space (to move between tables, work in small groups, and put coats/bags and other participant belongings)
- Walls to post flipcharts and course graphics
- Temperature control (not too hot, not too cold)
- Internet connection
- Clock
- Power outlets

Liaise with individuals at the workshop venue. There may likely be space constraints, but try to find the best available venue.

Ensure you get the name of the person responsible for supporting your workshop. Ask venue personnel to set up the room using the diagram on the next page. Likewise, visit the venue and request needed adjustments (e.g., lighting, room temperature and acoustics) and address structural challenges such as pillars or lack of natural light.

If the event is being held at a hotel, someone in conference services will be responsible for supporting you. Get this person's direct contact number to use if any technological challenges arise. Clarify how early you can access the space to do a technical run through (the night before the workshop, if possible). Ensure the room is set up, test your technology and smooth out any other challenges that might arise.

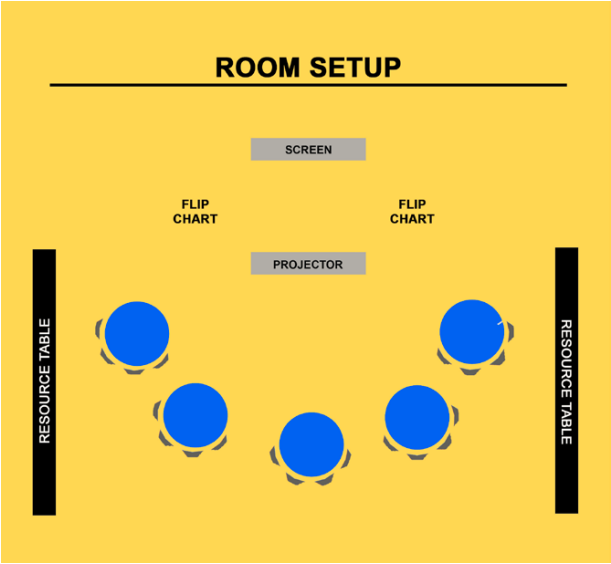
G. Venue Setup

Ensure that the venue/room is arranged appropriately for the multi-day course.

- Verify that all participants can see the PowerPoint presentation and flipcharts and posters
- Check the volume of your microphone and that the sound system is working
- Check that the projector is working and the correct version of the presentation is set up
- Identify if the room setup requires any minor changes to accommodate your presentation style or participant engagement activities

- Ensure that participants have the Participant Guide, pens, name tents
- Make sure you have working markers and enough paper in the flipchart
- Have a glass of water and any other personal items (e.g., tissues) handy

The diagram below shows the optimal room arrangement with natural light.



H. Materials, Supplies and Checklist

Facilitator Materials

- ☐ Facilitator Guide
- ☐ FTF Indicator Handbook

Participant Materials (1 per participant)

- ☐ Participant Guide
- ☐ FTF Indicator Handbook
- ☐ Pen
- ☐ Name tent or tag
- ☐ Fiddles
- ☐ Certificate of Completion

Session Materials

Session One

- ☐ PowerPoint slides
- ☐ Medium bag of milk chocolate plain M&Ms (1 per table)
- ☐ Internet access or download of YouTube video
- ☐ Downloaded version Overview of FTF, USAID University, Section 3

Session Two

- ☐ PowerPoint slides

- ☐ NUTSENAG Case Study (in participant guide)
- ☐ 48" Biggies – Dry Erase Stickie Sheet, White (6 units)
- ☐ Handwritten Indicators on 6"x8" Canary Yellow Post-Its (6 units of 8)
- ☐ 48" x 72" FTF Framework Banner
- ☐ Dry Erase Markers (4 colors - 6 sets)
- ☐ Dry Erasers (6 sets)
- ☐ Cleaner

Session Three

- ☐ PowerPoint slides

Session Four

- ☐ PowerPoint slides
- ☐ PIRS Templates (in participant guide)

Session Five

- ☐ PowerPoint slides
- ☐ Computers loaded with Setting Targets Worksheet (participants)
- ☐ Setting Targets Worksheet for Participants (in Participant Guide)
- ☐ Setting Targets Worksheet for Facilitators (in Participant Guide)

Session Six

- ☐ PowerPoint slides
- ☐ Gantt Chart poster
- ☐ Gantt Chart Activity Cards in three colors (e.g., orange for steps 1-13; green for steps 14-26; turquoise for steps 27-39)
- ☐ Butcher block paper (enough to diagram four indicator diagrams)
- ☐ Markers
- ☐ Tape
- ☐ Indicator definition sheets for female beneficiary dietary diversity and for hectares under improved technology or management (in participant guide)
- ☐ 3- 6 laptops with Data Error handouts loaded on each laptop
- ☐ Data Errors Handouts
    - ☐ Aredonia Household (Word)
    - ☐ Aredonia Agricultural Production (Excel - copies of all spreadsheets within the workbook)
    - ☐ Aredonia Technologies (Excel - copies of all spreadsheets within the workbook)
- ☐ Prizes for team members who find the 10 data errors
- ☐ Translation protocol
- ☐ Field exercise
    - ☐ GPS units of varying types (with extra batteries)
    - ☐ Tape measure

- ☐ Marbles
- ☐ Google earth sketch of plot to be measured
- ☐ Handouts for field exercise (in participant guide)
  - ☐ Group exercise instructions
  - ☐ How to calculate an area in the field
  - ☐ GPS Field Protocol
  - ☐ How to calculate the area of a triangle.
- ☐ Bottled water for participants for field exercise

Session Seven

- ☐ PowerPoint sides
- ☐ Quiz slides
- ☐ Timer
- ☐ Bag of assorted chocolates or other small prize for members of the team that wins the quiz

Session Eight

- ☐ Data exercise
  - ☐ 3 – 6 laptops with NUTSENAG Excel Worksheet loaded on each laptop
  - ☐ NUTSENAG Excel Worksheet (in Participant Guide)
  - ☐ NUTSENAG Excel Worksheet (facilitator version)

- ☐ WEAI
    - ☐ WEAI data for NUTSENAG
    - ☐ GIF banner, if available
- ☐ Narratives
    - ☐ Spreadsheet for group activity
- ☐ Data visualization – 2 sets of
    - ☐ 3 Scenario cards (6 X 4, green card stock)
    - ☐ 3 Findings cards (6 x 4, blue card stock)
    - ☐ Thin colored markers (1 per table)
    - ☐ GEOCenter handout (in participant guide)

Session Nine

- ☐ PowerPoint slides
- ☐ Prepared flipcharts with the headings:
    - ☐ What reasons do you have to share data?
    - ☐ Why would you not share data?
    - ☐ What types of data do you think should be public?
    - ☐ What data should we keep restricted?
- ☐ Tidy Data Exercise (in Participant Guide)
    - ☐ Tidy data set

- ☐ Messy data set
- ☐ Additional data set

- ☐ Certificate of Completion
- ☐ Camera

Supplies

Have the following standard office supplies available:

- ☐ Pads of paper
- ☐ 5 x 7 index cards (different colors)
- ☐ Extra Pens
- ☐ Mr. Sketch markers (for facilitators and each table)
- ☐ Colored felt-tipped pens (for each table)
- ☐ Masking tape or painter's tape
- ☐ Suction cups for banners
- ☐ Paper clips
- ☐ Stapler and staples
- ☐ Scissors
- ☐ Post-It Notes (3x3, different colors)
- ☐ Chocolate (a must!!!)

Equipment

- ☐ LCD project and screen
- ☐ Laptop loaded with course PowerPoint slides
- ☐ Internet access
- ☐ Speakers
- ☐ Remote for LCD projector/PowerPoints and extra batteries
- ☐ Microphones (if necessary)
- ☐ Flipchart stands and paper (one stand per table plus two stands for facilitators)
- ☐ Chimes to ring at breaks
- ☐ Camera for photos during session

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Session Materials

Session One

- ☐ PowerPoint slides
- ☐ Medium bag of milk chocolate plain M&Ms (1 per table)
- ☐ Internet access or download of YouTube video
- ☐ Downloaded version Overview of FTF, USAID University, Section 3
- ☐

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- ☐ Microphones (if necessary)
- ☐ Flipchart stands and paper (one stand per table plus two stands for facilitators)
- ☐ Chimes to ring at breaks
- ☐ Camera for photos during session
- ☐ Note: Additional laptops are needed for individual sessions (see session list of materials)

Session 1: Understanding FTF Monitoring and Evaluation Framework

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Session Goal:	Use the FTF monitoring and evaluation framework as a tool for strategic management of FTF activities
Learning Objectives:	• Experiencing using performance management data as a strategic adaptive management tool • Describing the FTF monitoring and evaluation framework
Session Length:	240 minutes

Session Materials:	• Participant materials (e.g., participant manual, FTF Indicator Handbook, name tent, pen)
	• Table materials (e.g., sticky notes, fiddles)
	• Sign-in sheet
	• Camera
	• Session 1 slides
	• Flipchart stand, paper and colored markers (1 per table)
	• M&M activity
	  o Medium bag of milk chocolate plain M&Ms (1 per table)
	  o Internet access or download of YouTube video
	• MEL presentation
	  o Downloaded version of Overview of FTF, USAID University, Section 3

Facilitator Notes:

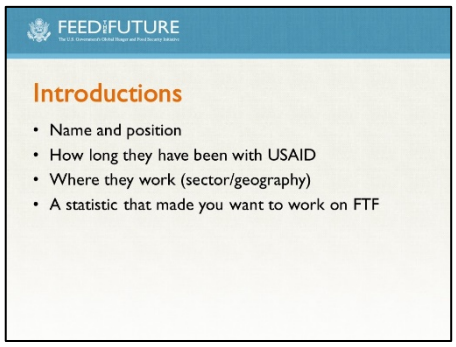
Time & Facilitator	Content/Activities	Materials
8:00 am (60 min. prior to start of session)	**PRIOR TO THE BEGINNING OF THE COURSE** **Safety and Security** Check with facility management about safety and security procedures (e.g., nearest exit, marshalling areas, etc.) If you are delivering this course at a USAID Regional Training Facility, check to see if there is a requisite security briefing and adjust your timing accordingly. A security briefing can take up to 30 min. **Arrange Seating** Depending on the composition of your participants, you may decide to assign seating. You will want to mix participants ensuring you have spread your M&E expertise, as well as have representatives from the same mission and/or function at different tables. **Set Up Room** Facilitator(s) are in the room, greeting participants as they come in, helping them with name tags and name tents. Have room ready with flipcharts and supplies. Have music playing. If you have seating instructions, have them posted on flipchart or ensure PowerPoint is displayed. **Attendance Sign-In** Have participant sign-in sheet near the door and ask participants to sign in as they enter. DO NOT have participants sign in after the session has begun—this is distracting and can delay your start. **When to Start the Session** All of your participants may not be present at the beginning of the session. You will need to make a strategic decision about how many participants must be there in order to start the workshop and how you will make up the time if you begin 10-15 min. late. Likewise, it is a good idea to thank participants who arrived on time and tell them approximately when you plan to begin.	Room: • Projector • Banners, Flipcharts prepared & hung • PowerPoint displayed & music playing • Sign-in sheet On each table: • Sticky notes • Colored marker pens • Fiddles For each participant: • Participant Manual • FTF Indicator Book • Pen • Name tent
9:00 am (30 min.)	**OPENING & WELCOME** **Introductions** **Slide 1**  	Session 1 Slides Flipcharts: • Objectives • Guidelines

Say: Welcome to Feed the Future Performance Monitoring course. The purpose of this course is to enable you to use performance monitoring as a means for strategic adaptive management of FTF activities.

Introduce: Introduce yourself and the facilitation team. Each facilitator should give a very brief introduction of themselves highlighting:

- Name and position
- A statistic that made them want to be in evaluation OR
- A personal story of how they used monitoring and evaluation as a strategic management tool to strengthen their work.

Slide 2



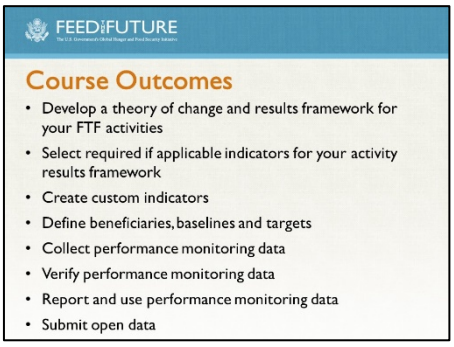
Ask: Please introduce yourself briefly giving:

- Your name and position
- How long you have been with USAID
- Where you work (sector/geography)
- A statistic that made you want to work on FTF

Workshop Objectives & Agenda

Say: This workshop was developed by the FTF performance monitoring team to enable you to move from collecting data to using data to strengthen the impact of your activities.

Slide 3



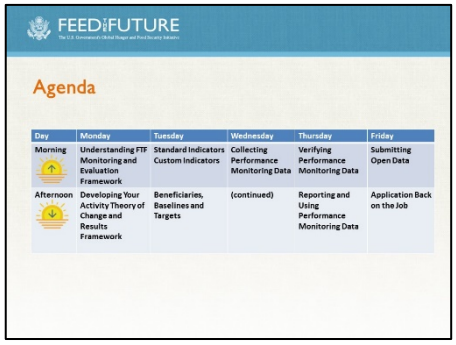
Say: Over the next five days you will discover the power of data. By the end of the course you will be able to:

- Develop a theory of change and results framework for your FTF activities
- Select require if applicable indicators for your activity results framework
- Create custom indicators
- Define beneficiaries, baselines and targets
- Collect performance monitoring data
- Verify performance monitoring data
- Report and use performance monitoring data
- Submit open data

We have structured the workshop so that:

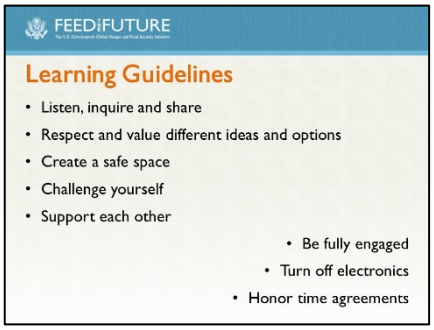
- Each day builds on the previous day
- You will be engaged in a variety of experiences that focus on the practical and the applied.
- You will work individually, in small groups and in plenary

Slide 4



Review the agenda as shown on the slide.

Slide 5



Say: In this room we have a great deal of experience and expertise spanning sectors and geographies. We will all be learning from each other. To maximize the experience, there are just a few guidelines all of us need to commit to.

The guidelines are:

- Listen, inquire and share

- Respect and value different ideas and options
- Create a safe space
- Challenge yourself
- Support each other

Ask: Are there any other guidelines you want to add? Any you want to delete?

Say: How will you do this? By being fully engaged, turning off electronics and honoring the time agreements.

Ask: Please commit to these guidelines by shaking hands with your colleague on your right and then your colleague on your left.

Say: This is our collective promise to hold ourselves to account to follow the learning guidelines.

Trainers need to do this as well. Make this light and fun, but firm. If you do not want to use a handshake, you can use a drum roll or other symbol of agreement to honor the guidelines.

Remind: Because participants are receiving continuous learning points, full participation is expected. If they must be absent, they must tell the facilitators and can miss no more than 4 hours in order to receive full credit. Each day participants need to sign in.

Logistics & Housekeeping

Say: The participant guide is your guide for the course. It is both a reference manual and a workbook. We have:

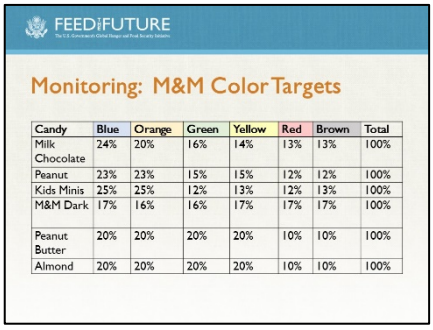
- Captured main points from the lectures in the workbook and provided space for you to take notes.
- Provided space to complete course exercises and activities
- Included additional resources such as articles and job aids

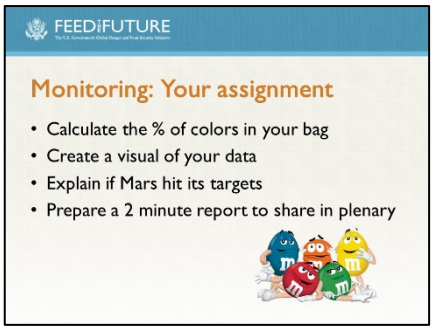
Please write your name on the front of your participant guide. Right now all the participants' guides look the same!

Slide 6

Review:

- Safety (evacuation and marshalling)
- Fiddles (for those who need to "play" with something as they are thinking/learning)
- Course sign-in sheet
- Breaks and lunch (suggest nearby locations for lunch)
- Restrooms

	• Internet access	
9:30 am (90 min.)	**Slide 7**  **Using Monitoring and Evaluation for Adaptive Strategic Management** Say: Let's begin by seeing how you can use monitoring and evaluation for adaptive strategic management. This exercise is design to give you an experience of how to use monitoring and evaluation to make strategic decisions about FTF initiatives and how to maximize impact of these initiatives. The exercise is in a different context from FTF…and into the world of chocolate. **Slide 8**  **Monitoring Exercise** Say: Mars (the manufacturer of M&Ms) sets targets for the percent of each color M&M in the M&M product line. The chart in your participant guide shows the targets for each color by product line. | Candy	Blue	Orange	Green	Yellow	Red	Brown	Total
---	---	---	---	---	---	---	---
Milk Chocolate	24%	20%	16%	14%	13%	13%	100%
Peanut	23%	23%	15%	15%	12%	12%	100%
Kids Minis	25%	25%	12%	13%	12%	13%	100%
M&M Dark	17%	16%	16%	17%	17%	17%	100%
Peanut Butter	20%	20%	20%	20%	10%	10%	100%
Almond	20%	20%	20%	20%	10%	10%	100% | *This is a small group exercise.* **Slide 9**	• Camera • Medium bag of chocolate M&Ms (1 per table) • Participant guide • Flipchart paper and set of colored markers (1 per table) • Internet access or download of YouTube video • Flipchart to record participants' color preferences



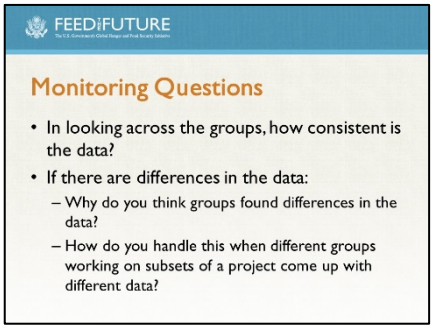
Give the following directions:

- Give each group a large bag of milk chocolate M&Ms.
- Say: Your assignment is to
  - Calculate the % of colors in your bag (Note: Participants should not eat any M&M's until you have completed this part of the exercise.)
  - Create a visual of your data
  - Explain if Mars hit its targets
  - Prepare a 2 minute report to share in plenary

Note: If possible, take photos of how each team approaches this task and a photo of each team's visual display of their data

In plenary, have each group present their data/summaries.

Slide 10



Ask:

- In looking across the groups, how consistent is the data?
- If there are differences in the data:
  - Why do you think groups found differences in the data?
  - How do you handle this when different groups working on subsets of a project come up with different data?

Evaluation Exercise

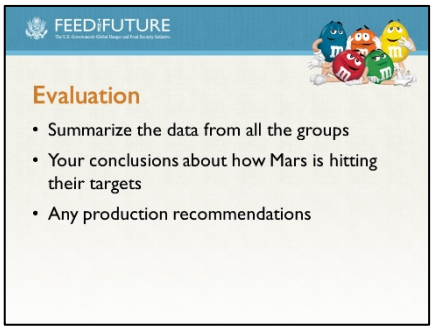
Ask: What could be causing the variation between our findings and the target percentages? To answer that question, let's look at how M&Ms are produced.

Slide 11

Show: YouTube on how M&Ms are made (https://www.youtube.com/watch?v=iapNZqTV7YQ).

Say: Each large production batch is blended to those ratios and mixed thoroughly. However, since the individual packages are filled by weight on high-speed equipment, and not by count, it is possible to have an unusual color distribution."

Slide 12



Direct participants back into their groups

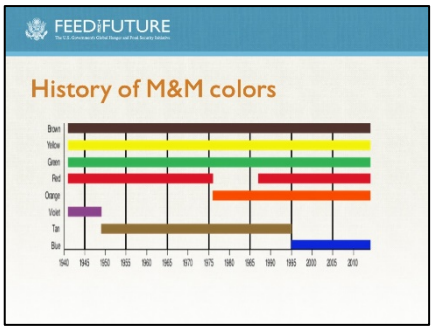
Directions: On a flipchart, write a short report to Mars summarizing the data from all the groups, your conclusions about if Mars is hitting their targets, and any production recommendations.

In plenary, have each group present their data/summaries. After all the groups have shared their flipcharts:

- Compare each group's conclusions about whether Mars is hitting their targets.
- Ask how they handle it when groups come to different conclusions about the same data.

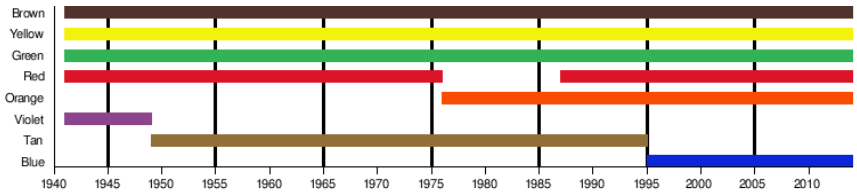
Using the Data for Determining Optimum Color Percentages

Slide 13



Say: Mars uses data to manage production. The history of the colors of M&Ms is interesting.

Read: "From 1941 until 1969, each package contained M&M's in five different colors; when red M&M's were reintroduced in 1987, they were added as a sixth color instead of replacing any of the existing colors.



In early 1995, Mars ran a promotion in which consumers were invited to vote on if blue, pink, or purple would replace the tan M&M's. Blue was the winner, replacing tan in the fall of 1995. In 2002, Mars solicited votes in their first ever "M&M's Global Color Vote" to add a new color from three choices: aqua (turquoise), pink, and purple. This time, purple won and was featured for a limited time.

Since 2004 M&M's have been available online in 17 colors with personalized phrases on each candy on the opposite side from the "m". Released around Christmas, these custom-printed M&M's were originally intended for holiday greetings but are now available all year."

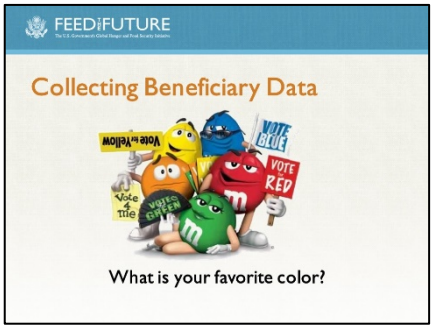
Slide 14

Ask: Why do you think the different candies have different percentages (e.g., milk chocolate has 24% blue while dark chocolate has 17%). In other words, what is your Theory of Change for M&M colors?

Have a plenary discussion on their M&M Theory of Change.

Collecting Beneficiary Data

Slide 15



Ask: What color M&M do you prefer?

Have each participant write down their preference in their participant guide. Option: Have participants record their color preference on a flipchart.

Say: It is said that each color preference tells us something about a person.

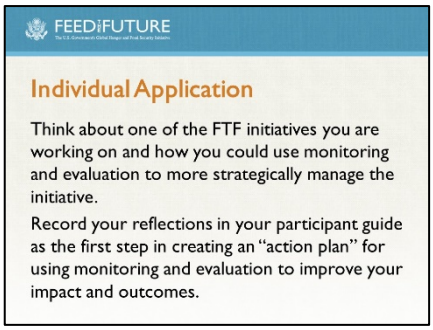
- **Red**: If your fingers tend to gravitate toward the bright red candies in the bowl, this implies that you're confident, bold, and passionate. Red is probably the most popular M&M color choice, but you don't care. If you want red, you'll take red, consequences be damned. Let the next person who comes by seeking candy settle for their second favorite. You were there first, and you deserve the best.
- **Blue:** People who prefer blue M&Ms are trendsetters. You like being on the cutting edge of things. Many of the traditionalists did not feel the need to add blue to the preexisting M&M color choices, but you were all for it, because you live for excitement and the unknown possibilities life has to offer. Charlie Sheen loves blue M&Ms.
- **Orange**: You don't play by any rules, do you? Orange enthusiasts are wild, carefree, and march to the beat of their own drum. You won't often meet someone who prefers orange, but when you do, you better prepare yourself, because it's going to be a fun night.
- **Yellow:** What is wrong with you? Yellow M&Ms are not only unnatural, but unattractive. Yellow is the least popular M&M color. People who prefer yellow M&Ms tend to go against the grain and are sometimes diagnosed with Antisocial Personality Disorders, which is directly linked with psychopathy. It's a fact. Ask Dr. Phil.
- **Brown:** The traditionalist. Chocolate is naturally brown, and therefore you reason that the brown M&Ms provide the most naturally occurring color choice. You like things to be as they should. A place for everything and everything in its place, is your motto. You might have a tendency to towards a little obsessive-compulsiveness, but that's okay. Not everyone has to be cool.
- **Green:** We're all aware that a preference for green means that you're a sexual deviant.

Ask: Given this information, does anyone want to change their preference?

11:00 am (15 mins)

Individual Application Exercise

Slide 16



Say: Think about one of the FTF initiatives you are working on and how you could use monitoring and evaluation to more strategically manage the initiative. Record your reflections in your participant guide as the first step in creating an "action plan" for using monitoring and evaluation to improve your impact and outcomes.

Ask for 2 or 3 participants to share their reflections.

Additional Facts for Facilitators
from M&M's FAQs (1993)

Q: How did you determine these ratios?

A: Our color blends are determined by conducting consumer preference tests, which indicate the assortment of colors that pleases the greatest number of people and creates the most attractive overall effect.

Q: Why are there so many browns?

A: The color blend was found to be the most suitable and pleasing for a chocolate product.

Q: What about "M&M's" Brand HOLIDAYS Chocolate Candies?

A: At certain times of the year, we produce and sell this product in festive colors appropriate to the season in addition to the regular "M&M's" which are available year-round. Presently, "M&M's" Brand HOLIDAYS Chocolate Candies are available four times a year. The percentages of each color are as follows:

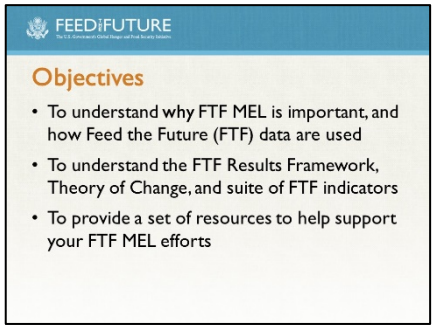
- "Valentine's": 50% red, 50% cream
- "Easter": 20% each of pastel yellows, pastel blues, pastel greens, pastel pinks and pastel purples
- "Red, White and Blue": 33.3% each of red, white, and blue
- "Christmas": 50% red, 50% green

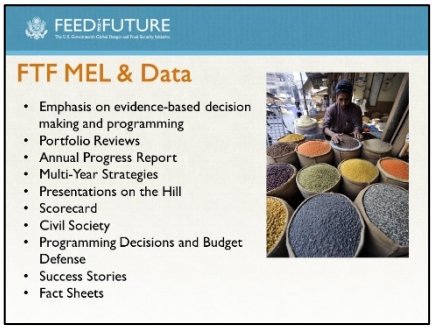
Q: Do you use natural or man-made colors?

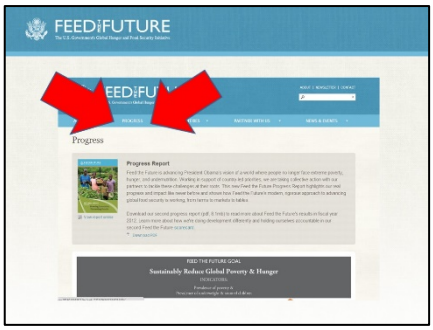
A: We use man-made colors because they resist fading, impart no aftertaste and have a consistent, strong hue so "a little goes a long way". They are called "certified colors" because each batch is inspected by the Food and Drug Administration (FDA).

Q: Do the different colors taste alike?

A: Yes.

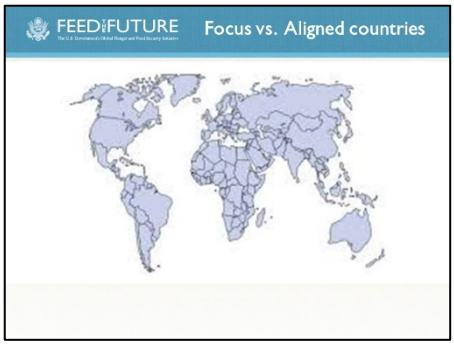
	Q: How do you put the "m" on every piece? A: With a process similar to offset printing. The specially designed machines are carefully calibrated so they don't crack the thin sugar shell. Q: Is there anything special about green "M&M's"? A: Although many consumers ask us about the special qualities of green "M&M's" Chocolate Candies, we cannot explain any extraordinary "powers" attributed to this color, either scientifically or medically.	
11:15 am (15 min)	**Break**	
11:30 am (60 min.)	**FEED THE FUTURE MONITORING AND EVALUATION FRAMEWORK** **Slide 17**  Say: As we saw with M&M's, monitoring and evaluation data can be used not only to evaluate an FTF activity's impact but also as a management tool to strengthen the impact of an activity. We need to start at the foundation of FTF monitoring and evaluation: FTF's monitoring, evaluation and learning framework, also known as MEL. **Slide 18**  Say: The objectives for this session are to: • Help you understand why robust MEL is important within FTF • Present and help you understand the FTF MEL system – the Results Framework, the FTF theory of change, the suite of FTF indicators, and the processes by which these are updated. And, importantly, how these apply to you so that you can understand how to use FTF indicators in your project results frameworks and activity logframes, as well as understand how these latter results frameworks and logframes connect to the FTF results framework.	

	• Provide you links to a set of resources to help support your FTF MEL efforts.	
	FTF MEL & Data **Slide 19**  Say: Before delving into the FTF Results Framework, theory of change, indicators, and all those exciting details, I will take a couple of minutes to talk about why solid MEL is needed in FTF in the first place. • FTF is a whole of government Presidential Initiative that aims to eliminate or reduce extreme poverty and undernutrition. • FTF has at its core a rigorous MEL system to gather empirical evidence to provide transparency and accountability and improve effectiveness (learning). • The 2010 QDDR called for an increase in evidence-based programming by the USG. FTF was created as a cutting edge initiative that specifically addressed that call. The idea was that FTF activities would be sourced in evidence – in other words, in good data. • Good data, tabulated as indicator values, or metrics, are needed because they provide evidence that helps us understand the context within which we are working, the nature and extent of the problems and issues we are addressing, the work we're doing, the progress we're making, what is working and what is not, and allows for evidence-based decision making about the allocation of resources. • Robust data and reporting allows us to identify needs and make claims about what we are achieving with resources that taxpayers are investing. • On the screen are examples of use and reporting of data – this includes data for identifying problems, conducting analyses, and reporting the results of our work to both internal and external stakeholders. • When it was initiated in 2010, FTF had as its global overall goal a 20% reduction in poverty and stunting in the 19 focus countries. **Slide 20**	



Say: Many of the ways data are used, at least by BFS in Washington, can be found on the Feed the Future site under the Progress tab. Here you can find, for example, the Annual FTF Progress Report.

Slide 21



Ask: What are the 19 FTF Focus Countries?

Answer: Bangladesh, Cambodia, Ethiopia, Ghana, Guatemala, Haiti, Honduras, Kenya, Liberia, Malawi, Mali, Mozambique, Nepal, Rwanda, Senegal, Tajikistan, Tanzania, Uganda, and Zambia.

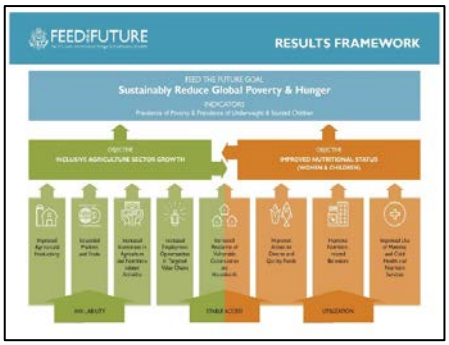
Ask: How were these Focus countries chosen?

Answer: These are countries that satisfied defined State Department criteria: Prevalence of chronic hunger and poverty in rural communities; Potential for rapid and sustainable agricultural-led growth; Opportunities for regional synergies through trade and other mechanisms; Host government commitment, leadership, governance, and political will; Resource availability and commitments by host country."

Ask: What does it mean, when I say that these are "Focus" countries?

Answer: FTF Focus countries generally have higher resource investment by USG; and importantly, FTF Focus countries have a defined Zone of Influence (ZOI). What is the ZOI? The ZOI are specific areas that USAID missions have identified within the countries in which they will "focus and concentrate" all of their agriculture and food security activities. The idea here is to get the maximum value for our investment. Importantly, this approach to "Focus and Concentrate" applies not only to USG, but also to the host government, other donors, and private sector actors. The idea is that we should coordinate all our activities, complement each other, and piggy back off each other's efforts, so that we are able to achieve strong reductions in poverty and undernutrition in the area identified as the ZOI in a relatively short period of time.

	Ask: How did USAID missions identify their particular ZOIs? Answer: These are areas that have higher rates of poverty and/or undernutrition but also have the potential of improvement with investment and present the possibility that improvements in that area may catalyze improvements for not only the rest of the country but also the broader region. So, you will notice that just as in the selection of Focus countries, the selection of ZOIs in the focus countries is made by essentially satisfying three criteria – need, plus opportunity for improvement with investment, plus potential for ripple effects in surrounding areas. Ask: If these are Focus countries, what other types of countries receive FTF funding? Answer: All 4.5 (economic growth) and 3.1.9 (nutrition) money is now FTF money. Therefore, any mission receiving any of this funding is an FTF country (even a dollar! Unless you are Afghanistan, Pakistan, and Iraq). As such, these countries have to align themselves to the Initiative—and in particular, the FTF Results framework—and adhere to the principles of evidence-based programming encompassed in its robust MEL framework. Hence, the importance of understanding the FTF MEL framework, the FTF Results framework, and its indicators – i.e. the importance of this presentation, and this course! Say: • We call non-Focus FTF countries "aligned countries." These currently are: Democratic Republic of the Congo (DRC), Dominican Republic, Egypt, Georgia, Indonesia, Kyrgyz Republic, Lebanon, Nigeria, Philippines, South Sudan, Timor-Leste, West Bank and Gaza, Yemen, Zimbabwe. • Aligned countries generally receive lower levels of FTF funding than Focus countries. And more importantly perhaps, aligned countries are not required to define a ZOI and focus and concentrate their FTF activities in the ZOI. Furthermore, aligned countries are not to report on, and target, reductions in poverty and undernutrition. • Please note that this presentation will cover FTF MEL requirements for both focus and aligned countries. The requirements are slightly different. Ask: Anyone from, or working with, the 19 FTF Aligned Countries? • Important to note – Because FTF aligned countries do not have a ZOI, this creates differences in their usage of the RF and the requirements for reporting. The top two levels of the RF do not apply to aligned countries. This, obviously, creates differences in indicator usage. • Now, let's go to the FTF Results Framework. **FTF Results Framework & Theory of Change** **Slide 22**	



This slide is animated.

Say: The Feed the Future Results framework and theory of change are at the heart of FTF MEL. What you have all been waiting for!

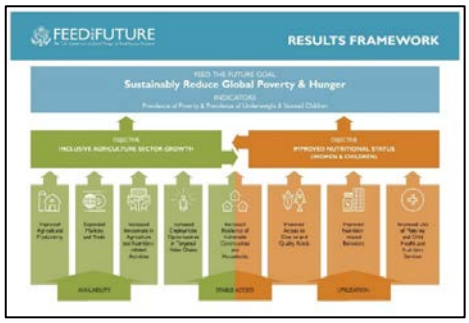
Main points to step through the framework:

- The entire MEL framework which I will describe to you is based off of a common conceptual framework, called the FTF Results Framework. [You should have this as a handout in your material.]
- All FTF countries (focus and aligned), i.e. any country receiving and using 4.5 or 3.1.9 funding, is working within this results framework to plan, design, implement, monitor, and evaluate their agriculture and food security activities.
- What you will notice is that this results framework is based off of a definition of Food Security that contains 4 components: availability, access, stability, and utilization.
- Another way to think about this is that the FTF results framework does not just look at the supply (availability, access, stability), and demand (utilization) side of the equations. Indeed, it goes even further, because it includes nutrition, so FTF sees food security as a farm to table to health approach, integrating agriculture & nutrition. Production; sale; demand; usage. Therefore, for example, FTF promotes not just any crops, but those that have high market value and those that are more nutritious.
- As you will note, our overall goals in FTF are reducing poverty and undernutrition.
- How are we going to achieve that? We have two high level objectives:
    - Inclusive agriculture sector growth
    - Improved nutritional status, especially of women and children
- This is very important to note. The important point – inclusive. This denotes the FTF special emphasis on broad-based growth – growth that provides benefits to not just those who are already well off, but especially those who are not. For example, smallholder farmers, women, and other marginalized, vulnerable groups. The second important point is the word sector. FTF wants to achieve reductions in poverty in a systemic, sustainable way, such that once FTF projects end, the gains we have made will continue, and the country will no longer need food security funding.

- And the second high level objective has to do with nutritional outcomes – it captures sustained improvements not only on the supply side but on the demand side, such that behavior change occurs within the population, which leads to long term improvements in its health and well-being.
- Next, we arrive at the intermediate level of the results framework. Here we have 8 intermediate results that flow into the high-level objectives and which run the spectrum of the demand and supply side of the equation. For example, improving agricultural productivity, which is on the supply side, to improved use of nutrition related behaviors, like increases in exclusive breastfeeding, which is behavior change on the demand side.
- Now, here is the key difference between focus and aligned countries. While focus countries have to set targets and report on each level of this results framework, i.e. from the intermediate level to the goal level, aligned countries are responsible only up to the intermediate level of the results framework. They are not accountable for setting targets and reporting on indicators above the intermediate level of the results framework. Why? Because they really do not get the level of funding where they would be able to make an impact at the goal level – on the prevalence of poverty and undernutrition.

Ask: Do you have any questions or comments about the results framework before we proceed? This is very important to understand!

Slide 23



Say:

- Now, let's look at the results framework in action. You will notice that I have added an arrow that goes from left to right to illustrate that the agriculture- and resilience-related IRs also feed into IR6 – improved access to diverse and quality foods.
- Results frameworks are simple representations of a theory of change—a summarized way of saying what we think the problem is, how we diagnose it, and how it can be solved. It's a graphical representation of the causal linkages that are the basis of any phenomenon.

Ask: With that in mind, what do you think is the theory of change that undergirds FTF?

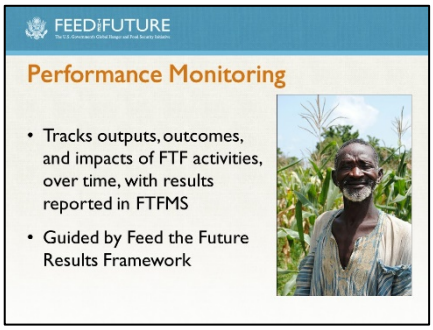
Explain the correct answer: The macro picture of the FTF theory of change is: focus geographically; increase productivity in value chains or key crop commodity (food or non-food); promote national policy reforms; leverage private sector resources; strengthen country systems; transform local economies through increased agricultural, productivity, trade, and jobs which transform local economies by improving the agricultural sector; and improving nutritional behavior, which leads to reductions in poverty and undernutrition.

Continue explaining the framework, say:

- And the micro picture of the theory of the FTF theory of change is: increased dissemination of better input technology and training LEADS TO uptake of technology LEADS TO increased yields LEADS TO increased sales LEADS TO increased income LEADS TO decrease in poverty AND increased consumption of healthier foods LEADS TO better health.

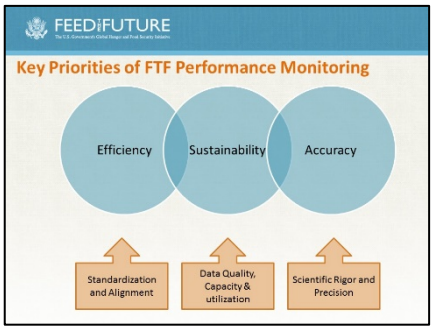
FTF Performance Monitoring

Slide 24



Say: Outputs, outcomes, and impacts are tracked by FTF indicators. FTF Indicators are reported in FTFMS – Feed the Future Monitoring System – in addition to the PPR.

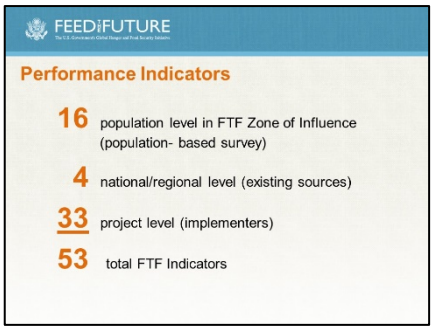
Slide 25



Say: FTF Performance Monitoring has three characteristics:

- Efficiency, to ensure standardization across FTF reporting
- Sustainability, to ensure that reporting burden is lessened
- Accuracy, to ensure that reporting is rigorous, precise, and timely.

Slide 26



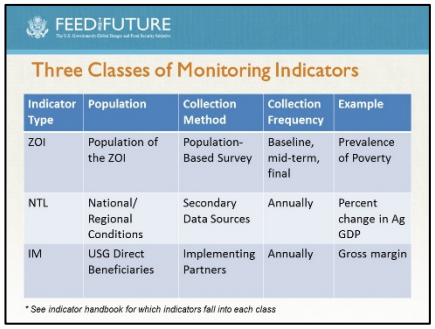
Explain the numbers on the slide:

- There are currently 53 indicators in the FTF suite. [Please see the handout and the FTF Indicator Handbook].
- All FTF indicators are standard F indicators.
- One way of distinguishing FTF indicators is via application – required (these apply only to focus countries and are impact or outcome level indicators that are collected via population based surveys that collect data using a sample representative of the population of the ZOI); required if applicable – these are applicable to both focus and aligned countries and have to be utilized if the mission is programming in the relevant IR.
- However, FTF's indicator framework also explicitly recognizes that the indicators we've identified do not constitute the entire universe of indicators that missions and their implementing partners should use. Custom indicators play an important role in the development of useful and informative M&E systems at the strategic, project and implementing mechanism level, especially at the output and IM level.

Ask:

Do you have to use them all? If so, why? If not, why not? Which do you use?

Slide 27



Say: Another way of distinguishing FTF indicators is via geographic coverage. There are three classes of indicators:

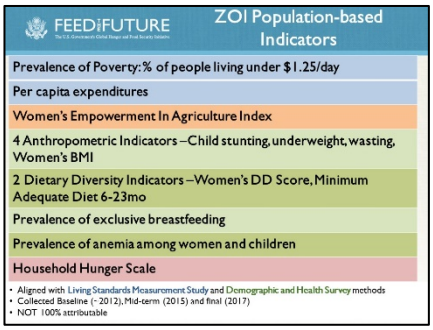
- ZOI
- National
- IM-level

These are summarized in this table.

Ask: if you are an Aligned mission, do you have to report on ZOI level indicators?

Answer: No, because you do not have a ZOI!

Slide 28

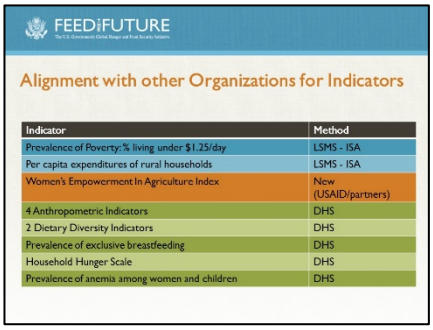


Say: The FTF Zone of Influence indicators are 13 high-level impact or goal level indicators. These are reported on by Focus countries.

Data for these indicators is collected either from secondary sources or through a primary household survey called the PBS – Population Based Survey – which collects this data from a sample representative of the population of the ZOI.

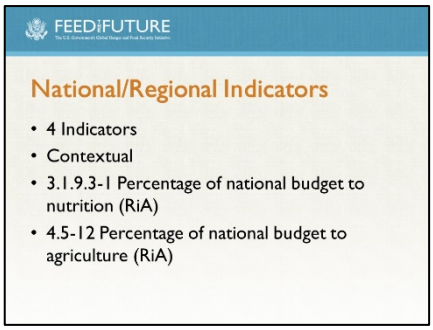
On the slide are examples of the PBS indicators.

Slide 29



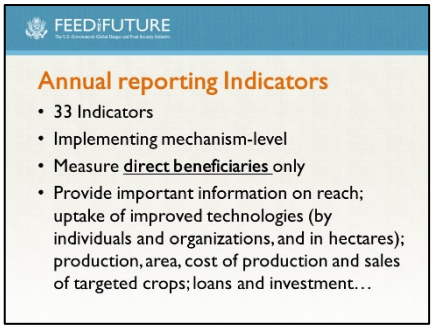
Say: Most PB indicators are collected and reported every two to three years, and as indicated, data for these can be collected/computed from other secondary sources. This table shows some secondary sources that can be utilized for obtaining indicator values for some PBS indicators.

Slide 30



Say: FTF has 4 Regional/National Indicators. These are also at the impact level. Missions are not asked to set targets against these indicators, but instead to use them as a way to monitor the macro context/environment in which they are operating. These indicators represent national and/or regional conditions. Data for these indicators are collected through secondary data sources. These indicators are reported annually. Two examples of these indicators are listed on the slide.

Slide 31



Say: Last, but in no way least, the FTF suite includes 33 IM – implementing mechanism – level Indicators. These are either output or outcome level indicators, and they provide IP and mission staff information about annual performance to answer questions about numbers of beneficiaries reached, or uptake of technology, etc. Importantly, they represent USG direct beneficiaries only! This is important.

For FTF, a direct beneficiary is defined as:

> "An individual is a direct beneficiary if s/he comes into direct contact with the set of interventions (goods or services) provided by the activity. Individuals who receive training or benefit from activity-supported technical assistance or service provision are considered direct beneficiaries, as are those who receive a ration or another type of good. The intervention needs to be significant, meaning that if the individual is merely contacted or touched by an activity through brief attendance at a meeting or gathering, s/he should not be counted as beneficiary. An intervention is significant if one can reasonably expect, and hold OUs and IMs responsible for achieving progress toward, changes in behaviors or other outcomes for these individuals based on the level of services and/or goods provided."

Annual reporting indicators are:

- Collected by IPs (or, in third party M&E contractors).
- Reported annually in FTFMS.

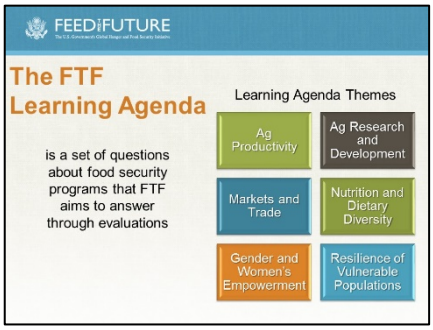
These are the indicators that you would be using in your log frames. But, it's important again to remember that you have to align your outputs to the outcomes; that will feed into impacts across the FTF RF.

Remember:

- Not all indicators have to be used. IPs should utilize only those FTF indicators that are applicable to the stream of programming in the relevant IR.
- Where relevant FTF indicators do not exist, IPs can use custom indicators.

FTF Learning Agenda

Slide 32



Say: The FTF Learning Agenda is a set of questions designed to test the hypotheses and assumptions that undergird the FTF Results framework and the FTF theory of change.

Using evaluations and studies, we test questions like:

- Does training really lead to uptake of technology?
- Does uptake of technology really lead to increased yields?
- Do increased yields really lead to increased sales?
- Do increased sales really lead to increased income?
- Does increased income really lead to a decrease in poverty?

We do such testing, because without testing our hypotheses and assumptions, we might well be just going round in circles and never learning and understanding in a way that allows us to become more effective.

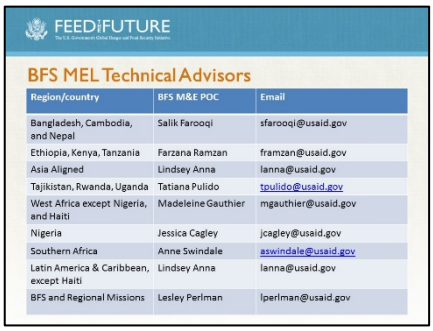
This again demonstrates the deep commitment to transparency, accountability, effectiveness, and adaptive management that is at the heart of FTF.

Resources:

Slide 33

Say: Your best resource will be your BFS MEL Technical Advisor! But there are many others, which I have listed here on this slide.

Slide 34



Region/country	BFS M&E POC	Email
Bangladesh, Cambodia, and Nepal	Salik Farooqi	sfarooqi@usaid.gov
Ethiopia, Kenya, Tanzania	Farzana Ramzan	framzan@usaid.gov
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Tajikistan, Rwanda, Uganda	Tatiana Pulido	tpulido@usaid.gov
West Africa except Nigeria, and Haiti	Madeleine Gauthier	mgauthier@usaid.gov
Nigeria	Jessica Cagley	jcagley@usaid.gov
Southern Africa	Anne Swindale	aswindale@usaid.gov
Latin America & Caribbean, except Haiti	Lindsey Anna	lanna@usaid.gov
BFS and Regional Missions	Lesley Perlman	lperlman@usaid.gov

BFS MEL Technical Advisors can help with:

- Choosing indicators
- Reviewing PMPs
- Ensuring logframes align with RF
- Any evaluations that may answers questions about activities you are considering

12:30pm (60 min)	**Lunch**	

BIOGRAPHIES –

Salik Farooqi serves as Technical Advisor for Monitoring, Evaluation & Learning in the Bureau for Food Security, and oversees the Bangladesh portfolio. He also developed, and now manages, the flagship Feed the Future Monitoring, Evaluation, and Learning mechanism, PEEL. Salik joined the Bureau in September 2012 as a Presidential Management Fellow. A few weeks prior to coming on board, he completed his PhD in Sociology and Public Policy at the University of Michigan with a successful defense of his dissertation in which he conducted a sociological analysis of development effectiveness. Salik earned his Bachelor's degree in Economics and Political Science at McGill University in Montreal, Canada and his Juris Doctorate at William and Mary School of Law, where he focused on International Law.

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

FOR MORE INFORMATION:

For more information about the Feed the Future Performance Monitoring Course, contact:
Anne Swindale (aswindale@usaid.org) or Salik Farooqi (sfarooqi@usaid.gov)
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USAID

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

PERFORMANCE MONITORING

FACILITATOR'S GUIDE

USAID
FROM THE AMERICAN PEOPLE

This publication was produced for review by the U.S. Agency for International Development (USAID). It was prepared by the Feed the Future Knowledge-Driven Agricultural Development Project (KDAD), Contract Number: AID-OAA-C-13-00137, implemented by Insight Systems Corporation. The opinions expressed herein are those of the author(s) and do not necessarily reflect the views of USAID.

August 2016

Table of Contents

H. Materials, Supplies and Checklist

Session Materials

Session Two

- ☐ PowerPoint slides
- ☐ NUTSENAG Case Study (in participant guide)
- ☐ 48" Biggies – Dry Erase Stickie Sheet, White (6 units)
- ☐ Handwritten Indicators on 6"x8" Canary Yellow Post-Its (6 units of 8)
- ☐ 48" x 72" FTF Framework Banner
- ☐ Dry Erase Markers (4 colors - 6 sets)
- ☐ Dry Erasers (6 sets)
- ☐ Cleaner

Supplies

Have the following standard office supplies available:

- ☐ Pads of paper
- ☐ 5 x 7 index cards (different colors)
- ☐ Extra Pens
- ☐ Mr. Sketch markers (for facilitators and each table)
- ☐ Colored felt-tipped pens (for each table)
- ☐ Masking tape or painter's tape
- ☐ Suction cups for banners
- ☐ Paper clips
- ☐ Stapler and staples
- ☐ Scissors
- ☐ Post-It Notes (3x3, different colors)
- ☐ Chocolate (a must!!!)

Equipment

- ☐ LCD project and screen
- ☐ Laptop loaded with course PowerPoint slides
- ☐ Internet access
- ☐ Speakers
- ☐ Remote for LCD projector/PowerPoints and extra batteries

- ☐ Microphones (if necessary)
- ☐ Flipchart stands and paper (one stand per table plus two stands for facilitators)
- ☐ Chimes to ring at breaks
- ☐ Camera for photos during session
- ☐ Note: Additional laptops are needed for individual sessions (see session list of materials)

Session 2: Developing Your Activity Theory of Change and Results Framework

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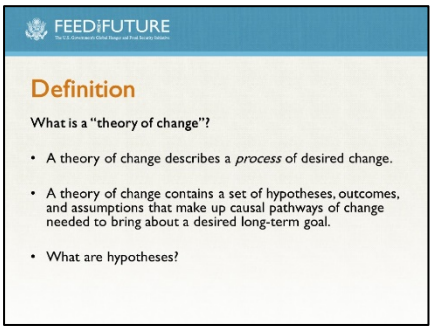
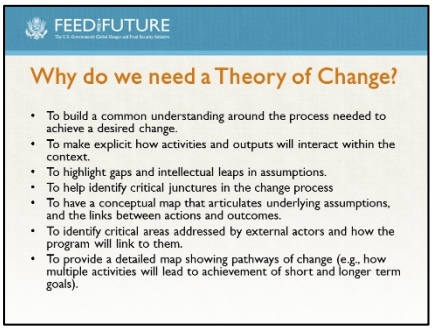
Session Goal:	Create a Theory of Change for FTF activities and apply the Results Framework to the activities.
Learning Objectives:	• Articulate a TOC for an activity given the activity description • Draw the causal pathways • Identify assumptions • Develop a results framework based on the TOC • Identify goal, strategic objectives, intermediate results, sub-intermediate results • Identify, at each level, results necessary and sufficient to achieve the results the level above, for the selected causal path. • Draw the links between the activity results framework and the FTF results framework
Session Length:	240 minutes
Session Materials:	• Session 2 slides • NUTSENAG Case Study • Tape • Portable, erasable whiteboards, erasable markers, erasers (1/group) • RF Sticky Notes (1/group)

Facilitator Notes:

Time & Facilitator	Content/Activities	Materials
1:30 pm (30 min)	**Introduction** **Slide 1**  Say: A Theory of Change makes explicit the way we think about a current situation or problem, its underlying causes, the long-term change we seek, and what needs to happen in order for that change to come about. **Slide 2**  Ask: What are hypotheses? Answers: Hypotheses are "if-then" statements among different levels of a pathway of change; these statements link causes and effects. If X happens, then Y will happen. For example, if I turn off the switch, then the lights will go out. Or, if I have coffee, then I will focus better! Ask: Why do you think FTF activities need a theory of change? On a piece of paper, write down as many reasons that you can think of. *Note: Give participants time to write down their reasons.* Say: Now let us look at what we came up with. I came up with seven reasons. As I read them, see if you came up with the same reasons.	

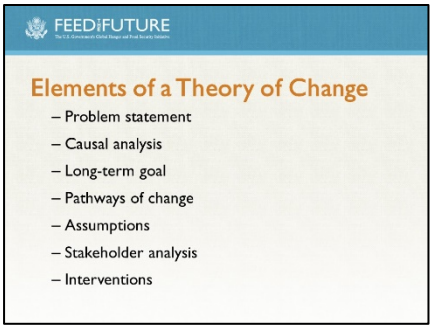
Slide 3



Ask: Did anyone come up with additional reasons? *Note: Have those who came up with different reasons share them with the class. Evaluate the reasons.*

Elements of a Theory of Change

Slide 4

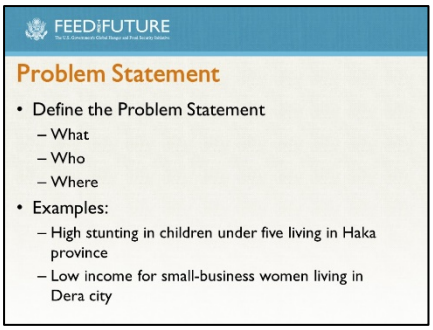


Say: For the next few minutes, we will look at the seven elements of a Theory of Change or ToC. These include:

1. Problem statement
2. Causal analysis
3. Long-term goal
4. Pathways of change
5. Assumptions
6. Stakeholder analysis
7. Interventions

Let's look at each of these elements.

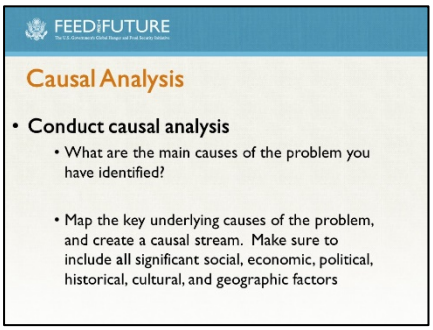
Slide 5



Say: The problem statement begins by answering the three W's of: what, who, where:

- What are the condition the project is intended to address?
- Who is affected by the condition? This is sometimes referred to as the target population.
- Where are they located (e.g., the area or location of the affected population)?

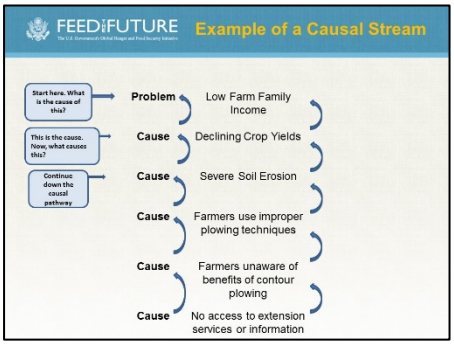
Slide 6



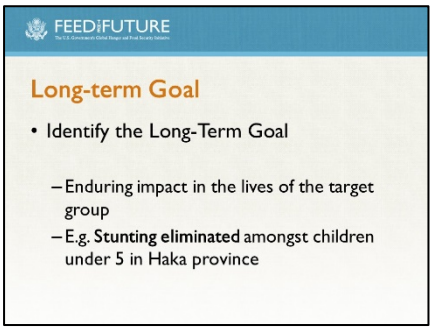
Say: You need to conduct a comprehensive situational analysis using primary (e.g. interviews) and secondary methods (e.g. desk review) to fully understand the current context and its social, economic, political, historical, cultural and geographical realities, and the underlying causes/barriers to change, i.e. why are we where we are now?

Then you create a pathway of change map to identify the causal stream so that you can visualize the cause and effect linkages between phenomena as we will see on the next slide.

Slide 7

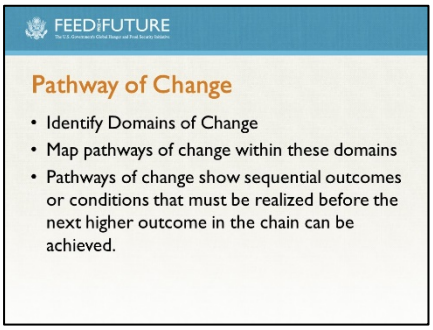


Slide 8



Say: This is where we want to go, our destination, our long-term goal. An impact goal should be framed in terms of the desired change. For example, "stunting eliminated among children under 5 in Haka province" is the "destination" for an activity with the long-term goal of having an enduring impact in the lives of the target group.

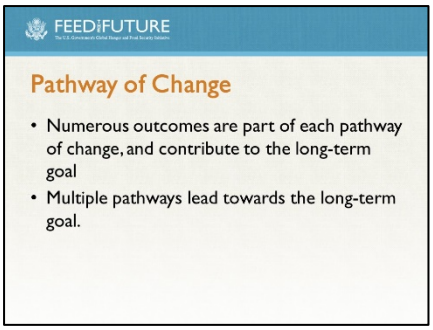
Slide 9



Say: The pathway of change identifies where change needs to occur. These are referred to as domains of change. Domains of change are relationships, systems, institutions, laws and policies – main areas where change must occur.

Pathways of change are a series of major conditions/outcome and related incremental changes that are needed within each domain of change in order to reach the desired long-term goal. The set of connected building blocks that make up pathways of change are interchangeably referred to as *outcomes, results, accomplishments, or preconditions*.

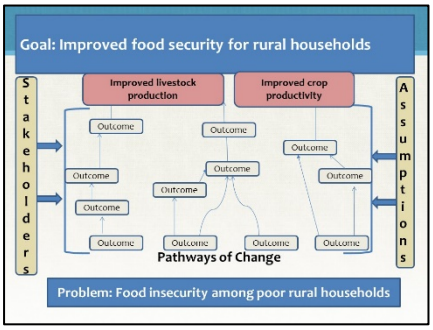
Slide 10



Say: The pathway of change may have numerous outcomes that contribute to the long-term goal. Mapping the pathway of change helps us to:

- Prioritize the outcomes and actions linked to each outcome
- Eliminate outcomes that may be desired but are unnecessary to achieve the goal

Slide 11

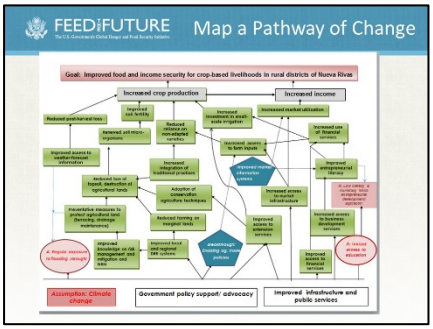


Say: This slide shows the elements of a pathway of change map. It has the problem statement on the bottom and the goal of the activity on the top. The map also identifies key stakeholders and assumptions. Each activity outcome is linked to the activity goal. Notice that some of these pathways of change have fewer outcome blocks.

Ask: Is it better to take the pathway with fewer blocks?

Answer: It depends on a combination of factors. It is not necessarily better to take a pathway with fewer blocks. It may be that a pathway with more outcomes is more feasible because each successive outcome is more within the manageable interest of the stakeholders and has a greater likelihood to succeed given the context.

Slide 12



Say: In your Participant Guide is a ToC for a FTF project to improve food and income security for crop-based livelihoods in rural districts of Neva Rivas. Take a few minutes to trace the pathways of change for the activity.

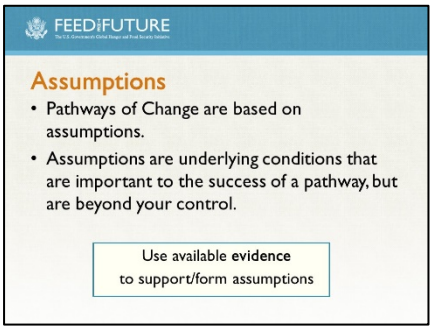
Ask: Ask for a volunteer to share the pathway(s) of change they identified.

Ask: Did anyone identify a different pathway(s) of change they would like to share?

Note: Get 2 or 3 additional examples

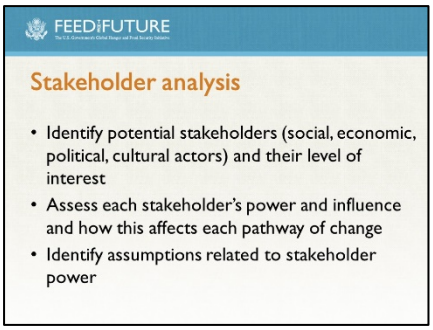
Explain: Explain why people might have identified pathway(s) differently.

Slide 13



Say: Assumptions explain both the connections between incremental outcomes and the expectations about how and why key actions will bring them about. Some assumptions may be less proven and will need to be tested and documented, or challenged. For example, an assumption may be that the government will remain supportive of USAID food security programming for 10 years or trade with a neighboring country will continue, allowing export of our crops.

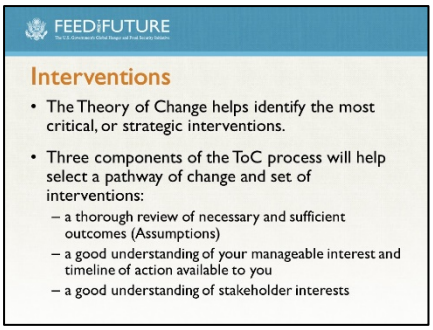
Slide 14



Read the three bullet points on the slide.

Say: Remember that stakeholders can affect a project's outcome positively or negatively.

Slide 15



Review the three components of the ToC process on the slide.

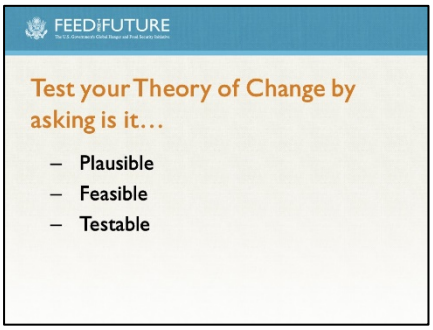
Ask: What are the most critical or strategic interventions?

Answer: The most critical or strategic interventions are those that, based on evidence (assessments, best practices, lessons learned, evaluation reports, community inputs, research, institutional experience), appear to be the interventions that are most manageable and that will most likely succeed within the timeline available to you, along a chosen pathway of change.

Ask: How do you know if your ToC is adequate?

Answer: After participants have shared their answers, show Slide 16.

Slide 16



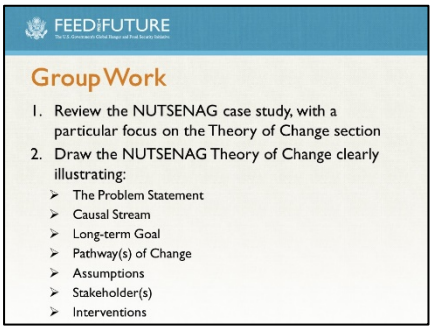
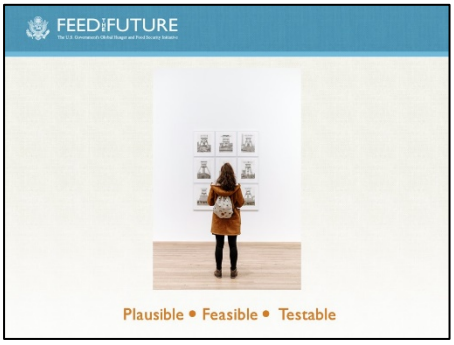
Review each of the criteria on the slide.

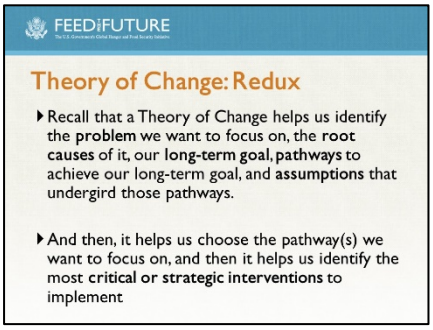
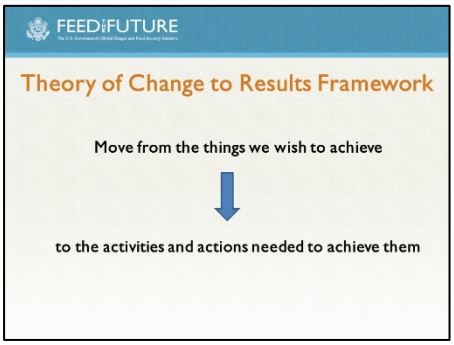
Say:

- **Plausible:** the hypotheses of change, pathways of change, assumptions, stakeholder analyses, and chosen interventions are based on evidence that supports the definition of the problem, its diagnosis, and the likelihood of success of the identified solution

- **Feasible:** the identified solutions and interventions are those that are within your manageable interest within a specified time period, taking into account all assumptions and stakeholder interests

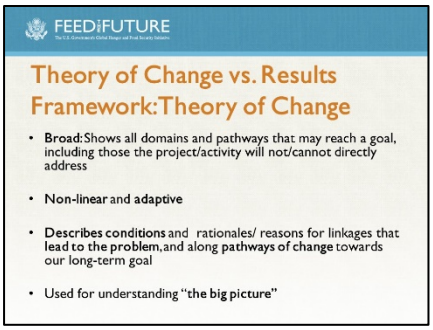
- **Testable:** The hypothesis that supports the theory of change, and the assumptions underlying it, can be verified and validated through application or experimentation (e.g. with a pilot intervention)

2:00 pm (75 min)	**Case Study: NUTSENAG** ***Small Group Activity*** Say: We are going to create a Theory of Change for the NUTSENAG FTF activity. Please take 15 minutes to read the case study. Directions: • Pass out NUTSENAG case study. • Give participants 15 minutes to read the case study and emphasize that they read the theory of change section carefully. Keep the room quiet so that participants can finish reading the article at their own pace. Ask: Are there any questions about the case study? *Answer the questions participants have about the case study.* **Slide 17**  Give directions for completing the activity: • Draw your Theory of Change map on the whiteboard/flipchart provided Say: You have 30 minutes to complete your ToC map for NUTSENAG. As you build your ToC, ask yourself: "Is it plausible, feasible, and testable?" We will use those three criteria to evaluate each group's map. When you are finished, select a spokesperson to explain your ToC map in plenary. *Note: 25 minutes into the exercise, let participants know they have 5 more minutes to complete their theory of change.* **Slide 18**  Conduct a Gallery Walk:	NUTSENAG case study • Whiteboard • Erasable markers • Eraser

	• Have the group stand up and go to the first ToC map. • Ask the spokesperson for the group that created the map to explain their map. • Allow participants to ask questions. • Ask: Is their ToC plausible? Feasible? Testable? • Repeat for each map. After each map has been explained, debrief the activity. Ask: • How were the maps similar? • Different? • What do you think caused the differences? • Why do you think there are differences? • Is there "one best" ToC for a FTF activity? *Note: Give participants time to fully discuss each question.*	
3:15 pm (15 min.)	**Break**	
3:30 pm (15 min)	**From Theory of Change to Results Framework** **Slide 19**  Review key points on the slide. **Slide 20**  Say: As we start identifying the most critical or strategic interventions, we will discover entry points for implementation. Hence begins the process of moving from a Theory of Change to a Results Framework. To move from a Theory of Change to a Results Framework we move from the things we wish to achieve to the activities and actions needed to achieve them.	

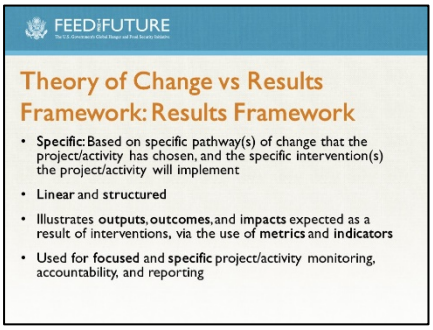
Let's look more closely at the distinction between a Theory of Change and a Results Framework.

Slide 21



Say: The Theory of Change is broad, non-linear and adaptive. It describes conditions, reasons for problems, and pathways to change and is used to understand the big picture."

Slide 22



Say: The Results Framework is specific; illustrates outputs, outcomes, and impacts; and is focused.

Slide 23

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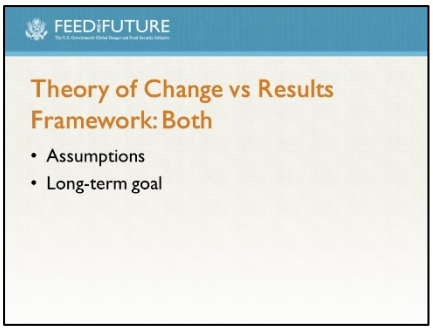
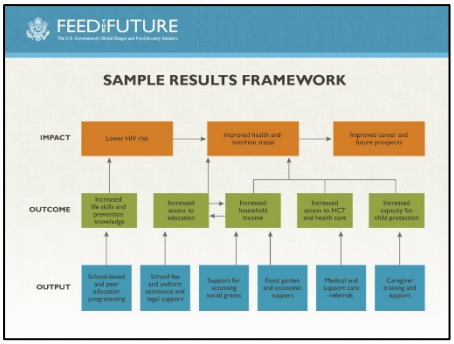


Say: Both the Theory of Change and Results Framework are based on assumptions that we need to identify and long-term goals for FTF activities.

Slide 24



Say: This is an example of a results framework. It is important to note that:

- It is linear
- Each level in the framework is a pre-condition for the next level.

In other words, the levels are linked together in an "If-Then" relationship (i.e., IF school-based and peer education programming is done successfully, THEN life skills and prevention knowledge is increased.

In this way, the framework maps out the concrete steps that have to be taken and the conditions that have to be achieved over time in order for the long term goal to be achieved.
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<td>3:45 pm
(75 min)</td>
<td>
Case Study: NUTSENAG
Small Group Activity

Say: We are now going to create a Results Framework for the NUTSENAG FTF activity and link our Results Framework to the FTF Results Framework.

Slide 25
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- Whiteboard/flip chart
- Erasable markers
- Erasers
- RF Sticky Notes
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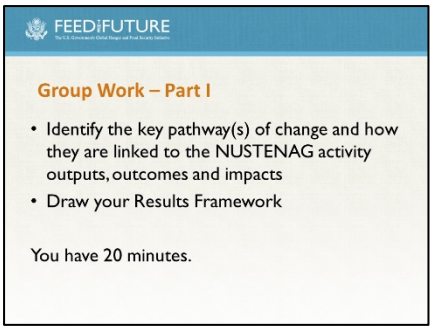
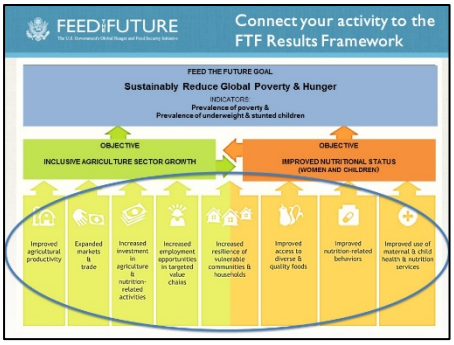


Say: Back with your group, identify the key pathway(s) of change and how they are linked to the NUTSENAG activity outputs, outcomes and impacts. Draw your Results Framework on a flipchart.

You have 30 minutes to complete this activity.

Note: 25 minutes into the exercise, let participants know they have 5 more minutes to complete their theory of change.

Slide 26



Say: Now that you have your Results Framework, you are ready for the next step: To connect your activity to the FTF Results Framework.

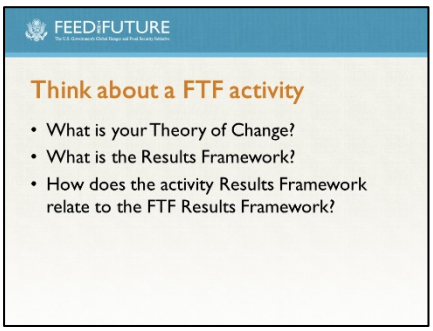
Remember, your Results Frameworks will feed in to the **Intermediate Level** of the FTF Results Framework, circled here, **NOT** the objective or goal level. Why? Because those levels of achievement are **beyond** the manageable interest of a single project.

Your activity's **objective** will be one of the intermediate level results of the FTF Results Framework.

Demonstrate: Take one Sticky Note from the FTF Results Framework and put it on a NUTSENAG Results Framework.

Ask: Are there any questions?

Say: You have 15 minutes.

	Note: 10 minutes into the exercise, let participants know they have 5 more minutes to complete their theory of change. Conduct a Gallery Walk: • Have the group stand up and gather around one of the NUTSENAG Results Framework. • Ask the spokesperson for the group that created the Results Framework. • Allow participants to ask questions. • Ask if anyone has questions about the Results Framework. • Repeat for each group's Results Framework. After each Results Framework has been explained, debrief the activity. Ask: • How were Results Frameworks different? • What do you think caused the differences? • Why do you think there are differences? • What were similarities/differences in choices groups made selecting FTF Results Framework Intermediate Level results? *Note: Give participants time to fully discuss each question.*	
5:00 pm (15 min.)	**Individual Reflection** **Slide 27**  Say: In your Participant Guide, think about a FTF activity you are working on. What is your Theory of Change? What is your Results Framework for the activity and how does it relate to the FTF Results Framework? Directions: Give participants 15 minutes to complete this exercise.	
5:15 pm (15 min.)	**Debrief in Plenary** **Slide 28**	

	 Have two or three participants to share their individual reflection example. Ask the group: How does developing a ToC and Results Framework contribute to ensuring that you achieve your intended outputs, outcomes and results? *Note: Take two to three responses.*	

Case Study: Feed the Future Aredonia

Nutrition-Sensitive Value Chain Activity (NUTSENAG)

Objectives. NUTSENAG's goal is to advance food security and nutrition in farming households while reducing rural poverty through an agriculture-led, integrated economic growth, nutrition, and natural resource management strategy. The activity targets three primary value chains: groundnuts, soybeans and maize. The first two value chains were selected because they promise high economic and nutritional return on investment. Groundnuts are commonly consumed and predominantly cultivated by women. Soy is also predominantly cultivated by women. While soy consumption is not currently widespread, significant growth through soy processed products (soy "meat", flour and milk, especially) is possible. Maize is the primary staple crop, yet few small- and medium-sized landholders produce sufficient quantity to assure household food security and supplemental income through its sale. Without increases in maize yields, farmers are less likely to divert land to cultivate soy or groundnut.

NUTSENAG's objectives are to:

1. Improve productivity (land, water, labor) through application of improved technologies and soil and water management practices;
2. Increase competitiveness of the legumes (i.e., groundnuts and soybeans) and maize value chains to mitigate food insecurity and increase incomes of the rural poor;
3. Increase access to effective community-based nutrition-specific interventions
4. Increase access to health and nutrition services
5. Enhance capacity of local organizations and institutions to promote sustainability.

Target Population. NUTSENAG targets "the poor with assets" for value chain interventions. These are households that theoretically have sufficient agricultural assets to benefit economically from expanding and diversifying production yet remain vulnerable to external shocks, such as climatic or economic turbulence. Specifically, the NUTSENAG value chain activities target households that:

- Cultivate between 1.25 to 3 acres (0.5 to 1.2 hectares) of land;
- Have the potential to increase maize productivity and to free up land for crop diversification to legume production; and
- Have the potential for linking to markets.

NUTSENAG nutrition interventions target the entire community in all communities where value chain interventions are being implemented, with an emphasis on women and children in the 1,000 day window from conception through two years of age (i.e. pregnant and lactating women and children under two years of age). NUTSENAG's health interventions target women and children under five.

Theory of Change. NUTSENAG assumes that value chain activities targeting nutrient-rich products will improve household nutrition. The focus on groundnuts and soybeans will contribute to a diversified diet, improve protein in the diet, and reduce stunting. Moreover, the increased availability of nutritious

foods resulting from value chain interventions is expected to reinforce nutrition efforts. Increased use of inputs such as a range of improved land preparation and management practices, improved seed varieties, inoculants (for soy), and integrated pest management will increase legume and maize productivity. Higher maize productivity will decrease land needed for maize production and increase land made available for soy and groundnut cultivation. Higher production of the nutrient-rich legume commodities will lead to increased home consumption among producer households. Improved harvesting and drying technologies and post-harvest handling and storage practices, increased processing, and better marketing strategies targeting the major cities and the local communities will lead to higher farm income, which will lead to increased household consumption and increased supply of safe, high-quality nutritious foods. Expanded community-level processing and greater availability of legumes and legume products in the market will lead to greater access to and consumption of these products to all households at community-level. Increased food production and income for farmers, and greater availability of safe nutritious food products in the market for everyone should lead to greater household food security, enhanced dietary diversity, and, to some extent, improved nutrition.

The value chain interventions will help address the underlying causes of malnutrition, such as scarcity of assets including food and income, but they are often not sufficient by themselves to improve nutrition. Improvements in pregnant and lactating women and infant and young child feeding and health-seeking behaviors and in access to health and nutrition services including treatment for severe acute malnutrition, will address barriers to improved utilization that are needed to translate improvements in household access to more and better quality food into improvements in nutritional status of women and children.

Interventions. NUTSENAG aims to strengthen local implementing partner capacity to provide both agriculture and nutrition support to its members and member communities. At a community level, NUTSENAG works through their main implementing partner, Aredonia National Smallholder Farmer Association (ANSFA). ANSFA provides training and support to Lead Farmers of commodity-specific farmer's clubs for soy, groundnut, and maize. ANSFA also links its Lead Farmers to public and private sources of agricultural extension for example, Ministry of Agriculture extensionists or agriculture input dealers. ANSFA promotes a range of agricultural technologies and practices for groundnut, soybean and maize value chains. These include the introduction of land preparation practices, improved seed varieties, cultivation practices, harvesting and drying practices, post-harvest practices and processing, storage, and marketing. ANSFA -supported farmers are offered free groundnut and soybean seeds via a Seed Recovery System. After harvest, farmers "repay" this loan with 2 kg for every kilogram they receive. Along with distributing soybean seeds, ANSFA promotes the use of and distributes soybean inoculum that should boost production by approximately 20 percent.

NUTSENAG supports improved off-farm storage and collective marketing predominantly through its partner the Aredonia Commodity Exchange (ACE). ACE is an agricultural commodity platform that operates in the spot and forward markets. It gives small-scale farmers leverage in negotiating for their crops by providing them with reliable market information. ACE also offers three services to NUTSENAG beneficiaries: the warehouse receipt system (WRS) allows farmers to store and sell grain at their convenience with a receipt that can be used as a collateral for short-term loans; auctions to sell; and an option whereby buyers and sellers trade during a live electronic auction. ACE relies on ANSFA to advertise its marketing and warehousing services to its farmers. Farmers can access ACE directly or

via ANSFAMKT, the commercial branch of ANSA, which aggregates and purchases farmers' crops and sells them through ACE.

NUTSENAG integrates nutrition education and outreach and water and sanitation interventions with value chain interventions to improve household nutrition, health and hygiene practices, with the goal of improving maternal and child nutrition. The primary mechanism for nutrition advocacy, education and mentoring is social and behavior change peer education through Community Care Groups (CCG). The CCG is a group of 10-12 Lead Caregivers, the so-called Care Group Volunteers . Each CGV provides an array of nutrition and health education activities through group meetings and household visits to a locally formed group of 10 mothers/ caregivers. Twice monthly nutrition activities include promotion of healthy habits and practices, consumption of fortified and diverse foods, cooking demonstrations, growth monitoring of children, and referral to health/nutritional facilities.

At a community level, NUTSENAG promotes increased consumption of locally adapted, diverse sources of nutrient-dense foods through support for backyard gardens based on locally available commodities, improved post-harvest handling and storage practices to reduce loss and aflatoxin, soy and groundnut processing, nutrition education through drama and other approaches, child health days, and screening and referrals for therapeutic feeding for children suffering from severe acute malnutrition.

The value chain interventions serve as a platform on which to build nutrition activities. The primary point of integration between the nutrition and value chain activities is at the level of ANSFA's Group Action Committees (GACs). ANSFA's Gender and Nutrition group at the GAC level receives capacity building support from NUTSENAG's nutrition technical partner GOODNUT. Each ANSFA farmer's club assigns one representative to ANSFA's Gender and Nutrition group. The farmers" club representative receives training from the Gender and Nutrition Group to work with the Village Development and Health Committees, in collaboration with Ministry of Agriculture extensionists and Ministry of Health Health Surveillance Assistants, to 1) organize a series of activities aimed at improving access to diverse and quality diets and to key nutrition and health services and improving knowledge and norms to support better nutrition for all community members, and 2) create and support the CCG that provide a focus for implementing the Essential Nutrition Actions targeted at the 1,000 day period. The CCGs and community organizations are also linked with Ministry of Health Health Surveillance Assistants to support community sensitization, outreach and active case finding of acute malnutrition, and to support child health days, deworming, etc.

Coverage. Throughout the life of the project, NUTSENAG seeks to reach at least 275,000 rural households through agriculture-based or nutrition interventions or both, and at least 175,000 children under 5 through targeted nutrition-specific and nutrition-sensitive interventions. ANSFA will initially target 50,000 farmers already participating in one of their farmer's clubs, and then expand membership in existing clubs as well as establish new clubs in communities in years two and three of the five year activity.

Table 1. ANSFA focus technologies and practices for soy and groundnut	
Groundnut Technologies	**Soybean Technologies**
1. Use of CG7 seeds 2. Post-harvest processing 3. Grading and packaging	1. Use of SoyG1 or SoyG2 seeds 2. Use of inoculant 3. Post-harvest handling and processing 4. Grading and packaging
Practices	**Practices**
1. Source of seeds among farmers 2. Ridge spacing 3. Plant spacing 4. Double row planting 5. Doubled-up legumes (inter-cropping with pigeon pea) 6. Crop rotation practices 7. Application of herbicides or pesticides 8. Weeding practices 9. Knowledge of harvest time 10. Harvesting and drying practices 11. Marketing among farmers 12. Implementation of safety standards 13. Implementation of quality standards 14. Storage 15. Marketing practices 16. Selling in the shell	1. Source of seeds among farmers 2. Ridge spacing 3. Plant spacing 4. Double-row planting 5. Doubled-up legumes (inter-cropping with pigeon pea) 6. Crop rotation practices 7. Application of herbicides or pesticides 8. Weeding practices 9. Knowledge of harvest time 10. Harvesting and drying practices 11. Marketing among farmers

BIOGRAPHIES –

Salik Farooqi serves as Technical Advisor for Monitoring, Evaluation & Learning in the Bureau for Food Security, and oversees the Bangladesh portfolio. He also developed, and now manages, the flagship Feed the Future Monitoring, Evaluation, and Learning mechanism, PEEL. Salik joined the Bureau in September 2012 as a Presidential Management Fellow. A few weeks prior to coming on board, he completed his PhD in Sociology and Public Policy at the University of Michigan with a successful defense of his dissertation in which he conducted a sociological analysis of development effectiveness. Salik earned his Bachelor's degree in Economics and Political Science at McGill University in Montreal, Canada and his Juris Doctorate at William and Mary School of Law, where he focused on International Law.

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

FOR MORE INFORMATION:

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Monitoring, Evaluation and Learning
Bureau of Food Security
USAID

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PERFORMANCE MONITORING

FACILITATOR'S GUIDE

USAID
FROM THE AMERICAN PEOPLE

This publication was produced for review by the U.S. Agency for International Development (USAID). It was prepared by the Feed the Future Knowledge-Driven Agricultural Development Project (KDAD), Contract Number: AID-OAA-C-13-00137, implemented by Insight Systems Corporation. The opinions expressed herein are those of the author(s) and do not necessarily reflect the views of USAID.

August 2016

Table of Contents

H. Materials, Supplies and Checklist

Session Materials

Session Three

- ☐ PowerPoint slides

Supplies

Have the following standard office supplies available:

- ☐ Pads of paper
- ☐ 5 x 7 index cards (different colors)
- ☐ Extra Pens
- ☐ Mr. Sketch markers (for facilitators and each table)
- ☐ Colored felt-tipped pens (for each table)
- ☐ Masking tape or painter's tape
- ☐ Suction cups for banners
- ☐ Paper clips
- ☐ Stapler and staples
- ☐ Scissors
- ☐ Post-It Notes (3x3, different colors)
- ☐ Chocolate (a must!!!)

Equipment

- ☐ LCD project and screen
- ☐ Laptop loaded with course PowerPoint slides
- ☐ Internet access
- ☐ Speakers
- ☐ Remote for LCD projector/PowerPoints and extra batteries
- ☐ Microphones (if necessary)
- ☐ Flipchart stands and paper (one stand per table plus two stands for facilitators)
- ☐ Chimes to ring at breaks
- ☐ Camera for photos during session
- ☐ Note: Additional laptops are needed for individual sessions (see session list of materials)

Session 3: Selecting Required if Applicable Indicators for Your Activity Results Framework

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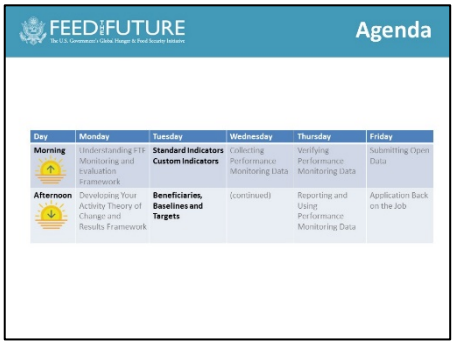
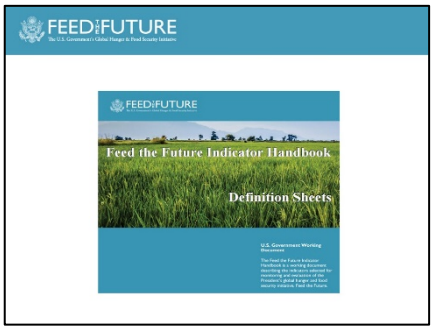
Session Goal:	Apply performance indicators to FTF activities
Learning Objectives:	• Identify performance indicators using the FTF Indicator Handbook • Select applicable Required-if-Applicable indicators • Select useful indicators for decision-making and public reporting
Session Length:	105 minutes
Session Materials:	• Session 3 slides

Facilitator Notes:

Time & Facilitator	Content/Activities	Materials
9:00 am (15 min.)	**Start of the Day** Welcome participants back to the course. Ask for any "overnight thoughts" about the previous day's material. Share the agenda for the day.  	
9:15 am. (90 min)	**Introduction** **Slide 1**  Say: This session covers the Required-if-Applicable (RiA) Feed the Future indicators and the key details of the indicators that are important to remember and often confused. During the session you will identify and apply Required-if-Applicable indicators to the NUTSENAG case study. Ask: What has been your experience identifying and applying the RiA indicators? Ask: What are questions you have about the FTF RiA indicators? *Flipchart the questions and at the end of the session go back to the flipchart and check off which questions you have covered; either answer or direct participants to where they can get answers to the remaining questions.*	

Part One: FTF Required-If-Applicable Indicators

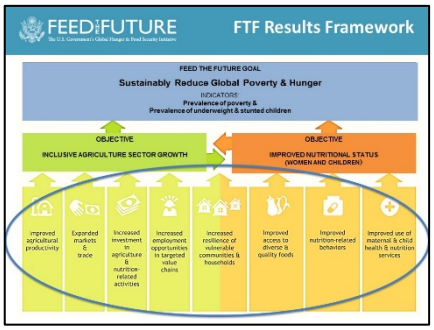
Slide 2



Say: In the first part of this session you will identify which of the FTF Required if Applicable – or RiA – indicators apply given NUTSENAG's theory of change, RF and approaches in interventions (which formed the basis for your determining its TOC and RF).

First I'm going to give you a brief introduction to the FTF RiA indicators and show you how they relate to FTF's RF. Building on the work you did in the previous session – cross-walking NUTSENAG's RF to the FTF RF – you determine which indicators are applicable to NUTSENAG and must be included in the activity M&E plan.

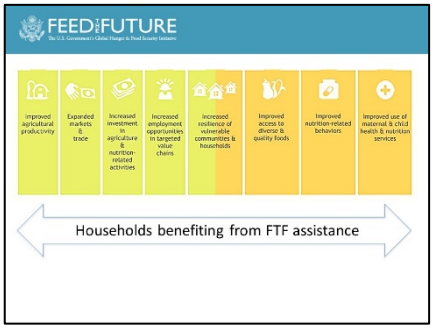
Slide 3



Say: We are going to focus in this session on the intermediate result level of the RF, because that is where all of our activity-level indicators are located. All of our activity-level indicators are now required if applicable because we are using these data in tables and narratives in our progress reports. It is important for us to be able to say that these numbers and the results that we are reporting represent the universe of projects or activities that are implementing activities that contribute to these results.

Households Assisted By FTF Indicator

Slide 4

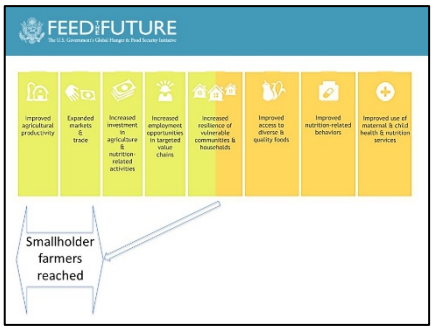


Say: I've taken some liberties with presenting how the indicators are organized in the existing RF, because we do have several that are located under one IR that are applicable across more than just that IR. It is important that you are aware of this as you determine which of our RiA indicators apply to NUTSENAG.

The first set of indicators I'll discuss are ones we use to measure coverage of FTF interventions. The first indicator measures how many households were assisted by FTF, which is defined as households in which at least one direct beneficiary if FTF assistance resides. Clearly, individuals can benefit from FTF assistance in a wide variety of ways, from farmers being trained in good agronomic practices to increase productivity and climate-smart agriculture to increase resilience to climate change, to firms provided with business development services and training in post-harvest transformation of foods to maintain nutrient content, to individuals who obtain a job based on assisted firms' expansion, to caregivers being trained in preservation of nutrient rich foods to increase year-round access or in appropriate infant and young child feeding behaviors, to children benefitting from screen and referral for acute malnutrition. Thus pretty much every IR in the RF can contribute results to this indicator. The only possible exception is IR3 on increased investment in agriculture, where it is less likely that individual direct beneficiaries would be assisted.

Smallholder Farmers Assisted Indicator

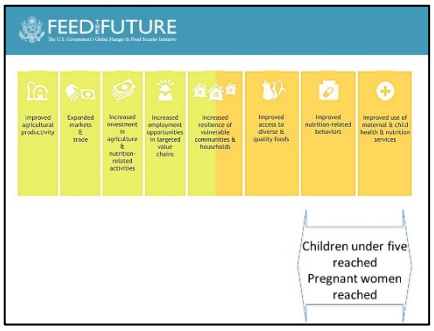
Slide 5



Say: The next indicator counts the number of smallholder farmers (SHF) assisted. SHFs are assisted to increase agricultural productivity, climate adaption and mitigation, and access to market for inputs and outputs. It is possible that a SHF could be assisted with improved access to diverse food, but it's unlikely that she or he would not also be assisted and thus already counted under at least one of the three areas I just mentioned.

Nutrition-Specific Coverage Indicators

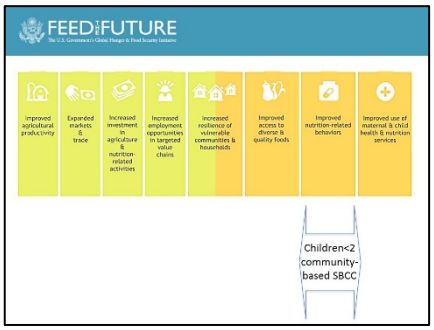
Slide 6



Say: There are three nutrition-specific coverage indicators. The first two measure children under five and pregnant women reached with nutrition social and behavior change communication and health and nutrition services.

Children Under Two who Receive Community-Based SBCC Indicator

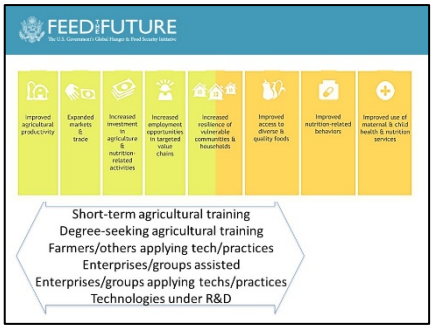
Slide 7



Say: The third indicator focuses specifically on children under two who receive quality community-based SBCC interventions, defined as a caregiver receiving multiple interpersonal contacts, such as through care groups or mothers' or fathers' groups. These children under two, along with pregnant women, constitute the key focus 1,000 day target group we need to reach to reduce stunting, so it is important that we know whether we are reaching most if not all of the ZOI population in this window of opportunity.

Training and Application of Technologies and Practices Indicators

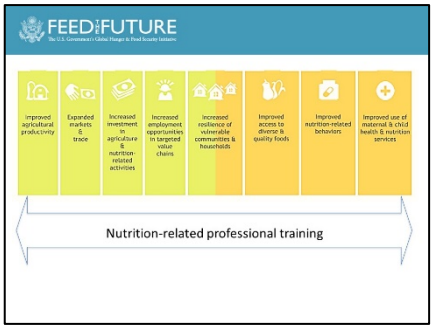
Slide 8



Say: The indicators that measure training of individuals and firms and organizations in and application of improved agriculture - and food security-related technologies and practices by farmers and others and by firms and organizations are also applicable to interventions implemented under most of our IRs. The only IRs where it wouldn't apply are the two nutrition-specific IRs. The indicator that captures progress of the research and development of improved technologies that we eventually want to see disseminated and applied by farmers and/or firms also cross-cuts most of the IRs.

Nutrition Capacity-Building Indicator

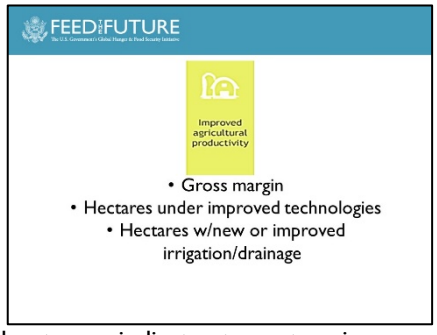
Slide 9



Say: The nutrition capacity-building indicator, which measures the degree- and non-degree granting professional training (note that the nutrition training indicator does not include mothers and other caregivers anymore) applies across the RF because it covers nutrition-sensitive and nutrition-specific professional training.

Gross Margin Indicator, Improved Technologies, Improved Irrigation

Slide 10



Say: Our highest-level outcome indicator to capture improved agricultural productivity is gross margins. I love this indicator, and you will see why in Session 8 on reporting and using performance monitoring data.

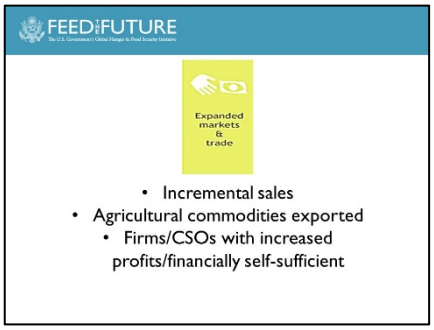
Gross margin measures the return to a farmer's investment of important factors of production. We measure GM rather than just yield because we recognize that farmers have little incentive to adopt new crops or improved practices without a clear economic incentive, which yield alone does not capture. And it helps prevent us from promoting practices that cost the farmer more than the returns obtained.

The next two indicators capture application of productivity increasing (or stabilizing) technologies and increased availability of irrigation, both obviously

relevant for activities promoting crops.

Incremental Sales, Agricultural Commodities Exported, Increased Profits/Financially Self-Sufficient Indicators

Slide 11

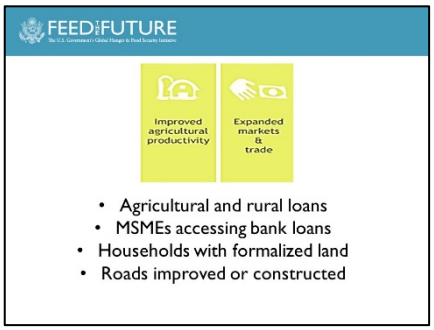


Say: We have two indicators that capture key outcomes of expanded markets and trade, one at the level of the SHF and the second at a firm level. Incremental sales capture how much agricultural sales of our SHF beneficiaries have increased since before the activity began, and the export indicators capture the value of agricultural exports for firms and groups we directly assist.

We don't have too many indicators that capture sustainability of our interventions: however, this next indicator attempts to capture sustainability directly by measuring whether the private sector market actors with whom we work are becoming more profitable and whether the Civil Society Organizations we assist become financially self-sufficient. It can serve as an important USAID Forward sustainability indicator since almost all of the firms and organizations we assist are local.

Expanded Markets and Trade IR Indicators

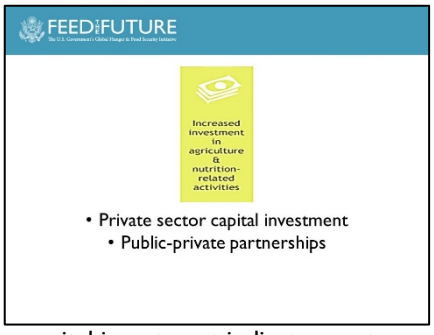
Slide 12



Say: These next four indicators are located under the Expanded Markets and Trade IR in FTF's RF, but not addressing the constraints they represent clearly can impact success in increasing agricultural productivity. Farmers need credit to purchase inputs in addition to firms needing credit for inventory; lack of formal title to land can discourage farmers from making important investments in land, such as tree planting, in addition to constraining their access to credit due to lack of collateral, and better roads help get inputs and extension in and output out. They benefit just about everyone and everything (except protected wilderness areas and forests)!

Private Sector Capital Investment and Public-Private Partnerships Indicators

Slide 13

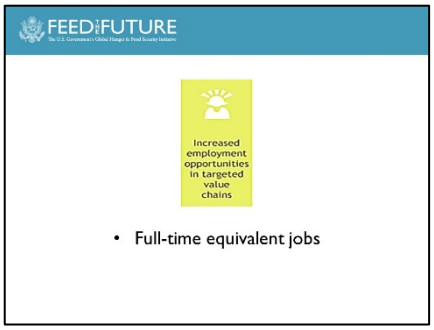


Say: The private sector capital investment indicator captures a higher-level outcome of activities under this IR by directly measuring increased agriculture- or nutrition-related capital investment by the private sector. This indicator tracks capital investments only, not operating expenses.

The number of public-private partnerships indicator captures one of our most important mechanisms to leverage additional private sector investment in agriculture and nutrition. To count, the private sector partner has to be expanding into new business areas (products or geographies) and needs to be spending more than it was before (that's the leveraging part).

Full-Time Equivalent Jobs Indictor

Slide 14

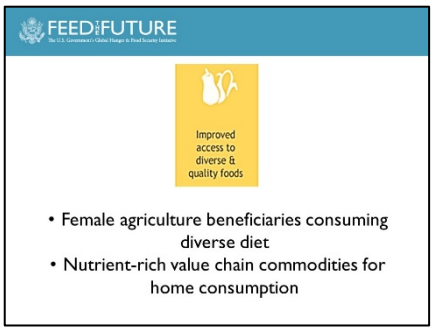


Say: This seems like a pretty direct indicator of the IR – we measure increased employment by measuring the increase in jobs. However, it is important to read the indicator definition carefully (actually, it's important to read all indicator definitions carefully ☺) because this indicator is only applicable for activities with specific employment generation objectives. With the type of employment targeted being permanent or longer-term jobs (more than 30 days in length), not short-term seasonal labor.

As we reexamine FTF's strategy post-2017, we may well add an indicator to capture increase in on- and off-farm seasonal labor opportunities given research documenting the importance of these kinds of employment opportunity as a pathway out of rural poverty. But for now we do not capture this kind of labor in the indicator.

Female Agriculture Beneficiaries Consuming Diverse Diet and Nutrient-Rich Value Chain Commodities for Home Consumption Indicators

Slide 15



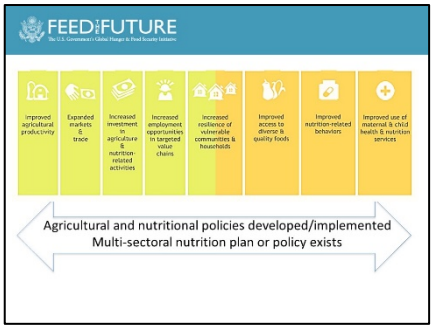
Say: We introduced two new indicators over the past couple of years to capture results of nutrition-sensitive agriculture activities, which are agriculture activities with explicit nutrition-related objectives and outcomes (for example, related to consumption, diet quality, even stunting if nutrition-specific activities are integrated).

There are multiple pathways through which agriculture can improve nutrition. The first indicator, which captures whether the diets of an agriculture activity's female beneficiaries are improving, captures results achieved through several agriculture-to-nutrition pathways (own production for home consumption, agriculture-related income to purchase better diets, empowering women with access to and control over resources, incomes and knowledge).

The second indicator focuses exclusively on results of value chain activities that are promoting nutrient rich commodities and that encourage beneficiaries to keep some production for their own consumption, rather than selling it all. It measures the amount consumed prior to the time of data collection plus any amount stored with the intent of home consumption in the future.

Agricultural and Nutritional Policies Indicators

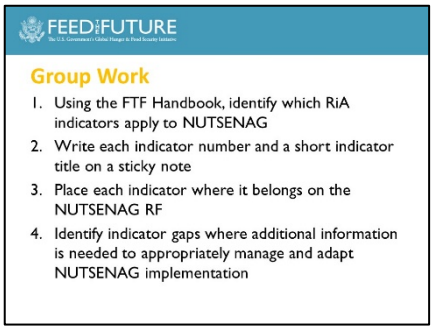
Slide 16



Say: Finally, depending on how broad or specific the policy or plan is, our policy indicators can support all of the IRs simultaneously, or be focused specifically on one or more IR; for example, a policy specifically related to fertilizer or seed policy would correspond most directly to the productivity and markets IRs and not to improved nutrition behaviors.

Identifying RiA Indicators for NUTSENAG

Slide 17



Small Groups

- Refer participants to the activity in their participant guide.
- Review each step in the activity
- Tell the groups to:
    - Put the indicators on their Results Framework chart
    - Select a spokesperson to report out their answers in plenary

Plenary:
Ask for a group to volunteer to share which indicators they selected and where they placed the indicators on the Results Framework. Have their spokesperson report out.

Ask the other groups:

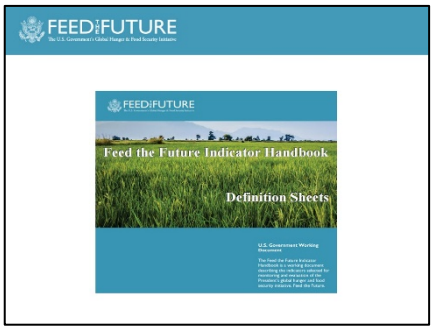
- Did they select any different indicators? Any additional indicators?
- How where they placed the indicators on the Results Framework compares with the other groups?

Ask a different group to report out on the indicator gaps they identified.

Ask the other groups if they identified different or additional gaps.

Part Two: Important to Remember

Slide 18



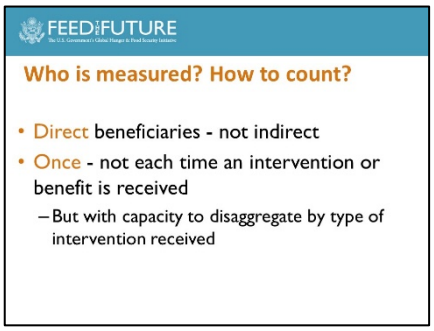
Say: This part of the session will present some key details of the indicators that are very important to remember as you are collecting information and reporting against them. After my presentation, we'll ask each of you to individually think of whether any of your reporting might be incorrect and list things you might want to follow-up

when you get home. Make a quick note if you hear me say anything about an indicator that makes you wonder whether you or your implementing partners have been reporting it correctly.

Direct Beneficiaries

Note: Go over this quickly as Session 5 focuses on defining beneficiaries.

Slide 19



Say: We start with two basic requirements. We know being able to capture this spread, diffusion, and indirect scaling of what we promote and achieve is very important for the initiative and to prove our development hypothesis. We are working on ways to do this. However, for now, all Feed the Future activity-level indicators report on direct beneficiaries. They do not measure indirect beneficiaries; for example, those who do not participate directly in our activities but who change their behavior through observing what our direct beneficiaries are doing and achieving. We will go into more detail about how to define and identify your direct beneficiaries in Session 5.

You are required to track individuals, firms, organizations or households across an activity to correctly report under the indicators. For example, the nutrition coverage; households benefitting or organization assisted; and the training indicators, count individuals or individual households, firms or organization, not number of participants of training sessions or the number of contacts with a nutrition program. This means activities must put in place systems that track individuals or organizations across different interventions received while at the same time keeping track of the interventions received so individuals can be linked to and results disaggregated by interventions received, technologies being applied, etc.

We require that partners, i.e. implementing mechanisms, track individuals across interventions received and not double-count them. However, we recognize that there can be double-counting when indicator results are added up across more than one implementing mechanism. We also ask that Missions and BFS try to estimate the extent of this overlap or double-counting, and make corrections when reporting aggregate numbers to Washington.

Identifying Sets of Beneficiaries

Slide 20

FEED the FUTURE Universe for Agricultural Indicators

INDICATOR	UNIVERSE MEASURED
# Farmers and others applying improved technologies	Direct beneficiaries (individuals) throughout the value chain
# Hectares under improved technologies	Direct beneficiary crop producers
Gross margin, Incremental sales	Direct beneficiary smallholder producers
Nutrition-sensitive activities only	
Female beneficiaries w/minimum diet diversity	Direct beneficiary female producers
NRVCC set-aside	Direct beneficiary producers of nutrient-rich commodities

Say: While all the indicators measure direct beneficiaries, they do not all measure the same set of direct beneficiaries. The six farm-level production and sales related indicators are a prime example of this. Five of the indicators measure different subsets of the number of farmers and others applying improved technologies, which is the indicator that casts the widest net in terms of on whom it reports. It reports on all direct beneficiary individuals throughout the value chain. That is the "and others" part. For example, if a woman has learned through the activity's interventions to purchase product from small farmers and do some sort of post-harvest processing (for example, solar drying) then sell her value-added product into the value chain, she is an "other" who is applying an improved technology or management practice and thus should be captured in this indicator. The indicator is disaggregated into producers and other so that we're able to look and understand what's happening with our direct producers in addition to what's happening with other individuals throughout the value chain.

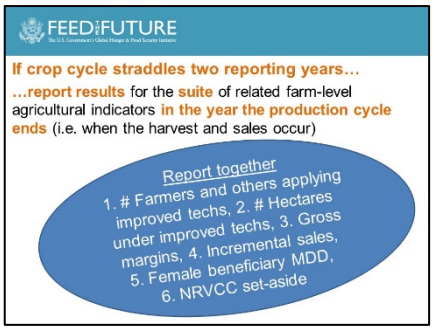
The number of hectares under improved technologies is reported for all beneficiary crop producers applying land based technologies, regardless of size of landholding.

Gross margin and incremental sales are reported only for smallholder farmers (using the respective country's definition of smallholder) across all types of commodities (crop, livestock, fish).

For the nutrition-sensitive agriculture activity indicators, the first reports on all female beneficiary producers, regardless of what she produces or how large is her landholding, and the NRVCC set-aside indicators reports on all beneficiary producers of nutrient-rich commodities, regardless of sex and land size.

Crop Cycles and Reporting Cycles

Slide 21



Say: We know we have many situations where the crop cycle doesn't cooperate with our reporting cycle. I don't understand why not ☺.

For example, we have countries and crops where the crop cycle straddles two reporting years. For example, you need to enter FY16 data into FTFMS by December 4th 2016, but the crop cycle which started during FY16, for example, the crop was planted in let's say August, the harvest isn't actually until late January 2017. And then sales continue until mid-February 2017.

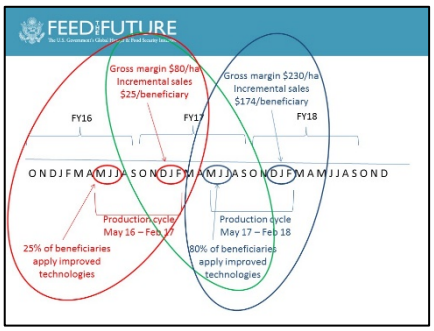
In this situation what we ask you do is to take the suite of related indicators, the application of improved technology indicators and then the results of the application of those improved technologies in terms of increased gross margin and increased sales and NRVCC set aside and improved diet diversity due to increased income or empowerment or home consumption and report all of them together in the reporting year where you have the production cycle end, in this case, for FY17 in Dec 2017.

That means even though you have some farmers applying improved technologies in FY16 you would not report on those farmers until FY17 when you can report all six of the indicators together, the hectares, the farmers, the gross margin, the sales, and the nutrition-sensitive agriculture indicators of female beneficiaries with MDD and NRVCC set aside.

We want all of these reported together because they all capture different steps in your theory of change, and to understand if change in one steps is leading to hypothesized change in next step, you want to make sure you are analyzing indicators that are measuring the same cycle.

Example: NUTSENAG

Slide 22



Say: For example, NUTSENAG works in a country where the production cycle starts with land preparation and planting in May, with harvest and sales happening in

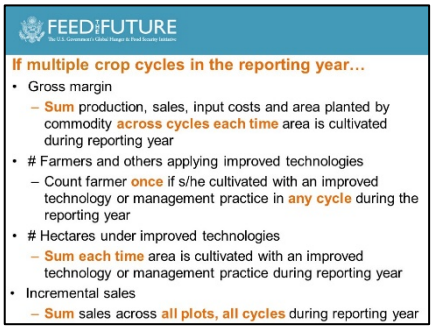
January and February of the following year. NUTSENAG is promoting use of certified soy seed and application of inoculant. In the first year, 25% of direct beneficiaries applied one or both technologies, and 75% applied neither. Average gross margin per hectare was $80 and average increase in sales per beneficiary was $25. This represents about a 10% increase over baseline. In the second year, the number of beneficiaries applying one or both of the improved technologies jumped to 80%, as the beneficiaries saw the results that the lead farmers and early adopters received the previous season. With a much greater proportion of beneficiaries applying these improved technologies that increase yield and total production and being able to sell a much larger proportion of what they produce, average gross margin and increased sales jumped dramatically, to $230/ha, an almost 300% increase from baseline, and $174 per beneficiary, almost 700% from baseline. Now, you know what I'm going to show you next.

Ask: What do you think are the kinds of conclusions that might be drawn by the Implementing Partner and by USAID if NUTSENAG were to report only those ag indicators with results during the reporting year rather than grouping the results from each production cycle?

Continue: Correct, we would see a much distorted picture of the effect of application of these improved technologies – we could conclude that 80% of beneficiaries applied them, but only saw an average 10% increase in productivity and sales from baseline. Which would lead to a completely unnecessary questioning of our theory of change and the effectiveness of our promoted technologies. And we don't want that!

For Multiple Crops

Slide 23



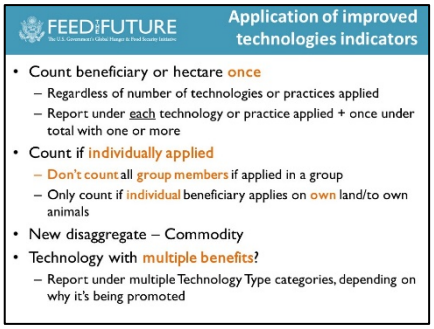
Say: So that's one issue with crop cycle. Another deals with multiple crop cycles in a reporting year. The different agriculture indicators treat these different cycles differently, just to keep your life interesting. As I mentioned for the farmers and others you count a farmer once if she or he cultivated with an improved technology in any of the cycles. For the number of hectares under improved technology we had a really interesting discussion several years ago to with you all out in the field about how we should interpret the multiple cycles in the context of this indicator. Our guidance is that you sum each time and area is cultivated with an improved technology during the reporting year. If there are two production cycles and the farmer is applying an improved technology during each of those production cycles then you would count the area under improved technology each time it is cultivated.

For gross margin you should sum the five data points of production, volume and value of sales, input costs and area by commodity across all of the cycles each time

the area is cultivated during the reporting year. So you sum them and enter the sum of that for all your beneficiaries as the five data points for gross margin. And finally for incremental sales you would sum the sales across all of the plots and all of the cycles for a specific commodity during the reporting year.

Counting Number of Farmers and Number of Hectares

Slide 24



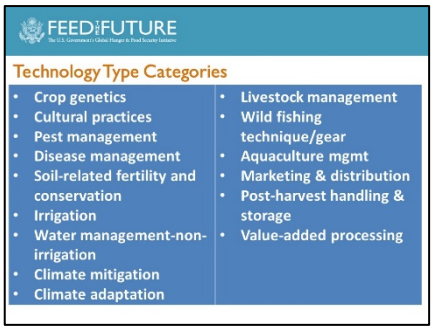
Say: For both number of farmers and others and number hectares you should count your beneficiary and hectare only once regardless of the number of technologies or practices that are being applied. Then you report the individual or hectares under each tech type (i.e. double-count) and then once under the tech type disaggregate "number with one or more."

We added a new disaggregate to number of farmers and number of hectares in FY16 – Commodity. This does not have to be used by activities promoting sustainable intensification and similar crop diversification strategies or in polyculture production systems where double-counting beneficiaries and calculating area under specific commodities is complicated and not meaningful. There you can use the "Disaggregates not available" category under the Commodities disaggregate.

If a technology falls under multiple categories and brings multiple benefits and is being promoted for those benefits, you should report the beneficiary applying it and area under it under each category. For example, if an activity is promoting drought-tolerant maize, you should report it under crop genetics and climate adaptation.

Technology Categories

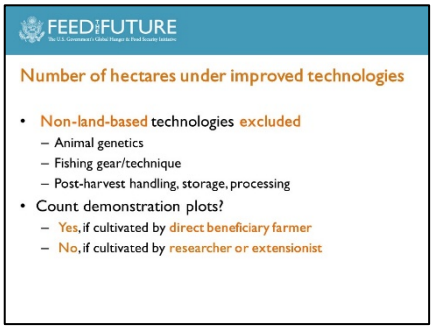
Slide 25



Ask: Can you think of any other examples of technologies we promote that would be counted under more than one tech type category?

Non-land Based Technologies and Demonstration Plots

Slide 26



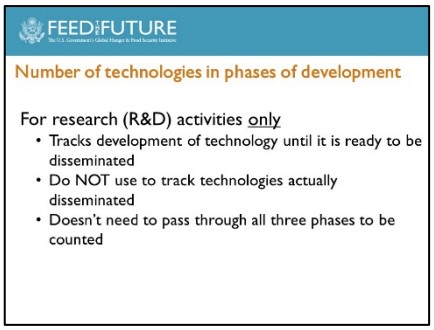
Say: You can count demonstration plots if they're cultivated by a direct beneficiary farmer. You can absolutely count the area under improved technologies being cultivated by your lead farmer under this indicator.

What you should not be counting is if a demonstration plot is being cultivated by a researcher or an extensionist as part of the dissemination strategy. That area should not be being counted under this indicator.

Small-holder ponds are still measured in hectares and reported under gross margins. It's only for # hectares under improved technologies that we narrowed the definition to land-based technologies only. It doesn't make sense to track post-harvest and processing categories and animal genetics measuring with hectares.

Research and Development Activities

Slide 27

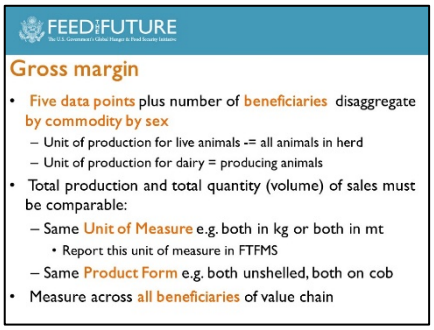


Say: This is an indicator that, after many years of repeating this point, is still misused. The number of technologies in phases of development indicator should only be used for research and development activities. It should not be used to track the technologies actually being disseminated by implementation type of activities. That is not what Phase III – technologies available for dissemination – means. Phase III counts, for example, a new seed variety that has received in the reporting year all government approvals and certifications required that will then allow the public or private to begin to multiply and disseminate the new variety. It should not be used by a value chain activity to count it as a technology it is supporting seed supplies to multiply for onward sale to input suppliers.

R&D activities do not have to intend to take a technology through all three phases in order to report on a technology under the indicator.

Total Production, Volume of Sales, Value of sales, Purchased Recurrent Input Costs, Hectares/Animals/Cages

Slide 28



Say: Gross margin indicator is not reported directly. What is reported are five data points reflecting totals across all beneficiary of the specific commodity value chain. The five data points are total production, total volume of sales, total value of sales, total purchased recurrent input costs, and total hectares, animals or cages (for open water aquaculture.) The final data point reflects the factor of production for which GM measures return for farmer's investment. Report all animals in the herd if the value chain is live animals, and report number of producing animals during reporting year for dairy.

This year we have added a sixth data point, number of beneficiaries, which isn't used in the calculation of GM itself, but we have come to realize it is essential for meaningful interpretation of GM results.

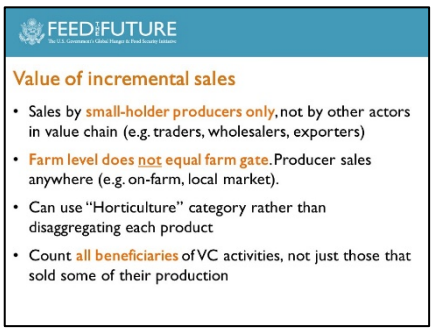
For the gross margin indicator, the unit of measure (e.g. kgs or MT) in which total

production and total sales are reported must be the same. If unit of measure and form are not the same, then the estimate of unit value, which is derived by dividing sales value by sale volume, used to value total production, could be way off. To make sure of this and to facilitate aggregation of data points across mechanisms and countries, you are required to enter what unit of measure is used for total production and volume of sale. In addition, the form in which the product is reported must also be the same, for the same reason of being able to compute an accurate and applicable unit price with which to value total production.

Gross margin should be measured for all the beneficiaries of the specific commodity value chain interventions. Do not report GM just for the subset of beneficiaries that applied improved techs or that sold part of their production. This will give an overestimate of returns to your beneficiaries under each commodity, and detract from your ability to demonstrate how returns for your target beneficiaries are increasing over time.

Incremental Sales

Slide 29



Say: The value of incremental sales at farm level is defined to capture sales by small holder producers only, not the other actors in the value chain. We do not want to report the sales that traders make or exporters make or that wholesalers make. It is the direct beneficiary producer only and only small holder beneficiaries.

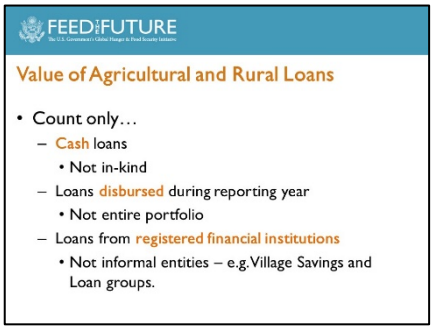
It is an indicator of sales at the farm level but that does not mean only farm gate sales. It is not only sales the producer makes physically on the farm. If the producer is taking product to a local market and selling it in that local market that counts as a farm level sale.

For the value of incremental sales you can use the broad horticulture category and aggregate sales across a number of different horticultural products in a horticulture value chain. In gross margins we ask that you disaggregate by horticultural commodity because it is not meaningful to combine an average gross margins across products that can be quite different in their unit value. But for ease of reporting and recognizing that horticultural value chains can have many, many, many different products we are happy to have you report the overall horticultural category for

incremental sales and to report only against the top five most important horticultural products under gross margin recognizing that sometimes value chains has 12 – 15 or more products and having this disaggregated gross margins for each of them would be overly burdensome.

Agricultural and Rural Loans

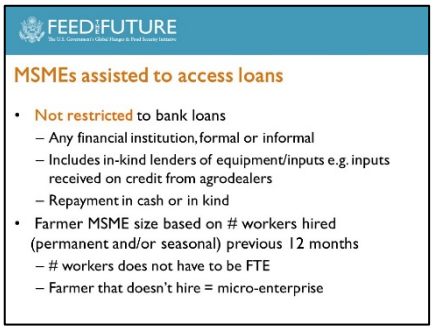
Slide 30



Say: The value of agricultural and rural loans is a fairly restricted indicator. You should only report cash loans, not loans that were provided in kind, e.g. agro-dealer advances inputs and is paid back with production at the end of the season. You also should only count loans that were actually disbursed during the reporting year, not ones that were approved and not disbursed and not the entire portfolio of loans. Finally, this indicator should capture only loans from registered financial institutions and not informal entities such as village savings and loans groups.

Micro Small and Medium Enterprise Access to Loans

Slide 31



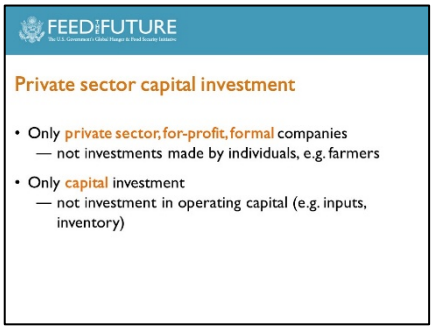
Say: Micro small and medium enterprises which include farmers receiving U.S. government assistance to access loans. This is a much broader indicator and it is not restricted like the Value of loans one is. You can report loans from any entity, not just banks. So any financial institution formal or informal. It also includes in-kind lenders of equipment or inputs; for example, inputs received on credit from agro-dealers can be counted. A farmer who was given assistance to get an in-kind loan of inputs can be counted under this indicator and it can count somebody who was assisted to receive a loan that he or she repaid either in cash or in kind.

Now you'll notice I said that the micro small and medium enterprise definition includes farmers for this indicator. The number of workers that farmers hire doesn't have to be a full time equivalent worker; it's just any hire of any laborer. You can count the farmer as a micro small medium enterprise and the size you

categorize that farm or enterprise under is based on the number of people that he or she hires. A farmer who doesn't hire any labor should be classified as a micro-enterprise.

Private Sector Capital Investment

Slide 32

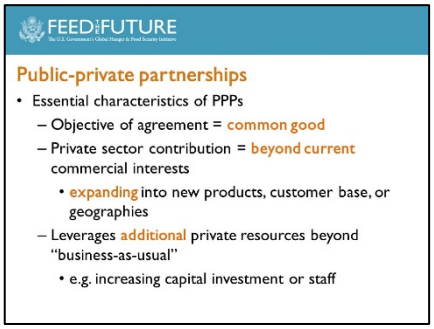


Say: Leveraging the resources of the private sector and working in collaboration with the private sector is a cornerstone approach of Feed the Future. The private sector capital investment leveraged as a result of FTF captures private sector investment leveraged across the board (not just within PPPs) but only for private sector for profit formal companies. Don't report the investments that are made by individuals. For example the value of some new irrigation equipment in which a farmer invests should not be reported under this indicator.

This indicator also only counts capital investment, and we have changed the name of the indicator to make that very clear. Capital investments are for durable items such as equipment and buildings. You should not count operating capital i.e. operating expenses to purchase the inputs or inventory, or to pay staff. None of that is a capital investment.

Public-Private Partnerships

Slide 33



Say: The next indicator is the number of public private partnerships that are formed as the result of Feed the Future assistance. We have had some pretty remarkable numbers reported under this indicator that weren't always necessarily aligned with the definition of the indicator. The essential characteristic of a public private partnership for this indicator is that the objective of the written formal agreement (which is required) between the partners is to achieve a common good that expands the private sector's partners' current commercial interests and helps leverage additional private resources beyond whatever the private sector partner

would have been doing under a business as usual scenario.

Several types of agreements have been mistakenly reported as PPPs under this indicator in the past. For example, purchase agreement between the firm and a product, a project beneficiary. That does not count as a public private partnership or investments made by a firm in its own business operations or loans made under a USAID loan guarantee. None of these count as the private sector contribution to a public private partnership. They can be really important strategies for achieving activity results but they do not count as public private partnerships.

Number of Jobs

Slide 34

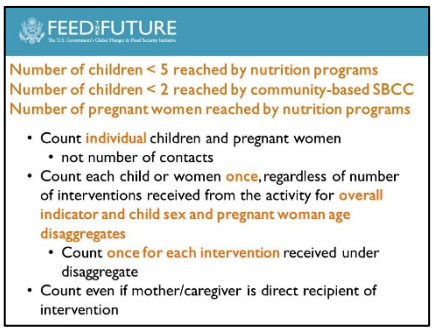
Say: This indicator is only applicable to activities that have specific-job creation objectives. Activities will usually measure these jobs at an assisted-firm level.

Jobs lasting less than one month are not counted in order to emphasize those jobs that provide more stability through length. If an IM has employment creation as an activity objective, and wants to report seasonal agricultural labor generated as a result of its activities under this indicator, it must be able to track the number of consecutive days per person generated so only employment for more than 30 consecutive days in length is counted. The IM should not sum person-days of seasonal agricultural labor generated over the production cycle(s) and divide by 260 to determine FTEs.

The definition of full-time equivalent is 12 months or 260 days.

Nutrition-Specific Program Coverage Indicators

Slide 35



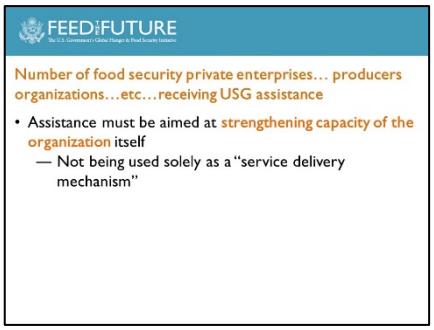
Say: Under the three nutrition-specific program coverage indicators, individuals need to be tracked and reported, not the number of contacts. For example, a child whose mother attended multiple Care Group interpersonal nutrition counseling

sessions is counted only once, not each time she attended a session. This example also illustrates that children are counted as reached even if the mother or caregiver is the direct recipient to the intervention, in this example, a child is considered reached by an SBCC intervention when her mother participates in the Care Group. We are essentially considering the mother or caregiver as the service delivery mechanism – they are the way that we reach the child.

A child or pregnant woman is counted once in the overall indicator or the sex disaggregate for children or the age disaggregate for pregnant women. Then each child or pregnant women is counted once for each type of intervention received under the Type of Intervention disaggregate.

Strengthening Capacity Indicators

Slide 36

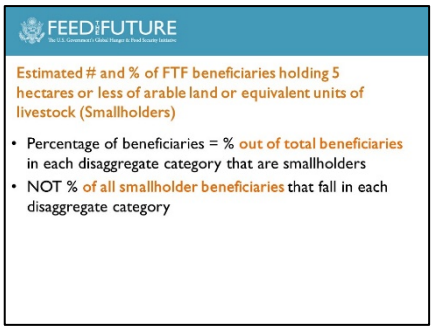


Say: Now I'm going to talk briefly about two other coverage indicators.

For an organization to be counted under the indicator of the number of food security private enterprises and producer organizations, borders group, women's group, etc., the assistance provided by the activity must be aimed at strengthening the capacity of the organization itself. You are not going to be counting a producer organization with which you are working only in order to reach its members. In other words, if the producer organization is a mechanism by which the activity delivers its services to farmers but the activity is not engaging in interventions aimed specifically at strengthening the capacity of the producer organization itself, it should not be counted under this indicator.

Number of Smallholders Reached

Slide 37



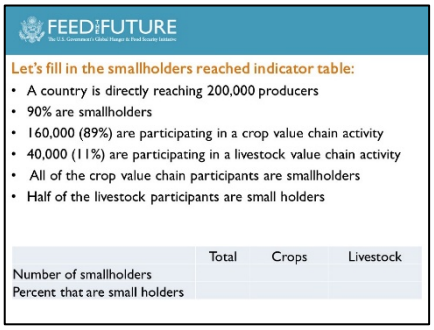
Say: Finally, the estimate of number of smallholders reached, while not an official indicator in our Handbook, is very important for FTF external and internal use and helps us justify FTF activities to key stakeholders. It is reported at a country-level, not by individual activities (although a mission could ask individual activities to track it to help them collect the information to report at a country-level). The indicator request both the number of total crop and of total livestock beneficiaries that are SHF and the percent of total crop and of total livestock beneficiaries that are SHF. The percent field does not ask what % of SHF are crop versus livestock.

If asked: We have no standard definition of smallholder fish farmer. Worldfish defines small-scale fish farmers in Aceh as having approximately 1 hectare, while in Bang it's much smaller. Include indicator note with the definition your OU is using.

10:45 am (15 mins.)

Individual Activity

Slide 38



Refer participants to their participant guide to complete the activity.

Say: We have a country directly reaching 200,000 producers, 90% of whom are smallholders. 160,000 of the 200,000 (89%) are participating in a crop value chain activity and 40,000 (11%) are participating in a livestock value chain activity. All of the crop value chain participants are smallholders while half of the livestock participants are small holders.

Ask: Write down the total number of small holds and the number of crops and livestock they manage.

Ask: Participants to call out their answers. Then ask someone who gave the correct answer to explain how he/she got it.

Show the next slide with the correct answers:

Slide 39

FEED THE FUTURE

Let's fill in the smallholders reached indicator table:

- A country is directly reaching 200,000 small holders
- 90% are smallholders
- 160,000 (89%) are participating in a crop value chain activity
- 40,000 (11%) are participating in a livestock value chain activity
- All of the crop value chain participants are smallholders
- Half of the livestock participants are small holders

	Total	Crops	Livestock
Number of smallholders	180,000	160,000	20,000
Percent that are small holders			

Review the answer: There are 180,000 total smallholders, 160,000 of whom are crop beneficiaries and 20,000 are livestock beneficiaries.

Ask: What goes into the next row (e.g., the percent of small holders and the percent of crops and livestock they manage).

Ask: Participants to call out their answers. Then ask someone who gave the correct answer to explain how he/she got it.

Show the next slide with the correct answers:

Slide 40

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Let's fill in the smallholders reached indicator table:

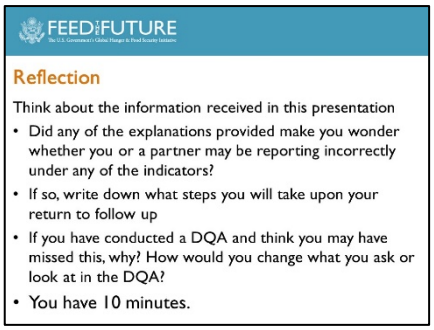
- A country is directly reaching 200,000 small holders
- 90% are smallholders
- 160,000 (89%) are participating in a crop value chain activity
- 40,000 (11%) are participating in a livestock value chain activity
- All of the crop value chain participants are smallholders
- Half of the livestock participants are small holders

	Total	Crops	Livestock
Number of smallholders	180,000	160,000	40,000
Percent that are small holders	90	100	50

Review the answer: The correct values for the percent part of the indicator are 90, 100 and 50. NOT 90, 89 and 11, because 89 is the percent of beneficiary producers that are in the crop value chain, not the percent of the crop value chain beneficiaries that are smallholders, and 11% is the percent of beneficiary producers that are in the livestock value chain, not the percent of the livestock value chain beneficiaries that are smallholders.

Individual Application

Slide 41

	 Individual Activity Refer participants to their participant guide to complete the individual application activity. Review the directions for the activity. Large Group Debrief the activity: • Ask the group if anyone will share an example of reporting incorrectly under an indicator. Have the group share why they might do to correct the error. • Ask the group if anyone conducted a Data Quality Assessment or DQA and what they might have missed. Have the group share how they would have changed what they asked or looked at.	
11:00 am (15 min.)	Break	

BIOGRAPHIES –

Anne Swindale, Senior Program Advisor – Monitoring and Evaluation in USAID's Bureau for Food Security, is an economist with more than 30 years of experience in technical assistance, research and project management in agriculture, food security, and nutrition strategy and program assessment, design, monitoring, and evaluation. She has a multi-sectoral background spanning agriculture, poverty, food consumption, and nutrition; and extensive experience with project management, program impact evaluation and performance reporting for USAID agriculture, food security and nutrition programs; and the collection, management, and analysis of large and complex primary income, expenditure, and consumption data sets from households and individuals. Prior to joining USAID in 2011, she was Deputy then Director of the USAID-funded Food and Nutrition Technical Assistance Project (FANTA) for 13 years. She also worked for the Consultative Group for International Agricultural Research International Potato Center in Peru and the Dominican Republic. She has a Ph.D. from the Fletcher School of Law and Diplomacy at Tufts University with a specialization in development economics and food, nutrition, and agricultural policies. She speaks Spanish.

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PERFORMANCE MONITORING

FACILITATOR'S GUIDE

USAID
FROM THE AMERICAN PEOPLE

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H. Materials, Supplies and Checklist

Session Materials

Session Four

- ☐ PowerPoint slides
- ☐ PIRS Templates (in participant guide)

Supplies

Have the following standard office supplies available:

- ☐ Pads of paper
- ☐ 5 x 7 index cards (different colors)
- ☐ Extra Pens
- ☐ Mr. Sketch markers (for facilitators and each table)
- ☐ Colored felt-tipped pens (for each table)
- ☐ Masking tape or painter's tape
- ☐ Suction cups for banners
- ☐ Paper clips
- ☐ Stapler and staples
- ☐ Scissors
- ☐ Post-It Notes (3x3, different colors)
- ☐ Chocolate (a must!!!)

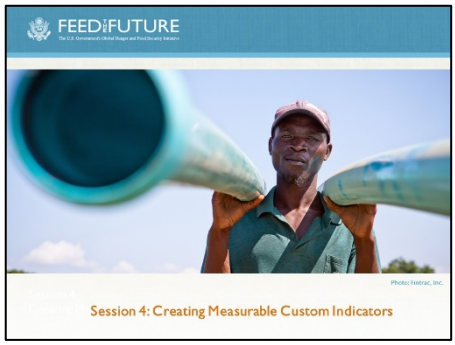
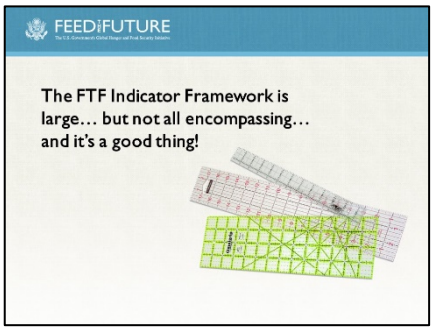
Equipment

- ☐ LCD project and screen
- ☐ Laptop loaded with course PowerPoint slides
- ☐ Internet access
- ☐ Speakers
- ☐ Remote for LCD projector/PowerPoints and extra batteries
- ☐ Microphones (if necessary)
- ☐ Flipchart stands and paper (one stand per table plus two stands for facilitators)
- ☐ Chimes to ring at breaks
- ☐ Camera for photos during session
- ☐ Note: Additional laptops are needed for individual sessions (see session list of materials)

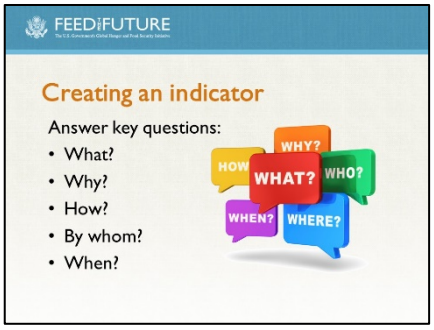
Session 4: Creating Measurable Custom Indicators

Session Goal:	Create custom indicators for FTF activities that are measurable
Learning Objectives:	• Recognize when you need to create a custom performance indicator and create measurable custom performance indicators • Identify and create measureable custom indicators to monitor your activity's performance
Session Length:	120 minutes
Session Materials:	• Session 4 slides • NUTSENAG Case Study • 4 PIRS templates

Facilitator Notes:

Time & Facilitator	Content/Activities	Materials
11:15am (15 min.)	**Slide 1**  Say: "But what if none of the standard indicators measure what you are trying to measure? That's where this session comes in. **Slide 2**  Say: FTF's indicator framework explicitly recognizes that the indicators we have identified do not constitute the entire universe of indicators that missions and implementing partners should use. Custom indicators developed by missions and IPs play a vital role in FTF's approach towards strategic, adaptive management. These custom indicators should be developed and used to measure parts of your results frameworks that are not addressed by adequate FTF indicators. These custom indicators should be created to measure changes at the outcome level and activity at the output level, where FTF indicators are either not present or inadequate given your specific interventions and the change you are seeking to measure. Here, let's quickly and briefly recall from our M&E 101 days, best practices for indicator development…	

Slide 3



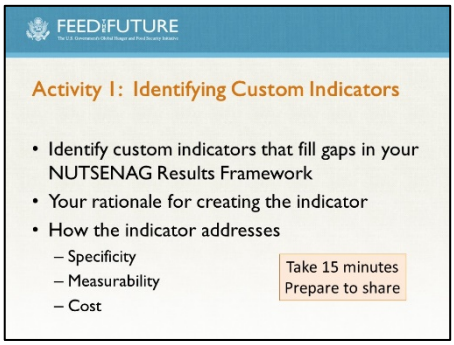
Say: When creating an indicator you need to ask yourself:

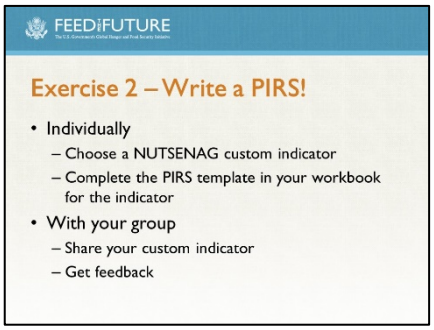
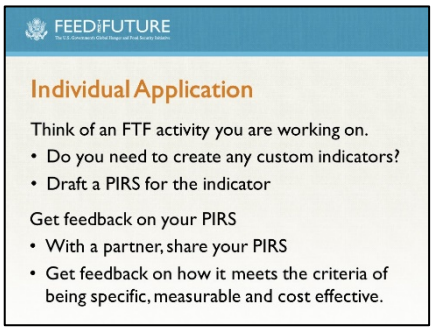
- What am I trying to measure? E.g. Increased sales of groundnut
- Why am I trying to measure it? E.g. because it tells us whether the farmer's income is rising
- How am I going to collect the data on sales? E.g. through a beneficiary based survey asking for farmer recall
- Who is going to collect this data and create the computation? E.g. the IP
- When will the data be collected? E.g. annually

Slide 4

Say: Remember to keep in mind to:

- Be specific about the units of quantity you will observe, e.g. Kgs.
- Make sure that what you want to observe is actually measurable – e.g. an actual sale of commodities is measurable, but a future sale without a binding contract for it, is not.
- And make sure to consider the cost of data collection! If the monetary cost, and the time burden is too high, then either the indicator may be discontinued in the future, or you may run the risk of creating a data quality hazard.

11:30 am (30 min.)	**Group Activity – Exercise I** **Slide 5**  **Directions:** Say: Let's go back to your NUTSENAG Results Framework. If you recall, you identified gaps in the RF, where implementing mechanism level FTF indicators were not present to allow you to measure your work. Now, you will get in your groups and identify the custom indicators you will need to develop to fill up those gaps so that you more completely monitor the project's performance and practice successful adaptive management. You have 15 minutes to identify and discuss the custom indicators you would create to fill gaps in your NUTSENAG Results Framework and your rationale for creating the indicator, including how the indicator fills a gap in the NUTSENAG RF and how the indicator addresses the three principles of specificity, measurability, and cost. **Debrief:** • Have each group share their custom indicator. • Compare/contrast indicators. Note: Potential indicators may include: • Volume, value of soy & groundnut production • Yield of soy and groundnut • #smallholders accessing market information systems • MAD indicator at NUTSENAG beneficiary level • WDD indicator at NUTSENAG beneficiary level • EBF indicator at NUTSENAG beneficiary level • % children 6-23 months consuming soy/groundnut • % women 15-49 yrs consuming soy/groundnut • #malnourished children under five referred to health post for evaluation • #children under five screened for malnutrition	NUTSENAG Case Study

12:00 pm (30 min.)	**Individual – Exercise 2** **Slide 6**  ***Individual Activity*** Say: Now, let's get some practice in really getting into the weeds of indicator development, so that you get some practice in thinking through how to define and measure a custom indicator. Often it happens that as you really work through an indicator, you find that it is, in fact, not going to be possible to measure, or that perhaps data collection would be too expensive. So, let's have you give a try at this. Working individually now, choose a custom indicator that your team identified. Using the blank PIRS template provided in your participants guide, complete the PIRS for it. ***Small Group Activity*** Say: Once you are done, discuss your PIRS with others in your group. What are the strengths and weaknesses of your PIRS? What are the strengths and weaknesses of theirs?	PIRS template
12:30 pm (60 min.)	**Lunch**	
1:30 pm (15 min.)	**Individual Application** **Slide 7**  ***Individual Reflection:*** Say: Think of an FTF activity you are working on. Do you need to create custom indicators? Think about what gap the indictor is filling? Draft a PIRS making sure it meets the criteria of being specific, measurable, and cost effective. *Pair Share:* With a partner, share your PIRS and get feedback. ***Debrief:*** Ask 2 or 3 participants to share the PIRS they created giving their rationale.	PIRS template

SPS LOCATION: INITIATIVE AFFILIATION:	
INDICATOR TITLE:	
DEFINITION:	
RATIONALE:	
UNIT:	*DISAGGREGATE BY:* Technology type: Sex: FTFMS-only disaggregate:
TYPE:	*DIRECTION OF CHANGE:*
DATA SOURCE:	
MEASUREMENT NOTES: ➢ LEVEL OF COLLECTION: ➢ WHO COLLECTS DATA FOR THIS INDICATOR: ➢ HOW SHOULD IT BE COLLECTED: ➢ FREQUENCY OF COLLECTION:	

BIOGRAPHIES –

Salik Farooqi serves as Technical Advisor for Monitoring, Evaluation & Learning in the Bureau for Food Security, and oversees the Bangladesh portfolio. He also developed, and now manages, the flagship Feed the Future Monitoring, Evaluation, and Learning mechanism, PEEL. Salik joined the Bureau in September 2012 as a Presidential Management Fellow. A few weeks prior to coming on board, he completed his PhD in Sociology and Public Policy at the University of Michigan with a successful defense of his dissertation in which he conducted a sociological analysis of development effectiveness. Salik earned his Bachelor's degree in Economics and Political Science at McGill University in Montreal, Canada and his Juris Doctorate at William and Mary School of Law, where he focused on International Law.

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H. Materials, Supplies and Checklist

Session Materials

Session Five

- ☐ PowerPoint slides
- ☐ Computers loaded with Setting Targets Worksheet (participants)
- ☐ Setting Targets Worksheet for Participants (in Participant Guide)
- ☐ Setting Targets Worksheet for Facilitators (in Participant Guide)

Supplies

Have the following standard office supplies available:

- ☐ Pads of paper
- ☐ 5 x 7 index cards (different colors)
- ☐ Extra Pens
- ☐ Mr. Sketch markers (for facilitators and each table)
- ☐ Colored felt-tipped pens (for each table)
- ☐ Masking tape or painter's tape
- ☐ Suction cups for banners
- ☐ Paper clips
- ☐ Stapler and staples
- ☐ Scissors
- ☐ Post-It Notes (3x3, different colors)
- ☐ Chocolate (a must!!!)

Equipment

- ☐ LCD project and screen
- ☐ Laptop loaded with course PowerPoint slides
- ☐ Internet access
- ☐ Speakers
- ☐ Remote for LCD projector/PowerPoints and extra batteries
- ☐ Microphones (if necessary)
- ☐ Flipchart stands and paper (one stand per table plus two stands for facilitators)
- ☐ Chimes to ring at breaks
- ☐ Camera for photos during session
- ☐ Note: Additional laptops are needed for individual sessions (see session list of materials)

Session 5: Defining Beneficiaries, Baselines and Targets

Session Goal: Define and identify beneficiaries, baselines and targets

Learning Objectives:

- Identify direct and indirect beneficiaries
- Recognize whether a baseline is required
- Identify the beneficiary universe for collecting baseline data
- Understand methods to collect baseline values and the strengths and limitations of each
- Learn approaches to setting targets

Session Length: 180 minutes

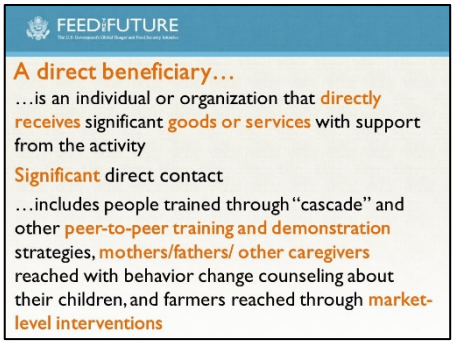
Session Materials:

- Session 5 slides
- Laptops
- Setting targets
  - Computers loaded with Setting Targets Worksheet (participants)
  - Setting Targets Worksheet for Participants
  - Setting Targets Worksheet for Facilitators

Facilitator Notes:

Time & Facilitator	Content/Activities	Materials
Pre-work	Load Setting Targets Excel Worksheet on computers	
1:45 pm (30 min)	**INTRODUCTION** **Slide 1**  Say: In this session we will look at: o Identifying direct and indirect beneficiaries o Recognizing whether baseline data is required and if it is required, how to collect these data o Establishing activity targets **Slide 2**  Ask: Can anyone describe any of the criteria you use to determine whether an individual is a direct beneficiary of an FTF activity? *Record their responses on a flipchart.* Ask: Why do you think it is important to be able to differentiate direct from indirect beneficiaries for FTF activities? In the first part of this session you will make sure you thoroughly understand who is considered a direct and who is considered an indirect beneficiary of a FTF activity. This distinction is critically important, because all of our activity-level indicators measure direct beneficiaries, and we want to make sure each activity that reports on these indicators is measuring the same thing.	

Slide 3



Compare answers given by participants and recorded on the flipchart with the definition.

Say: A direct beneficiary receives significant goods and/or services with support from the activity. Goods are things like inputs, loans, and vitamin or food supplements; and services include things like extension, technical assistance, marketing and other business development services, nutrition counseling, screening for acute malnutrition, and literacy and numeracy training.

The contact with the activity needs to be significant. Significant means that it is enough to make a meaningful contribution to the beneficiaries being able to achieve an outcome the activity wants to help them achieve. That means people who are only lightly exposed to something a project does, such as attending a sensitization meeting or community theater presentation, hearing a radio message or seeing a poster in the health clinic or input suppliers shop, but who do not interact further with the activity, meaning he or she does not receive other benefits that are part of a package that follows from or complements that initial exposure, should not be counted as direct beneficiaries.

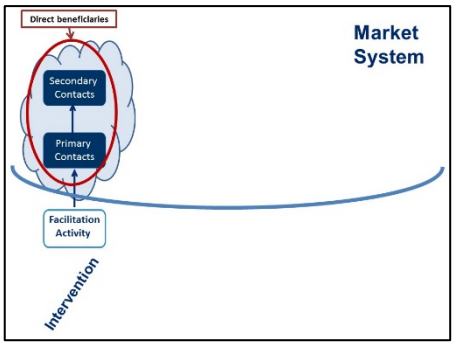
I know there can be temptation to interpret the definition of direct beneficiary broadly, to show that your activities are reaching lots of people and achieving high coverage levels (especially during things like portfolio reviews that place a lot of importance on the levels of coverage being achieved). However, doing this is a double-edged sword. Why? Because reaching beneficiaries is just step one in your theory of change and RF. We expect that you are reaching direct beneficiaries with effective packets of interventions and that this will lead to changes in outcome indicators among those direct beneficiaries. So while it can be tempting to cast as wide a net as possible in defining who is a direct beneficiary so you can show large numbers and high levels of coverage of smallholders or mothers or children, remember that we will then expect that large proportions of that number, of those direct beneficiaries, will eventually apply improved agricultural or feeding practices, and see their gross margins, sales and dietary diversity go up. Missions and implementing partners will need to be able to set targets for outcome indicators such as application of improved technologies, gross margins, incremental sales, or improved feeding behaviors, and then track and report on those indicators across that whole population you have defined as direct beneficiaries. And, very important, to then be held accountable for achieving the outcome targets among those beneficiaries, understand and explain why targets are not being achieved, and adapt and adjust your programming to achieve the targets, all when you're not really providing a significant, comprehensive set of services to them.

Note that the definition doesn't say that a direct beneficiary receives the good or service directly "from" the activity. This means that the good or service doesn't

have to be provided directly by a paid staff member of the implementing partner. In general this should be pretty obvious. Most of our activities reach beneficiaries by working through local markets, organizations and individuals, first because we want to sustainably build local capacity and leave behind strong local systems, structures and organizations that can continue to provide needed goods and services long after we leave, and second, because we would never have enough money to have implementing partners pay staff directly to provide the necessary goods and services to all the people we want to reach.

There are a number of strategies and mechanisms through which activities deliver goods and services to beneficiaries. One very common service delivery mechanism is training people who then demonstrate, train, counsel or provide other services to others. Examples include lead farmers and care group lead mothers. It also includes reaching a child through his or her mother or caregiver – something I mentioned in Session 3 when talking about the nutrition-specific coverage indicators. An activity's direct beneficiaries include the people it trains directly – the lead farmers and lead mothers. It also includes all the people that those people it trained go on to train, who make up the majority of the activity's direct beneficiaries. So when we work to train, for example, a lead farmer who then continues and passes on his learning to other members in his community as part of a planned service delivery strategy of the project, both the lead farmer and the farmers that the lead farmer trained during the farmer field schools, for example, are considered direct beneficiaries. The lead farmer has to have direct, intentional contact with those other farmers for them to count as direct beneficiaries.

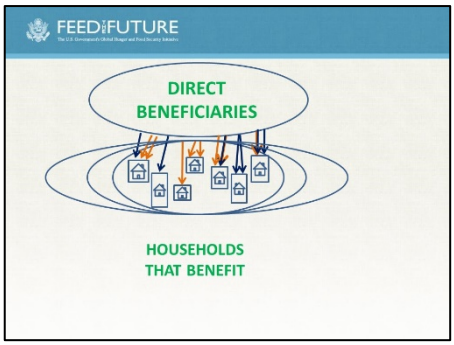
Slide 4



Slide is animated.

Say: Another very common approach to reach our direct beneficiary smallholder famers is through value chain facilitation activities. These types of activities aim to transform market systems by identifying and helping to eliminate or lower barriers and constraints and stimulate the efficient functioning of input and output and service markets through strategic targeted interventions that facilitate without becoming a direct part of the chain. So, for example, an activity helps link an agro-input firm and a source of credit that helps eliminate a financial constraint that was preventing the agrodealer from expanding a network of roving community-level input agents. The expanded network of input agents brings the inputs closer to the farmers, eliminating the long distance to the agrodealer that was preventing many farmers from accessing inputs. In this case, CLICK the agrodealer is the facilitation activity's primary contact and, through its agents, CLICK the farmers are the secondary contact. *CLICK* Both of these contacts are considered direct beneficiaries.

Slide 5



The slide is animated. The above graphic is a simplified version of the animated slide.

Say: In addition to knowing who is a direct beneficiary, you also need to know what qualifies a household to be counted as having benefitted from Feed the Future.

Ask: Does anyone remember the criteria from Session 3?

Answer: A household is considered to have benefitted from FTF if the household has at least one member who is a direct beneficiary.

Ask: So, do you think that an indicator that counts the number of direct beneficiaries will give you the same value as one that counts the number of households that benefitted?

Ask: Will the number be *CLICK* less, *CLICK* the same, *CLICK* or greater? *CLICK*

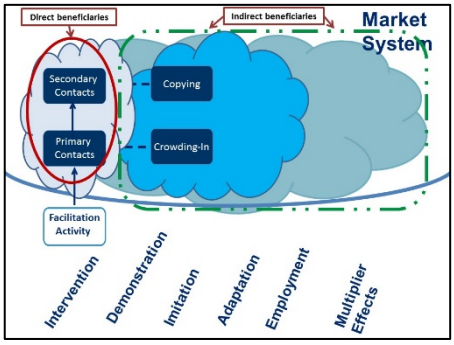
Say: Let's think about NUTSENAG. We have two main interventions under the activities: value chain interventions working with producers, and care group nutrition interventions working with pregnant women and mothers of children under two. If we add up all the producers and all the pregnant women and all the mothers of children under two and all the children under two, does that equal the number of households that benefitted?

No, of course it doesn't. Usually you have at least some, and perhaps quite a few, households that have more than one beneficiary. In NUTSENAG, we could have a *CLICK* household with just a value chain producer beneficiary and *CLICK* another that has two producer beneficiaries. That's 3 beneficiaries and two households. *CLICK* then we have two households, one with a mom and a toddler and another with a pregnant woman, but neither with a producer participating in the value chain activity. That's three more beneficiaries but only two more households. *CLICK* Then we have a household with a producer dad and a mom with a baby, *CLICK* and another with a producer mom and an 18 month old, *CLICK* and a household with a pregnant producer and her producer spouse. You get the idea. *CLICK* the number of households benefitting is usually less than the number of an activity's direct beneficiaries.

What this also illustrates is how important it is for an activity to be able to track its beneficiaries and link those beneficiaries to households so that it can produce an accurate number of households benefitting without double-counting for that required if applicable (and it's almost always applicable) indicator. Knowing that this will be necessary from the beginning is useful so partners can put in place systems that allow them to do this tracking, for example, by generating and assigning unique beneficiary IDs that combine a household ID and a household member ID so

individual direct beneficiaries across interventions can be linked to their households.

Slide 6



Slide is animated.

Say: Now, let's talk about indirect beneficiaries.

Ask: Who do you remember are the direct beneficiaries of a value chain facilitation or market system activity?

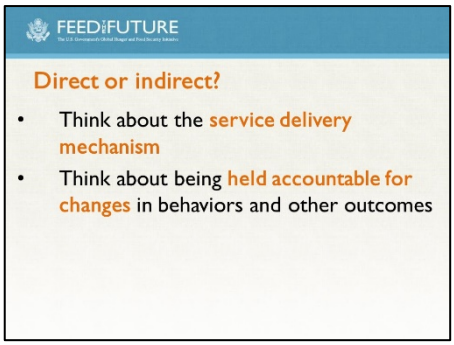
Ask: Can you think of who might be considered indirect beneficiaries of this kind of activity?

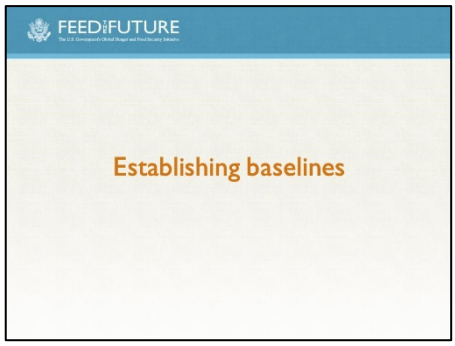
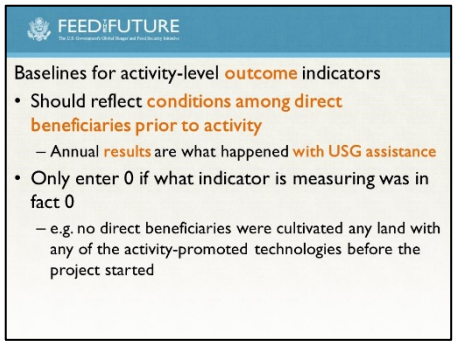
Say: *CLICK* Indirect beneficiaries include other agroinput dealers that see how the network of agents has increased sales of the original agroinput dealers and other kinds of firms that see potential in adapting the community agent networks to expand the customer base for their related products or services. Indirect beneficiaries in this case – and in the lead farmer case we just talked about – also include "**spill-over and diffusion**," or copying, e.g., those who apply improved technologies based on observing the lead farmer or one of his direct beneficiaries or who see the results achieved by farmers who purchased inputs and applied the technical advice on good agricultural they got from the agents and decide to copy those farmers (imitation is the sincerest form of flattery).

CLICK The more indirectly other people in the area benefit from increases in jobs due to farmers hiring more labor and other non-farm families and businesses in the rural economy also benefit from the increased demand for goods and services of many types generated by the increased income of the direct and indirect beneficiary firms and farmers.

Clearly, indirect beneficiaries and the processes that generate them are incredibly important. They're important for spread. They're important for sustainability. They're important for us to reach the population level impacts that we're trying to achieve in our zones of influence. In fact our development hypothesis depends on these processes and indirect effects happening. We want to know and are working on ways to measure indirect beneficiaries and benefits of our activities. But, to go back to the start of this presentation, what do our FTF activity-level indicators measure...??? for our all of the FTF activity level indicators.

Slide 7

	 As mentioned in Session 3, FTF indicators measure direct beneficiaries. Ask: Can anyone list any criteria we use to determine whether an individual is a direct beneficiary on a FTF activity? Ask: Does anyone remember what qualifies a household to count as having benefitted from an FTF activity? Ask: Can anyone provide an example of an indirect beneficiary?	
2:15 pm (30 min.)	**Individual Application Exercise** **Individual Reflection** Say: In your participant guide, complete the application exercise for defining beneficiaries, baselines and targets. Think about an FTF activity you are working on. List the direct beneficiaries. List the indirect beneficiaries. **Pair-Share** Say: With a partner, share your activity and your list of direct and indirect beneficiaries. Explain why you put beneficiaries as either direct or indirect. Does your partner agree with your categorization? If not, listen to their interpretation and decide if you want to change your lists. **Plenary** Ask 2 or 3 people to share their lists and highlights of their pair-share discussion.	
2:45 pm (15 min.)	**Break**	

3:00 pm (30 min.)	**Establishing Baselines** **Slide 8**  Say: Now we are going to talk about the first set of data you will be required to collect for the indicators you have selected. The baseline. **Slide 9**  Say: Baselines are required for all indicators. They are very easy to set for output indicators, like number of people trained. Ask: Since output indicators count things directly produced by the project, and those things aren't being done before the project starts, what do you think the baseline for output indicators should be? Answer: The baseline for all output indicators is 0.	

Say: The situation is different for outcome indicators, because they capture the status of an existing condition or situation among the direct beneficiary population before the activity starts. For example, how many beneficiaries were already using certified seed before the activity started? What gross margin did beneficiaries receive for maize in the production season before the activity started working with them? How much maize did they sell? In many if not most cases, the baseline for outcome indicators will be some positive number and not zero.

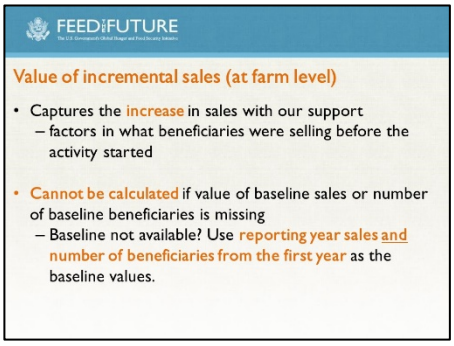
Ask: Can you think of any situations where the baseline for an outcome indicators would legitimately be zero?

Answer: You should only enter a zero baseline for an outcome indicator when in fact the value of the indicator pre-activity was zero. For example, not a single beneficiary was applying a practice, or not a single beneficiary sold the targeted commodity.

Say: We do have a couple of outcome indicators that are exceptions to this rule – one is the number of jobs generated with USG assistance indicator and another is private sector capital investment leveraged, because it does not matter how many jobs or investments there were before the activity – we are solely interested in the additional jobs or investments leveraged by our support.

People have often said that all outcome indicator baselines should be zero because the indicator title says "with USG assistance" and there was no USG assistance before the activity started. However, what's important to remember is that the baseline isn't a result. And it's the results reported under the indicator that are "with USG support", not the situation that existed prior to the activity. It is very important that we document what that status of the indicator was before we started, to make sure we do not claim as a result something that we had nothing to do with as evidenced by the fact that it existed already before we started. And if baseline values for application of improved technologies and practices did come back showing that large proportions of beneficiaries already applied a particular technology or practice, we'd probably want to reassess whether we are focusing on the right set of technologies to promote.

Slide 10



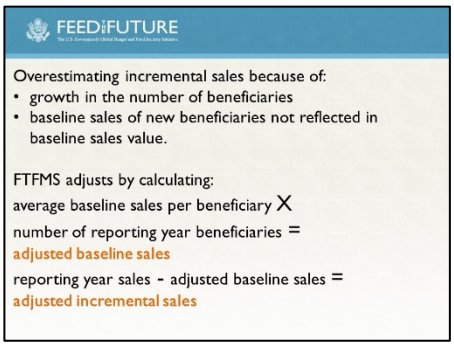
Say: Outcome indicator baselines are important for the reasons I just explained. However, a baseline value of sales and number of beneficiaries is absolutely essential for the incremental sales indicator. Without these two data points, the indicator cannot be calculated.

Incremental sales captures increases in sales due to our activity by factoring into the design of the indicator what beneficiaries were selling before the activity

started. This is because we wanted to be able to talk about the additional or increase in sales as a result of our interventions and not claim credit for sales of a particular value chain commodity that a beneficiary may already have had prior to our activities.

Now, because when we introduced these indicators some activities were already ongoing, our advice was that, if you did not have data on the baseline sales of your beneficiaries, you could use the reporting year sales and number of beneficiaries from the first year that you reported against the indicator as the baseline, recognizing that that would somewhat underestimate total incremental sales. We figured it was still better to do that than to be unable to calculate the indicator at all -- which is the case if there are no baseline sales or number of baseline beneficiaries. I suspect this should no longer be that much of an issue since most of our existing activities have now started after the requirement for the baseline sales and beneficiaries were there. So we don't anticipate this to continue to be an issue but just in case we do have guidance on what to do if you are missing your baseline sales.

Slide 11



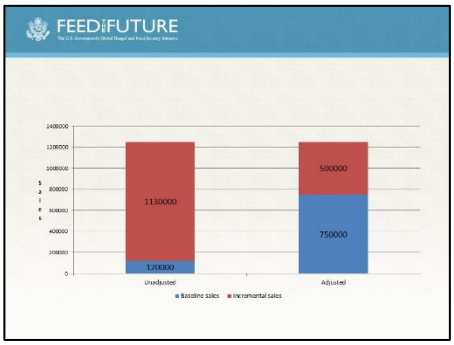
Say: Another thing we've learned over time is that the way the indicator was originally set up led to an overestimation of incremental sales. That is because for many, many activities the number of beneficiaries in the first year is not the sum total of beneficiaries that are going to be reached over the life of the activity. Most activities have growth in the number of beneficiaries over time. And what was happening is that we were taking the total sales in the reporting year of all the beneficiaries and subtracting out the baseline sales of a much smaller number of beneficiaries and that lead us to overestimate the amount of incremental sales. So we programmed FTFMS to calculate an adjusted baseline sales estimate by calculating the average baseline sales per beneficiary based on the baseline sales and number of baseline beneficiaries, and then multiplying the number of the reporting year beneficiaries by the average baseline sales per beneficiary, to calculate an estimate of what the baseline sales would have been for all of the beneficiaries being reported on in the reporting year. FTFMS then subtracts that adjusted baseline sales value from the reporting year sales to get an adjusted incremental sales value.

Individual Activity - Calculating Unadjusted and Adjusted Incremental Sales

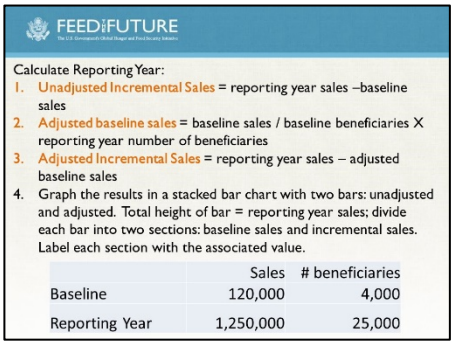
Say: Next I'm going to ask each of you to take 10 minutes and calculate unadjusted and adjusted incremental sales in the scenario on the next slide and graph your answer as a stacked bar chart, with baseline sales on the bottom and incremental sales stacked on top and with labels that reflect the amount in each bar section. The total height of the bar will be equal to reporting year sales. Here's

an example of what your answer should look like.

Slide 12

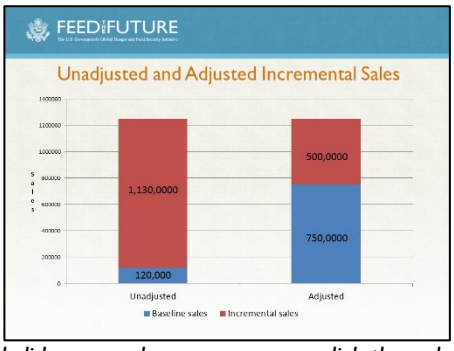


Slide 13



Review the instructions on the slide.

Slide 14



Animated slide – reveals answers as you click through the slide.

Ask: What value did you get for unadjusted baseline sales?

Click to show answer: 120,000.

Ask: What was the value for unadjusted incremental sales did you get?

Click to show answer: $1,130,000, which is reporting year sales of $2,250,000 minus the unadjusted baseline sales of $120,000.

Ask: Now, what value did you get for adjusted baseline sales?

Click to show answer: $750,000.

Ask someone who had the correct answer: Can you explain how you calculated that?

Answer: Baseline sales per beneficiary is $30 times reporting year number of beneficiaries (25,000) equals 750,000)

Ask: If adjusted baseline sales are $750,000, what is the adjusted incremental sales value?

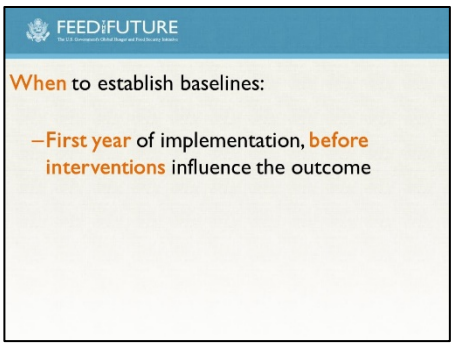
Click to show answer: $500,000

Say: $500,000 is reporting year sales of $2,250,000 minus the adjusted baseline sales of $750,000. This result may look a little bit exaggerated but in fact it's not. We have seen growth in beneficiaries like this example from 4,000 in a baseline year to more than 25,000 in year one or two or three, with incredible growth in the value of sales that are being reported in that reporting year. And the old way we used to calculate it, we would have come up in this example with a reporting of $1.13 million in incremental sales because we would be assuming that the $120,000.00 that we calculated at baseline represented the value of baseline sales for that entire 25,000 beneficiaries. You can see that that really doesn't make sense to assume that.

So after doing the calculation and inputting the average baseline sales per beneficiary to all 25,000 beneficiaries you can see that we have a much larger estimate of adjusted baseline sales which leaves us with what we hope is a more realistic and defensible estimate of the additional sales as a result of our activities of $500,000.00. It's still a lot of sales. We are still reporting an impressive amount of sales in our progress report but we feel much more comfortable in being able to defend the value that we are reporting as a more accurate representation of what the increase in sales has been with the support provided by our activity.

Continue Presentation

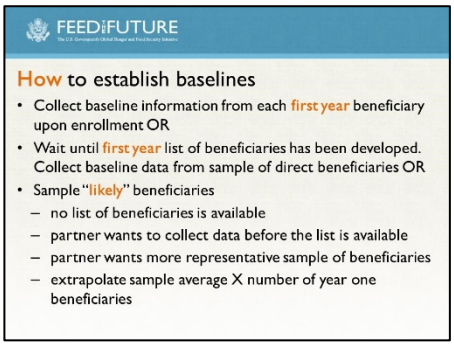
Slide 15



Say: All this means that partners need to conduct a baseline data collection exercise during the first year of activity implementation, designed to measure the situation with regards to the activity's outcome indicators among direct beneficiaries before whatever the indicator is measuring is influenced by the

support provided by the activity. For many of our indicators, this means partners collect data that refers to the agricultural season prior to when the activity started to provide support such as training, facilitating access to inputs or markets. While they may result in them having different recall periods for baseline compared with annual reporting, e.g. the baseline could be conducted before planting commences for the current production season so baseline will have 8-12 month recall to the previous season, while annual reporting may collect data right after harvest and/or after period when bulk of sales have occurred, so the recall period will be much shorter. But that's ok, we can live with this inconsistency.

Slide 16

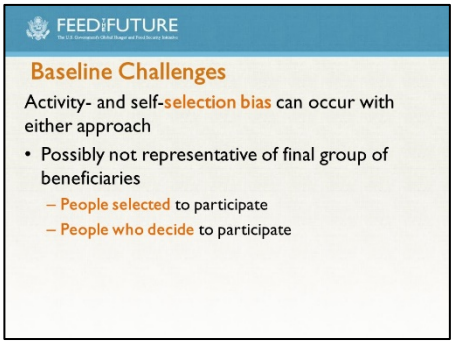


Say: Because our activity-level indicators measure direct beneficiaries, the baselines need to reflect conditions among our direct beneficiaries prior to receipt of activity interventions. And, since baselines need to be established in the first year of implementation, this has meant that baselines are established by measuring the conditions of the direct beneficiaries of the activity's first year. Until recently we'd advised that activities wait until they had the list of first year beneficiaries and use that list to establish the baseline (if the partner wasn't collecting baseline information on an on-going basis as new beneficiaries enrolled during the first year.) We advised that partners do this rather than conduct a survey of likely beneficiaries because we were concerned about potential bias.

But partners often want to do a survey of likely beneficiaries because they don't have a list of beneficiaries or don't want to wait until one is fully created, or if they feel a survey will give a more representative baseline of their eventual set of beneficiaries. Because most of our annual indicators are totals, in these cases partner need to extrapolate survey averages to beneficiary totals using the sample weighted average times the number of year one beneficiaries as opposed to the sample weighted total because the sample frame usually covers a population larger than targeted direct beneficiary population, e.g. if sample frame is all farm households in ZOI, sample weighted totals would reflect estimates of totals across ZOI, e.g. estimate of total sales of soy at ZOI level, estimate of total number of producers applying improved technologies, and then all out year targets and actual results would likely be lower than the baseline unless activities are going to reach close to 100% ZOI coverage.

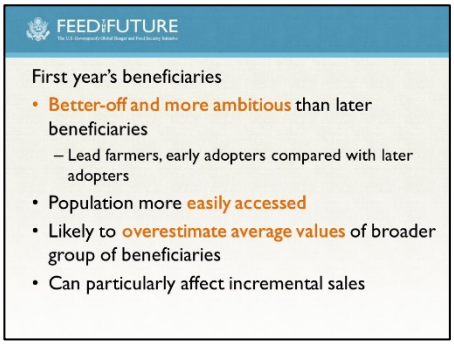
But experience has shown that bias is possible with either approach.

Slide 17



Say: Either approach can result in baseline values being collected from a group that ends up not really representing the final group of beneficiaries and therefore not representing what the baseline conditions really were for that final beneficiary group. This is because there are likely to be two types of selection processes going on, by the implementing partner and by the potential beneficiaries themselves.

Slide 18

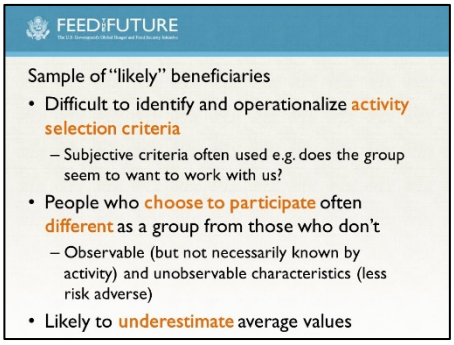


Say: The set of first year beneficiaries may be better off or more ambitious than those who join (or are provided the opportunity to join) the activity in subsequent years. First year beneficiaries may be more willing to take risks. Many of them may be those selected as lead farmers. They may be more accessible to the activity e.g. to roads, so the activity starts working with them first then rolls out to harder-to-reach places in later years. This can lead to the baseline values for this group being higher than for subsequent beneficiaries, which can particularly affect incremental sales.

Ask: Given the exercise you just completed, why do you think would be the effect of establishing baseline sales from a group that has higher than average sales compared to subsequent beneficiaries? For example, where the first year beneficiaries were all already selling a good amount of the commodity, but most of the beneficiaries added in year two never had any surplus to sell before and are only just starting to apply the improved technologies that will lead to a marketable surplus.

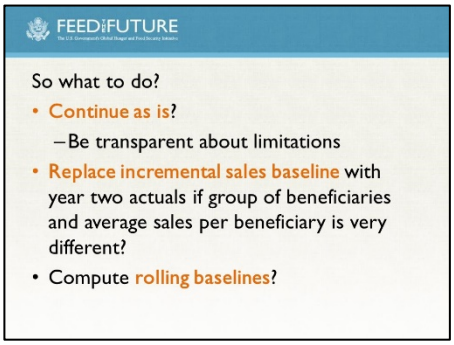
Answer: It could lead to negative incremental sales if the average baseline sales per beneficiary was higher than the average reporting year sales of the beneficiaries that include a large number who are not selling or selling very little.

Slide 19



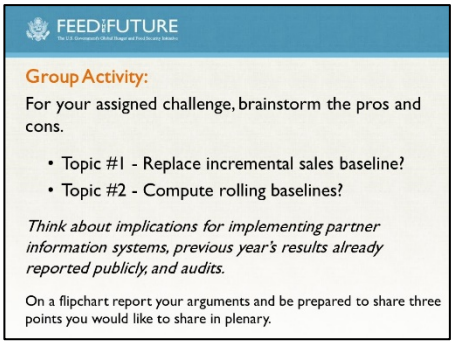
Say: The bias is likely to be in the other direction with the sample of "likely" beneficiaries because the sample will likely include people who do not meet an activity's selection criteria or who would not choose to participate if given the opportunity to do so. And those people may very well be less productive in general. So this is more likely to underestimate average values for the final group of beneficiaries (This at least is my hypothesis -- we haven't actually tested this empirically.) It is very difficult to conduct a survey that screens in only respondents that would meet an activity's criteria (assuming the activity has them) and who would choose to participate if given the opportunity. That's because not all of an activity's selection criteria or an individual's self-selection criteria or characteristics are objective and easily observable. And partners may not even know beforehand what sort of observable characteristics make someone more likely to choose to participate in the activity. Note, this is also an on-going challenge for impact evaluations as researchers try to identify control or comparison groups in the absence of randomization.

Slide 20



Say: So what to do? For now we intend to continue with current guidance to set your baselines using year one beneficiaries or (still less preferred) a sample of likely beneficiaries if necessary.

Other options include replacing, on a case-by-case basis, an activity's incremental sales baseline with its year two actuals if there's large increase in the number of beneficiaries in the second year, and average value of the indicator or data point per beneficiary is significantly lower than baseline average per beneficiary. This would be only if the mission knows it's due to partner coverage expanding into a significantly larger but poorer/less productive group than the much smaller and more productive group of first year beneficiaries - e.g. 24,000 second year beneficiaries largely composed of farmers producing and selling soy for the first

	time compared to 2,000 baseline/year one beneficiaries, most of whom were already producing soy and selling to one of the country's small processing plants. Or compute rolling or updated baselines every year and either go back and change the baseline every year, or change FTFMS data entry so that each year the implementing partner could enter a baseline and reporting year sales.	
3:30 pm (30 min.)	**Group Activity – Incremental Sales Baseline and Rolling Baseline** **Slide 21**  Directions: • Divide into small groups. • Assign ½ the groups the first bullet point – replace incremental sales baseline – and ½ the groups the second bullet point – compute rolling baselines. • Each group needs to brainstorm the pros and cons of their topic and record their arguments on a flipchart. Say: Think about implications for implementing partner information systems and tracking requirements, previous year's results already reported publicly, and auditors wanting to replicate our results. You have 20 minutes to complete the exercise. Record your thoughts on the flip chart and identify THREE points you'd like to share with the group. If you think of other ideas also record them and their pros and cons. Potential answers: • Topic #1 - This will significantly overestimate incremental sales for year one beneficiaries for the life of activity (annually by the difference between the original baseline value and the revised baseline value times number of baseline beneficiaries) and underestimate incremental sales in year two unless partner collects both baseline and reporting year sales. • Topic #2 - This will require partners to track separately the baselines for each cohort of beneficiaries and compute weighted averages each year.	Flipchart, paper and markers (1/table)

4:00 pm
(45 min.)

SETTING TARGETS

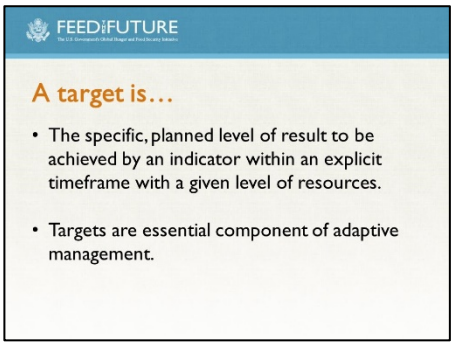
Slide 22

Transition from baselines to setting targets.

Slide 23

Read the topics on the slide that the session will cover.

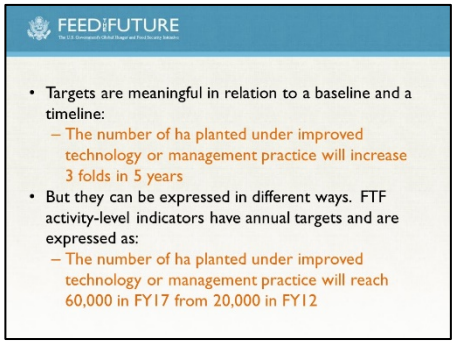
Slide 24



Say: The definition of a target is "the specific, planned level of result to be achieved by an indicator within an explicit timeframe with a given level of resources." Targets are essential component of adaptive management.

Ask: How are targets important for adaptive management? *Allow group to explore the question.*

Slide 25



Say: A target is meaningful in relation to a starting point and a timeline, although it is not always "expressed" in relation to a baseline.

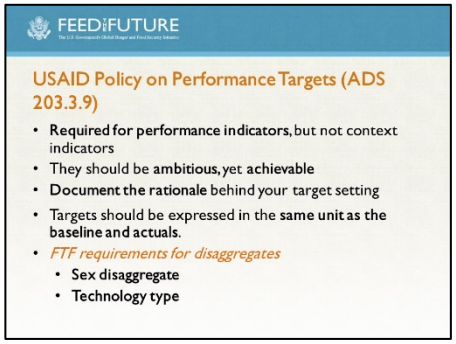
The starting point or baseline: All of our indicators have a baseline (refer to Anne's previous presentation).

Our output indicators are defined in such a way that all baseline are zero.
Our outcome indicators have a baseline that should be measured and usually will be non-zero.

Timeline: FTF activity-level indicators should have annual targets. This is how we've defined them. You could have a custom indicator that would be useful for tracking a specific intervention with a different periodicity. Quarterly targets may be useful to track a process of some sort, or on the other hand, in some case, longer time intervals between targets may be necessary. We are not discussing population-based indicators here, but these are examples of indicators where annual targets don't make sense. We don't expect stunting and poverty to meaningfully change in a year.

Useful here to discuss an indicator tracking a policy reform process? The activity manager may want to define an indicator that would allow her to track a calendar established for enacting a reform by a certain time (or anything else – A DG activity leading to an election for instance). But note that our policy indicator is still defined with an annual periodicity for the target. We are counting the number of policies that have completed each of the pre-defined steps at the end of the each year.

Slide 26



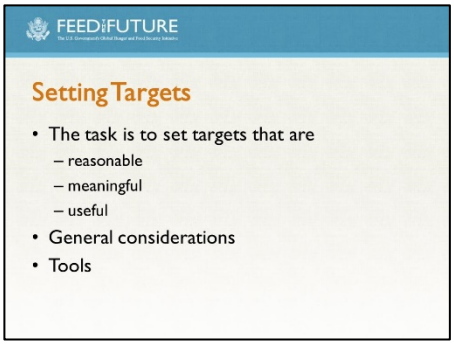
Say: This is to tell you what the ADS says about targets Note the 3rd bullet. It is extremely important to document the rationale and steps followed to set targets,

not only for others but also for yourself, as we forget what information we've had and how we use it to determine these things.

FTF requires targets for every indicator, although for complex indicators, such as gross margins, we don't require targets for each data point, but only for the aggregate value. Note that it may be useful for implementing partners and possibly activity managers at the Mission to set or determine indicative targets for the individual data points, such as number of hectares planted and yield, as a monitoring tool. But we don't require them.

We do require sex-disaggregated targets for all of our indicators as well as targets by technology type, as in number of farmers and others who have applied new technologies and number of hectares under improved technologies.

Slide 27

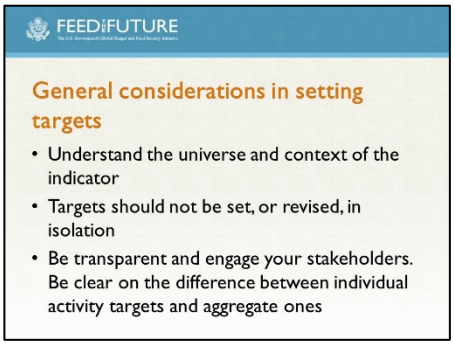


Say: Now to setting targets for your indicators. There is no magic way to set targets, yet it is one of the most important task – setting reasonable, meaningful, and useful targets.

- Reasonable: do they make sense? Are they adequately tied to your context, objectives, and specific work plan?
- Meaningful: what are they telling you about what you want to achieve and what constraints you are facing?
- Useful: will they help you understand what is really happening during implementation and where you need to intervene and perhaps adjust your strategy

We will first discuss some general consideration in setting targets and then review some of the tools available to help us setting targets

Slide 28



Say: Understand the "universe" and context of your indicator:

- Is it counting people or things?
- Is it "simple" indicators, like the number of people trained,
- or a complex one, like gross margins, which is made of different data points that may vary in different directions
- Do you have a firm expectation as to whether it will go up (or down), or can there be variations from year to year that may not be under your control, again like gross margins where you probably don't have much control over the price at which products will sell or the cost of input

Know your expected trend line: Outcome and output indicator targets will follow a different curve pattern over time.

Let's review some possibilities. Let's look at simple graphs and see if we can make sense of what it can tell us about the indicator.

Outcome indicators, on the other hand, are something we are contributing to and usually will have a non-zero baseline. These indicators are usually trending up or down and we are hoping through our interventions to change the slope, i.e., to accelerate the progression. The targets will follow an upward or downward curve or some sort, but we should not see the end value being lower (or higher) than any previous ones. We know that for some indicators, there can be year to year volatility, but in any case, we want to see the trend line going up or down.

Note that output indicator targets for a single activity will show an inverted U shape, but on aggregate, you probably still want to see an increasing slope (refer to activity-level targets in portfolio reviews?)

Targets should be set as part of a coherent system (vertically and horizontally). They should make sense and tell something meaningful.

- Internal coherence: targets for the various indicators should be set in tandem as they are related – the target for the number of farmers and others applying new techniques should be related (in most cases) to the number of farmers trained
- External coherence: there should be a relationship between the targets at the activity level and your overall strategy. If we want to have an impact on household income and nutrition, we need to have a sense of how many people we need to reach, by how much maize productivity needs to increase, and how many more hectares of soy need to be planted (reference to the Theory of change in the NUTENAG case study).

This leads me to something important here about targets: Be transparent and engage your stakeholders and Understand the difference between individual activity targets and the aggregate ones.

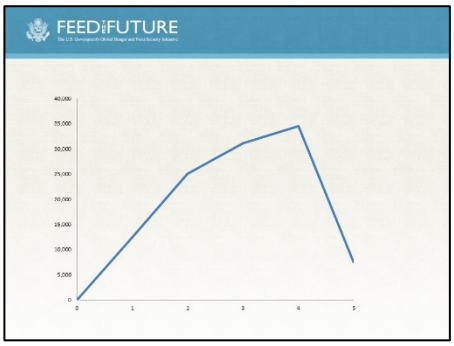
Activity-level targets will usually be set through process of discussion and negotiation with an implementing partner. That is fine, our implementing partners are the technical experts and they know what they can reach based on the contextual and resources constraints. And since they will be held accountable for reaching some targets, they will analyze carefully what they can achieve. However, the Mission is also accountable for reaching "aggregate" targets. There needs to be a coherent results framework by which the number of beneficiaries reached and "behavior change" facilitated have a chance to lead to the changes at the ZOI level we are aiming to (overall increase in agricultural productivity, improved dietary diversity, improved nutrition, and improved income). So there is a shared accountability here, but the implementing partner is responsible for what it can achieve through its interventions, while the Mission is responsible to ensure that

on aggregate, the program has enough reach and intensity. And this "reach" and "intensity" are translated into targets.

Here, I'm talking about "accountability" and "responsibility" and hinting at what gives targets a sour taste. Targets are seen as something bad, that that serves only at determining if activities are performing or not. Yes, of course, we need some benchmarks. But targets should also serve as management tool, telling us if (i) our strategy makes sense and whether we have all the important elements included to reach our goals and (ii) something else is happening that we need to investigate.

Targets can and should be adjusted regularly and we will come back to this. But if a target is missed (by a significant amount in one year, or systematically year after year – and only activity managers can determine what amounts to "significant"), then adjustments should be done, but all targets should be looked at. If one target is adjusted, there is probably reason to adjust others.

Slide 29

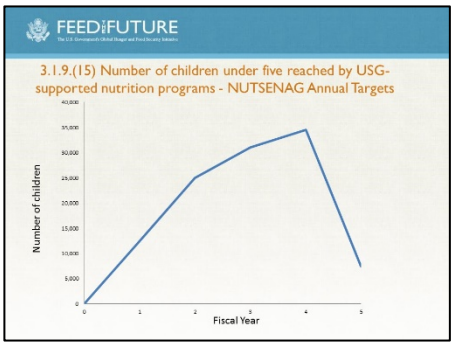


Ask: This is a simple line graph. I have not labeled the axes (a no-no by the way!). What can you tell me about the indicator shown here?

Answer: This is a typical shape of an output indicator for an implementing partner, showing the direct result of an activity. We start at zero; the project begins implementation and rapidly set up its activities. It increases its reach year after year, first at a fast pace, then at a little slower rate, but still increasing through year 4. Then we see a net decrease in the last year, as the project closes down.

This is actually from a real project and the indicator is the Number of children reached.

Slide 30



Note: Same slide as previous slide but with a title and axes labeled.

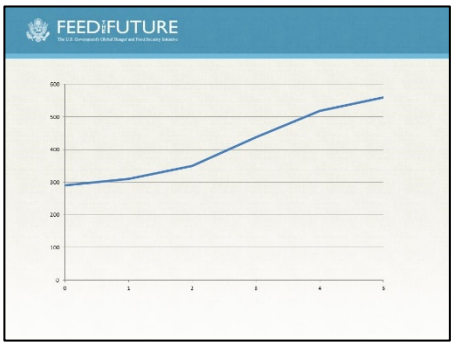
Ask: What do you notice about this slide?

Answer: Same as previous slide but with a title and axes labeled.

Ask: What difference does it make having a title and axes?

Let's see another one.

Slide 31

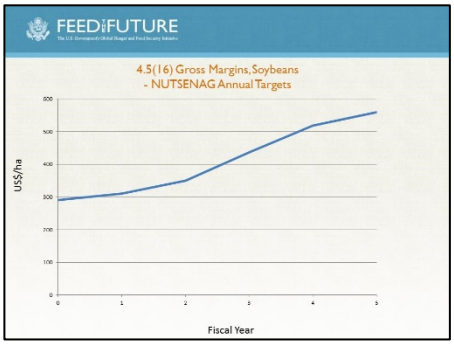


Ask: What does this graph tells you about the indicator?

Answer: These targets are for an outcome indicator. The baseline is non-zero and we see a progression throughout the life of the project.

Say: This is also from a real project and is for gross margins for soybeans. We can see the progression of the activities for this one value chain. The project expect the largest gains to occur after year 1 through year 4. Further gains are expected in the last year but at a slower rate. This could be because the interventions are expected to be much less, but it could also be related to the decreasing marginal benefits of the technology promoted, assuming the number of beneficiaries more or less plateau towards the end of the project.

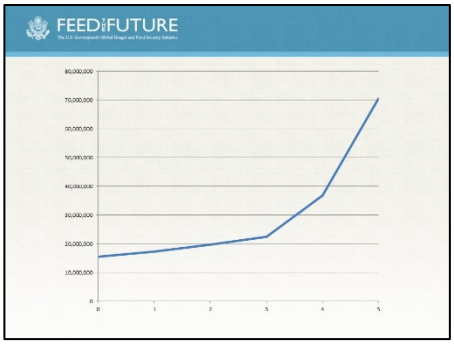
Slide 32



Say: Again, same as the previous slide but with a title and axes labeled.

Let's see yet another one.

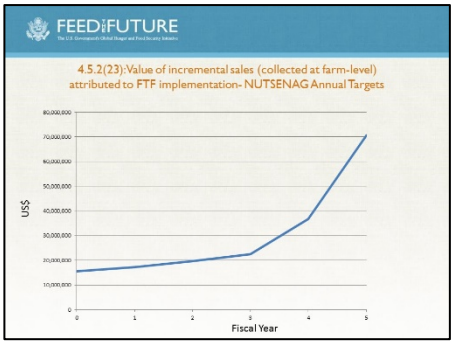
Slide 33



Ask: How about this graph?

Say: I thought it would be interesting to show yet another plot of an outcome indicator – we notice both the non-zero baseline and the positive slope throughout the life of the project. This is slightly different however as it shows the targets for the total value of incremental sales summed across several value chains. These are clearly ambitious targets. It shows that incremental sales should increase throughout the life of the project, very modestly at first, but then at an increasing pace. This could show for instance a project that focuses first on training and access to improved techniques. By year 3 or so, we start seeing an impact on yield and total production increases. The project should then emphasis on marketing activities – reducing post-harvest loss, improving handling and transportation – hence the sharp increase in sales. Note that this is incremental sales and therefore is adjusted for any increase in the number of beneficiaries from year to year. The steeper slope is not due to an increase in the number of beneficiaries.

Slide 34



Say: Again, same slide but with a title and labels.

Slide 35

Say: Now we will look at tools we have available to help us set reasonable targets.

Read the bullet points on the slide.

Say: This is not a comprehensive list but should give you a sense of what can and can't do when setting targets. As a general rule, you should use more than one tools to verify your assumptions and triangulate your results leading to determining a set of targets. These tools are all related and overlapping anyway.

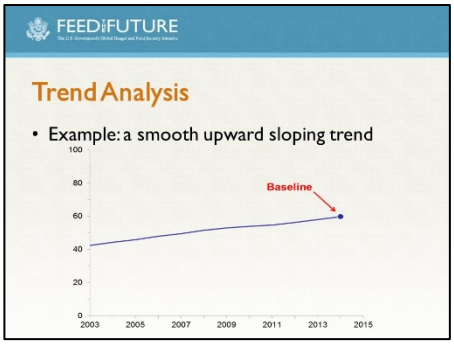
Slide 36

Say: First, look for historical data. Then see if you can detect a trend. Trend analysis will be useful for variables used as or in outcome indicators mainly, such as production, yields, sales, etc.

This data is not always available however, and if it exists, it will usually be at the national level, and therefore it may be difficult to reconstruct for the ZOI. National trends will be useful to analyze, as benchmarks.

In order to analyze historical trend, it is important to have sufficient data points. Too few can be very misleading. So you have to be careful about that. And there is no clear a priori as to how many data points is enough. But if the data exist, at a minimum, you should look at the historical data.

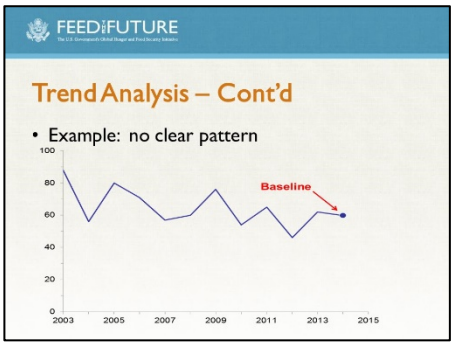
Slide 37



Say: In this example, the historical trend shows a smooth upward sloping trend. There is about 10 years of data in this example, which seems reliable. You may be aware of a major event further in the past, such as a major drought, which you may want to take into consideration as well, but otherwise, this seems a relatively easy drive.

Say, you are starting implementation in 2015, thus your baseline is for 2014. Our activities in effect are trying to change the slope of this line by accelerating the annual rate of change. Doing some basic analysis of this historical data, you can see that, say this is production of soybeans in Aredonia, production increased by 43% between 2003 and 2014 and the average annual rate of change is about 3%. Your project aims at introducing productivity enhancing techniques that would increase production in the next 5 years, which is equivalent to changing the slope, making it steeper.

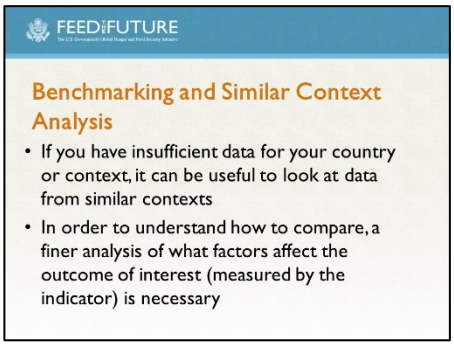
Slide 38



Say: In this example, the historical data show that there has been a fair amount of year to year variability. No specific trend seems to emerge here, although in some cases variability could be associated with an upward or downward trend. Although we can't derive a trend line here, the variability is important to know and take into consideration when setting targets as your annual results are likely to show fluctuations. Y would still need to set targets in this case, showing say an upward trend, but to really measure whether your activities are on track, you would need to look at more than one data points.

In this case, the program should try to address both the variability (reducing it) and the flatness of the trend (so that there is an upward or downward trend).

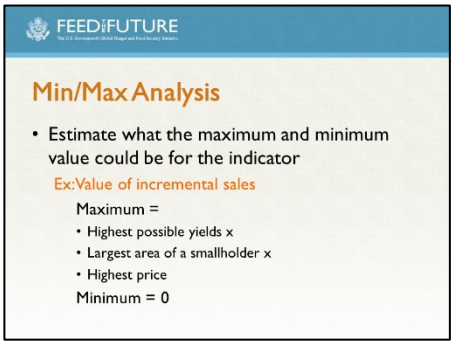
Slide 39



Say: Benchmarking means "identifying a basis of reference or comparison". If there aren't data for your country, you can look at other data from other countries with similar context. It will never be quite the same, so you can only use this data for benchmarking. But it can help understanding how fast changes can happen for instance, looking in a similar context where a technology you are looking into introducing has been introduced. It is a good idea to do some research and compare general environment and external conditions that might

influence the results – rain pattern, exchange rate, access to imported inputs, infrastructure, etc. There are a number of factors that will influence what happens to production or yields or adoption rate, so comparing what happen in another country to your context is difficult. But we are "benchmarking" here, trying to determine what you can reasonably target.

Slide 40



Say: Now, let's look more closely at how the information available for the project can be used to set reasonable targets.

An exercise that can be useful in target setting is looking at maximum and minimum values and indicator can reasonably take. The data can either come from secondary sources (including "reliable" expert opinion) or you may already have baseline data collected through a beneficiary-based survey.
If you have primary data through a baseline survey, you can simply extract the maximum and minimum values for a variable and look at various characteristics of the distribution to understand how your sample beneficiaries fit within the range. It could be that your maximum value is skewed by a small number of extremely productive farmers, but the majority of your potential beneficiaries are close to the lower end.

If you don't have primary data, you need to find secondary sources.
Example: Value of incremental sales. Estimate what the minimum and maximum value for a beneficiary can be:

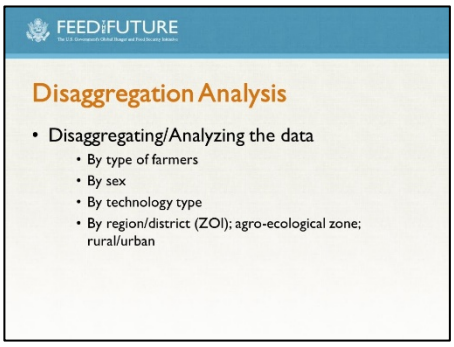
- Minimum can be no sales at all, and thus would be 0
- Maximum: estimate maximum production for a beneficiary by estimating
  - The highest yields reached in the area
    Using the largest area that beneficiaries may own and plant with the crop in question, keeping in mind our definition of a smallholder farmer beneficiary. You could have farmers cultivating larger area in the focus crop, but she should not be included in your indicator because (1) Land: 5 hectares or less; and (2) Equivalent units of livestock: 10 beef cows (cattle); 2 milking cows (dairy); 5 adult ewes/does (sheep and goats); 5 camel cows (camel meat and milk); 2 adult sows (pigs); 20 layers and 50 broilers (chickens).
  - The highest price a farmer could get for her crop.

This gives you the maximum total sales for a crop in one year for one beneficiary, assuming this farmer sells all her crop. And gives you the range in the value of sales that you can get for anyone beneficiaries. The middle value would give you the median. Now, you also need to look at the number of beneficiaries you intend to reach, since this indicator reports the total value of sales across all of your beneficiaries. So, although this is useful to have the range and median, you still

need to better understand how your beneficiaries will fit within this range, and where along the distribution the majority of your beneficiaries might be in every single year. Without good sample data, you might have to make assumptions.

Assumption are ok! However, you MUST document them as clearly as possible, so that anyone can understand what you've done.

Slide 41



Say: Let's go a little deeper in the details, by disaggregating the data that we have, either from historical data, project data, or beneficiary-based survey data.
If you have data available, historical or from a baseline survey, it is useful to breakdown the data to look at specific trend, or what may drive the aggregate trend, also whether some component are more variable than other, etc.
Obvious category to look at are the disaggregates we are interested in, but others might give your insight for your program. To start with, it is useful to understand how your beneficiary population and your targeted value chains fit in the overall:

- What proportion of small holder population are you targeting, in the project area, in the ZOI, nationally?
- What proportion do small holder represent in terms of total production of the targeted value chains?
- What proportion of total agricultural production do your targeted value chains represent?

These seem basic questions, but you would be surprised to know how few have a good sense of these figures.

Disaggregated data is useful as you can usually relate it better to your planned interventions and estimate where your specific beneficiary population might fit into the distribution.

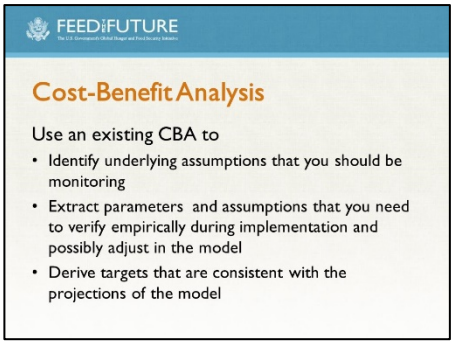
- A program is building/rehabilitating irrigation infrastructure, which is expected to boost irrigated rice production significantly. Even if at baseline, you had very few farmers toward the maximum end of the yield spectrum, you may rapidly move many and end up with rice production in a totally different place compared with other crops.

- Your program may be targeting women in a value chain that is done by both sexes. The available data may not segregate between men and women production, but you need to figure out where your majority beneficiary population fits in the distribution. This is something we know quite well now from experience: that within a value chain, male and female farmers may get very different gross margin for instance, because of differential access in inputs or different marketing incentives. In setting

your targets, you need to take this into account and make sure that your targets reflect the specific population you will be working with and show a reasonable course of event.

Already mentioned is the importance of understanding the characteristics of the area where we work – the ZOI – and disaggregating the data by region or district to the extent possible. The ZOI is not always defined neatly as one contiguous areas and disaggregating the data by large administrative units may not be useful. Data by smaller administrative units like districts or communes may not be available. Agro-ecological zone disaggregation may exist, which can help approximate the situation in the ZOI.

Slide 42



Say: If a CBA exists for one of your activity, you should absolutely use it to derive targets. You should also make sure that you are monitoring the underlying assumptions and updating the model periodically with your project data.

Identify underlying assumptions that you should be monitoring: these are the exchange rate for instance and other macroeconomic conditions, things that are not endogenous to the model and you cannot control. You can only monitor them, but the project cannot change the outcome.

A CBA model will also have a number of assumptions and will include parameters, (meaning something that has a fixed value, as opposed to a variable). Parameters will often be the object of sensitivity analysis, although things that I put in the first category, such as exchange rate, could also be.

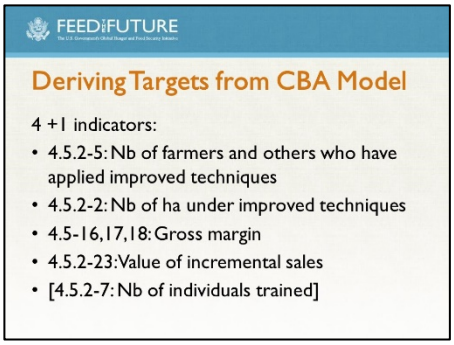
Here, I'm thinking of adoption rate of course, which is critical in our project, market prices (if they are exogenous), the ratio of men to women in the beneficiary population, the proportion of production that is sold, etc.

In just about any agricultural CBA model, you should find the variables necessary to construct your main indicators and therefore, find the values that were used in the model and use those as your targets (or argue with the economist that did the analysis). I am talking about prices, production by crop or animal, hectares planted or number of heads of animals, sales values, and number of beneficiaries, all data points that are either directly an indicator, or used to construct the more complex ones like gross margins.

The CBA model will have a complete internal logic, which may not be reflect the entire activity. For instance, you would find in a CBA model that the number of farmers applying an improved technique is the number of farmers trained times the adoption rate. As part of the activity, your implementer will train farmers and

others in a number of ways, and therefore will report a number under 4.5.2.7 that is not necessarily directly linked to 4.5.2.5. The CBA will model only the main interventions and will require this internal coherence. So, the CBA will not necessarily be the only tool to use in setting the target for 4.5.2.7, although you want to make sure that your targets are not lower than what is in the CBA. And the values in the model for number of farmers applying new techniques are probably the right targets to use in your M&E plan.

Slide 43



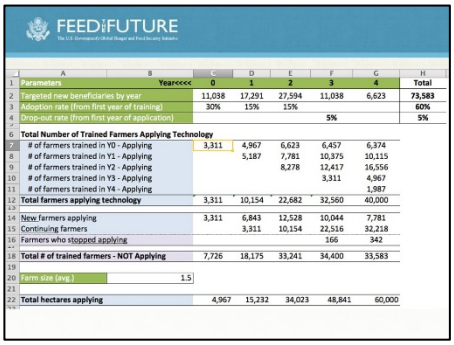
Say: Let say we have a CBA model for an agricultural activity, like NUTSENAG, but I have already a demo model, so that's what we will use.

Most agricultural activity CBA will include information relevant for these indicators and can provide either the full target or a subset of it.

Can anyone tell me which indicator(s)?

Answer.

Slide 44



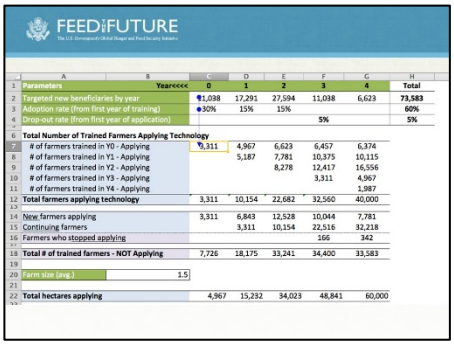
	A	B	C	D	E	F	G	H
1	Parameters	Year<<<<	0	1	2	3	4	Total
2	Targeted new beneficiaries by year		11,038	17,291	27,594	11,038	6,623	73,583
3	Adoption rate (from first year of training)		30%	15%	15%			60%
4	Drop-out rate (from first year of application)					5%		5%
5								
6	Total Number of Trained Farmers Applying Technology							
7	# of farmers trained in Y0 - Applying		3,311	4,967	6,623	6,457	6,374	
8	# of farmers trained in Y1 - Applying			5,187	7,781	10,375	10,115	
9	# of farmers trained in Y2 - Applying				8,278	12,417	16,556	
10	# of farmers trained in Y3 - Applying					3,311	4,967	
11	# of farmers trained in Y4 - Applying						1,987	
12	Total farmers applying technology		3,311	10,154	22,682	32,560	40,000	
13								
14	New farmers applying		3,311	6,843	12,528	10,044	7,781	
15	Continuing farmers			3,311	10,154	22,516	32,218	
16	Farmers who stopped applying					166	342	
17								
18	Total # of trained farmers - NOT Applying		7,726	18,175	33,241	34,400	33,583	
19								
20	Farm size (avg.)	1.5						
21								
22	Total hectares applying		4,967	15,232	34,023	48,841	60,000	

Say: Here is a snapshot from a CBA spreadsheet. I arranged it somewhat so that I could fit it in a slide, so an actual spreadsheet may have other calculations and not show all this information together. You will certainty have to navigate the spreadsheet to find the information that you need. And you will need to do your own calculation, as we will see later.

A CBA model looking at the cost effectiveness of training farmers to improved techniques will include project data on the number of farmers that will be trained every year. It will have an assumption on the adoption rate. Assumptions will be explained and justified somewhere in the spreadsheet. There should also be an accompanying document explaining the model and results in more details.
Note that the number of farmers trained provided here will not usually be the

same as 4.5.2-7, since this indicator include all individual trained in a year by the activity, and not only farmers. However, the numbers here should be included in the total indicator and in the disaggregate "producer". Depending on the activity, these figures may be very close to the total reported by the project.

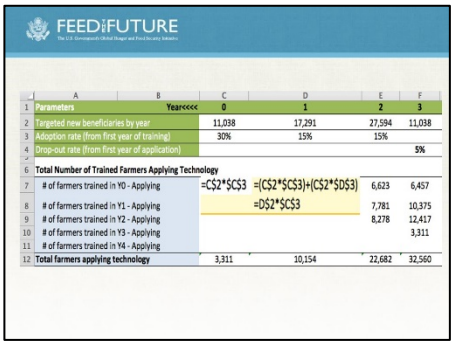
Slide 45



	A	B	C	D	E	F	G	H
1	Parameters	Year<<<<	0	1	2	3	4	Total
2	Targeted new beneficiaries by year		11,038	17,291	27,594	11,038	6,623	73,583
3	Adoption rate (from first year of training)		30%	15%	15%			60%
4	Drop-out rate (from first year of application)					5%		5%
6	Total Number of Trained Farmers Applying Technology							
7	# of farmers trained in Y0 - Applying		3,311	4,967	6,623	6,457	6,374	
8	# of farmers trained in Y1 - Applying			5,187	7,781	10,375	10,115	
9	# of farmers trained in Y2 - Applying				8,278	12,417	16,556	
10	# of farmers trained in Y3 - Applying					3,311	4,967	
11	# of farmers trained in Y4 - Applying						1,987	
12	Total farmers applying technology		3,311	10,154	22,682	32,560	40,000	
14	New farmers applying		3,311	6,843	12,528	10,044	7,781	
15	Continuing farmers			3,311	10,154	22,516	32,218	
16	Farmers who stopped applying					166	342	
18	Total # of trained farmers - NOT Applying		7,726	18,175	33,241	34,400	33,583	
20	Farm size (avg.)	1.5						
22	Total hectares applying		4,967	15,232	34,023	48,841	60,000	

Say: Then you have the number of farmers applying new techniques, which is the number of beneficiaries trained times the assumed adoption rate in year 1 (CBA models typically count years starting with year 0, but in our case, this would be our FY1 – we would report the result through the end of the FY). The indicator 4.5.2-5 counts farmers and "others", which may include individual processors that are not a firm or a small traders. So, again depending on the specifics, the project may be reporting a number greater than what we have here but it's likely to be most of it.

Slide 46

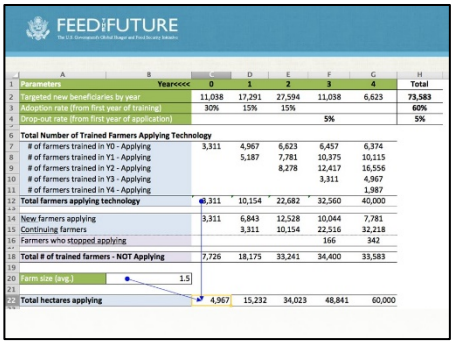


	A	B	C	D	E	F
1	Parameters	Year<<<<	0	1	2	3
2	Targeted new beneficiaries by year		11,038	17,291	27,594	11,038
3	Adoption rate (from first year of training)		30%	15%	15%	
4	Drop-out rate (from first year of application)					5%
6	Total Number of Trained Farmers Applying Technology					
7	# of farmers trained in Y0 - Applying		=C$2*$C$3	=(C$2*$C$3)+(C$2*D3)	6,623	6,457
8	# of farmers trained in Y1 - Applying			=D$2*$C$3	7,781	10,375
9	# of farmers trained in Y2 - Applying				8,278	12,417
10	# of farmers trained in Y3 - Applying					3,311
11	# of farmers trained in Y4 - Applying					
12	Total farmers applying technology		3,311	10,154	22,682	32,560

Say: Here, you can see the formula. First year nb of farmers applying is the number of farmers trained as shown in C2 times the assumed adoption rate in the first year (30%). That is 3,311 farmers at the end of the first year.

For the second year, we have the farmers that were trained in the first year and applies in that same year (C2 * C3) plus the number of farmers that were trained in the first year and are now applying in the second year. Then we have the farmers that were trained in the 2nd year and are applying in the same year – thus the adoption rate from the first year of training.

Slide 47



	A	B	C	D	E	F	G	H
1	Parameters	Year<<<<	0	1	2	3	4	Total
2	Targeted new beneficiaries by year		11,038	17,291	27,594	11,038	6,623	73,583
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15	Continuing farmers			3,311	10,154	22,516	32,218	
16	Farmers who stopped applying					166	342	
17								
18	Total # of trained farmers - NOT Applying		7,726	18,175	33,241	34,400	33,583	
19								
20	Farm size (avg.)	1.5						
21								
22	Total hectares applying		4,967	15,232	34,023	48,841	60,000	

Say: Here I want to show how we get the number of hectares under improved techniques. It is simply the number of farmers that are applying times the average farm size.

Slide 48

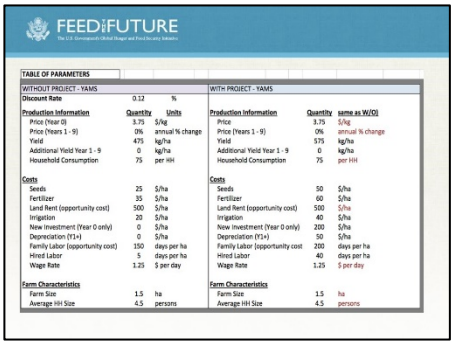


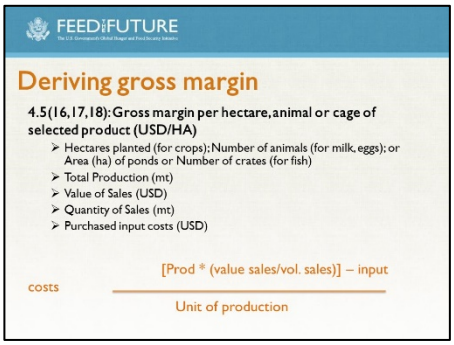
TABLE OF PARAMETERS

WITHOUT PROJECT - YAMS			WITH PROJECT - YAMS		
Discount Rate	0.12	%			
Production Information	Quantity	Units	Production Information	Quantity	same as W/O)
Price (Year 0)	3.75	$/kg	Price	3.75	$/kg
Price (Years 1 - 9)	0%	annual % change	Price (Years 1 - 9)	0%	annual % change
Yield	475	kg/ha	Yield	575	kg/ha
Additional Yield Year 1 - 9	0	kg/ha	Additional Yield Year 1 - 9	0	kg/ha
Household Consumption	75	per HH	Household Consumption	75	per HH
Costs			Costs		
Seeds	25	$/ha	Seeds	50	$/ha
Fertilizer	35	$/ha	Fertilizer	60	$/ha
Land Rent (opportunity cost)	500	$/ha	Land Rent (opportunity cost)	500	$/ha
Irrigation	20	$/ha	Irrigation	40	$/ha
New investment (Year 0 only)	0	$/ha	New investment (Year 0 only)	200	$/ha
Depreciation (Y1+)	0	$/ha	Depreciation (Y1+)	50	$/ha
Family Labor (opportunity cost)	150	days per ha	Family Labor (opportunity cost	200	days per ha
Hired Labor	5	days per ha	Hired Labor	40	days per ha
Wage Rate	1.25	$ per day	Wage Rate	1.25	$ per day
Farm Characteristics			Farm Characteristics		
Farm Size	1.5	ha	Farm Size	1.5	ha
Average HH Size	4.5	persons	Average HH Size	4.5	persons

Say: I'm showing you here another table of parameters from the same CBA model. The model needs to calculate the revenue from the agricultural activity, with and without the interventions. Some of the assumptions and parameters will not be affected by the project and some will. What is in red here is assumed to be the same with and without the project, that is, the project will not have an impact on these. It is assumed however that the cost of input per hectare will be higher with the project – presumably because more will be used – and yields will increase.

You can see that with the first tab with the number of farmers and number of hectares, you have everything you need to calculate gross margin per ha.

Slide 49



Say: Gross margin is calculated from 5 data points, and all data points need to be reported, although targets are not required for individual data points. Using the

CBA, the targets for GM will be calculated from these data points, so you will also have predicted values for these individual data points.

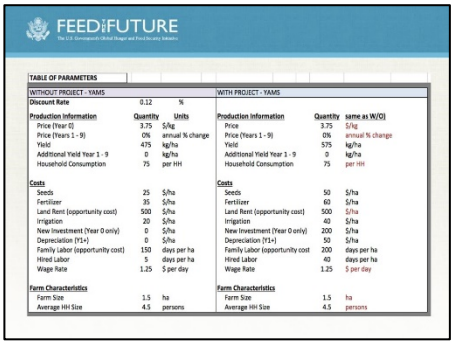
Ask: Who can tell me what is included in input cost?

Answer:

- Only significant cash costs that can easily ascertained, usually from input amounting to at least 5% of total costs.
- Capital investments are not included
- Unpaid family labor, seeds from a previous harvest, and other in-kind input should not be included

Returning to our table of parameters to see how to find these individual data points and calculate gross margin.

Slide 50



FEED the FUTURE

TABLE OF PARAMETERS

WITHOUT PROJECT - YAMS			WITH PROJECT - YAMS		
Discount Rate	0.12	%			
Production Information	**Quantity**	**Units**	**Production Information**	**Quantity**	**same as W/O)**
Price (Year 0)	3.75	$/kg	Price	3.75	$/kg
Price (Years 1 - 9)	0%	annual % change	Price (Years 1 - 9)	0%	annual % change
Yield	475	kg/ha	Yield	575	kg/ha
Additional Yield Year 1 - 9	0	kg/ha	Additional Yield Year 1 - 9	0	kg/ha
Household Consumption	75	per HH	Household Consumption	75	per HH
Costs			**Costs**		
Seeds	25	$/ha	Seeds	50	$/ha
Fertilizer	35	$/ha	Fertilizer	60	$/ha
Land Rent (opportunity cost)	500	$/ha	Land Rent (opportunity cost)	500	$/ha
Irrigation	20	$/ha	Irrigation	40	$/ha
New Investment (Year 0 only)	0	$/ha	New Investment (Year 0 only)	200	$/ha
Depreciation (Y1+)	0	$/ha	Depreciation (Y1+)	50	$/ha
Family Labor (opportunity cost)	150	days per ha	Family Labor (opportunity cost	200	days per ha
Hired Labor	5	days per ha	Hired Labor	40	days per ha
Wage Rate	1.25	$ per day	Wage Rate	1.25	$ per day
Farm Characteristics			**Farm Characteristics**		
Farm Size	1.5	ha	Farm Size	1.5	ha
Average HH Size	4.5	persons	Average HH Size	4.5	persons

Say: Production is calculated by multiplying yield by the number of hectares under production (which we saw in the previous slides).

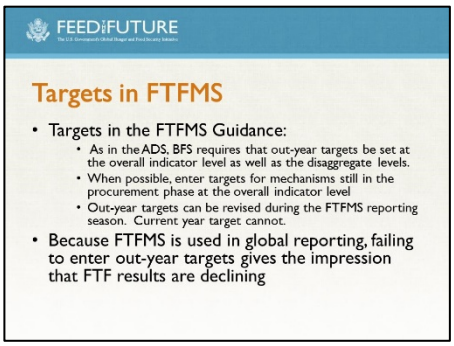
Ask: Can someone tell me if we should calculate gross margin with the project or without the project?

Answer: Both.

Say: This indicator reports the average gross margin for all direct beneficiaries, whether they apply the improved techniques promoted by the project or not.

All five individual data points should be the sum across all beneficiaries: total production under improved techniques + total production not under improved techniques, hectares under improved techniques + hectares not under improved techniques etc. But because we divide by the total number of hectare to get gross margin per hectare, we end up with an average.

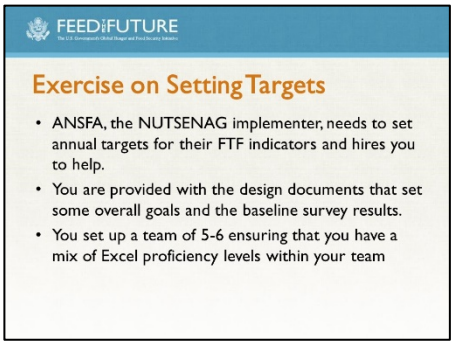
Slide 51



FEED the FUTURE

Targets in FTFMS

- Targets in the FTFMS Guidance:
  - As in the ADS, BFS requires that out-year targets be set at the overall indicator level as well as the disaggregate levels.
  - When possible, enter targets for mechanisms still in the procurement phase at the overall indicator level
  - Out-year targets can be revised during the FTFMS reporting season. Current year target cannot.
- Because FTFMS is used in global reporting, failing to enter out-year targets gives the impression that FTF results are declining

	Say: To conclude, I want to discuss something important, which is when and how to enter targets in FTFMS. All indicators require targets. All activity-level indicators require annual targets, while population-level ones do not. Targets are required at the overall indicator as well as for the disaggregate: sex, technology type, type of beneficiaries, etc. These may be difficult to set in some circumstances, but all efforts should be made to disaggregate as far as possible what we intend to reach by when. Yes, targets are about accountability, but they are also about good management. Targets can and should be revised. All out-year targets can be revised during the reporting season, while current year target cannot. If there is a need to revise target say in March or April, after the reporting season has closed, you can by all mean contact your M&E advisor, who can work with the FTFMS team to update your current year targets if advisable. It is better to set tentative targets than none, although even tentative targets should be reasonable. Targets are about good management as they provide us with a tool to make sure we have a coherent results framework and the right assumptions underlying it. Targets missed are not necessarily a sign of poor performance, but it can be the sign that something is wrong in the design or assumption of the project. Is the projected number of beneficiaries reached reasonable, feasible? Is the project be able to provide the training and support necessary to this number of beneficiaries to maximize application of improved techniques? Is the underlying assumption about adoption rate too optimistic, and if so, what prevent farmers for adopting. Is there an important dropout rate after some time that was not taking into account? Target setting is also helpful in thinking through the results chain logic for the program. Looking at individual activity targeted reach and impact, can we expect that on aggregate, summing across all activities, we will have the coverage and intensity of interventions that are necessary to meet our goals in the ZOI? If not, what needs to change and where?	
4:45 pm (45 min.)	**GROUP EXERCISE** **Slide 52**  **Directions** Say: We will now do an exercise on setting targets. The exercise should help you think about each indicator individually, but also how they are inter-related and you will need to put together a coherent set of assumptions about your targets.	• Computers loaded with Setting Targets Worksheet (participants) • Setting Targets Worksheet for Participants • Setting Targets Worksheet for Facilitators

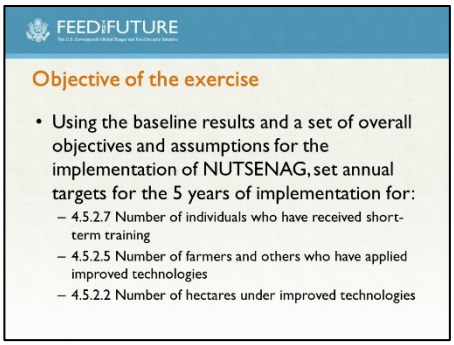
You have been hired by ANSFA, the NUTSENAG implementer as an M&E advisor and you need to determine a set of relevant, reasonable annual targets for the FTF indicators.

You are have the design documents that describes what the activity is about and the overall goals of the activity. A baseline survey was also just completed, and you have the results.

Arrange groups by Excel skills. Each group needs at least one expert.

Say: Before we start, we would like for everyone to come up and put yourself in one of three groups – group here on my right if you consider yourself quite good or adept at excel, come stand in the middle here if you can get by but by no means consider yourself an expert, and stand on my left here if you're not very experienced at all with excel. We need 5-6 groups, each with a good mix and at least one person in each group who is very good with Excel.

Slide 53



Directions (continued once groups are formed)

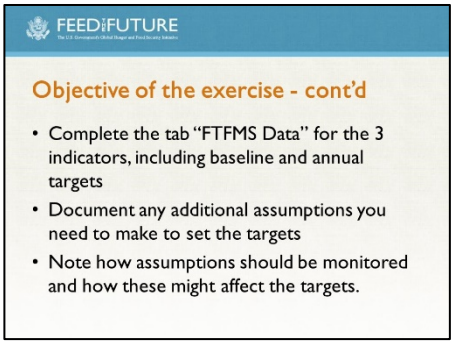
Say: We will focus on 3 simple indicators: Number of individual trained, Number of farmers and others who have applied improved techniques, and Number of hectares under improved techniques. So we are looking at the value-chain component of NUTSENAG.

We have loaded an Excel spreadsheet on the computers with two tabs. And we've also made copies, which you can find here.

The first tab has estimates from the NUTSENAG baseline survey. The baseline survey was conducted from a sample of beneficiaries and the results are presented extrapolated at the population level. Although NUTSENAG intend to reach a much larger number of beneficiaries that those used to sample the baseline survey, the baseline results are considered representative of all farmers.

The tab also include a set of assumptions that are derived from the overall objectives of the activity and have been discussed and agreed upon with the team leader of NUTSENAG and the activity manager at USAID. These include the number of farmers NUTSENAG needs to work with in order to meet its value-chain goals, what the team expect the take-up of improved technologies will be, and the shift in land allocation that need to take place in order to increase production of legumes. These are assumptions that will need to be monitored and verified during the implementation as they are critical for reaching the overall targets. If these assumptions turn out not to be verified, targets and possibly the strategy, will need to be adjusted.

Slide 54



Directions (continued):

Say: We want you to take 45 minutes to dig into the baseline data, the set of assumptions, and the case study and see how you can derive targets for these 3 indicators. Note that you should identify what the year 5 targets are and then make assumptions about the yearly ones. You already have the end target for the number of individual trained. Remember to enter the appropriate baseline as well. Document and justify as needed any additional assumptions you are making, especially about annual targets.

Remember, assumptions are fine, as long as they are reasonable, documented, and monitored. Make note of how you might want to monitor your assumptions and when and how you might need to adjust your targets.

Any questions?

FOR THE FACILITATOR: see the Facilitator spreadsheet for how to fill the FTFMS tab and for suggestions as to how the students should tackle the exercise.

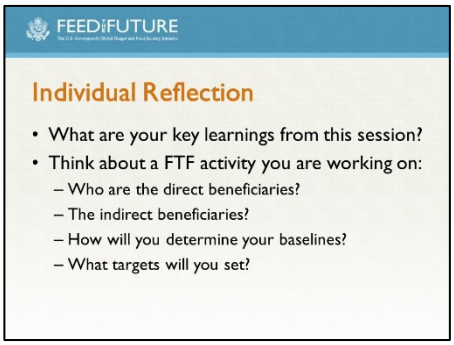
Debrief:

Have groups share:

- Their overall assumptions for:
  - 4.5.2.7 Number of individuals who have received short-term training
  - 4.5.2.5 Number of farmers and others who have applied improved technologies
  - 4.5.2.2 Number of hectares under improved technologies
- Their baseline and annual targets and assumptions they made to set the targets
- After all the groups have presented, discuss the different approaches each group took. Compare/contrast assumptions, baselines and targets.

Individual Application

Slide 55



Individual exercise:

- Refer participant guide and have them record their individual reflections:
  - Key learnings from the session
  - Think about a FTF activity they are working on:
    - Who are the direct beneficiaries?
    - The indirect beneficiaries?
    - How will you determine your baselines?
    - What targets will you set?

Debrief in plenary:

- Ask two or three participants to share their reelections.

Note to the Facilitator: This data is taken from Exercise 8.2 and the Nutsenag Case Study. Only baseline and target figures are used for this exercise

Everyone grows maize, no one grows both legumes.

			% beneficiaries applying improved technologies			% of beneficiares applying using improved seed			% of beneficiares applying using improved cultural practices			% of beneficiares applying using improved post-harvest practices		
			baseline	target	actual	baseline	target	actual	baseline	target	actual	baseline	target	actual
	0.10	0.30	0.20	0.90	0.80	0.60	0.90	0.7	0.80	1.00	0.80	0.00	1.00	0.60
	0.40	0.70	0.10	0.90	0.40	0.40	0.90	0.70	0.80	1.00	0.80	0.00	1.00	0.70
	0.37	0.66												
	1.00	1.00	0.20	0.90	0.80	0.50	0.90	0.60	0.75	1.00	0.75	0.00	1.00	0.20
	1.00	1.00	0.10	0.90	0.75	0.40	0.90	0.50	0.80	1.00	0.80	0.00	1.00	0.20
	1.00	1.00												
	0.02	0.10	0.30	0.90	0.75	0.90	0.90	0.90	0.90	1.00	0.90	0.00	1.00	0.70
	0.10	0.30	0.20	0.90	0.80	0.85	0.90	0.85	0.95	1.00	0.95	0.00	1.00	0.80
	0.09	0.28												

	# beneficiaries cultivating			# beneficiaries applying improved technologies			# beneficiares using improved seed			# beneficiaries using improved cultural practices			# beneficiaries using improved post-harvest practices		
	baseline	target	actual	baseline	target	actual	baseline	target	actual	baseline	target	actual	baseline	target	actual
Groundnut male	487	6,300	8,899	97	5,670	7,120	58	5,103	4,984	78	5,670	5,696	0	5,670	4,272
Groundnut fema	17,544	######	113,468	1,754	######	45,387	702	######	31,771	1,404	######	36,310	0	######	31,771
Groundnut total	18,031	######	122,368	1,852	######	52,507	760	######	36,755	1,481	######	42,005	-	######	36,043
Maize males	4,873	21,000	22,249	975	18,900	17,799	487	17,010	10,679	731	18,900	13,349	0	18,900	3,560
Maize females	43,860	######	189,114	4,386	######	141,835	1,754	######	70,918	3,509	######	######	0	######	28,367
Maize total	48,733	######	211,362	5,361	######	159,634	2,242	######	81,597	4,240	######	######	-	######	31,927
Soy males	97	2,100	2,225	29	1,890	1,669	26	1,701	1,502	26	1,890	1,502	0	1,890	1,168
Soy females	4,386	56,700	28,367	877	51,030	22,694	746	45,927	19,290	833	51,030	21,559	0	51,030	18,155
Soy total	4,483	58,800	30,592	906	52,920	24,362	772	47,628	20,791	860	52,920	23,061	-	52,920	19,323

	% beneficiaries applying improved seeds			% beneficiaries applying improved cultural practices			% beneficiaries applying improved post-harvest practices		
	baseline	target	actual	baseline	target	actual	baseline	target	actual
Groundnut male	0.12	0.81	0.56	0.16	0.90	0.64	-	0.90	0.48
Groundnut fema	0.04	0.81	0.28	0.08	0.90	0.32	-	0.90	0.28
Groundnut total									
Maize males	0.10	0.81	0.48	0.15	0.90	0.60	-	0.90	0.16
Maize females	0.04	0.81	0.38	0.08	0.90	0.60	-	0.90	0.15
Maize total									
Soy males	0.27	0.81	0.68	0.27	0.90	0.68	-	0.90	0.53
Soy females	0.17	0.81	0.68	0.19	0.90	0.76	-	0.90	0.64
Soy total									

	% beneficiaries that apply improved technologies to legume but not maize (to eliminate double-counting)			unique # beneficiaries applying improved technologies			unique # beneficiares using improved seed			unique # beneficiaries using improved cultural practices			unique # beneficiaries using improved post-harvest practices		
	baseline	target	actual	baseline	target	actual	baseline	target	actual	baseline	target	actual	baseline	target	actual
Groundnut male	0.6	0	0.4	58	-	2,848	35	-	1,993	47		2,278	0		1,709
Groundnut fema	0.6	0	0.5	1,053	-	22,694	421	-	15,886	842		18,155	0		15,886
Groundnut total				1,111	-	25,541	456	-	17,879	889		20,433	-		17,594
Maize males				975	18,900	17,799	487	17,010	10,679	731	18,900	13,349	0	18,900	3,560
Maize females				4,386	######	141,835	1,754	######	70,918	3509	######	######	0	######	28,367
Maize total				5,361	######	159,634	2,242	######	81,597	4,240	######	######	-	######	31,927
Soy males	0.5	0	0.5	15	-	834	13	-	751	13		751	0		584
Soy females	0.4	0	0.4	351	-	9,077	298	-	7,716	333		9,078	0		7,262
Soy total				365	-	9,912	311	-	8,467	346		9,829	-		7,846
			males	1,048	18,900	21,481	536	17,010	13,424	791	18,900	16,378	-	18,900	5,853
			females	5,789	######	173,606	2,474	######	94,519	4,684	######	######	-	######	51,515
			total	6,837	######	195,087	3,009	######	######	5,475	######	######	-	######	57,367

	average area cultivated per beneficiary			total area cultivated by beneficiaries			total area under improved technologies			total area under improved seeds			total area under improved cultural practices		
	baseline	target	actual	baseline	target	actual	baseline	target	actual	baseline	target	actual	baseline	target	actual
Groundnut male	0.02	0.20	0.05	10	1,260	445	2	1,134	356	1	1,021	249	2	1,134	285
Groundnut fema	0.05	0.20	0.25	877	26,460	28,367	88	23,814	11,347	35	21,433	7,943	70	23,814	9,077
Groundnut total				887	27,720	28,812	90	24,948	11,703	36	22,453	8,192	72	24,948	9,362
Maize males	1.20	1.00	1.10	5,848	21,000	24,474	1,170	18,900	19,579	585	17,010	11,747	877	18,900	14,684
Maize females	0.90	0.70	0.75	39,474	######	141,835	3,947	119,070	106,376	1,579	107,163	53,188	3,158	119,070	85,101
Maize total				45,322	######	166,309	5,117	137,970	125,955	2,164	124,173	64,936	4,035	137,970	99,785
Soy males	0.04	0.20	0.25	4	420	556	1	378	417	1	340	375	1	378	375
Soy females	0.02	0.20	0.10	88	11,340	2,837	18	10,206	2,269	15	9,185	1,929	17	10,206	2,156
Soy total				92	11,760	3,393	19	10,584	2,687	16	9,526	2,304	18	10,584	2,531

NUTSENAG Baseline Survey: Population Level Results

	Number of farmers	Number of farmers using improved techniques	Number of farmers using improved seeds	Number of farmers using improved cultural practices	Number of farmers using improved post-harvest practices	Area cultivated (ha)	Average land size (ha/beneficiary)
Total farmer males	4,873	1,048	536	791	0	5,862	1.20
Total farmer female	43,860	5,789	2,474	4,684	0	40,439	0.92
Total farmers	48,733	6,837	3,009	5,475	0	46,300	
Groundnut males	487	97	58	78	0	10	0.02
Groundnut females	17,544	1,754	702	1,404	0	877	0.05
Groundnut total	18,031	1,852	760	1,481	0	887	
Maize males	4,873	975	487	731	0	5,848	1.20
Maize females	43,860	4,386	1,754	3,509	0	39,474	0.90
Maize total	48,733	5,361	2,242	4,240	0	45,322	
Soy males	97	29	26	26	0	4	0.04
Soy females	4,386	877	746	833	0	88	0.02
Soy total	4,483	906	772	860	0	92	

Assumptions
(these are given to the students)

1. The implementer (ANSFA) plans on training 220,500 individuals by FY5, of which 210,000 producers and 10,500 entrepreneurs
2. The activity will target women farmers at a ratio of 90% to 10%, but for private sector agents, the implementer does not expect to be able to target women at more than 40%
3. Through training, demonstration sites, and one-on-one advice to farmers, ANSFA will promote improved seed varieties, land preparation practices, cultivation practices, harvesting and drying practices, post-harvest practices and processing, storage and marketing for all 3 value-chains
4. Some of these practices are already being applied by a small percentage of farmers sampled at baseline, but ANSFA expects that its careful mix of interventions will lead to a 90% take up overall of improved practices across all value chains.
5. The use of improved seeds faces constraints that will be dealt with, although the implementer still expect that the take up of this particular technique will be less than the other ones. ANSFA cautiously predicts that 90% of farmers who will be applying new techniques, will be actually using improved seeds. However, it expects that all the other techniques will be fully applied.
6. Every farmer, both male and female cultivate maize, but not all of them cultivate legumes and nobody cultivates both legumes. ANSFA expects to increase the proportion of farmers cultivating legumes from less than 50% to almost 95%, as follows:

	Baseline	Target
Males cultivating groundnuts	10%	30%
Females cultivating groundnuts	40%	70%
Total cultivating groundnuts	37%	66%
Males cultivating soy	2%	10%
Females cultivating soy	10%	30%
Total cultivating soy	9%	28%
Total cultivating legumes	46%	94%

7. The activity aims at improving productivity of maize, which every household grows, so as to reduce the land needed for maize and increase land available to grow legumes. ANSFA aims at changing the distribution of land area from baseline to FY5 as follows:

	Baseline	Target
Males cultivating groundnuts	0.02	0.20
Females cultivating groundnuts	0.05	0.20
Total cultivating groundnuts		
Males cultivating maize	1.20	1.00
Females cultivating maize	0.90	0.70
Total cultivating maize		
Males cultivating soy	0.04	0.20
Females cultivating soy	0.02	0.20
Total cultivating soy		

For the Facilitator:

The students need to create this table using the baseline data and the assumptions provided. These are the end targets.

	Number of farmers	Number of farmers using improved techniques	Number of farmers using improved seeds	Number of farmers using improved cultural practices	Number of farmers using improved post-harvest practices	Area cultivated (ha)	Average land size (ha/beneficiary)
Total farmer males	21,000	18,900	17,010	18,900	18,900	20,412	
Total farmer female	189,000	170,100	153,090	170,100	170,100	153,090	
Total farmers	210,000	189,000	170,100	189,000	189,000	173,502	
Groundnut males	6,300	5,670	5,103	5,670	5,670	1,134	0.20
Groundnut females	132,300	119,070	107,163	119,070	119,070	23,814	0.20
Groundnut total	138,600	124,740	112,266	124,740	124,740	24,948	
Maize males	21,000	18,900	17,010	18,900	18,900	18,900	1.00
Maize females	189,000	170,100	153,090	170,100	170,100	119,070	0.70
Maize total	210,000	189,000	170,100	189,000	189,000	137,970	
Soy males	2,100	1,890	1,701	1,890	1,890	378	0.20
Soy females	56,700	51,030	45,927	51,030	51,030	10,206	0.20
Soy total	58,800	52,920	47,628	52,920	52,920	10,584	

From these figures, they can enter the FTFMS data as they are required, for the totals and by disaggregates for FY5 (end targets).

How they enter the annual targets is up to them. They can apply the same proportion (by disaggregates) and uptake each year, which is how the FTFMS data tab is constructed right now, or they can vary from year to year, if they want to make their life even more complicated. They should explain what their assumptions are and justify them. Simplicity is an acceptable assumption!

They should note that the indicator 4.5.2.7 is an output indicator, while the 2 other ones are outcome indicators. The baseline in the former should be 0 and we should expect the annual targets to follow some kind of inverted U shape. The 2 outcome indicators have non-zero baseline, although 0 can be the baseline value, as in the case of farmers not using any improved post-harvest techniques in this case. The annual targets should in this case follow an upward curve throughout.

Baseline Year	Baseline Value	FY1	FY2	FY3	FY4	FY5		
		Target	Target	Target	Target	Target		
Operating Unit / Indicator / Disaggregation	Baseline					Target		
4.5.2(7): Number of individuals who have received USG supported short-term agricultural sector productivity or food security training	0					220,500		
Producers	0	20,000	55,000	115,000	175,000	210,000		Assuming an inverted U shape curve
Sex								
Male	0	2,000	5,500	11,500	17,500	21,000	10%	Same assumption applied to sex disaggregates
Female	0	18,000	49,500	103,500	157,500	189,000	90%	
People in private sector firms	0	250	1,000	2,000	7,000	10,500		Assuming an inverted U shape, but with a slower start than with farmers
Sex								
Male	0	150	600	1,200	4,200	6,300	60%	
Female	0	100	400	800	2,800	4,200	40%	
4.5.2(5): Number of farmers and others who have applied improved technologies or management practices as a result of USG assistance	6,850							
Producers	6,837	18,000	49,500	103,500	157,500	189,000	90%	
Sex								
Male	1,048	1,800	4,950	10,350	15,750	18,900	10%	
Female	5,789	16,200	44,550	93,150	141,750	170,100	90%	
Disaggregates Not Available								
Technology type								
crop genetics	3,009	16,200	44,550	93,150	141,750	170,100	0.9	
cultural practices	5,475	18,000	49,500	103,500	157,500	189,000	1	
livestock management								
wild fishing technique/gear								
aquaculture management								
pest management								
disease management								
soil-related fertility and conservation								

irrigation							
water management (non-irrigation)							
climate mitigation or adaptation							
marketing and distribution							
post-harvest - handling and storage	0	18,000	49,500	103,500	157,500	189,000	1
value-added processing							
other							
total w/one or more improved technology	6,837	18,000	49,500	103,500	157,500	189,000	
Commodity							
Groundnut	1,852	11,880	32,670	68,310	103,950	124,740	0.7
Maize	5,361	18,000	49,500	103,500	157,500	189,000	1.0
Soy	906	5,040	13,860	28,980	44,100	52,920	0.3
Others (rest of data not included)							
4.5.2(2): Number of hectares under improved technologies or management practices as a result of USG assistance	5,225	16,200	44,550	93,150	141,750	173,502	0.9
Sex							
Male	1,173	1,906	5,241	10,959	16,676	20,412	12%
Female	4,053	14,294	39,309	82,191	125,074	153,090	88%
Disaggregates Not Available							
Technology type							
crop genetics	2,216	14,580	40,095	83,835	127,575	156,152	90%
cultural practices	4,125	10,428	28,676	59,958	91,241	111,679	64%
livestock management							
wild fishing technique/gear							
aquaculture management							
pest management							
disease management							
soil-related fertility and conservation							
irrigation							
water management (non-irrigation)							

climate mitigation or adaptation							
marketing and distribution							
post-harvest - handling and storage							
value-added processing							
other							
total w/one or more improved technology	5,225	16,200	44,550	93,150	141,750	173,502	
Commodity							
Groundnut	90	2,329	6,406	13,394	20,382	24,948	14%
Maize	5,117	12,882	35,426	74,074	112,721	137,970	80%
Soy	19	988	2,718	5,682	8,647	10,584	6%

BIOGRAPHIES –

Anne Swindale, Senior Program Advisor – Monitoring and Evaluation in USAID's Bureau for Food Security, is an economist with more than 30 years of experience in technical assistance, research and project management in agriculture, food security, and nutrition strategy and program assessment, design, monitoring, and evaluation. She has a multi-sectoral background spanning agriculture, poverty, food consumption, and nutrition; and extensive experience with project management, program impact evaluation and performance reporting for USAID agriculture, food security and nutrition programs; and the collection, management, and analysis of large and complex primary income, expenditure, and consumption data sets from households and individuals. Prior to joining USAID in 2011, she was Deputy then Director of the USAID-funded Food and Nutrition Technical Assistance Project (FANTA) for 13 years. She also worked for the Consultative Group for International Agricultural Research International Potato Center in Peru and the Dominican Republic. She has a Ph.D. from the Fletcher School of Law and Diplomacy at Tufts University with a specialization in development economics and food, nutrition, and agricultural policies. She speaks Spanish.

Salik Farooqi serves as Technical Advisor for Monitoring, Evaluation & Learning in the Bureau for Food Security, and oversees the Bangladesh portfolio. He also developed, and now manages, the flagship Feed the Future Monitoring, Evaluation, and Learning mechanism, PEEL. Salik joined the Bureau in September 2012 as a Presidential Management Fellow. A few weeks prior to coming on board, he completed his PhD in Sociology and Public Policy at the University of Michigan with a successful defense of his dissertation in which he conducted a sociological analysis of development effectiveness. Salik earned his Bachelor's degree in Economics and Political Science at McGill University in Montreal, Canada and his Juris Doctorate at William and Mary School of Law, where he focused on International Law.

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

FOR MORE INFORMATION:

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Monitoring, Evaluation and Learning
Bureau of Food Security
USAID

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

PERFORMANCE MONITORING

FACILITATOR'S GUIDE

USAID
FROM THE AMERICAN PEOPLE

This publication was produced for review by the U.S. Agency for International Development (USAID). It was prepared by the Feed the Future Knowledge-Driven Agricultural Development Project (KDAD), Contract Number: AID-OAA-C-13-00137, implemented by Insight Systems Corporation. The opinions expressed herein are those of the author(s) and do not necessarily reflect the views of USAID.

August 2016

Table of Contents

H. Materials, Supplies and Checklist

Session Materials

Session Six

- ☐ PowerPoint slides
- ☐ Gantt Chart poster
- ☐ Gantt Chart Activity Cards in three colors (e.g., orange for steps 1-13; green for steps 14-26; turquoise for steps 27-39)
- ☐ Butcher block paper (enough to diagram four indicator diagrams)
- ☐ Markers
- ☐ Tape
- ☐ Indicator definition sheets for female beneficiary dietary diversity and for hectares under improved technology or management (in participant guide)
- ☐ 3- 6 laptops with Data Error handouts loaded on each laptop
- ☐ Data Errors Handouts
    - ☐ Aredonia Household (Word)
    - ☐ Aredonia Agricultural Production (Excel - copies of all spreadsheets within the workbook)
    - ☐ Aredonia Technologies (Excel - copies of all spreadsheets within the workbook)
- ☐ Prizes for team members who find the 10 data errors
- ☐ Translation protocol
- ☐ Field exercise
    - ☐ GPS units of varying types (with extra batteries)
    - ☐ Tape measure
    - ☐ Marbles
    - ☐ Google earth sketch of plot to be measured
    - ☐ Handouts for field exercise (in participant guide)
        - ☐ Group exercise instructions
        - ☐ How to calculate an area in the field
        - ☐ GPS Field Protocol
        - ☐ How to calculate the area of a triangle.
    - ☐ Bottled water for participants for field exercise

Supplies

Have the following standard office supplies available:

- ☐ Pads of paper
- ☐ 5 x 7 index cards (different colors)
- ☐ Extra Pens
- ☐ Mr. Sketch markers (for facilitators and each table)
- ☐ Colored felt-tipped pens (for each table)
- ☐ Masking tape or painter's tape
- ☐ Suction cups for banners
- ☐ Paper clips
- ☐ Stapler and staples
- ☐ Scissors
- ☐ Post-It Notes (3x3, different colors)
- ☐ Chocolate (a must!!!)

Equipment

- ☐ LCD project and screen
- ☐ Laptop loaded with course PowerPoint slides
- ☐ Internet access
- ☐ Speakers
- ☐ Remote for LCD projector/PowerPoints and extra batteries
- ☐ Microphones (if necessary)
- ☐ Flipchart stands and paper (one stand per table plus two stands for facilitators)
- ☐ Chimes to ring at breaks
- ☐ Camera for photos during session
- ☐ Note: Additional laptops are needed for individual sessions (see session list of materials)

Session 6: Collecting Performance Monitoring Data

Session Goal:	Understand how to collect good quality quantitative performance monitoring data
Learning Objectives:	• Become cognizant of essential tasks and timelines for implementation of a household survey • Extract essential information requirements from indicator definitions • Translate indicator data requirements to a data collection instrument (survey questionnaire) • Measure plot area using GPS and pacing methods • Understand core survey sampling concepts: bias and precision
Session Length:	390 minutes

Session Materials:	• Session 6 slides
	• Gantt Chart
	• Gantt Chart Activity Cards in three colors (e.g., orange for steps 1-13; green for steps 14-26; turquoise for steps 27-39)
	• Indicator diagram chart
	• Butcher block paper (enough to diagram three indicators)
	• Markers
	• Tape
	• Indicator definition sheets for female beneficiary dietary diversity and for hectares under improved technology or management
	• Data Errors
	  o Handout - Aredonia Household (Word)
	  o Handout - Aredonia Agricultural Production (Excel)
	  o Handout - Aredonia Technologies (Excel)
	  o Prizes for team members who find the 10 data errors
	• Translation protocol
	• Field exercise
	  o GPS units of varying types (with extra batteries)
	  o Tape measure
	  o Marbles
	  o Google earth sketch of plot to be measured
	• Handouts for field exercise
	  o Group exercise instructions
	  o How to calculate an area in the field
	  o GPS Field Protocol
	  o How to calculate the area of a triangle.
	• Bottled water for participants for field exercise

Facilitator Notes:

<table>
<tr><th>Time & Facilitator</th><th>Content/Activities</th><th>Materials</th></tr>
<tr><td>Prior to the Session</td><td>

Preparing the classroom:

Post the Gantt Chart poster on the wall.

<table>
<tr><th rowspan="2">#</th><th rowspan="2">Activity</th><th rowspan="2">Deliverable</th><th colspan="12">Time</th></tr>
<tr><th>Jan</th><th>Feb</th><th>Mar</th><th>Apr</th><th>May</th><th>Jun</th><th>Jul</th><th>Aug</th><th>Sep</th><th>Oct</th><th>Nov</th><th>Dec</th></tr>
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</table>

Post three large pieces of butcher block paper on the wall. You will be using the paper to diagram indicators in the session.

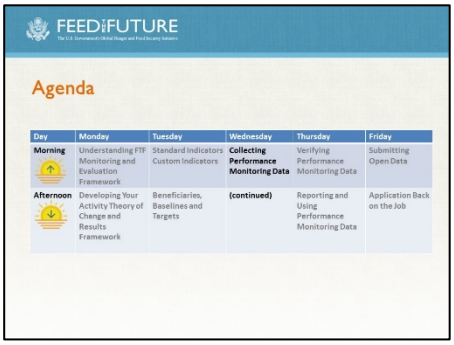
Additional preparation:
Familiarize yourself with the instructions for the field exercise, Measuring and Estimating Area. If it is a very hot day, have water for the participants.

</td><td>Gantt Chart Poster

Three large sheets of butcher block paper

Markers

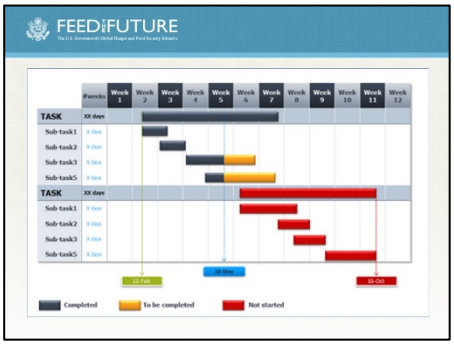
Tape</td></tr>
</table>

Time & Facilitator	Content/Activities	Materials
9:00 am (15 min.)	**Start of the Day** Welcome participants back to the course. Ask for any "overnight thoughts" about the previous day's material. Share the agenda for the day.  	
9:15 am (60 min.)	**Slide 1**  **Overview of Data Collection** Say: So you've decided you need to field a survey to collect data for your performance monitoring indicators. Let's put together the steps involved in implementing a survey, and an approximate timeline for implementation using a Gantt chart. Remember, regardless of whether your survey will cover one district or the whole country, the same basic steps will be involved – so today's training really builds your capacity to collect representative data at many different levels. Ask: Has anyone worked with Gantt Charts before? Ask those who have worked with a Gantt Chart: What is the purpose of the chart and what are the key elements in the chart?	

Slide 2

Answer: A Gantt chart shows you what has to be done (the activities) and when (the schedule). A Gantt chart, commonly used in project management, is one of the most popular and useful ways of showing activities (tasks or events) displayed against time. Here we will use a Gantt Chart to track the process – which can be thought of as a project – to collect data.

Slide 3



On the left of the chart is a list of the activities and along the top is a suitable time scale. Each activity is represented by a bar; the position and length of the bar reflects the start date, duration and end date of the activity. This allows you to see at a glance:

- What the various activities are
- When each activity begins and ends
- How long each activity is scheduled to last
- Where activities overlap with other activities, and by how much
- The start and end dates for the whole project

Plenary Activity: Outline the Activities Needed to Implement a Survey

Directions:

- Randomly distribute the 39 activity cards so that all participants have the same amount of cards (approximately 2 to 4 per participant) except for the first two activities
  - #1 – Inception visit
  - #2 – Prepare the study design and accompanying implementation plan
- Post the first two activities on the Gantt Chart
- Tell the participants to post the remaining activities on the Gantt in the correct order
- When all the cards are posted, have a participant read out the final order of activities
- Discuss the order and let participants make changes

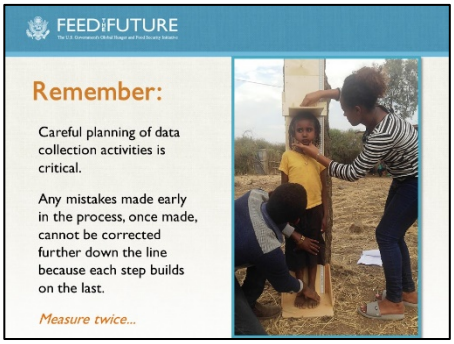
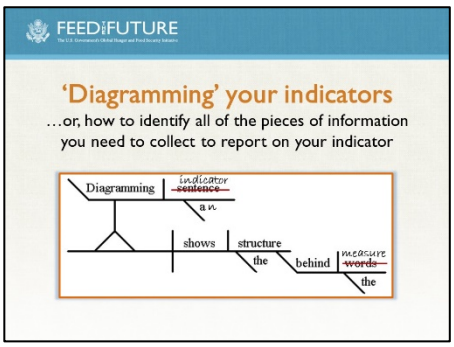
- Gantt Chart Poster
- Activity Cards

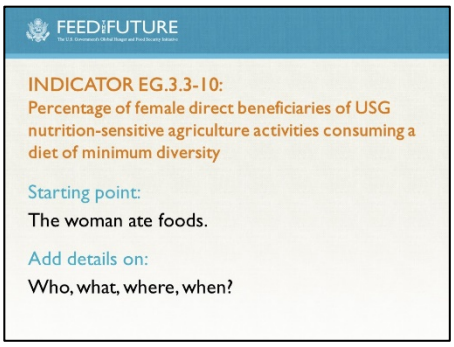
Answer: The correct order is as follows; note that for some items, order is approximate:

#	Activity	Deliverable
1	Inception visit	Inception visit report (final)
2	Prepare the study design & accompanying implementation plan	Protocol (draft, final)
3	Prepare the sampling design	Sampling design memo (draft, final)
4	Prepare the analysis plan	Analysis plan (draft, final)
5	Questionnaire design	Questionnaire(s) (draft, pretest, pilot, final fielded)
6	Questionnaire translation	Translation protocol; translated questionnaires (pretest and final fielded)
7	Establish range values and prepare unit conversion tables	File indicating which questionnaire items will have range checks, and what the ranges will be (draft, final); Excel file indicating local units of measure and conversion factors (to make equivalent to standard units of measure)
9	Questionnaire programming (either for tablets or for data entry program)	Questionnaire programming plan and timeline
10	Obtain ethical review and approval from federal wide-certified IRB	Ethical review plan and timeline
11	Develop and issue RFP (if required); review submissions; subcontract to local data collection org	RFP (draft, final); detailed fieldwork implementation plan, including team structure and fieldwork timeline and logistics
13	Develop pretest and pilot protocols	Pretest and pilot protocols with detailed timeline (draft, final)
14	Material provisioning (e.g., scales, measuring boards, iodine test kits, etc.)	Ordering plan and timeline, to include customs management plan if supplies are being shipped to country
15	Preparation of manuals (interviewer, supervisor, fieldwork, etc.)	
16	Develop field check tables	Field check table shells (draft, final)

17	Prepare data structure and codebook	Presentation on structure of the data file and on expected format of the codebook	
18	Develop and code programming specifications (tablets only)	Presentation on how the interviewer will move through the questionnaire, including how multiple iterations will be handled	
19	Develop interviewer training plans and supporting materials		
20	Develop data monitoring plan	Data monitoring plan (draft, final)	
21	Develop fieldwork management and monitoring plan	Detailed fieldwork management and monitoring plan (draft, final), with regular progress reports throughout fieldwork	
22	Implement questionnaire pretest	Questionnaire pretest report	
23	Implement training of trainers (TOT)	--	
24	Implement pretest (as part of TOT)	TOT and pretest report	
25	Implement main training	--	
26	Implement all-systems fieldwork pilot, including data entry/management (as part of main training)	Main training and pilot report; Data entry/data management pilot report	
27	Implement data entry/data management pilot as part of all-systems fieldwork pilot	Data entry/data management pilot report	
28	Implement fieldwork	Minimum once per week fieldwork report, plus summary fieldwork report at end of data collection activities	
29	Generate field check tables	Minimum once per week field check table submission	
30	Prepare data cleaning plan	Data cleaning plan (draft, final)	
31	Prepare data weighting protocol	Data weighting protocol (draft, final)	
32	Weight the data	Memo advising that the weighting of the data has been completed according to protocol	

33	Clean the data	Memo advising of data cleaning steps implemented according to plan, and notable findings during the cleaning process	
34	Preparation of data quality assessment memo	Memo to include response rates, final set of field check tables and interpretation of key findings, and any other pertinent information regarding the quality of the data	
35	Preparation of final report, including tables and text	Final report (draft, final)	
37	Prepare internal use data files (maintains some PII, e.g., GPS coordinates)	Internal use data file	
38	Prepare protocol for rendering data suitable for public use	Public use protocol (draft, final)	
39	Prepare public use data files (excludes PII)	Public use data file	

Time & Facilitator	Content/Activities	Materials
10:15am (15 min.)	**Break**	
10:30am (5 min.)	**Concluding Comments on Creating Survey Implementation Plans** Say: Once you create your Gantt Chart, it becomes a tool for managing the implementation of your data collection activity. This Gantt Chart shows how you can use color to track the progress of your project. You can also add roles and responsibilities, and start dates and end dates to track which activities can be run in parallel and which need to be done sequentially. **Slide 4**  Say: Careful planning for a survey is critical. Any mistakes made early in the process, once made, can't be corrected further down the line – each step builds on the last – so quality control at every step is essential for collection of good quality data that can be used for programmatic decision-making, monitoring, and evaluation. Be like a carpenter who knows that they have to measure the wood twice before starting to cut: review your work at each step and make sure it is being done correctly, because you can't go back and fix mistakes later.	
10:35 am (25 min.)	**Plenary Activity: "Diagramming" the indicator** Say: Now we're going to talk about how to really understand your data collection needs: What pieces of information do your indicators require – both to feed up for reporting needs, but also to feed in, to support really good learning and adaptive management. So who in this room remembers the most painful part of 8th grade grammar class, sentence diagrams? OK, for those who never had the delightful opportunity to diagram sentences, don't worry, you'll catch on. The point of this exercise is just to help us map out the pieces of information we need to extract from our indicator definitions in order to ensure we capture all the requisite pieces of information we need to report accurately on our indicators. **Slide 5**  	

	Say: So what we're going to do is walk through the process of diagramming our indicators in a similar way to how we would diagram a sentence. As you may recall, the purpose of diagramming a sentence is so you can see the structure of the sentence behind the words. And we will be doing the same thing with regard to indicators: diagramming indicators to show the structure behind the measure. We're really not trying to make you re-live those difficult if not traumatic middle-school grammar lessons. The point is just to take a little bit of time to inventory the pieces of information that you need both to understand the structure and content of indicator itself, and to design the questionnaire that will be used to collect the necessary information.	
	Say: We'll have two exercises: First we'll walk through one together, and then you'll have a chance to do one on your own. Don't get too stressed about, e.g., "does the subject go here, or is it the verb!?" or, "Is the line on top of the other line supposed to be straight up and down, or is it at an angle!?" **Slide 6**  Say: OK! So for the first exercise, we're going to use a brand-new indicator, "Percentage of female direct beneficiaries of USG nutrition-sensitive agriculture activities consuming a diet of minimum diversity." First thing we have to do is restate the indicator in normal language. Nobody talks like this! What is the simplest/most basic expression of the idea this indicator is trying to communicate? Let's say it's "The woman ate foods." Remember, to get the data for this indicator, we basically have to ask these beneficiaries what they eat, so this approach of rearticulating the indicator as a basic expression that make sense in English really helps you organize your thinking at the right level, and prepares you to develop your questionnaire. Directions to facilitator: On the butcher block paper, start diagramming the indicator: [diagram the first part of the sentence: woman | ate | foods] Say: Next, we need to make sure we get all the details in there. For example, it's not enough to ask our questionnaire of "a woman" in the household. We have to make sure it is the right woman for the purposes of our indicator: she has to be "eligible" to respond. So we have to ask ourselves the "w" questions: who, what, when, where – these will provide the ***eligibility criteria***. So let's start with our selected respondent. Let's have a look at the PIRS sheet and see whether the selected beneficiary in this household is eligible. Ask: What are the eligibility criteria for this respondent? We already know that our respondent is female; what else do we already know? *Answer: She is a direct beneficiary, because this is a beneficiary-based survey.*	• Butcher paper for diagram-ming the sentence • Tape • PIRS sheet

Ask: OK, so she's a beneficiary of FTF activities, but what kind of activities does she need to participate in to be eligible to contribute to this indicator?

Answer: She has to be a direct beneficiary of nutrition-sensitive ag activities.

[Add "the," "direct beneficiary of nutrition-sensitive agriculture activities" to the paper]

Ask: Sometimes age is a criterion for eligibility. What does your indicator definition sheet say about age as an eligibility criterion? Even if age is not a criterion for eligibility, how else might it matter for the survey operation?

Answer: Informed consent by parent/guardian and assent required for all respondents under age 18; if the woman is under age 18 and does not reside with a parent or guardian, she may not be able to respond to the interview at all.

Ask: Ok, now next, we know that our program is encouraging women to eat a variety of foods for optimal nutrition – let's go back to our "w" questions: What does our PIRS sheet say about when the woman should have eaten these foods?

Answer: Yesterday, during the day or night – in other words, the past 24 hours.

Finally, the PIRS sheet says that the indicator is measuring whether a woman has a minimum amount of diversity in her diet.

Do we ask her "Did you eat from diverse food groups yesterday"? No…

Ask: What do we need to ask her? What foods should be asked about?

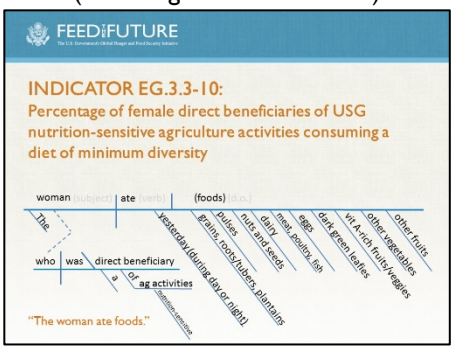
Answer: We need to know which foods the woman ate.

Add kinds of foods.

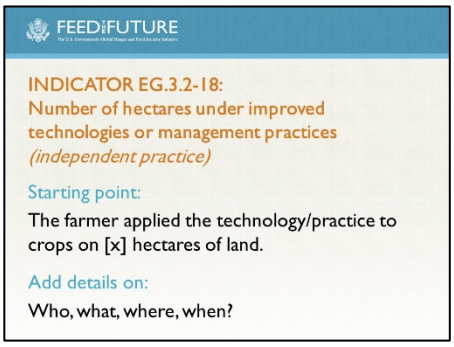
Ask: What about disaggregates for this indicator?

Slide 7

(Final diagrammed indicator)



Show slide to summarize the activity.

Time & Facilitator	Content/Activities	Materials
11:00 am (30 min.)	**Independent exercise: "Diagramming" the indicator** **Slide 8**  Say: We're going to use the indicator "Number of hectares under improved technologies or management practices," with the example from the NUTSENAG case study. Also, keep in mind that we will be using this indicator example as the basis for working out a questionnaire design in the subsequent exercise, so make sure you really engage with this exercise so you can move easily into the questionnaire design exercise. **Individual Exercise** Directions: • Individual exercise – participants diagram the indicator. • Ask for two participants to come to the butcher block paper and draw their diagrams. **Debrief diagrams:** Say: First thing we have to do is restate the indicator in normal language. If our program to increase the use of improved tech/practices was successful in just one household, we would say "The farmer applied the technology/practice to crops on a certain number of hectares of land." Remember, ultimately we will be asking the beneficiaries, household by household, whether they themselves applied these technologies or practices to their land. So it makes sense to rearticulate the indicator in plain English to align with how we will ask the questions to get the information we need. [diagram the first part of the sentence: farmer | applied | technology/practice]	• PIRS sheet for number of hectares under improved tech-nologies • NUTSENAG case study • 2 Butcher block paper

Say: Next, we need to make sure we get all the details in there. For example, it's not enough to ask our questionnaire of "a farmer" in the household. We have to make sure it is the right farmer for the purposes of our indicator. So we have to ask ourselves the "w" questions: who, what, when, where.

So let's start with our farmer. Let's look at the PIRS sheet and see what farmer in the household is eligible – what are the eligibility criteria – for our farmer respondent. Can the farmer be an indirect beneficiary? What about required disaggregates? What are the required disaggregates for this indicator?

[add "the," "direct beneficiary," and "male/female"]

Say: Ok, we know that our program is encouraging farmers to apply improved technologies and practices – let's go back to our "w" questions: What are the technologies/practices going to be applied to? You can answer that in terms of crops, and in terms of area units of land. We also need to know when the technology was used in the field. What's the time frame required? One year. However, what else does the PIRS sheet say? It says that if the same piece of land was cultivated during more than one season using improved technologies or practices, we can count that same piece of land as many times as it was cultivated using improved practices within the past year. Because we're talking to farmers about agriculture, we want to talk to them in terms of their seasons, but we can put appropriate dates with those so that everyone has a clear understanding about which months of the year we are discussing, and so there is no overlap.

Discuss units issue, need for conversion table.

[add prepositions for crops, units of area, and seasons]

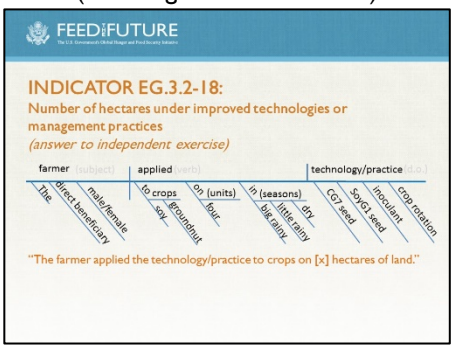
Say: Finally, we need to know about whether the farmer used an improved technology or management practice.

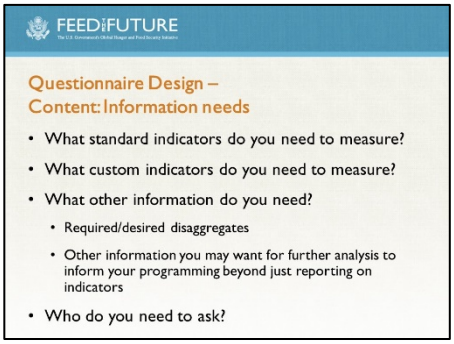
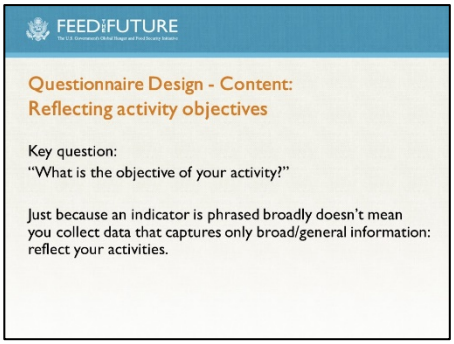
Ask: Is it enough to just ask, "Did you cultivate your plot using improved technologies?" Why or why not?

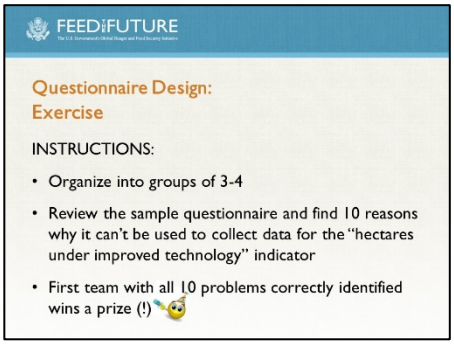
Answer: Need to *add technology types.*

Slide 9

(final diagrammed indicator)

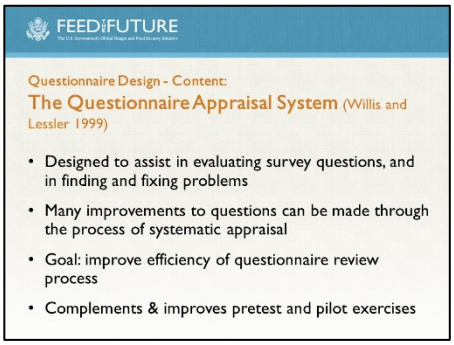


11:30 am (60 min.)	**Questionnaire Design and Development** **Slide 10**  Say: Now we have a plan for collecting our data. We've identified the indicators that we need to measure, and our next step is to determine how to collect the information required to calculate those indicators. We're at the point where we need to design our questionnaire.	
	Slide 11  Say: What to ask yourself when you're getting started: • What standard indicators do you need to measure? • What custom indicators do you need to measure? • What other information do you need? o Required/desired disaggregates? o Other information you may want for further analysis to inform your • programming beyond just reporting on indicators • Who do you need to ask?	
	Slide 12  Say: Yes, these indicators have been designed to be comparable across activity types for the purposes of reporting up, but they must also necessarily inform your own programming, so make	Facilitator needs to have an example of data they used to inform their adaptive approach to program mgmt

	sure the data you collect are data you can really use to inform your adaptive approach to program management. So for example, provide one example]. Then ask: Who can provide another example of what a good question looks like, in terms of being both useful in reporting out and adaptive management for your own activity, vs. a not-as-good question using the NUTSENAG case study? Note: Have 2 or 3 participants provide examples.	
	Slide 13  Say: Now, keeping in mind the indicator you just diagrammed on hectares under improved management/practice, I'm going to hand out a questionnaire with errors in it. Directions: • Divide into 3 to 4 groups • Identify 10 problems in the questionnaire and write them on your flip chart. • The first team with all 10 problems correctly identified wins a prize (!). Correct answer: 1. In the household roster (section 1), column 8 (eligibility), the eligibility criteria are not clearly reflected: it should refer explicitly to the direct beneficiary status of the respondent eligible for interview. 2. In the household roster (section 1), there is no column reflecting the sex of the household member. This means that we will not know for sure the sex of the direct beneficiary (which is required for sex disaggregation of indicators), and we will not know the sex composition of the household (which may not be explicitly required by the indicators, but is important information for further analysis and better understanding of the living conditions of the project's direct beneficiaries. 3. The opportunity to report on use of improved technologies/practices on the beneficiary's land in different seasons does not exist; however, the indicator notes that if a piece of land is worked with improved tech/mgmt practices during, e.g., 2 seasons within a year, that area of land should be counted 2 times for the year, not just once. Therefore, it is necessary to collect data on use of agricultural land for each season within the year. 4. In Module D-1 and D-2, the structure of the questionnaire does not allow the opportunity to report on more than one crop being planted in each plot. So it therefore doesn't allow for reporting of intercropping, polyculture, etc. 5. In Module D-1, item D03, units of area are not specified alongside quantity. You must have units - and not just hectares, but also local units. 6. Soy beans are not reflected in the crop list. 7. Groundnuts are not reflected in the crop list. 8. CG7 seed is not specified in Module J or elsewhere. 9. Soy G1 seed is not specified in Module J or elsewhere. 10. Inoculant is not specified in Module J or elsewhere.	Aredonia Household, Agricultural Production and Technologies Flip charts and markers for each team. Prizes

Say: OK, so now that you've really engaged with the questionnaire, I want to share just a few additional key points with you about questionnaire design and development.

Slide 14



Say: The QAS is a very valuable tool designed to assist in evaluating survey questions, and in finding and fixing problems, before the questions go into the field.

Many improvements to questions can be made through the process of systematic appraisal.

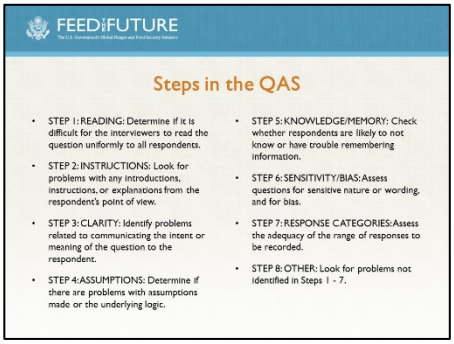
The goal is to improve the efficiency of the questionnaire review process by providing developers with an easy-to-use method for identifying and correcting potential problems with draft questionnaire items.

The QAS is not a substitute for a questionnaire pretest or pilot exercise – but it is a time-saving tool to improve outcomes and utility of pretests and pilots, which take place at a very time-sensitive point in the survey.

Once the core questionnaire design team thinks it is done reviewing the content of the questionnaire, please share it with seasoned field staff, data management team leads, and data analysis leads for their rigorous review and comment. These team members will review the questionnaire from different points of view and will each pick up problems that others do not see.

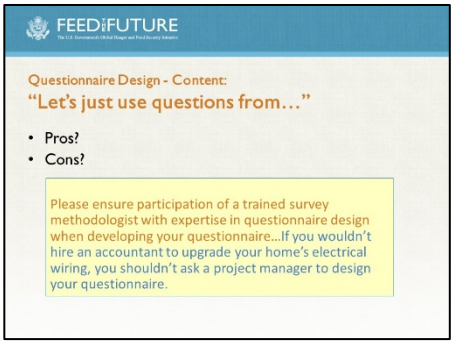
Also: this should be a group effort – multiple layers of review from methods and subject matter experts should be performed, and formatting should be rigorously checked by your most detail-oriented, eagle-eyed staff. Education, communications, literature majors – people like this tend to be very good at this critical task.

Slide 15



	Review the steps on the slide adding information below: STEP 1 - READING: Determine if it is difficult for the interviewers to read the question uniformly to all respondents. 1a. WHAT TO READ: Interviewer may have difficulty determining what parts of the question should be read. 1b. MISSING INFORMATION: Information the interviewer needs to administer the question is not contained in the question. 1c. HOW TO READ: Question is not fully scripted and therefore difficult to read. STEP 2 - INSTRUCTIONS: Look for problems with any introductions, instructions, or explanations from the respondent's point of view. 2a. CONFLICTING OR INACCURATE INSTRUCTIONS, introductions, or explanations. 2b. COMPLICATED INSTRUCTIONS, introductions, or explanations. STEP 3 - CLARITY: Identify problems related to communicating the intent or meaning of the question to the respondent. 3a. WORDING: Question is lengthy, awkward, ungrammatical, or contains complicated syntax. 3b. TECHNICAL TERM(S) are undefined, unclear, or complex. 3c. VAGUE: There are multiple ways to interpret the question or to decide what is to be included or excluded. 3d. REFERENCE PERIODS are missing, not well specified, or in conflict. STEP 4 - ASSUMPTIONS: Determine if there are problems with assumptions made or the underlying logic. 4a. INAPPROPRIATE ASSUMPTIONS are made about the respondent or about living situation. 4b. ASSUMES CONSTANT BEHAVIOR or experience for situations that vary. 4c. DOUBLE-BARRELED: Contains more than one implicit question. STEP 5 - KNOWLEDGE/MEMORY: Check whether respondents are likely to not know or have trouble remembering information. 5a. KNOWLEDGE may not exist: Respondent is unlikely to know the answer to a factual question. 5b. ATTITUDE may not exist: Respondent is unlikely to have formed the attitude being asked about. 5c. RECALL failure: Respondent may not remember the information asked for. 5d. COMPUTATION problem: The question requires a difficult mental calculation. STEP 6 - SENSITIVITY/BIAS: Assess questions for sensitive nature or wording, and for bias. 6a. SENSITIVE CONTENT (general): The question asks about a topic that is embarrassing, very private, or that involves illegal behavior. 6b. SENSITIVE WORDING (specific): Given that the general topic is sensitive, the wording should be improved to minimize sensitivity. 6c. SOCIALLY ACCEPTABLE response is implied by the question. STEP 7 - RESPONSE CATEGORIES: Assess the adequacy of the range of responses to be recorded. 7a. OPEN-ENDED QUESTION that is inappropriate or difficult. 7b. MISMATCH between question and response categories. 7c. TECHNICAL TERM(S) are undefined, unclear, or complex. 7d. VAGUE response categories are subject to multiple interpretations. 7e. OVERLAPPING response categories. 7f. MISSING eligible responses in response categories. 7g. ILLOGICAL ORDER of response categories. STEP 8 - OTHER PROBLEMS: Look for problems not identified in Steps 1 - 7. 8. Other problems not previously identified.	

Slide 16



Animated slide

Say: There is a tendency to "just take the questions from XYZ standardized survey instrument" because "the questions *must* be good."

Ask: Who can tell us some good things about using questions from other researchers' instruments?

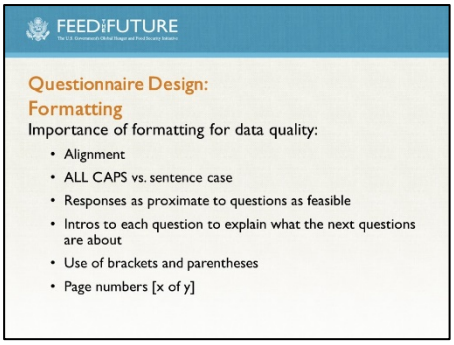
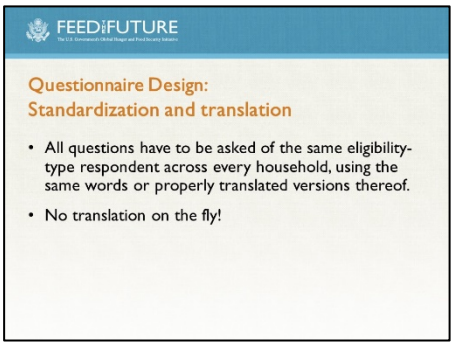
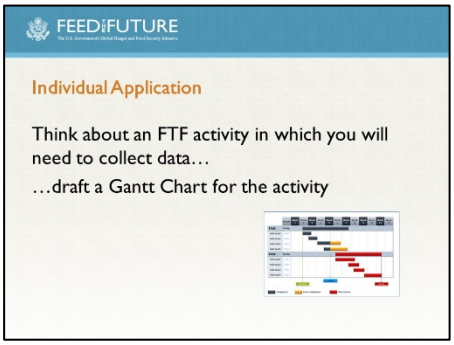
Ask: Who can tell us some pitfalls that can occur as a results of using questions from other researchers' instruments?

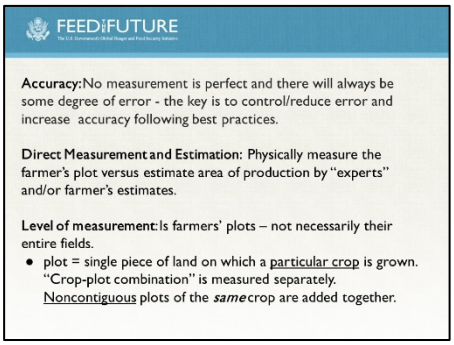
Ask: Who can tell us what a validation study is, in the context of survey research?

Slide 17

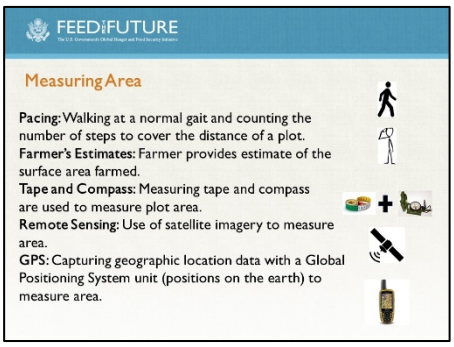
Say: You will need conversion tables for local units – whether they are units to measure quantity of land or to measure quantity of foodstuffs.

Conversion tables should be prepared in advance; do not ask respondents to convert in the field.

	Slide 18  Say: Whether on paper or tablet, the way that the questions and responses appear to the interviewer makes a big difference to the quality of data.	
	Slide 19  Ask: Why do you think that All questions have to be asked of the same eligibility-type respondent across every household, using the same words or properly translated versions thereof. Refer to the translation protocol in the participant guide or handout.	Translation protocol
	Optional (but encouraged) **Application Exercise** **Slide 20**  Individual Activity • Refer participants to their participant guide • Draft a Gantt Chart and identify data collection tool they will use for an FTF activity in which they need to collect data	

	Pair Activity • Each partner shares their Gantt Chart • Partners ask questions/provide feedback Plenary Debrief • How did drafting a Gantt help you visualize and organize your data collection process?	
12:30 pm (60 min.)	Lunch	
1:30 pm (120 min.) • 20 min to prepare • 20 min walk • 60 min activity • 20 min walk	**Transition to Measuring Area** **Slide 21**  Say: We commonly collect data measuring surface area, for an example of a farmer's plot. Ask: What have been our experiences estimating areas? *Note: Get examples for 3 to 4 participants.*	
	Approaches to Measuring Area **Slide 22**  Review slide then add: Some best practices for measuring area include: • Consistency in measuring techniques • Calibrating instruments • Using standard reference datasets with known accuracy • Reconciling scale issues • Documenting methodology used	

Slide 23

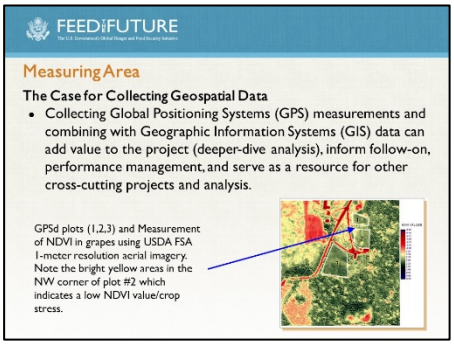


Review the common methods for measuring area shown on the slide. As you review the methods, additional comments include:

- Pacing: waling an area and counting steps
- Farmer's Estimates: Can be accurate when combined with direct measurements and regression analysis, but may be subjective to larger error depending on the circumstances (e.g. non-standard, local measurement unit). However, new research indicates that farmer bias is significant.
- Tape and Compass: Polygon, rectangulation and triangulation methods enable straight line measurements to estimate area. CAVEATS: Requires specialized training, good math skills and enumerators must be well trained with using compasses.
- Remote Sensing: accuracy will vary depending on resolution. Not highly accurate especially for small plots. Best use is to combine with GPS for overlay reference.
- GPS: Most accurate - requires consideration of benefits of collecting georeferenced data which can be used with other data to enhance performance monitoring. Instrument and human error need to be controlled with best practices.

Say: In a few minutes we are going to go outside and try these methods!

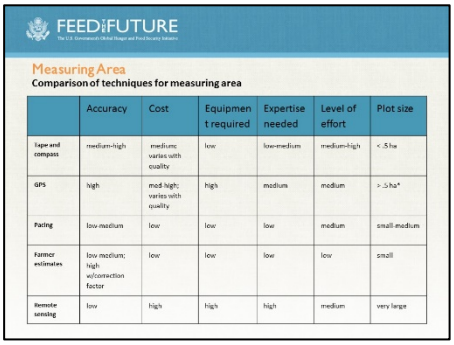
Slide 24



Say: With GPS surveys, you can calculate positions on the surface of the earth that can be compared to other mapped data (soils, remotely sensed crop cover/health, hydrology, slope, infrastructure etc.) Examples of deeper analyses with georeferenced data include time-distance, vulnerability, crop health and yield prediction. Check with your Mission GIS specialist (if you have one) and/or the GeoCenter to order imagery. Combining satellite imagery with ground truthed geocoded data can greatly increase accuracy. You don't need to walk through fields and potentially damage crops!

GPS: Accuracy and affordability have greatly improved (=/- 3 meters, ~ $699 USD). GPS when combined with good practices, farmer estimates, and remotely sensed imagery it can be a viable tool. does not require extensive learning curve, however, it does require calibration. NOTE: with the increased use of drones and the relatively inexpensive equipment required to capture accurate high resolution imagery, GPS data collection is greatly improving. The Global Open Data for Agriculture and Nutrition (GODAN) organization is promoting the use of "precision agriculture" which requires relevant, timely and accurate information. Real-time data collected in the field with GPS and drone technology can help farmers increase yields.

Slide 25



FEED the FUTURE

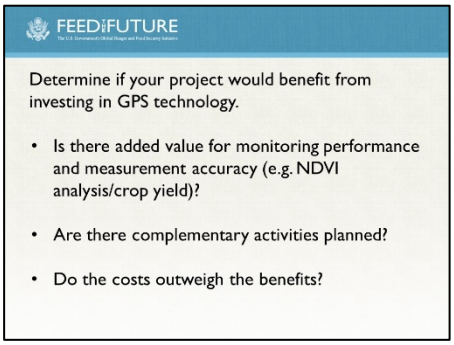
Measuring Area

Comparison of techniques for measuring area

	Accuracy	Cost	Equipment required	Expertise needed	Level of effort	Plot size
Tape and compass	medium-high	medium; varies with quality	low	low-medium	medium-high	< .5 ha
GPS	high	med-high; varies with quality	high	medium	medium	> .5 ha*
Pacing	low-medium	low	low	low	medium	small-medium
Farmer estimates	low-medium; high w/correction factor	low	low	low	low	small
Remote sensing	low	high	high	high	medium	very large

Say: *New studies show that GPS measurements, even for smaller fields (> .5 ha) can be more accurate than methods prone to high levels of bias e.g. Farmer estimates and Pacing. See Measurement, Farm Size and Productivity (LSMS-ISA/WorldBank) http://siteresources.worldbank.org/INTSURAGRI/Resources/7420178-1294259038276/Fact_Artifact_Brief.pdf

Slide 26



FEED the FUTURE

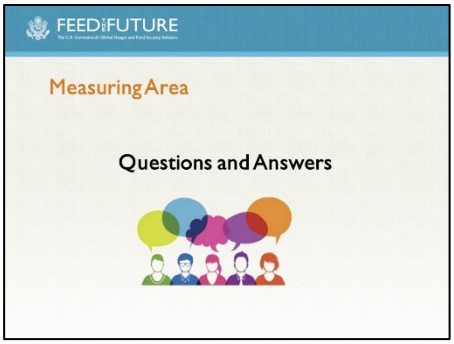
Determine if your project would benefit from investing in GPS technology.

- Is there added value for monitoring performance and measurement accuracy (e.g. NDVI analysis/crop yield)?
- Are there complementary activities planned?
- Do the costs outweigh the benefits?

Say: On last comment on methods of estimated area. If you are thinking of using GPS technology, things to consider to determine whether or not your project would benefit from investing in GPS technology include:

- Is there a local extension service that would benefit from digital and/or paper maps that can be generated from the georeferenced data (local capacity building)?
- Are there follow-on activities planned or deeper analysis like distance to markets, other services, irrigation systems, etc.?
- Are there adequate resources available to use data (technical knowledge, software etc.)? If so, include language requiring collection of GPS/geospatial data including derived data. This will ensure that partners include the cost of purchasing equipment, data collection, and processing in their proposals. Discuss issues with PII.

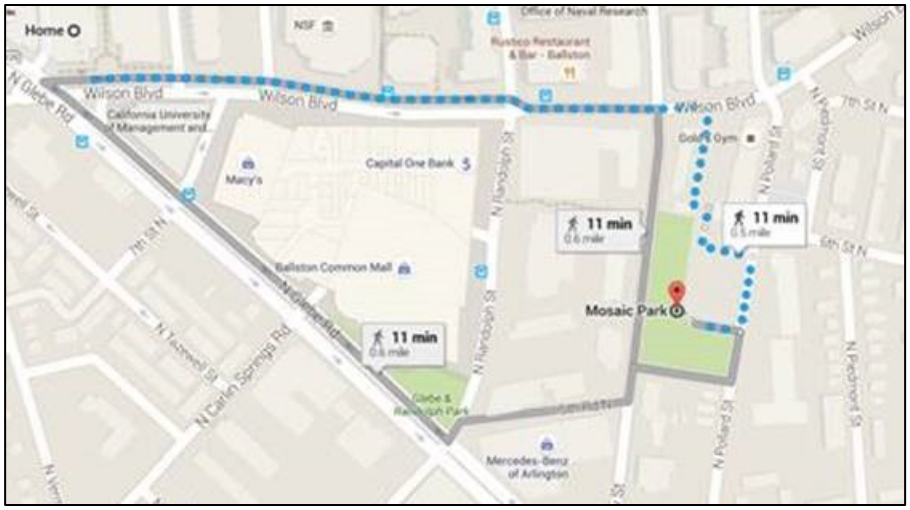
Slide 27



Ask if there are any questions.

Field Activity in Measuring Area

The field exercise takes approximately 2 hours. You need to find a location near the training facility in which to conduct the measuring activity. If you are conducting the session at TRG in Ballston, Arlington, VA, the suggested location is Mosaic Park, 538 North Pollard St, Arlington, VA.



Directions:
Note to facilitators: The handout, "Group Exercise Instructions for Estimating Area" has the complete instructions for the exercise.

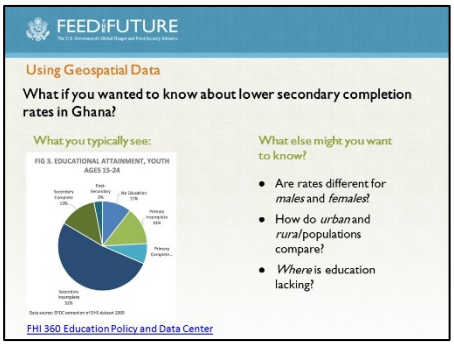
- Divide the participants into three groups
  - Group 1 will delimit the plot using Pacing
  - Group 2 will use the handheld GPS
  - Group 3 will use "Farmer's" estimate
- Handout:
  - Directions for the exercise
  - How to calculate an area in the field
  - GPS Field Protocol
  - Estimating the area of a triangle

Say: The purpose of this exercise is to demonstrate how different measuring approaches result in different results. GPS should be most accurate but we will compare results to determine how much they vary and which is the most accurate.

- Handheld GPS with extra batteries
- Marbles
- Tape measure
- Google earth sketch of plot to be measured

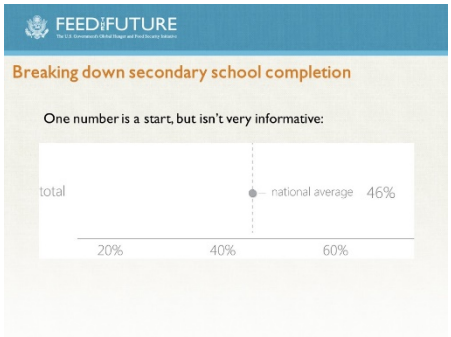
Handouts:

- Directions for the exercise
- Pacing
- GPS
- Farmer's Estimate
- Bottled water

3:30 pm (15 min.)	Break	
3:45 pm (60 min.)	**Disaggregating Data** **Slide 28**  Say: What would you estimate the lower secondary school completion rate to be in Ghana? Nationally, the average is about 46% for kids between the ages of 15-24-- and often you just see these high-level numbers in something like a pie chart. While that number is a good first glance at the data, how the data vary can provide more interesting information about exactly *who* and *where* those numbers are different. Data are from UNICEF MICS survey, 2011 http://www.education-inequalities.org/countries/ghana#?dimension=region&group=all&year=latest Disaggregating data by geography and demographics is important for two reasons. First, geographic data provides the foundation for investigating geographic variation in performance. This allows us to ask and answer questions such as: "Does the performance of an activity vary within the implementation area?" and "Where is an activity over- or under-performing?" The same questions can be asked of different demographic groups, like between males and females, urban and rural populations, or among wealth groups Second, disaggregating data by geography creates a set of unique identifiers, such as administrative units or populated places that locate observations in the data. These same unique identifiers are also present in other geographically disaggregated datasets, such as performance monitoring indicators from other sectors, context indicators, and any other relevant data. By creating a common link among multiple datasets, geographically disaggregated data allows us to ask and answer additional questions, such as "Does the pattern of geographic variability in an activity's performance relate to geographic variation observed in a contextual indicator?" and "How does the pattern of geographic variation in one activity's performance compare to the variation in another activity's performance?" A more practical example question comparing two performance indicators with a context indicator may be, "Is high performance in the nutrition activity and the female employment activity occurring in the same areas?" and an example question comparing a performance indicator with a contextual indicator may be, "Does the nutrition activity perform better in areas where female employment rates are higher?" Asking and answering these types of questions through data analysis and visualization is essential to understanding the variation in performance measures and which factors may contribute to the variation. Without geographically disaggregated performance indicators or demographically disaggregated indicators, this type of analysis cannot be applied to enhance	

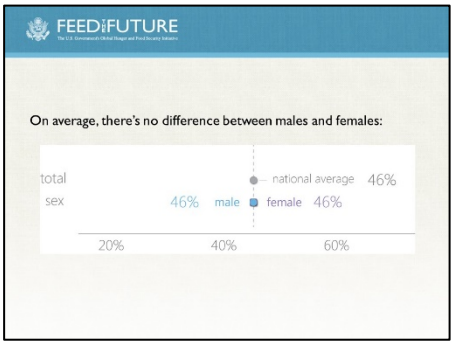
the learning and reflecting process and contribute to adaptive management for improved results.

Slide 29



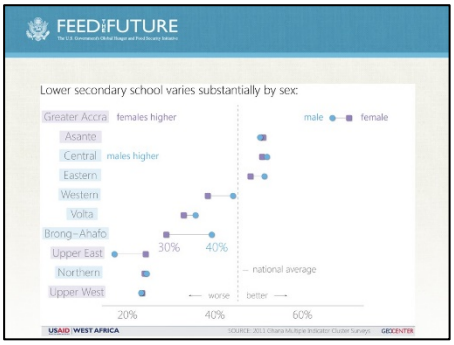
Say: Let's break down these numbers into their component parts.

Slide 30



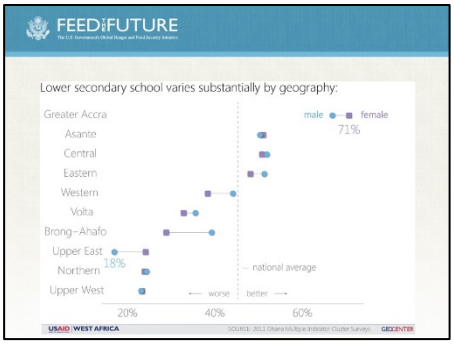
Say: When we disaggregate the data by sex, we see there's no different between males and females.

Slide 31

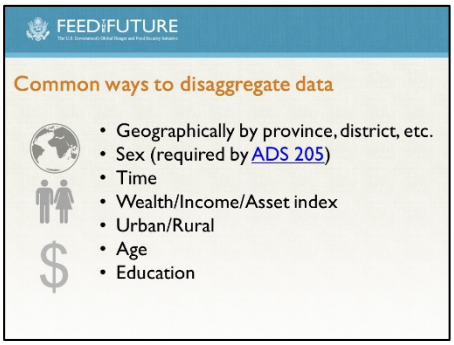


Say: However, when we disaggregate the day by geography, we begin to see a difference.

Slide 32



Slide 33



Flipchart

Say: The most common ways that FTF data are disaggregated are by:

- Geographically by province, district, etc.
- Sex (required by ADS 205)
- Time
- Wealth/income/asset index
- Urban/rural
- Age
- Education

Slide 34

Animated slide.

Say: let's look at how data can be disaggregated geographically.

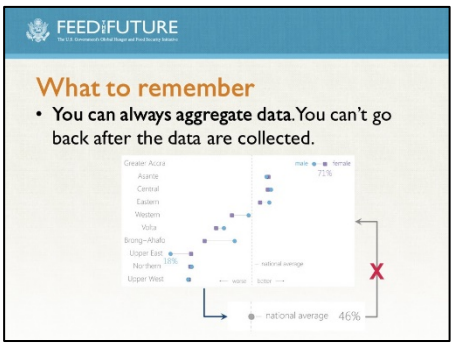
- It is common for countries to be divided up into 3 or more levels of administrative units that are referred to 1st Administrative Units (Province, Region, Department, etc.), 2nd Administrative Units (District, etc.) and so on and serve that serve as geographic boundaries that divide the country.

- Administrative units are commonly used as enumeration areas for statistical data that describes the population within the administrative unit such as health indicators, employment indicators, etc., and sometimes data is collected at the point location scale using latitude and longitude coordinates. The geographic scale of that data depends on at which administrative unit level the data was collected or if it was collected at the point location scale.
- In this presentation, we'll be using Peru as an example but the same concept applies for other countries.

There are different geographic scales:

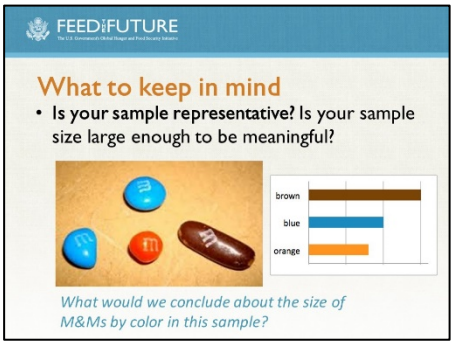
- The Region or Admin 1 scale is shown on the left.
  - Data collected with location information at the Region/Admin 1 scale can only be displayed at this scale. We can't disaggregate data at this scale to be shown at the District/Admin 2 or Point Location/Lat./Long. scale because we don't have information at those scales.
- District or Admin 2 scale is shown in the middle.
  - Data collected with location information at the District/Admin 2 scale can be displayed at this scale and aggregated to be displayed at the Region/Admin 1 scale, we can't disaggregate data at this scale to be shown at the Point Location/Lat./Long. scale because we don't have that information.
- Point Location scale data is shown on the right.
  - Data collected with location information at the Point location scale can be displayed at this scale and aggregated to be displayed at the District/Admin 2 scale or Region/Admin 1 scale because we have that information.

Slide 35



Read slide.

Slide 36



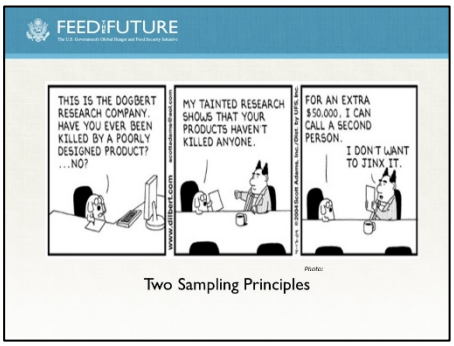
Say: And also keep in mind that you need a representative sample. Ask yourself: Is my sample size large enough to be meaningful? Then eat the M&Ms!

Transition to Sampling Basics

Slide 37

Say: In the last slide, I mentioned that you need to think about your sample size. Let's continue exploring sampling.

Slide 38



Say: This is going to be a quick session. We're not going to go into detail on sample design nor sources of sampling and non-sampling error. There are good references available that provide guidance of sampling design, including the recently released Feed the Future Annual Beneficiary-Based Survey Sampling Guide and accompanying sample calculator. I just want to cover two basic principles that are often confused when people talk about the desired characteristics of a survey they are commissioning, designing or analyzing.

Slide 39

Say: I'm sure you have heard the following statement or something similar. "We want the sample to be representative at a district level."

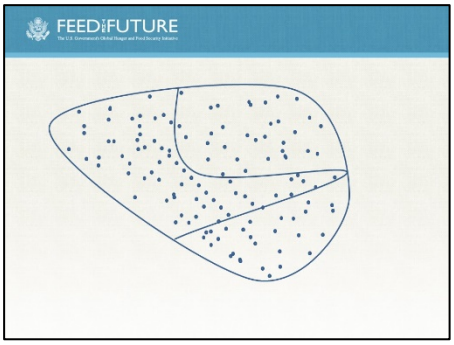
Ask: What do you think the person saying this means? What do you think they want to be able to do with the data in terms of indicator estimates?

Write participation responses on a flipchart.

Say: Now, here's part of the guidance for the interim population-based surveys. "The interim is designed to provide indicator estimates with an acceptable level of statistical precision."

Let's see what that means.

Slide 40

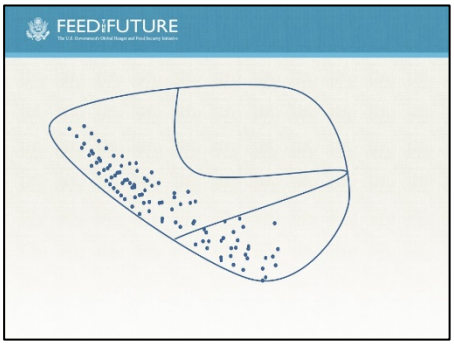


Say: This is our three district ZOI. Each dot represents one household sampled in a survey.

Ask: Do you think this a representative sample of the ZOI?

Answer: Yes, it is a representative sample because the households selected are randomly distributed across the ZOI.

Slide 41



Say: Here's the same sample of households.

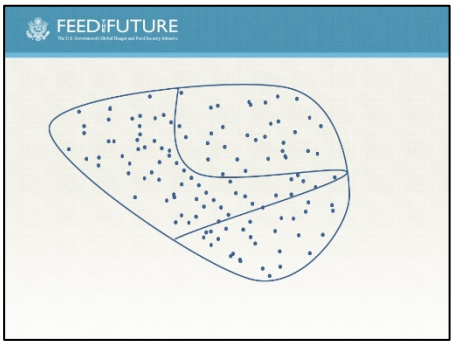
Ask: Do you think this is a representative sample of the ZOI?

Answer: N, of course it isn't It's a biased sample that perhaps will be representative of the south-western portion of the ZOI, but not of the whole ZOI. The opposite of representative is biased.

Say: Let's go back to what you thought the person wanted when they said they wanted a representative sample. You are right that what people usually mean when they say this is that

they want to be able to calculate indicator estimates at the district level in addition to the ZOI.

Slide 42



Say: Our guidance for the interim population-based survey in the ZOI was that the sample size should be large enough for poverty, stunting and other key indicators to be calculated with a 10% margin of error. The 10% margin of error is the measure of how precise we wanted the indicator estimates to be. Let's say this represents the sample size required to calculate the key indicators at the ZOI level with no more than 10% margin of error. Say 1,000 households. Look at how much of the sample falls in each of the three districts.

Ask: Do you think that the estimates for each of the three districts could be calculated with the same margin of error or precision as the overall ZOI estimate? Yes or no?

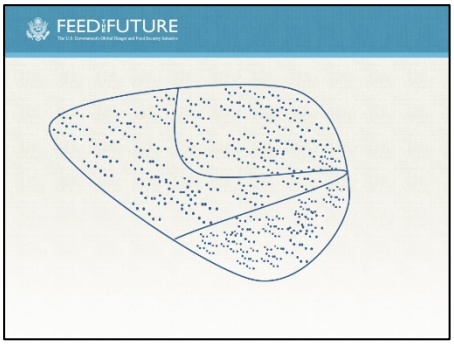
Pick a participant who says no and ask them why not?

Say: Correct, because the sample size in each district is smaller than the sample size required for a 10% margin of error estimate. That means that the margin of error will be more than 10% at the district level.

Ask: So what would be required in terms of sample to have district-level estimates with the sample level of precision?

Answer: see next slide

Slide 43



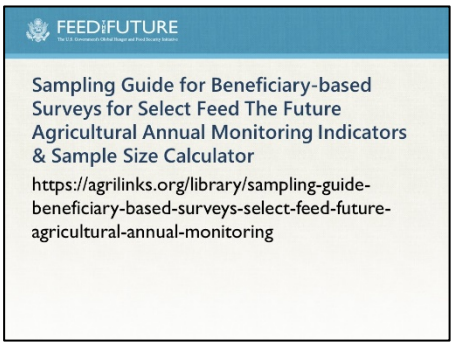
Say: Correct. The sample size for the ZOI survey would be three-times as large or 3,000 households, 1,000 per district in order to have district-level estimates at the 10% level of precision. Often, when people find out that they need to multiple the sample size by the number of districts for which they want estimates, they decide to forget about district-level estimates or accept a lower level of precision at the district-level.

Slide 44

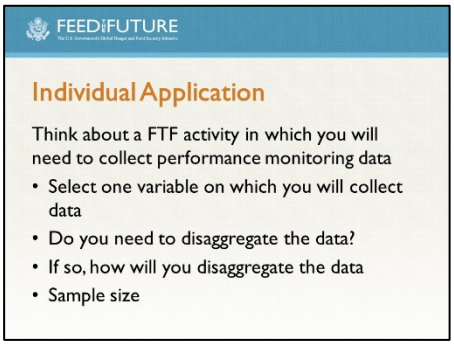
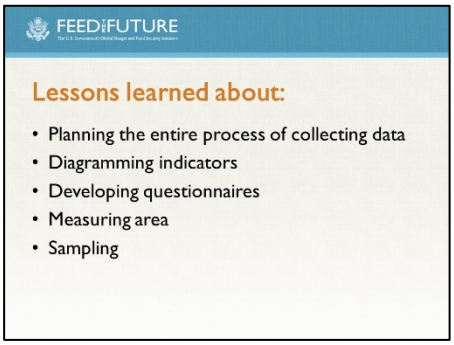
Ask: So let's go back to our original statement. How might we reword it to say what we really mean it to say? Write participation responses on a flipchart.

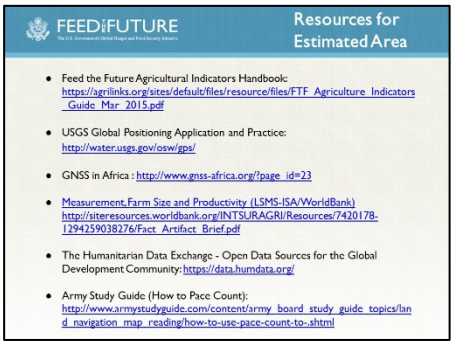
Say: We want the sample size to be large enough to give us district-level estimates at a 10% level of precision.

Slide 45



Say: Finally, here is you can find the sampling guide and calculator I referenced at the beginning of the session.

4:45pm (30 min.)	***Optional (but encouraged)*** **Individual Application** **Slide 46**  Individual Activity • Refer participants to their participant guide and the individual application in which they created a Gantt Chart for one of their FTF activities • Give the following directions: o Think about an FTF activity in which you need to collect performance monitoring data. – Select one variable on which you will collect data – Do you need to disaggregate the data – If so, how will you disaggregate the data – Sample size Pair Activity • Each partner shares their individual plans for collecting the data • Partners ask questions/provide feedback Plenary Debrief • Ask for two or three examples of variables people selected and how they planned to collect the data (e.g., disaggregate, sample size, etc.) **Slide 47**  Ask different participants to highlight lessons learned about: o Planning the data collection process o Diagramming indicators o Developing questionnaires o Measuring area o Sampling	

	Resources **Slide 48**  	

SPS LOCATION: Program Sub-element EG.3.3: Nutrition-Sensitive Agriculture
INITIATIVE AFFILIATION: Feed the Future – IR 6: Improved access to diverse and quality foods

INDICATOR TITLE: EG.3.3-10 Percentage of female direct beneficiaries of USG nutrition-sensitive agriculture activities consuming a diet of minimum diversity

DEFINITION:
A female direct beneficiary of a nutrition-sensitive agriculture activity is defined as a female of any age who is directly reached by the activity with agriculture-related intervention(s) (e.g. training, technical assistance, input access). Her interaction with the activity should be significant, meaning that a woman reached by an agriculture activity solely through brief attendance at a meeting or gathering should not be counted as beneficiary.

This indicator is applicable to nutrition-sensitive agriculture activities with explicit consumption, diet quality, or other nutrition-related objectives and/or outcomes. These nutrition-sensitive agriculture activities should be implementing components addressing one or more of the three agriculture-to-nutrition pathways: Food Production, Agricultural income, and Women's Empowerment.[1]

A female is considered to be consuming a diet of minimum diversity if she consumed at least five of 10 specific food groups during the previous day and night.[2]

The 10 food groups are:

1. Grains, white roots and tubers, and plantains
2. Pulses (beans, peas and lentils)
3. Nuts and seeds[3] (including groundnut)
4. Dairy
5. Meat, poultry, and fish
6. Eggs
7. Dark green leafy vegetables
8. Other vitamin A-rich fruits and vegetables
9. Other vegetables
10. Other fruits

The numerator for this indicator is the total number of female direct beneficiaries of the nutrition-sensitive agriculture activity who consumed 5 out of 10 food groups during the previous day and night.

The denominator is the total number of female direct beneficiaries of the nutrition-sensitive agriculture activity.

If data for this indicator are collected through a beneficiary-based sample survey, the numerator is the sample-weighted extrapolated total number of female direct beneficiaries of the nutrition-sensitive agriculture activity who consumed 5 out of 10 food groups during the previous day and night. The denominator is the sample-weighted extrapolated total number of female direct beneficiaries of the nutrition-sensitive agriculture activity with food group data.

Data should be collected annually at the same time of year since the indicator will likely display considerable seasonal variability. If possible, data should be collected at the time of year when diversity is likely to be the lowest to best capture improvements in year-round

[1] See Improving Nutrition through Agriculture Technical Brief Series, https://www.spring-nutrition.org/publications/series/improving-nutrition-through-agriculture-technical-brief-series
[2] See Introducing the Minimum Dietary Diversity – Women (MDD-W) Global Dietary Diversity Indicator for Women, http://www.fao.org/fileadmin/templates/nutrition_assessment/Dietary_Diversity/Minimum_dietary_diversity_-_women__MDD-W__Sept_2014.pdf. Additional detail on collecting and analyzing minimum dietary diversity indicator may be found in Minimum Dietary Diversity for Women – A Guide to Measurement (http://www.fao.org/3/a-i5486e.pdf)
[3] "Seeds" in the botanical sense includes a very broad range of items, including grains and pulses. However, "seeds" is used here in a culinary sense to refer to a limited number of seeds, excluding grains or pulses, that are typically high in fat content and are consumed as a substantial ingredient in local dishes or eaten as a substantial snack or side dish. Examples include squash, melon or gourd seeds used as a main ingredient in West African stews and sesame seed paste (tahini) in some dishes in Middle Eastern cuisines.

consumption of a diverse diet. However, Feed the Future recognizes that data for this indicator is likely to be collected in the post-harvest/sale period when data for other Required if Applicable (RiA) indicators, such as gross margins and incremental sales, are collected. In this case, the indicator value may reflect a best-case scenario in terms of yearly access to a quality and diverse diet by female beneficiaries.

Notes:
1. This indicator complements the Feed the Future indicator "Prevalence of women of reproductive age consuming a diet of minimum diversity," which measures minimum dietary diversity among women 15-49 years old in the Feed the Future Zone of Influence through a population-based survey.
2. Using the data collected for this indicator, activities may wish to create a custom indicator measuring the average number of food groups consumed by female beneficiaries. This will allow managers to better understand progress made under this indicator, and would be especially useful in situations where diet diversity is very low at baseline.

RATIONALE:
This indicator will capture results under the Increased Availability of and Access to High-quality Nutrition-Sensitive Services and Commodities Sub-IR under USAID's Multisectoral Nutrition Strategy Results Framework, and the Improved Access to Diverse and Quality Foods IR of the Feed the Future Results Framework. Minimum Dietary Diversity – Women (MDD-W) is a validated proxy indicator for the quality of the diet for women of reproductive age (15-49 years). Women of reproductive age consuming foods from five or more of the 10 food groups are more likely to consume a diet higher in micronutrient adequacy than women consuming foods from fewer than five of these food groups [3]. While it is possible that some female direct beneficiaries measured under this indicator will be younger than 15 years or 50 years or older, we assume the majority will be women of reproductive age. Thus the indicator would still be a validated proxy for the likelihood of micronutrient adequacy for the majority of beneficiaries captured, while still capturing the consumption of a diverse diet for the remainder.

UNIT:	*DISAGGREGATE BY:*
Percent	In addition to reporting the percent value, the number of female direct beneficiaries of the nutrition-sensitive agriculture activity should be reported, to allow a weighted average percent to be calculated across activities for entry into the PPR and across operating units for reporting on the Nutrition Strategy.
TYPE:	*DIRECTION OF CHANGE:*
Outcome	Higher is better

DATA SOURCE:
Data for this indicator can be collected through routine reporting systems or annual (or more frequent) beneficiary-based surveys.

MEASUREMENT NOTES:
- LEVEL OF COLLECTION: Activity-level, direct beneficiaries
- WHO COLLECTS DATA FOR THIS INDICATOR: Implementing partners
- HOW SHOULD IT BE COLLECTED: Direct beneficiary sample surveys; data collection through routine reporting systems
- FREQUENCY OF COLLECTION: Annually

TYPE:	*DIRECTION OF CHANGE:*
Outcome	Higher is better

DATA SOURCE:

Implementing Partners will collect this data through census or survey of direct beneficiaries, direct observations of land, farm records, and activity documents.

MEASUREMENT NOTES:

- LEVEL OF COLLECTION: Activity-level, direct beneficiaries; only those hectares affected by USG assistance, and only those newly brought or continuing under improved technologies/management during the current reporting year
- WHO COLLECTS DATA FOR THIS INDICATOR: Implementing partners
- HOW SHOULD IT BE COLLECTED: Via survey or other applicable method
- FREQUENCY OF COLLECTION: Annually reported

SPS LOCATION: Program Element EG.3.2: Agricultural Sector Capacity

INITIATIVE AFFILIATION: Feed the Future – IR 1: Improved Agricultural Productivity / Sub IR 1.2: Enhanced Technology Development, Dissemination, Management and Innovation

INDICATOR TITLE: EG.3.2-18 Number of hectares under improved technologies or management practices with USG assistance

DEFINITION:

This indicator measures the area (in hectares) of land cultivated using USG-promoted improved technology(ies) or management practice(s) during the reporting year. Technologies to be counted are agriculture-related, land-based technologies and innovations, including those that address climate change adaptation and mitigation. The indicator does not count application of improved technologies in aquaculture ponds, even though area of ponds is measured in hectares under indicator EG.3-6 Gross Margin per hectare. Significant improvements to existing technologies should also be counted.

Examples of relevant technologies include:

· Crop genetics: e.g. improved/certified seed that could be higher-yielding, higher in nutritional content (e.g. through biofortification, such as vitamin A-rich sweet potatoes or rice, or high-protein maize), and/or more resilient to climate impacts; improved germplasm.

· Cultural practices: e.g. seedling production and transplantation; cultivation practices such as planting density, moulding; mulching.

· Pest management: e.g. Integrated Pest Management; appropriate application of insecticides and pesticides.

· Disease management: e.g. improved fungicides, appropriate application of fungicides.

· Soil-related fertility and conservation: e.g. Integrated Soil Fertility Management; soil management practices that increase biotic activity and soil organic matter levels, such as soil amendments to increase fertilizer-use efficiency (e.g. mulching); fertilizers; erosion control.

· Irrigation: e.g. drip, surface, sprinkler irrigation; irrigation schemes.

· Water management - non-irrigation-based: e.g. water harvesting; mulching.

- Climate Mitigation: technologies selected because they minimize emission intensities relative to other alternatives. Examples include low- or no-till practices, efficient nitrogen fertilizer use.

-Climate Adaptation: technologies promoted with the explicit objective of adapting to current climate change concerns. Examples include drought and flood resistant varieties, conservation agriculture.

· Other: e.g. improved mechanical and physical land preparation.

If an activity is promoting a technology for multiple benefits, the area under the technology may be reported under each relevant category under the Technology Type disaggregate. For example, mulching could be reported under Cultural practices (weed control), Soil-related fertility and conservation (organic content) and Water management (moisture control), depending on how of for what purpose(s) or benefit(s) the activity was promoted.

If a beneficiary cultivates a plot of land more than once in the reporting year, the area should be counted each time one or more improved technologies is applied. For example, because of access to irrigation as a result of a Feed the Future activity, a farmer can now cultivate a

second crop during the dry season in addition to her/his regular crop during the rainy season. If the farmer applies Feed the Future promoted technologies to her/his plot during both the rainy season and the dry season, the area of the plot would be counted twice under this indicator. However, the farmer would only be counted once under *EG.3.2-17 Number of farmers and others who have applied improved technologies*.

If a group of beneficiaries cultivate a plot of land as a group, e.g. an association has a common plot on which multiple association members cultivate together, and on which improved technologies are applied, the area of the communal plot should be counted under this indicator and recorded under the sex disaggregate "association-applied". In addition, the association should be counted once under indicator *EG.3.2-20 Number of for-profit private enterprises, producer's organizations… and community-based organizations (CBOs) that applied improved organization-level technologies or management practices*.

If a lead farmer cultivates a plot used for training, e.g a demonstration plot used for Farmer Field Days or Farmer Field School, the area of the demonstration plot should be counted under this indicator. In addition, the lead farmer should be counted as one individual under indicator *EG.3.2-17 Number of farmers and others who have applied improved technologies*. However, if the demonstration or training plot is cultivated by extension agents or researchers, (a demonstration plot in a research institute, for instance) neither the area nor the extension agent or researcher should be counted under this indicator or indicator EG.3.2-17.

If more than one improved technology is being applied on a hectare, count the hectare under each technology type (i.e. double-count). In addition, count the hectare under the Total w/one or more improved technology category. Since it is very common for Feed the Future activities to promote more than one improved technology, not all of which are applied by all beneficiaries at once, this approach allows Feed the Future to accurately track and count the uptake of different technology types, and to accurately count the total number of hectares under improved technologies.

If a direct beneficiary sample survey is used to collect data for this indicator, the sample weighted estimate of the total number of hectares across all beneficiaries for each Technology Type and Sex disaggregate must be calculated using appropriate sample weights before being entered into FTFMS to ensure accurate calculation of weighted averages across all implementing mechanisms at the Operating Unit level as well as across all Feed the Future countries for global reporting.

Please refer to the Feed the Future Agricultural Indicators Guide (https://agrilinks.org/library/feed-the-future-ag-indicators-guide) for collecting and interpreting the data required for this indicator.

RATIONALE:

This indicator tracks successful application of technologies and management practices in an effort to improve agricultural productivity, agricultural water productivity, sustainability, and resilience to climate change. In the Feed the Future (FTF) results framework, this indicator reports contributions to IR 1: Improved Agricultural Productivity and Sub IR 1.2: Enhanced Technology Development, Dissemination, Management and Innovation.

UNIT:	*DISAGGREGATE BY:*
Hectares	Technology type (see explanation in definition, above): Crop genetics, Cultural practices, Pest management, Disease management, Soil-related fertility and conservation, Irrigation, Water management, Climate mitigation, Climate adaptation, Other; Total w/one or more improved technology

	Sex: Male, Female, Joint, Association-applied *Note, before using the "Joint" sex disaggregate category, partners must determine that decision-making about what to plant on the plot of land and how to manage it for that particular beneficiary and targeted commodity is truly done in a joint manner by male(s) and female(s) within the household. Given what we know about gender dynamics in agriculture, "joint" should not be the default assumption about how decisions about the management of the plot are made.* *Note: The sum of hectares under the Sex disaggregate should equal the total under the "Total w/one or more improved technology" Technology Type disaggregate.* FTFMS-only disaggregate: Commodity Activities promoting sustainable intensification and similar crop diversification strategies where calculating area under specific commodities is complicated and not meaningful are not required to disaggregate beneficiaries by commodity, and should use the "Disaggregates not available" category under the Commodities disaggregate.
TYPE: Outcome	*DIRECTION OF CHANGE:* Higher is better
DATA SOURCE: Implementing Partners will collect this data through census or survey of direct beneficiaries, direct observations of land, farm records, and activity documents.	
MEASUREMENT NOTES: ➢ LEVEL OF COLLECTION: Activity-level, direct beneficiaries; only those hectares affected by USG assistance, and only those newly brought or continuing under improved technologies/management during the current reporting year ➢ WHO COLLECTS DATA FOR THIS INDICATOR: Implementing partners ➢ HOW SHOULD IT BE COLLECTED: Via survey or other applicable method ➢ FREQUENCY OF COLLECTION: Annually reported	

Steps in the QAS

- STEP 1: READING: Determine if it is difficult for the interviewers to read the question uniformly to all respondents.
- STEP 2: INSTRUCTIONS: Look for problems with any introductions, instructions, or explanations from the respondent's point of view.
- STEP 3: CLARITY: Identify problems related to communicating the intent or meaning of the question to the respondent.
- STEP 4: ASSUMPTIONS: Determine if there are problems with assumptions made or the underlying logic.
- STEP 5: KNOWLEDGE/MEMORY: Check whether respondents are likely to not know or have trouble remembering information.
- STEP 6: SENSITIVITY/BIAS: Assess questions for sensitive nature or wording, and for bias.
- STEP 7: RESPONSE CATEGORIES: Assess the adequacy of the range of responses to be recorded.
- STEP 8: OTHER: Look for problems not identified in Steps 1 - 7.

AREDONIA BASELINE SURVEY - HOUSEHOLD QUESTIONNAIRE

IDENTIFICATION

A. DEPARTMENT (CIRCLE ONE) 1 ARTIBONITE 2 OUEST 3 NORD 4 NORD-EST

B. COMMUNE _____

C. SECTION COMMUNALE _____

D. NAME OF SELECTED RESPONDENT _____

E. CLUSTER NUMBER ..... [ ][ ][ ]

F. STRUCTURE NUMBER ..... [ ][ ]

G. HOUSEHOLD NUMBER [ ]

INTERVIEWER VISITS

	1	2	3	FINAL VISIT
G. DATE	_____	_____	_____	K. DAY [ ][ ]
				L. MONTH [ ][ ]
				M. YEAR 2 0 1 6
H. INTERVIEWER'S NAME	_____	_____	_____	N. INT NUMBER [ ][ ][ ]
J. RESULT CODE*	_____	_____	_____	O. RESULT CODE* [ ]
NEXT VISIT: DATE	_____	_____		
TIME	_____	_____		

*RESULT CODES:

01 COMPLETED
02 NO HOUSEHOLD MEMBER AT HOME
03 RESPONDENT NOT AT HOME AT TIME OF VISIT
04 NO APPROPRIATE RESPONDENT
05 ENTIRE HOUSEHOLD ABSENT FOR EXTENDED PERIOD OF TIME
06 POSTPONED
07 STRUCTURE NOT FOUND
08 STRUCTURE DESTROYED
09 STRUCTURE NOT A DWELLING
10 STRUCTURE VACANT
96 OTHER _____ (SPECIFY)
97 REFUSED

P. TOTAL NUMBER OF VISITS [ ]

Q. TOTAL PERSONS IN HOUSEHOLD [ ][ ]

R. PRIMARY ADULT DECISIONMAKER (1=YES, 2=NO) [ ] MALE [ ] FEMALE

U. LINE NO. OF RESPONDENT TO HOUSEHOLD QUESTIONNAIRE [ ][ ]

V. SUPERVISOR NAME _____ [ ][ ][ ]

W. FIELD EDITOR NAME _____ [ ][ ][ ]

X. OFFICE EDITOR [ ][ ]

Y. KEYED BY [ ][ ]

INTRODUCTION AND CONSENT

Hello. My name is _____. I am working with the National Aredonia Statistical Office. We are conducting a survey about health, education, nutrition & agriculture, employment, and community services in many places in Aredonia. The information we collect will help the government to plan health, employment, and community services. Your household was selected for the survey. I would like to ask you some questions about your household. Today's visit may take up to two hours. All of the answers you give will be confidential and will not be shared with anyone other than members of our survey team. You don't have to be in the survey, but we hope you will agree to answer the questions since your views are important. If I ask you any question you don't want to answer, just let me know and I will go on to the next question or you can stop the interview at any time. In case you need more information about the survey, you may contact the person listed on this card.

GIVE CARD WITH CONTACT INFORMATION

Do you have any questions?

Z. May I begin the interview now?

SIGNATURE OF INTERVIEWER: _____ DATE: _____

RESPONDENT AGREES TO BE INTERVIEWED ... 1 ↓

RESPONDENT DOES NOT AGREE TO BE INTERVIEWED ... 2 → THANK THE RESPONDENT AND END THE INTERVIEW

AA. START TIME H H : M M CIRCLE ONE AM PM

SECTION 1. HOUSEHOLD ROSTER

00a. Who would you say is the primary adult male decisionmaker in this household? This person should be 18 years old or older.

PRIMARY ADULT MALE DECISIONMAKER EXISTS IN HOUSEHOLD ..... 1 → ENTER NAME OF PRIMARY ADULT MALE DECISIONMAKER ON LINE 01 OF THE ROSTER. QS 3 & 4 ARE PRE-FILLED FOR THIS LINE NUMBER.

NO PRIMARY ADULT MALE DECISIONMAKER IN HOUSEHOLD 2

00b. Who would you say is the primary adult female decisionmaker in this household? This person should be 18 years old or older.

PRIMARY ADULT FEMALE DECISIONMAKER EXISTS IN HOUSEHOLD . 1 → ENTER NAME OF PRIMARY ADULT FEMALE DECISIONMAKER ON LINE 02 OF THE ROSTER. Q3 IS PRE-FILLED FOR THIS LINE NUMBER.

NO PRIMARY ADULT FEMALE DECISIONMAKER IN HOUSEHOLD .. 2

								IF AGE 15 YEARS OR OLDER	IF AGE 3 YEARS OR OLDER		IF AGE 3-24 YEARS			
LINE NO.	USUAL RESIDENTS	JOB	RELATION TO PRIMARY DECISIONMAKER	RESIDENCE		AGE	ELIGIBILITY	MARITAL STATUS	HIGHEST LEVEL OF SCHOOL ATTENDED/COMPLETED		CURRENT SCHOOL YEAR ATTENDANCE, LEVEL & GRADE		CURRENT/RECENT SCHOOL ATTENDANCE	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Now, please tell me the names of all of the other people who usually live here, and guests of the household who stayed here last night. LIST ALL HOUSEHOLD MEMBER NAMES (COL 2), SEX (COL 3), AND RELATIONSHIP (COL 4) TO THE PRIMARY DECISIONMAKER NAMED IN LINE 01, OR NAMED IN LINE 02 IF NO HH MEMBER ON LINE 01.	Is [NAME] a farmer?	What is [NAME's] relationship to the primary male decisionmaker? IF NO PRIMARY MALE DECISION-MAKER: What is [NAME's] relationship to the primary female decisionmaker? SEE CODES BELOW	Does [NAME] usually live here?	Did [NAME] stay here last night?	How old is [NAME]? IF 95 OR OLDER, RECORD 95	CIRCLE LINE NUMBER OF SELECTED RESPONDENT	What is [NAME's] current marital status? MARRIED OR LIVING TOGETHER ..... 1 DIVORCED OR SEPARATED ... 2 VIVAVEK ..... 3 WIDOWED ..... 4 NEVER MARRIED & NEVER LIVED TOGETHER ... 5	Has [NAME] ever attended school?	What is the highest level of school [NAME] has attended? SEE CODES BELOW What is the highest grade [NAME] completed at that level? SEE CODES BELOW	Did [NAME] attend school at any time during the current 2015-2016 school year?	In the current 2015-2016 school year, what level and grade of school does [NAME] attend? SEE CODES BELOW	In the current 2015-2016 school year, what type of school does [NAME] attend? PUBLIC, NON-RELIGIOUS.....1 PUBLIC, RELIGIOUS.....2 PRIVATE, RELIGIOUS.....3 PRIVATE, NON-RELIGIOUS.....4 FOREIGN.....5 DON'T KNOW..... 8	In the current 2015-2016 school year, how often are teachers present in [NAME]'s classroom? ALWAYS... 1 OFTEN.... 2 RARELY.... 3
								IF AGE 15 YEARS OR OLDER	IF AGE 3 YEARS OR OLDER		IF AGE 3-24 YEARS			
01	S	Y N 1 2	0 1	Y N 1 2	Y N 1 2	IN YEARS	01		Y N 1 2 → NEXT LINE	LEVEL GRADE	Y N 1 2 → NEXT LINE	LEVEL GRADE		
02		Y N 1 2		Y N 1 2	Y N 1 2	IN YEARS	02		Y N 1 2 → NEXT LINE	LEVEL GRADE	Y N 1 2 → NEXT LINE	LEVEL GRADE		
03		Y N 1 2		Y N 1 2	Y N 1 2	IN YEARS	03		Y N 1 2 → NEXT LINE	LEVEL GRADE	Y N 1 2 → NEXT LINE	LEVEL GRADE		
04		Y N 1 2		Y N 1 2	Y N 1 2	IN YEARS	04		Y N 1 2 → NEXT LINE	LEVEL GRADE	Y N 1 2 → NEXT LINE	LEVEL GRADE		

2A) Just to make sure that I have a complete listing: are there any other persons such as small children or infants that we have not listed? Any children in school or household members at work that we haven't yet listed? YES → ADD TO TABLE / NO

2B) Are there any other people who may not be members of your family, such as domestic servants, lodgers, or friends, who usually live here? YES → ADD TO TABLE / NO

2C) Are there any guests or temporary visitors staying here, or anyone else who stayed here last night, who have not been listed? YES → ADD TO TABLE / NO

CODES FOR Q4: RELATIONSHIP TO PRIMARY DECISIONMAKER

SELF	01	NIECE/NEPHEW	10
WIFE OR HUSBAND	02	UNCLE/AUNT	11
SON OR DAUGHTER	03	ADOPTED	12
SON-IN-LAW OR DAUGHTER-IN-LAW	04	CHILD IN GUARDIANSHIP	13
GRANDCHILD	05	OTHER RELATION	14
MOTHER/FATHER	06	FRIEND	15
MOTHER/FATHER-IN-LAW	07	WORKER	16
BROTHER OR SISTER	08	RESTAVEK	17
COUSIN	09	NO DECISIONMAKER AGE 18+	18
		OTHER	96

CODES FOR Qs 11 and 13:

LEVEL:		GRADE:	
PRESCHOOL	1	LESS THAN 1 YEAR	0
PRIMARY	2	1ST YEAR	1
SECONDARY	3	2ND YEAR	2
COLLEGE/UNIVERSITY	4	3RD YEAR	3
		4TH YEAR	4
		DON'T KNOW	8

SECTION 5.1 HUNGER

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
501	In the past 4 weeks, was there ever no food to eat of any kind in your house because of lack of resources to get	YES ..... 1 NO ..... 2 →	503
502	How often did this happen in the past 4 weeks?	RARELY (1-2 TIMES) ..... 1 SOMETIMES (3-10 TIMES) ..... 2 OFTEN (MORE THAN 10 TIMES) 3	
503	In the past 4 weeks, did you or any household member go to sleep at night hungry because there was not enough food?	YES ..... 1 NO ..... 2 →	505
504	How often did this happen in the past 4 weeks?	RARELY (1-2 TIMES) ..... 1 SOMETIMES (3-10 TIMES) ..... 2 OFTEN (MORE THAN 10 TIMES) 3	
505	In the past 4 weeks, did you or any household member go a whole day and night without eating anything at all because there was not enough food?	YES ..... 1 NO ..... 2 →	507
506	How often did this happen in the past 4 weeks?	RARELY (1-2 TIMES) ..... 1 SOMETIMES (3-10 TIMES) ..... 2 OFTEN (MORE THAN 10 TIMES) 3	

MODULES D, E, F, FF: AGRICULTURAL PRODUCTION – CROP LIST

D00. Did anyone in the household cultivate any crops between February 2015 and February 2016? Which crops? [SELECT ALL THAT APPLY]

CROP LIST A Modules D, E, and F			CROP LIST B Modules FF			CROP LIST C no module		
Cereals								
01. Corn	YES...1	NO...2	20. Avocado	YES...1	NO...2	27. Lima beans	YES...1	NO...2
02. Rice	YES...1	NO...2	21. Francis mango	YES...1	NO...2	28. Blackeye peas	YES...1	NO...2
03. Sorghum/Millet	YES...1	NO...2	22. Mango (other)	YES...1	NO...2	29. Eggplant	YES...1	NO...2
			23. Orange	YES...1	NO...2	30. Watermelon	YES...1	NO...2
Leguminous Crops			24. Coconut palm	YES...1	NO...2	31. Pumpkin, zucchini, squash	YES...1	NO...2
04. Lima beans	YES...1	NO...2	25. Coffee	YES...1	NO...2	32. Okra	YES...1	NO...2
05. Pigeon peas	YES...1	NO...2	26. Cocoa	YES...1	NO...2	33. Carrot and turnip	YES...1	NO...2
06. Lentils	YES...1	NO...2				34. Red beetroot	YES...1	NO...2
						35. Onions (including shallots)	YES...1	NO...2
Vegetables						36. Malanga, Taro	YES...1	NO...2
07. Cabbage	YES...1	NO...2				37. Pinapple	YES...1	NO...2
08. Lettuce	YES...1	NO...2				38. Breadfruit	YES...1	NO...2
09. Spinach, purslane	YES...1	NO...2				39. Lemon & lime	YES...1	NO...2
10. Tomato	YES...1	NO...2				40. Grapefruit	YES...1	NO...2
11. Bell pepper	YES...1	NO...2				41. Tangerines, mandarines, and clementines	YES...1	NO...2
12. Leek, shallots	YES...1	NO...2						
						42. Cashew	YES...1	NO...2
Roots and Tubers						43. Pepper (capsicum spp.)	YES...1	NO...2
13. Potato	YES...1	NO...2				44. Papaya	YES...1	NO...2
14. Sweet potato	YES...1	NO...2						
15. Yam, masoko	YES...1	NO...2				45. Other (specify) _____		
16. Sweet cassava	YES...1	NO...2						
17.Cassava	YES...1	NO...2						
						46. Other (specify) _____		
Other								
18.Sugarcane	YES...1	NO...2						
19.Banana & Plantain	YES...1	NO...2						

MODULE D0: AGRICULTURAL PRODUCTION, GREAT RAINY SEASON: FEBRUARY THROUGH AUGUST 2015 - DIAGRAM

D01.: You know that in the country in general, there are 3 agricultural seasons :

- There is the great rainy season, where plantations are held in March and the harvest is held in June, sometimes after.
- There is the little rainy season, where plantations are held in July and harvest is held in November.
- And there is the dry season, where plantations are held in December (though sometimes as early as October), and the harvest is held in February.

INTERVIEWER: PLEASE USE THE SPACE BELOW TO DIAGRAM THE LAND WHERE THE HOUSEHOLD PRACTICED AGRICULTURE DURING THE GREAT RAINY SEASON, FROM FEBRUARY TO AUGUST 2015. THE PLOTS IDENTIFIED THROUGH THIS EXERCISE WILL BE USED FOR MODULE D. INDICATE THE LOCALITY OF EACH PLOT. NUMBER EACH PLOT.

A PLOT IS A CONTINUOUS PIECE OF LAND ON WHICH A UNIQUE CROP OR A MIXTURE OF CROPS IS GROWN UNDER A CONSISTENT CROP MANAGEMENT SYSTEM. IT MUST BE CONTINUOUS AND SHOULD NOT BE SPLIT BY A PATH OF MORE THAN ONE METER IN WIDTH. PLOT BOUNDARIES ARE DEFINED ACCORDING TO THE CROPS GROWN AND THE OPERATOR.

MODULE D. AGRICULTURAL PRODUCTION: PRIMARY SEASON 1 - GREAT RAINY SEASON: FEBRUARY THROUGH AUGUST 2015

D00. CHECK THE CROPS LISTED IN CROP LIST 'A': ARE ANY OF THESE CROPS CIRCLED?	YES....1 → GO TO D01 NO.....2 → GO TO MODULE G	NUMBER OF PLOTS FARMED BY THE HOUSEHOLD FOR THE SEASON
D01. During the great rainy season, from February 2015 to August 2015, did you plant any of the following crops on your farm: [READ THE CROPS CIRCLED IN CROP LIST 'A']?	YES....1 → GO TO D02 NO.....2 → GO TO E01	

D02		D03	D04	D05
Please list the location of all the plots you or anyone in your household cultivated with these crops during the great rainy season, February to August 2015.		What is the total area of the plot?	In the great rainy season, from February to August 2015, did you plant [READ THE CROPS WITH 'YES' IN CROP LIST 'A'] in plot [PLOT]? FILL IN THE NAME AND CODE FOR EACH CROP (REPEAT FOR EACH PLOT)	How much of the area under cultivation was used for [CROP] during the great rainy season (from February to August 2015)? GIVE AN ESTIMATED PERCENTAGE FOR EACH CROP. THE TOTAL MAY BE LESS THAN 100, BUT NOT MORE.
PLOT CODE	LOCATION (FROM DIAGRAM)	AREA	CROP CODES	PERCENTAGE OF AREA
		QUANTITY	1	%
______		.	2	%
			3	%
		DON'T KNOW 999998	4	%
		QUANTITY	1	%
______		.	2	%
			3	%
		DON'T KNOW 999998	4	%
		QUANTITY	1	%
______		.	2	%
			3	%
		DON'T KNOW 999998	4	%
		QUANTITY	1	%
______		.	2	%
			3	%
		DON'T KNOW 999998	4	%
		QUANTITY	1	%
______		.	2	%
			3	%
		DON'T KNOW 999998	4	%
		QUANTITY	1	%
______		.	2	%
			3	%
		DON'T KNOW 999998	4	%

MODULE D. AGRICULTURAL PRODUCTION: PRIMARY SEASON 1 - GREAT RAINY SEASON: FEBRUARY THROUGH AUGUST 2015 (CONTINUED)														
CHECK D04:				D06	D07	D08	D09	D10	D11	D12	D13		D14	
TRANSFER THE PLOT CODE AND LOCALITY NAME AND FOR EACH PLOT THAT WAS FARMED, AS LISTED ON THE PREVIOUS PAGE. ENSURE THAT YOU WRITE THE PLOT CODES IN THE SAME ORDER AS IN THE PREVIOUS PAGE.				How much did you pay for seeds to cultivate [CROP]?	How much did you pay for fertilizer to cultivate [CROP]?	How much did you pay for pesticides (against mice, caterpillars, rats, etc.) to cultivate [CROP]?	How much did you pay for land preparation (including rental of tools, machinery, animals, labor) to cultivate [CROP]?	How much did you pay for water/ irrigation to cultivate [CROP]?	How much did you pay for labor (excluding labor for land preparation) to cultivate [CROP]?	How much did you pay for any other inputs to cultivate [CROP]?	How much [CROP] was lost to rodents, storms, flooding or theft prior to harvesting?		How much [CROP] was harvested?	
PLOT CODE	LOCALITY	CROP		AREDONS	AREDONS	AREDONS	AREDONS	AREDONS	AREDONS	AREDONS	QUANTITY	UNIT	QUANTITY	UNIT
____		1												
		2												
		3												
		4												
____		1												
		2												
		3												
		4												
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		3												
		4												
____		1												
		2												
		3												
		4												

UNIT CODES (D13, 14)

SMALL POT	01	BASKET	06	BUNCH (BANANA)	11		
LARGE POT	02	SMALL SACK (MADE FOR RICE)	07	DOZEN	12		
SMALL BUCKET	03	FLOUR SAK	08	MAKOUT	13		
BUCKET (5 GALLONS)	04	LARGE SACK (MADE FOR WHEA	09	BARREL	14		
SMALL BASKET	05	PACK (BANANA)	10	DRUM	15	OTHER (SPECIFY)	96

MODULE D. AGRICULTURAL PRODUCTION: PRIMARY SEASON 1 - GREAT RAINY SEASON: FEBRUARY THROUGH AUGUST 2015 (CONTINUED)

CROP		D15	D16	D17				D18		D19			D20		D21		D22	D23		
VERIFY COLUMN D04 AND CIRCLE THE CODES FOR ALL CROPS LISTED. FOR ALL CIRCLED CODES, ASK QUESTIONS D15 THROUGH D23.		What type of processing did you apply to [CROP]? Did you use: Shelling, hulling, beating? A Drying? ..... B Milling or grinding? ... C Other? (SPECIFY) ... X Nothing ..... Y GO TO NEXT CROP; IF NONE, GO TO D17 (SELECT ALL APPLICABLE)	How much [CROP] was lost due to this processing?	What was your main method of storage for [CROP]? NONE ..... 00 UNPROTECTED PILE ..... 01 HEAPED IN HOUSE ..... 02 BAGS IN HOUSE ..... 03 TRADITIONAL SILO ..... 04 METALLIC SILO ..... 05 PROTECTED HUT ..... 06 UNPROTECTED HUT ..... 07 HUNG IN TREE ..... 08 OTHER (SPECIFY) _____ 96				How much [CROP] was lost to rotting, insects, rodents/pests, flood, theft, etc. in the post-harvest period? IF NO LOSSES, GO TO D20		What was the main reason for the loss of [CROP]? ROT ..... 1 INSECTS ..... 2 RODENTS/PESTS... 3 FLOOD ..... 4 THEFT ..... 5 OTHER (SPECIFY)____ 6			How much [CROP] was consumed by the household?		How much [CROP] was sold?		What was the total income you received for selling [CROP]?	Who was the main buyer of your [CROP]? NO ONE ..... 0 RELATIVE ..... 1 LOCAL MARKET .... 2 PRIVATE TRADER... 3 AGRICULTURAL CO-OP ..... 4 OTHER (SPECIFY)____ 6		
CODE	CROP	CODE	QUANTITY	UNIT		CODE		QUANTITY	UNIT		CODE		QUANTITY	UNIT	QUANTITY	UNIT	AREDONS		CODE	
01	Corn	A B C X Y																		
02	Rice	A B C X Y																		
03	Sorghum/millet	A B C X Y																		
04	Soybean	A B C X Y																		
05	Pigeon peas	A B C X Y																		
06	Groundnut	A B C X Y																		
07	Cabbage	A B C X Y																		
08	Lettuce	A B C X Y																		
09	Spinach	A B C X Y																		
10	Tomato	A B C X Y																		
11	Bell pepper	A B C X Y																		
12	Shallot, leek	A B C X Y																		
13	Potato	A B C X Y																		
14	Sweet potato	A B C X Y																		
15	Yam	A B C X Y																		
16	Sweet cassava	A B C X Y																		
17	Cassava	A B C X Y																		
18	Sugar cane	A B C X Y																		
19	Banana/plantain	A B C X Y																		

UNIT CODES (D16, 18, 20, 21)

SMALL POT	01	BASKET	06	BUNCH (BANANA)	11		
LARGE POT	02	SMALL SACK (MADE FOR RICE)	07	DOZEN	12		
SMALL BUCKET	03	FLOUR SAK	08	MAKOUT	13		
BUCKET (5 GALLONS)	04	LARGE SACK (MADE FOR WHEAT)	09	BARREL	14		
SMALL BASKET	05	PACK (BANANA...	10	DRUM	15	OTHER (SPECIFY	96

UNIT CODES (D16, 18, 20, 21)

MODULE G. ACCESS TO AGRICULTURAL INPUTS						
G01			G02		G03	
In the past 12 months, did you use (INPUT)?			Where did you obtain (INPUT)? (SELECT ALL THAT APPLY) Previous crop? ..... A Marketplace? ..... B Private store? ..... C Association? ..... D Donor project? ..... E Government (BAC,DDA, Mayor's Office, etc.)? ..... F Self? ..... G Other? (SPECIFY) _____ X		Were you able to obtain (INPUT) on time in the last 12 months?	
INPUTS			CODE		YES	NO
A	Irrigated or pumped water?	YES.....1 NO.....2	A B C D E F G X _____		1	2
B	Improved seeds?	YES.....1 NO.....2	A B C D E F G X _____		1	2
C	Fertilizer?	YES.....1 NO.....2	A B C D E F G X _____		1	2
D	Pesticides?	YES.....1 NO.....2	A B C D E F G X _____		1	2
E	Paid labor?	YES.....1 NO.....2	A B C D E F G X _____		1	2
F	Land preparation equipment, such as tractors or animals?	YES.....1 NO.....2	A B C D E F G X		1	2

MODULE G. ACCESS TO AGRICULTURAL INPUTS (CONTINUED)						
NO.	QUESTIONS AND FILTERS	CATEGORY CODES				SKIP
G04	Is (are) your plot(s) mostly flat or sloped?	FLAT ..... 1 SLOPED 2				G07
G05	What types of erosion control/water harvesting facilities are available on your plots?		WI	NON	PK	
	Terraces	TERRACES	1	2	8	
	Grass strip	GRASS STRIP	1	2	8	
	Rock wall	ROCK WALL	1	2	8	
	Dry walls	DRY WALLS	1	2	8	
	Water catchment/impluvium	WATER CATCHMENT/IMPLUVIUM	1	2	8	
	Vetiver grass	VETIVER GRASS	1	2	8	
	Tree belts	TREE BELTS	1	2	8	
	Hedgerows	HEDGEROWS	1	2	8	
	Drainage ditches	DRAINAGE DITCHES	1	2	8	
	Gully plugs	GULLY PLUGS	1	2	8	
	Contour farming	CONTOUR FARMING	1	2	8	
	Something else?	OTHER _____ (SPECIFY)	1	2	8	
G06	What is the agricultural usage of the plot(s)? Do you grow...:		WI	NON	PK	
	Dense trees/shrubs (mango, oak, mahogany, coffee, cocoa, citrus...)?	DENSE TREES/SHRUBS	1	2	8	
	Dispersed trees/shrubs (mango, oak, mahogany, coffee, cocoa, citrus...)?	DISPERSED TREES/SHRUBS	1	2	8	
	Bananas?	BANNANN	1	2	8	
	Food producing crops (rice, beans, peas, cassava, yam, potato, sweet potato, vegetables, etc.)?	KILTI POU MANJE	1	2	8	
	Patiray?	PATIRAY	1	2	8	
	Fallow?	JACHÈ	1	2	8	
	Something else?	LOT _____ (PRESIZE)	1	2	8	
G07	In the past year, did you:		WI	NON	PK	
	Participate in an agricultural work group, "sosye"?	PARTICIPATE IN AG WORK GROUP	1	2	8	
	Participate in a konbit for agricultural work?	PARTICIPATE IN A KONBIT	1	2	8	
	Hold a konbit to invite others to come and work for you?	HOLD A KONBIT	1	2	8	
	Sell days or mornings of your time as a member of a group (squad, or other) ?	SELL LABOUR DAYS: GROUP MEMBER	1	2	8	
	Purchase the labor of a group of workers (squad or others)?	PURCHASE LABOR OF WORKERS	1	2	8	
	Sell days or mornings of labor for yourself?	SELL LABOR DAYS: FOR YOURSELF	1	2	8	
	Purchase days or mornings of workers' labor to work on your own land?	PURCHASE LABOR TO WORK OWN LAND	1	2	8	

MODULE J. AGRICULTURAL TECHNOLOGIES

CHECK QUESTIONNAIRE MODULE D1, E1, AND F1 TO DETERMINE IF THE DIRECT BENEFICIARY PLANTED SOY BEANS OR GROUNDNUT IN THE PAST YEAR.

- IF THE BENEFICIARY DID NOT PLANT GROUNDNUTS OR SOY BEANS IN THE PAST YEAR, THANK THE RESPONDENT FOR THEIR TIME AND END THE INTERVIEW.
- IF THE BENEFICIARY DID PLANT GROUNDNUTS OR SOY BEANS LAST YEAR, CONTINUE WITH QUESTION J1.01.

"Next I would like to ask you about some of the crops you planted in the past one year."

NO.	QUESTION	RESPONSE
J1.01	CHECK MODULE D1, E1, AND F1: DID RESPONDENT CULTIVATE GROUNDNUT IN THE PAST ONE YEAR?	YES.....1 NO.....2 → SKIP TO J2.01
J1.02	What kind of land preparation did you use for the groundnut you planted in the past year? SELECT ALL THAT APPLY	NONE.....A → J1.07 ZERO TILLAGE .....B PLOUGHING.....C OTHER (SPECIFY)_____ .....Z
J1.03	CHECK J1.02: DID RESPONDENT USE ZERO TILLAGE TO PREPARE THE LAND?	YES.....1 NO..... 2 → J1.05
J1.04	What kind of zero tillage system did you use for the groundnut? SELECT ALL THAT APPLY	SLASH AND PLANT ..... A BURN AND PLANT..... B HERBICIDE AND PLANT ..... C OTHER (SPECIFY)_____ ..... Z
J1.05	CHECK J1.02: DID RESPONDENT USE PLOUGHING TO PREPARE THE LAND?	YES.....1 NO..... 2 → J1.07
J1.06	What did you use for ploughing for the groundnut? SELECT ALL THAT APPLY	HAND TILLAGE (HOE)..... A ANIMAL TRACTION ..... B TRACTOR..... C OTHER (SPECIFY)_____ ..... Z
J1.07	What was your main source of groundnut seed?	HOME-SAVED (SELF/FRIEND/RELATIVE) .....1 PURCHASED FROM FRIEND/RELATIVE.....2 PURCHASED FROM AG DEALER .....3 PURCHASED IN MARKET (NON-AG DEALER) .....4 AID DISTRIBUTION.....5 OTHER (SPECIFY)_____ 6

NO.	QUESTION	RESPONSE
J1.08	CHECK J1.07: DID RESPONDENT PURCHASE GROUNDNUT SEED FROM AN AGRICULTURAL OR NON-AGRICULTURAL DEALER (3 OR 4)?	YES ..... 1 NO ..... 2 → J1.10
J1.09	Please tell me the name of the dealer from which you purchased the groundnut seed.	NAME OF GROUNDNUT SEED DEALER (SPECIFY)_____ ....1 DON'T KNOW 8
J1.10	CHECK J1.07: DID RESPONDENT PURCHASE GROUNDNUT SEED FROM A FRIEND OR RELATIVE (2)?	YES ..... 1 NO ..... 2 → J1.12
J1.11	Why did you purchase groundnut seed from a friend or relative?	LESS EXPENSIVE .....1 MORE ACCESSIBLE THAN MARKET/DEALER .....2 QUALITY OF GROUNDNUT YIELD IS GOOD .....3 OTHER (SPECIFY)_____ 6
J1.12	What type of groundnut seed did you plant in the past year? SELECT ALL THAT APPLY	OPEN POLLINATED VARIETIES (OPVs)..... A HYBRID..... B DON'T KNOW X
J1.13	Was the groundnut crop grown to provide food for the household, or was it grown to be sold or traded in the market?	GROWN FOR FOOD ONLY .....1 GROWN FOR MARKET ONLY .....2 GROWN FOR BOTH FOOD & MARKET .....3 OTHER (SPECIFY) _____ 6
J1.14	Some farmers plant groundnut seeds in rows or randomly broadcast or plant with other crops growing in the plot. How did you plant the groundnut seeds? SELECT ALL THAT APPLY	IN ROWS ..... A RANDOMLY BROADCAST ..... B PLANTED WITH OTHER CROPS GROWING IN THE PLOT..... C
J1.15	Over the past two planting seasons did you rotate groundnut with other crop(s) in the same plot area?	YES .....1 NO .....2 OTHER (SPECIFY) _____ .....6 DON'T KNOW 8
J1.16	Did you apply fertilizer to the groundnut in the past year?	YES ..... 1 NO ..... 2→ J1.19
J1.17	At which times did you apply fertilizer to the groundnut? SELECT ALL THAT APPLY	PLANTING ..... A MID-CROP ..... B OTHER (SPECIFY)_____ ..... Z

NO.	QUESTION	RESPONSE
J1.18	What type of fertilizer did you use? SELECT ALL THAT APPLY	ORGANIC ..... A INORGANIC..... B FOLIAR FEEDS ..... C OTHER (SPECIFY)_____ ..... Z
J1.19	Inorganic fertilizer is a man-made fertilizer that you can buy in a bag at the shop. Have you been trained in how to use and apply inorganic fertilizer for groundnut?	YES.....1 NO.....2
J1.20	Did you have any insect, rodent or disease attacks on your groundnut in the past year?	YES.....1 NO.....2
J1.21	Did you use chemicals to control insect, rodent or disease attacks on the groundnut?	YES..... 1 NO..... 2→ J1.23
J1.22	Was the use of chemicals preventive, or was it in response to an insect, rodent or disease attack?	PREVENTIVE/ROUTINE .....1 RESPONSE TO ATTACK.....2
J1.23	Have you been trained in when to use and how to apply pesticides for groundnut?	YES.....1 NO.....2
J1.24	How many times did you control weeds among your groundnut crops in the past year?	NUMBER OF TIMES: [ ][ ] NONE.....95 → J1.26
J1.25	How did you control the weeds among your groundnut crops? SELECT ALL THAT APPLY	HOE .....A HERBICIDE.....B MULCHING.....C INTERCROPPING .....D SLASHING .....E PULL BY HAND .....F
J1.26	Have you been trained in when to use and how to apply herbicides for groundnut?	YES.....1 NO.....2
J1.27	In the past year, did you use any of the following techniques to manage soil and water for your groundnut crop? SELECT ALL THAT APPLY Terracing? Mulching?	TERRACING..... A MULCHING..... B SOIL BANDS/TRENCHES..... C

	Soil bands or trenches? Intercropping? Crop rotation? Some other technique? IF YES: What was the technique?	INTERCROPPING ..... D CROP ROTATION ..... E NONE ..... X OTHER (SPECIFY)_____ ..... Z
J1.28	Besides rainfall, did you use any additional irrigation methods for the groundnut?	YES ..... 1 NO ..... 2→ J1.30
J1.29	What type of irrigation did you use? SELECT ALL THAT APPLY	BY HAND (WATERING CAN, HOSE, ETC.) ..... A CANALS ..... B PERMANENT HOSE ..... C PUMPS ..... D OTHER (SPECIFY)_____ ..... Z
J1.30	How did you harvest the groundnut?	BY HAND ONLY ..... 1 WITH A MACHINE ONLY ..... 2 SOME BY HAND, SOME WITH A MACHINE ..... 3 NOT YET HARVESTED 4
J1.31	Did you dry any of your groundnut harvest before sale or use?	YES ..... 1 NO ..... 2→ J1.33
J1.32	What did you dry the groundnut on? SELECT ALL THAT APPLY	BARE GROUND ..... A GROUND PLASTERED WITH COW DUNG ..... B GROUND COVERED WITH STRAW ..... C LEFT TO DRY ON PLANT IN FIELD ..... D TARPAULINS ..... E DRYING YARD ..... F DRYING RACKS ..... G SOLAR DRYERS ..... H MECHANIZED DRYERS ..... I OTHER (SPECIFY)_____ ..... Z
J1.33	How did you shell the groundnut? SELECT ALL THAT APPLY	BY HAND ONLY ..... A BY STICKS ..... B WITH A SHELLING MACHINE ..... C DID NOT SHELL ..... D OTHER (SPECIFY)_____ ..... Z
J1.34	Did you put the groundnut in bags after harvest for storage or transport?	YES ..... 1 NO ..... 2→ J1.36
J1.35	What type of storage bag did you use for the groundnut?	WOVEN BAG, SINGLE LAYER ..... 1 TWO- OR THREE-LAYERED WOVEN BAGS ..... 2 HERMETIC BAG 3

J1.36	Did you use any of the following storage locations to store the groundnut? SELECT ALL THAT APPLY Residential house? Cribs? Granaries? Other constructed stores? Warehouses? Storage silos? Some other type of location? IF YES: What was the storage location you used?	RESIDENTIAL HOUSE.....A CRIBS.....B GRANARIES.....C OTHER CONSTRUCTED STORES.....D WAREHOUSES.....E STORAGE SILOS.....F NONE/DID NOT STORE ANY GROUNDNUT.....X→ SKIP TO J2.01 OTHER (SPECIFY)_____ .....Z
J1.37	Was your groundnut attacked by insects, rodents or disease while in storage?	YES.....1 NO.....2
J2.01	CHECK MODULE D1, E1, AND F1: DID RESPONDENT CULTIVATE SOY BEANS IN THE PAST ONE YEAR?	YES.....1 NO..... 2 → SKIP TO END
J2.01A	How many varieties of soy beans did you cultivate?	NUMBER OF VARIETIES CULTIVATED: [ ][ ] DON'T KNOW.....98
J2.02	What kind of land preparation did you use for the beans you planted in the past year? SELECT ALL THAT APPLY	NONE.....A → J2.07 ZERO TILLAGE .....B PLOUGHING.....C OTHER (SPECIFY)_____Z
J2.03	CHECK J2.02: DID RESPONDENT USE ZERO TILLAGE TO PREPARE THE LAND?	YES.....1 NO..... 2 → J2.05
J2.04	What kind of zero tillage system did you use for the soy beans? SELECT ALL THAT APPLY	SLASH AND PLANT .....A BURN AND PLANT.....B HERBICIDE AND PLANT .....C OTHER (SPECIFY)_____Z
J2.05	CHECK J2.02: DID RESPONDENT USE PLOUGHING TO PREPARE THE LAND?	YES.....1 NO..... 2 → J2.07
J2.06	What did you use for ploughing for the soy beans? SELECT ALL THAT APPLY	HAND TILLAGE (HOE).....A ANIMAL TRACTION .....B TRACTOR.....C OTHER (SPECIFY)_____Z

J2.07	What was your main source of soy bean seed?	HOME-SAVED (SELF/FRIEND/RELATIVE) .....1 PURCHASED FROM FRIEND/RELATIVE.....2 PURCHASED FROM AG DEALER .....3 PURCHASED IN MARKET (NON-AG DEALER) .....4 AID DISTRIBUTION.....5 OTHER (SPECIFY)_____ 6
J2.08	CHECK J2.07: DID RESPONDENT PURCHASE SOY BEAN SEED FROM AN AGRICULTURAL OR NON-AGRICULTURAL DEALER (3 OR 4)?	YES.....1 NO..... 2 → J2.10
J2.09	Please tell me the name of the dealer from which you purchased the bean seed.	NAME OF SOY BEAN SEED DEALER (SPECIFY)_____....1 DON'T KNOW 8
J2.10	CHECK J2.07: DID RESPONDENT PURCHASE SOY BEAN SEED FROM A FRIEND OR RELATIVE (2)?	YES.....1 NO..... 2 → J2.12
J2.11	Why did you purchase soy bean seed from a friend or relative?	LESS EXPENSIVE .....1 MORE ACCESSIBLE THAN MARKET/DEALER .....2 QUALITY OF BEAN YIELD IS GOOD.....3 OTHER (SPECIFY)_____ 6
J2.12	What type of bean seed did you plant in the past year? SELECT ALL THAT APPLY	OPEN POLLINATED VARIETIES (OPVs)..... A HYBRID..... B DON'T KNOW X
J2.13	Was the soy bean crop grown to provide food for the household, or was it grown to be sold or traded in the market?	GROWN FOR FOOD ONLY .....1 GROWN FOR MARKET ONLY .....2 GROWN FOR BOTH FOOD & MARKET .....3 OTHER (SPECIFY) _____ 6
J2.14	Some farmers plant soy bean seeds in rows, or randomly broadcast, or plant with other crops growing in the plot. How did you plant the bean seeds? SELECT ALL THAT APPLY	IN ROWS ..... A RANDOMLY BROADCAST ..... B PLANTED WITHIN OTHER CROPS GROWING IN THE PLOT..... C
J2.15	Over the past two planting seasons did you rotate soy beans with other crop(s) in the same plot area?	YES.....1 NO.....2

		OTHER (SPECIFY) _____ .....6 DON'T KNOW 8
J2.16	Did you apply fertilizer to the soy beans in the past year?	YES ..... 1 NO ..... 2→ J2.19
J2.17	At which times did you apply fertilizer to the soy beans? SELECT ALL THAT APPLY	PLANTING ..... A MID-CROP ..... B OTHER (SPECIFY)_____ ..... Z
J2.18	What type of fertilizer did you use? SELECT ALL THAT APPLY	ORGANIC ..... A INORGANIC ..... B FOLIAR FEEDS ..... C OTHER (SPECIFY)_____ ..... Z
J2.19	Inorganic fertilizer is a man-made fertilizer that you can buy in a bag at the shop. Have you been trained in how to use and apply inorganic fertilizer for soy beans?	YES .....1 NO 2
J2.20	Did you have any insect, rodent or disease attacks on your soy beans in the past year?	YES .....1 NO 2
J2.21	Did you use chemicals to control insect, rodent or disease attacks on the soy beans?	YES ..... 1 NO ..... 2→ J2.23
J2.22	Was the use of chemicals preventive, or was it in response to an insect, rodent or disease attack?	PREVENTIVE/ROUTINE .....1 RESPONSE TO ATTACK 2
J2.23	Have you been trained in when to use and how to apply pesticides for beans?	YES .....1 NO 2
J2.24	How many times did you control weeds among your soy bean crops in the past year?	NUMBER OF TIMES: [ ][ ] NONE .....95 → J2.26
J2.25	How did you control the weeds among your soy bean crops? SELECT ALL THAT APPLY	HOE .....A HERBICIDE .....B MULCHING .....C INTERCROPPING .....D SLASHING .....D PULL BY HAND .....E

J2.26	Have you been trained in when to use and how to apply herbicides for soy beans?	YES.....1 NO.....2
J2.27	In the past year, did you use any of the following techniques to manage soil and water for your soy bean crop? SELECT ALL THAT APPLY Terracing? Mulching? Soil bands or trenches? Intercropping? Crop rotation? Row planting? Some other technique? IF YES: What was the technique?	TERRACING.....A MULCHING.....B SOIL BANDS/TRENCHES.....C INTERCROPPING.....D CROP ROTATION.....E ROW PLANTING.....F NONE.....X OTHER (SPECIFY)_____ .....Z
J2.28	Besides rainfall, did you use any irrigation for the soy beans?	YES.....1 NO.....2→ J2.30
J2.29	What type of irrigation did you use? SELECT ALL THAT APPLY	BY HAND (WATERING CAN, HOSE, ETC.).....A CANALS.....B PERMANENT HOSE.....C PUMPS.....D OTHER (SPECIFY)_____ .....Z
J2.30	How did you harvest the soy beans?	BY HAND ONLY.....1 WITH A MACHINE ONLY.....2 SOME BY HAND, SOME WITH A MACHINE.....3 NOT YET HARVESTED.....4
J2.31	Did you dry any of your soy bean harvest before sale or use?	YES.....1 NO.....2→ J2.33
J2.32	What did you dry the soy beans on? SELECT ALL THAT APPLY	BARE GROUND.....A GROUND PLASTERED WITH COW DUNG.....B LEFT TO DRY ON PLANT IN FIELD.....C TARPAULINS.....D DRYING YARD.....E DRYING RACKS.....F SOLAR DRYERS.....G MECHANIZED DRYERS.....H OTHER (SPECIFY)_____ .....Z

J2.33	How did you shell the soy beans? SELECT ALL THAT APPLY	BY HAND ONLY ..... A BY STICKS ..... B WITH A SHELLING MACHINE ..... C DID NOT SHELL ..... D OTHER (SPECIFY)_____ ..... Z
J2.34	Did you put the soy beans in bags after harvest for storage or transport?	YES ..... 1 NO ..... 2→ J2.36
J2.35	What type of storage bag did you use for the soy beans?	WOVEN BAG, SINGLE LAYER ..... 1 TWO- OR THREE-LAYERED WOVEN BAGS ..... 2 HERMETIC BAG 3
J2.36	Did you use any of the following storage locations to store the soy beans? SELECT ALL THAT APPLY Residential house? Cribs? Granaries? Other constructed stores? Warehouses? Some other type of location? IF YES: What was the storage location you used?	RESIDENTIAL HOUSE ..... A CRIBS ..... B GRANARIES ..... C OTHER CONSTRUCTED STORES ..... D WAREHOUSES ..... E NONE/DID NOT STORE ANY BEANS ..... X → SKIP TO J3.01 OTHER (SPECIFY)_____ ..... Z
J2.37	Were your soy beans attacked by insects, rodents or disease while in storage?	YES ..... 1 NO 2

CONCLUDE THE INTERVIEW:

"Thank you very much for your time in responding to this survey. Your contributions are greatly appreciated."

	Accuracy	Cost	Equipment required	Expertise needed	Level of effort	Plot size
Tape and compass	medium-high	medium; varies with quality	low	low-medium	medium-high	< .5 ha
GPS	high	med-high; varies with quality	high	medium	medium	> .5 ha*
Pacing	low-medium	low	low	low	medium	small-medium
Farmer estimates	low-medium; high w/correction factor	low	low	low	low	small
Remote sensing	low	high	high	high	medium	very large

Measuring Estimating Area Challenge

Group Exercise
90 minutes

Materials required: marbles, sturdy measuring tape, handheld GPS unit (extra AA batteries), pencil and paper (Rite-in-Rain notebook preferred), Google Earth sketch of plot to be measured.

Group 1 – Measuring Area by Pacing[4] (Army Study Guide)

A pace is equal to one natural step, about 30 inches long or 0.76 meters. One way to measure ground distance is the pace count. To accurately use the pace count method, you must know how many paces it takes you to walk 10 meters. To determine this, you must walk an accurately measured course using your measuring tape and count the number of paces you take. A pace course can be as short as 10 meters or as long as 600 meters. The pace course, regardless of length, must be on similar terrain to that you will be walking over. It does no good to walk a course on flat terrain and then try to use that pace count on hilly terrain.

To determine your pace count on a 10-meter course, count the paces it takes you to walk the 10 meters. Do this three times and then average out the results 30/number of paces. The answer will give you the average paces it takes you to walk 30 meters. It is important that each person who navigates knows her pace count.

(1) There are many methods to keep track of the distance traveled when using the pace count. Some of these methods are: put a pebble in your pocket every time you have walked 10 meters according to your pace count; tie knots in a string; or put marks in a notebook. Do not try to remember the count; always use one of these methods or design your own method.

(2) Certain conditions affect your pace-count in the field, and you must allow for them by making adjustments.

- Slopes. Your pace lengthens on a downslope and shortens on an upgrade. Keeping this in mind, if it normally takes you 120 paces to walk 100 meters, your pace count may increase to 130 or more when walking up a slope.
- Winds. A head wind shortens the pace and a tail wind increases it.
- Surfaces. Sand, gravel, mud, snow, and similar surface materials tend to shorten the pace.
- Elements. Falling snow, rain, or ice can cause the pace to be reduced in length.
- Clothing. Excess clothing and boots with poor traction affect the pace length.
- Visibility. Poor visibility such as in fog, rain, or darkness, will shorten your pace.

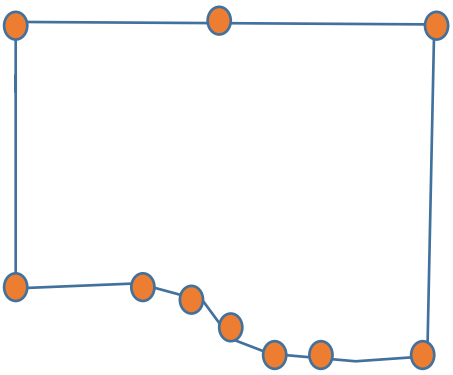
[4] http://www.armystudyguide.com/content/army_board_study_guide_topics/land_navigation_map_reading/how-to-use-pace-count-to-.shtml

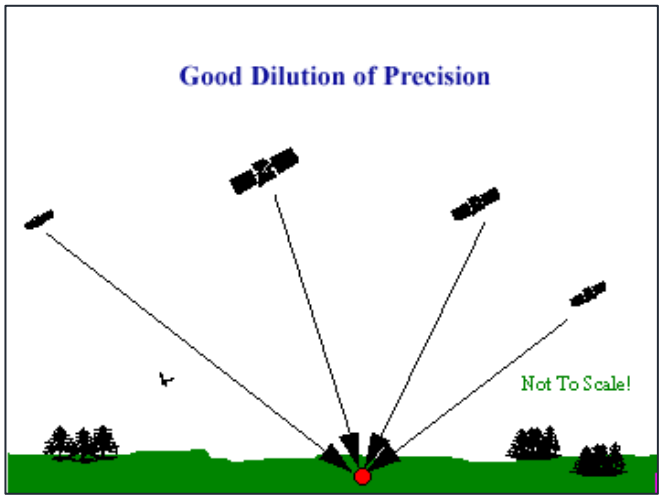
Calculate the area of the "plot part 1" rectangle by multiplying length x width.

Calculate the area "plots part 2 and 3" triangles $A = \frac{h_b b}{2}$. See cheat sheet for further instructions on calculating area of triangle.

Group 2 –Measuring Area with a GPS Unit

Turn on your GPS unit – check settings and make sure the unit is set to collect points in decimal degrees, and the correct[5] datum (WGS 84) is set and you have at least 4 satellites with good dilution of precision or "geometry" (satellites are not clustered together). Walk the perimeter of the plot stopping every 3-4 meters (10-13 feet) on straight edges and every 1-2 meters (3-7 feet) on curved edges to collect points. Be sure to capture the corners of the plot. Stand holding the GPS unit at each point collection location for at least 2 minutes.





Group 3 - Farmer's Estimate:

Group members will estimate the size of the plot and then try to predict what quantity of maize they expect to harvest this year (prediction). Record the amount in yield per acre. In the U.S. this is measured in bushels/acre. We will use NASS 2016 QuickStats[6] Virginia average yield per acre of 161 bushels/acre. NOTE: In your own country you would use the local unit of measurement for both area and yield. Consult with Group #1 (Pacing Measurement) and compare results on the estimated size of the plot versus direct measurement.

[5] Africa: http://earth-info.nga.mil/GandG/coordsys/onlinedatum/CountryAfricaTable.html
GPS Datum List: http://therucksack.tripod.com/MiBSAR/LandNav/Datums/GarminMapDatumList.pdf

[6] 2015 **STATE AGRICULTURE OVERVIEW:** https://www.nass.usda.gov/Quick_Stats/Ag_Overview/stateOverview.php?state=virginia

How to ...

How to calculate an area in the field

You may need to calculate an area in the field, particularly for mapping a weed infestation or working out how much herbicide you need to mix to treat weeds.

Measuring an area

There are two ways you can measure an area:

1. Use a tape measure to get an accurate measurement.
2. Pace out the distance as best you can to get an estimation.

The unit used for measuring an area is a metre (m).

If you want to use the 'pacing out' method to measure an area you should first practise stepping out against a measured distance of 10m.

Here's how you do it:

1
Measure out 10m.

2
Use a natural stride to pace out 10m.

3
Work out the number of paces taken in 10m.

Use a natural stride to pace out 10m. To get an accurate measurement don't force an overextended step. Make sure you do it several times to find your natural rhythm and pace length.

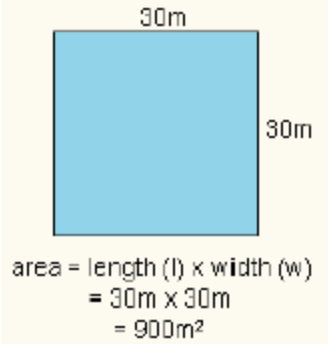
Calculating regular shapes

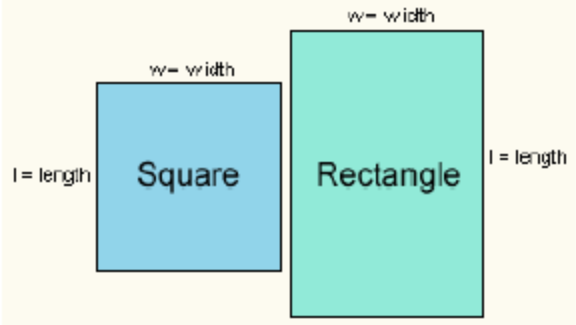
The area of a regular shape is calculated using the following formula:

Area = length x width

The area is shown in square metres (m^2). For example, to calculate the area of a plot of land, use the following formula:

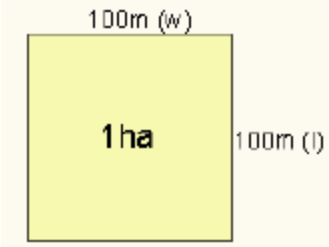
https://www.dlsweb.rmit.edu.au/toolbox/conservation/html/pages/website/how_to/howto_11.htm





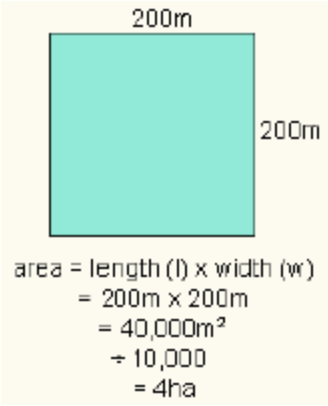
Calculating areas in hectares

You can think of a hectare (ha) as measuring 100m by 100m.

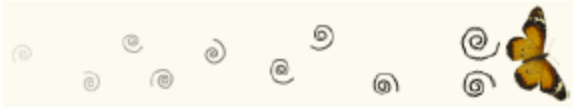


Take the figure you have worked out in square metres (m²), then divide by 10,000 to find the number of hectares (ha).

For example, to calculate a larger area of land in hectares, use the following formula:



Use a calculator to convert an area in square metres (m²) into hectares (ha).



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GPS Field Protocol:

What you need to know when using a GPS unit for fieldwork

Global Positioning Systems (GPS) is a common way to collect location data for agricultural, urban, and natural resources. It is made up of a constellation of 24 satellites used for civilian GPS, which accurately determine your location (X, Y, Z) in any weather, day or night, anywhere on Earth. A GPS unit uses four or more satellites to triangulate your position on Earth. For this reason, you need four or more satellites! GPS satellite signals travel by line of sight, and will pass through clouds, glass, & plastic, but NOT through most solid objects, such as buildings & mountains.

Your GPS accuracy depends on:

The type of GPS unit you have

If you have a handheld GPS unit (e.g. Garmin), the highest attainable horizontal accuracy is about 3 m. More accurate units like Trimble's GeoXH, will give you accuracy of < 3 m, sometimes sub-meter accuracy under good conditions or with additional antennas. More expensive units are not *always* the most accurate – many have reported that Garmin handhelds give better accuracy under heavy canopy than do more advanced Trimble units.
Recommendation: buy the most affordable (and dependable) GPS that best suits your accuracy requirements!

Number of satellites visible to your receiver

Buildings, terrain, or sometimes even dense foliage can block signal reception, causing position errors or possibly no position reading at all. Also, signal multi-path might happen if a signal from a satellite is reflected off objects such as tall buildings or large rock surfaces before it reaches the receiver. This increases the travel time of the signal, causing errors.
Recommendation: The more satellites, the better – but you must have four or more before you record a point! If you cannot get four or more, wait a few minutes for the satellites to move/adjust, or move to an area with better reception and make note of distance and direction moved from the desired point.

Strength of satellite signals

While many GPS units do not give you a measurement of satellite signal strength, you can get an idea of it by viewing the satellite screen on most GPS units, which depicts signal strength with bar graphs for each visibly satellite.
Recommendation: The stronger the signals, the better – just make sure you have four or more satellite signals before you record a point!

Pictured here is a Garmin GPSmap 60CSx as an example of the satellite screen, which all GPS devices contain.
Image credit: Garmin.com

Geometric positioning of the satellites in the sky

Ideal satellite geometry exists when the satellites are located at wide angles relative to each other in the sky, which improves triangulation and thus reduces error. While Trimble units give a measurement for satellite geometry ("PDOP," "HDOP," or "GDOP"), handheld units do not give a measurement for it – it is a good idea to be aware that accuracy will improve when satellites are distributed in different areas of the sky.
Recommendation: Aim for the satellites to be widely distributed across the skyplot on your GPS unit.

Differential correction procedures

Wide-Area Augmentation System (WAAS) is available on many GPS units (see "Handheld GPS Buyer's Guide" for more info), and on all Trimble receivers. WAAS can improve GPS accuracy to within 2 m for compatible handheld GPS units, and to less than 1 m with Trimble units. However, it's only available in North America, and you need an unobstructed view of the southern horizon, so it's ideal for open land (such as open agricultural crops) and marine applications. You know you are receiving WAAS signal if you are receiving signals from satellites with ID numbers 31 or higher (in the skyplot). Differential GPS (DGPS) is available for Trimble units (and for PDAs with ArcPad and GPS Correct software) and can improve accuracy to about 1 cm.
Recommendation: Only enable WAAS if you have an open view of the southern horizon – if you have WAAS enabled without a clear view, your accuracy will be reduced because the GPS unit is constantly trying to find the WAAS satellites. As for DGPS, use it if you have access to DGPS correction (either real-time or post-processed), and you want sub-meter accuracy.

http://gif.berkeley.edu

What format should I use to collect GPS data?

The most important things about collecting GPS are to be consistent and to document your data. That way, data can be easily used with other data with minimal adjustments, and people who use your data in the future (including you) can know exactly what format (projection and datum) you used to collect the data. If you do not document your data, it is possible that it will be unusable in the future!

All geographic data has a projection and a datum:

- **Projection** is how the 3D earth is mapped on a 2D surface, like a map on paper or your computer screen. GPS units call it the "Position Format" or "Coordinate System."
- **Datum** is the mathematical model that fits the earth to an ellipsoid. Most GPS units call it the "Datum" or "Map Datum."

Recommendations:

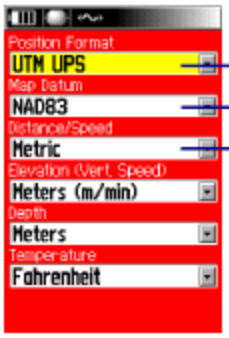
- Use the projection: UTM (stands for Universal Transverse Mercator)
- Use the datum: NAD 83 (stands for North American Datum 1983)
- Using other projections (like Latitude-Longitude or Stateplane) and other datum (like WGS 84) is okay – just be sure you record whatever projection and datum you used!
- If you decide to use Latitude-Longitude, try to collect in decimal-degrees (hddd.dddd°) as the Position Format.

GPS Accuracy:

- Accuracy is how close you are to the real-world location. It is also called the offset or the error. On most handheld units, accuracy is represented by a "error buffer," e.g. ±14ft or ±11m.
- Your GPS accuracy depends on many things; see other side.
- When we talk about accuracy, usually we mean horizontal accuracy. There is also vertical accuracy, which is how close you are to the real-world elevation at a given location. Vertical accuracy is usually somewhat inaccurate with handheld GPS unit (10-200m), while it is more accurate with more advanced Trimble units (<5m). For sub-meter vertical accuracy, survey-grade GPS equipment is required.

How do I set my GPS projection & datum?

All GPS units have a Setup menu, where you can set the projection and datum. Check the GPS unit's manual for detailed instructions. Below is a screenshot from Garmin's Setup | Units menu:



Set the projection here. For UTM, set to UTM UPS. For Lat/Long, set to hddd.ddd°.

Set the datum here. For NAD 83 or WGS 84..

Set the distance units here, either meters or feet. If you use UTM, use meters as the units.

Recording GPS Information

- **UTM:**
  - » Easting (e.g. 0525690)
  - » Northing (e.g. 4286289)
  - » Accuracy (e.g. ± 11m)
- **Latitude, Longitude:**
  - » Latitude (e.g. 37.867242) with 5-6 decimals
  - » Longitude (e.g. 122.300746) with 5-6 decimals
  - » Accuracy (e.g. ± 11m)
- **Backup**
  It is always a good idea to record GPS coordinates and any other data on paper/notebook in the field if possible, just in case of data loss after accidental damage. (Damage is less common with rugged units, such as Garmin handhelds or the Trimble Recon.)

If you do record GPS coordinates, write both the X (Easting or Latitude), the Y(Northing or Longitude), and the accuracy, e.g. ± 11m.

Things to Remember:

1. Be consistent with what projection and datum you use to collect data.
2. When in doubt, or if starting a new project, use UTM projection with NAD 83 datum.
3. Only record a point if you have 4 or more satellites.
4. Record accuracies on your field sheet since you can't always transfer these digitally.

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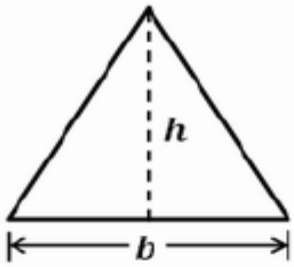
Area of a Triangle

(Solve Using Base and Height)

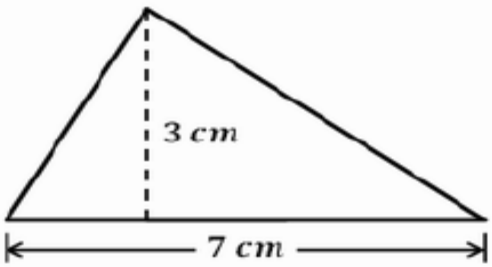


$$Area = \frac{1}{2}(b \times h)$$

$b = base\ of\ the\ triangle$

$h = height\ of\ the\ triangle$

Example:



$$A = \frac{1}{2}(b \times h)$$

$$= \frac{1}{2}(7 \times 3)$$

$$= \frac{1}{2}(21)$$

$$= 10.5\ cm^2$$

BIOGRAPHIES –

Anna Brenes began work in July 2012 with USAID | Haiti as the GIS Mapping and Reporting Specialist where she assisted M&E teams with data collection, analyses, and management using the Haiti DevResults information management systems. She joined the USAID/BFS/SPPM/MEL team in January 2016 as a Data Support Specialist. Prior to working with USAID, Ms. Brenes worked with the State of Minnesota as a GIS Analyst. She has lived abroad with her husband and children in Morocco, Bolivia, and the Netherlands. Ms. Brenes has an undergraduate BA degree from the University of Wisconsin, Madison in International Relations, and a graduate MS degree in Agriculture Education/Sustainable Community Development from the University of Wisconsin, River Falls.

Kiersten B. Johnson, PhD, is a social demographer working in the field of international development. She served nearly 20 years as a researcher for USAID's Bureau for Global Health MEASURE DHS project, analyzing Demographic and Health Surveys (DHS) and Service Provision Assessment health facility data. She later expanded the use of DHS data to support the work of the US Global Climate Change Initiative and USAID's Office of Forestry and Biodiversity, integrating NASA's satellite remote-sensing data into the DHS to explore associations among climate, environment, and health and nutrition outcomes. More recently, she has supported the US Government's Feed the Future Initiative through assisting USAID's Bureau for Food Security to implement population-based surveys and impact evaluations related to agriculture and nutrition. She currently serves as a senior Monitoring and Evaluation Advisor in USAID's Bureau for Food Security. Kiersten has published on topics including child nutrition, food security, impacts of socioeconomic inequalities on development outcomes, gender, climate change and biodiversity, HIV/AIDS, health systems, maternal and child health and survival, and malaria. She has worked in numerous countries throughout Africa, Asia, and Latin America and the Caribbean.

FOR MORE INFORMATION:

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Anne Swindale (aswindale@usaid.org) or Salik Farooqi (sfarooqi@usaid.gov)
Monitoring, Evaluation and Learning
Bureau of Food Security
USAID

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

PERFORMANCE MONITORING

FACILITATOR'S GUIDE

USAID
FROM THE AMERICAN PEOPLE

This publication was produced for review by the U.S. Agency for International Development (USAID). It was prepared by the Feed the Future Knowledge-Driven Agricultural Development Project (KDAD), Contract Number: AID-OAA-C-13-00137, implemented by Insight Systems Corporation. The opinions expressed herein are those of the author(s) and do not necessarily reflect the views of USAID.

August 2016

Table of Contents

H. Materials, Supplies and Checklist

Session Materials

Session Seven

- ☐ PowerPoint sides
- ☐ Quiz slides
- ☐ Timer
- ☐ Bag of assorted chocolates or other small prize for members of the team that wins the quiz

Supplies

Have the following standard office supplies available:

- ☐ Pads of paper
- ☐ 5 x 7 index cards (different colors)
- ☐ Extra Pens
- ☐ Mr. Sketch markers (for facilitators and each table)
- ☐ Colored felt-tipped pens (for each table)
- ☐ Masking tape or painter's tape
- ☐ Suction cups for banners
- ☐ Paper clips
- ☐ Stapler and staples
- ☐ Scissors
- ☐ Post-It Notes (3x3, different colors)
- ☐ Chocolate (a must!!!)

Equipment

- ☐ LCD project and screen
- ☐ Laptop loaded with course PowerPoint slides
- ☐ Internet access
- ☐ Speakers
- ☐ Remote for LCD projector/PowerPoints and extra batteries
- ☐ Microphones (if necessary)
- ☐ Flipchart stands and paper (one stand per table plus two stands for facilitators)
- ☐ Chimes to ring at breaks
- ☐ Camera for photos during session

☐ Note: Additional laptops are needed for individual sessions (see session list of materials)

Session 7: Verifying Performance Monitoring Data

Session Goal: Ensure data quality

Learning Objectives:

- Understand importance of data quality
- Review data quality continuum
- Identify data quality standards
- Explore when and how to conduct data quality assessments
- Review common data quality issues

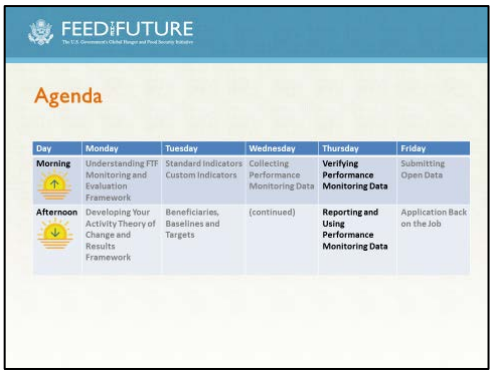
Session Length: 60 minutes

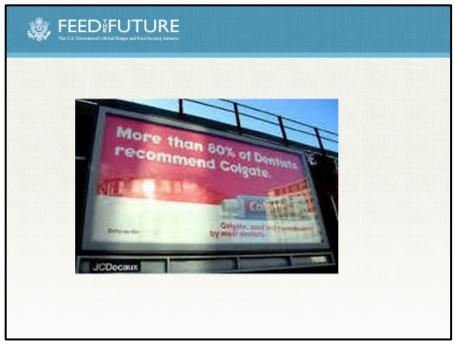
Session Materials:

- Session 7 slides
- Session 7 Quiz slides
- Flipchart and markers (for facilitator)
- Timer
- Bag of assorted chocolates or other small prize for members of the team that wins the quiz

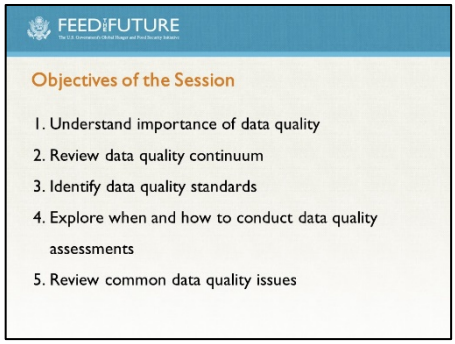
Facilitator Notes:

Time & Facilitator	Content/Activities	Materials
9:00 am (15 min.)	**Start of the Day** Welcome participants back to the course. Ask for any "overnight thoughts" about the previous day's material. Share the agenda for the day.	



9:15am (45 min.)	**Introduction** **Slide 1**  Say: In this session, we will focus on ensuring data quality. **Slide 2**  Ask: Does anyone remember this Colgate ad? Say: No wonder this ad is fuzzy. When you look at how the data was collected, you will discover that when dentists were surveyed, they could choose several brands — not just one. So other brands could be just as popular as Colgate. Ask: What other statistics have you seen in advertisements or the news that you have asked yourself, "I wonder where they got the data and how they reached their conclusions?" *Note: If the group cannot generate examples, be prepared to share 2 or 3 of your own.*	Flipchart and markers (for facilitator only)

Slide 3

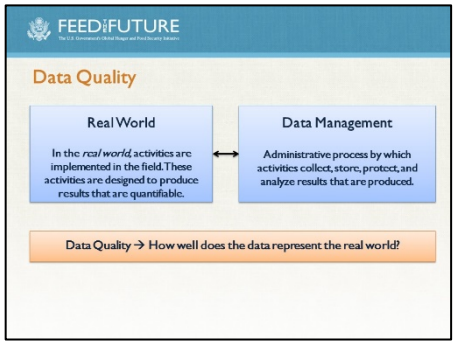


Say: To ensure the highest quality of FTF data, this session will help you:

- Understand importance of data quality
- Review data quality continuum
- Identify data quality standards
- Explore when and how to conduct data quality assessments
- Review common data quality issues

Data Quality

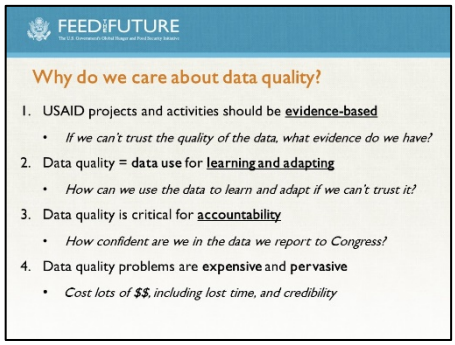
Slide 4



Review content on the slide.

Ask: Why does FTF care about data quality? *Record responses on a flipchart. Then show Slide 5.*

Slide 5

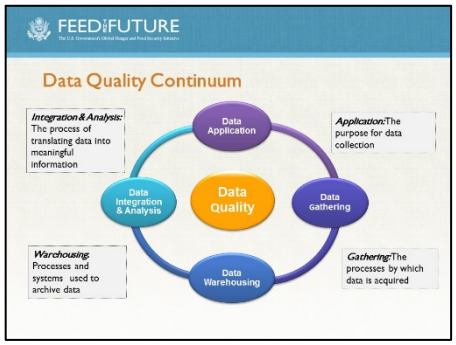


When reviewing accountability bullet point, ask: How might Congress use data?

Answer: Congress might use the data to make funding decisions. For example, to decide whether to increase or decrease funding for a particular FTF country.

Data Quality Continuum

Slide 6

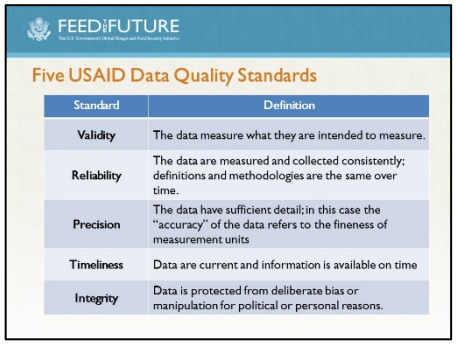


Key messages to emphasize are when reviewing this slide:

- Data is not static, it flows in a continuum
- Data quality issues can arise at any stage of the continuum
- End-to-end continuous monitoring needed

USAID Data Quality Standards

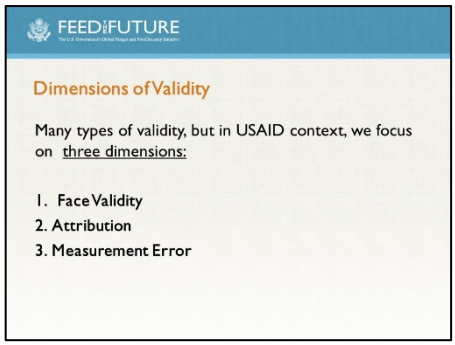
Slide 7



Standard	Definition
Validity	The data measure what they are intended to measure.
Reliability	The data are measured and collected consistently; definitions and methodologies are the same over time.
Precision	The data have sufficient detail; in this case the "accuracy" of the data refers to the fineness of measurement units
Timeliness	Data are current and information is available on time
Integrity	Data is protected from deliberate bias or manipulation for political or personal reasons.

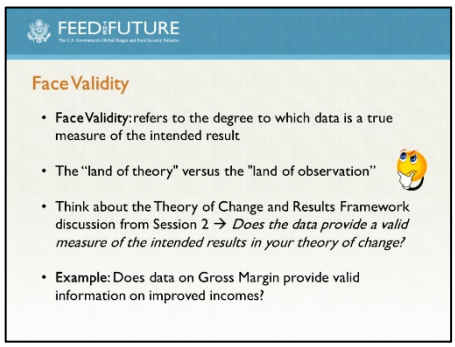
Read the definition for each data quality standard.

Slide 8



Read slide.

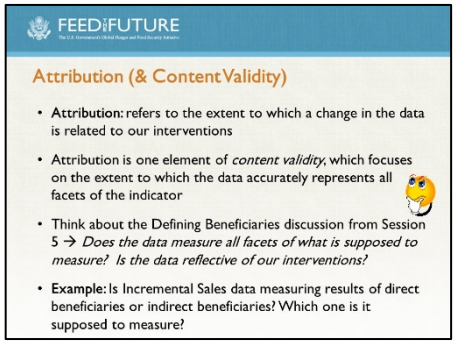
Slide 9



Ask: "On the face of it, is this an appropriate measure for the result? Does it fit logically within our ToC and RF?"

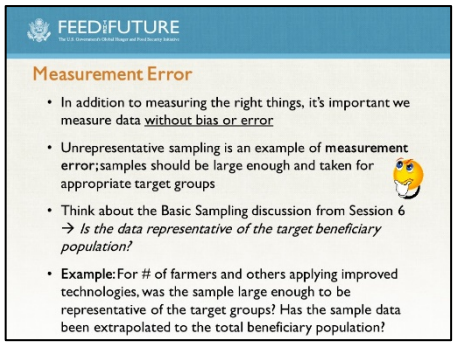
Answer: If the data is not an accurate measure of the outcome we are intending to assess, then it lacks facial validity.

Slide 10



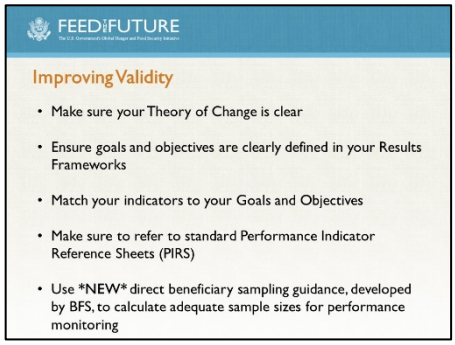
Read slide.

Slide 11



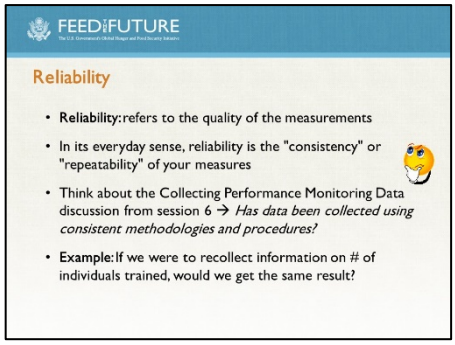
Read slide.

Slide 12



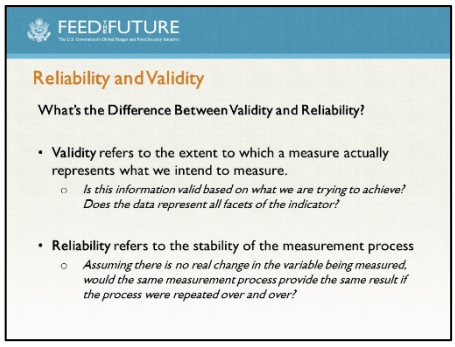
Read slide.

Slide 13



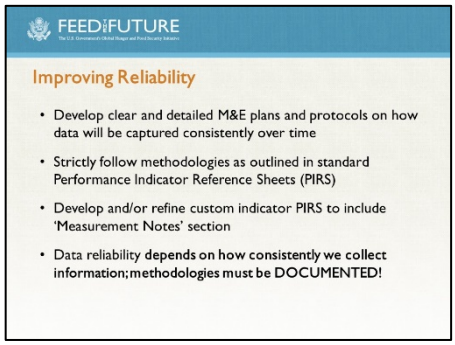
Read slide.

Slide 14



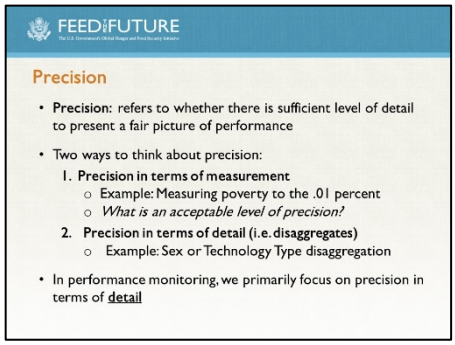
Read slide

Slide 15



Read slide

Slide 16

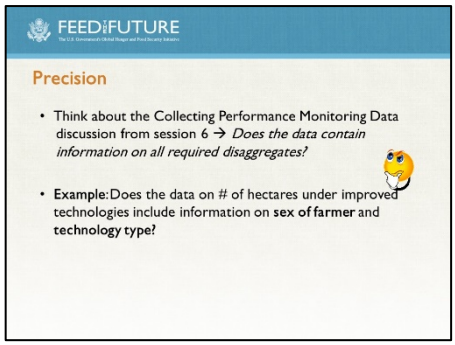


Read slide.

Ask: Where might we place more emphasis on Precision in terms of measurement?

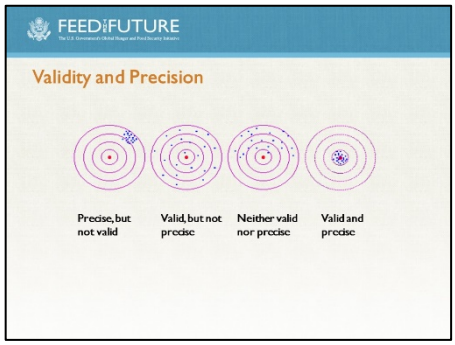
Answer: Quantitative evaluation when looking at magnitude of change.

Slide 17



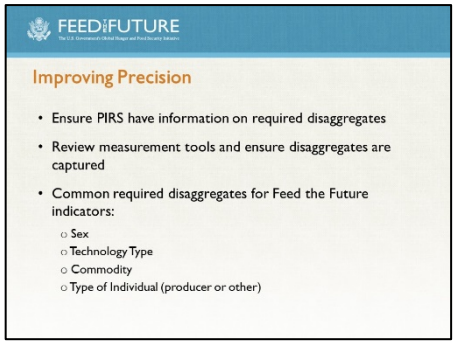
Read slide.

Slide 18



Say: These examples illustrate the differences between validity and precision, as well as the situation where neither exists and the situation where both exist. We want the last case!

Slide 19



Read slide.

Slide 20

FEED the FUTURE

Timeliness

- **Timeliness:** refers to the extent that data is available and up to date enough to meet management needs
- Two aspects of timeliness:
  1. **Frequency:** data must be available frequently enough to influence management decision making.
     - Example: Quarterly, Semi-annually, Annually
  2. **Current:** data is sufficiently up to date to be useful in decision-making
     - Example: Calendar year, fiscal year, seasonality

Read slide.

Slide 21

FEED the FUTURE

Timeliness

- Most data quality issues under Timeliness dimension for Feed the Future indicators result from ensuring data is "current"
- USAID most often reports on the **fiscal year** (October – September)
- Agriculture activities are dependent on seasons; thus, data reported in the fiscal year must take into account production cycles between October and September
- Some issues do arise in terms of "frequency;" USAID missions must submit fiscal year data no later than November 15th each year for FTFMS review

Read slide.

Slide 22

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Timeliness

- Think about the Collecting Performance Monitoring Data discussion from session 6 → *does the data represent the most current information available?*
- **Example:** Does the data on Value of Incremental Sales represent the most current information available?

- Seasonality issues can often affect timeliness of data; you may find data quality suffers from <u>both validity and timeliness</u> concerns

Read slide.

Slide 23

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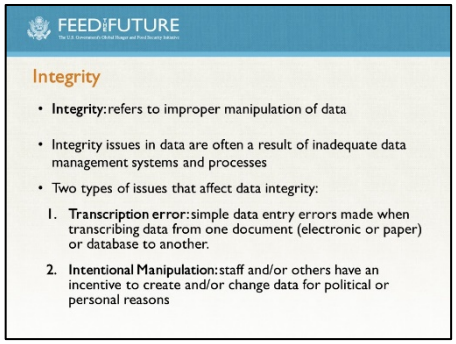
Improving Timeliness

- Ensure M&E plans have clear reporting dates that align with USAID reporting cycle(s)
- Require seasonal calendars in M&E plans to track production cycles for targeted commodities

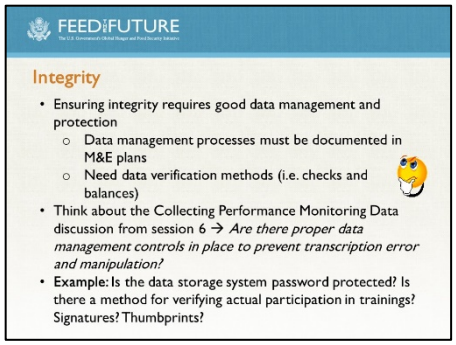
Read slide.

Slide 24



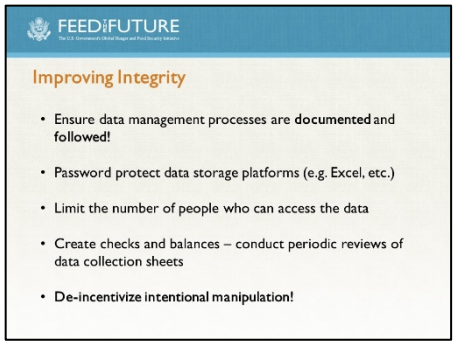
Read slide.

Slide 25



Read slide.

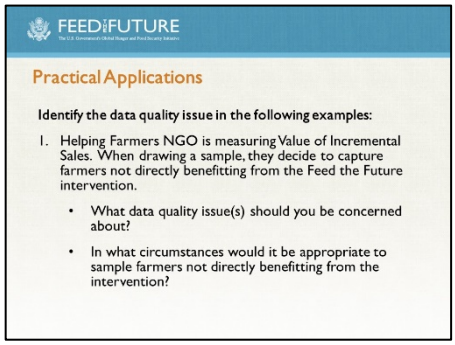
Slide 26



Read slide.

Practical Applications
Plenary Exercise

Slide 27

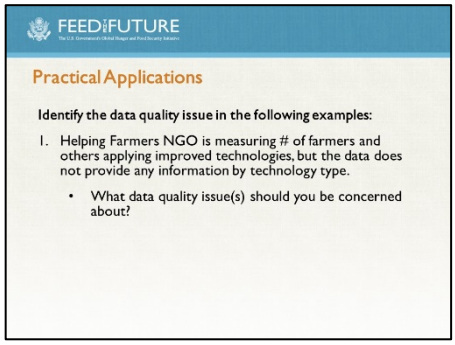


Read the slide and ask:

- What data quality issue(s) should you be concerned about?
- In what circumstances would it be appropriate to sample farmers not directly benefitting from the intervention?

Answer: **Validity, attribution**. It may be appropriate, however, to sample farmers not directly benefitting from FTF interventions at **baseline** since you may not have selected your direct beneficiaries at project initiation; it is also one way to help overcome limitations of the Value of Incremental sales indicator.

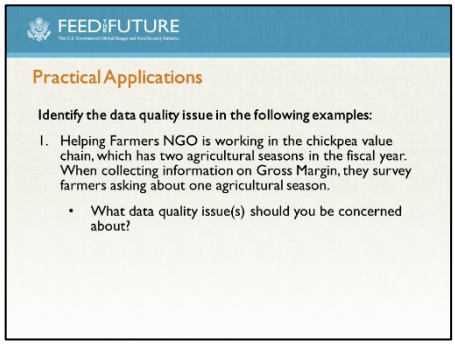
Slide 28



Read the slide and ask: What data quality issue(s) should you be concerned about?

Answer: Precision.

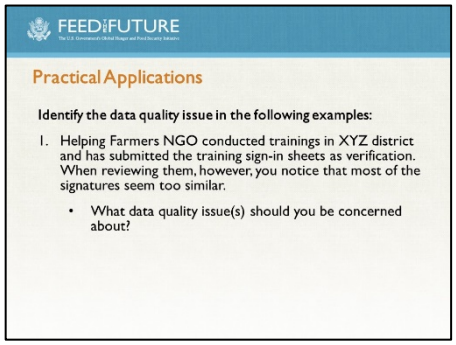
Slide 29



Read the slide and ask: What data quality issue(s) should you be concerned about?

Answer: **Validity, measurement error.** You might also have **Timeliness** concerns if using Gross Margin information for making programmatic decisions.

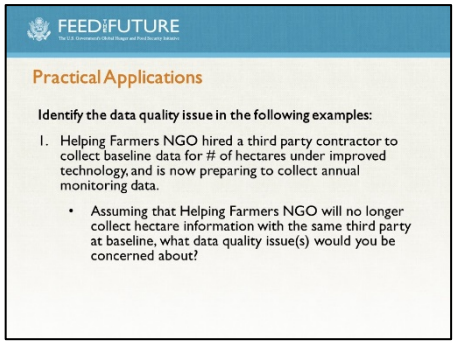
Slide 30



Read the slide and ask: What data quality issue(s) should you be concerned about?

Answer: **Integrity.** Manipulation of data.

Slide 31



Read the slide and ask: Assuming that Helping Farmers NGO will no longer collect hectare information with the same third party at baseline, what data quality issue(s) would you be concerned about?

Answer: **Reliability** would be the main concern.

Data Quality Assessments

Slide 32

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Data Quality Assessments

- ADS Chapter 203: the *purpose* of a data quality assessment (DQA) is to ensure that the USAID Mission/Office are aware of the:
  1. Strengths and weaknesses of the data, as determined by applying the five data quality standards
  2. Extent to which the data integrity can be trusted to influence management decisions.

Read slide.

Slide 33

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Data Quality Assessments

- A DQA focuses on applying the data quality standards and examining the systems and approaches for collecting data to determine whether they are likely to produce high quality data over time.
- If the data quality standards are met and the data collection methodology is well designed, then it is likely that good quality data will result.
- DQAs are done **at the indicator-level** but are dependent on data collected at the activity-level!

Read slide.

Slide 34

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When to conduct DQAs?

- ADS Chapter 203 says DQAs must occur for indicators, which are reported externally, at some time within the three years before submission
- PPR guidance says that DQAs must be completed for new indicators within six months before reporting on the indicator to Washington and every three years thereafter
- Conduct DQAS for new indicators within six months before reporting and every three years thereafter.

Read slide.

Slide 35

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Who can conduct DQAs?

- ADS Chapter 203 prescribes that:
  - Missions should not hire an outside expert to assess the quality of their data
  - Mission staff, usually the technical offices, Monitoring and Evaluation staff should conduct the assessment
  - Project/activity implementers, as part of their award, can also conduct the assessment, provided that mission staff review and verify DQAs conducted by implementing partners

Read slide.

Slide 36

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Planning for a DQA

- A practical approach to planning DQAs will include the following steps:

1. Develop and implement an **overall data quality assurance plan** that includes initial data quality assessment reviews
2. Decide **who should be involved** in the data quality assessment
3. Maintain **written policies and procedures** for data collection, maintenance, and processes
4. Maintain an **audit trail**—document the assessment, including data quality problems, and the steps taken to address them.

Read slide.

Slide 37

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How to conduct a DQA?

- No prescribed method for conducting DQAs
- DQAs can be done in a variety of ways – from informal to formal
- In our experience, **a combination of informal, on-going and systematic assessments work best**

Read slide.

Slide 38

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DQA Options

Informal Option	Semi-formal Option	Formal Option
• Conducted internally by the AO team • Ongoing (driven by emerging and specific issues) • More dependent on the AO team and individual expertise of program • Conducted by the program manager • Product: Documented in memos, notes in the PMP	• Draws on management and M&E expertise • Periodic & systematic • Facilitated and coordinated by the M&E expert, but AO team members are participants • Product: Data Quality Assessment Report	• Driven by broader programmatic needs, as warranted • More dependent on external technical expertise and/or specific types of data expertise • Product: Either a Data Quality Assessment report or addressed as a part of another report

Review information on slide.

Slide 39

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Illustrative DQA Process

Step 1: Identify the DQA team

Step 2: Develop an approach and schedule

Step 3: Identify the indicators to be reviewed

Step 4: Hold working sessions to review indicators and checklists

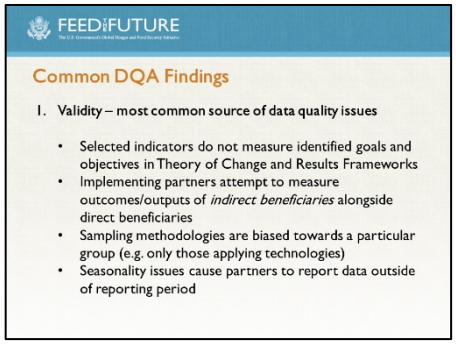
Step 5: Hold sessions with implementing partners to review indicators

Step 6: Prepare DQA document

Step 7: Follow-up on DQA actions

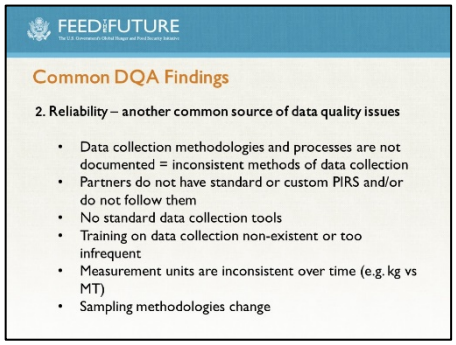
Read slide.

Slide 40



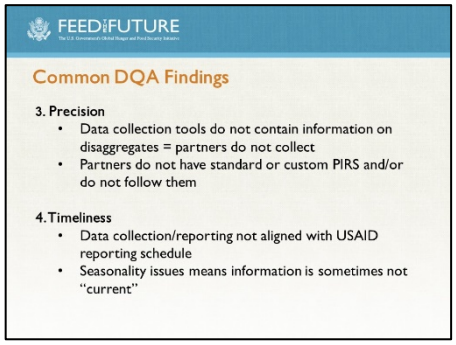
Read slide.

Slide 41



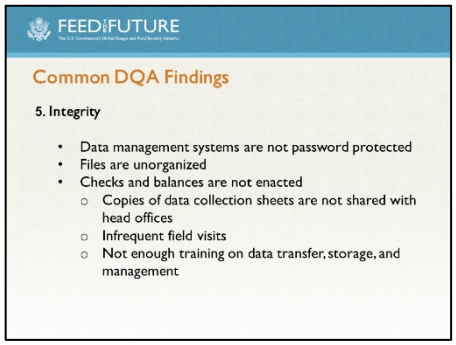
Read slide.

Slide 42



Read slide.

Slide 43



Read slide.

10:00 am (15 min.)	**Knowledge Test – Team Quiz** Directions: o Tell the group it is time for a test! o Have the group count off in three's or four's depending on the size of the class. *Note: You want a maximum of 4 participants on a team.* o Have each team select a team name. o Switch to the Session 7 Quiz slides. o Explain the rules of the quiz: ▪ Teams will go in order, clockwise starting with team with the name that begins with the letter closest to Z. ▪ Participants may select any question number. ▪ The value of the question -- $200, $400, $600, $800 -- is shown on the top row. ▪ If you get the question right, you get the points. ▪ If you get the question wrong, the points are deducted from your score AND the next team may opt to answer the question in addition to choosing a second question to answer. ▪ You may pass on a question but you lose your turn in the round. The next team in the sequence may answer the question in addition to choosing a second question to answer. ▪ Teams have a maximum of 1 minute to answer the question. If they do not answer the question within the time limit, it is considered a pass. o Each team keeps their own score. Complete the quiz. Ask each team their score. Announce the winning team and give the team that has the highest score a prize (e.g., their first choice of chocolate then pass the bag around to the other teams).	• Session 7 Quiz Slides • Timer • Bag of assorted chocolates or other small prize for the winning team
10:15 am (15 min.)	**Break**	

BIOGRAPHIES –

Anne Swindale, Senior Program Advisor – Monitoring and Evaluation in USAID's Bureau for Food Security, is an economist with more than 30 years of experience in technical assistance, research and project management in agriculture, food security, and nutrition strategy and program assessment, design, monitoring, and evaluation. She has a multi-sectoral background spanning agriculture, poverty, food consumption, and nutrition; and extensive experience with project management, program impact evaluation and performance reporting for USAID agriculture, food security and nutrition programs; and the collection, management, and analysis of large and complex primary income, expenditure, and consumption data sets from households and individuals. Prior to joining USAID in 2011, she was Deputy then Director of the USAID-funded Food and Nutrition Technical Assistance Project (FANTA) for 13 years. She also worked for the Consultative Group for International Agricultural Research International Potato Center in Peru and the Dominican Republic. She has a Ph.D. from the Fletcher School of Law and Diplomacy at Tufts University with a specialization in development economics and food, nutrition, and agricultural policies. She speaks Spanish.

Lindsey Anna is a public health and international development professional with over 7 years of experience designing, implementing, and monitoring food security and nutrition programs. She joined USAID's Bureau for Food Security in October 2014 as a Monitoring & Evaluation Adviser supporting Feed the Future focus countries in LAC and aligned countries in the Middle East and Asia. She is also the M&E lead for Ebola-affected countries in West Africa. Most notably, Lindsey serves as the BFS technical lead for data quality. Before joining USAID, Lindsey previously worked at a number of USAID implementing partners, including Social Impact and FHI360, where she filled various programmatic and technical roles providing budget, program design, and M&E support. Lindsey also possesses vast experience in domestic and global health policy having started her career in the U.S Senate and the U.S. Department for Health and Human Services. Lindsey received her MPH from The George Washington University and BS in Commerce from DePaul University.

FOR MORE INFORMATION:

For more information about the Feed the Future Performance Monitoring Course, contact:

Anne Swindale (aswindale@usaid.org) or Salik Farooqi (sfarooqi@usaid.gov)
Monitoring, Evaluation and Learning
Bureau of Food Security
USAID

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

PERFORMANCE MONITORING

FACILITATOR'S GUIDE

USAID
FROM THE AMERICAN PEOPLE

This publication was produced for review by the U.S. Agency for International Development (USAID). It was prepared by the Feed the Future Knowledge-Driven Agricultural Development Project (KDAD), Contract Number: AID-OAA-C-13-00137, implemented by Insight Systems Corporation. The opinions expressed herein are those of the author(s) and do not necessarily reflect the views of USAID.

August 2016

Table of Contents

H. Materials, Supplies and Checklist

Session Materials

Session Eight

- ☐ Data exercise
  - ☐ 3 – 6 laptops with NUTSENAG Excel Worksheet loaded on each laptop
  - ☐ NUTSENAG Excel Worksheet (in Participant Guide)
  - ☐ NUTSENAG Excel Worksheet (facilitator version)
- ☐ WEAI
  - ☐ WEAI data for NUTSENAG
  - ☐ GIF banner, if available
- ☐ Narratives
  - ☐ Spreadsheet for group activity
- ☐ Data visualization – 2 sets of
  - ☐ 3 Scenario cards (6 X 4, green card stock)
  - ☐ 3 Findings cards (6 x 4, blue card stock)
  - ☐ Thin colored markers (1 per table)
  - ☐ GEOCenter handout (in participant guide)

Supplies

Have the following standard office supplies available:

- ☐ Pads of paper
- ☐ 5 x 7 index cards (different colors)
- ☐ Extra Pens
- ☐ Mr. Sketch markers (for facilitators and each table)
- ☐ Colored felt-tipped pens (for each table)
- ☐ Masking tape or painter's tape
- ☐ Suction cups for banners
- ☐ Paper clips
- ☐ Stapler and staples
- ☐ Scissors
- ☐ Post-It Notes (3x3, different colors)
- ☐ Chocolate (a must!!!)

Equipment

- ☐ LCD project and screen
- ☐ Laptop loaded with course PowerPoint slides
- ☐ Internet access
- ☐ Speakers
- ☐ Remote for LCD projector/PowerPoints and extra batteries
- ☐ Microphones (if necessary)
- ☐ Flipchart stands and paper (one stand per table plus two stands for facilitators)
- ☐ Chimes to ring at breaks
- ☐ Camera for photos during session
- ☐ Note: Additional laptops are needed for individual sessions (see session list of materials)

Session 8: Reporting and Using Performance Monitoring Data

Session Goal:	Report and use performance monitoring data to manage FTF activities
Learning Objectives:	• Use FTFMS data to report performance • Analyze the data for additional insights on performance • Identify and recognize areas of learning and potential adaptation • Use data to make evidence-based decisions and management adaptations • Draft a performance narrative using FTF templates • Make compelling graphics With a bonus section on Using the Women's Empowerment in Agriculture Index (WEAI) and Gender Integration Framework (GIF) to Adapt Programming
Session Length:	420 minutes

Session Materials:	• Session 8 slides
	• NUTSENAG Case Study
	• Data exercise
	  o 3 laptops with NUTSENAG Excel Worksheet loaded on each laptop
	  o NUTSENAG Excel Worksheet (printed single-sided, legal size paper, 4 pages)
	  o NUTSENAG Excel Worksheet (facilitator version)
	• WEAI
	  o WEAI data for NUTSENAG
	• Narratives
	  o Spreadsheet for group activity
	• Data visualization
	  o 3 Scenario cards (6 X 4, green card stock)
	  o 3 Findings cards (6 x 4, blue card stock)
	  o Paper
	  o Colored pens
	  o GEOCenter handout

Facilitator Notes:

Time & Facilitator	Content/Activities	Materials
Before the session	Load NUSTENAG Excel Worksheet on 3 laptops	
10:30 am (90 min.)	**Introduction** **Slide 1**  Say: In this session on Reporting and Using Data, we will: • Continue working with the data from the NUTSENAG case • Learn about WEAI, the Women's Agriculture Empowerment Index and how it can help us improve the impact of FTF activities • Practice creating narratives for the data that tell the story behind the data • Create visuals to make the data come alive	
80 minutes (60 for exercise)	**Group Exercise** **Slide 2**  Say: After all of this, you now have good quality data for indicators in your results framework and you want to make sure you use those data to see what's happening in your program, to continually test and validate your theory of change - are you reaching your targets for individual indicators, and is meeting your targets in lower - level output indicators leading to the assumed changes in your immediate and higher-level outcome indicators? You should be identifying areas where things are not advancing as planned, where you may need to intensify or adapt your implementation, or where you may need to pull in other types of information, or even collect more information though a quick qualitative study, to better understand why you're not seeing the results you expected to inform this strategic adaptation. You also want to use your numbers and narrative and visuals to tell a compelling and honest story of what you are accomplishing, the lessons you are	3 laptops with NUTSENAG Excel Worksheet loaded NUTSENAG Case Study NUTSENAG Excel Worksheet NUTSENAG Excel Worksheet (facilitator version)

learning and how you are adapting your approaches in response. We are going to cover almost all of these in this session.

Directions:

Say: The first part of the session is focused on analyzing the data you collect. For this part, we'd first like everyone to come up and put yourself in one of three groups – group here on my right if you consider yourself quite good or adept at excel, come stand in the middle here if you can get by but by no means consider yourself an expert, and stand on my left here if you're not very experienced at all with excel.

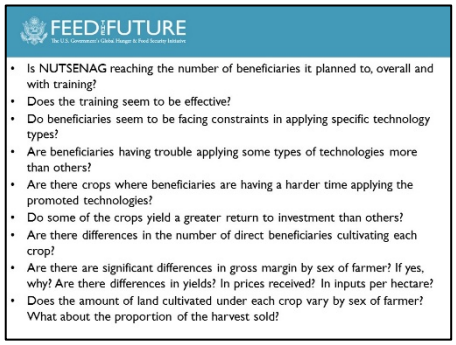
Note: Divide up the group ensuring that each group has a good mix of Excel skills with at least one Excel expert in each group.

Say: We have loaded a spread sheet on the computers that contains two tabs. The first tab has select NUTSENAG FTFMS results for three indicators – number of people trained, number of beneficiaries applying improved technologies, and my personal favorite because of all the great information that's hidden in its data points - gross margin. The second sheet contains more detailed data from the implementing partner's database. There are also print-outs of each of these tabs on the table.

Note: Pass out NUTSENAG Excel Worksheet to each group

Say: We want you to take 60 minutes to dig into the data on these three indicators. Look at the data, do some analysis, for example, compare targets to achieved, look at what proportions of results or beneficiaries fall in different disaggregate categories, and jot down what you observe in the data. Then we'll go around the room at least twice, asking each table to report out on one finding each time, how you were able to see this or what you did to find this in the data, and what NUTSENAG might need to do about it.

Slide 3



Say: Here are some are questions you'll want to ask. You always want to apply a gender lens, by asking these questions in general and then also looking to see if the answer is different for male versus female farmers:

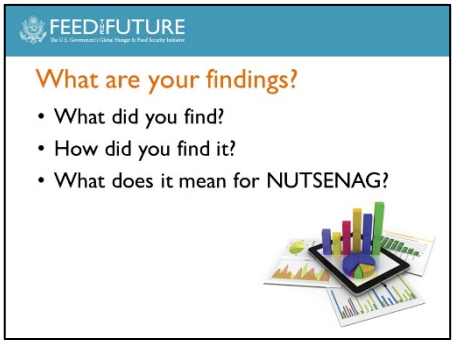
- Is NUTSENAG reaching the number of beneficiaries it planned to, overall and with training?
- Does the training seem to be effective?
- Do beneficiaries seem to be facing constraints in applying specific technology types?

- Are beneficiaries having trouble applying some types of technologies more than others?
- Are there crops where beneficiaries are having a harder time applying the promoted technologies?
- Do some of the crops yield a greater return to investment than others?
- Are there differences in the number of direct beneficiaries cultivating each crop?
- Are there are significant differences in gross margin by sex of farmer? If yes, why? Are there differences in yields? In prices received? In inputs per hectare?
- Does the amount of land cultivated under each crop vary by sex of farmer? What about the proportion of the harvest sold?

Ask: Does anyone have questions about the exercise before we begin?

Debrief

Slide 4



Debrief:

Ask:
- What were some of your findings?
- How did you find it?
- What if anything does it mean for NUTSENAG?

Take each table in turn and have them present one finding. Go around all the tables at least twice.

Answers should include:
- On track with producer training male and female
- Not on track with firm-level training
- On track with % of trained applying overall, some but not large gender difference at aggregated level
- Some constraints apparent in applying improved seed
- Much greater constraints in applying the promoted post-harvest handling technologies
- Constraints to application of improved technologies are greater in groundnut and soy than maize
- Much lower proportion of female groundnut beneficiaries applying improved techs, but among women, similar proportions applying each tech type, 80% cultural vs 70% other two

	• Maize cultural practices seem very easy to accept, while post-harvest practices seem most challenging, and seed in the middle. No real gender differences in rates of application of overall or by type of practice. • Somewhat lower rate of application of improved soy seed by women but this doesn't result in large yield differences. Additional findings that the facilitator needs to point out if groups do not have these: • Groundnut female yield is significantly lower than male yield, and female farmers have significantly lower inputs per hectare, lower price per kg, and significantly lower proportion sold. • Maize gross margin is higher for females because inputs/ha for females is lower while yield, price, production, proportion sold are all basically the same for males and female beneficiaries. (Ask: Why? Answer: Females use family labor and saved seed, while males purchase both.) • Soy has the highest GM but the lowest number of beneficiaries, by a large margin. Male and female gross margin is similar, but male cultivates more than 2.5 times the area that females do. Question is how to increase number of beneficiaries planting soy to take advantage of the high GM and contribute better to poverty objective. **Conclusion/Transition to WEAI:** Say: The data pointed to an interesting conclusion – that maize gross margin is higher for females – in the next part of this session, we will look at how you can use the WEAI – Women's Empowerment in Agriculture Index – to improve the impact of your FTF activities.	
12:00 pm (60 min.)	**Lunch**	

	Baseline	Target	Actual			Facilitator Notes: Analyses and findings
4.5.2(7): Number of individuals who have received USG supported short-term agricultural sector productivity or food security training	-	220,500	212,444			
Type of individual	-	220,500	212,444			
Producers	-	210,000	211,362	101%		On track with producer training male and female
Sex	-	210,000	211,363			(compute percent of target)
Male	-	21,000	22,249	106%		
Female	-	189,000	189,114	100%		
People in private sector firms	-	10,500	1,082	10%		Not on track with firm-level training
Sex	-	10,500	1,082			
Male	-	6,500	750			
Female	-	4,000	332			
4.5.2(5): Number of farmers and others who have applied improved technologies or management practices as a result of USG assistance	6,850	199,500	196,169			
Producers	6,837	189,000	195,087			
Sex	6,837	189,000	195,087	90%	92%	On track with % of trained applying overall, some but not large gender difference at aggregated level
Male	1,048	18,900	21,481	90%	97%	(compute percent of total trained that apply)
Female	5,789	170,100	173,606	90%	92%	
Disaggregates Not Available						
Technology type	6,837	189,000	195,087			
crop genetics	3,009	170,100	107,943	90%	55%	Some constraints apparent in applying improved seed
cultural practices	5,475	189,000	185,448	100%	95%	(compute percent of total applying that apply in each tech type)
post-harvest - handling and storage	-	189,000	57,367	100%	29%	Much greater constraints in applying the promoted post-harvest handling technologies
total w/one or more improved technology	6,837	189,000	195,087			
Commodity						
Groundnut	1,852	124,740	52,507	42%		Constraints to application of improved technologies are greater in gnut and soy than maize
Maize	5,361	189,000	159,634	84%		(compute percent of target)
Soy	906	52,920	24,362	46%		
Others (rest of data not included)	13	10,500	1,082			
4.5(16,17,18): Gross margin per hectare, animal or cage of selected product	Baseline	Target	Actual			
Groundnuts/peanuts [USD/Ha]	16	24	20	Groundnut female yield is significantly lower than male yield, and female farmers have significantly lower inputs per hectare, lower price per kg, and significantly lower proportion sold. from IP sheet - much lower proportion of female GN beneficiaries applying improved techs than males, but among women, similar proportions applying each tech type, 80% cultural vs 70% other two		
Male	39		75			
Female	15		17			
Hectares planted	887		28,812			
Male	10		445			
Female	877		28,367			
Total Production (MT)	126		5,306	0.18	yield	
Male	3		200	0.45		
Female	123		5,106	0.18		
Value of Sales (USD)	4,892		225,868	$ 194.48	price	
Male	471		42,050	$ 300.00		
Female	4,421		183,818	$ 180.00		
Quantity of Sales (MT)	27		1,161	22%	% sold	
Male	2		140	70%		
Female	25		1,021	20%		
Purchased input costs (USD)	9,064		452,204	$ 15.69	inputs/ha	
Male	292		26,698	$ 60.00		
Female	8,772		425,506	$ 15.00		
Number of direct beneficiaires	18,031		122,368	0.24	ha/person	
Male	487		8,899	0.05		
Female	17,544		113,468	0.25		
4.5(16,17,18): Gross margin per hectare, animal or cage of selected product	Baseline	Target	Actual			
Maize [USD/Ha]	250	320	385	Maize gross margin is higher for females because inputs/ha for females is lower while yield, price, production, proportion sold are all basically the same for males and female beneficiaries. Females use family labor and saved seed, while males purchase both. From IP sheet - cultural practices seem very easy to accept, while post harvest practices seem most challenging, and seed in the middle. No real gender differences in rates of		
Male	236		365			
Female	252		388			
Hectares planted	45,322		166,309			
Male	5,848		24,474			
Female	39,474		141,835			
Total Production (MT)	89,854		494,282	2.97	yield	
Male	11,696		75,868	3.1		
Female	78,158		418,414	2.95		
Value of Sales (USD)	1,934,608		17,603,811	$ 135.00	price	
Male	410,527		3,482,339	$ 135.00		
Female	1,524,081		14,121,472	$ 135.00		
Quantity of Sales (MT)	14,882		130,399	26%	% sold	
Male	3,158		25,795	34%		
Female	11,724		104,603	25%		
Purchased input costs (USD)	337,720		2,739,923	$ 16.47	inputs/ha	
Male	140,351		1,321,571	$ 54.00		
Female	197,369		1,418,353	$ 10.00		
Number of direct beneficiaires	48,733		211,362	0.79	ha/person	
Male	4,873		22,249	1.10		
Female	43,860		189,114	0.75		

Everyone grows maize, no one grows both legumes.

	# beneficiaries cultivating			# beneficiaries applying improved technologies			# beneficiares using improved seed			# beneficiaries using improved cultural practices			# beneficiaries using improved post-harvest practices		
	baseline	target	actual	baseline	target	actual	baseline	target	actual	baseline	target	actual	baseline	target	actual
Groundnut males	487	6,300	8,899	97	5,670	7,120	58	5,103	4,984	78	5,670	5,696	0	5,670	4,272
Groundnut female	17,544	######	113,468	1,754	119,070	45,387	702	107,163	31,771	1,404	119,070	36,310	0	119,070	31,771
Groundnut total	18,031	######	122,368	1,852	124,740	52,507	760	112,266	36,755	1,481	124,740	42,005	-	124,740	36,043
Maize males	4,873	21,000	22,249	975	18,900	17,799	487	17,010	10,679	731	18,900	13,349	0	18,900	3,560
Maize females	43,860	######	189,114	4,386	170,100	141,835	1,754	153,090	70,918	3,509	170,100	113,468	0	170,100	28,367
Maize total	48,733	######	211,362	5,361	189,000	159,634	2,242	170,100	81,597	4,240	189,000	126,817	-	189,000	31,927
Soy males	97	2,100	2,225	29	1,890	1,669	26	1,701	1,502	26	1,890	1,502	0	1,890	1,168
Soy females	4,386	56,700	28,367	877	51,030	22,694	746	45,927	19,290	833	51,030	21,559	0	51,030	18,155
Soy total	4,483	58,800	30,592	906	52,920	24,362	772	47,628	20,791	860	52,920	23,061	-	52,920	19,323

	% beneficiaries that apply improved technologies to legume but not maize (to eliminate double-counting)			unique # beneficiaries applying improved technologies			unique # beneficiares using improved seed			unique # beneficiaries using improved cultural practices			unique # beneficiaries using improved post-harvest practices		
	baseline	target	actual	baseline	target	actual	baseline	target	actual	baseline	target	actual	baseline	target	actual
Groundnut males	0.6	0	0.4	58	-	2,848	35	-	1,993	47		2,278	0		1,709
Groundnut female	0.6	0	0.5	1,053	-	22,694	421	-	15,886	842		18,155	0		15,886
Groundnut total				1,111	-	25,541	456	-	17,879	889		20,433	-		17,594
Maize males				975	18,900	17,799	487	17,010	10,679	731	18,900	13,349	0	18,900	3,560
Maize females				4,386	170,100	141,835	1,754	153,090	70,918	3509	170,100	141,836	0	170,100	28,367
Maize total				5,361	189,000	159,634	2,242	170,100	81,597	4,240	189,000	155,185	-	189,000	31,927
Soy males	0.5	0	0.5	15	-	834	13	-	751	13		751	0		584
Soy females	0.4	0	0.4	351	-	9,077	298	-	7,716	333		9,078	0		7,262
Soy total				365	-	9,912	311	-	8,467	346		9,829	-		7,846
			males	1,048	18,900	21,481	536	17,010	13,424	791	18,900	16,378	-	18,900	5,853
			females	5,789	170,100	173,606	2,474	153,090	94,519	4,684	170,100	169,069	-	170,100	51,515
			total	6,837	189,000	195,087	3,009	170,100	107,943	5,475	189,000	185,448	-	189,000	57,367

	average area cultivated per beneficiary			total area cultivated by beneficiaries			total area under improved technologies			total area under improved seeds			total area under improved cultural practices		
	baseline	target	actual	baseline	target	actual	baseline	target	actual	baseline	target	actual	baseline	target	actual
Groundnut males	0.02	0.20	0.05	10	1,260	445	2	1,134	356	1	1,021	249	2	1,134	285
Groundnut female	0.05	0.20	0.25	877	26,460	28,367	88	23,814	11,347	35	21,433	7,943	70	23,814	9,077
Groundnut total				887	27,720	28,812	90	24,948	11,703	36	22,453	8,192	72	24,948	9,362
Maize males	1.20	1.00	1.10	5,848	21,000	24,474	1,170	18,900	19,579	585	17,010	11,747	877	18,900	14,684
Maize females	0.90	0.70	0.75	39,474	132,300	141,835	3,947	119,070	106,376	1,579	107,163	53,188	3,158	119,070	85,101
Maize total				45,322	153,300	166,309	5,117	137,970	125,955	2,164	124,173	64,936	4,035	137,970	99,785
Soy males	0.04	0.20	0.25	4	420	556	1	378	417	1	340	375	1	378	375
Soy females	0.02	0.20	0.10	88	11,340	2,837	18	10,206	2,269	15	9,185	1,929	17	10,206	2,156
Soy total				92	11,760	3,393	19	10,584	2,687	16	9,526	2,304	18	10,584	2,531

Using the Women's Empowerment in Agriculture Index (WEAI) and Gender Integration Framework (GIF) to Adapt Programming

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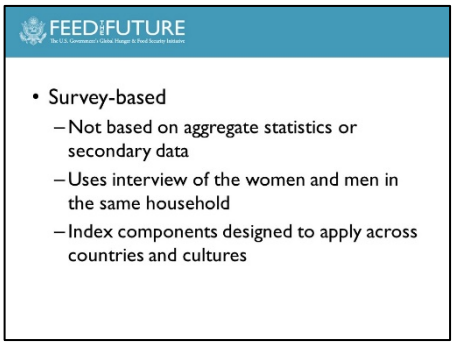
Session Goal:	Apply the WEAI to FTF projects to understand the underlying gender factors contributing to differences in the empowerment/disempowerment of men and women and to use this data to improve programming performance.
Learning Objectives:	• Understand how to use and interpret WEAI data • Analyze WEAI data to identify domains which are the largest contributors to women's disempowerment • Use the results from WEAI data and apply the GIF to modify interventions and improve FTF programming
Session Length:	90 minutes
Session Materials:	• Session 8 slides • GIF banner (if available)

Facilitator Notes:

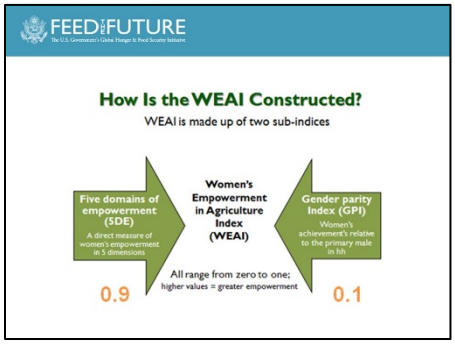
Time & Facilitator	Content/Activities	Materials
1:00 pm (50 min.)	**Introduction** **Slide 5**  Say: The goal of the session is to gain skills and knowledge about WEAI so that you are able to use this data to improve the impact of FTF activities. We will begin by looking at "what the WEAI is" and then use real WEAI data to practice interpreting contributors to gender empowerment and disempowerment. Then we will introduce the GIF – Gender Integration Framework – and how the framework can help us improve FTF programming by adding or enhancing gender empowerment components in FTF initiatives. Ask: • Who has heard of the WEAI? • For participants who heard of WEAI, ask one or two participants to share what they know about WEAI • What do you think empowerment means? Get a few definitions. Ask: What is empowerment in the context of agriculture? *Get examples of what empowerment looks like in an agricultural context (e.g., legal rights to own land, access to extension workshops, etc.)*	
	WEAI: What it is and how to interpret WEAI results **Slide 6**  **Slide 7**  	

Cover the information on the slide:

- The WEAI, Women's Empowerment in Agriculture Index, is an aggregate index that measures both women's and men's empowerment and inclusion levels in the agricultural sector. It is not a measure of overall/general empowerment.
- The WEAI is only representative of the Zone of Influence, and not the whole country in most cases.
- History
  - The WEAI was developed by USAID, the International Food Policy Research Institute (IFPRI), and the Oxford Poverty and Human Development Initiative, and was first launched in February or 2012.
  - Data collection took place in all 19 FTF focus countries in 2011 and 2012 as a part of Feed the Future Population-based surveys.
  - The WEAI has also been used in several impact evaluations and is being adopted by partners
- There are now several different versions of the WEAI released or in development:
  - The original WEAI, which was collected for FTF baseline and interim surveys.
  - The Abbreviated-WEAI, a streamlined version that takes less time to collect.
  - A Project-WEAI, designed for use by projects and activities.

How the WEAI is Constructed

Slide 8

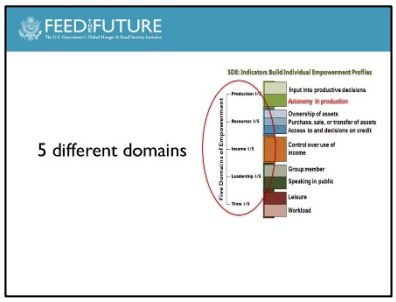


Say: The WEAI is a series of weighted averages comprised of two sub-indices:

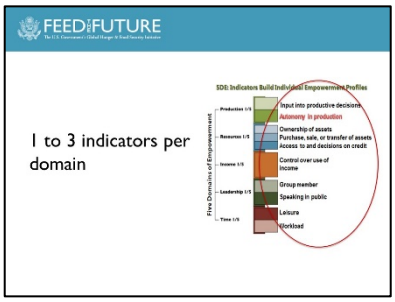
- The 5 Domains of Empowerment (5DE)
- The Gender Parity Index (GPI)

5 Domains of Empowerment

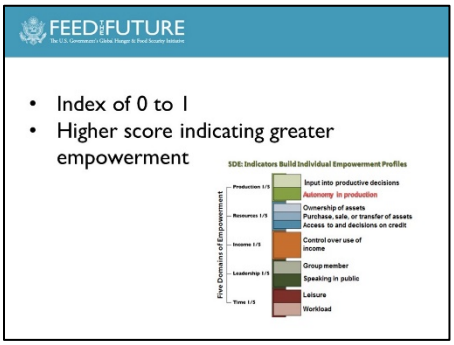
Slide 9



Slide 10



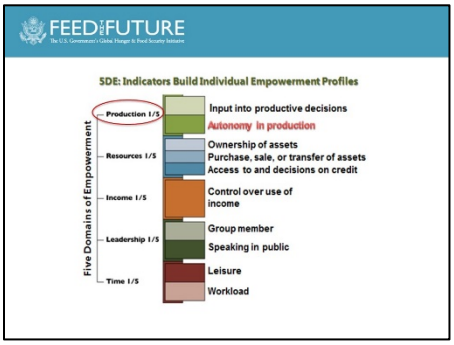
Slide 11



Say: There are 5 different domains. Each domain has 1 to 3 indicators. The domains are scaled on an index of 0 to 1 with the higher score indicating greater empowerment

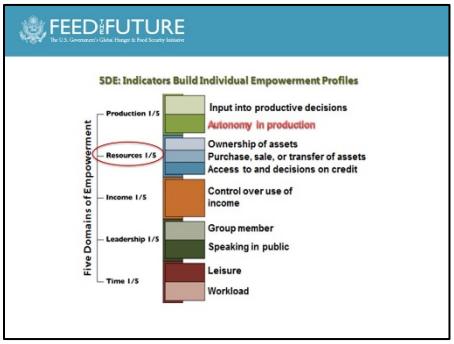
Read and explain each domain:

Slide 12



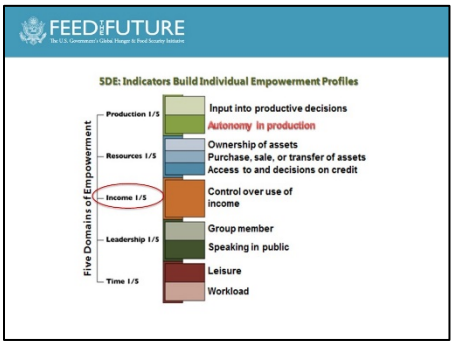
1. Decision-making in agriculture production - Sole or joint decision-making power over food or cash-crop farming, livestock, and fisheries, as well as autonomy in agricultural production

Slide 13



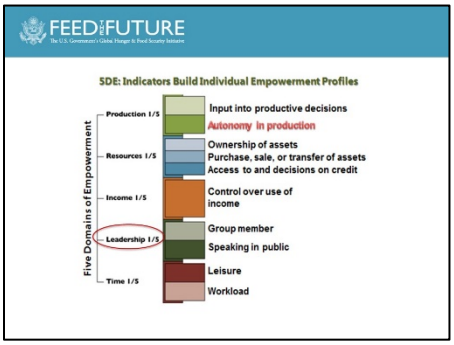
2. Access to and decision-making over productive resources - Ownership of, access to, and decision-making power over productive resources such as land, livestock, agricultural equipment, consumer durables, and credit

Slide 14



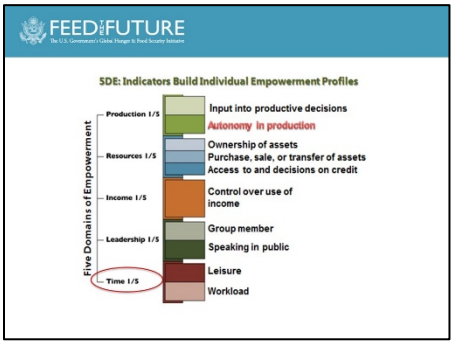
3. Control over income - Sole or joint control over income and expenditures

Slide 15



4. Leadership in the community – Membership in economic or social groups and being comfortable speaking in public

Slide 16



5. Time – Allocation of time to productive and domestic tasks, and satisfaction with the time available for leisure activities

Slide 17

Say: Each of the 5 domains has equal weight in measuring empowerment and, therefore, this equal weighting makes it comparable across countries. For example, we can compare a WEAI score in Bangladesh with a score in Kenya. Each domain, except income, includes multiple topics or sub-indicators. And each domain uses multiple survey questions and indicators.

For example, within the Access to Resources domain, there are three topics or sub-indicators: ownership of assets; purchase, sale, and transfer of assets; and access to and decisions over credit. The survey asks each person questions about whether they own different kinds of assets (for example, land, housing, livestock, farming tools, and so on) and what transactions they can make with them. Their responses to these questions are combined to make each one of the 10 indicators, and then the 10 indicators are added up to make a person's individual empowerment score (their individual 5DE).

The WEAI survey asks one woman and one man in each household the same set of questions about these 5 domains, mainly related to agriculture. This lets us measure how empowered each man and each woman are for all of the topics and domains. These measurements are then the building blocks for the 5 Domains of Empowerment (5DE) and Gender Parity Index.

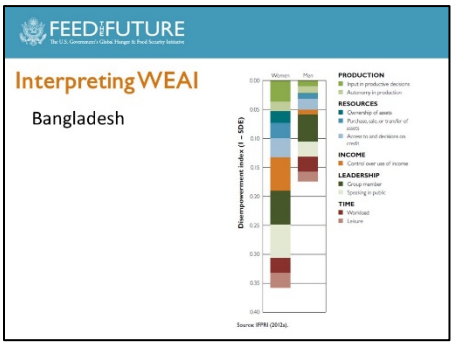
Even though someone may be "empowered" by their overall score, it is important to look at the individual indicator scores because s/he may actually be disempowered in distinct domains. For example, an interviewee may score 83% overall and, therefore, be deemed "empowered," yet may be highly disempowered in the area of assets.

Therefore, progress toward empowering women in agriculture will be achieved by empowering them in the five domains and achieving gender parity within the household.

Interpreting WEAI Results

Demonstrate how to interpret WEAI results by using the example for Bangladesh.

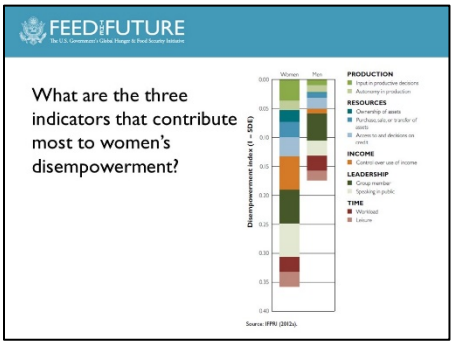
Slide 18



Say: Let's look at WEAI results from a project in Bangladesh.

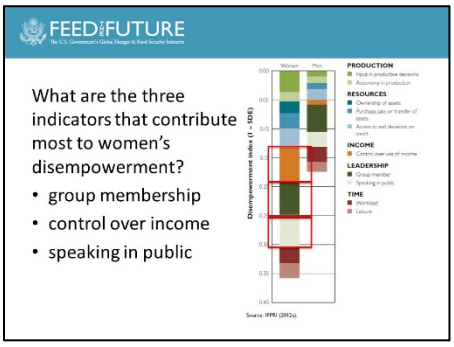
Note: This example is representative for the Zone of Influence)

Slide 19



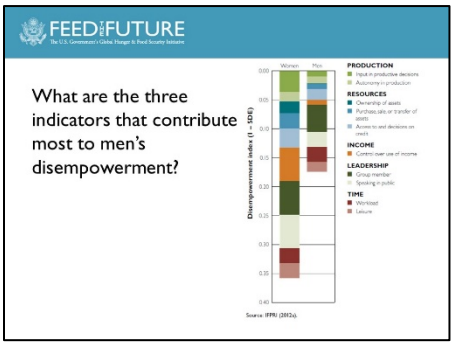
Ask: What are the three indicators that contribute most to women's disempowerment?

Slide 20



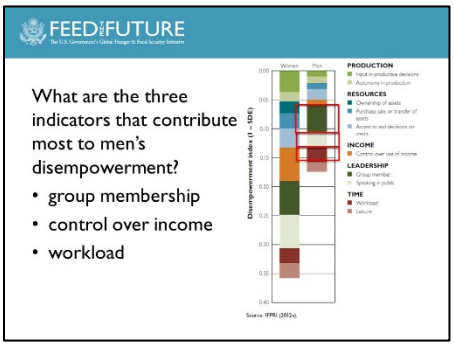
Answer: Group membership, speaking in public, control over income

Slide 21



Ask: What are the three indicators that contribute most to men's disempowerment?

Slide 22



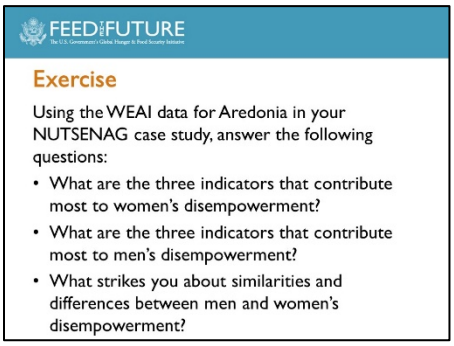
Answer: Group membership, speaking in public, workload

Slide 23

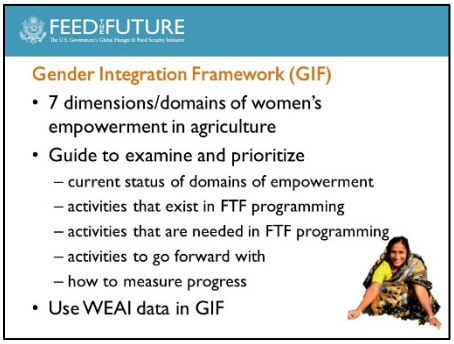
Ask: What strikes you about similarities and differences between men and women's disempowerment?

Answer:

- Women are about twice as disempowered as men, and are highly disempowered overall.
- Group membership disempowers men and women highly and almost equally.
- Speaking in public likewise is a top constraint for both men and women, although women are much more disempowered in this indicator.

	• Control over income is a major contributor to disempowerment for women but not for men. ***Individual Exercise*** Direct participants to their participant guide where there is WEAI data for Aredonia (the country of the NUTSENAG case study). **Slide 24**  Say: Now that we did an example as a group, individually, interpret the WEAI data for Aredonia's Zone of Influence. Review the questions for the exercise: • What are the three indicators that contribute most to women's disempowerment? • What are the three indicators that contribute most to men's disempowerment? • What strikes you about similarities and differences between men and women's disempowerment? **Group Debrief** Say: Let's look at the answers. Ask: What are the top three contributors to disempowerment for women? Answer: Group membership, autonomy in production, access to and decisions over credit Ask: What are the top three contributors to disempowerment for men? Answer: Group membership, Autonomy in production, Access to and decisions over credit Ask: What strikes you about differences in empowerment between women and men? *Get multiple answers as there is no "one right answer."* Potential answers: • Women are more than three times as disempowered as men. • The top three constraints are identical for both men and women. However, for each of these top constraints, women are much more disempowered than men. • The indicators with the greatest gaps are also the indicators that are the biggest contributors to disempowerment for women and men.	
1:50 pm (40 min.)	**Gender Integration Framework** Brief introduction to the GIF in Plenary	

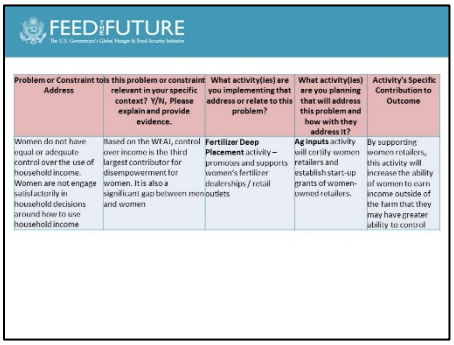
Slide 25



Review GIF using the PowerPoint slide highlighting:

- What is the GIF
- An abbreviated form with guiding questions to integrating women's empowerment into FTF initiatives

Slide 26



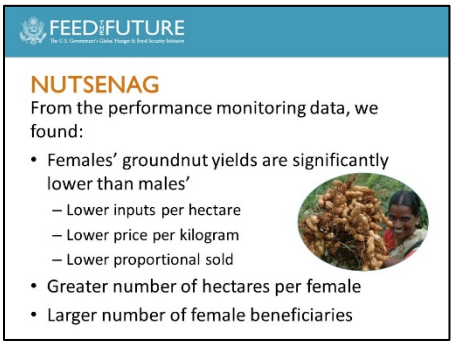
Problem or Constraint to Address	Is this problem or constraint relevant in your specific context? Y/N, Please explain and provide evidence.	What activity(ies) are you implementing that address or relate to this problem?	What activity(ies) are you planning that will address this problem and how with they address it?	Activity's Specific Contribution to Outcome
Women do not have equal or adequate control over the use of household income. Women are not engage satisfactorily in household decisions around how to use household income	Based on the WEAI, control over income is the third largest contributor for disempowerment for women. It is also a significant gap between men and women	**Fertilizer Deep Placement** activity – promotes and supports women's fertilizer dealerships / retail outlets	**Ag inputs** activity will certify women retailers and establish start-up grants of women-owned retailers.	By supporting women retailers, this activity will increase the ability of women to earn income outside of the farm that they may have greater ability to control

Say: The GIF is a large matrix and available in the resource section. Today we will be looking at a "zoomed in" portion of the GIF.

Applying GIF to the NUTSENAG Case Study

Walk participants through the example of Bangladesh.

Slide 27

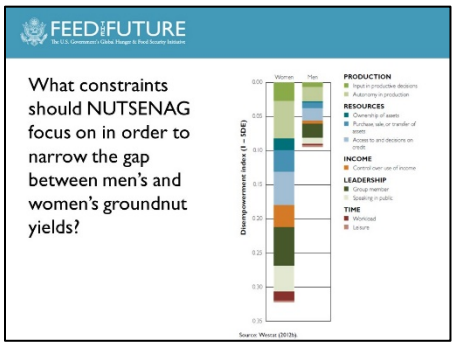


Say: One of the insights gathered from analyzing the performance monitoring data from NUTSENAG was a difference in yields in groundnuts between men and women. Female yield was significantly lower than male yield, with lower inputs per hectare,

lower price per kg, and significantly lower proportion sold. Greater number of hectares per female beneficiary and large number of female beneficiaries.

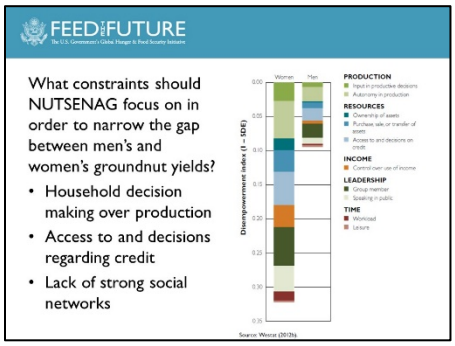
We previously analyzed the WEAI data for Aredonia (the country where NUTSENAG is implemented), which can help us understanding underlying factors that may explain these disparities.

Slide 28



Ask: Based on your analysis of the WEAI, what constraints faced by women do you think NUTSENAG activity should focus on in order to narrow the gap between female and male groundnut yields? Provide evidence to explain your choice(s).

Slide 29

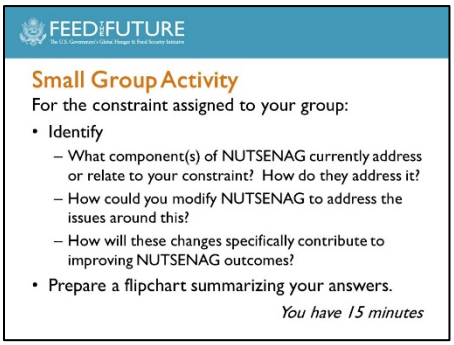


Answer:

- Women do not have equal or adequate autonomy in household decision-making processes related to agriculture
- Women do not have equal or adequate access to or ability to make decisions regarding credit for agriculture purposes
- Women do not have strong social networks and are not connected with or through group organizations.

Small Groups *(15 minutes)*

Slide 30



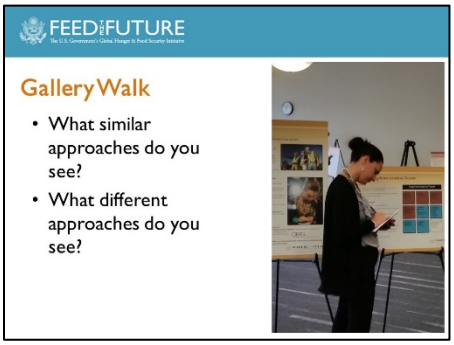
Assign a different constraint to each group and give the following directions:

- Focusing on three questions from the GIF, identify:
  - What component(s) of NUTSENAG currently address or relate to this constraint? How?
  - How could you modify NUTSENAG to address the issues around this topic?
  - How will these changes specifically contribute to improving NUTSENAG outcomes?
- Prepare a flipchart summarizing your answers to the GIF questions

Plenary *(15 minutes)*

Do a gallery walk.

Slide 31



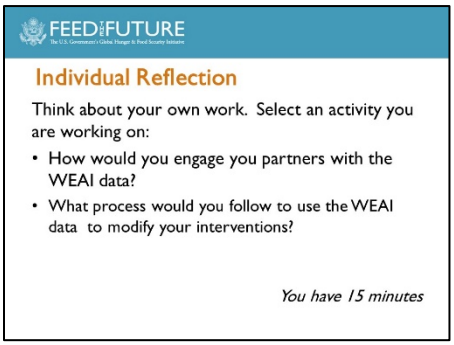
Have each group present their flipchart and then let other groups ask questions to clarify.

Summarize the different approaches/similar findings across groups.

(15 min.)

Individual Application Exercise

Slide 32



Say: Please turn to the WEAI individual application exercise in your participant guide. Think about your own work. Select an activity you are working on and record your reflections in your participant guide on:

- How would you engage your partners with the WEAI data?
- What process would you follow to use the WEAI data to modify your interventions?

In plenary, ask a few participants to share their answers to inspire others.

Additional Resources

Slide 33

Extensive information on the WEAI, including its construction and interpretation, is available at the WEAI Resource Center, including:

- Summary Brochure: overview of the WEAI and how to interpret its findings
- Baseline Report: summary results from the WEAI baseline data from 13 countries.
- WEAI Versions Table: Explains differences in structure and intended usage of the Original WEAI, A-WEAI, and Pro-WEAI
- Training Materials: includes a standard presentation on the WEAI and various webinars on implementing specific modules and calculating indicators

	• Original WEAI Instructional Guide: designed to assist practitioners implementing the WEAI, pointing out the most critical issues for consideration and good practices in survey design, data collection, calculation, and analysis of the WEAI • Original WEAI Survey Instruments: survey questionnaires and manuals for WEAI data collection • Abbreviated-WEAI Instructional Guide: designed to assist practitioners implementing the A--WEAI • Abbreviated-WEAI Survey Instruments: questionnaire for the A-WEAI • WEAI Intervention Guide: guidance on illustrative interventions that address the WEAI domains • GIF Webinar: introduction to use of the GIF through the Bangladesh case study • USAID course on the WEAI and GIF	
2:30 pm (15 min.)	**Break**	

Writing Results Narratives for Missions and Implementing Partners

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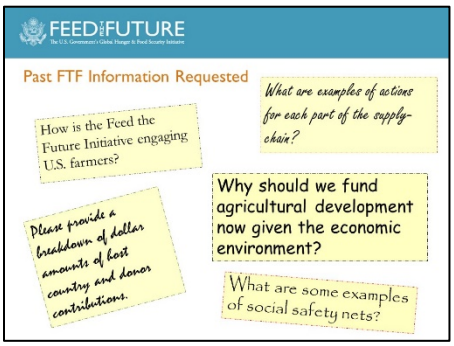
Session Goal:	Write a performance or budget request narrative that presents the problem, the solution, and the results in a way that creates a persuasive narrative.
Learning Objectives:	• Identify your audience and what is in it for them • Write a narrative that concisely presents the problem, the solution and the results • Use numbers and specific examples to illustrate your narrative • Build the case for additional resources
Session Length:	90 minutes
Session Materials:	Flipchart stand, paper and markers (1 per table)

Facilitator Notes:

Time & Facilitator	Content/Activities	Materials
2:45 pm (90 min.)	**INTRODUCTION** **Slide 34**  Ask: • How many people have written performance or budget request narratives? • For those who have written a performance or budget request narrative, ask them to share the impact of their narrative on their audience(s)? • What do they feel made narrative effective? *Flipchart their responses.* *If no one has written a narrative, ask them about a performance or budget narrative they read/heard and what they thought made it effective or not effective.* Say: The purpose of this short session is to provide practical tips on drafting good narratives, including Deviation Narratives, Performance Narratives, Key Issue Narratives, and Success Stories. The reason narratives are so important is that they: • Communicate strategy and thinking to various audiences • Provide context to data • Reduce the number of data calls needed • Provide information for communication products **Slide 35**  Say: This slide depicts some of the questions from Congress we receive during the Budget Request season. Read a few of the quotes.	

Say: The purpose of this short session is to provide practical tips on drafting a performance or budget request narrative that are typically done during the PPR, FTFMS reporting, OP, or CBN process.

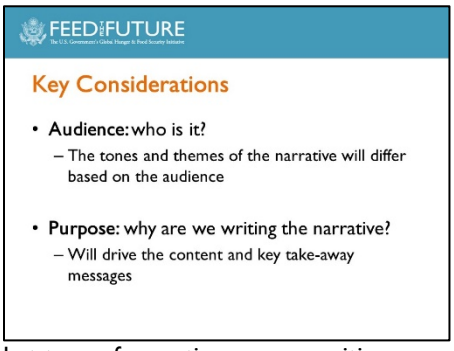
The reason narratives are so important is that they:

- Communicate strategy and thinking of Mission staff to various audiences
- Reduce the number of data calls needed (slide depicts some of the questions from Congress we receive during the Budget Request season)
- Provide information for communication products

This session will help you address those questions and write compelling performance or budget request narratives.

INTERACTIVE PRESENTATION

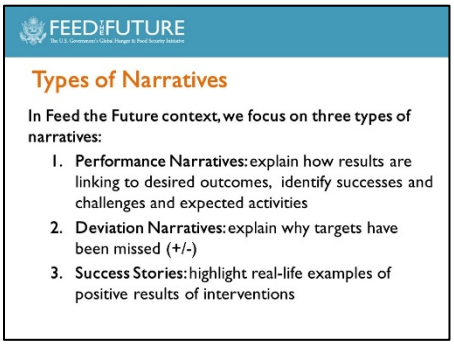
Slide 36



Say: Regardless of what type of narrative we are writing, narratives must keep in mind the **Audience** the narrative is intended for, and the **Purpose** of the narrative.

- Who do we want to read the narrative?
- Why do we want them to read it?
- What should they take away from the narrative?

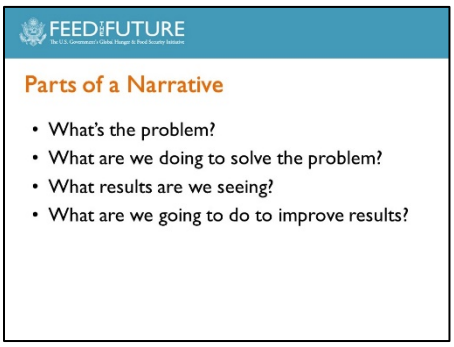
Slide 37



Say**:** Three are three types of FTF narratives.

Read: Read the slide explaining each type of narrative.

Slide 38

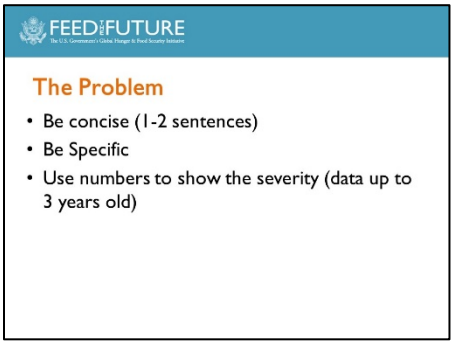


Say: In general, narrative should answer the questions:

- What's the problem?
- What are we doing to solve the problem?
- What results are we seeing?
- What are we going to do to improve results?

We first turn our attention to Performance Narratives, which for mission staff, will also include Key Issue Narratives.

Slide 39



Say: The problem typically starts off the narrative and sets the scene. It establishes the need (for resources, interventions).

You don't have to establish the problem at the outset of every narrative. Again, think about the audience. Are you able to tell your story through different documents? For example, if it's the same audience (e.g. a FTF Portfolio review), then you would need to update the need about ever 3-5 years. If it's a general document (e.g., OP narrative) accessible to a broad audience, then you would want to constantly reiterate the need.

The problem shouldn't be the bulk of your narrative. In fact, you should be concise and limit it to 1-2 sentences. Again, know your audience. If you are writing to food security, then talk about poverty, stunting, or the agriculture sector. If you are writing to a nutrition audience, talk about anthropometry or dietary diversity.

Be Specific. Saying that children are severely stunted doesn't pack as much punch as telling your audience the magnitude (e.g., 1 in 3 children under 5). Use statistics. Again, you want to sound like you've done your homework (researched) and provide some way for people to understand the magnitude or severity of the

problem.

Slide 40

Say: The above problem statement shows a problem statement about a global problem. You can establish a problem at any level:

- Initiative
- Country
- Area within country

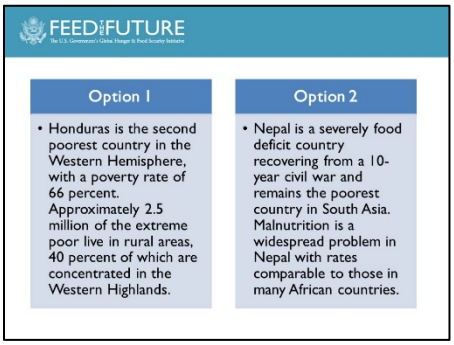
Ask: As you read this problem statement, what stands out to you?

Their answers should include how the color, fonts, and text highlight shapes the audience's the takeaway message.

Say: Depending on your format, you should use these to highlight the takeaway message. Typically people spend a lot of time skimming, so if you can make your message pop, all the better.

Exercise: Comparing Two Problem Statements

Slide 41



Say: Take a look at the two problem statements in your workbook.

Pause and give participants time to read the statements:

- Option 1: Honduras is the second poorest country in the Western Hemisphere, with a poverty rate of 66 percent. Approximately 2.5 million of the extreme poor live in rural areas, 40 percent of which are concentrated in the Western Highlands.
- Option 2: Nepal is a severely food deficit country recovering from a 10-year civil war and remains the poorest country in South Asia. Malnutrition is a widespread problem in Nepal with rates comparable to

those in many African countries.

Ask: Which option do you find more effective?

- Clap if you like Option 1.
- Clap if you like Option 2.

Ask:

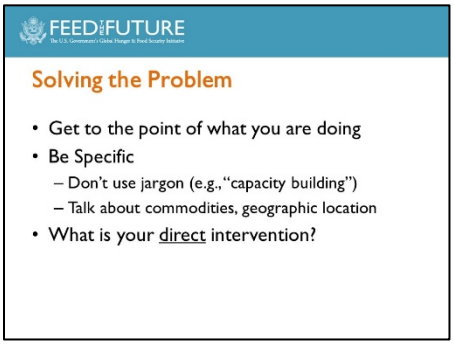
- For those who preferred Option 1, why did you find it more effective?
- For those who preferred Option 2, why did you find it more effective?

Summarize: Highlight why Option 1 is a more effective statement of the problem:

- Option 1 has the characteristics I mentioned in a good problem statement:
  - It establishes the need in 2 sentences.
  - It is specific, speaking to a region ("western hemisphere") and an area within the country ("Western Highlands")
  - It uses numbers to give you a sense of the severity (66 percent poverty. 2.5 million in extreme poverty, with 40% living in a specific area)

- Option 2 gives information on the problems facing Nepal, but leaves the "so what?"
  - What does it mean to be the poorest country in South Asia? If I don't know about South Asia, what does this mean to me?
  - Malnutrition in what sense? Stunting? Undernutrition? Wasting?
  - More importantly, is the food shortage due to the instability in the country caused by the civil war? So is this a governance issue more so than an agriculture sector issue?

Slide 42



The second part to a good narrative is describing the solution. Now that we know the problem, what are you doing about it? When talking about your intervention or activity, once again, know your audience. That will help determine the level of specificity and the length. In general, you want to be direct and to the point.

Be as specific as you can:

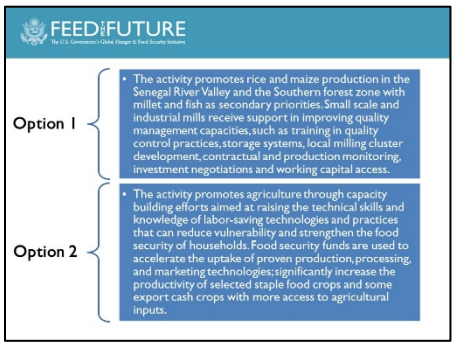
- Where are you working (region, county, district)?
- What commodities or value chains are you targeting?
- What exactly is your activity? What are you buying with the money? Training? Employment? Creating Cooperatives? Extension services? What types?

Don't use jargon. For example, what do you mean by capacity building? Local

solutions? Linking farmers to markets? Vulnerable populations?

Exercise: Comparing Two Solution Statements

Slide 43



Say: Take a look at the two solution statements in your workbook.

Pause and give participants time to read the statements:

Ask: Which option do you find more effective?

- Raise your hand if you like Option 1.
- Raise if you like Option 2.

Ask:

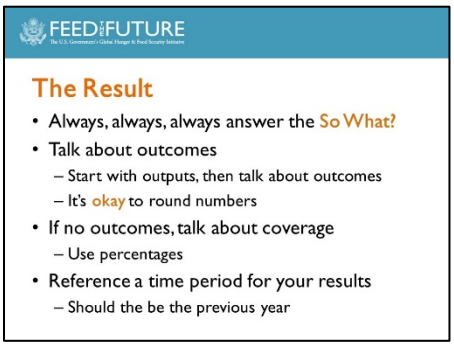
- For those who preferred Option 1, why did you find it more effective?
- For those who preferred Option 2, why did you find it more effective?

Summarize: Highlight why Option 1 is a more effective solution statement.

- Option 1 has the characteristics I mentioned in a good solution statement.
    - Gets to the point (Funding is doing what?)
    - Provides Specifics (working in the river valley and forest zone in the South, on rice and maize, capacity support means training in different aspects of production)
    - The money is used for training

- Option 2 leaves a lot of questions
    - What capacity building?
    - What labor saving technologies?
    - What is the vulnerability of food insecure households?
    - What crops are you working with? Where?
    - What do you mean "some" export cash crops, which ones?
    - In all, it feels like they are still thinking through their intervention, which doesn't inspire confidence and may require additional follow ups to get information for any data calls or budget defense requests.

Slide 44



Say: The third part a performance narrative should address the result. In Feed the Future, we have several years of implementation under our belt, so there should be results you can talk about. When talking about results, always ask yourself: "SO WHAT?"

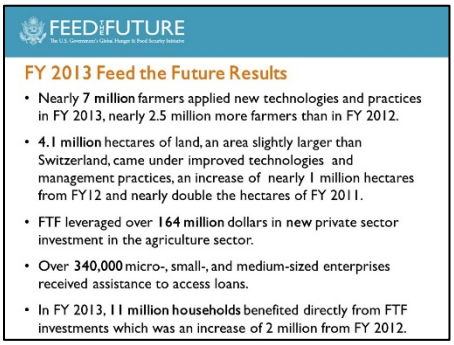
Start with your output results, but you MUST ALWAYS Address the outcome. Training people is nice, but so what? Are they applying? Are there more hectares under improved technologies? Are incomes rising? Are famines disappearing? Is the lean season shorter? Remember: So What?

Again, know your audience. However, in general (unless you are talking to an M&E Specialist), it is okay to round your results in narratives. In fact, it makes it easier to remember. How many articles and speeches have you heard where they talk about 294, 431 households? Most likely, they will say nearly 300,000 households or over 290,000 households. Extra points if you can give geographic parameters or some context (e.g., nearly 300,000 households in the district, or 55% of all district households).

What if you don't have outcomes you can talk about? For example, with number of children reached? Then talk about coverage (reached 3 million children or 80% of children in the county).

Don't forget to reference the timeframe for your results.

Slide 45

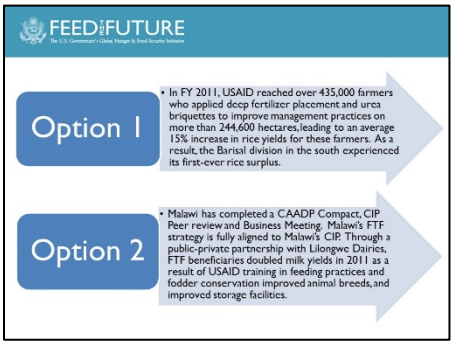


Say: An example used previously in FTF. Notice the comparison to previous

year's results to emphasize how much results increased.

Exercise: Comparing Two Results Statements

Slide 46



Say: Take a look at the two result statements in your workbook.

Pause and give participants time to read the statements:

- Option 1: In FY 2011, USAID reached over 435,000 farmers who applied deep fertilizer placement and urea briquettes to improve management practices on more than 244,600 hectares, leading to an average 15% increase in rice yields for these farmers. As a result, the Barisal division in the south experienced it's first-ever rice surplus. In the horticulture and aquaculture sectors, USAID assistance resulted in $108 million in increased sales and 17,200 full time jobs.

- Option 2: Malawi has completed a CAADP Compact, CIP Peer review and CAADP Business Meeting. Malawi's FTF strategy is fully aligned to Malawi's CIP. Through a public-private partnership with Lilongwe Dairies, FTF beneficiaries doubled milk yields in 2011 as a result of USAID technical training in feeding practices and fodder conservation improved animal breeds, and improved storage facilities.

Ask: Which option do you find more effective?
- Stand up if you like Option 1.
- Stand up if you like Option 2.

Ask:
- For those who preferred Option 1, why did you find it more effective?
- For those who preferred Option 2, why did you find it more effective?

Summarize: Highlight why Option 1 is a more effective results statement.

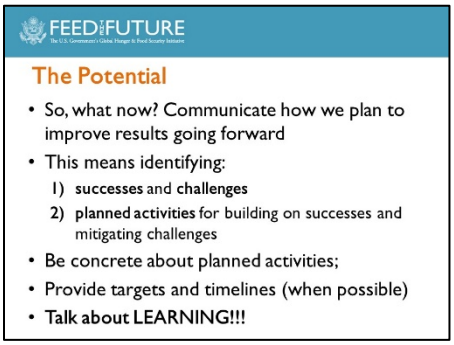
- Option 1 has the characteristics I mentioned in a good results statement.
    - References a time period for results (FY 11)
    - Provides Specifics (over 435,000 farmers, 244,600 hectares, $108 million, etc.)
    - Talks about outputs and outcomes (trained the farmers, resulting in additional hectares of improved management, increased yields, income) and even impact (rice surplus)

- Option 2 leaves a lot of questions
    - Is doubling of milk production good? I'm still unclear on how effective your program was.
    - So what that you completed your CAADP compact and reviewed it?
    - Why are you talking about interventions again?

Ask: Is order important?

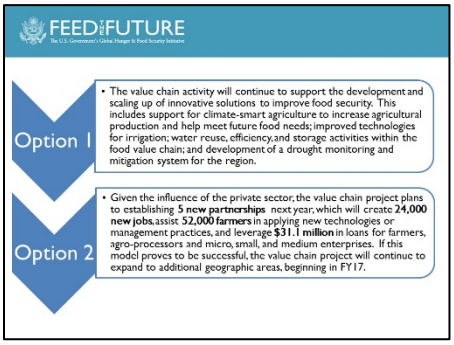
Say: While all narratives have three components (problem, solution, result), they don't have to be written in that order. Sometimes it makes sense to talk about your results first, mention that the problem still lingers, then propose your intervention/solution. Other times, it's more effective to talk about your problem, the results your previous interventions yielded, and how you will continue to implement to address the problem. Again, know your audience.

Slide 47



Say: Now that we know what the problem is, how we are trying to solve it, and what results we have seen thus far, we need to focus on **how we can generate more results?** The final part of the narrative should speak to the successes and challenges faced in implementation and how the activity plans to build upon those successes and mitigate the effects of challenges.

Slide 48



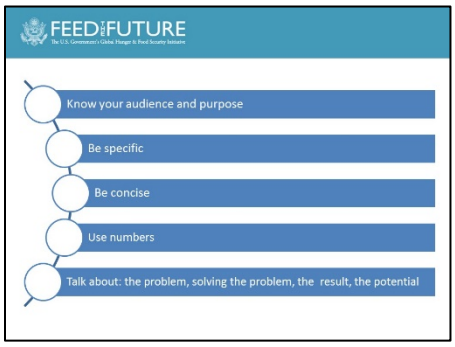
Say: Say: Take a look at the two statements in your workbook.
Clap if you like Option 1. Clap if you like Option 2.

Ask:

- Why do you like option 1?
- Why do you like option2?

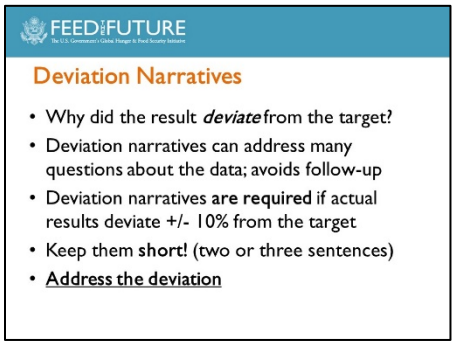
Option 2 has the characteristics I mentioned in a good statement. Option 1 does not provide much detail on concrete activities needed to improve results; no targets presented.

Slide 49



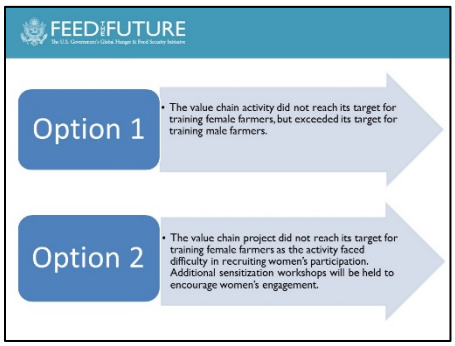
Say: To summarize, a good narrative has all the characteristic shown on the slide.

Slide 50



Say: Now that we know what the problem is, how we are trying to solve it, and what results we have seen thus far, we need to focus on **how we can generate more results?** The final part of the narrative should speak to the successes and challenges faced in implementation and how the activity plans to build upon those successes and mitigate the effects of challenges.

Slide 51



Say: Give participants time to read the options in their participant guide.

Ask:

- Who likes Option 1? Why
- Who likes Option 2? Why

Say: Option 2 has the characteristics of a good deviation narrative.

1. References a time period for results (FY 11)
2. Provides Specifics (over 435,000 farmers, 244,600 hectares, $108 million, etc.)
3. Talks about outputs and outcomes (trained the farmers, resulting in additional hectares of improved management, increased yields, income) and even impact (rice surplus)

Option 2 leaves a lot of questions

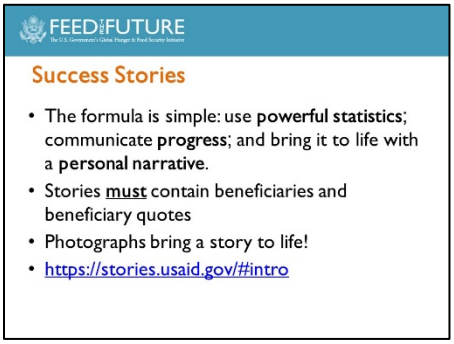
1. Is doubling of milk production good? I'm still unclear on how effective your program was.
2. So what that you completed your CAADP compact and reviewed it?
3. Why are you talking about interventions again?

I mentioned previously that while all narratives have three components (problem, solution, result), they don't have to be written in that order. Sometimes it makes sense to talk about your results first, mention that the problem still lingers, then propose your intervention/solution. Other times, it's more effective to talk about your problem, the results your previous interventions yielded, and how you will continue to implement to address the problem. Again, know your audience.

Slide 52

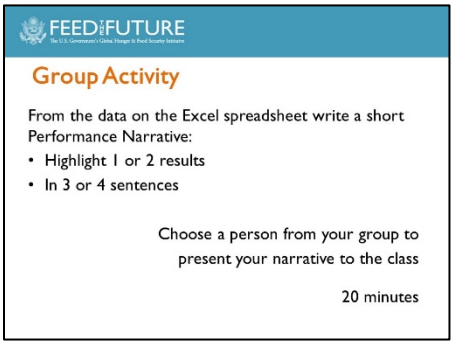
Say: Now that we know what the problem is, how we are trying to solve it, and what results we have seen thus far, we need to focus on **how we can generate more results?** The final part of the narrative should speak to the successes and challenges faced in implementation and how the activity plans to build upon those successes and mitigate the effects of challenges.

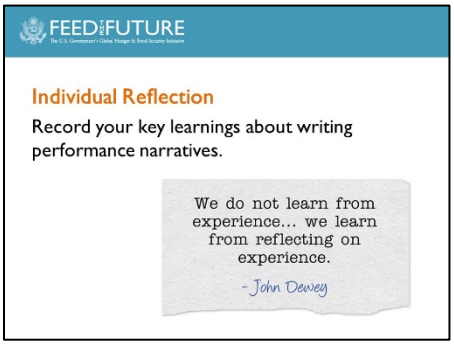
Slide 53



Say: Now that we know what the problem is, how we are trying to solve it, and what results we have seen thus far, we need to focus on **how we can generate**

	more results? The final part of the narrative should speak to the successes and challenges faced in implementation and how the activity plans to build upon those successes and mitigate the effects of challenges.	

	Group Activity
	
	Slide 54
	 
	
	Directions:
	• Divide into small groups (think of a way to creatively divide the group so they are working with new people)
	• Direct the participants to the spreadsheet in the participant guide/hand out copies of the participant guide
	• Give the following directions:
	  o Write a short (3 to 4 sentence) Performance Narrative highlighting one or two results
	  o Chose a spokesperson to share your narrative with the class
	  o You have 20 minutes
	
	Debrief:
	Sharing narratives:
	• Have each group read their narrative.
	• After a group finishes, ask the class what were the strengths of the narrative? What changes would you suggest to make it tell a better story?
	
	After all groups have shared their narratives, ask:
	• What did the narratives have in common?
	• How were the narratives different?
	• What are you key take-aways about writing creative narratives?
		Excel Spreadsheet

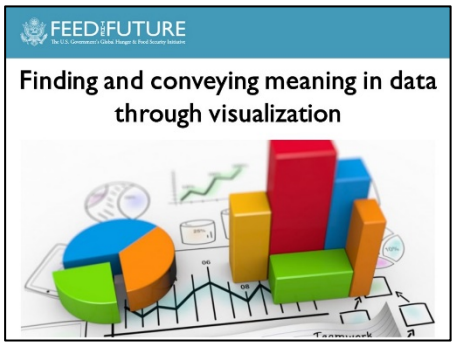
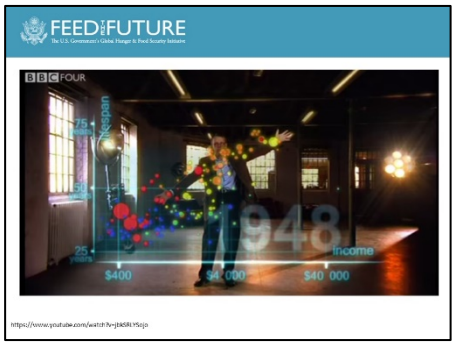
	Individual Reflection **Slide 55**  	

	Say: In your participant guide, record your key learnings from this session.	

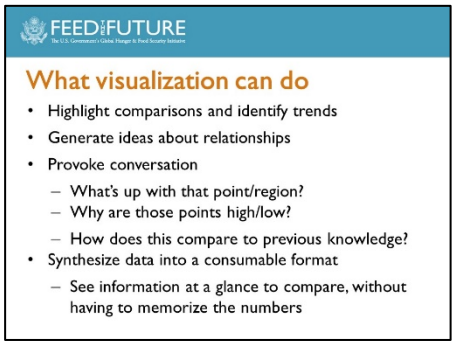
Finding and conveying meaning in data through visualization

Session Goal:	Create compelling visuals to convey the meaning of data
Learning Objectives:	• Create data comparisons • Select appropriate chart type • Simplify and annotate graphics • Sketch visuals of data
Session Length:	45 minutes
Session Materials:	• Internet connection

Facilitator Notes:

Time & Facilitator	Content/Activities	Materials
Before the session	Preload video: https://www.youtube.com/watch?v=jbkSRLYSojo **Introduction** **Slide 56**  Say: Now that you have your narrative, you need to think about how you will support the "story" with compelling graphics of the data. **Slide 57**  **Slide is hyperlinked to video:** **https://www.youtube.com/watch?v=jbkSRLYSojo** Say: We are going to watch a short (less than 5 minute video) of Hans Rosling's presenting enormous quantities of public health data with a sport's commentator's style to reveal the story of the world's past, present and future development. Debrief the video asking: • What did you notice about the video? • What was effective about the video? • What was less effective? • How did it make you feel? Ask and record responses on a flipchart: **Why bother visualizing data?** *Note: Reference the Hans Rosling video during this discussion.*	Internet connection

Slide 58



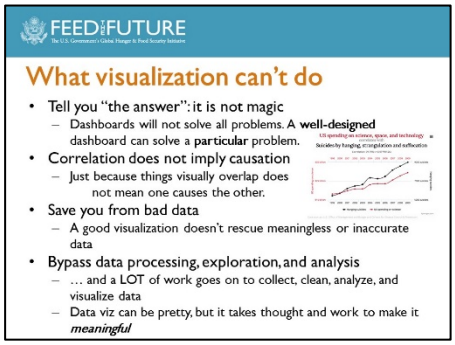
Say: Though data visualization is powerful for communication, it's equally useful to explore and understand the data and:

- Easily make COMPARISONS
- Generate hypotheses about relationships that can be tested using statistics; are those two things correlated? Causative?
- Generate conversation about what the data mean and how they compare to other knowledge. Not a replacement for subject matter expertise, but a complement
- Easily summarize data into a readable format. Tables are great for seeing information, but they require you to memorize many numbers at once to be able to make comparisons (as in, what's the highest value?). In a data visualization, you're relying on the fact that your brain is quite good at making visual comparisons to identify trends and patterns.

Flipchart

Ask and record responses on a flipchart: **What limitations do you see in visualization?**

Slide 59



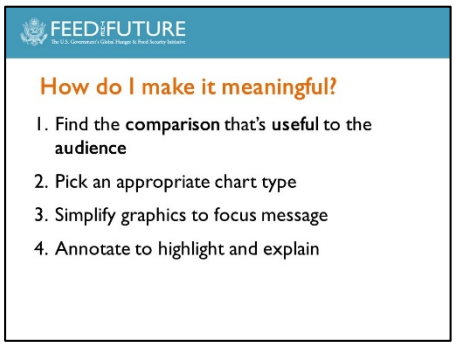
Say: Data visualization is fantastic, but it can't do everything.

- People often assume a dashboard will solve all their problems: "If I see all the data, the answer will be obvious!" In reality, the success of a dashboard is dependent upon the user having a series of well-defined tasks that the dashboard helps them answer. If you don't know what information you need, a dashboard is unlikely to tell you.
- Just because things overlap visually doesn't mean one causes the other. For example, there's a website called Spurious correlations (http://www.tylervigen.com/spurious-correlations) that has analyzed all

sorts of things that are probably unrelated, like how science funding is correlated with suicides.

- Garbage in, garbage out. If you start with bad data, you can make it look pretty, but you can't make it meaningful.
- Good data visualization takes time and requires a lot of thought about what relationships to show and how to show them.

Slide 60

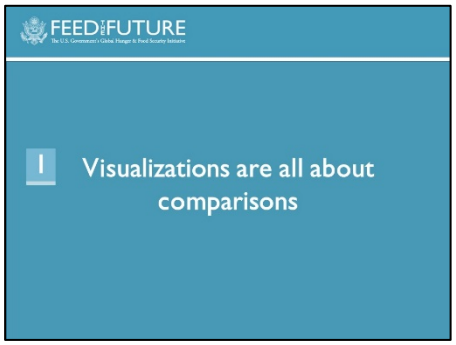


Say: To make a **meaningful** visualization, focus on these four best practices:

1. Know who will use this information and what comparison or relationship is interesting for them to better understand.
2. Choose a chart type that focuses on that relationship.
3. Eliminate any distractions within the graphic, especially lots of colors and lots of lines.
4. Use annotations **on the chart itself** to highlight interesting behavior.

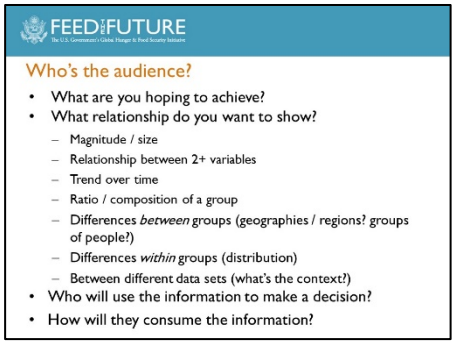
We will discuss each of these next.

Slide 61



Ask: What is the relationship you want to show?

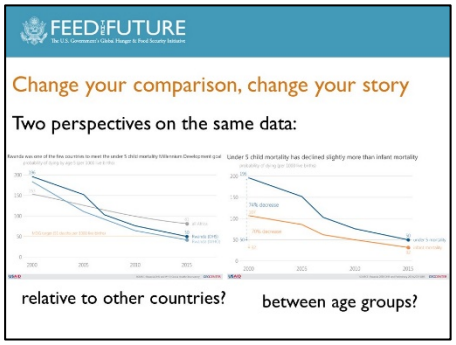
Slide 62



Read: Bullet points on the slide.

Say: If you can't answer these questions, you're not ready to make a visualization. (Inspired by http://blogger.ghostweather.com/2013/11/data-vis-consulting-advice-for-newbies.html)

Slide 63

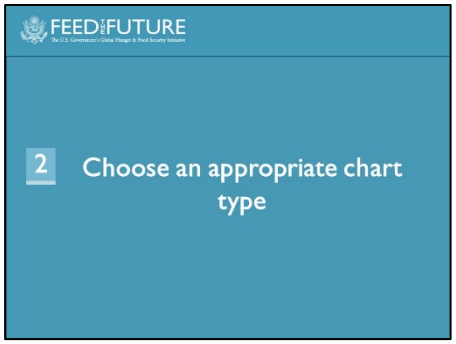


Say: How you represent data changes the story you're telling. Fundamentally, data visualizations are all about comparisons, and it's your job to decide the relevant comparison to make. Here, we're graphing essentially the same data, but the point is different. Are you trying to compare how Rwanda has improved with respect to child mortality in recent years relative to the rest of the world (and the MDG goals)? Or are you more interested in which age group is dying at a higher rate? (children under 5? or infants in their first year of life?) Both comparisons could be useful depending on what your purpose is.

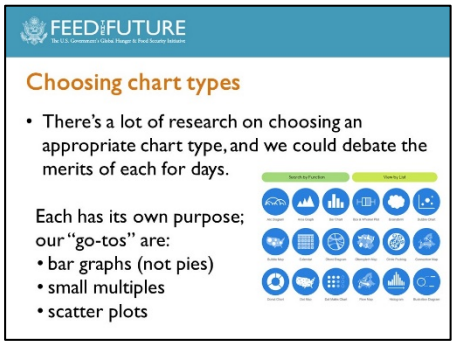
Pro tip: you can use TWO graphics to tell two stories rather than trying to cram them on the same thing.

Also don't make the reader search for the conclusion, tell them in the title. People have this false sense that data visualizations are unbiased. In reality, they're our interpretation of data. So lead the reader directly to what you think it interesting relevant, and it's their duty as a responsible consumer to verify that the data support your claim.

Slide 64



Slide 65

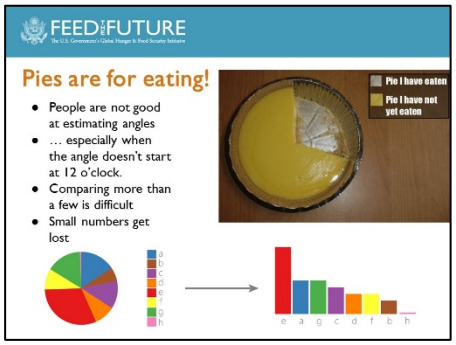


Say:
Every chart has its own purpose, but some are better suited than others for specific tasks. Here, we will focus on three of the most useful (and often under-utilized) chart types: bar graphs, small multiples, and scatter plots.

What each of these three have in common is that they are all based around the fact that the most important comparison you're making is shown through position -- so length rather than color, angle, 3D depth, etc.

Note: Resource for chart inspiration: http://www.datavizcatalogue.com/

Slide 66



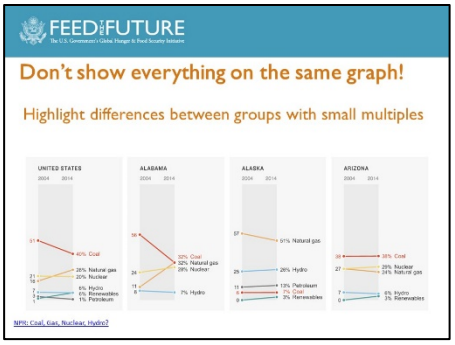
Say: People love pie charts. While I love pie, it's best for eating, not for chart plotting. A pie chart with a few slices (< 5) can be okay. The major benefit: people know how to read them. The downsides: people often make slices of pie.

In this pie graph:

- What's the relationship between the blue and purple wedges?
- How about the red and blue regions? Blue is less than red-- but by how much?

How much easier are these to see when you use a bar graph? If you want accuracy to compare these values, a bar graph is much better. If you want a qualitative "there's a lot of red", a pie graph is maybe okay.

Slide 67



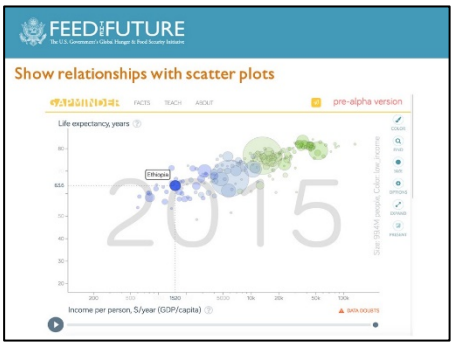
Say: One of the most common problems we see with visualizations is that people try to show EVERYTHING on the same graph. Don't do it! Small multiples are an effective way to address this problem.

With small multiples, you have the same graph repeated over and over again, but for each individual category. In this example from NPR, they're looking at the proportion of energy each state derives from each power source and how they've changed in the last decade. In this case, NPR is showing the change using something called a slope or bump chart, which shows the year on the x-axis and highlights the change by drawing a line between the two points. So you can quickly see the rate of change by looking at the steepness (slope) of the line.

The advantage of small multiples is that it allows you to focus on the difference of each state side by side. For instance, you can quickly see that Alabama has had a huge decrease in reliance on Coal, while Alaska and Arizona are largely unchanged. Once you know how to read one panel of the small multiples, you can see all of them. This allows you to see both the individual behavior of each state and their differences.

By the way, just because you have geographic data doesn't mean you have to have a map!

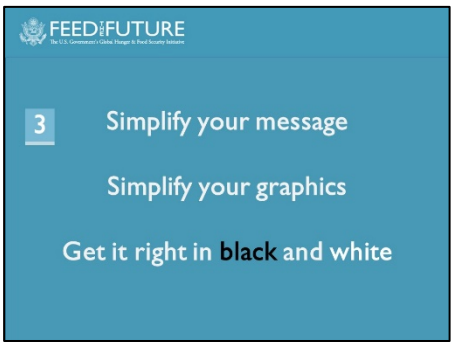
Slide 68



Say: Lastly, one of the most efficient ways to show relationships is through a scatter plot, like we saw in the Hans Rosling video. He has his own website where you can explore the data (https://www.gapminder.org/).

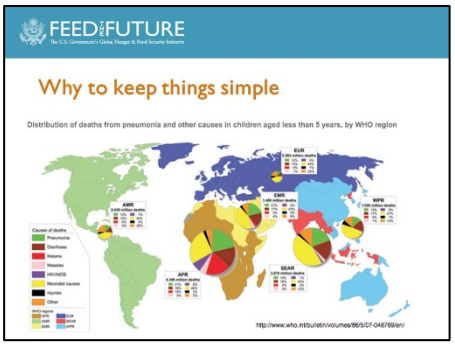
The scatter plot uses position to encode the values on both the x-axis and y-axis so you can see how these two vary together. You can also get fancy and add in more information using the size of the bubble (showing population) and/or color (which in this case is encoding income/person-- so redundant with the x-axis).

Slide 69



Say: Always **show the data.** The data should be the dominant (most prominent) element on the page. To do that you need to focus on the story and eliminate all unnecessary color (get it right in black and white).

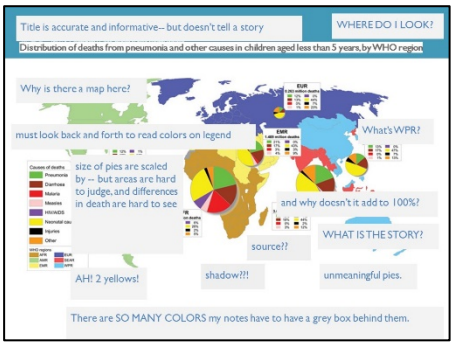
Slide 70



Source: www.who.int/bulletin/volumes/86/5/07-048769/en

Ask: Try it out: is this graphic effective? What do you like or dislike about this graphic?

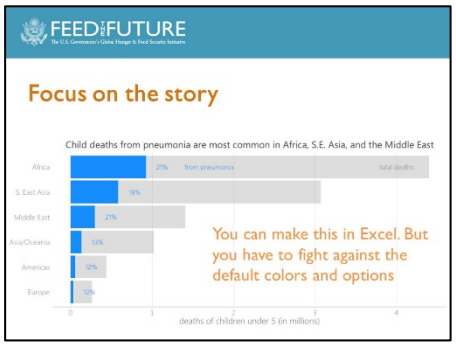
Slide 71



Answers to reinforce:

- Unclear what the story is: total number of deaths? Proportion? Comparison between regions?
- Pies don't let me compare anything useful.
- WAY too many colors. The colors are also confusing-- how many different yellows are there?? (okay, only two, but they're basically the same color)
- The data are not the focus / dominant element on the page. WAY too much going on.
- Title doesn't tell us any information on what we should have learned from the data
- The map is unnecessary, aside from telling us where each of these regions are. If that's important, it would be better to have it as a small reference map.
- Never, ever, ever use 3D. In the best cases, it's merely distracting, and in the worst cases, it distorts the data
- Don't use abbreviations unless you have to. I have no idea what WPR means (Google tells me it's Western Pacific Region).
- Similarly, don't use a legend unless you have to. Legends make readers work, having to move back and forth between the legend and graphic. Directly label on the chart.
- Numbers don't add to 100% b/c of rounding
- Where's the source?

Slide 72



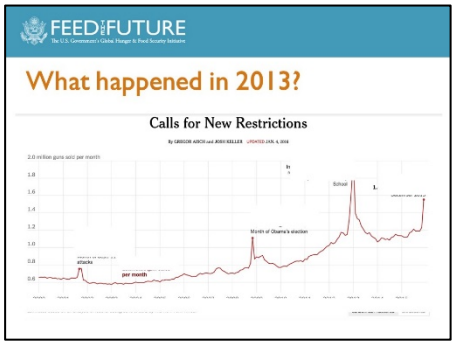
Say: One good story is infinitely better than a visualization that shows all the data. A little better: tell one story. For example, pneumonia is highest in Africa and is roughly ⅕ of all child deaths.

You can do this in Excel! The main thing you have to do is eliminate all the unnecessary lines, colors, shadows.

Slide 73

Say: Annotations are the single most useful bling you can add to a graph. They allow you to teach the reader how to read the graph, point out interesting behavior, and bring in additional context.

Slide 74

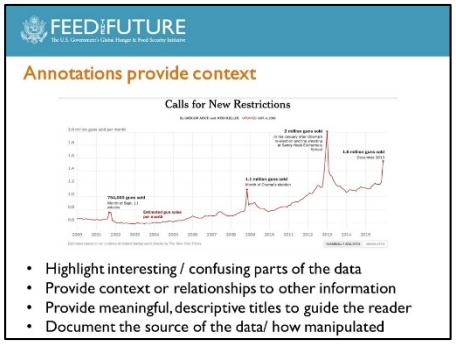


Source: http://www.nytimes.com/interactive/2015/12/10/us/gun-sales-terrorism-obama-restrictions.html?_r=0

Say: From this data, it's clear something happened in 2013. But what?

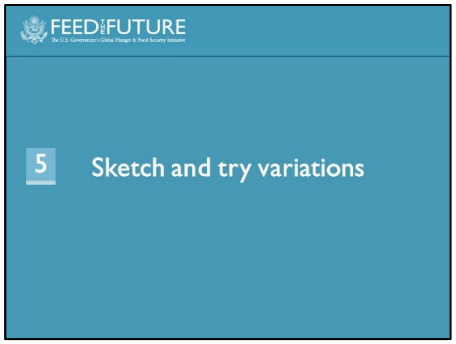
Let's find out.

Slide 75



Say: By annotating the data, you can help bring in that additional information that makes the story much richer, more interesting, and more relevant.

Slide 76



Say: Okay, so I kind of miscounted. The 5th best practice for data visualization is to sketch and don't be afraid to try things. Sketching allows you to organize your ideas and focus on what the story within the data is. Think back to: what's the relationship I want to show? Then sketch out different ways of showing it, and ask others for their opinions on what's effective and what isn't.

Group Activity

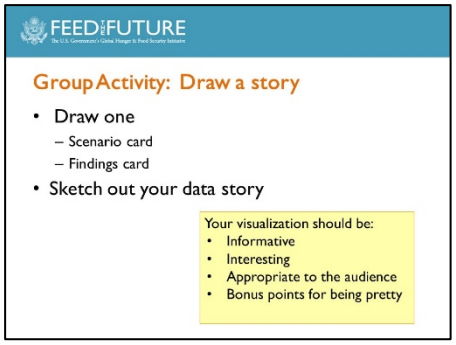
Scenario Cards

Findings Cards

Paper

Colored pens

Slide 77



Directions:

- Divide groups into tables of roughly 5 people
- Have two stacks of cards
  - Scenario cards
  - Findings cards
- Each group will draw a scenario cards and a finding card to create to create a unique combination of a scenario and a "finding".
- Each will sketch out their data story and present it to the larger group.

Possible scenarios:

- You're writing talking points for the FtF end of the year progress report and want to highlight things you've learned this year
- You're writing a PAD and need to synthesize the findings of the data in a coherent manner.
- You're preparing for a portfolio review and need to advocate for an adaptation to your programming.

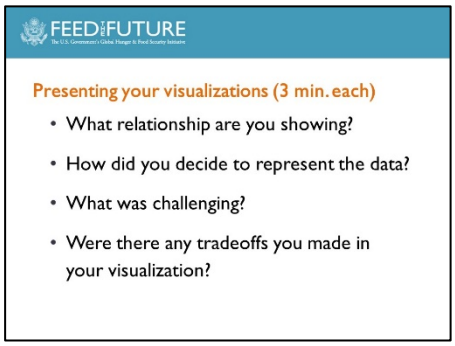
Data findings:

- Soy has the highest gross margin but the lowest number of beneficiary producers, by a large margin. Male and female gross margin is similar, but male cultivates more than 2.5 times the area that females do

- Groundnut yield for female farmers is significantly lower than yield for males, and female farmers have significantly lower input use per hectare, lower price per kg, and significantly lower proportion sold
- Maize gross margin is higher for females because inputs/ha for females is lower while yield, price, production, proportion sold are all basically the same for males and female beneficiaries. Females use family labor and saved seed, while males purchase both.

Debrief

Slide 78

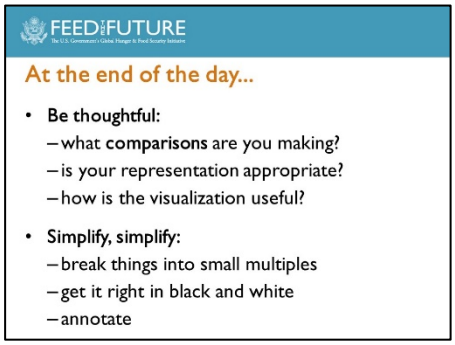


Ask groups to share:

- What design decisions did you make?
- What were you thinking and why?
- Did you have to make any tradeoffs (not show certain data, de-emphasize one component, etc.)?
- What inspired your design?

Summary

Slide 79



Say: At the end of the day, successful visualizations require time! So think about what you're doing and why.

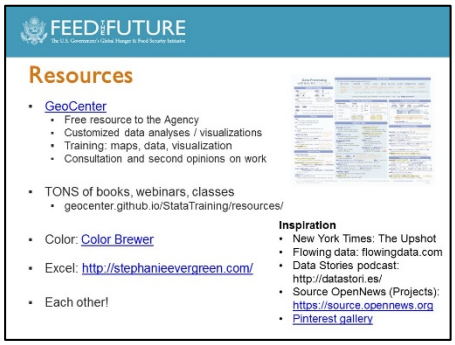
- What's the relationship?
- Who's the audience?
- What's the best way to show the relationship?

Keep it simple

- Focus on the data
- Don't try to show everything in one big graph/map
- Get it right in black and white
- Annotation is your friend

And-- most importantly-- visualization is a process. It requires iteration, feedback, and testing out lots of options.

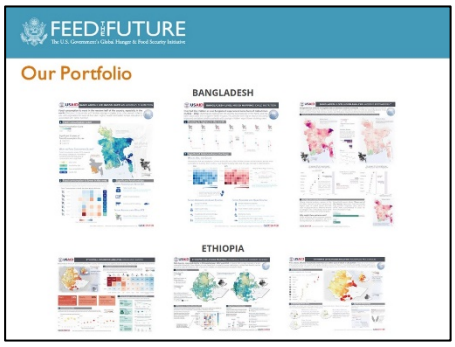
Slide 80



Say: Within the Agency, the GeoCenter is a free service that provides advice and analysis on data collection, analysis, and visualization. We analyze and communicate insights, consult, and train. There's an explosion of books, classes, webinars, etc. We've collected our favorites at www.geocenter.github.io/StataTraining/resources

- Color Brewer is an amazing free resource for picking color palettes
- Stephanie Evergreen has a blog and tutorials on doing data visualization in Excel.
- Don't be afraid to ask advice from others. It's easy to get lost in your work and lose perspective.
- For inspiration: the NYT has some of the best data scientists and visualizers in the world. Pay attention to the Upshot
- Data Stories and Source OpenNews Projects peel back the layers on what decisions professionals make when they're building visualizations
- We've assembled a Pinterest gallery on interesting visualizations: https://www.pinterest.com/kuhobbes/geocenter-inspiration

Slide 81



Say: To see more about what the GeoCenter does, please visit our website (USAID internal only): https://sites.google.com/a/usaid.gov/usaidgeocenter/

Handout CEOCenter pdf or direct participants to copy in the participant guide.

WHERE SHOULD I START WHEN MAKING A VISUALIZATION OR MAP?

1 Have a Question or Goal

What do you want to learn or find out?

What story or message do you want to tell?

2 Define the Audience

Who will use the information?

How will they use it?

interactive / online — least
presentation
one pager
poster — most information dense

Why will they use it?

- to learn
- to understand
- to make decisions
- as a platform to discuss data
- ...

3 Explore & Clean the Data

Do the data make sense?

- How are the data distributed?
- Are there outliers?
- Are there missing data?
- Do the data fall within a reasonable range?

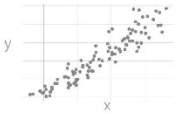
What do they mean?

- Are the data related?

- Do new variables shed more insight?

Plot bar charts (categorical data) or histograms (numerical data)

Plot scatter or line plots between two variables



x seems to be positively correlated with y.

Transform data

- Average (point or running), calculate a percent, convert to comparable units
- Normalize, create ratios, reduce dimensions by calculating an index

4 Define What Comparisons to Make

What do you want to show?

How do you want to show it?

Fill in the blanks!

I want to show the relationship between _____ and _____.

I want _____ to use this info to _____ .

I want to represent this with <<plot type>>.

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5 Test it Out!

Sketch, make a mock-up, test it in your software, and refine it.

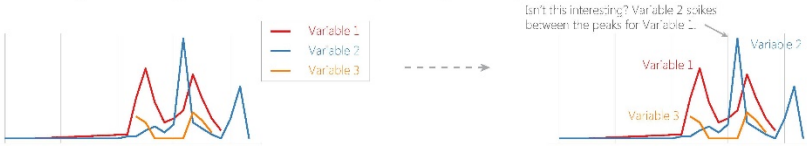
Sketch, test, refine

6 Is this the Best Way to Represent the Info?

Is the plot successful? Refine it by asking yourself:

- Does the plot show the relationship I want?
- Is the plot type successful?
  Is there a better way?
- Will it be useful to the audience?

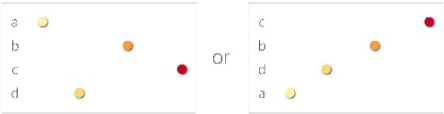
- Can you understand the plot with little verbal explanation?
  Annotations are your friend. Use them to explain how to read the graph, and/or what's interesting about it.
  Directly label things where possible. Only use legends if you have to.



- Is the plot a faithful representation of the data?
  Plots can lie (or at least distort the truth).
  Don't do that.
- Is every dot, symbol, color, line, and variable necessary?
  Keep things simple, consistent, and meaningful

- Is the plot more effective as small multiples?

- How should things be ordered?
  - alphabetically
  - by ranked value
  - by group or theme



- Should I group (average) the variables together?
  Does the average smooth out noise,
  or does it wash away the signal?

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BIOGRAPHIES –

Anne Swindale, Senior Program Advisor – Monitoring and Evaluation in USAID's Bureau for Food Security, is an economist with more than 30 years of experience in technical assistance, research and project management in agriculture, food security, and nutrition strategy and program assessment, design, monitoring, and evaluation. She has a multi-sectoral background spanning agriculture, poverty, food consumption, and nutrition; and extensive experience with project management, program impact evaluation and performance reporting for USAID agriculture, food security and nutrition programs; and the collection, management, and analysis of large and complex primary income, expenditure, and consumption data sets from households and individuals. Prior to joining USAID in 2011, she was Deputy then Director of the USAID-funded Food and Nutrition Technical Assistance Project (FANTA) for 13 years. She also worked for the Consultative Group for International Agricultural Research International Potato Center in Peru and the Dominican Republic. She has a Ph.D. from the Fletcher School of Law and Diplomacy at Tufts University with a specialization in development economics and food, nutrition, and agricultural policies. She speaks Spanish.

Anna Brenes began work in July 2012 with USAID | Haiti as the GIS Mapping and Reporting Specialist where she assisted M&E teams with data collection, analyses, and management using the Haiti DevResults information management systems. She joined the USAID/BFS/SPPM/MEL team in January 2016 as a Data Support Specialist. Prior to working with USAID, Ms. Brenes worked with the State of Minnesota as a GIS Analyst. She has lived abroad with her husband and children in Morocco, Bolivia, and the Netherlands. Ms. Brenes has an undergraduate BA degree from the University of Wisconsin, Madison in International Relations, and a graduate MS degree in Agriculture Education/Sustainable Community Development from the University of Wisconsin, River Falls.

Farzana Ramzan is a Monitoring and Evaluation Specialist in the Bureau for Food Security. Farzana is the M&E technical advisor for Feed the Future countries in East Africa, including Tanzania, Kenya, Ethiopia, South Sudan and the Democratic Republic of Congo. Farzana also manages the Women's Empowerment in Agriculture Index portfolio, the first direct measure of women's empowerment and inclusion in the agriculture sector, and the PovertyCounts portfolio, a simplified tool.

Krista Jacobs is a Gender Advisor at the Bureau for Food Security and a development economist whose work focuses on gender, food security and assets. Current and recent work includes advising agricultural projects on gender integration, program evaluation, developing methods to measure women's and men's land and asset rights, building gender capacity of community-based programs, and building the monitoring and evaluation capacity of local civil-society organizations. Her work has focused in East and West Africa. Dr. Jacobs holds a PhD in Agricultural and Resource Economics from the University of California, Davis.

Laura Hughes is a data scientist at the U.S. Agency for International Development. As a member of the GeoCenter, she uses data science and visualization to analyze international development issues. She also trains people on how to use data visualizations to communicate complex problems and solutions. Trained as a biophysical chemist, Laura is passionate about translating messy data and complex statistical analyses into understandable insights that can influence policy and investment decisions. She holds a Ph.D. from Stanford University, an M.Phil. from the University of Cambridge as a Gates Cambridge Scholar, and an M.S./B.A. from Northwestern University.

Lindsey Anna is a public health and international development professional with over 7 years of experience designing, implementing, and monitoring food security and nutrition programs. She joined USAID's Bureau for Food Security in October 2014 as a Monitoring & Evaluation Adviser supporting Feed the Future focus countries in LAC and aligned countries in the Middle East and Asia. She is also the M&E lead for Ebola-affected countries in West Africa. Most notably, Lindsey serves as the BFS technical lead for data quality. Before joining USAID, Lindsey previously worked at a number of USAID implementing partners, including Social Impact and FHI360, where she filled various programmatic and technical roles providing budget, program design, and M&E support. Lindsey also possesses vast experience in domestic and global health policy having started her career in the U.S Senate and the U.S. Department for Health and Human Services. Lindsey received her MPH from The George Washington University and BS in Commerce from DePaul University.

FOR MORE INFORMATION:

For more information about the Feed the Future Performance Monitoring Course, contact:

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Monitoring, Evaluation and Learning
Bureau of Food Security
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FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

PERFORMANCE MONITORING

FACILITATOR'S GUIDE

USAID
FROM THE AMERICAN PEOPLE

This publication was produced for review by the U.S. Agency for International Development (USAID). It was prepared by the Feed the Future Knowledge-Driven Agricultural Development Project (KDAD), Contract Number: AID-OAA-C-13-00137, implemented by Insight Systems Corporation. The opinions expressed herein are those of the author(s) and do not necessarily reflect the views of USAID.

August 2016

Table of Contents

H. Materials, Supplies and Checklist

Session Materials

Session Nine

- ☐ PowerPoint slides
- ☐ Prepared flipcharts with the headings:
  - ☐ What reasons do you have to share data?
  - ☐ Why would you not share data?
  - ☐ What types of data do you think should be public?
  - ☐ What data should we keep restricted?
- ☐ Tidy Data Exercise (in Participant Guide)
  - ☐ Tidy data set
  - ☐ Messy data set
  - ☐ Additional data set
- ☐ Certificate of Completion
- ☐ Camera

Supplies

Have the following standard office supplies available:

- ☐ Pads of paper
- ☐ 5 x 7 index cards (different colors)
- ☐ Extra Pens
- ☐ Mr. Sketch markers (for facilitators and each table)
- ☐ Colored felt-tipped pens (for each table)
- ☐ Masking tape or painter's tape
- ☐ Suction cups for banners
- ☐ Paper clips
- ☐ Stapler and staples
- ☐ Scissors
- ☐ Post-It Notes (3x3, different colors)
- ☐ Chocolate (a must!!!)

Equipment

- ☐ LCD project and screen
- ☐ Laptop loaded with course PowerPoint slides

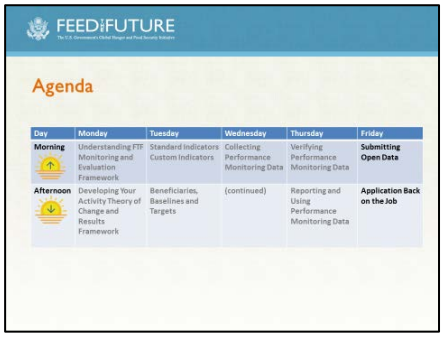
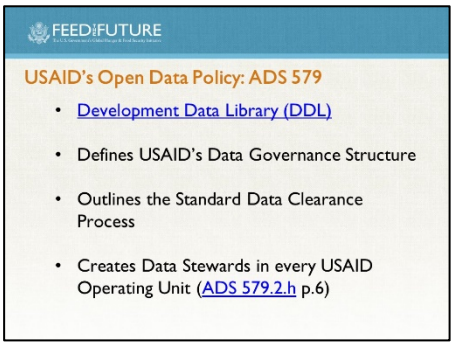
- ☐ Internet access
- ☐ Speakers
- ☐ Remote for LCD projector/PowerPoints and extra batteries
- ☐ Microphones (if necessary)
- ☐ Flipchart stands and paper (one stand per table plus two stands for facilitators)
- ☐ Chimes to ring at breaks
- ☐ Camera for photos during session
- ☐ Note: Additional laptops are needed for individual sessions (see session list of materials)

Session 9: Submitting Open Data

Session Goal:	Submit data meeting FTF policy and requirements for open data
Learning Objectives:	• Know the policy and requirements for submitting open data
Session Length:	120 minutes

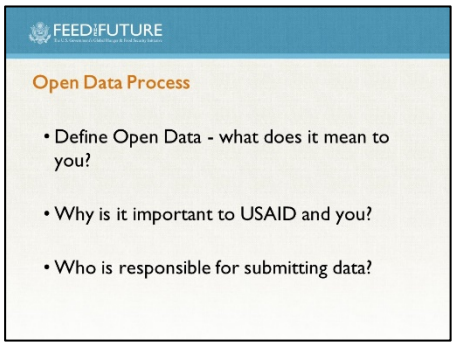
Session Materials:	• Session 9 slides
	• Prepared flipcharts with the headings:
	  o What reasons do you have to share data?
	  o Why would you not share data?
	  o What types of data do you think should be public?
	  o What data should we keep restricted?
	• Markers
	• Tidy Data Exercise
	  o Tidy data set
	  o Messy data set
	  o Additional data set

Facilitator Notes:

Time & Facilitator	Content/Activities	Materials
9:00 am (15 min.)	**Start of the Day** Welcome participants back to the course. Ask for any "overnight thoughts" about the previous day's material. Share the agenda for the day.  	
9:15 am (120 min.)	**Introduction** **Slide 1**  Say: The objective of the Open Data policy is to ensure useable data as a delivery, promote transparency and data sharing. Accessible, discoverable, and usable data fuels entrepreneurship, innovation, scientific discovery, and enhances development outcomes. It contributes to improved design and implementation of development programs while reducing expensive and redundant data collection efforts. **Slide 2**  	

Say: USAID implemented ADS 579 in response to the Open Data Policy in October 2014. It is USAID's implementation of Executive Order 13642, "Making **Open** and Machine Readable the New Default for Government Information," and the White House Office of Science and Technology Memorandum, "Increasing Access to the Results of Federally Funded Scientific Research."

Slide 3



Ask the participants the questions on the slide and allow for a robust discussion.
Answer: Implementing Partners

Group Exercise

Slide 4

Directions:

- Post four flipcharts around the room each flipchart having one of the following headings:
  - What reasons do you have to share data?
  - Why would you not share data?
  - What types of data do you think should be public?
  - What data should we keep restricted?
- Have participants go to each flipchart and write their answers to the question posted on the flipchart.

Debrief the exercise:

- Review the answers on the flipchart
  - Compare and contrast the answers to questions first and second questions and the third and fourth questions
  - Allow for participants to "challenge" each other when views differ

Conclude saying: Sharing data supports meta analysis or deeper dive, saves money, and fosters continued research. Open Access/Open Data is vitally important to increasing

Flipcharts with the headings:

- What reasons do you have to share data?
- Why would you not share data?
- What types of data do you think should be public?
- What data should we keep restricted?

Markers

the visibility and impact of agriculture research to development stakeholders and beneficiaries.

Data is not required to be shared if:

- Personal safety of U.S. personnel or recipients of U.S. resources;
- Interferes with ability to discharge ongoing foreign assistance activities;
- National security interests;
- Business or proprietary information of non-governmental organizations, contractors, or private sector clients;
- Laws or regulations of a recipient country apply to a bilateral agreement and restrict access to information; or
- Contain private information about individuals that must be kept confidential consistent with ethical guidelines and federal regulations

Lecturette

Slide 5

Ask:

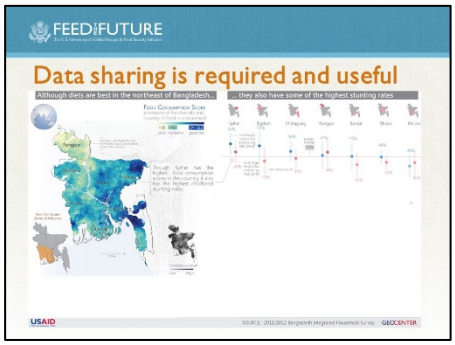
- Why do you think research scientists may be reluctant to share data?
- Civil servants?
- VPs?

Potential answers:

- Research Scientists may feel they will lose competitive advantage/future funding opportunities/job security, recognition etc. Is the data worth making open?
- Civil servant may feel that sharing with the public may cause problems; concerns about data quality; unsure of policy and practices.
- Poised VP consults with legal which results in so much data being omitted that it is no longer worth sharing.

Say: To address privacy concerns, remember, researchers must get informed consent for all human subject research. Data must be submitted with all components to the DDL and are subject to a Privacy Threshold Analysis (PTA) by CIO - clearance process is currently paused - stay tuned!

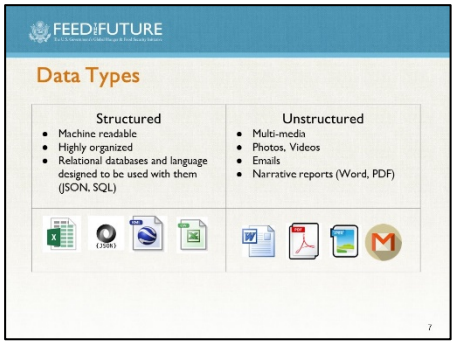
Slide 6



Say: Data allow us to analyze our priorities of where we work. All of our processing and analysis code is open to anyone inside USAID.

For example, the USAID GeoCenter analysis of the FtF baseline in Bangladesh on this slide leads to an observation that food consumption scores were worse in the northwest of the country, while stunting is worst in the north.

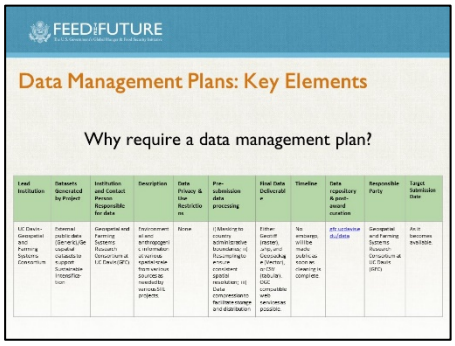
Slide 7



Review the two categories of data on the slide: structured and unstructured.

Summarize saying: Structured data = machine readable e.g. CSV, shapefile, Excel file, XML, JSON. Unstructured = pdf, doc, jpeg.

Slide 8



Say: A rigorous and consistent approach to data management ensures that data is collected, stored, analyzed and shared in a manner that will have the greatest impact, while also protecting the rights of third parties and stakeholders when appropriate.

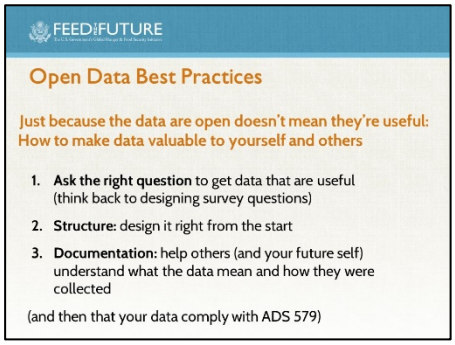
DMPs facilitate data calls - we know what will be available. Enables better support to offices. Helps track deliverables.

Suggestions:

- Subaward or Activity, Institution and Contact Person Responsible for Data
- Dataset Type
- Description
- Data Privacy & Use Restrictions
- Pre-submission data processing for PII
- Final Data Deliverable
- Estimated Publication Date & Embargo Request
- Data Repository
- Responsible Party for Data Submission
- Target Submission Date

DMPs should be updated periodically (as stipulated in Work Plan per A/COR) when M&E plans are updated. Data and the supporting documentation (Metadata) should be submitted to a publicly accessible database or to DDL. Even if the data is accessible via a public database, it still must be registered on the DDL with a link to the url. Data access level (public, restricted-public, non-public) is set in the online DDL form.

Slide 9

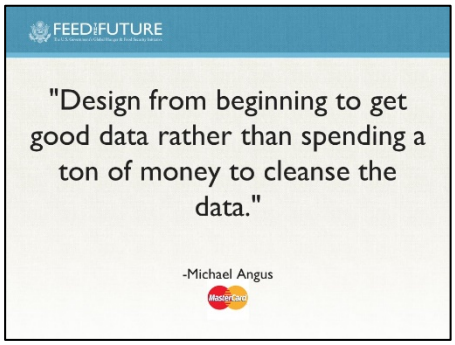


Say: The first challenge with open data is finding the data, getting it, and releasing it. But just because the data are open doesn't necessarily mean that they're useful.
There are three critical components to making data useful for other people:

1. Get good data! Think back to designing survey questions; how you ask the question influences the data you get back.
2. Structure-- organize them so they're easy to visualize and analyze
3. Document who collected the data, how it was collected, and how it was manipulated. How the data should be interpreted.

This isn't just good practice to comply with ADS 579 and to make data useful for the external world. It's equally important for you. If you go back to your data in a few months (or years), can you quickly use it?

Slide 10



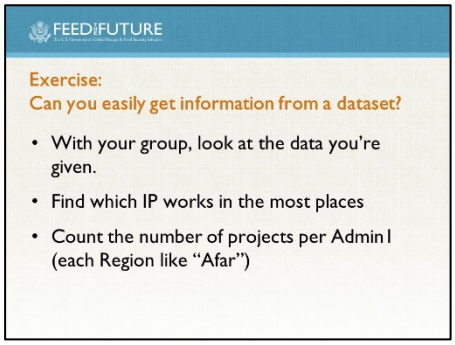
Say: As the quote says, invest in good data design (questions and structure) rather than trying to fix it after the fact. In the best case scenario, trying to fix data afterwards will cost a lot of money and time. Worst case scenario, you can't actually fix it. If you ask the question wrong, there's no going back. If you didn't disaggregate the data into males and females, it's highly unlikely that you can figure out who is male and who is female. Get it right from the start.

Group Exercise

Tidy Data
Messy Data
Additional Data

Overview of the exercise: Groups will be given a "tidy" version of a dataset or a messier one and asked to find all the programs tagged as being FTF and the number of projects for each region of Ethiopia. Facilitators will time the difference in the amount of time it takes to be able to use the information. Structure matters to make information useful to others!

Slide 11



Directions:

<u>Part One</u>

1. Divide the trainees into groups of 2 - 5 people.
2. Give roughly half the groups example dataset #1 (the tidy version) and half example dataset #2 (the messy version).
    a. Instructor note: data are from the FTF-MS on where people are working.
3. Ask them to look at the data and analyze them to find:
    a. Find which IP works in the most places
    b. Count the number of projects per Admin (each Region like "Afar") so you can make a graph of the number of projects per region

4. Facilitator to time how long (roughly) each group takes to do each task

<u>Part Two</u>

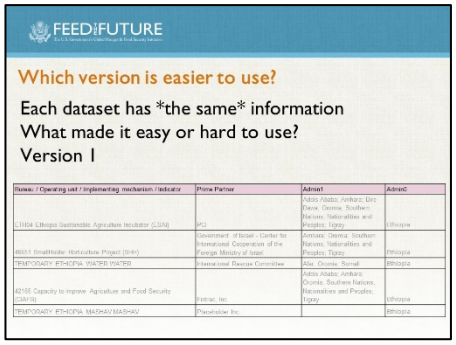
5. You now have new information that you want to be able to combine with these data on where we are working.
    a. Data on stunting
    b. Data on PSNP participation -- a social safety net program
6. Using your dataset, figure out how difficult it is to combine the information together.
7. What assumptions do you have to make? What challenges do you encounter?

Debrief

Say: Each version of the data had the **same** information. Let's explore what made them different.

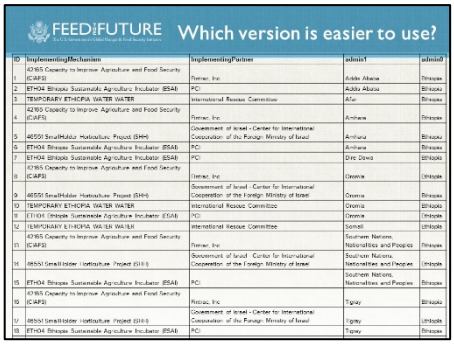
Show slides of both data sets:

Slide 12



Bureau / Operating unit / Implementing mechanism / Indicator	Prime Partner	Admin1	Admin0
L1104 Ethiopia Sustainable Agriculture Incubator (LSIA)	PCI	Addis Ababa; Amhara; Dire Dawa; Oromia; Southern Nations, Nationalities and Peoples; Tigray	Ethiopia
46551 Smallholder Horticulture Project (SHH)	Government of Israel - Center for International Cooperation of the Foreign Ministry of Israel	Amhara; Oromia; Southern Nations, Nationalities and Peoples; Tigray	Ethiopia
TEMPORARY ETHIOPIA WATER WATER	International Rescue Committee	Afar; Oromia; Somali	Ethiopia
42166 Capacity to Improve Agriculture and Food Security (CIAFS)	Fintrac, Inc	Addis Ababa; Amhara; Oromia; Southern Nations, Nationalities and Peoples; Tigray	Ethiopia
TEMPORARY ETHIOPIA MASHAV MASHAV	Placeholder Inc.		Ethiopia

Slide 13



ID	ImplementingMechanism	ImplementingPartner	admin1	admin0
1	42165 Capacity to Improve Agriculture and Food Security (CIAFS)	Fintrac, Inc	Addis Ababa	Ethiopia
2	ETH04 Ethiopia Sustainable Agriculture Incubator (ESAI)	PCI	Addis Ababa	Ethiopia
3	TEMPORARY ETHIOPIA WATER WATER	International Rescue Committee	Afar	Ethiopia
4	42165 Capacity to Improve Agriculture and Food Security (CIAFS)	Fintrac, Inc	Amhara	Ethiopia
5	46551 SmallHolder Horticulture Project (SHH)	Government of Israel - Center for International Cooperation of the Foreign Ministry of Israel	Amhara	Ethiopia
6	ETH04 Ethiopia Sustainable Agriculture Incubator (ESAI)	PCI	Amhara	Ethiopia
7	ETH04 Ethiopia Sustainable Agriculture Incubator (ESAI)	PCI	Dire Dawa	Ethiopia
8	42165 Capacity to Improve Agriculture and Food Security (CIAFS)	Fintrac, Inc	Oromia	Ethiopia
9	46551 SmallHolder Horticulture Project (SHH)	Government of Israel - Center for International Cooperation of the Foreign Ministry of Israel	Oromia	Ethiopia
10	TEMPORARY ETHIOPIA WATER WATER	International Rescue Committee	Oromia	Ethiopia
11	ETH04 Ethiopia Sustainable Agriculture Incubator (ESAI)	PCI	Oromia	Ethiopia
12	TEMPORARY ETHIOPIA WATER WATER	International Rescue Committee	Somali	Ethiopia
13	42165 Capacity to Improve Agriculture and Food Security (CIAFS)	Fintrac, Inc	Southern Nations, Nationalities and Peoples	Ethiopia
14	46551 SmallHolder Horticulture Project (SHH)	Government of Israel - Center for International Cooperation of the Foreign Ministry of Israel	Southern Nations, Nationalities and Peoples	Ethiopia
15	ETH04 Ethiopia Sustainable Agriculture Incubator (ESAI)	PCI	Southern Nations, Nationalities and Peoples	Ethiopia
16	42165 Capacity to Improve Agriculture and Food Security (CIAFS)	Fintrac, Inc	Tigray	Ethiopia
17	46551 SmallHolder Horticulture Project (SHH)	Government of Israel - Center for International Cooperation of the Foreign Ministry of Israel	Tigray	Ethiopia
18	ETH04 Ethiopia Sustainable Agriculture Incubator (ESAI)	PCI	Tigray	Ethiopia

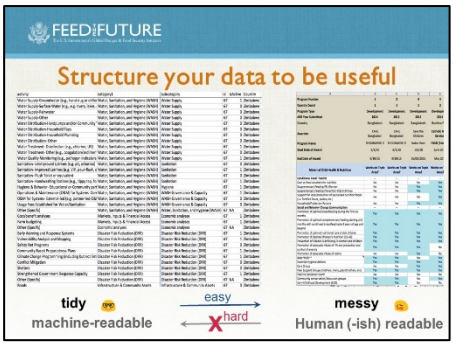
Ask:

- How easy was it for you to find the information? How long did it take?
    - Facilitator notes the difference in time each group took
    - Facilitator to show how easy it is to sort with a computer
- What made it easy or hard?
- Were each of the tasks equally easy or challenging?
- If you were doing the same exercises with these data in a computer, how would you find the information? Which dataset would be easier?

If there is time, demonstrate how easy it is to use the information within Excel to filter, aggregate, etc.

Lecturette (continued)

Slide 14

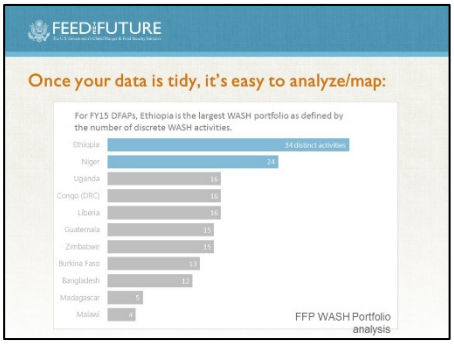


Say: Data stored in rows and columns in a database/spreadsheet. Ideally, the data should be structured and values should be entered in a consistent manner.

In this example how would you filter the data to pull out just the Bangladesh data? How would you aggregate (create sums) of all the MCH data? In the tidy version, this is simple-- just filter a single column, or create a pivot table for the MCH data. In the messy version, you'd either be searching by eye or by Ctrl-F. Not only is this less efficient, but it's more likely to introduce error. What if you miss one of the Bangladesh entries?

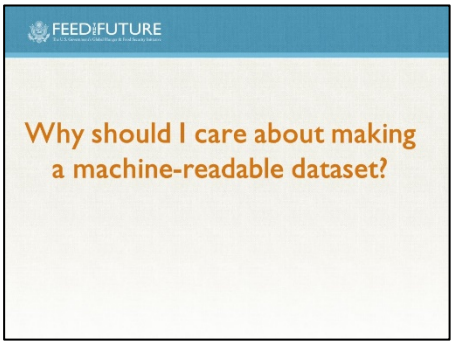
The point is that you can always go from the machine-readable version to a more human-readable version. It's much harder to go the other way.

Slide 15



Say: Tidy, structured data is the precursor to any analysis or visualization. Once it's in this form, you can quickly see patterns, like that Ethiopia has the largest WASH portfolio within FFP.

Slide 16

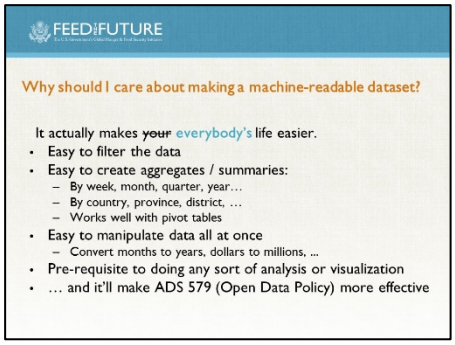


Flipchart
Markers

Ask: Why should you care about making a machine-readable dataset?
Capture participants' responses on a flipchart.

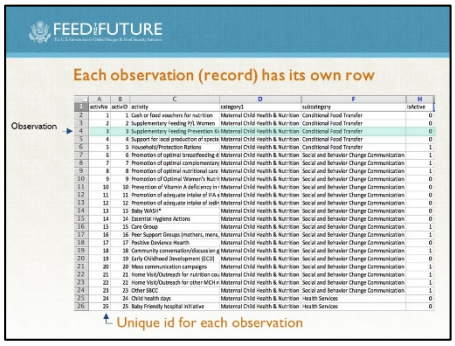
Summarize by displaying slide 17.

Slide 17



Say: It sounds like structuring data is work. But it's worth investing time upfront to make everyone's life easier and **it must be done before any analysis or visualization is possible.** Tidy data is also an easily recognized format by analysts, human readable data may or may not be recognizable.

Slide 18

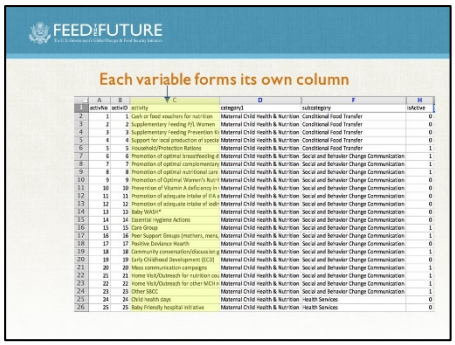


	A	B	C	D	F	H
1	activeID	activID	activity	category1	subcategory	isactive
2	1	1	Cash or food vouchers for nutrition	Maternal Child Health & Nutrition	Conditional Food Transfer	0
3	2	2	Supplementary Feeding PVL Women	Maternal Child Health & Nutrition	Conditional Food Transfer	0
4	3	3	Supplementary Feeding Prevention KI	Maternal Child Health & Nutrition	Conditional Food Transfer	0
5	4	4	Support for local production of specia	Maternal Child Health & Nutrition	Conditional Food Transfer	0
6	5	5	Household/Protection Rations	Maternal Child Health & Nutrition	Conditional Food Transfer	1
7	6	6	Promotion of optimal breastfeeding d	Maternal Child Health & Nutrition	Social and Behavior Change Communication	1
8	7	7	Promotion of optimal complementary	Maternal Child Health & Nutrition	Social and Behavior Change Communication	1
9	8	8	Promotion of optimal nutritional care	Maternal Child Health & Nutrition	Social and Behavior Change Communication	1
10	9	9	Promotion of Optimal Women's Nutri	Maternal Child Health & Nutrition	Social and Behavior Change Communication	0
11	10	10	Prevention of Vitamin A deficiency in	Maternal Child Health & Nutrition	Social and Behavior Change Communication	0
12	11	11	Promotion of adequate intake of IFA a	Maternal Child Health & Nutrition	Social and Behavior Change Communication	0
13	12	12	Promotion of adequate intake of iodi	Maternal Child Health & Nutrition	Social and Behavior Change Communication	0
14	13	13	Baby WASH*	Maternal Child Health & Nutrition	Social and Behavior Change Communication	0
15	14	14	Essential Hygiene Actions	Maternal Child Health & Nutrition	Social and Behavior Change Communication	0
16	15	15	Care Group	Maternal Child Health & Nutrition	Social and Behavior Change Communication	1
17	16	16	Peer Support Groups (mothers, mens,	Maternal Child Health & Nutrition	Social and Behavior Change Communication	1
18	17	17	Positive Deviance Hearth	Maternal Child Health & Nutrition	Social and Behavior Change Communication	0
19	18	18	Community conversation/discussion g	Maternal Child Health & Nutrition	Social and Behavior Change Communication	1
20	19	19	Early Childhood Development (ECD)	Maternal Child Health & Nutrition	Social and Behavior Change Communication	0
21	20	20	Mass communication campaigns	Maternal Child Health & Nutrition	Social and Behavior Change Communication	1
22	21	21	Home Visit/Outreach for nutrition cou	Maternal Child Health & Nutrition	Social and Behavior Change Communication	1
23	22	22	Home Visit/Outreach for other MCH-r	Maternal Child Health & Nutrition	Social and Behavior Change Communication	1
24	23	23	Other SBCC	Maternal Child Health & Nutrition	Social and Behavior Change Communication	1
25	24	24	Child health days	Maternal Child Health & Nutrition	Health Services	0
26	25	25	Baby Friendly hospital initiative	Maternal Child Health & Nutrition	Health Services	0

Say: So what is tidy data? Tidy data has individual observation/records, which is a single entry in a dataset. Basically, think one piece of information in every box (cell) within a spreadsheet.

Warning: **Don't use merged cells. Please, just don't.**

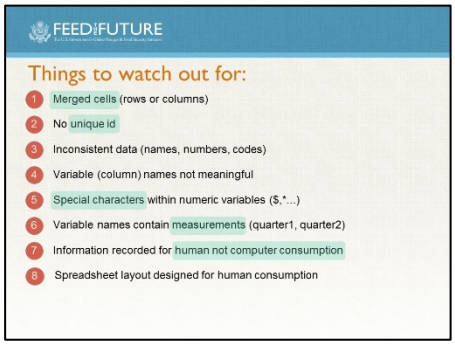
Slide 19



	A	B	C	D	F	H
	activeNo	activeID	activity	category1	subcategory	isActive
2	1	1	Cash or food vouchers for nutrition	Maternal Child Health & Nutrition	Conditional Food Transfer	0
3	2	2	Supplementary Feeding PVL Women	Maternal Child Health & Nutrition	Conditional Food Transfer	0
4	3	3	Supplementary Feeding Prevention Ex	Maternal Child Health & Nutrition	Conditional Food Transfer	0
5	4	4	Support for local production of specia	Maternal Child Health & Nutrition	Conditional Food Transfer	0
6	5	5	Household/Protection Rations	Maternal Child Health & Nutrition	Conditional Food Transfer	1
7	6	6	Promotion of optimal breastfeeding d	Maternal Child Health & Nutrition	Social and behavior Change Communication	1
8	7	7	Promotion of optimal complementary	Maternal Child Health & Nutrition	Social and behavior Change Communication	1
9	8	8	Promotion of optimal nutritional care	Maternal Child Health & Nutrition	Social and behavior Change Communication	1
10	9	9	Promotion of Optimal Women's Nutri	Maternal Child Health & Nutrition	Social and behavior Change Communication	0
11	10	10	Prevention of Vitamin A deficiency in	Maternal Child Health & Nutrition	Social and behavior Change Communication	0
12	11	11	Promotion of adequate intake of IFA a	Maternal Child Health & Nutrition	Social and behavior Change Communication	0
13	12	12	Promotion of adequate intake of iodi	Maternal Child Health & Nutrition	Social and behavior Change Communication	0
14	13	13	Baby WASH*	Maternal Child Health & Nutrition	Social and behavior Change Communication	0
15	14	14	Essential Hygiene Actions	Maternal Child Health & Nutrition	Social and behavior Change Communication	0
16	15	15	Care Group	Maternal Child Health & Nutrition	Social and behavior Change Communication	1
17	16	16	Peer Support Groups (mothers, mens,	Maternal Child Health & Nutrition	Social and behavior Change Communication	1
18	17	17	Positive Deviance Hearth	Maternal Child Health & Nutrition	Social and behavior Change Communication	0
19	18	18	Community conversation/discussion g	Maternal Child Health & Nutrition	Social and behavior Change Communication	1
20	19	19	Early Childhood Development (ECD)	Maternal Child Health & Nutrition	Social and behavior Change Communication	0
21	20	20	Mass communication campaigns	Maternal Child Health & Nutrition	Social and behavior Change Communication	1
22	21	21	Home Visit/Outreach for nutrition cou	Maternal Child Health & Nutrition	Social and behavior Change Communication	1
23	22	22	Home Visit/Outreach for other MCH n	Maternal Child Health & Nutrition	Social and behavior Change Communication	1
24	23	23	Other SBCC	Maternal Child Health & Nutrition	Social and behavior Change Communication	1
25	24	24	Child health days	Maternal Child Health & Nutrition	Health Services	0
26	25	25	Baby Friendly hospital initiative	Maternal Child Health & Nutrition	Health Services	0

Say: And then each variable -- or each type of measurement -- is stored in a single column. This makes it easy to find that information, to filter it, to aggregate it, and to compare it to other measurements.

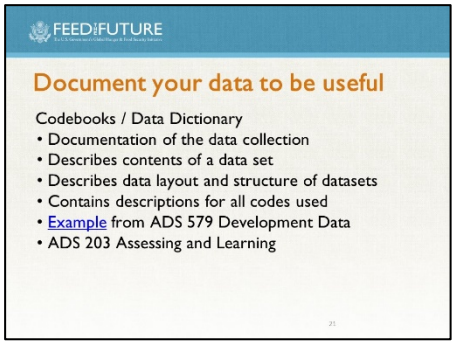
Slide 20



Animated slide

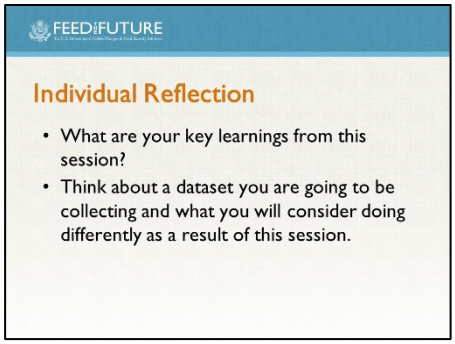
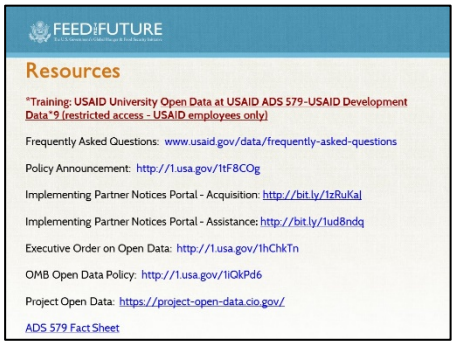
Say: This is a laundry list of the most common problems we see in datasets. *Note: Click through the slide and reach bullet point.*

Slide 21



Say: Now that you have good data and they're structured logically, you have to tell others (including your future self!) what they mean. Data dictionaries and codebooks are required under ADS 579, and they describe how the data were collected, how they were manipulated, and what each variable means (e.g. stunting is a numeric measurement of height-for-age compared to the WHO reference standard, and ranges from -6 to +6 standard deviations).

Individual Reflection

	Slide 22
	 
	
	Individual exercise:
	• Refer participant guide and have them record their individual reflections:
	  • Key learnings from the session
	  • Think about a data set they are going to be collecting/analyzing, what will consider doing differently as a result of the session.
	
	Debrief in plenary:
	• Ask two or three participants to share their reflections.
	
	Resources
	
	Slide 23
	 	

11:15 am (15 min.)	Break	

Data structure exercise: Dataset 1

Bureau / Operating unit / Implementing mechanism / Indicator	Prime Partner	Admin1	Admin0
ETH04 Ethiopia Sustainable Agriculture Incubator (ESAI)	PCI	Addis Ababa; Amhara; Dire Dawa; Oromia; Southern Nations, Nationalities and Peoples; Tigray	Ethiopia
46551 SmallHolder Horticulture Project (SHH)	Government of Israel - Center for International Cooperation of the Foreign Ministry of Israel	Amhara; Oromia; Southern Nations, Nationalities and Peoples; Tigray	Ethiopia
TEMPORARY ETHIOPIA WATER WATER	International Rescue Committee	Afar; Oromia; Somali	Ethiopia
42165 Capacity to Improve Agriculture and Food Security (CIAFS)	Fintrac, Inc	Addis Ababa; Amhara; Oromia; Southern Nations, Nationalities and Peoples; Tigray	Ethiopia
TEMPORARY ETHIOPIA MASHAV MASHAV	Placeholder Inc.		Ethiopia

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Data structure exercise: Dataset 2

ID	ImplementingMechanism	ImplementingPartner	admin1	admin0
1	42165 Capacity to Improve Agriculture and Food Security (CIAFS)	Fintrac, Inc	Addis Ababa	Ethiopia
2	ETH04 Ethiopia Sustainable Agriculture Incubator (ESAI)	PCI	Addis Ababa	Ethiopia
3	TEMPORARY ETHIOPIA WATER WATER	International Rescue Committee	Afar	Ethiopia
4	42165 Capacity to Improve Agriculture and Food Security (CIAFS)	Fintrac, Inc	Amhara	Ethiopia
5	46551 SmallHolder Horticulture Project (SHH)	Government of Israel - Center for International Cooperation of the Foreign Ministry of Israel	Amhara	Ethiopia
6	ETH04 Ethiopia Sustainable Agriculture Incubator (ESAI)	PCI	Amhara	Ethiopia
7	ETH04 Ethiopia Sustainable Agriculture Incubator (ESAI)	PCI	Dire Dawa	Ethiopia
8	42165 Capacity to Improve Agriculture and Food Security (CIAFS)	Fintrac, Inc	Oromia	Ethiopia
9	46551 SmallHolder Horticulture Project (SHH)	Government of Israel - Center for International Cooperation of the Foreign Ministry of Israel	Oromia	Ethiopia
10	TEMPORARY ETHIOPIA WATER WATER	International Rescue Committee	Oromia	Ethiopia
11	ETH04 Ethiopia Sustainable Agriculture Incubator (ESAI)	PCI	Oromia	Ethiopia
12	TEMPORARY ETHIOPIA WATER WATER	International Rescue Committee	Somali	Ethiopia
13	42165 Capacity to Improve Agriculture and Food Security (CIAFS)	Fintrac, Inc	Southern Nations, Nationalities and Peoples	Ethiopia
14	46551 SmallHolder Horticulture Project (SHH)	Government of Israel - Center for International Cooperation of the Foreign Ministry of Israel	Southern Nations, Nationalities and Peoples	Ethiopia
15	ETH04 Ethiopia Sustainable Agriculture Incubator (ESAI)	PCI	Southern Nations, Nationalities and Peoples	Ethiopia
16	42165 Capacity to Improve Agriculture and Food Security (CIAFS)	Fintrac, Inc	Tigray	Ethiopia
17	46551 SmallHolder Horticulture Project (SHH)	Government of Israel - Center for International Cooperation of the Foreign Ministry of Israel	Tigray	Ethiopia
18	ETH04 Ethiopia Sustainable Agriculture Incubator (ESAI)	PCI	Tigray	Ethiopia
19	TEMPORARY ETHIOPIA MASHAV MASHAV	Placeholder Inc.	unknown	Ethiopia

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Data structure exercise: Merging data

admin1	stunting_pct	PSNP_participation
Addis Ababa	22.9	NA
Afar	46.1	65.6
Amhara	42.2	14.8
Dire Dawa	27.1	59.2
Oromiya	38.2	2.3
SNNP	44.1	15
Somali	36.5	12
Tigray	47.5	28.9

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BIOGRAPHIES –

Anna Brenes began work in July 2012 with USAID | Haiti as the GIS Mapping and Reporting Specialist where she assisted M&E teams with data collection, analyses, and management using the Haiti DevResults information management systems. She joined the USAID/BFS/SPPM/MEL team in January 2016 as a Data Support Specialist. Prior to working with USAID, Ms. Brenes worked with the State of Minnesota as a GIS Analyst. She has lived abroad with her husband and children in Morocco, Bolivia, and the Netherlands. Ms. Brenes has an undergraduate BA degree from the University of Wisconsin, Madison in International Relations, and a graduate MS degree in Agriculture Education/Sustainable Community Development from the University of Wisconsin, River Falls.

Laura Hughes is a data scientist at the U.S. Agency for International Development. As a member of the GeoCenter, she uses data science and visualization to analyze international development issues. She also trains people on how to use data visualizations to communicate complex problems and solutions. Trained as a biophysical chemist, Laura is passionate about translating messy data and complex statistical analyses into understandable insights that can influence policy and investment decisions. She holds a Ph.D. from Stanford University, an M.Phil. from the University of Cambridge as a Gates Cambridge Scholar, and an M.S./B.A. from Northwestern University.

FOR MORE INFORMATION:

For more information about the Feed the Future Performance Monitoring Course, contact:

Anne Swindale (aswindale@usaid.org) or Salik Farooqi (sfarooqi@usaid.gov)
Monitoring, Evaluation and Learning
Bureau of Food Security
USAID

Application: Back on the Job

Session Goal:	Application: Back on the Job
Learning Objective:	• Apply learning to Feed the Future activities post class
Session Length:	155 minutes
Session Materials:	• Session slides • Sticky Notes • Camera o Certificates of Completion (with participant names and signed by course leaders)

Facilitator Notes:

Time & Facilitator	Content/Activities	Materials
11:30 am (30 min.)	**Action Planning** ***Individual Activity*** Say: "This course will be useful only if it has given you new skills, knowledge and expertise which you apply in monitoring the performance of Feed the Future Activities. To that end, we would like each of you to take some time to reflect on how you will put what you have learned over the past five days. Identify your key learnings from the course: Take some time to review the notes you made in your participant guide, thank about the exercises you completed during the course, reflect on the lectures. Then, plan how you will apply your learning to an FTF activity you are responsible for.	
12:00 pm (30 min.)	***Trio Share*** Say: "With two of your colleagues, review your plan and get feedback. Then identify ways you can support one another. Each person has 15 minutes to share their plan."	

12:30 pm (60 min.)	Lunch	
1:30pm (60 min.)	**Plenary** Say: "Create a tweet that summarizes what you learned and how you are going to apply it to a Feed the Future Activity you are working on. Write your tweet on a sticky note. Remember, you have only 140 characters." Go around the room and have each participant read their tweet and post it. Ask: "How are you going to support each other as each of you works to fulfill your commitment?"	
2:30 pm (20 min.)	**Closing Comments and Presentation of Certificates** (20 minutes) Have each instructor make a short closing comment. Say: "We want to acknowledge and appreciate the work you have done during this course with a Certification of Completion. When you hear your name, please come forward and accept your certificate – and our congratulations." **Group Photo** Say: "Please join us for a group photo."	
2:50 pm (15 min.)	**Evaluation**	

	Say: "What would a course on performance monitoring be without an evaluation? Please complete the course evaluation."	
3:05 pm	**Closing Comments** Say: "Remember, keep calm and carry on measuring."	