Session 1: Understanding the FTF Monitoring and Evaluation Framework
Introductions

• Name and position
• How long they have been with USAID
• Where they work (sector/geography)
• A statistic that made you want to work on FTF
Course Outcomes

• Develop a theory of change and results framework for your FTF activities
• Select 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
## Agenda

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

• Listen, inquire and share
• Respect and value different ideas and options
• Create a safe space
• Challenge yourself
• Support each other

• Be fully engaged
• Turn off electronics
• Honor time agreements
Logistics & Housekeeping

- Safety
- Fiddles
- Course sign-in sheet
- Breaks and lunch
- Restrooms
Using Monitoring and Evaluation for Adaptive Strategic Management
## Monitoring: M&M Color Targets

<table>
<thead>
<tr>
<th>Candy</th>
<th>Blue</th>
<th>Orange</th>
<th>Green</th>
<th>Yellow</th>
<th>Red</th>
<th>Brown</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td>Milk Chocolate</td>
<td>24%</td>
<td>20%</td>
<td>16%</td>
<td>14%</td>
<td>13%</td>
<td>13%</td>
<td>100%</td>
</tr>
<tr>
<td>Peanut</td>
<td>23%</td>
<td>23%</td>
<td>15%</td>
<td>15%</td>
<td>12%</td>
<td>12%</td>
<td>100%</td>
</tr>
<tr>
<td>Kids Minis</td>
<td>25%</td>
<td>25%</td>
<td>12%</td>
<td>13%</td>
<td>12%</td>
<td>13%</td>
<td>100%</td>
</tr>
<tr>
<td>M&amp;M Dark</td>
<td>17%</td>
<td>16%</td>
<td>16%</td>
<td>17%</td>
<td>17%</td>
<td>17%</td>
<td>100%</td>
</tr>
<tr>
<td>Peanut Butter</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
<td>10%</td>
<td>10%</td>
<td>100%</td>
</tr>
<tr>
<td>Almond</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
<td>10%</td>
<td>10%</td>
<td>100%</td>
</tr>
</tbody>
</table>
Monitoring: Your assignment

• Calculate the % of colors in your bag
• Create a visual of your data
• Explain if Mars hit its targets
• Prepare a 2 minute report to share in plenary
Monitoring Questions

• 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?
How M&Ms are made

Link: https://www.youtube.com/watch?v=iapNZqTV7YQ
Evaluation

- Summarize the data from all the groups
- Your conclusions about how Mars is hitting their targets
- Any production recommendations
History of M&M colors
What is your Theory of Change for M&M colors?
Collecting Beneficiary Data

What is your favorite color?
Individual Application

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.
Feed the Future
Monitoring, Evaluation & Learning Framework
Objectives

• To understand why FTF MEL is important, and how Feed the Future (FTF) data are used

• To understand the FTF Results Framework, Theory of Change, and suite of FTF indicators

• To provide a set of resources to help support your FTF MEL efforts
FTF MEL & Data

- Emphasis on evidence-based decision making and programming
- Portfolio Reviews
- Annual Progress Report
- Multi-Year Strategies
- Presentations on the Hill
- Scorecard
- Civil Society
- Programming Decisions and Budget Defense
- Success Stories
- Fact Sheets
Progress

Progress Report

Feed the Future is advancing President Obama’s vision of a world where people no longer face extreme poverty, hunger, and undernutrition. Working in support of country-led priorities, we are taking collective action with our partners to tackle these challenges at their roots. This new Feed the Future Progress Report highlights our real progress and impact like never before and shows how Feed the Future’s modern, rigorous approach to advancing global food security is working, from farms to markets to tables.

Download our second progress report (pdf, 8.1mb) to read more about Feed the Future’s results in fiscal year 2012. Learn more about how we’re doing development differently and holding ourselves accountable in our second Feed the Future scorecard.

Download PDF

FEED THE FUTURE GOAL

Sustainably Reduce Global Poverty & Hunger

INDICATORS:
- Prevalence of poverty &
- Prevalence of underweight & stunted children
Focus vs. Aligned countries
High Level Objective:
Inclusive agriculture sector growth

- Agriculture Sector GDP
- Per capita expenditures in rural households
- Women’s Empowerment in Agriculture Index

Increased private investment in agriculture and nutrition activities
- Value of new private investment in ag sector or value chain
- % pub. expenditure on ag. and nutrition
- # of local firms/CSO operating sustainably

Increased employment opportunities in targeted value chains
- Jobs created by investment in agricultural value chains
- Household Hunger Scale

Expanded markets and trade
- Percent change in value of intra-regional exports of targeted commodities
- Value of incremental sales (farm-level)

Definition of Food Security

Feed the Future Goal: Sustainably Reduce Global Poverty and Hunger

- Prevalence of poverty
- Prevalence of underweight children

High Level Objective:
Improved nutritional status esp. of women & children

- Prevalence of stunted children
- Prevalence of wasted children
- Prevalence of underweight women

Programs and policies to reduce inequities
- Improved access to diverse and quality foods
- Dietary diversity for women and children

Programs and policies to support positive gains in nutrition
- Exclusive breastfeeding under six months
- Prevalence of maternal anemia

Stability
- Improved use of maternal and child health and nutrition services

Utilization
- Programs and policies to support positive gains in nutrition

Access
- Programs and policies to increase access to markets and facilitate trade

Availability
- Programs and policies to support agriculture sector growth
Results Framework & Theory of Change

FEED THE FUTURE GOAL
Sustainably Reduce Global Poverty & Hunger

INDICATORS:
Prevalence of poverty &
Prevalence of underweight & stunted children

OBJECTIVE
INCLUSIVE AGRICULTURE SECTOR GROWTH

AVAILABILITY
- Improved agricultural productivity
- Expanded markets & trade

STABLE ACCESS
- Increased investment in agriculture & nutrition-related activities
- Increased employment opportunities in targeted value chains

UTILIZATION
- Increased resilience of vulnerable communities & households
- Improved access to diverse & quality foods

OBJECTIVE
IMPROVED NUTRITIONAL STATUS
(WOMEN AND CHILDREN)

- Improved nutrition-related behaviors
- Improved use of maternal & child health & nutrition services
Performance Monitoring

- Tracks outputs, outcomes, and impacts of FTF activities, over time, with results reported in FTFMS
- Guided by Feed the Future Results Framework
Key Priorities of FTF Performance Monitoring

- Efficiency
- Sustainability
- Accuracy

- Standardization and Alignment
- Data Quality, Capacity & utilization
- Scientific Rigor and Precision
Performance Indicators

16 population level in FTF Zone of Influence (population-based survey)

4 national/regional level (existing sources)

33 project level (implementers)

53 total FTF Indicators
# Three Classes of Monitoring Indicators

<table>
<thead>
<tr>
<th>Indicator Type</th>
<th>Population Type</th>
<th>Collection Method</th>
<th>Collection Frequency</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZOI</td>
<td>Population of the ZOI</td>
<td>Population-Based Survey</td>
<td>Baseline, mid-term, final</td>
<td>Prevalence of Poverty</td>
</tr>
<tr>
<td>NTL</td>
<td>National/Regional Conditions</td>
<td>Secondary Data Sources</td>
<td>Annually</td>
<td>Percent change in Ag GDP</td>
</tr>
<tr>
<td>IM</td>
<td>USG Direct Beneficiaries</td>
<td>Implementing Partners</td>
<td>Annually</td>
<td>Gross margin</td>
</tr>
</tbody>
</table>

* See indicator handbook for which indicators fall into each class
### ZOI Population-based Indicators

1. **Prevalence of Poverty:** % of people living under $1.25/day
2. **Per capita expenditures**
3. **Women’s Empowerment In Agriculture Index**
4. **4 Anthropometric Indicators** - Child stunting, underweight, wasting, Women’s BMI
5. **2 Dietary Diversity Indicators** - Women’s DD Score, Minimum Adequate Diet 6-23mo
6. **Prevalence of exclusive breastfeeding**
7. **Prevalence of anemia among women and children**
8. **Household Hunger Scale**

- Aligned with Living Standards Measurement Study and Demographic and Health Survey methods
- Collected Baseline (~2012), Mid-term (2015) and final (2017)
- NOT 100% attributable
## Alignment with other Organizations for Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevalence of Poverty: % living under $1.25/day</td>
<td>LSMS - ISA</td>
</tr>
<tr>
<td>Per capita expenditures of rural households</td>
<td>LSMS - ISA</td>
</tr>
<tr>
<td>Women’s Empowerment In Agriculture Index</td>
<td>New (USAID/partners)</td>
</tr>
<tr>
<td>4 Anthropometric Indicators</td>
<td>DHS</td>
</tr>
<tr>
<td>2 Dietary Diversity Indicators</td>
<td>DHS</td>
</tr>
<tr>
<td>Prevalence of exclusive breastfeeding</td>
<td>DHS</td>
</tr>
<tr>
<td>Household Hunger Scale</td>
<td>DHS</td>
</tr>
<tr>
<td>Prevalence of anemia among women and children</td>
<td>DHS</td>
</tr>
</tbody>
</table>
National/Regional Indicators

• 4 Indicators
• Contextual
• 3.1.9.3-1 Percentage of national budget to nutrition (RiA)
• 4.5-12 Percentage of national budget to agriculture (RiA)
Annual reporting Indicators

- 33 Indicators
- Implementing mechanism-level
- Measure **direct beneficiaries** only
- Provide important information on reach; uptake of improved technologies (by individuals and organizations, and in hectares); production, area, cost of production and sales of targeted crops; loans and investment…
The FTF Learning Agenda is a set of questions about food security programs that FTF aims to answer through evaluations.
Resources

- BFS MEL Technical Advisors
- www.FeedtheFuture.gov/progress
  - FTF Guidance, results, external links
  - Indicator Handbook
  - Ag Indicator Guide
- www.agrilinks.org
  - Technical resources, webinars, blog posts
- ProgramNet (USAID only)
## BFS MEL Technical Advisors

<table>
<thead>
<tr>
<th>Region/country</th>
<th>BFS M&amp;E POC</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh, Cambodia, and Nepal</td>
<td>Salik Farooqi</td>
<td><a href="mailto:sfarooqi@usaid.gov">sfarooqi@usaid.gov</a></td>
</tr>
<tr>
<td>Ethiopia, Kenya, Tanzania</td>
<td>Farzana Ramzan</td>
<td><a href="mailto:framzan@usaid.gov">framzan@usaid.gov</a></td>
</tr>
<tr>
<td>Asia Aligned</td>
<td>Lindsey Anna</td>
<td><a href="mailto:lanna@usaid.gov">lanna@usaid.gov</a></td>
</tr>
<tr>
<td>Tajikistan, Rwanda, Uganda</td>
<td>Tatiana Pulido</td>
<td><a href="mailto:tpulido@usaid.gov">tpulido@usaid.gov</a></td>
</tr>
<tr>
<td>West Africa except Nigeria, and Haiti</td>
<td>Madeleine Gauthier</td>
<td><a href="mailto:mgauthier@usaid.gov">mgauthier@usaid.gov</a></td>
</tr>
<tr>
<td>Nigeria</td>
<td>Jessica Cagley</td>
<td><a href="mailto:jcagley@usaid.gov">jcagley@usaid.gov</a></td>
</tr>
<tr>
<td>Southern Africa</td>
<td>Anne Swindale</td>
<td><a href="mailto:aswindale@usaid.gov">aswindale@usaid.gov</a></td>
</tr>
<tr>
<td>Latin America &amp; Caribbean, except Haiti</td>
<td>Lindsey Anna</td>
<td><a href="mailto:lanna@usaid.gov">lanna@usaid.gov</a></td>
</tr>
<tr>
<td>BFS and Regional Missions</td>
<td>Lesley Perlman</td>
<td><a href="mailto:lperlman@usaid.gov">lperlman@usaid.gov</a></td>
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</tbody>
</table>
FEED THE FUTURE
The U.S. Government’s Global Hunger & Food Security Initiative
Session 2: Developing Your Activity Theory of Change and Results Framework
What is a “theory of change”?

• A theory of change describes a process of desired change.

• A theory of change contains a set of hypotheses, outcomes, and assumptions that make up causal pathways of change needed to bring about a desired long-term goal.

• What are hypotheses?
Why do we need a Theory of Change?

- To build a common understanding around the process needed to achieve a desired change.
- To make explicit how activities and outputs will interact within the context.
- To highlight gaps and intellectual leaps in assumptions.
- To help identify critical junctures in the change process.
- To have a conceptual map that articulates underlying assumptions, and the links between actions and outcomes.
- To identify critical areas addressed by external actors and how the program will link to them.
- To provide a detailed map showing pathways of change (e.g., how multiple activities will lead to achievement of short and longer term goals).
Elements of a Theory of Change

- Problem statement
- Causal analysis
- Long-term goal
- Pathways of change
- Assumptions
- Stakeholder analysis
- Interventions
Problem Statement

• Define the Problem Statement
  – What
  – Who
  – Where

• Examples:
  – High stunting in children under five living in Haka province
  – Low income for small-business women living in Dera city
Causal Analysis

• Conduct causal analysis
  • What are the main causes of the problem you have identified?
  • Map the key underlying causes of the problem, and create a causal stream. Make sure to include all significant social, economic, political, historical, cultural, and geographic factors.
Example of a Causal Stream

Start here. What is the cause of this?

Problem: Low Farm Family Income

Cause: Declining Crop Yields

Cause: Severe Soil Erosion

Cause: Farmers use improper plowing techniques

Cause: Farmers unaware of benefits of contour plowing

Cause: No access to extension services or information

This is the cause. Now, what causes this?

Continue down the causal pathway.
Long-term Goal

• Identify the Long-Term Goal

  – Enduring impact in the lives of the target group
  – E.g. Stunting eliminated amongst children under 5 in Haka province
Pathway of Change

• Identify Domains of Change
• Map pathways of change within these domains
• Pathways of change show sequential outcomes or conditions that must be realized before the next higher outcome in the chain can be achieved.
Pathway of Change

• Numerous outcomes are part of each pathway of change, and contribute to the long-term goal

• Multiple pathways lead towards the long-term goal.
Goal: Improved food security for rural households

Problem: Food insecurity among poor rural households

Pathways of Change

Stakeholders

Assumptions

- Improved livestock production
  - Outcome
  - Outcome
  - Outcome

- Improved crop productivity
  - Outcome
  - Outcome
  - Outcome
  - Outcome
Map a Pathway of Change

Goal: Improved food and income security for crop-based livelihoods in rural districts of Nueva Rivas

- Increased crop production
  - Reduced post-harvest loss
  - Improved soil fertility
  - Reduced reliance on non-adapted varieties
  - Increased investment in small-scale irrigation
- Increased income
  - Increased market utilization
  - Increased use of financial services

- Improved market information systems
- Improved entrepreneurial literacy

- Increased access to farm inputs
- Increased access to market infrastructure
- Increased access to extension services
- Increased access to business development services
- Improved access to financial services

- Assumption: Climate change
- Government policy support/advocacy
- Improved infrastructure and public services

- A: Regular exposure to flooding/drought
- A: limited access to education
- R: Low literacy & numeracy limits entrepreneurial development/aspiration
Assumptions

• Pathways of Change are based on assumptions.

• Assumptions are underlying conditions that are important to the success of a pathway, but are beyond your control.

Use available evidence to support/form assumptions.
Stakeholder analysis

- Identify potential stakeholders (social, economic, political, cultural actors) and their level of interest
- Assess each stakeholder’s power and influence and how this affects each pathway of change
- Identify assumptions related to stakeholder power
Interventions

• The Theory of Change helps identify the most critical, or strategic interventions.

• Three components of the ToC process will help select a pathway of change and set of interventions:
  – a thorough review of necessary and sufficient outcomes (Assumptions)
  – a good understanding of your manageable interest and timeline of action available to you
  – a good understanding of stakeholder interests
Test your Theory of Change by asking is it...

- Plausible
- Feasible
- Testable
Group Work

1. Review the NUTSENAG case study, with a particular focus on the Theory of Change section

2. Draw the NUTSENAG Theory of Change clearly illustrating:
   - The Problem Statement
   - Causal Stream
   - Long-term Goal
   - Pathway(s) of Change
   - Assumptions
   - Stakeholder(s)
   - Interventions
Plausible • Feasible • Testable
Theory of Change: Redux

- Recall that a Theory of Change helps us identify the problem we want to focus on, the root causes of it, our long-term goal, pathways to achieve our long-term goal, and assumptions that undergird those pathways.

- And then, it helps us choose the pathway(s) we want to focus on, and then it helps us identify the most critical or strategic interventions to implement.
Theory of Change to Results Framework

Move from the things we wish to achieve
to the activities and actions needed to achieve them
Theory of Change vs. Results Framework: Theory of Change

• **Broad:** Shows all domains and pathways that may reach a goal, including those the project/activity will not/cannot directly address.

• **Non-linear and adaptive**

• **Describes conditions** and rationales/ reasons for linkages that lead to the problem, and along pathways of change towards our long-term goal.

• Used for understanding “the big picture”
Theory of Change vs Results Framework: Results Framework

- **Specific:** Based on specific pathway(s) of change that the project/activity has chosen, and the specific intervention(s) the project/activity will implement

- **Linear** and **structured**

- Illustrates **outputs, outcomes, and impacts** expected as a result of interventions, via the use of **metrics** and **indicators**

- Used for **focused** and **specific** project/activity monitoring, accountability, and reporting
Theory of Change vs Results Framework: Both

• Assumptions
• Long-term goal
Group Work – Part I

• Identify the key pathway(s) of change and how they are linked to the NUSTENAG activity outputs, outcomes and impacts

• Draw your Results Framework

You have 20 minutes.
Connect your activity to the FTF Results Framework

FEED THE FUTURE GOAL
Sustainably Reduce Global Poverty & Hunger

INDICATORS:
Prevalence of poverty &
Prevalence of underweight & stunted children

OBJECTIVE
INCLUSIVE AGRICULTURE SECTOR GROWTH

OBJECTIVE
IMPROVED NUTRITIONAL STATUS
(WOMEN AND CHILDREN)

Improved agricultural productivity
Expanded markets & trade
Increased investment in agriculture & nutrition-related activities
Increased employment opportunities in targeted value chains
Increased resilience of vulnerable communities & households
Improved access to diverse & quality foods
Improved nutrition-related behaviors
Improved use of maternal & child health & nutrition services
Think about a FTF activity

• What is your Theory of Change?
• What is the Results Framework?
• How does the activity Results Framework relate to the FTF Results Framework?
SUCCESS!
Session 3: Selecting Required if Applicable Indicators for Your Activity Results Framework
Feed the Future Indicator Handbook

Definition Sheets

U.S. Government Working Document

The Feed the Future Indicator Handbook is a working document describing the indicators selected for monitoring and evaluation of the President’s global hunger and food security initiative, Feed the Future.
FEED THE FUTURE GOAL

Sustainably Reduce Global Poverty & Hunger

INDICATORS:
Prevalence of poverty &
Prevalence of underweight & stunted children

OBJECTIVE

INCLUSIVE AGRICULTURE SECTOR GROWTH

- Improved agricultural productivity
- Expanded markets & trade
- Increased investment in agriculture & nutrition-related activities
- Increased employment opportunities in targeted value chains
- Increased resilience of vulnerable communities & households

OBJECTIVE

IMPROVED NUTRITIONAL STATUS
(WOMEN AND CHILDREN)

- Improved access to diverse & quality foods
- Improved nutrition-related behaviors
- Improved use of maternal & child health & nutrition services
Households benefiting from FTF assistance
Smallholder farmers reached

- Improved agricultural productivity
- Expanded markets & trade
- Increased investment in agriculture & nutrition-related activities
- Increased employment opportunities in targeted value chains
- Increased resilience of vulnerable communities & households
- Improved access to diverse & quality foods
- Improved nutrition-related behaviors
- Improved use of maternal & child health & nutrition services
### Children under five reached

- Improved agricultural productivity
- Expanded markets & trade
- Increased investment in agriculture & nutrition-related activities
- Increased employment opportunities in targeted value chains
- Increased resilience of vulnerable communities & households
- Improved access to diverse & quality foods
- Improved nutrition-related behaviors
- Improved use of maternal & child health & nutrition services

### Pregnant women reached
<table>
<thead>
<tr>
<th>Children&lt;2 community-based SBCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved agricultural productivity</td>
</tr>
<tr>
<td>Expanded markets &amp; trade</td>
</tr>
<tr>
<td>Increased investment in agriculture &amp; nutrition-related activities</td>
</tr>
<tr>
<td>Increased employment opportunities in targeted value chains</td>
</tr>
<tr>
<td>Increased resilience of vulnerable communities &amp; households</td>
</tr>
<tr>
<td>Improved access to diverse &amp; quality foods</td>
</tr>
<tr>
<td>Improved nutrition-related behaviors</td>
</tr>
<tr>
<td>Improved use of maternal &amp; child health &amp; nutrition services</td>
</tr>
</tbody>
</table>
Short-term agricultural training
Degree-seeking agricultural training
Farmers/others applying tech/practices
Enterprises/groups assisted
Enterprises/groups applying techs/practices
Technologies under R&D
Nutrition-related professional training

- Improved agricultural productivity
- Expanded markets & trade
- Increased investment in agriculture & nutrition-related activities
- Increased employment opportunities in targeted value chains
- Increased resilience of vulnerable communities & households
- Improved access to diverse & quality foods
- Improved nutrition-related behaviors
- Improved use of maternal & child health & nutrition services
• Gross margin
• Hectares under improved technologies
  • Hectares w/new or improved irrigation/drainage
• Incremental sales
• Agricultural commodities exported
• Firms/CSOs with increased profits/financially self-sufficient
• Agricultural and rural loans
• MSMEs accessing bank loans
• Households with formalized land
• Roads improved or constructed
• Private sector capital investment
• Public-private partnerships
• Full-time equivalent jobs
• Female agriculture beneficiaries consuming diverse diet
• Nutrient-rich value chain commodities for home consumption
Agricultural and nutritional policies developed/implemented
Multi-sectoral nutrition plan or policy exists
Group Work

1. Using the FTF Handbook, identify which RiA indicators apply to NUTSENAG

2. Write each indicator number and a short indicator title on a sticky note

3. Place each indicator where it belongs on the NUTSENAG RF

4. Identify indicator gaps where additional information is needed to appropriately manage and adapt NUTSENAG implementation
Feed the Future Indicator Handbook

Definition Sheets

U.S. Government Working Document

The Feed the Future Indicator Handbook is a working document describing the indicators selected for monitoring and evaluation of the President’s global hunger and food security initiative, Feed the Future.
Who is measured? How to count?

• **Direct** beneficiaries - not indirect
• **Once** - not each time an intervention or benefit is received
  – But with capacity to disaggregate by type of intervention received
<table>
<thead>
<tr>
<th>INDICATOR</th>
<th>UNIVERSE MEASURED</th>
</tr>
</thead>
<tbody>
<tr>
<td># Farmers and others applying improved technologies</td>
<td>Direct beneficiaries (individuals) throughout the value chain</td>
</tr>
<tr>
<td># Hectares under improved technologies</td>
<td>Direct beneficiary crop producers</td>
</tr>
<tr>
<td>Gross margin, Incremental sales</td>
<td>Direct beneficiary smallholder producers</td>
</tr>
<tr>
<td>Nutrition-sensitive activities only</td>
<td></td>
</tr>
<tr>
<td>Female beneficiaries w/minimum diet diversity</td>
<td>Direct beneficiary female producers</td>
</tr>
<tr>
<td>NRVCC set-aside</td>
<td>Direct beneficiary producers of nutrient-rich commodities</td>
</tr>
</tbody>
</table>
If crop cycle straddles two reporting years…

…report results for the suite of related farm-level agricultural indicators in the year the production cycle ends (i.e. when the harvest and sales occur)

Report together

1. # Farmers and others applying improved techs,
2. # Hectares under improved techs,
3. Gross margins,
4. Incremental sales,
5. Female beneficiary MDD,
6. NRVCC set-aside
Production cycle May 16 – Feb 17

- 25% of beneficiaries apply improved technologies
- Gross margin $80/ha
- Incremental sales $25/beneficiary

Production cycle May 17 – Feb 18

- 80% of beneficiaries apply improved technologies
- Gross margin $230/ha
- Incremental sales $174/beneficiary
If multiple crop cycles in the reporting year...

- **Gross margin**
  - *Sum* production, sales, input costs and area planted by commodity *across cycles each time* area is cultivated during reporting year

- **# Farmers and others applying improved technologies**
  - Count farmer *once* if s/he cultivated with an improved technology or management practice in *any cycle* during the reporting year

- **# Hectares under improved technologies**
  - *Sum each time* area is cultivated with an improved technology or management practice during reporting year

- **Incremental sales**
  - *Sum* sales across *all plots, all cycles* during reporting year
Application of improved technologies indicators

• Count beneficiary or hectare **once**
  – Regardless of number of technologies or practices applied
  – Report under each technology or practice applied + once under total with one or more

• Count if **individually applied**
  – Don’t count all group members if applied in a group
  – Only count if individual beneficiary applies on own land/to own animals

• New disaggregate – Commodity

• Technology with **multiple benefits**?
  – Report under multiple Technology Type categories, depending on why it’s being promoted
## Technology Type Categories

<table>
<thead>
<tr>
<th>Category</th>
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<tbody>
<tr>
<td>Crop genetics</td>
<td>Livestock management</td>
</tr>
<tr>
<td>Cultural practices</td>
<td>Wild fishing technique/gear</td>
</tr>
<tr>
<td>Pest management</td>
<td>Aquaculture mgmt</td>
</tr>
<tr>
<td>Disease management</td>
<td>Marketing &amp; distribution</td>
</tr>
<tr>
<td>Soil-related fertility and conservation</td>
<td>Post-harvest handling &amp; storage</td>
</tr>
<tr>
<td>Irrigation</td>
<td>Value-added processing</td>
</tr>
<tr>
<td>Water management-non-irrigation</td>
<td></td>
</tr>
<tr>
<td>Climate mitigation</td>
<td></td>
</tr>
<tr>
<td>Climate adaptation</td>
<td></td>
</tr>
</tbody>
</table>
**Number of hectares under improved technologies**

- **Non-land-based technologies excluded**
  - Animal genetics
  - Fishing gear/technique
  - Post-harvest handling, storage, processing

- **Count demonstration plots?**
  - **Yes**, if cultivated by direct beneficiary farmer
  - **No**, if cultivated by researcher or extensionist
Number of technologies in phases of development

For research (R&D) activities only

- Tracks development of technology until it is ready to be disseminated
- Do NOT use to track technologies actually disseminated
- Doesn’t need to pass through all three phases to be counted
Gross margin

- **Five data points** plus number of **beneficiaries** disaggregate by commodity by sex
  - Unit of production for live animals = all animals in herd
  - Unit of production for dairy = producing animals
- Total production and total quantity (volume) of sales must be comparable:
  - Same **Unit of Measure** e.g. both in kg or both in mt
    - Report this unit of measure in FTFMS
  - Same **Product Form** e.g. both unshelled, both on cob
- Measure across **all beneficiaries** of value chain
Value of incremental sales

• Sales by **small-holder producers only**, not by other actors in value chain (e.g. traders, wholesalers, exporters)

• **Farm level does not equal farm gate.** Producer sales anywhere (e.g. on-farm, local market).

• Can use “Horticulture” category rather than disaggregating each product

• Count **all beneficiaries** of VC activities, not just those that sold some of their production
Value of Agricultural and Rural Loans

• Count only…
  – Cash loans
    • Not in-kind
  – Loans disbursed during reporting year
    • Not entire portfolio
  – Loans from registered financial institutions
    • Not informal entities – e.g. Village Savings and Loan groups.
MSMEs assisted to access loans

• **Not restricted** to bank loans
  – Any financial institution, formal or informal
  – Includes in-kind lenders of equipment/inputs e.g. inputs received on credit from agrodealers
  – Repayment in cash or in kind

• Farmer MSME size based on # workers hired (permanent and/or seasonal) previous 12 months
  – # workers does not have to be FTE
  – Farmer that doesn’t hire = micro-enterprise
Private sector capital investment

• Only *private sector, for-profit, formal* companies
  — not investments made by individuals, e.g. farmers

• Only *capital* investment
  — not investment in operating capital (e.g. inputs, inventory)
Public-private partnerships

• Essential characteristics of PPPs
  – Objective of agreement = **common good**
  – Private sector contribution = **beyond current commercial interests**
    • **expanding** into new products, customer base, or geographies
  – Leverages **additional** private resources beyond “business-as-usual”
    • e.g. increasing capital investment or staff
Number of jobs

- Activities *w/explicit employment creation objectives*
- Employment must be at least **30 consecutive days** minimum (or 20 days if weekends off)
  - Most seasonal labor doesn’t qualify
  - Create custom indicator if you want to track seasonal agricultural labor
- FTE = 12 months or 260 days
Number of children < 5 reached by nutrition programs
Number of children < 2 reached by community-based SBCC
Number of pregnant women reached by nutrition programs

• Count **individual** children and pregnant women
  • not number of contacts
• Count each child or women **once**, regardless of number of interventions received from the activity for **overall indicator and child sex and pregnant woman age disaggregates**
• Count **once for each intervention** received under disaggregate
• Count even if mother/caregiver is direct recipient of intervention
Number of food security private enterprises... producers organizations...etc...receiving USG assistance

• Assistance must be aimed at strengthening capacity of the organization itself
  — Not being used solely as a “service delivery mechanism”
Estimated # and % of FTF beneficiaries holding 5 hectares or less of arable land or equivalent units of livestock (Smallholders)

- Percentage of beneficiaries = % out of total beneficiaries in each disaggregate category that are smallholders
- NOT % of all smallholder beneficiaries that fall in each disaggregate category
Let’s fill in the smallholders reached indicator table:

- A country is directly reaching 200,000 producers
- 90% are smallholders
- 160,000 (80%) are participating in a crop value chain activity
- 40,000 (20%) 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

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Reflection

Think about the information received in this presentation

• Did any of the explanations provided make you wonder whether you or a partner may be reporting incorrectly under any of the indicators?

• If so, write down what steps you will take upon your return to follow up

• If you have conducted a DQA and think you may have missed this, why? How would you change what you ask or look at in the DQA?

• You have 10 minutes.
FEED THE FUTURE
The U.S. Government’s Global Hunger & Food Security Initiative
Session 4: Creating Measurable Custom Indicators
The FTF Indicator Framework is large... but not all encompassing... and it’s a good thing!
Creating an indicator

Answer key questions:

• What?
• Why?
• How?
• By whom?
• When?
Creating an indicator

And keep in mind…

• Specificity
• Measurability
• Cost
Activity 1: Identifying Customer Indicators

• Identify custom indicators that fill gaps in your NUTSENAG Results Framework

• Your rationale for creating the indicator

• How the indicator addresses
  – Specificity
  – Measurability
  – Cost

Take 15 minutes
Prepare to share
Exercise 2 – Write a PIRS!

• Individually
  – Choose a NUTSENAG custom indicator
  – Complete the PIRS template in your workbook for the indicator

• With your group
  – Share your custom indicator
  – Get feedback
Individual Application

Think of an FTF activity you are working on.
• Do you need to create any custom indicators?
• Draft a PIRS for the indicator

Get feedback on your PIRS
• With a partner, share your PIRS
• Get feedback on how it meets the criteria of being specific, measurable and cost effective.
Session 5: Defining Beneficiaries, Baselines and Targets
Identify direct and indirect beneficiaries of Feed the Future activities
A direct beneficiary...

...is an individual or organization that directly receives significant goods or services with support from the activity.

Significant direct contact...

...includes people trained through “cascade” and other peer-to-peer training and demonstration strategies, mothers/fathers/other caregivers reached with behavior change counseling about their children, and farmers reached through market-level interventions.
DIRECT BENEFICIARIES

HOUSEHOLDS THAT BENEFIT
Direct beneficiaries

Facilitation Activity

Secondary Contacts

Primary Contacts

Copying

Crowding-In

Indirect beneficiaries

Market System

Intervention

Demonstration

Imitation

Adaptation

Employment

Multiplier Effects
Direct or indirect?

- Think about the **service delivery mechanism**
- Think about being **held accountable for changes** in behaviors and other outcomes
Establishing baselines
Baselines for activity-level **outcome** indicators

- Should reflect **conditions among direct beneficiaries prior to activity**
  - Annual **results** are what happened with USG assistance

- Only enter 0 if what indicator is measuring was in fact 0
  - e.g. no direct beneficiaries were cultivated any land with any of the activity-promoted technologies before the project started
Value of incremental sales (at farm level)

- Captures the **increase** in sales with our support
  – factors in what beneficiaries were selling before the activity started

- **Cannot be calculated** if value of baseline sales or number of baseline beneficiaries is missing
  – Baseline not available? Use **reporting year sales and number of beneficiaries from the first year** as the baseline values.
Overestimating incremental sales because of:

• growth in the number of beneficiaries
• baseline sales of new beneficiaries not reflected in baseline sales value.

FTFMS adjusts by calculating:

average baseline sales per beneficiary $\times$

number of reporting year beneficiaries =

adjusted baseline sales

reporting year sales - adjusted baseline sales =

adjusted incremental sales
Calculate Reporting Year:

1. **Unadjusted Incremental Sales** = reporting year sales – baseline sales

2. **Adjusted baseline sales** = baseline sales / baseline beneficiaries × reporting year number of beneficiaries

3. **Adjusted Incremental Sales** = reporting year sales – adjusted baseline sales

4. Graph the results in a stacked bar chart with two bars: unadjusted and adjusted. Total height of bar = reporting year sales; divide each bar into two sections: baseline sales and incremental sales. Label each section with the associated value.

<table>
<thead>
<tr>
<th></th>
<th>Sales</th>
<th># beneficiaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>120,000</td>
<td>4,000</td>
</tr>
<tr>
<td>Reporting Year</td>
<td>1,250,000</td>
<td>25,000</td>
</tr>
</tbody>
</table>
Unadjusted and Adjusted Incremental Sales

Unadjusted
- Sales: 1,130,000
- Baseline sales: 120,000

Adjusted
- Sales: 500,000 + 750,000
- Incremental sales: 750,000
When to establish baselines:

—First year of implementation, before interventions influence the outcome
How to establish baselines

• Collect baseline information from each **first year** beneficiary upon enrollment OR

• Wait until **first year** list of beneficiaries has been developed. Collect baseline data from sample of direct beneficiaries OR

• Sample “**likely**” beneficiaries
  – no list of beneficiaries is available
  – partner wants to collect data before the list is available
  – partner wants more representative sample of beneficiaries
  – extrapolate sample average X number of year one beneficiaries
Baseline Challenges

Activity- and self-**selection bias** can occur with either approach

• Possibly not representative of final group of beneficiaries
  – **People selected** to participate
  – **People who decide** to participate
First year’s beneficiaries

- **Better-off and more ambitious** than later beneficiaries
  - Lead farmers, early adopters compared with later adopters
- Population more **easily accessed**
- Likely to **overestimate average values** of broader group of beneficiaries
- Can particularly affect incremental sales
Sample of “likely” beneficiaries

- Difficult to identify and operationalize activity selection criteria
  - Subjective criteria often used e.g. does the group seem to want to work with us?
- People who choose to participate often different as a group from those who don’t
  - Observable (but not necessarily known by activity) and unobservable characteristics (less risk adverse)
- Likely to underestimate average values
So what to do?

- **Continue as is?**
  - Be transparent about limitations

- **Replace incremental sales baseline with year two actuals** if group of beneficiaries and average sales per beneficiary is very different?

- Compute **rolling baselines**?
Group Activity:

For your assigned challenge, brainstorm the pros and cons.

- Topic #1 - Replace incremental sales baseline?
- Topic #2 - Compute rolling baselines?

Think about implications for implementing partner information systems, previous year’s results already reported publicly, and audits.

On a flipchart report your arguments and be prepared to share three points you would like to share in plenary.
Setting Targets
Let’s talk about...

• What is a target (in relation to baseline) and why it is important
• Outcome vs. output indicator targets
• Tools for setting outcome targets
• Tools for setting output targets
• Setting and revising targets – approach, timing, responsibilities
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.
• Targets are meaningful in relation to a baseline and a timeline:
  – The number of ha planted under improved technology or management practice will increase 3 folds in 5 years
• But they can be expressed in different ways. FTF activity-level indicators have annual targets and are expressed as:
  – The number of ha planted under improved technology or management practice will reach 60,000 in FY17 from 20,000 in FY12
USAID Policy on Performance Targets (ADS 203.3.9)

- Required for performance indicators, but not context indicators
- They should be ambitious, yet achievable
- Document the rationale behind your target setting
- Targets should be expressed in the same unit as the baseline and actuals.
- FTF requirements for disaggregates
  - Sex disaggregate
  - Technology type
Setting Targets

• The task is to set targets that are
  – reasonable
  – meaningful
  – useful

• General considerations

• Tools
General considerations in setting targets

- Understand the universe and context of the indicator
- Targets should not be set, or revised, in isolation
- Be transparent and engage your stakeholders. Be clear on the difference between individual activity targets and aggregate ones
3.1.9.(15) Number of children under five reached by USG-supported nutrition programs - NUTSENAG Annual Targets
4.5(16) Gross Margins, Soybeans
- NUTSENAG Annual Targets
4.5.2(23): Value of incremental sales (collected at farm-level) attributed to FTF implementation - NUTSENAG Annual Targets

US$
Tools for setting targets

• Historical data: Trend analysis
• Min/Max analysis
• Benchmarking
• Disaggregation Analysis
• CBA
Historical Data: Trend Analysis

• Is historical data available?
  – For what administrative level?
  – Does it include your focus value chains?

• Do you have enough data points to detect a trend if one exists?

Too few data points can be misleading!
Trend Analysis

• Example: a smooth upward sloping trend
Trend Analysis – Cont’d

• Example: no clear pattern
Benchmarking and Similar Context Analysis

• If you have insufficient data for your country or context, it can be useful to look at data from similar contexts

• In order to understand how to compare, a finer analysis of what factors affect the outcome of interest (measured by the indicator) is necessary
Min/Max Analysis

• Estimate what the maximum and minimum value could be for the indicator

Ex: Value of incremental sales

Maximum =
• Highest possible yields x
• Largest area of a smallholder x
• Highest price

Minimum = 0
Disaggregation Analysis

• Disaggregating/Analyzing the data
  • By type of farmers
  • By sex
  • By technology type
  • By region/district (ZOI); agro-ecological zone; rural/urban
Cost-Benefit Analysis

Use an existing CBA to

• Identify underlying assumptions that you should be monitoring

• Extract parameters and assumptions that you need to verify empirically during implementation and possibly adjust in the model

• Derive targets that are consistent with the projections of the model
Deriving Targets from CBA Model

4 + 1 indicators:

- 4.5.2-5: Nb of farmers and others who have applied improved techniques
- 4.5.2-2: Nb of ha under improved techniques
- 4.5-16,17,18: Gross margin
- 4.5.2-23: Value of incremental sales
- [4.5.2-7: Nb of individuals trained]
<table>
<thead>
<tr>
<th>Parameters</th>
<th>Year</th>
<th>0</th>
<th>1</th>
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<tr>
<td>Targeted new beneficiaries by year</td>
<td></td>
<td>11,038</td>
<td>17,291</td>
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<td>30%</td>
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### Total Number of Trained Farmers Applying Technology

<table>
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<tr>
<th># of farmers trained in Y0 - Applying</th>
<th>3,311</th>
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**Total farmers applying technology:**

|                               | 3,311 | 10,154 | 22,682 | 32,560 | 40,000 |

**New farmers applying:**

|                               | 3,311 | 6,843 | 12,528 | 10,044 | 7,781 |

**Continuing farmers:**

|                               | 3,311 | 10,154 | 22,516 | 32,218 |       |

**Farmers who stopped applying:**

|                               | 166   | 342   |       |       |       |

**Total # of trained farmers - NOT Applying:**

|                               | 7,726 | 18,175 | 33,241 | 34,400 | 33,583 |

**Farm size (avg.):**

|                               | 1.5   |

**Total hectares applying:**

|                               | 4,967 | 15,232 | 34,023 | 48,841 | 60,000 |
## Parameters

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### New farmers applying

- Total: 7,726

### Continuing farmers

- Total: 34,400

### Farmers who stopped applying

- Total: 33,583

### Farm size (avg.)

- Total: 1.5

### Total hectares applying

- Total: 60,000
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<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>3,311</td>
<td>10,154</td>
<td>22,682</td>
<td>32,560</td>
</tr>
<tr>
<td>Parameters</td>
<td>Year&lt;&lt;&lt;&lt;&lt;</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>-----------</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Targeted new beneficiaries by year</td>
<td></td>
<td>11,038</td>
<td>17,291</td>
</tr>
<tr>
<td>Adoption rate (from first year of training)</td>
<td></td>
<td>30%</td>
<td>15%</td>
</tr>
<tr>
<td>Drop-out rate (from first year of application)</td>
<td></td>
<td>5%</td>
<td>5%</td>
</tr>
</tbody>
</table>

**Total Number of Trained Farmers Applying Technology**

| # of farmers trained in Y0 - Applying | 3,311 | 4,967 | 6,623 | 6,457 | 6,374 |
| # of farmers trained in Y1 - Applying   | 5,187 | 7,781 | 10,375 | 10,115 |
| # of farmers trained in Y2 - Applying   | 8,278 | 12,417 | 16,556 |
| # of farmers trained in Y3 - Applying   | 3,311 | 4,967 | 4,967 | 1,987 |
| # of farmers trained in Y4 - Applying   |       |       |       |       |       |

Total farmers applying technology: 8,311 10,154 22,682 32,560 40,000

New farmers applying: 3,311 6,843 12,528 10,044 7,781
Continuing farmers: 3,311 10,154 22,516 32,218

Farmers who stopped applying: 166 342

**Total # of trained farmers - NOT Applying**

|                  | 7,726 | 18,175 | 33,241 | 34,400 | 33,583 |

Farm size (avg.): 1.5

Total hectares applying: 4,967 15,232 34,023 48,841 60,000
<table>
<thead>
<tr>
<th>TABLE OF PARAMETERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>WITHOUT PROJECT - YAMS</td>
</tr>
<tr>
<td><strong>Discount Rate</strong></td>
</tr>
<tr>
<td><strong>Production Information</strong></td>
</tr>
<tr>
<td>Price (Year 0)</td>
</tr>
<tr>
<td>Price (Years 1 - 9)</td>
</tr>
<tr>
<td>Yield</td>
</tr>
<tr>
<td>Additional Yield Year 1 - 9</td>
</tr>
<tr>
<td>Household Consumption</td>
</tr>
<tr>
<td><strong>Costs</strong></td>
</tr>
<tr>
<td>Seeds</td>
</tr>
<tr>
<td>Fertilizer</td>
</tr>
<tr>
<td>Land Rent (opportunity cost)</td>
</tr>
<tr>
<td>Irrigation</td>
</tr>
<tr>
<td>New Investment (Year 0 only)</td>
</tr>
<tr>
<td>Depreciation (Y1+)</td>
</tr>
<tr>
<td>Family Labor (opportunity cost)</td>
</tr>
<tr>
<td>Hired Labor</td>
</tr>
<tr>
<td>Wage Rate</td>
</tr>
<tr>
<td><strong>Farm Characteristics</strong></td>
</tr>
<tr>
<td>Farm Size</td>
</tr>
<tr>
<td>Average HH Size</td>
</tr>
<tr>
<td>WITH PROJECT - YAMS</td>
</tr>
<tr>
<td><strong>Production Information</strong></td>
</tr>
<tr>
<td>Price</td>
</tr>
<tr>
<td>Price (Years 1 - 9)</td>
</tr>
<tr>
<td>Yield</td>
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<td>Additional Yield Year 1 - 9</td>
</tr>
<tr>
<td>Household Consumption</td>
</tr>
<tr>
<td><strong>Costs</strong></td>
</tr>
<tr>
<td>Seeds</td>
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<td>Fertilizer</td>
</tr>
<tr>
<td>Land Rent (opportunity cost)</td>
</tr>
<tr>
<td>Irrigation</td>
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<tr>
<td>New Investment (Year 0 only)</td>
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</tr>
<tr>
<td>Family Labor (opportunity cost)</td>
</tr>
<tr>
<td>Hired Labor</td>
</tr>
<tr>
<td>Wage Rate</td>
</tr>
<tr>
<td><strong>Farm Characteristics</strong></td>
</tr>
<tr>
<td>Farm Size</td>
</tr>
<tr>
<td>Average HH Size</td>
</tr>
</tbody>
</table>
Deriving gross margin

4.5(16,17,18): Gross margin per hectare, animal or cage of selected product (USD/HA)

- Hectares planted (for crops); Number of animals (for milk, eggs); or Area (ha) of ponds or Number of crates (for fish)
- Total Production (mt)
- Value of Sales (USD)
- Quantity of Sales (mt)
- Purchased input costs (USD)

[Prod * (value sales/vol. sales)] – input costs

Unit of production
<table>
<thead>
<tr>
<th>TABLE OF PARAMETERS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WITHOUT PROJECT - YAMS</strong></td>
</tr>
<tr>
<td><strong>Discount Rate</strong></td>
</tr>
<tr>
<td><strong>Production Information</strong></td>
</tr>
<tr>
<td>Price (Year 0)</td>
</tr>
<tr>
<td>Price (Years 1 - 9)</td>
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<tr>
<td>Household Consumption</td>
</tr>
<tr>
<td><strong>Costs</strong></td>
</tr>
<tr>
<td>Seeds</td>
</tr>
<tr>
<td>Fertilizer</td>
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<tr>
<td>Land Rent (opportunity cost)</td>
</tr>
<tr>
<td>Irrigation</td>
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<tr>
<td>New Investment (Year 0 only)</td>
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<tr>
<td>Depreciation (Y1+)</td>
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<tr>
<td>Family Labor (opportunity cost)</td>
</tr>
<tr>
<td>Hired Labor</td>
</tr>
<tr>
<td>Wage Rate</td>
</tr>
<tr>
<td><strong>Farm Characteristics</strong></td>
</tr>
<tr>
<td>Farm Size</td>
</tr>
<tr>
<td>Average HH Size</td>
</tr>
</tbody>
</table>
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.
Exercise on Setting Targets

• ANSFA, the NUTSENAG implementer, needs to set annual targets for their FTF indicators and hires you to help.

• You are provided with the design documents that set some overall goals and the baseline survey results.

• You set up a team of 5-6 ensuring that you have a mix of Excel proficiency levels within your team.
Objective of the exercise

• Using the baseline results and a set of overall objectives and assumptions for the implementation of NUTSENAG, set annual targets for the 5 years of implementation 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
Objective of the exercise - cont’d

• Complete the tab “FTFMS Data” for the 3 indicators, including baseline and annual targets

• Document any additional assumptions you need to make to set the targets

• Note how assumptions should be monitored and how these might affect the targets.
Individual Reflection

• What are your key learnings from this session?

• Think about a FTF activity you are working on:
  – Who are the direct beneficiaries?
  – The indirect beneficiaries?
  – How will you determine your baselines?
  – What targets will you set?
FEED THE FUTURE
The U.S. Government’s Global Hunger & Food Security Initiative
Session 6: Collecting Performance Monitoring Data
Gantt Charts

• Activities
  – Shows you what needs to be done

• Time lines
  – Shows you when activities need to be done
Remember:

Careful planning of data collection activities is critical.

Any mistakes made early in the process, once made, cannot be corrected further down the line because each step builds on the last.

*Measure twice...*
‘Diagramming’ your indicators

…or, how to identify all of the pieces of information you need to collect to report on your indicator
INDICATOR EG.3.3-10:
Percentage of female direct beneficiaries of USG nutrition-sensitive agriculture activities consuming a diet of minimum diversity

Starting point:
The woman ate foods.

Add details on:
Who, what, where, when?
INDICATOR EG.3.3-10:
Percentage of female direct beneficiaries of USG nutrition-sensitive agriculture activities consuming a diet of minimum diversity

“The woman ate foods.”
INDICATOR EG.3.2-18: Number of hectares under improved technologies or management practices (independent practice)

Starting point:
The farmer applied the technology/practice to crops on [x] hectares of land.

Add details on:
Who, what, where, when?
**INDICATOR EG.3.2-18:**
Number of hectares under improved technologies or management practices
*(answer to independent exercise)*

<table>
<thead>
<tr>
<th>farmer</th>
<th>applied</th>
<th>technology/practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>the</td>
<td>to crops</td>
<td>technology/practice</td>
</tr>
<tr>
<td>direct beneficiary</td>
<td>soy</td>
<td>d.o.</td>
</tr>
<tr>
<td>male/female</td>
<td>groundnut</td>
<td>on (units)</td>
</tr>
<tr>
<td>four</td>
<td>in (seasons)</td>
<td></td>
</tr>
<tr>
<td>big rainy</td>
<td>dry</td>
<td></td>
</tr>
<tr>
<td>little rainy</td>
<td>CG7 seed</td>
<td></td>
</tr>
<tr>
<td>crop rotation</td>
<td>SoyG1 seed</td>
<td></td>
</tr>
<tr>
<td>inoculant</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

“The farmer applied the technology/practice to crops on \([x]\) hectares of land.”
Questionnaire Design
Questionnaire Design – Content: Information needs

• What standard indicators do you need to measure?
• What custom indicators do you need to measure?
• What other information do you need?
  • Required/desired disaggregates
  • Other information you may want for further analysis to inform your programming beyond just reporting on indicators
• Who do you need to ask?
Questionnaire Design - Content:
Reflecting activity objectives

Key question:
“What is the objective of your activity?”

Just because an indicator is phrased broadly doesn’t mean you collect data that captures only broad/general information: reflect your activities.
Questionnaire Design: Exercise

INSTRUCTIONS:

• Organize into groups of 3-4

• Review the sample questionnaire and find 10 reasons why it can’t be used to collect data for the “hectares under improved technology” indicator

• First team with all 10 problems correctly identified wins a prize (!)
Questionnaire Design - Content:
The Questionnaire Appraisal System
(Willis and Lessler 1999)

• Designed to assist in evaluating survey questions, and in finding and fixing problems

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

• Goal: improve efficiency of questionnaire review process

• Complements & improves pretest and pilot exercises
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.
Questionnaire Design - Content:
“Let’s just use questions from...”

- Pros?
- Cons?

Please ensure participation of a trained survey methodologist with expertise in questionnaire design when developing your questionnaire...If you wouldn’t hire an accountant to upgrade your home’s electrical wiring, you shouldn’t ask a project manager to design your questionnaire.
Conversions
Questionnaire Design: Formatting

Importance of formatting for data quality:

- Alignment
- ALL CAPS vs. sentence case
- Responses as proximate to questions as feasible
- Intros to each question to explain what the next questions are about
- Use of brackets and parentheses
- Page numbers [x of y]
Questionnaire Design: Standardization and translation

• All questions have to be asked of the same eligibility-type respondent across every household, using the same words or properly translated versions thereof.

• No translation on the fly!
Individual Application

Think about an FTF activity in which you will need to collect data...

...draft a Gantt Chart for the activity
Measuring Area
**Accuracy:** No measurement is perfect and there will always be some degree of error - the key is to control/reduce error and increase accuracy following best practices.

**Direct Measurement and Estimation:** Physically measure the farmer’s plot versus estimate area of production by “experts” and/or farmer’s estimates.

**Level of measurement:** Is farmers’ plots – not necessarily their entire fields.

- **plot** = single piece of land on which a **particular crop** is grown. “Crop-plot combination” is measured separately.
- **Noncontiguous** plots of the **same** crop are added together.
Measuring Area

Pacing: Walking at a normal gait and counting the number of steps to cover the distance of a plot.

Farmer’s Estimates: Farmer provides estimate of the surface area farmed.

Tape and Compass: Measuring tape and compass are used to measure plot area.

Remote Sensing: Use of satellite imagery to measure area.

GPS: Capturing geographic location data with a Global Positioning System unit (positions on the earth) to measure area.
Measuring Area

The Case for Collecting Geospatial Data

- Collecting Global Positioning Systems (GPS) measurements and combining with Geographic Information Systems (GIS) data can add value to the project (deeper-dive analysis), inform follow-on, performance management, and serve as a resource for other cross-cutting projects and analysis.

GPSd plots (1,2,3) and Measurement of NDVI in grapes using USDA FSA 1-meter resolution aerial imagery. Note the bright yellow areas in the NW corner of plot #2 which indicates a low NDVI value/crop stress.
# Measuring Area

Comparison of techniques for measuring area

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

*Quality varies with the quality of the equipment used.*
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?
Measuring Area

Questions and Answers
Using Geospatial Data

What if you wanted to know about lower secondary completion rates in Ghana?

What you typically see:

What else might you want to know?

- Are rates different for males and females?
- How do urban and rural populations compare?
- Where is education lacking?

Data source: EPDC extraction of DHS dataset 2009
Breaking down secondary school completion

One number is a start, but isn’t very informative:

<table>
<thead>
<tr>
<th>20%</th>
<th>40%</th>
<th>60%</th>
</tr>
</thead>
<tbody>
<tr>
<td>total</td>
<td>national average</td>
<td>46%</td>
</tr>
</tbody>
</table>
On average, there’s no difference between males and females:

<table>
<thead>
<tr>
<th>sex</th>
<th>46%</th>
<th>male</th>
<th>female</th>
<th>46%</th>
</tr>
</thead>
<tbody>
<tr>
<td>total</td>
<td>20%</td>
<td>40%</td>
<td>60%</td>
<td>46%</td>
</tr>
</tbody>
</table>

[Diagram showing gender distribution with 46% for both males and females]
Lower secondary school varies substantially by sex:

- Greater Accra: females higher
- Asante: males higher
- Central
- Eastern
- Western
- Volta
- Brong-Ahafo
- Upper East
- Northern
- Upper West

Worse: 20%  →  National average: 40%  →  Better: 60%

SOURCE: 2011 Ghana Multiple Indicator Cluster Surveys
Lower secondary school varies substantially by geography:

Greater Accra
- Asante
- Central
- Eastern
- Western
- Volta

Brong-Ahafo
- Upper East
- Northern
- Upper West

SOURCE: 2011 Ghana Multiple Indicator Cluster Surveys
Common ways to disaggregate data

- Geographically by province, district, etc.
- Sex (required by ADS 205)
- Time
- Wealth/Income/Asset index
- Urban/Rural
- Age
- Education
If someone asked you where your Activity/IM is located, at which scale would you give the information?

This is how data at these different geographic scales is represented in a table:

<table>
<thead>
<tr>
<th>MAP #</th>
<th>Admin 1</th>
<th>Admin 2</th>
<th>Populated Place</th>
<th>Latitude</th>
<th>Longitude</th>
<th>Activity/IM Task Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>San Martin</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Microfinance</td>
</tr>
<tr>
<td>2</td>
<td>San Martin</td>
<td>Lamas</td>
<td></td>
<td></td>
<td></td>
<td>Microfinance</td>
</tr>
<tr>
<td>3</td>
<td>San Martin</td>
<td>Lamas</td>
<td>Tarapoto</td>
<td>-76.3544</td>
<td>-6.4925</td>
<td>Microfinance</td>
</tr>
<tr>
<td>4</td>
<td>San Martin</td>
<td>Lamas</td>
<td>Tarapoto</td>
<td>-76.3544</td>
<td>-6.4925</td>
<td>Microfinance</td>
</tr>
</tbody>
</table>
What to remember

• You can always aggregate data. You can’t go back after the data are collected.
What to keep in mind

• Is your sample representative? Is your sample size large enough to be meaningful?

What would we conclude about the size of M&Ms by color in this sample?
Sampling Basics
Photo:

Two Sampling Principles
We want the sample to be representative at a district level.
We want the sample to be representative at a district level.
Sampling Guide for Beneficiary-based Surveys for Select Feed The Future Agricultural Annual Monitoring Indicators & Sample Size Calculator

Individual Application

Think about a FTF activity in which you will need to collect performance monitoring data

• Select one indicator on which you will collect data
• Do you need to disaggregate the data?
• If so, how will you disaggregate the data
Lessons learned about:

• Planning the entire process of collecting data
• Diagramming indicators
• Developing questionnaires
• Measuring area
• Sampling
Resources for Estimated Area


- GNSS in Africa: [http://www.gnss-africa.org/?page_id=23](http://www.gnss-africa.org/?page_id=23)


- The Humanitarian Data Exchange - Open Data Sources for the Global Development Community: [https://data.humdata.org/](https://data.humdata.org/)

- Army Study Guide (How to Pace Count): [http://www.armystudyguide.com/content/army_board_study_guide_topics/land_navigation_map_reading/how-to-use-pace-count-to-.shtml](http://www.armystudyguide.com/content/army_board_study_guide_topics/land_navigation_map_reading/how-to-use-pace-count-to-.shtml)
More than 80% of Dentists recommend Colgate.
Objectives of the Session

1. Understand importance of data quality
2. Review data quality continuum
3. Identify data quality standards
4. Explore when and how to conduct data quality assessments
5. Review common data quality issues
**Data Quality**

**Real World**

In the *real world*, activities are implemented in the field. These activities are designed to produce results that are quantifiable.

**Data Management**

Administrative process by which activities collect, store, protect, and analyze results that are produced.

**Data Quality → How well does the data represent the real world?**
Why do we care about data quality?

1. USAID projects and activities should be evidence-based
   - If we can’t trust the quality of the data, what evidence do we have?

2. Data quality = data use for learning and adapting
   - How can we use the data to learn and adapt if we can’t trust it?

3. Data quality is critical for accountability
   - How confident are we in the data we report to Congress?

4. Data quality problems are expensive and pervasive
   - Cost lots of $$, including lost time, and credibility
Data Quality Continuum

- **Integration & Analysis:** The process of translating data into meaningful information
- **Application:** The purpose for data collection
- **Warehousing:** Processes and systems used to archive data
- **Gathering:** The processes by which data is acquired
### Five USAID Data Quality Standards

<table>
<thead>
<tr>
<th>Standard</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Validity</strong></td>
<td>The data measure what they are intended to measure.</td>
</tr>
<tr>
<td><strong>Reliability</strong></td>
<td>The data are measured and collected consistently; definitions and methodologies are the same over time.</td>
</tr>
<tr>
<td><strong>Precision</strong></td>
<td>The data have sufficient detail; in this case the “accuracy” of the data refers to the fineness of measurement units.</td>
</tr>
<tr>
<td><strong>Timeliness</strong></td>
<td>Data are current and information is available on time.</td>
</tr>
<tr>
<td><strong>Integrity</strong></td>
<td>Data is protected from deliberate bias or manipulation for political or personal reasons.</td>
</tr>
</tbody>
</table>
Dimensions of Validity

Many types of validity, but in USAID context, we focus on three dimensions:

1. Face Validity
2. Attribution
3. Measurement Error
Face Validity

- **Face Validity**: refers to the degree to which data is a true measure of the intended result.

- The “land of theory” versus the "land of observation”

- Think about the Theory of Change and Results Framework discussion from Session 2 → *Does the data provide a valid measure of the intended results in your theory of change?*

- **Example**: Does data on Gross Margin provide valid information on improved incomes?
Attribution (& Content Validity)

- **Attribution**: refers to the extent to which a change in the data is related to our interventions.

- Attribution is one element of *content validity*, which focuses on the extent to which the data accurately represents all facets of the indicator.

- Think about the Defining Beneficiaries discussion from Session 5 → *Does the data measure all facets of what is supposed to measure? Is the data reflective of our interventions?*

- **Example**: Is Incremental Sales data measuring results of direct beneficiaries or indirect beneficiaries? Which one is it supposed to measure?
Measurement Error

- In addition to measuring the right things, it’s important we measure data without bias or error.

- Unrepresentative sampling is an example of measurement error; samples should be large enough and taken for appropriate target groups.

- Think about the Basic Sampling discussion from Session 6 → Is the data representative of the target beneficiary population?

- Example: For # of farmers and others applying improved technologies, was the sample large enough to be representative of the target groups? Has the sample data been extrapolated to the total beneficiary population?
Improving Validity

- Make sure your Theory of Change is clear
- Ensure goals and objectives are clearly defined in your Results Frameworks
- Match your indicators to your Goals and Objectives
- Make sure to refer to standard Performance Indicator Reference Sheets (PIRS)
- Use *NEW* direct beneficiary sampling guidance, developed by BFS, to calculate adequate sample sizes for performance monitoring
Reliability

- **Reliability**: refers to the quality of the measurements
- In its everyday sense, reliability is the "consistency" or "repeatability" of your measures
- Think about the Collecting Performance Monitoring Data discussion from session 6 → *Has data been collected using consistent methodologies and procedures?*
- **Example**: If we were to recollect information on # of individuals trained, would we get the same result?
Reliability and Validity

What’s the Difference Between Validity and Reliability?

- **Validity** refers to the extent to which a measure actually represents what we intend to measure.
  - Is this information valid based on what we are trying to achieve? Does the data represent all facets of the indicator?

- **Reliability** refers to the stability of the measurement process.
  - Assuming there is no real change in the variable being measured, would the same measurement process provide the same result if the process were repeated over and over?
Improving Reliability

• Develop clear and detailed M&E plans and protocols on how data will be captured consistently over time

• Strictly follow methodologies as outlined in standard Performance Indicator Reference Sheets (PIRS)

• Develop and/or refine custom indicator PIRS to include ‘Measurement Notes’ section

• Data reliability depends on how consistently we collect information; methodologies must be DOCUMENTED!
Precision

• **Precision:** refers to whether there is sufficient level of detail to present a fair picture of performance

• Two ways to think about precision:
  1. **Precision in terms of measurement**
     - Example: Measuring poverty to the .01 percent
     - *What is an acceptable level of precision?*
  2. **Precision in terms of detail (i.e. disaggregates)**
     - Example: Sex or Technology Type disaggregation

• In performance monitoring, we primarily focus on precision in terms of **detail**
Precision

• Think about the Collecting Performance Monitoring Data discussion from session 6 ➔ Does the data contain information on all required disaggregates?

• **Example:** Does the data on # of hectares under improved technologies include information on **sex of farmer** and **technology type**?
Validity and Precision

Precise, but not valid
Valid, but not precise
Neither valid nor precise
Valid and precise
Improving Precision

• Ensure PIRS have information on required disaggregates
• Review measurement tools and ensure disaggregates are captured
• Common required disaggregates for Feed the Future indicators:
  o Sex
  o Technology Type
  o Commodity
  o Type of Individual (producer or other)
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
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
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 both validity and timeliness concerns
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
Integrity

- **Integrity:** refers to improper manipulation of data

- Integrity issues in data are often a result of inadequate data management systems and processes

- Two types of issues that affect data integrity:
  
  1. **Transcription error:** simple data entry errors made when transcribing data from one document (electronic or paper) or database to another.

  2. **Intentional Manipulation:** staff and/or others have an incentive to create and/or change data for political or personal reasons
Integrity

• Ensuring integrity requires good data management and protection
  o Data management processes must be documented in M&E plans
  o Need data verification methods (i.e. checks and balances)
• Think about the Collecting Performance Monitoring Data discussion from session 6 → Are there proper data management controls in place to prevent transcription error and manipulation?
• Example: Is the data storage system password protected? Is there a method for verifying actual participation in trainings? Signatures? Thumbprints?
Improving Integrity

• Ensure data management processes are documented and followed!

• Password protect data storage platforms (e.g. Excel, etc.)

• Limit the number of people who can access the data

• Create checks and balances – conduct periodic reviews of data collection sheets

• De-incentivize intentional manipulation!
Practical Applications

Identify the data quality issue in the following examples:

1. Helping Farmers NGO is measuring Value of Incremental Sales. When drawing a sample, they decide to capture farmers not directly benefiting from the Feed the Future intervention.

   - 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?
Practical Applications

Identify the data quality issue in the following examples:

1. Helping Farmers NGO is measuring # of farmers and others applying improved technologies, but the data does not provide any information by technology type.

   • What data quality issue(s) should you be concerned about?
Practical Applications

Identify the data quality issue in the following examples:

1. Helping Farmers NGO is working in the chickpea value chain, which has two agricultural seasons in the fiscal year. When collecting information on Gross Margin, they survey farmers asking about one agricultural season.

   • What data quality issue(s) should you be concerned about?
Practical Applications

Identify the data quality issue in the following examples:

1. Helping Farmers NGO conducted trainings in XYZ district and has submitted the training sign-in sheets as verification. When reviewing them, however, you notice that most of the signatures seem too similar.

   • What data quality issue(s) should you be concerned about?
Practical Applications

Identify the data quality issue in the following examples:

1. Helping Farmers NGO hired a third party contractor to collect baseline data for # of hectares under improved technology, and is now preparing to collect annual monitoring data.

   • 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?
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.
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!
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.**
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
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.
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
## DQA Options

<table>
<thead>
<tr>
<th>Informal Option</th>
<th>Semi-formal Option</th>
<th>Formal Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Conducted internally by the AO team</td>
<td>• Draws on management and M&amp;E expertise</td>
<td>• Driven by broader programmatic needs, as warranted</td>
</tr>
<tr>
<td>• Ongoing (driven by emerging and specific issues)</td>
<td>• Periodic &amp; systematic</td>
<td>• More dependent on external technical expertise and/or specific types of data expertise</td>
</tr>
<tr>
<td>• More dependent on the AO team and individual expertise of program</td>
<td>• Facilitated and coordinated by the M&amp;E expert, but AO team members are participants</td>
<td>• Product: Either a Data Quality Assessment report</td>
</tr>
<tr>
<td>• Conducted by the program manager</td>
<td>• Product: Data Quality Assessment Report</td>
<td>• Product: Either a Data Quality Assessment report or addressed as a part of another report</td>
</tr>
<tr>
<td>• Product: Documented in memos, notes in the PMP</td>
<td></td>
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</tr>
</tbody>
</table>
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
Common DQA Findings

1. Validity – most common source of data quality issues
   - Selected indicators do not measure identified goals and objectives in Theory of Change and Results Frameworks
   - Implementing partners attempt to measure outcomes/outputs of *indirect beneficiaries* alongside *direct beneficiaries*
   - Sampling methodologies are biased towards a particular group (e.g. only those applying technologies)
   - Seasonality issues cause partners to report data outside of reporting period
Common DQA Findings

2. Reliability – another common source of data quality issues
   - Data collection methodologies and processes are not documented = inconsistent methods of data collection
   - Partners do not have standard or custom PIRS and/or do not follow them
   - No standard data collection tools
   - Training on data collection non-existent or too infrequent
   - Measurement units are inconsistent over time (e.g. kg vs MT)
   - Sampling methodologies change
Common DQA Findings

3. Precision

• Data collection tools do not contain information on disaggregates = partners do not collect
• Partners do not have standard or custom PIRS and/or do not follow them

4. Timeliness

• Data collection/reporting not aligned with USAID reporting schedule
• Seasonality issues means information is sometimes not “current”
Common DQA Findings

5. Integrity

- Data management systems are not password protected
- Files are unorganized
- Checks and balances are not enacted
  - Copies of data collection sheets are not shared with head offices
  - Infrequent field visits
  - Not enough training on data transfer, storage, and management
FEED THE FUTURE
The U.S. Government’s Global Hunger & Food Security Initiative
Session 8: Reporting and Using Data
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 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?
What are your findings?

• What did you find?
• How did you find it?
• What does it mean for NUTSENAG?
Gain skills and knowledge about WEAI to use this data to improve the impact of FTF activities
Women’s Empowerment in Agriculture Index

- Measures women’s and men’s empowerment and inclusion in the agricultural sector
- Developed by USAID, IFPRI, OPHI in 2012
• Survey-based
  – Not based on aggregate statistics or secondary data
  – Uses interview of the women and men in the same household
  – Index components designed to apply across countries and cultures
How Is the WEAI Constructed?

WEAI is made up of two sub-indices:

- **Women’s Empowerment in Agriculture Index (WEAI)**
  - A direct measure of women’s empowerment in 5 dimensions.
  - All range from zero to one; higher values = greater empowerment.
  - Weighted average: 0.9

- **Gender parity Index (GPI)**
  - Women’s achievement’s relative to the primary male in hh.
  - Weighted average: 0.1
5 different domains
1 to 3 indicators per domain
• Index of 0 to 1
• Higher score indicating greater empowerment
SDE: Indicators Build Individual Empowerment Profiles

- **Production 1/5**
  - Input into productive decisions
  - Autonomy in production

- **Resources 1/5**
  - Ownership of assets
  - Purchase, sale, or transfer of assets
  - Access to and decisions on credit

- **Income 1/5**
  - Control over use of income

- **Leadership 1/5**
  - Group member
  - Speaking in public

- **Time 1/5**
  - Leisure
  - Workload
**5DE: Indicators Build Individual Empowerment Profiles**

- **Production 1/5**
  - Input into productive decisions
  - **Autonomy in production**
  - Ownership of assets
  - Purchase, sale, or transfer of assets
  - Access to and decisions on credit

- **Income 1/5**
  - Control over use of income

- **Leadership 1/5**
  - Group member
  - Speaking in public

- **Time 1/5**
  - Leisure
  - Workload

- **Resources 1/5**
  - Autonomy in production
SDE: Indicators Build Individual Empowerment Profiles

Five Domains of Empowerment

1. Production 1/5
   - Input into productive decisions
   - Autonomy in production

2. Resources 1/5
   - Ownership of assets
   - Purchase, sale, or transfer of assets
   - Access to and decisions on credit

3. Income 1/5
   - Control over use of income

4. Leadership 1/5
   - Group member
   - Speaking in public

5. Time 1/5
   - Leisure
   - Workload
SDE: Indicators Build Individual Empowerment Profiles

- **Input into productive decisions**
  - Autonomy in production
- **Ownership of assets**
- **Purchase, sale, or transfer of assets**
- **Access to and decisions on credit**
- **Control over use of income**
- **Group member**
- **Speaking in public**
- **Leisure**
- **Workload**

Five Domains of Empowerment:

- Production 1/5
- Resources 1/5
- Income 1/5
- Leadership 1/5
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SDE: Indicators Build Individual Empowerment Profiles

**Five Domains of Empowerment**

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  - Control over use of income

- **Income 1/5**
  - Group member
  - Speaking in public

- **Leadership 1/5**
  - Leisure
  - Workload

- **Time 1/5**
Empowering women in agriculture will be achieved by:

• Empowering women in the 5 domains

• Achieving gender parity within the household.
Interpreting WEAI

Bangladesh
What are the three indicators that contribute most to women’s disempowerment?
What are the three indicators that contribute most to women’s disempowerment?

- group membership
- control over income
- speaking in public

Source: IFPRI (2012a).
What are the three indicators that contribute most to men’s disempowerment?
What are the three indicators that contribute most to men’s disempowerment?

- group membership
- control over income
- workload
What strikes you about the similarities and differences between men’s and women’s disempowerment?
Exercise

Using the WEAI data for Aredonia in your NUTSENA case study, answer the following questions:

• 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?
Gender Integration Framework (GIF)

- 7 dimensions/domains of women’s empowerment in agriculture
- Guide to examine and prioritize
  - current status of domains of empowerment
  - activities that exist in FTF programming
  - activities that are needed in FTF programming
  - activities to go forward with
  - how to measure progress
- Use WEAI data in GIF
<table>
<thead>
<tr>
<th>Problem or Constraint to Address</th>
<th>Is this problem or constraint relevant in your specific context? Y/N, Please explain and provide evidence.</th>
<th>What activity(ies) are you implementing that address or relate to this problem?</th>
<th>What activity(ies) are you planning that will address this problem and how will they address it?</th>
<th>Activity's Specific Contribution to Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>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</td>
<td>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</td>
<td><strong>Fertilizer Deep Placement</strong> activity – promotes and supports women’s fertilizer dealerships / retail outlets</td>
<td><strong>Ag inputs</strong> activity will certify women retailers and establish start-up grants of women-owned retailers.</td>
<td>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</td>
</tr>
</tbody>
</table>
From the performance monitoring data, we found:

• Females’ groundnut yields are significantly lower than males’
  – Lower inputs per hectare
  – Lower price per kilogram
  – Lower proportional sold

• Greater number of hectares per female

• Larger number of female beneficiaries
What constraints should NUTSENAG focus on in order to narrow the gap between men’s and women’s groundnut yields?
What constraints should NUTSENAG focus on in order to narrow the gap between men’s and women’s groundnut yields?

- Household decision making over production
- Access to and decisions regarding credit
- Lack of strong social networks

Small Group Activity

For the constraint assigned to your group:

• Identify
  – What component(s) of NUTSENAG currently address or relate to your constraint? How do they address it?
  – How could you modify NUTSENAG to address the issues around this?
  – How will these changes specifically contribute to improving NUTSENAG outcomes?

• Prepare a flipchart summarizing your answers.

You have 15 minutes
Gallery Walk

- What similar approaches do you see?
- What different approaches do you see?
Individual Reflection

Think about your own work. Select an activity you are working 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?

You have 15 minutes
Additional Resources

The "Women's Empowerment in Agriculture Index" (WEAI), launched by IFPRI, Oxford Poverty and Human Development Initiative (OPHI), and USAID's Feed the Future in February 2012, is the first comprehensive and standardized measure to directly capture women's empowerment and inclusion levels in the agricultural sector.

The WEAI is an innovative tool composed of two sub-indexes: one measures how empowered women are within five domains, and the other measures gender parity in empowerment within the household.

**Key Resources**

- WEAI Training Materials
- WEAI summary brochure
- Press release on WEAI launch
- Fellowships awarded
- Video introduction to WEAI
- Key WEAI Publications
- WEAI Events

http://www.ifpri.org/topic/weai-resource-center
Session 8: Reporting and Using Performance Monitoring Data

Writing Results Narratives for Missions and Implementing Partners
Past FTF Information Requested

How has the intervention impacted gender roles and women’s empowerment?

What results has the FTF program achieved toward the goals of accelerating agricultural growth and improving nutrition?

How are interventions promoting increased dietary diversity?

Why are we not meeting set targets?

How are activities engaging the private sector?

How are interventions addressing climate change?
Key Considerations

• **Audience**: who is it?
  – The tones and themes of the narrative will differ based on the audience

• **Purpose**: why are we writing the narrative?
  – Will drive the content and key take-away messages
Types of Narratives

In Feed the Future context, we focus on three types of narratives:

1. **Performance Narratives**: explain how results are linking to desired outcomes, identify successes and challenges and expected activities

2. **Deviation Narratives**: explain why targets have been missed (+/-)

3. **Success Stories**: highlight real-life examples of positive results of interventions
Parts of a Narrative

• What’s the problem?
• What are we doing to solve the problem?
• What results are we seeing?
• What are we going to do to do to improve results?
The Problem

• Be concise (1-2 sentences)
• Be Specific
• Use numbers to show the severity (data up to 3 years old)
The Global Challenge

✓ Almost **one billion** people suffer from chronic hunger

✓ More than **3.5 million** children die from undernutrition each year

✓ The world’s population will increase to more than **9 billion by 2050**

✓ Food production will have to **increase by 70%** to feed the world
<table>
<thead>
<tr>
<th>Option 1</th>
<th>Option 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Honduras is the second poorest country in the Western Hemisphere,</td>
<td>• Nepal is a severely food deficit country recovering from a 10-year</td>
</tr>
<tr>
<td>with a poverty rate of 66 percent. Approximately 2.5 million of the</td>
<td>civil war and remains the poorest country in South Asia. Malnutrition</td>
</tr>
<tr>
<td>extreme poor live in rural areas, 40 percent of which are concentrated</td>
<td>is a widespread problem in Nepal with rates comparable to those in many</td>
</tr>
<tr>
<td>in the Western Highlands.</td>
<td>African countries.</td>
</tr>
</tbody>
</table>
Solving the Problem

• Get to the point of what you are doing

• Be Specific
  – Don’t use jargon (e.g., “capacity building”)
  – Talk about commodities, geographic location

• What is your direct intervention?
Option 1

- The activity promotes rice and maize production in the Senegal River Valley and the Southern forest zone with millet and fish as secondary priorities. Small scale and industrial mills receive support in improving quality management capacities, such as training in quality control practices, storage systems, local milling cluster development, contractual and production monitoring, investment negotiations and working capital access.

Option 2

- The activity promotes agriculture through capacity building efforts aimed at raising the technical skills and knowledge of labor-saving technologies and practices that can reduce vulnerability and strengthen the food security of households. Food security funds are used to accelerate the uptake of proven production, processing, and marketing technologies; significantly increase the productivity of selected staple food crops and some export cash crops with more access to agricultural inputs.
The Result

• Always, always, always answer the So What?
• Talk about outcomes
  – Start with outputs, then talk about outcomes
  – It’s okay to round numbers
• If no outcomes, talk about coverage
  – Use percentages
• Reference a time period for your results
  – Should the be the previous year
FY 2013 Feed the Future Results

- Nearly 7 million farmers applied new technologies and practices in FY 2013, nearly 2.5 million more farmers than in FY 2012.

- 4.1 million hectares of land, an area slightly larger than Switzerland, came under improved technologies and management practices, an increase of nearly 1 million hectares from FY12 and nearly double the hectares of FY 2011.

- FTF leveraged over 164 million dollars in new private sector investment in the agriculture sector.

- Over 340,000 micro-, small-, and medium-sized enterprises received assistance to access loans.

- In FY 2013, 11 million households benefited directly from FTF investments which was an increase of 2 million from FY 2012.
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 its first-ever rice surplus.

Malawi has completed a CAADP Compact, CIP Peer review and 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 training in feeding practices and fodder conservation improved animal breeds, and improved storage facilities.
The Potential

- So, what now? Communicate how we plan to improve results going forward
- This means identifying:
  1) successes and challenges
  2) planned activities for building on successes and mitigating challenges
- Be concrete about planned activities;
- Provide targets and timelines (when possible)
- Talk about LEARNING!!!
Option 1

- The value chain activity will continue to support the development and scaling up of innovative solutions to improve food security. This includes support for climate-smart agriculture to increase agricultural production and help meet future food needs; improved technologies for irrigation; water reuse, efficiency, and storage activities within the food value chain; and development of a drought monitoring and mitigation system for the region.

Option 2

- Given the influence of the private sector, the value chain project plans to establishing 5 new partnerships next year, which will create 24,000 new jobs, assist 52,000 farmers in applying new technologies or management practices, and leverage $31.1 million in loans for farmers, agro-processors and micro, small, and medium enterprises. If this model proves to be successful, the value chain project will continue to expand to additional geographic areas, beginning in FY17.
Summary

- Know your audience and purpose
- Be specific
- Be concise
- Use numbers
- Talk about: the problem, solving the problem, the result, the potential
Deviation Narratives

• Why did the result *deviate* from the target?
• Deviation narratives can address many questions about the data; avoids follow-up
• Deviation narratives *are required* if actual results deviate +/- 10% from the target
• Keep them *short!* (two or three sentences)
• Address the deviation
Option 1

- The value chain activity did not reach its target for training female farmers, but exceeded its target for training male farmers.

Option 2

- The value chain project did not reach its target for training female farmers as the activity faced difficulty in recruiting women’s participation. Additional sensitization workshops will be held to encourage women’s engagement.
Success Stories

Success Stories ≠

Performance Narratives
Success Stories

• The formula is simple: use powerful statistics; communicate progress; and bring it to life with a personal narrative.
• Stories must contain beneficiaries and beneficiary quotes
• Photographs bring a story to life!
• https://stories.usaid.gov/#intro
Group Activity

From the data on the Excel spreadsheet write a short Performance Narrative:

- Highlight 1 or 2 results
- In 3 or 4 sentences

Choose a person from your group to present your narrative to the class

20 minutes
Individual Reflection

Record your key learnings about writing performance narratives.

We do not learn from experience... we learn from reflecting on experience.

- John Dewey
Finding and conveying meaning in data through visualization
What visualization can do

• Highlight comparisons and identify trends
• Generate ideas about relationships
• Provoke conversation
  – What’s up with that point/region?
  – Why are those points high/low?
  – How does this compare to previous knowledge?
• Synthesize data into a consumable format
  – See information at a glance to compare, without having to memorize the numbers
What visualization can’t do

• Tell you “the answer”: it is not magic
  – Dashboards will not solve all problems. A **well-designed** dashboard can solve a **particular** problem.

• Correlation does not imply causation
  – Just because things visually overlap mean one causes the other.

• Save you from bad data
  – A good visualization doesn’t rescue meaningless or inaccurate data

• Bypass data processing, exploration, and analysis
  – … and a LOT of work goes on to collect, clean, analyze, and visualize data
  – Data viz can be pretty, but it takes thought and work to make it **meaningful**
How do I make it meaningful?

1. Find the **comparison** that’s **useful** to the audience
2. Pick an appropriate chart type
3. Simplify graphics to focus message
4. Annotate to highlight and explain
Visualizations are all about comparisons
Who’s the audience?

- What are you hoping to achieve?
- What relationship do you want to show?
  - Magnitude / size
  - Relationship between 2+ variables
  - Trend over time
  - Ratio / composition of a group
  - Differences between groups (geographies / regions? groups of people?)
  - Differences within groups (distribution)
  - Between different data sets (what’s the context?)
- Who will use the information to make a decision?
- How will they consume the information?
Change your comparison, change your story

Two perspectives on the same data:

relative to other countries?  
between age groups?
Choose an appropriate chart type
Choosing chart types

• There’s a lot of research on choosing an appropriate chart type, and we could debate the merits of each for days.

Each has its own purpose; our “go-tos” are:
• bar graphs (not pies)
• small multiples
• scatter plots
Pies are for eating!

- People are not good at estimating angles
- … especially when the angle doesn’t start at 12 o’clock.
- Comparing more than a few is difficult
- Small numbers get lost
Don’t show everything on the same graph!

Highlight differences between groups with small multiples

NPR: Coal, Gas, Nuclear, Hydro?
Show relationships with scatter plots
3

Simplify your message

Simplify your graphics

Get it right in **black and white**
Why to keep things simple

Distribution of deaths from pneumonia and other causes in children aged less than 5 years, by WHO region

[Image of world map showing distribution of deaths by region and cause]
Title is accurate and informative—but doesn’t tell a story

Distribution of deaths from pneumonia and other causes in children aged less than 5 years, by WHO region

Why is there a map here?

must look back and forth to read colors on legend

size of pies are scaled by -- but areas are hard to judge, and differences in death are hard to see

AH! 2 yellows!

WHAT IS THE STORY?

source??

unmeaningful pies.

There are SO MANY COLORS my notes have to have a grey box behind them.
Focus on the story

You can make this in Excel. But you have to fight against the default colors and options.
4 Annotate to explain and provide context
What happened in 2013?

Calls for New Restrictions

By GREGOR AISCH and JOSH KELLER  UPDATED JAN. 4, 2016

2 million guns sold
In the January after Obama’s re-election and the shooting at Sandy Hook Elementary School

1.6 million guns sold
December 2015

1.1 million guns sold
Month of Obama’s election

754,000 guns sold
Month of Sept. 11 attacks

Estimated gun sales per month

2.0 million guns sold per month

Annotations provide context

- Highlight interesting / confusing parts of the data
- Provide context or relationships to other information
- Provide meaningful, descriptive titles to guide the reader
- Document the source of the data/ how manipulated
5 Sketch and try variations
Group Activity: Draw a story

• Draw one
  – Scenario card
  – Findings card

• Sketch out your data story

Your visualization should be:
• Informative
• Interesting
• Appropriate to the audience
• Bonus points for being pretty
Presenting your visualizations (3 min. each)

• What relationship are you showing?

• How did you decide to represent the data?

• What was challenging?

• Were there any tradeoffs you made in your visualization?
At the end of the day...

• **Be thoughtful:**
  – what **comparisons** are you making?
  – is your representation appropriate?
  – how is the visualization useful?

• **Simplify, simplify:**
  – break things into small multiples
  – get it right in black and white
  – annotate
Resources

- **GeoCenter**
  - Free resource to the Agency
  - Customized data analyses / visualizations
  - Training: maps, data, visualization
  - Consultation and second opinions on work

- TONS of books, webinars, classes
  - geocenter.github.io/StataTraining/resources/

- Color: [Color Brewer](http://stephanieevergreen.com/)


- Each other!

**Inspiration**

- New York Times: The Upshot
- Flowing data: flowingdata.com
- Data Stories podcast: [http://datastori.es/](http://datastori.es/)
- Source OpenNews (Projects): [https://source.opennews.org](https://source.opennews.org)
- [Pinterest gallery](https://source.opennews.org)
Our Portfolio

BANGLADESH

ETHIOPIA
FEED THE FUTURE
The U.S. Government’s Global Hunger & Food Security Initiative
Session 9: Open Data Policy and Process
USAID’s Open Data Policy: ADS 579

- **Development Data Library (DDL)**
- Defines USAID’s Data Governance Structure
- Outlines the Standard Data Clearance Process
- Creates Data Stewards in every USAID Operating Unit (ADS 579.2.h p.6)
Open Data Process

- Define Open Data - what does it mean to you?
- Why is it important to USAID and you?
- Who is responsible for submitting data?
Data Sharing

• 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?
Challenges to making data open

Privacy Concerns

Changing the mindset of:
• The alarmed scientist
• The willing (but perplexed) scientist
• The suspicious civil servant
• The poised VP
Data sharing is required and useful

Although diets are best in the northeast of Bangladesh...

Though Sylhet has the highest food consumption scores in the country, it also has the highest childhood stunting rates.

WEALTH, AGE, AND SEX CONTRIBUTE TO STUNTING

Households that are asset-poor (shown at the left) and older children (shown at the bottom) are the most vulnerable to stunting. Boys under 2 have higher stunting rates, but the gap between boys and girls narrows in older children.
## Data Types

<table>
<thead>
<tr>
<th>Structured</th>
<th>Unstructured</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Machine readable</td>
<td>• Multi-media</td>
</tr>
<tr>
<td>• Highly organized</td>
<td>• Photos, Videos</td>
</tr>
<tr>
<td>• Relational databases and language designed to be used with them (JSON, SQL)</td>
<td>• Emails</td>
</tr>
<tr>
<td></td>
<td>• Narrative reports (Word, PDF)</td>
</tr>
</tbody>
</table>
Data Management Plans: Key Elements

Why require a data management plan?

<table>
<thead>
<tr>
<th>Lead Institution</th>
<th>Datasets Generated by Project</th>
<th>Institution and Contact Person Responsible for data</th>
<th>Description</th>
<th>Data Privacy &amp; Use Restrictions</th>
<th>Pre-submission data processing</th>
<th>Final Data Deliverable</th>
<th>Timeline</th>
<th>Data repository &amp; post-award curation</th>
<th>Responsible Party</th>
<th>Target Submission Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>UC Davis - Geospatial and Farming Systems Consortium</td>
<td>External public data (Generic), Geospatial datasets to support Sustainable Intensification</td>
<td>Geospatial and Farming Systems Research Consortium at UC Davis (GFC)</td>
<td>Environment al and anthropogenic information at various spatial scale from various sources as needed by various SIIL projects.</td>
<td>None</td>
<td>i) Masking to country administrative boundaries; ii) Resampling to ensure consistent spatial resolution; iii) Data compression to facilitate storage and distribution</td>
<td>Either Geotiff (raster), .shp, and Geopackage (Vector), or CSV (tabular). OGC compatible web services as possible.</td>
<td>No embargo, will be made public as soon as cleaning is complete.</td>
<td>gfc.ucdavis.edu/data</td>
<td>Geospatial and Farming Systems Research Consortium at UC Davis (GFC)</td>
<td>As it becomes available.</td>
</tr>
</tbody>
</table>
Open Data Best Practices

Just because the data are open doesn’t mean they’re useful:
How to make data valuable to yourself and others

1. **Ask the right question** to get data that are useful
   (think back to designing survey questions)

2. **Structure:** design it right from the start

3. **Documentation:** help others (and your future self)
   understand what the data mean and how they were collected

(and then that your data comply with ADS 579)
"Design from beginning to get good data rather than spending a ton of money to cleanse the data."

-Michael Angus
Exercise:
Can you easily get information from a dataset?
• With your group, look at the data you’re given.
• Find which IP works in the most places
• Count the number of projects per Admin I (each Region like “Afar”)
Which version is easier to use?
Each dataset has *the same* information
What made it easy or hard to use?
Version 1

<table>
<thead>
<tr>
<th>Bureau / Operating unit / Implementing mechanism / Indicator</th>
<th>Prime Partner</th>
<th>Admin1</th>
<th>Admin0</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETH04 Ethiopia Sustainable Agriculture Incubator (ESAI)</td>
<td>PCI</td>
<td>Addis Ababa; Amhara; Dire Dawa; Oromia; Southern Nations, Nationalities and Peoples; Tigray</td>
<td>Ethiopia</td>
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<tr>
<td>46551 SmallHolder Horticulture Project (SHH)</td>
<td>Government of Israel - Center for International Cooperation of the Foreign Ministry of Israel</td>
<td>Amhara; Oromia; Southern Nations, Nationalities and Peoples; Tigray</td>
<td>Ethiopia</td>
</tr>
<tr>
<td>TEMPORARY ETHIOPIA WATER WATER</td>
<td>International Rescue Committee</td>
<td>Afar; Oromia; Somali</td>
<td>Ethiopia</td>
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<tr>
<td>42165 Capacity to Improve Agriculture and Food Security (CIAFS)</td>
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<td>Addis Ababa; Amhara; Oromia; Southern Nations, Nationalities and Peoples; Tigray</td>
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<tr>
<td>TEMPORARY ETHIOPIA MASHAV MASHAV</td>
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<tr>
<td>ID</td>
<td>ImplementingMechanism</td>
<td>ImplementingPartner</td>
<td>ImplementingPartnerLocation</td>
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<td>----</td>
<td>------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------</td>
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### Structure your data to be useful

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<td>Water Supply-Other</td>
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<td>67</td>
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<td>Zimbabwe</td>
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<tr>
<td>Water Distribution-Handpumps and/or Community</td>
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<td>Water Distribution-Household Taps</td>
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<td>Water Distribution- Other</td>
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<td>Zimbabwe</td>
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<tr>
<td>Water Treatment- Disinfection</td>
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<td>Water Treatment- Other</td>
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<td>Sanitation- Improved Latrines</td>
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<td>Sanitation- Flush Toilet or equivalent</td>
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<td>Sanitation- Handwashing Stations</td>
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<tr>
<td>Hygiene &amp; Behavior: Educational or Community Water</td>
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<td>Operations &amp; Maintenance (O&amp;M)</td>
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<td>D&amp;M for Systems- External-led</td>
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<td>Other</td>
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<td>Other</td>
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<td>Early Warning and Response Systems</td>
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<td>1</td>
<td>Zimbabwe</td>
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<td>Conflict Mitigation</td>
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<td>67</td>
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<td>Zimbabwe</td>
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<tr>
<td>Shelters</td>
<td></td>
<td>Disaster Risk Reduction</td>
<td>67</td>
<td>0</td>
<td>Zimbabwe</td>
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<tr>
<td>Strengthened Government Response Capacity</td>
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<td>Zimbabwe</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td>Disaster Risk Reduction</td>
<td>67</td>
<td>NA</td>
<td>Zimbabwe</td>
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### Conditional Food Transfer

<table>
<thead>
<tr>
<th>Maternal Child Health &amp; Nutrition</th>
<th>Works on Topic Area?</th>
<th>Works on Topic Area?</th>
<th>Works on Topic Area?</th>
<th>Works on Topic Area?</th>
<th>Works on Topic Area?</th>
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<tbody>
<tr>
<td>Conditional Food Transfer</td>
<td>No</td>
<td>No</td>
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### Social and Behavior Change Communication

<table>
<thead>
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<th>Works on Topic Area?</th>
<th>Works on Topic Area?</th>
<th>Works on Topic Area?</th>
<th>Works on Topic Area?</th>
<th>Works on Topic Area?</th>
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</thead>
<tbody>
<tr>
<td>Promotion of optimal breastfeeding during the first six months</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Promotion of optimal complementary feeding starting at 6 months with continued breastfeeding to 2 years of age and beyond</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Promotion of optimal nutritional care of sick children</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Promotion of Optimal Women’s Nutrition (15-49)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Promotion of adequate intake of IFA and prevention and control of anemia</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Promotion of adequate intake of iodine</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>President’s Vision 2030</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Essential Hygiene Actions</td>
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<td>Yes</td>
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<td>Care Group</td>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Girl Support Groups (mothers, mens, grandmothers, etc)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Positive Deviance Health</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Community conversations/discussion groups</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Early Childhood Development (ECD)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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</table>
Once your data is tidy, it’s easy to analyze/map:

For FY15 DFAPs, Ethiopia is the largest WASH portfolio as defined by the number of discrete WASH activities.

<table>
<thead>
<tr>
<th>Country</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethiopia</td>
<td>34</td>
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<tr>
<td>Niger</td>
<td>24</td>
</tr>
<tr>
<td>Uganda</td>
<td>16</td>
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<tr>
<td>Congo (DRC)</td>
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<td>Liberia</td>
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<tr>
<td>Guatemala</td>
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<td>Zimbabwe</td>
<td>15</td>
</tr>
<tr>
<td>Burkina Faso</td>
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<tr>
<td>Bangladesh</td>
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<tr>
<td>Madagascar</td>
<td>5</td>
</tr>
<tr>
<td>Malawi</td>
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</tr>
</tbody>
</table>

FFP WASH Portfolio analysis
Why should I care about making a machine-readable dataset?
Why should I care about making a machine-readable dataset?

It actually makes your everybody’s life easier.

• Easy to filter the data
• Easy to create aggregates / summaries:
  – By week, month, quarter, year…
  – By country, province, district, …
  – Works well with pivot tables
• Easy to manipulate data all at once
  – Convert months to years, dollars to millions, …
• Pre-requisite to doing any sort of analysis or visualization
• … and it’ll make ADS 579 (Open Data Policy) more effective
Each observation (record) has its own row

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>F</th>
<th>H</th>
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</thead>
<tbody>
<tr>
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<td></td>
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<td>activID</td>
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Things to watch out for:

- Merged cells (rows or columns)
- No unique id
- Inconsistent data (names, numbers, codes)
- Variable (column) names not meaningful
- Special characters within numeric variables ($,*,...)
- Variable names contain measurements (quarter1, quarter2)
- Information recorded for human not computer consumption
- Spreadsheet layout designed for human consumption
Document your data to be useful

Codebooks / Data Dictionary

• Documentation of the data collection
• Describes contents of a data set
• Describes data layout and structure of datasets
• Contains descriptions for all codes used
• Example from ADS 579 Development Data
• ADS 203 Assessing and Learning
Individual Reflection

• What are your key learnings from this session?

• Think about a dataset you are going to be collecting and what you will consider doing differently as a result of this session.
Resources

*Training: USAID University Open Data at USAID ADS 579-USAID Development Data*9 (restricted access - USAID employees only)

Frequently Asked Questions: www.usaid.gov/data/frequently-asked-questions

Policy Announcement: http://1.usa.gov/1tF8COg

Implementing Partner Notices Portal - Acquisition: http://bit.ly/1zRuKaJ


Executive Order on Open Data: http://1.usa.gov/1hChkTn

OMB Open Data Policy: http://1.usa.gov/1iQkPd6

Project Open Data: https://project-open-data.cio.gov/

ADS 579 Fact Sheet