



# FEED THE FUTURE

The U.S. Government's Global Hunger and Food Security Initiative



Photo: Ryan Vroegindewey, USAID/Mali

## Session I: 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

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



## 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





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# Using Monitoring and Evaluation for Adaptive Strategic Management





## Monitoring: M&M Color Targets

<b>Candy</b>	<b>Blue</b>	<b>Orange</b>	<b>Green</b>	<b>Yellow</b>	<b>Red</b>	<b>Brown</b>	<b>Total</b>
Milk Chocolate	24%	20%	16%	14%	13%	13%	100%
Peanut	23%	23%	15%	15%	12%	12%	100%
Kids Minis	25%	25%	12%	13%	12%	13%	100%
M&M Dark	17%	16%	16%	17%	17%	17%	100%
Peanut Butter	20%	20%	20%	20%	10%	10%	100%
Almond	20%	20%	20%	20%	10%	10%	100%



## 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>

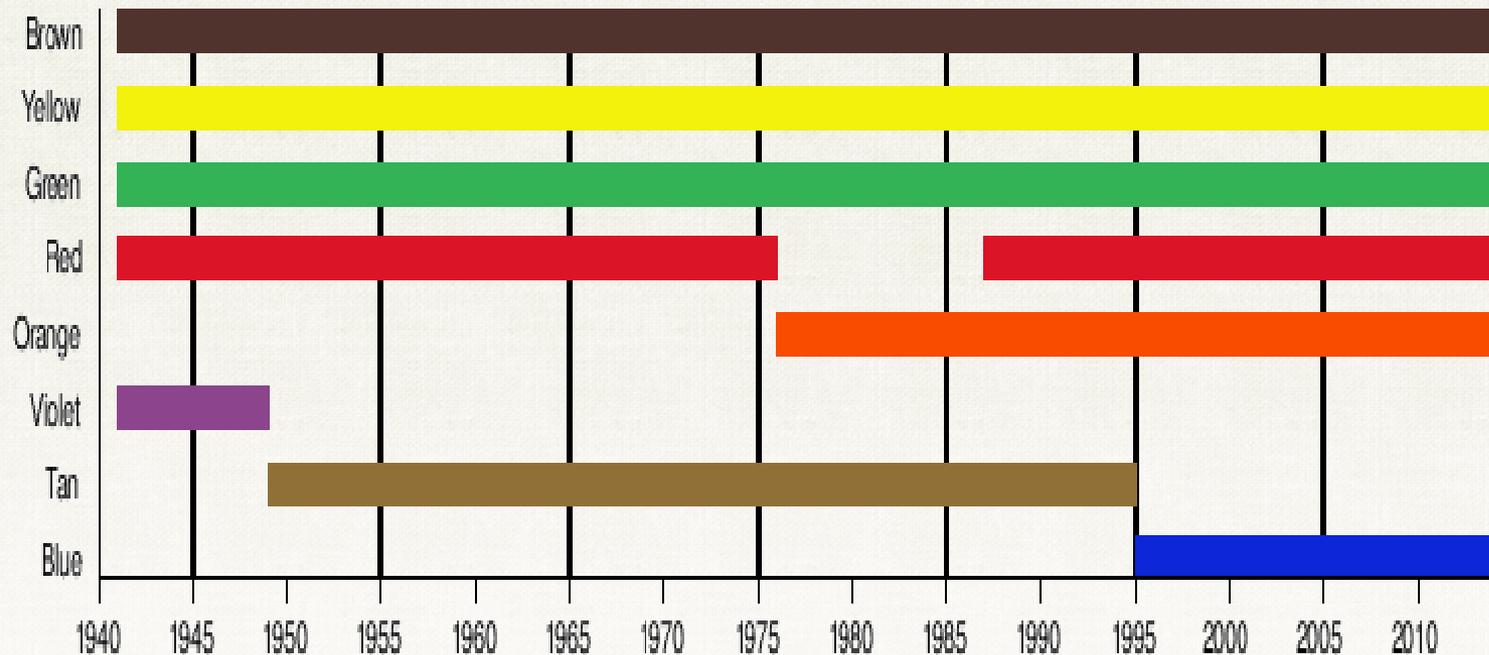


## Evaluation

- Summarize the data from all the groups
- Your conclusions about how Mars is hitting their targets
- Any production recommendations



## History of M&M colors





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# What is your Theory of Change for M&M colors?





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# 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.



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# 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





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ABOUT

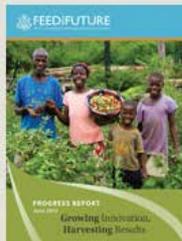
PROGRESS

COUNTRIES

PARTNER WITH US

NEWS & EVENTS

## Progress



[View report online](#)

### 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:

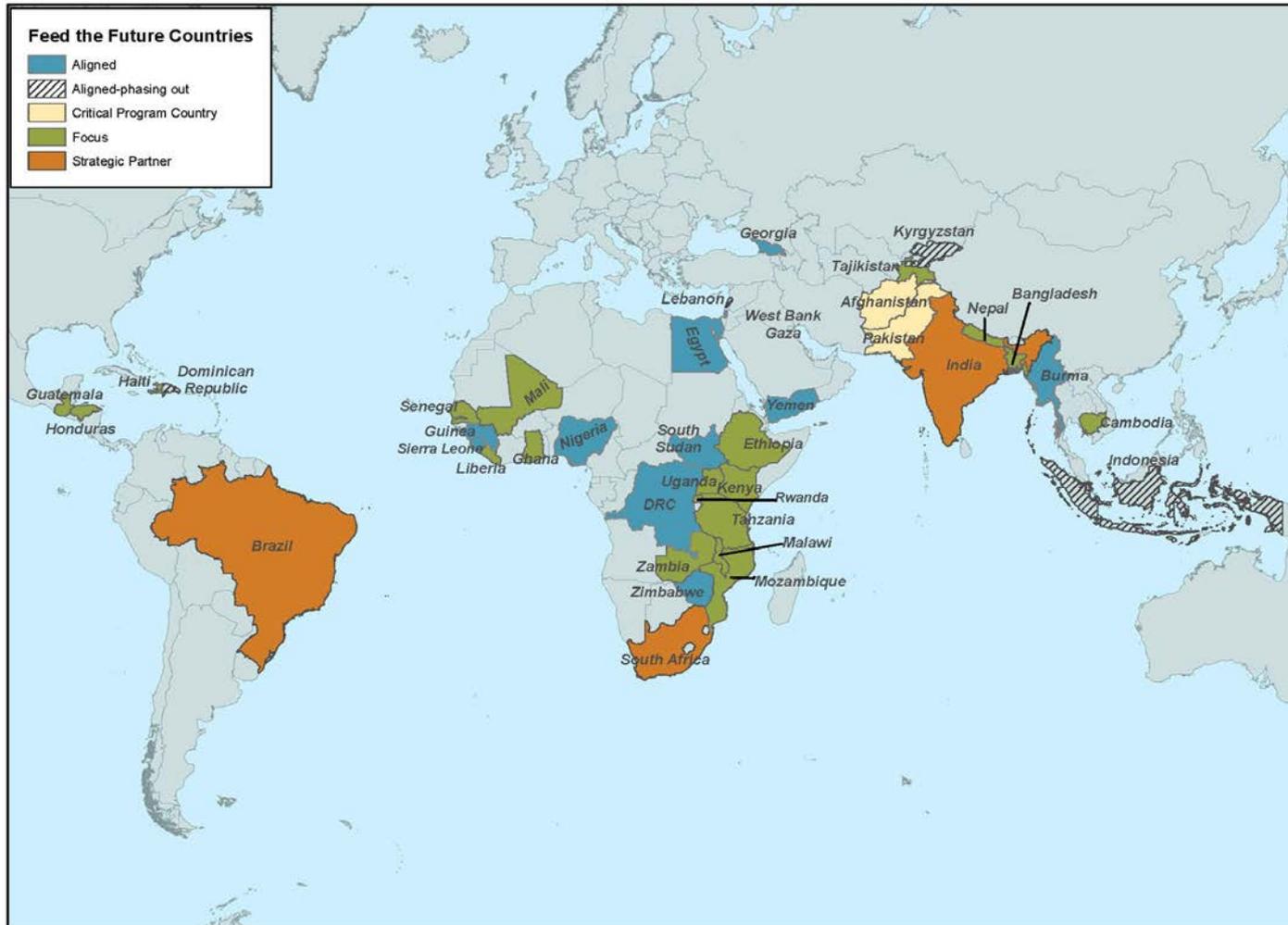
Prevalence of poverty &  
Prevalence of underweight & stunted children



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## Focus vs. Aligned countries



# Feed the Future Goal: Sustainably Reduce Global Poverty and Hunger

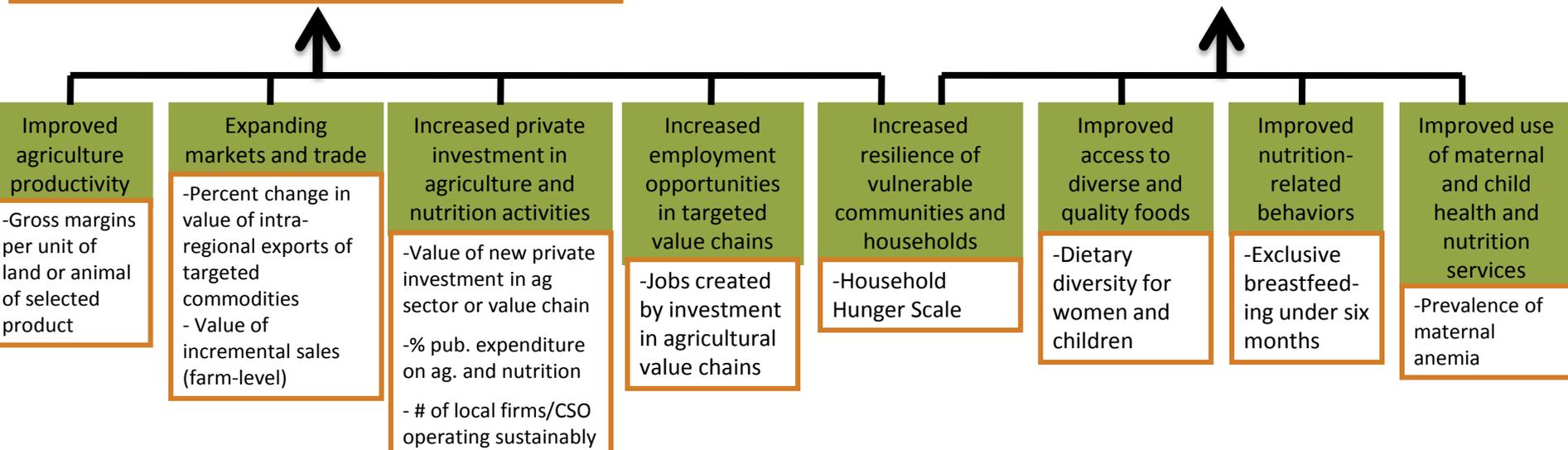
- Prevalence of poverty      - Prevalence of underweight children

## High Level Objective: Inclusive agriculture sector growth

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

## 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 support agriculture sector growth

AVAILABILITY

Programs and policies to increase access to markets and facilitate trade

ACCESS

Programs and policies to reduce inequities

STABILITY

Programs and policies to support positive gains in nutrition

UTILIZATION

## Definition of Food Security



## FEED THE FUTURE GOAL

### Sustainably Reduce Global Poverty & Hunger

INDICATORS:

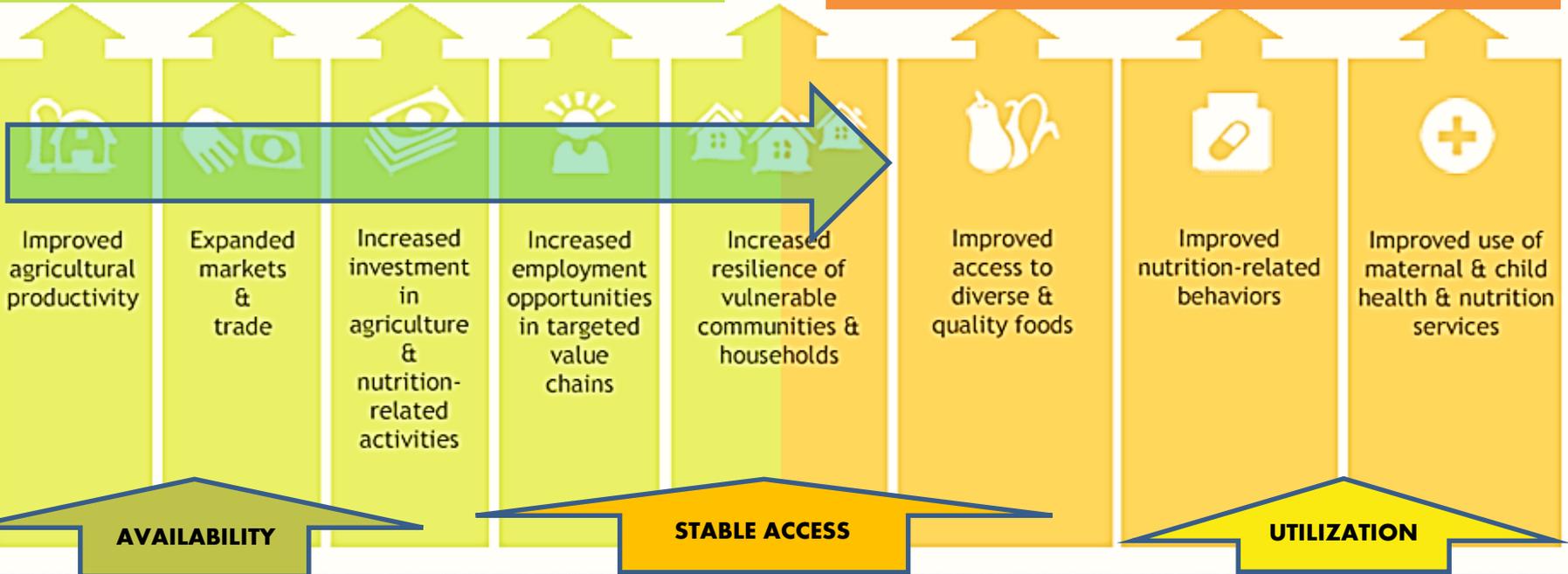
Prevalence of poverty &  
Prevalence of underweight & stunted children

#### OBJECTIVE

INCLUSIVE AGRICULTURE SECTOR GROWTH

#### OBJECTIVE

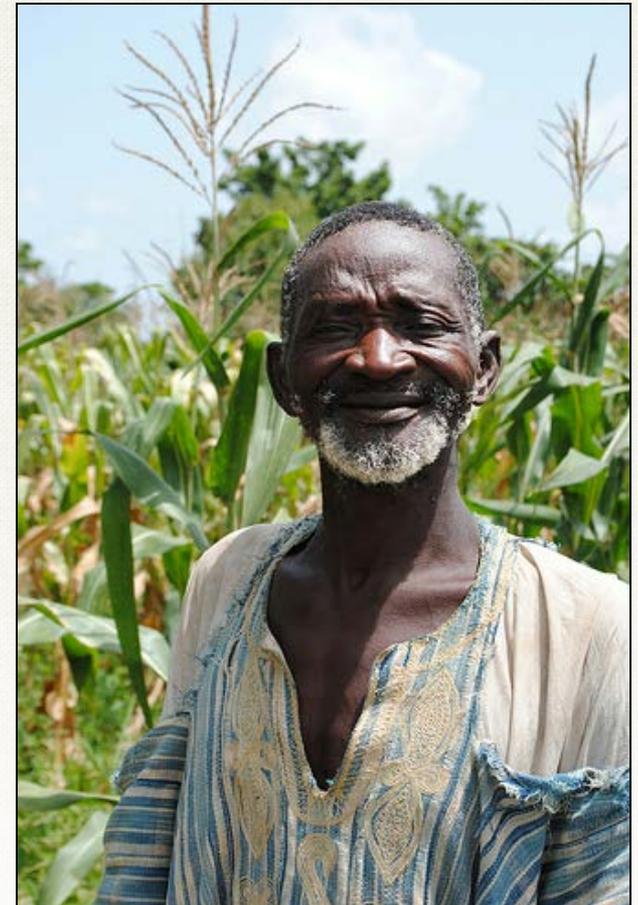
IMPROVED NUTRITIONAL STATUS  
(WOMEN AND CHILDREN)





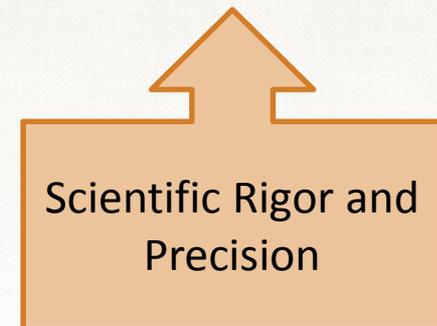
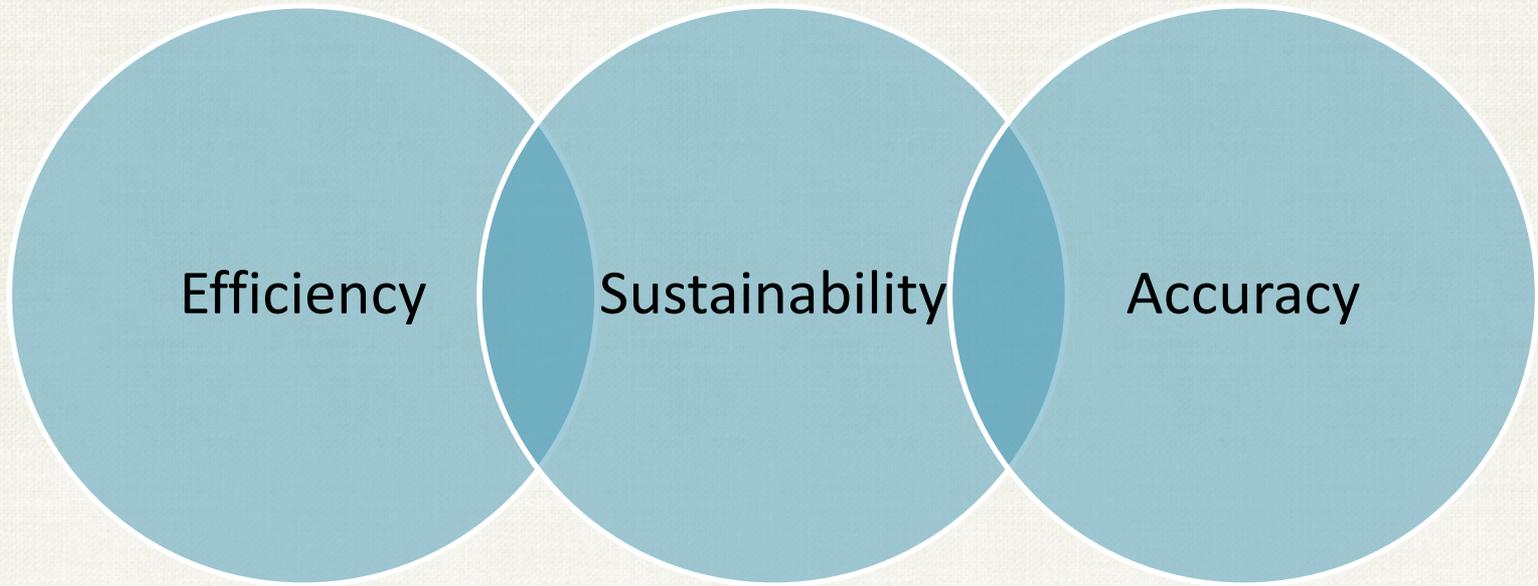
## Performance Monitoring

- 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





## 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

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

\* See indicator handbook for which indicators fall into each class



**Prevalence of Poverty: % of people living under \$1.25/day**

**Per capita expenditures**

**Women's Empowerment In Agriculture Index**

**4 Anthropometric Indicators –Child stunting, underweight, wasting, Women's BMI**

**2 Dietary Diversity Indicators –Women's DD Score, Minimum Adequate Diet 6-23mo**

**Prevalence of exclusive breastfeeding**

**Prevalence of anemia among women and children**

**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

Indicator	Method
Prevalence of Poverty: % living under \$1.25/day	LSMS - ISA
Per capita expenditures of rural households	LSMS - ISA
Women's Empowerment In Agriculture Index	New (USAID/partners)
4 Anthropometric Indicators	DHS
2 Dietary Diversity Indicators	DHS
Prevalence of exclusive breastfeeding	DHS
Household Hunger Scale	DHS
Prevalence of anemia among women and children	DHS



## 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

## Learning Agenda Themes

Ag Productivity

Ag Research and Development

Markets and Trade

Nutrition and Dietary Diversity

Gender and Women's Empowerment

Resilience of Vulnerable Populations



## Resources

- BFS MEL Technical Advisors
- [www.FeedtheFuture.gov/progress](http://www.FeedtheFuture.gov/progress)
  - FTF Guidance, results, external links
  - Indicator Handbook
  - Ag Indicator Guide
- [www.agrilinks.org](http://www.agrilinks.org)
  - Technical resources, webinars, blog posts
- <http://www.usaid.gov/evaluation/policy>
- [ProgramNet \(USAID only\)](#)



## BFS MEL Technical Advisors

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



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Photo: Lauren Seibert, Peace Corps

Session 2:

## Developing Your Activity Theory of Change and Results Framework



## Definition

### 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

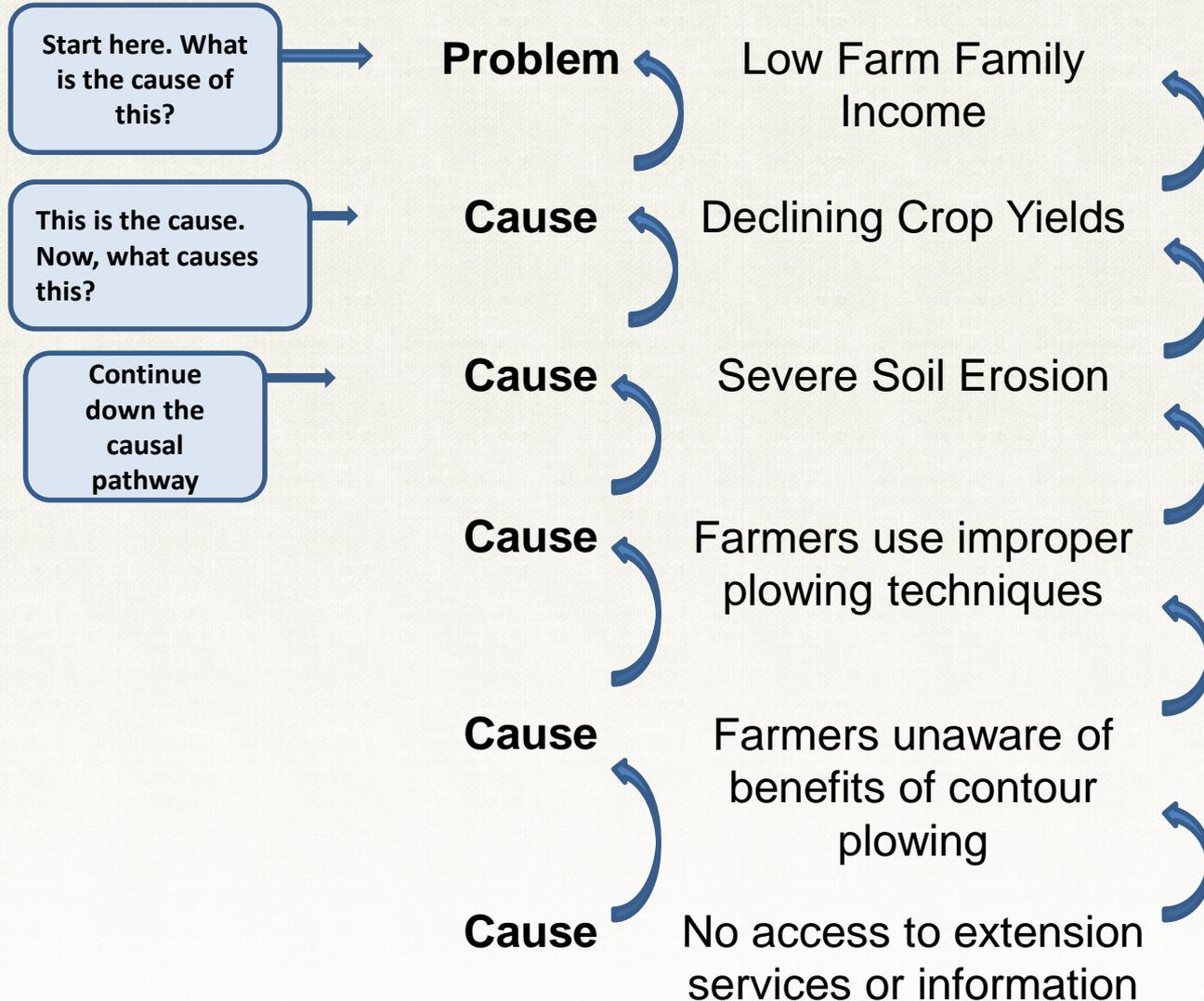


## Causal Analysis

- **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





## 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

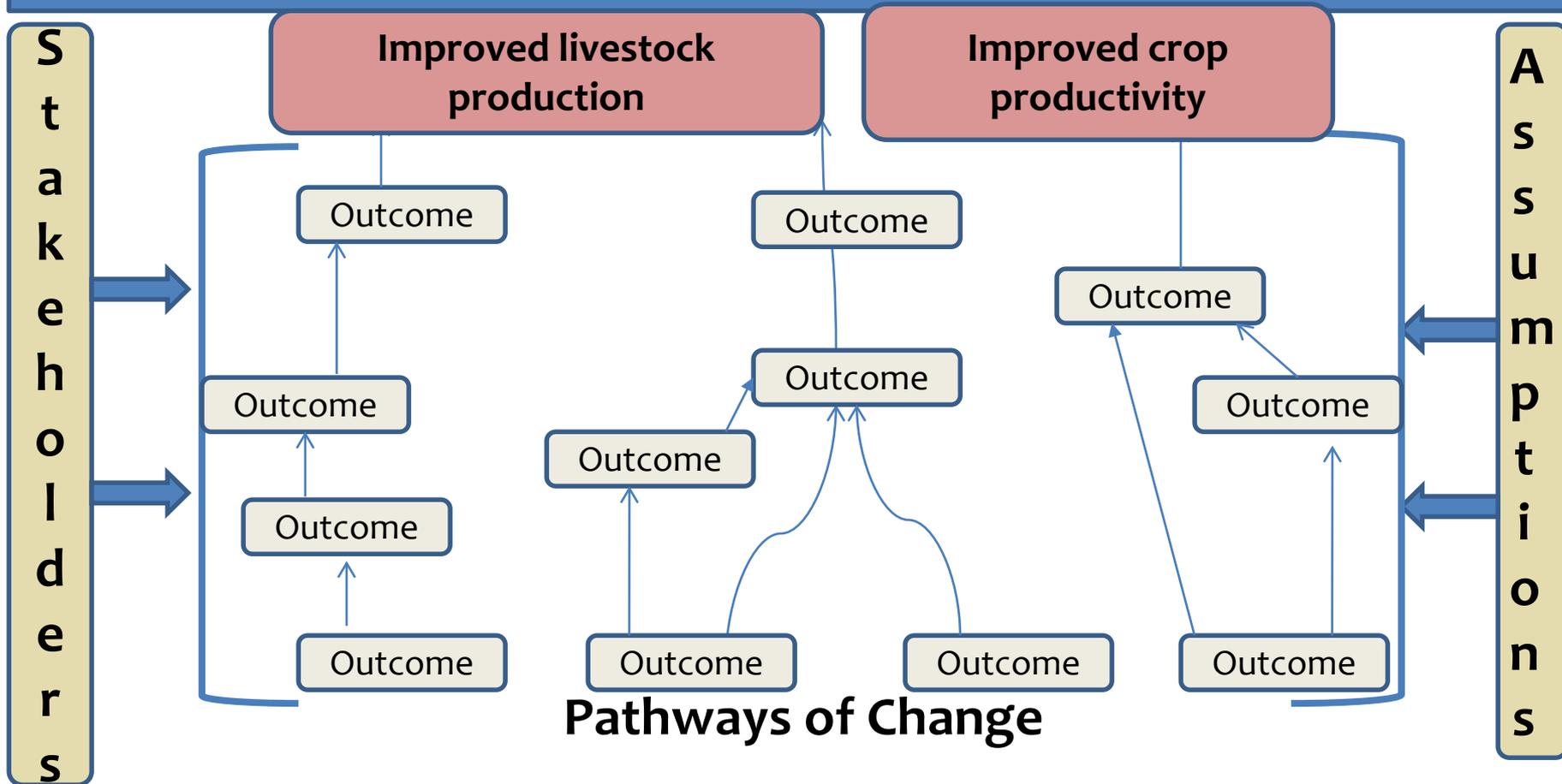
- Identify Domains of Change
- Map pathways of change within these domains
- Pathways of change show sequential outcomes or conditions that must be realized before the next higher outcome in the chain can be achieved.



## 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.

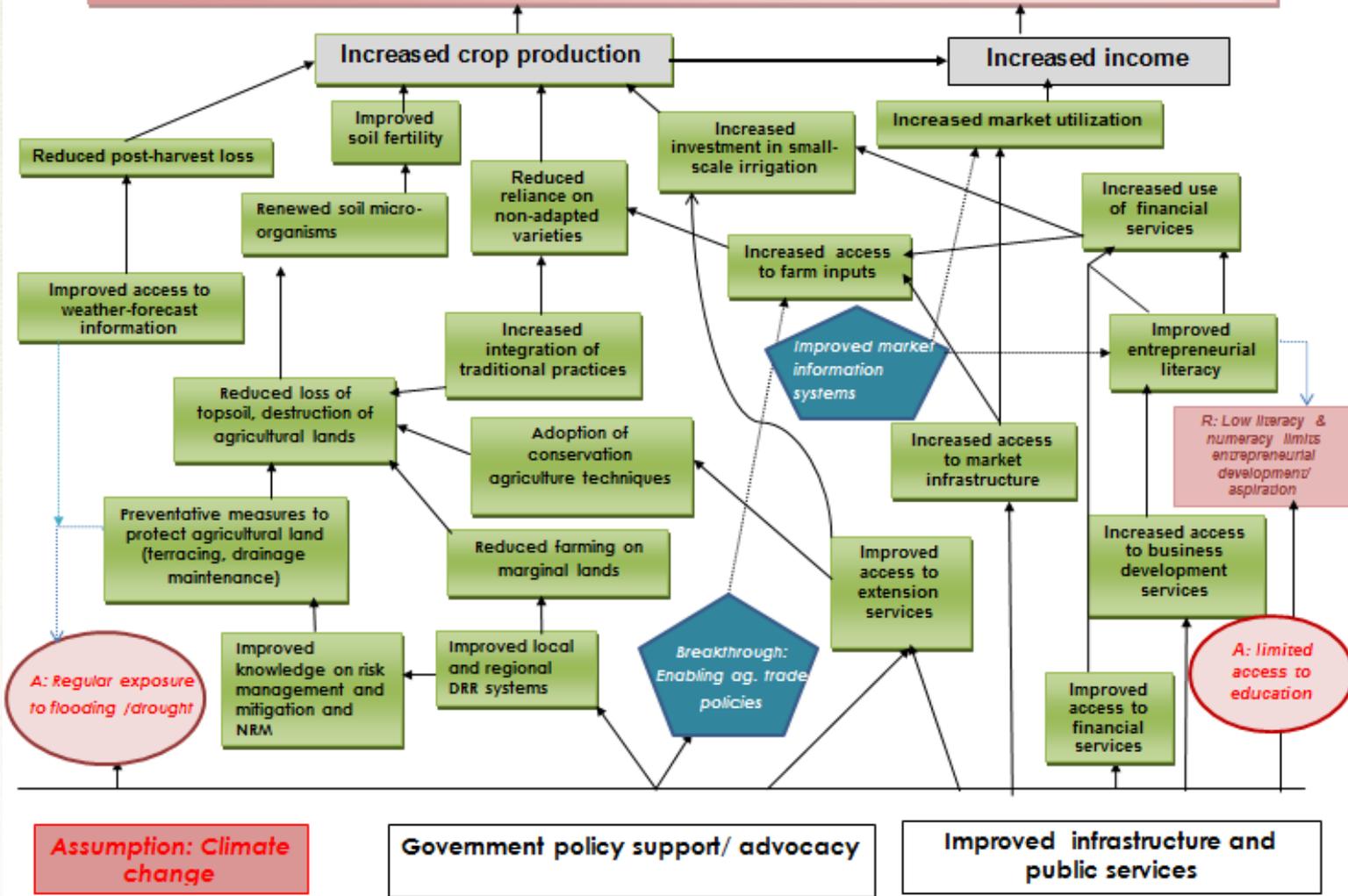
# Goal: Improved food security for rural households



Problem: Food insecurity among poor rural households



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





## 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



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**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

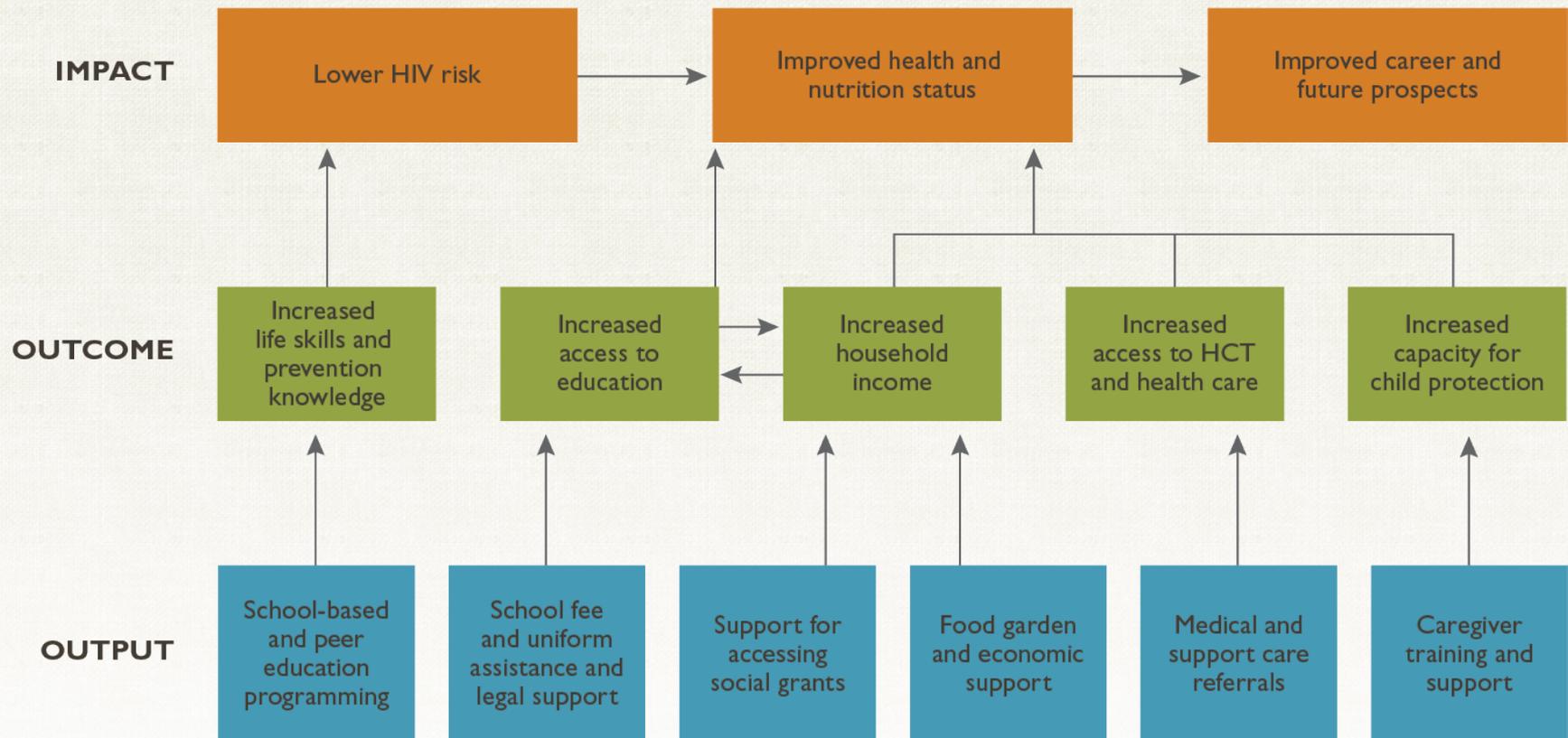


## Theory of Change vs Results Framework: Both

- Assumptions
- Long-term goal



## SAMPLE RESULTS FRAMEWORK





## 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.



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### 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?



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**SUCCESS!**



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Photo: Christine Fowles, USAID

Session 3:

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



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# 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.



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Improved agricultural productivity



Expanded markets & trade



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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



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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



Households benefiting from FTF assistance



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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

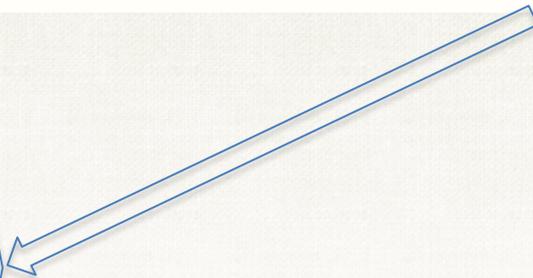


Improved nutrition-related behaviors



Improved use of maternal & child health & nutrition services

Smallholder farmers reached





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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  
Pregnant women reached



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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 < 2  
community-based SBCC



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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

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



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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



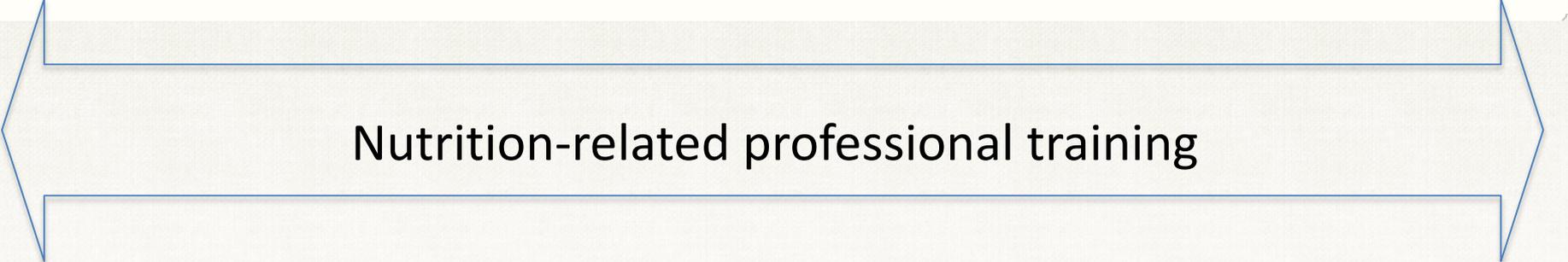
Improved access to diverse & quality foods



Improved nutrition-related behaviors



Improved use of maternal & child health & nutrition services



Nutrition-related professional training



Improved  
agricultural  
productivity

- Gross margin
- Hectares under improved technologies
  - Hectares w/new or improved irrigation/drainage



Expanded  
markets  
&  
trade

- Incremental sales
- Agricultural commodities exported
  - Firms/CSOs with increased profits/financially self-sufficient



Improved  
agricultural  
productivity



Expanded  
markets  
&  
trade

- Agricultural and rural loans
- MSMEs accessing bank loans
- Households with formalized land
- Roads improved or constructed



Increased  
investment  
in  
agriculture  
&  
nutrition-  
related  
activities

- Private sector capital investment
  - Public-private partnerships



Increased  
employment  
opportunities  
in targeted  
value  
chains

- Full-time equivalent jobs



Improved  
access to  
diverse &  
quality foods

- Female agriculture beneficiaries consuming diverse diet
- Nutrient-rich value chain commodities for home consumption



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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

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



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## 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



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



**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)

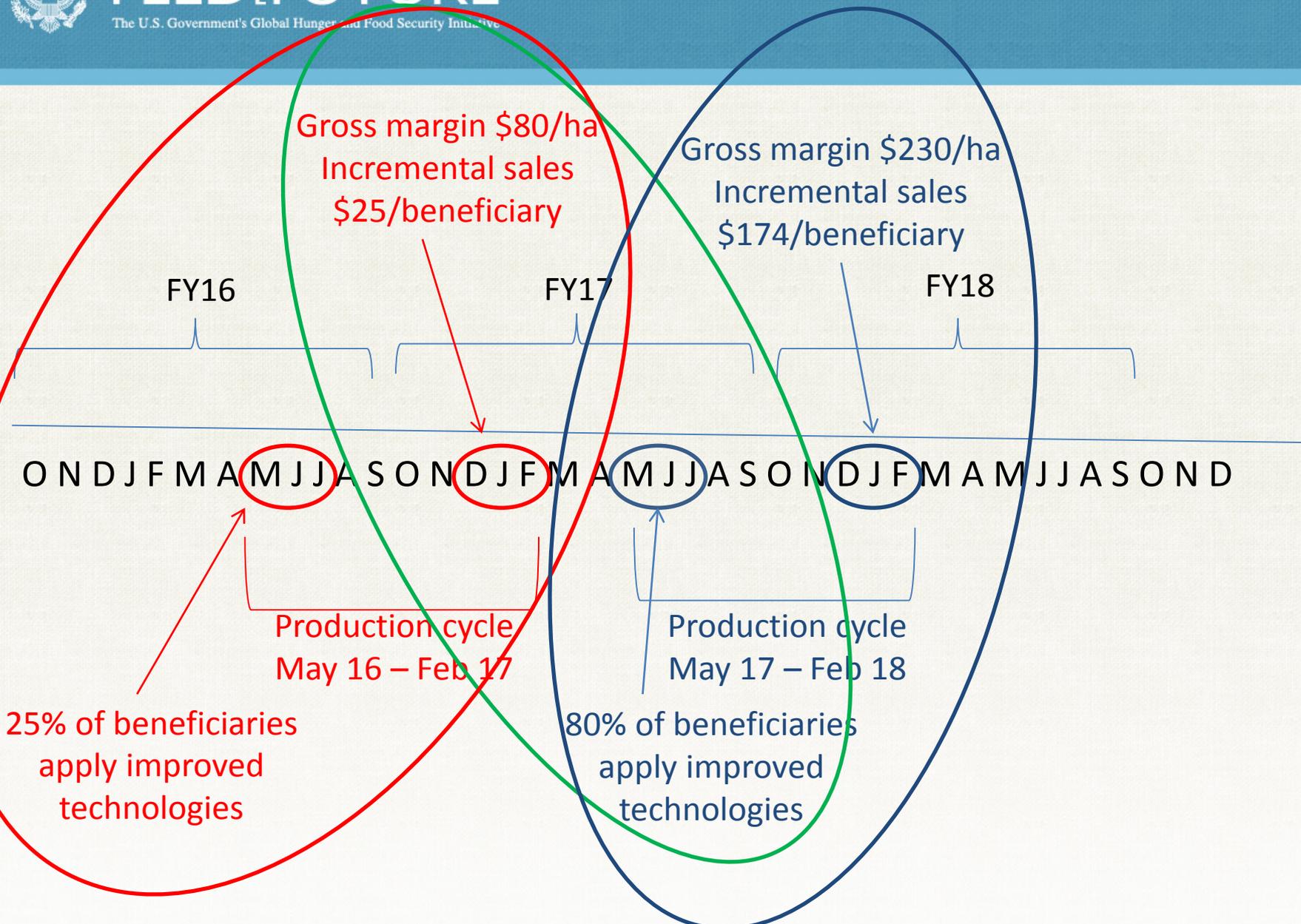
Report together

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



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## 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



- 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

- Crop genetics
- Cultural practices
- Pest management
- Disease management
- Soil-related fertility and conservation
- Irrigation
- Water management-non-irrigation
- Climate mitigation
- Climate adaptation
- Livestock management
- Wild fishing technique/gear
- Aquaculture mgmt
- Marketing & distribution
- Post-harvest handling & storage
- Value-added processing



## 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

	Total	Crops	Livestock
Number of smallholders			
Percent that are small holders			



## Let's fill in the smallholders reached indicator table:

- A country is directly reaching 200,000 small holders
- 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

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



## Let's fill in the smallholders reached indicator table:

- A country is directly reaching 200,000 small holders
- 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

	Total	Crops	Livestock
Number of smallholders	180,000	160,000	20,000
Percent that are small holders	90	100	50



## 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.



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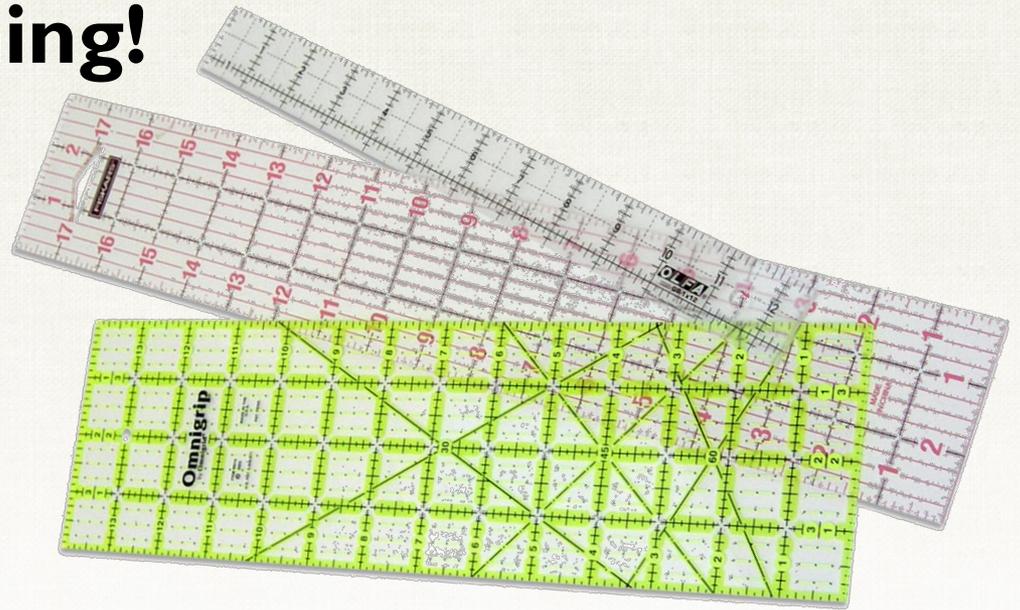
Photo: Fintrac, Inc.

Session 4:

Creating **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.



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Photo: Fenton B. Sands, USAID

## Session 5: Defining Beneficiaries, Baselines and Targets



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*Photo: Karen Chaffraix and Kathleen Barclay*

**Identify direct and indirect beneficiaries  
of Feed the Future activities**



## A direct beneficiary...

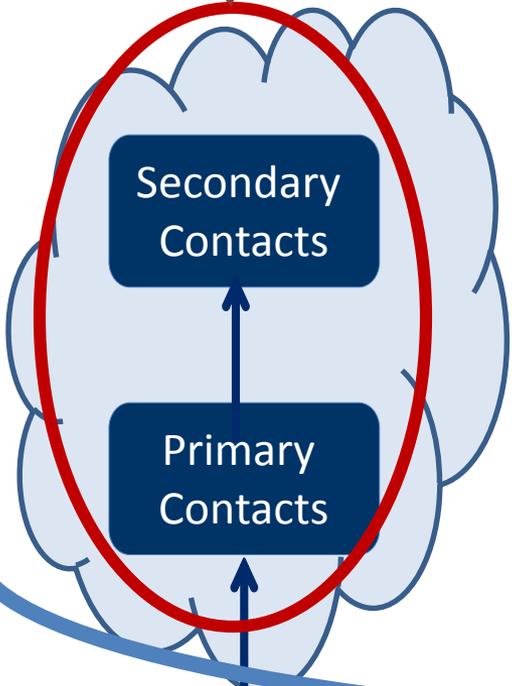
...is an individual or organization that **directly receives** significant **goods or services** with support from the activity

**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**

# Market System

Direct beneficiaries



Secondary Contacts

Primary Contacts

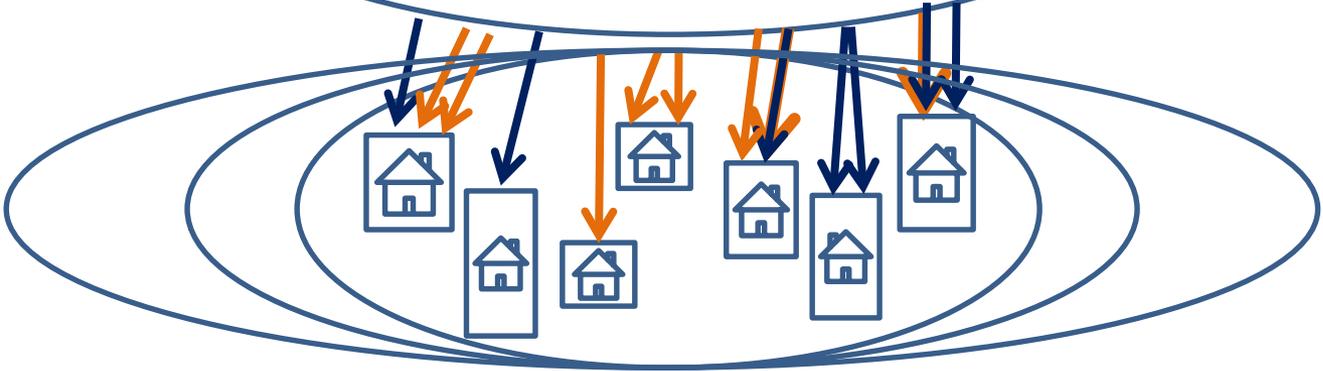


Facilitation Activity

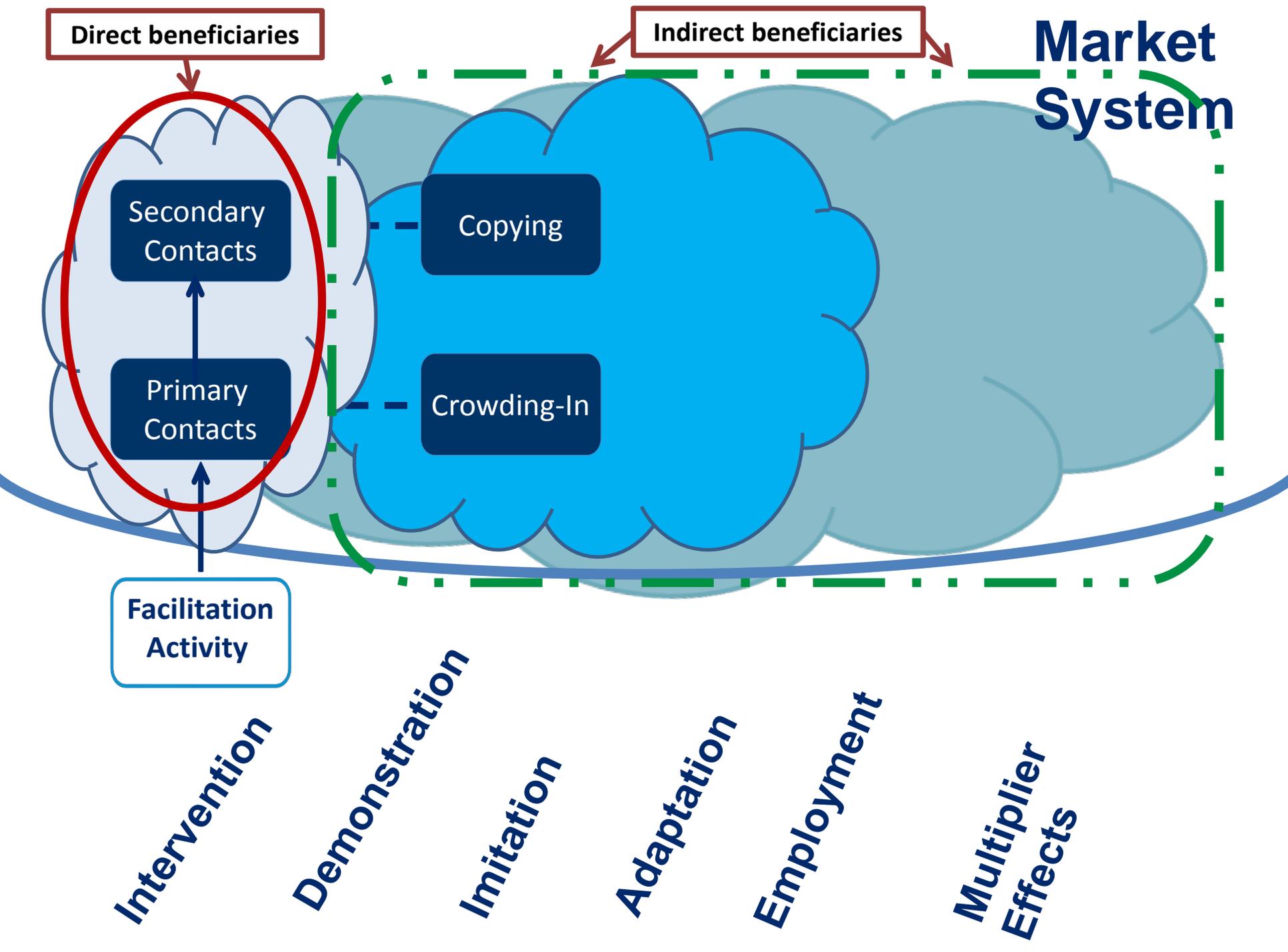
*Intervention*



**DIRECT  
BENEFICIARIES**



**HOUSEHOLDS  
THAT BENEFIT**



Direct beneficiaries

Indirect beneficiaries

Market System

Secondary Contacts

Copying

Primary Contacts

Crowding-In

Facilitation Activity

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



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# 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**

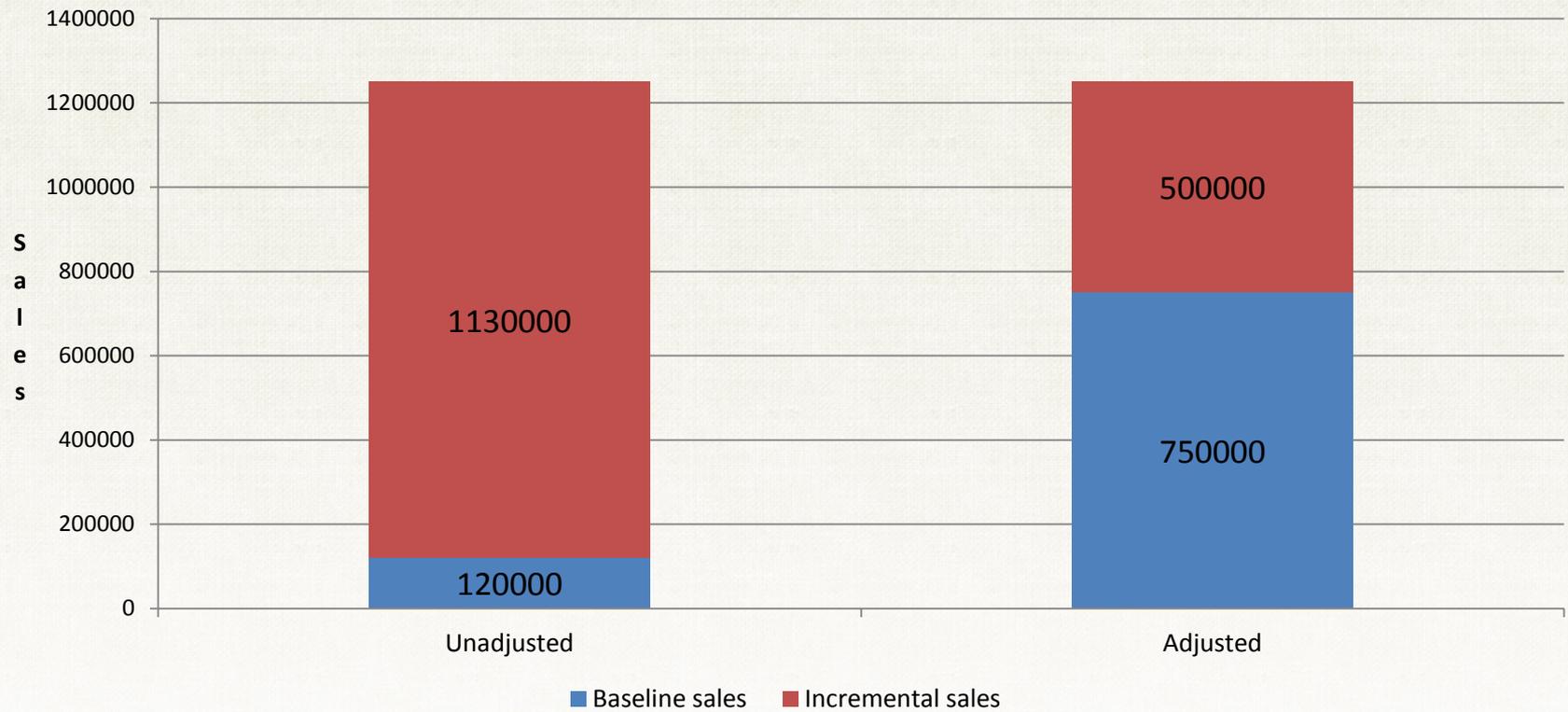
reporting year sales - adjusted baseline sales =

**adjusted incremental sales**



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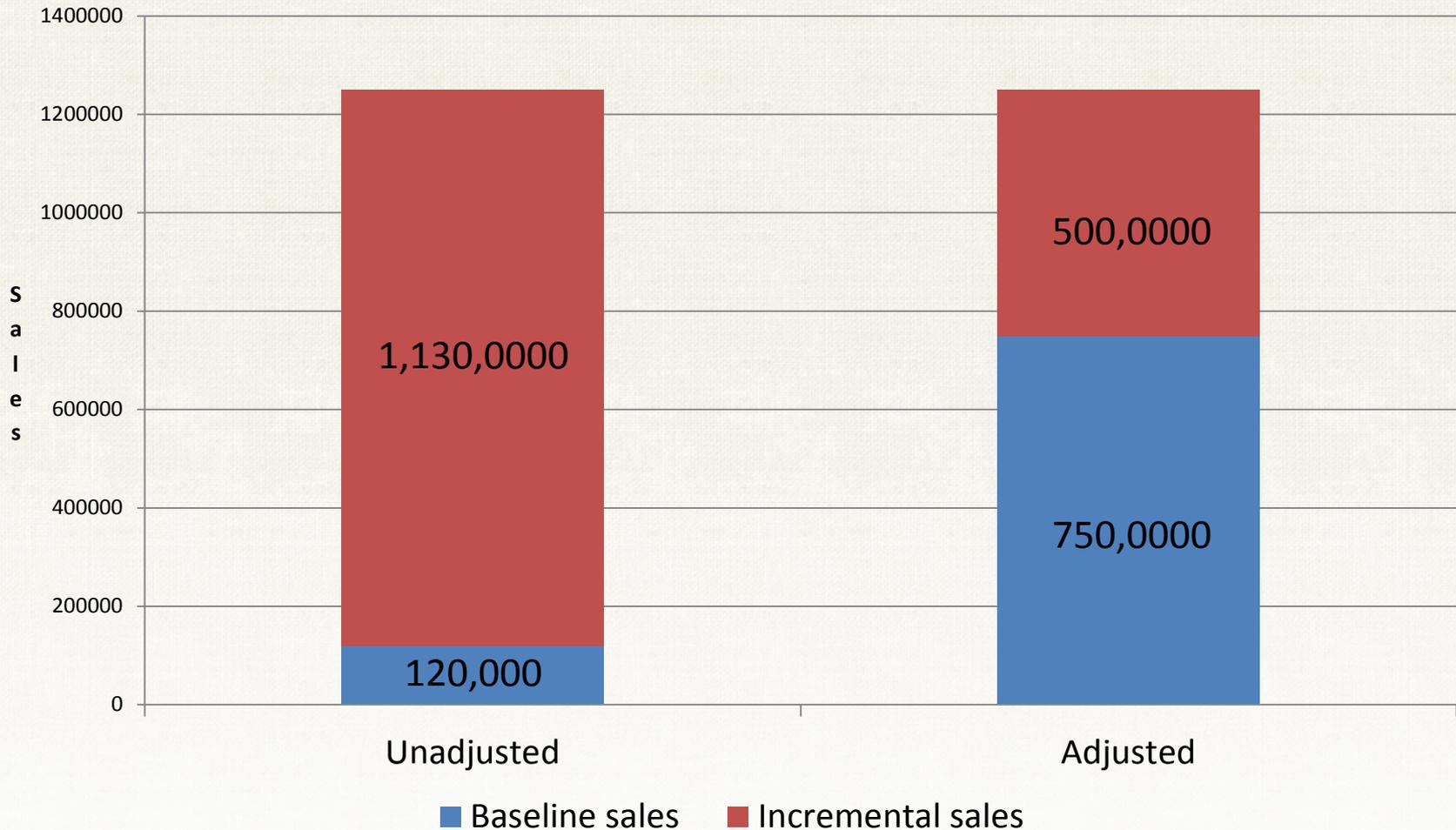
## Calculate Reporting Year:

1. **Unadjusted Incremental Sales** = reporting year sales – baseline sales
2. **Adjusted baseline sales** = baseline sales / baseline beneficiaries X 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.

	Sales	# beneficiaries
Baseline	120,000	4,000
Reporting Year	1,250,000	25,000



## Unadjusted and Adjusted Incremental Sales





## **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.



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## 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



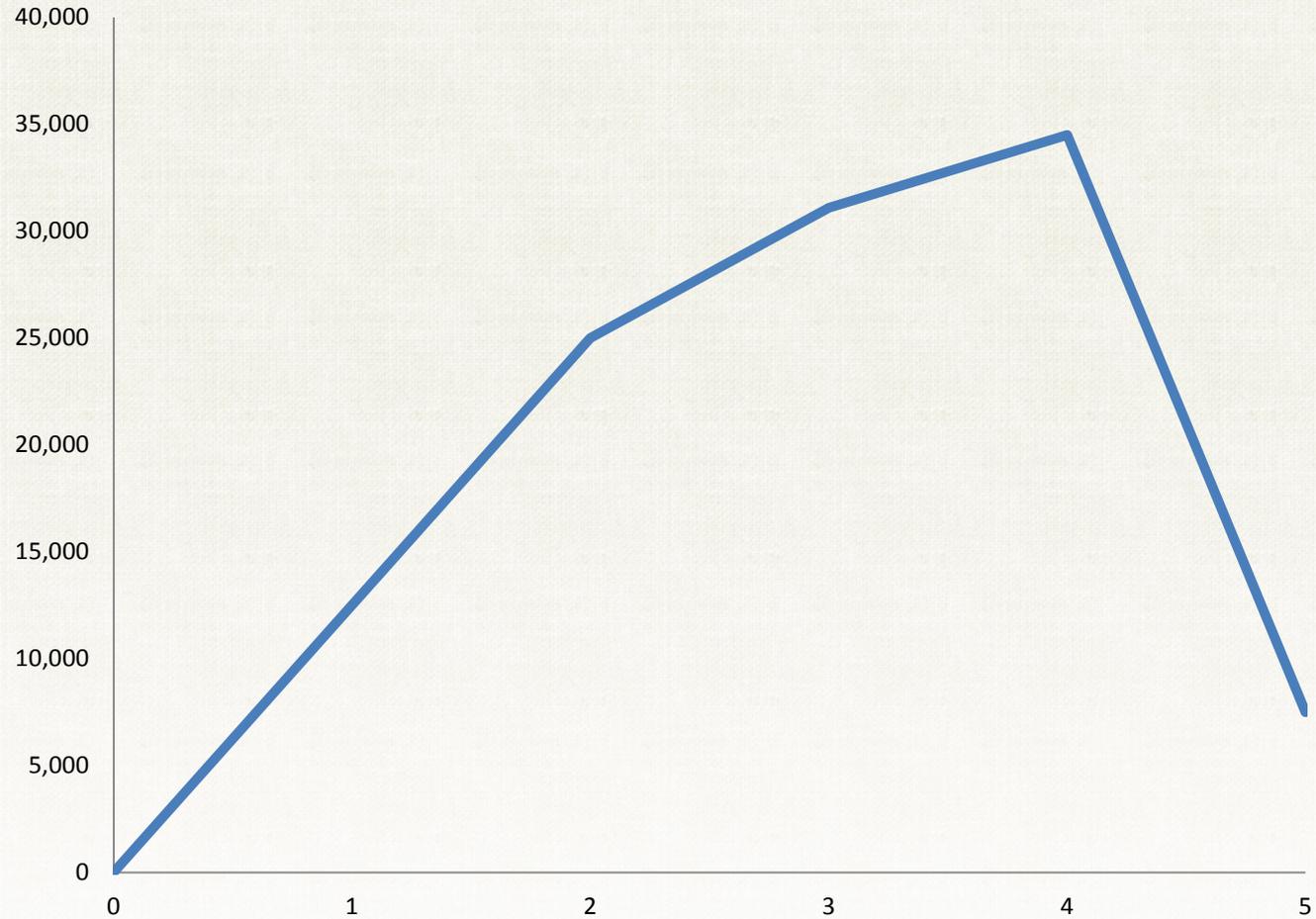
## General considerations in setting targets

- 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



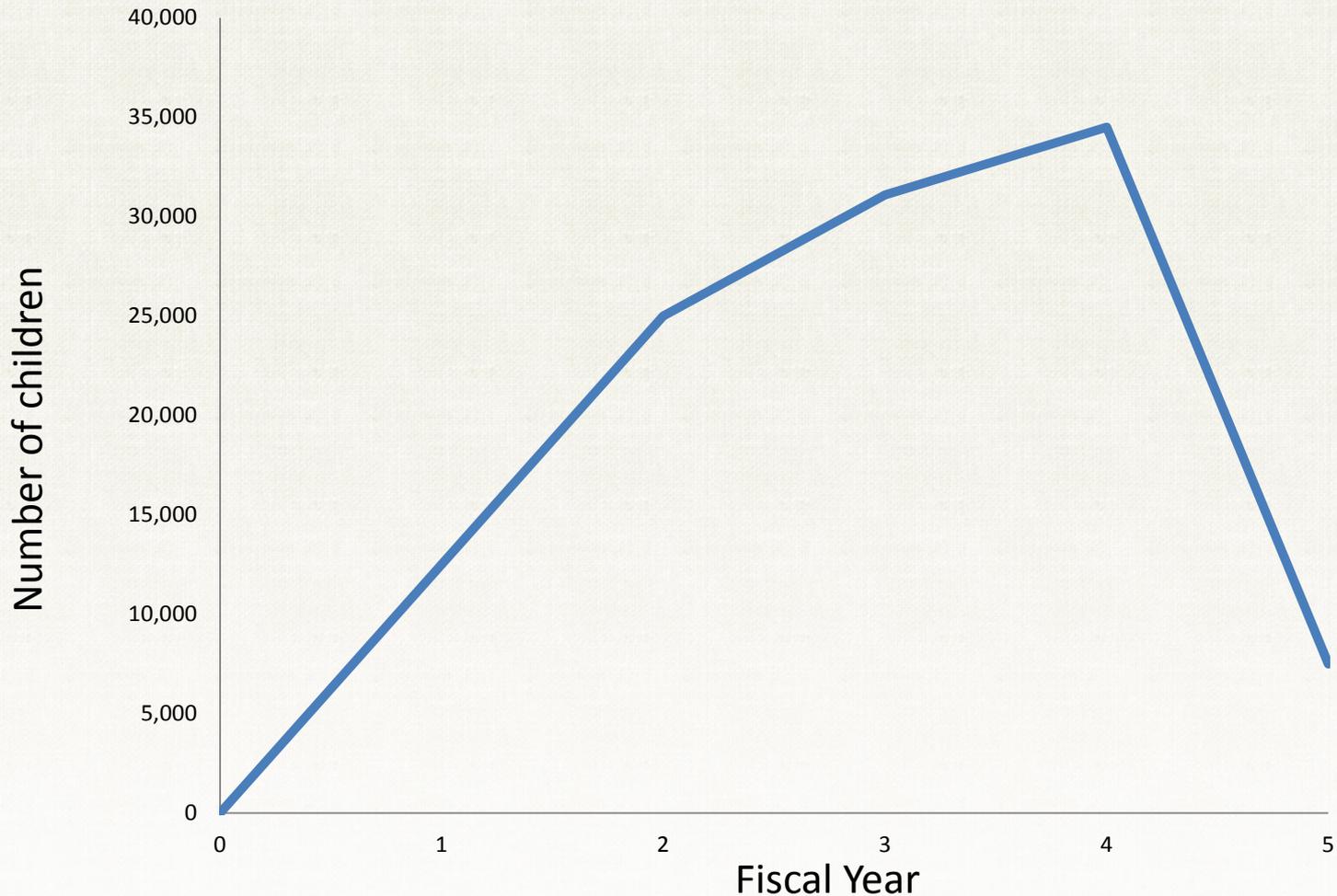
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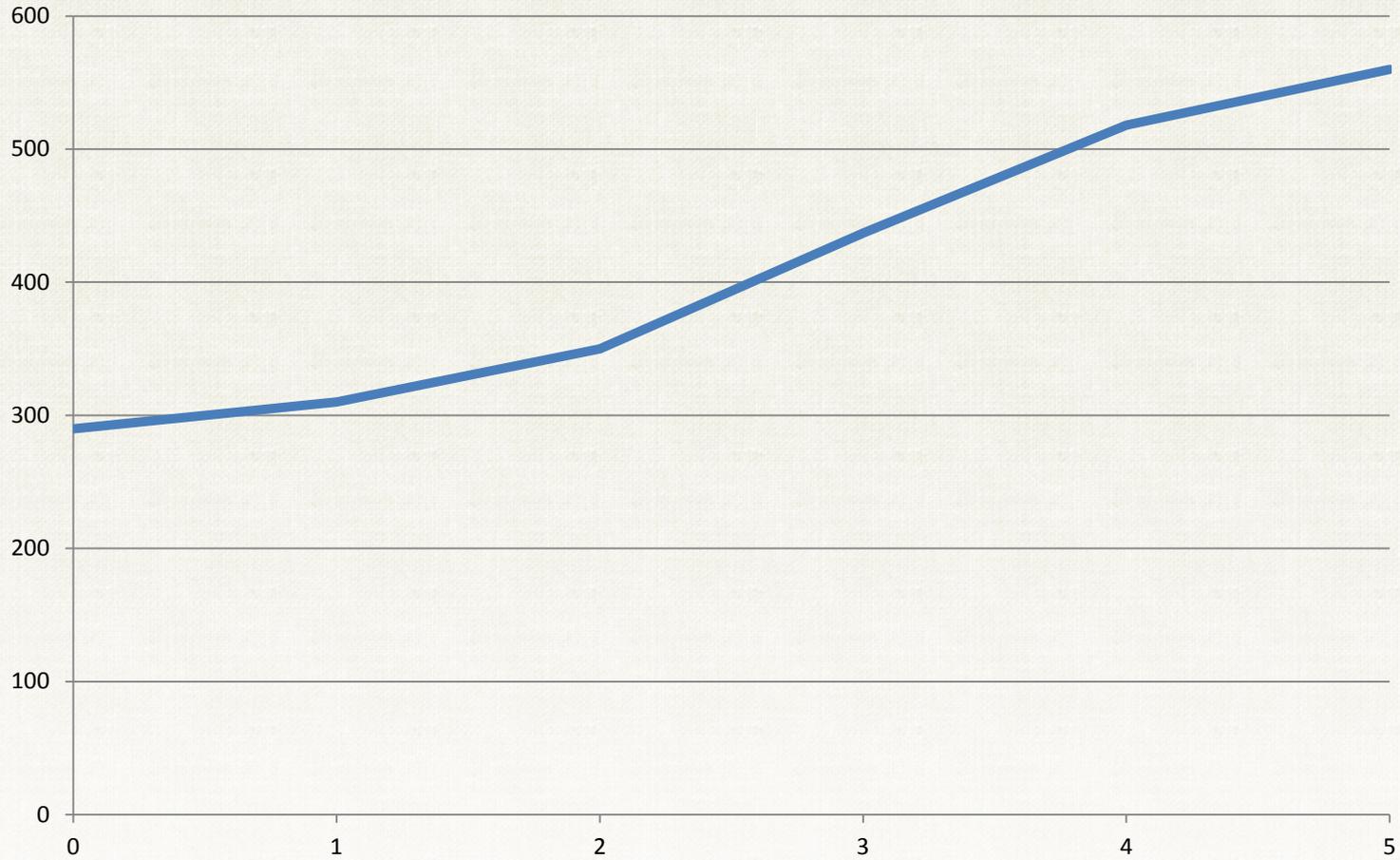
## 3.1.9.(15) Number of children under five reached by USG-supported nutrition programs - NUTSENAG Annual Targets





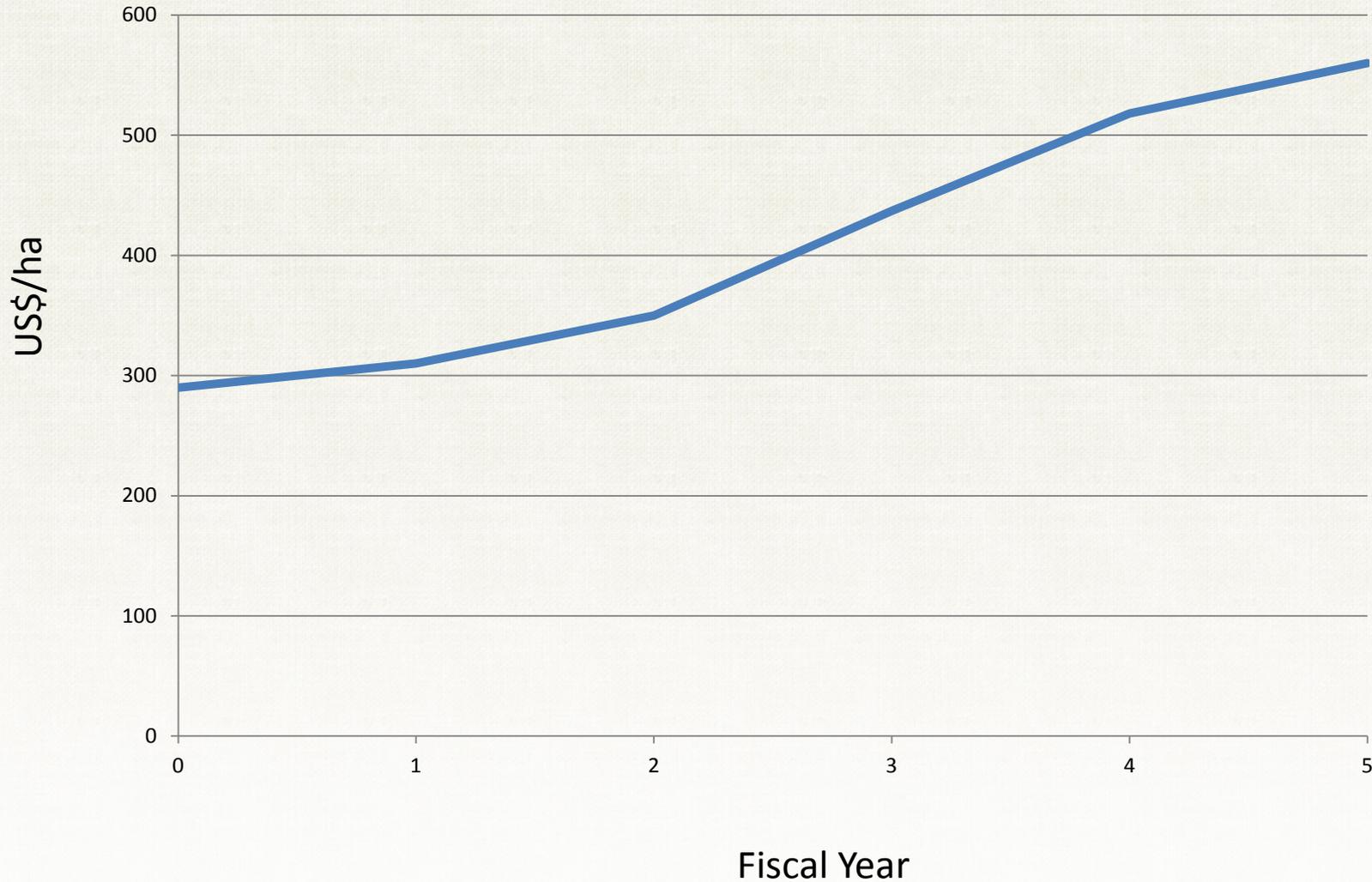
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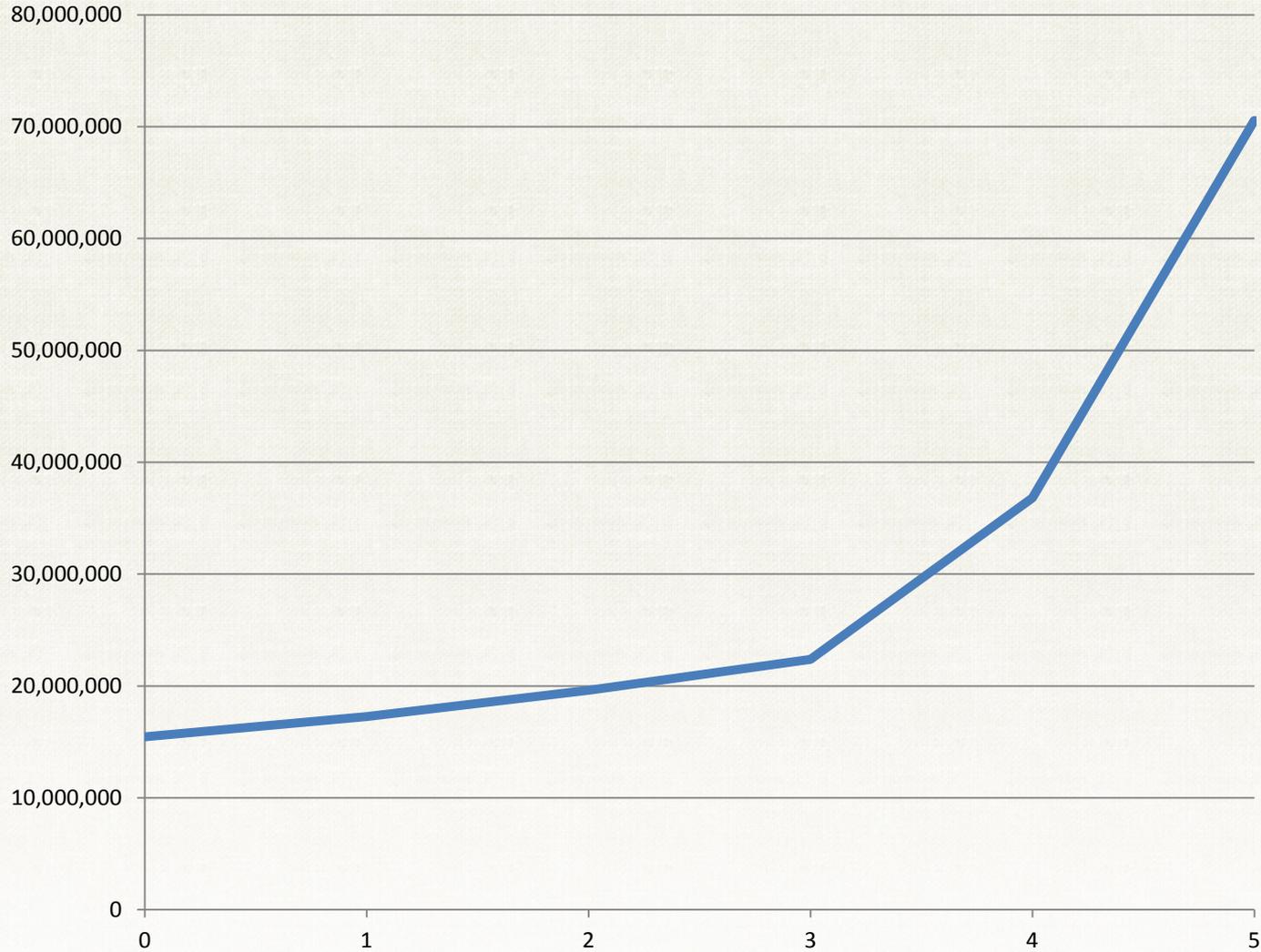
## 4.5(I6) Gross Margins, Soybeans - NUTSENAG Annual Targets





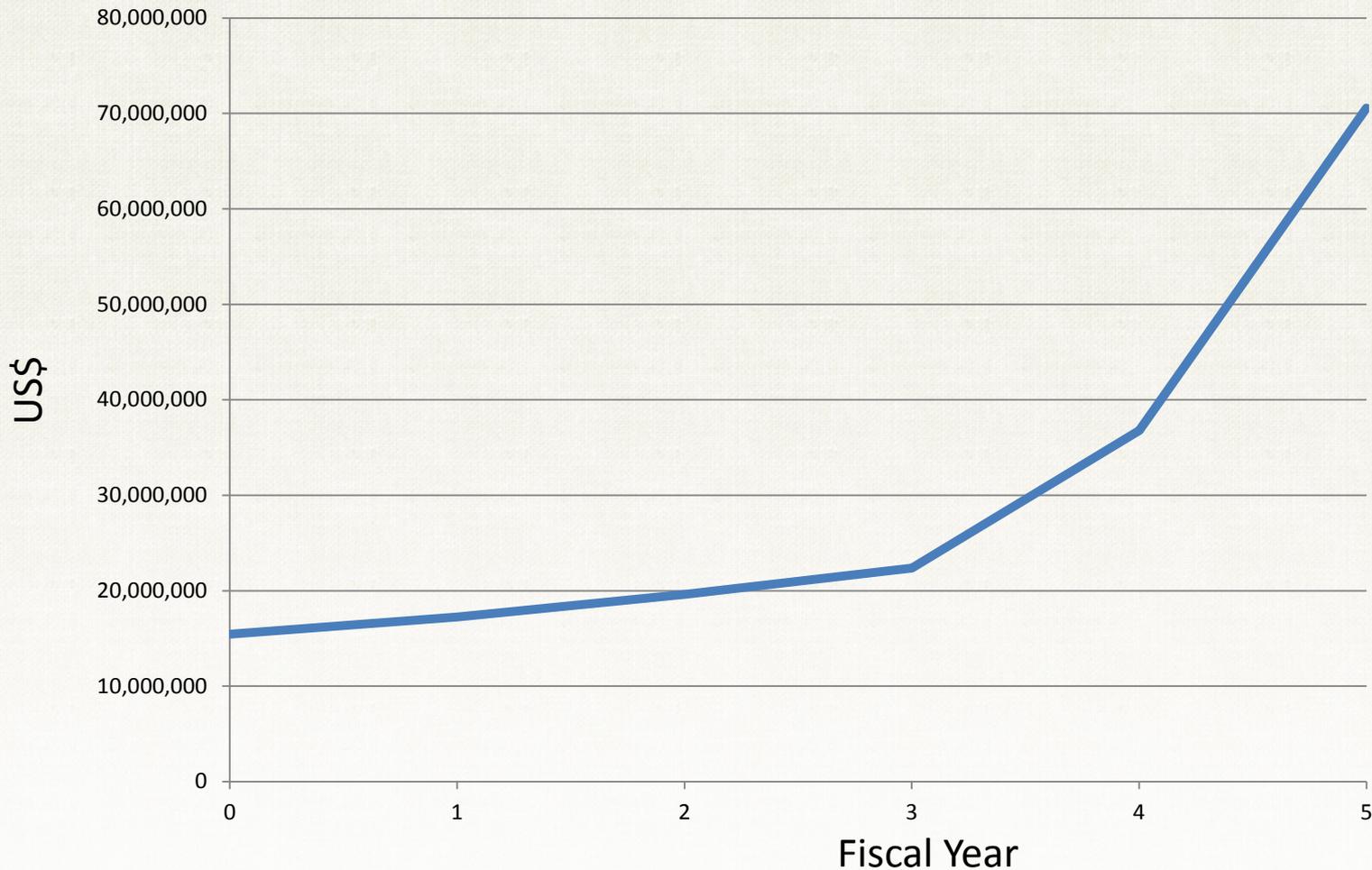
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## 4.5.2(23): Value of incremental sales (collected at farm-level) attributed to FTF implementation- NUTSENAG Annual Targets





## Tools for setting targets

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



## Historical Data: Trend Analysis

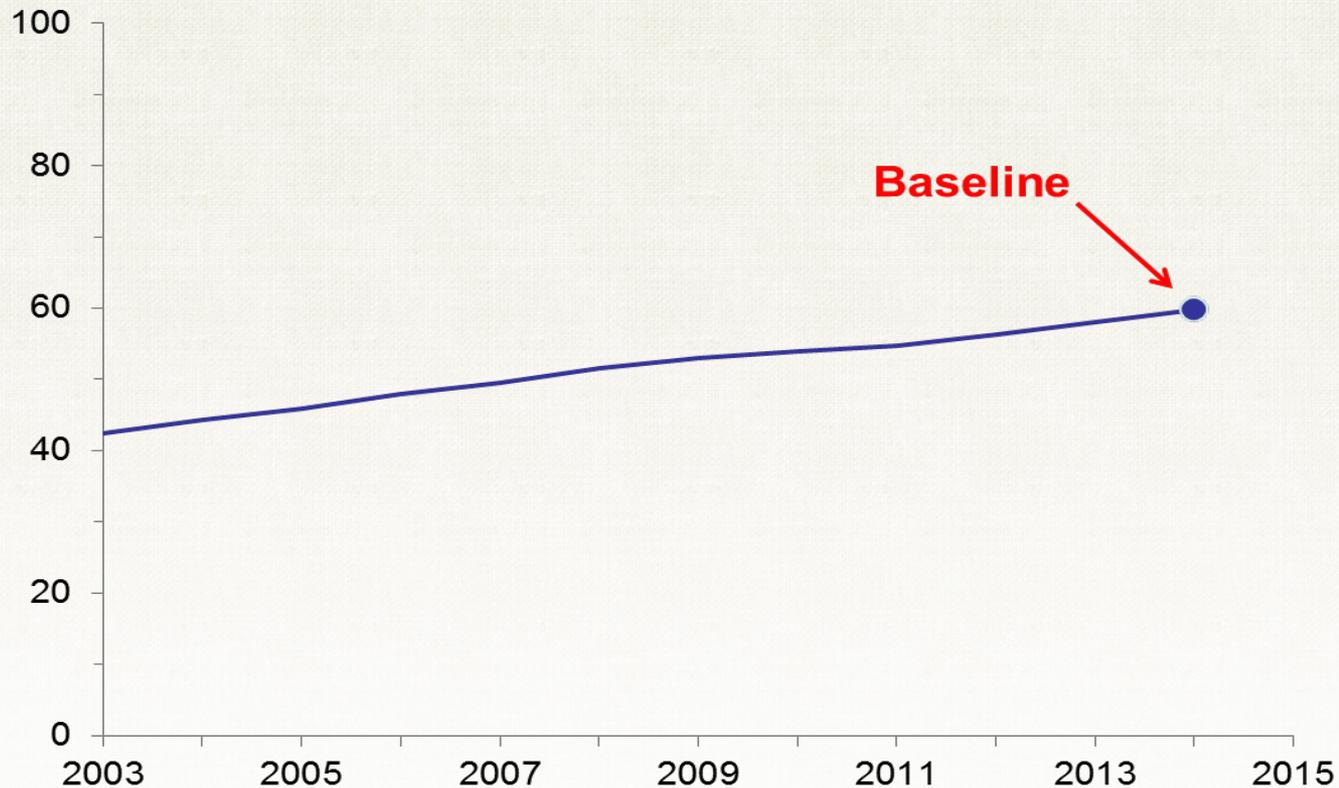
- Is historical data available?
  - For what administrative level?
  - Does it include your focus value chains?
- Do you have enough data points to detect a trend if one exists?

Too few data points can be misleading!



## Trend Analysis

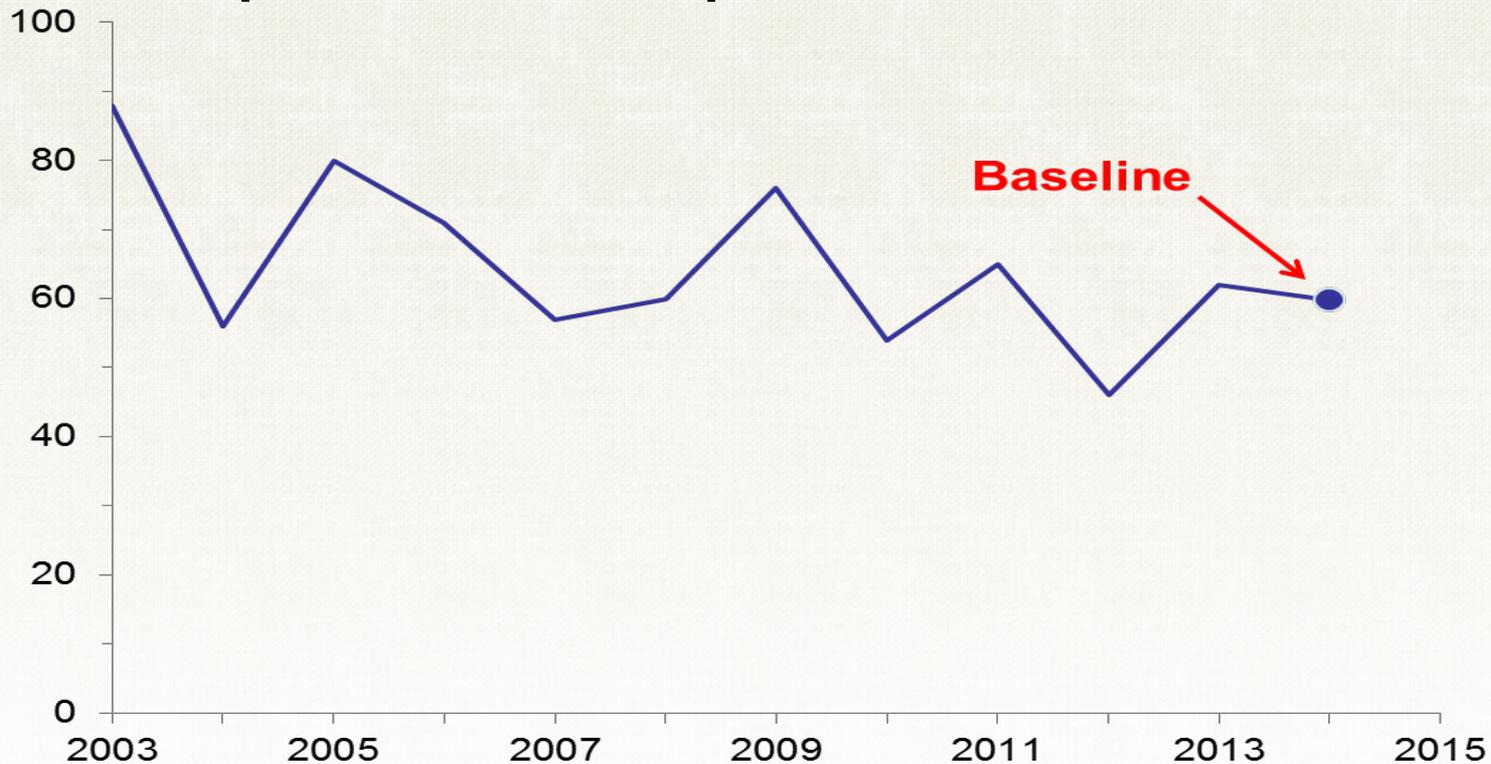
- Example: a smooth upward sloping trend





## 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]



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



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



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



## 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)

costs

$[\text{Prod} * (\text{value sales}/\text{vol. sales})] - \text{input}$

---

Unit of production



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## TABLE OF PARAMETERS

### WITHOUT PROJECT - YAMS

<b>Discount Rate</b>	0.12	%
<b>Production Information</b>	<b>Quantity</b>	<b>Units</b>
Price (Year 0)	3.75	\$/kg
Price (Years 1 - 9)	0%	annual % change
Yield	475	kg/ha
Additional Yield Year 1 - 9	0	kg/ha
Household Consumption	75	per HH
<b>Costs</b>		
Seeds	25	\$/ha
Fertilizer	35	\$/ha
Land Rent (opportunity cost)	500	\$/ha
Irrigation	20	\$/ha
New Investment (Year 0 only)	0	\$/ha
Depreciation (Y1+)	0	\$/ha
Family Labor (opportunity cost)	150	days per ha
Hired Labor	5	days per ha
Wage Rate	1.25	\$ per day
<b>Farm Characteristics</b>		
Farm Size	1.5	ha
Average HH Size	4.5	persons

### WITH PROJECT - YAMS

<b>Production Information</b>	<b>Quantity</b>	<b>same as W/O)</b>
Price	3.75	\$/kg
Price (Years 1 - 9)	0%	annual % change
Yield	575	kg/ha
Additional Yield Year 1 - 9	0	kg/ha
Household Consumption	75	per HH
<b>Costs</b>		
Seeds	50	\$/ha
Fertilizer	60	\$/ha
Land Rent (opportunity cost)	500	\$/ha
Irrigation	40	\$/ha
New Investment (Year 0 only)	200	\$/ha
Depreciation (Y1+)	50	\$/ha
Family Labor (opportunity cost)	200	days per ha
Hired Labor	40	days per ha
Wage Rate	1.25	\$ per day
<b>Farm Characteristics</b>		
Farm Size	1.5	ha
Average HH Size	4.5	persons



## 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?



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Session 6:  
Collecting Performance  
Monitoring Data

Photo: Erin Aquino, Peace Corps

## Session 6: Collecting Performance Monitoring Data



## Gantt Charts

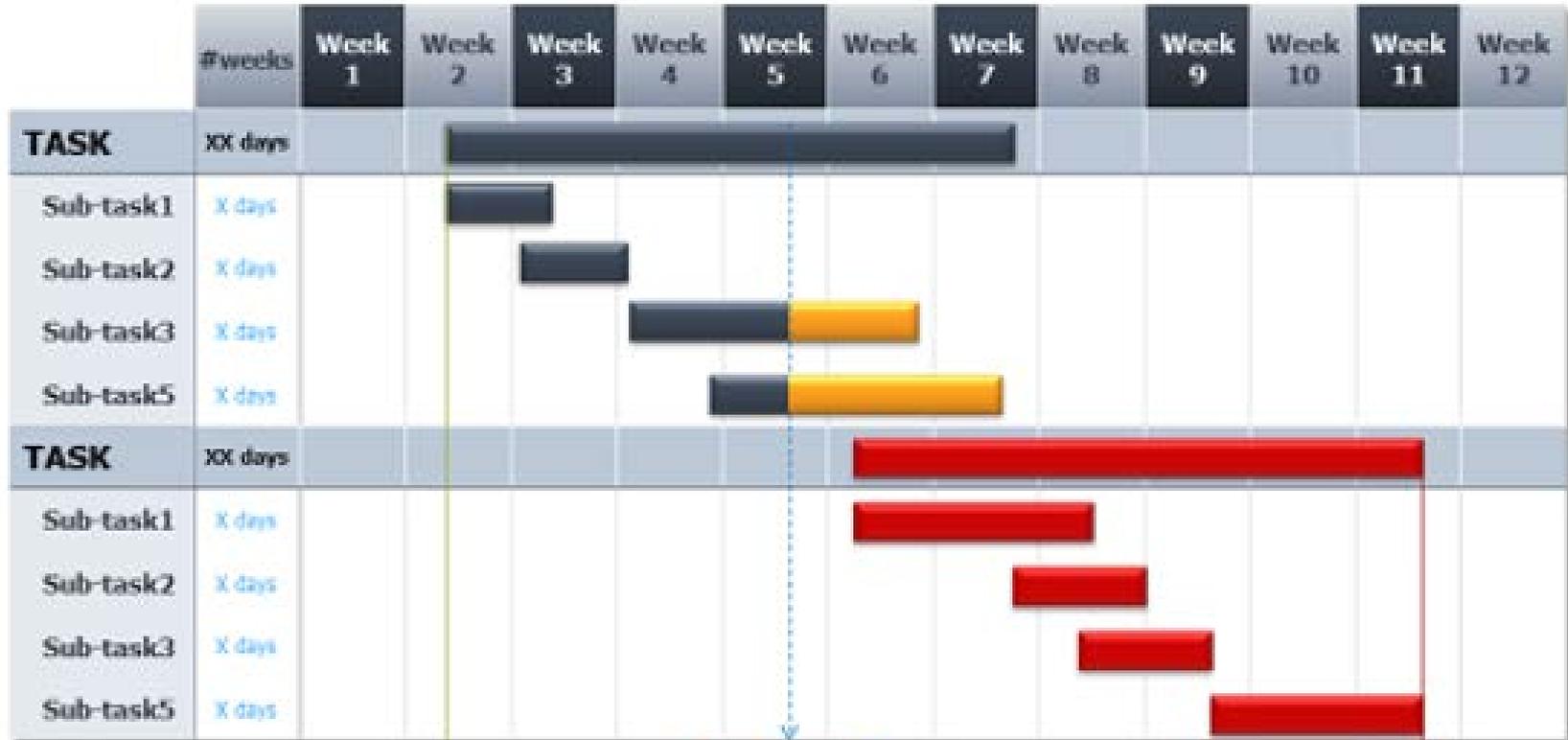
- Activities
  - Shows you what needs to be done
- Time lines
  - Shows you when activities need to be done





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Completed



To be completed



Not started



## 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.

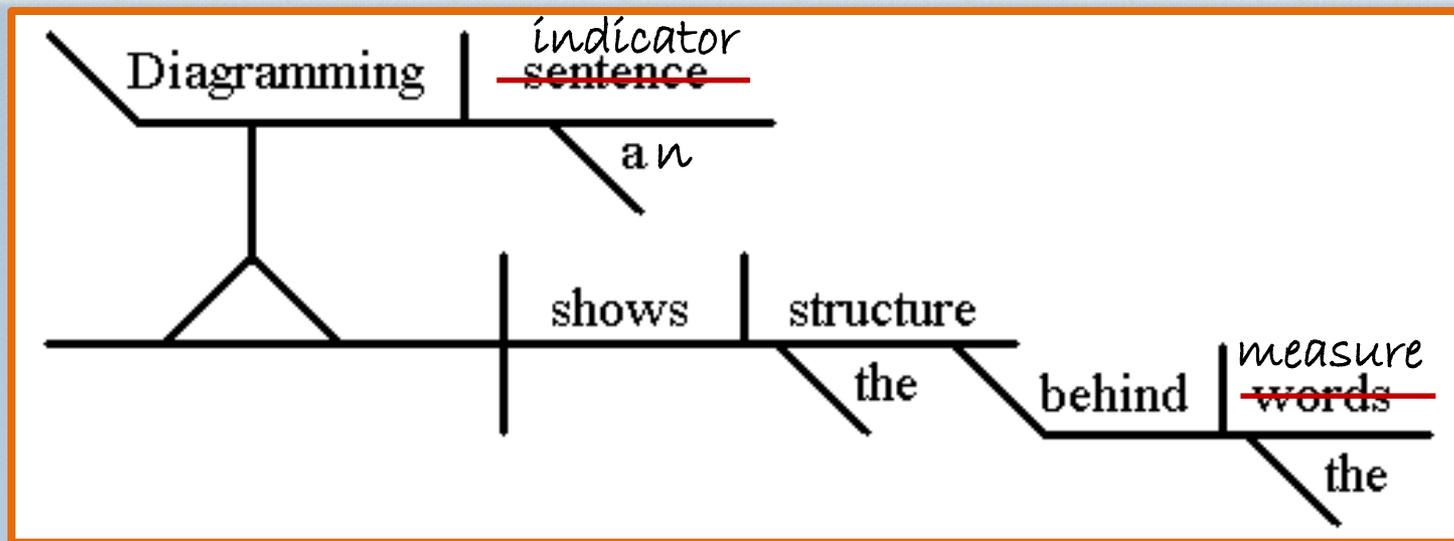
*Measure twice...*





## '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:

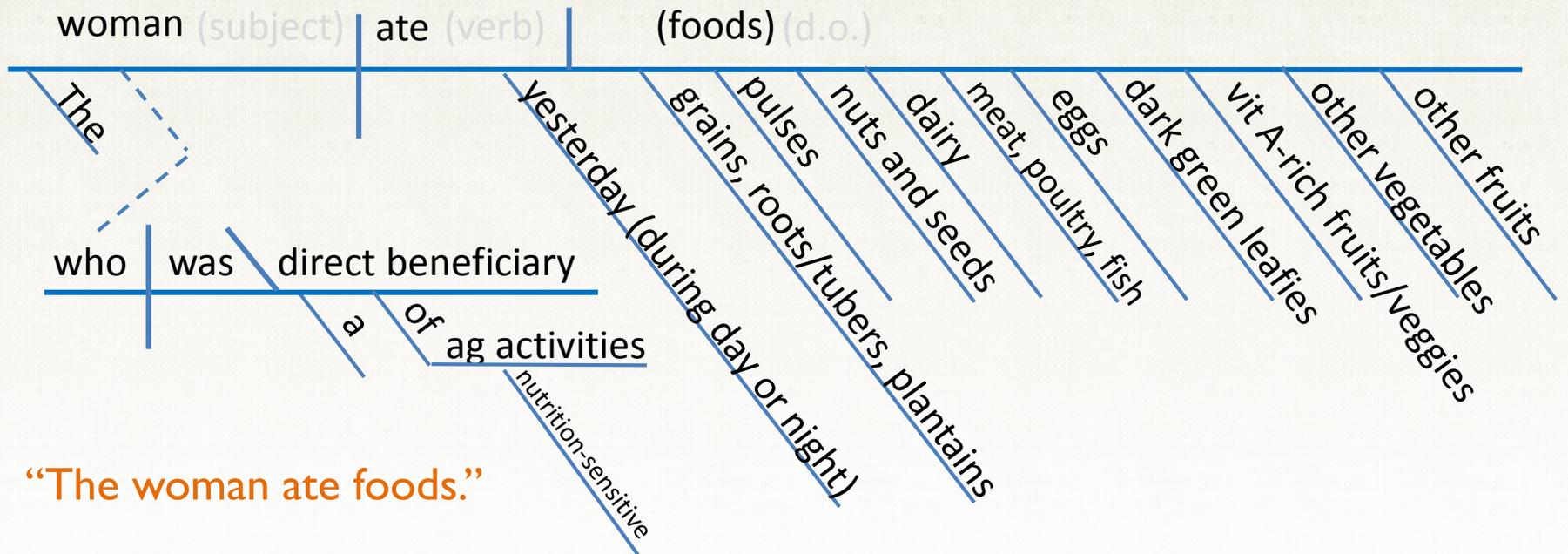
The woman ate foods.

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





## **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:

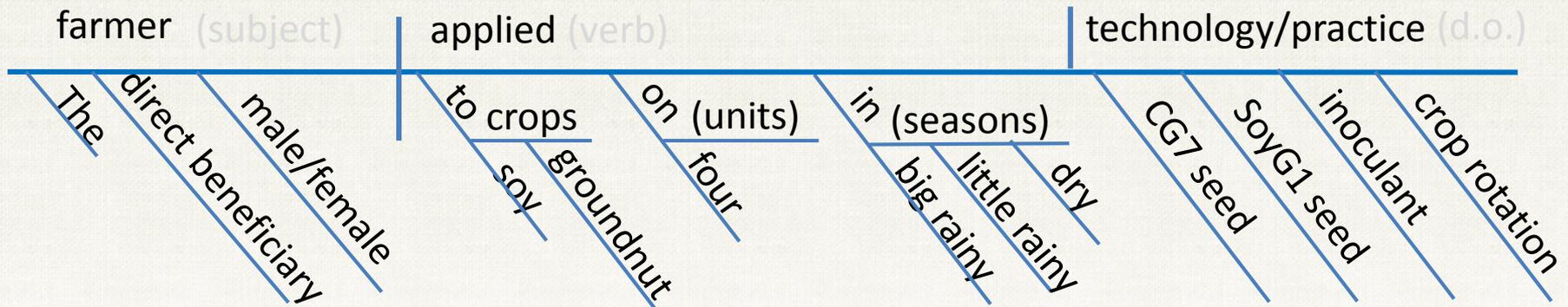
Who, what, where, when?



## INDICATOR EG.3.2-18:

**Number of hectares under improved technologies or management practices**

*(answer to independent exercise)*



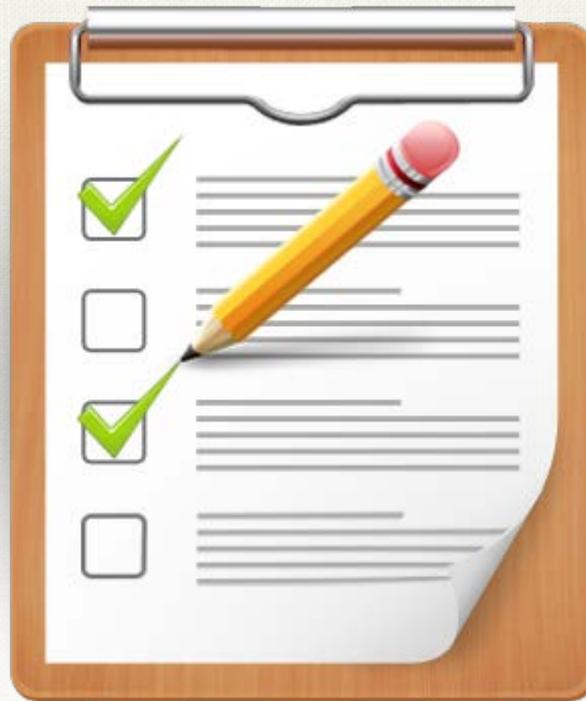
“The farmer applied the technology/practice to crops on [x] hectares of land.”



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# 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:

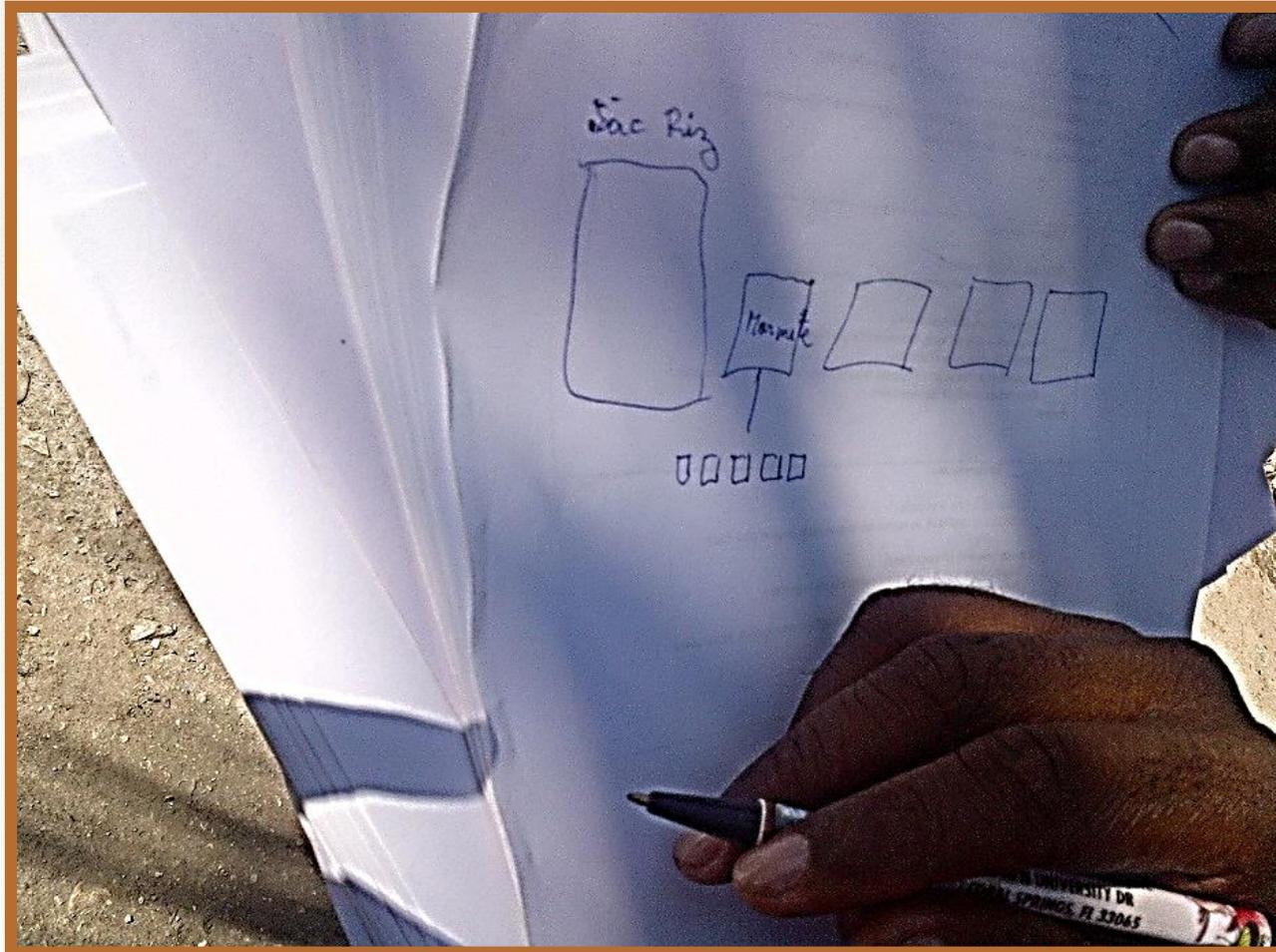
# “Let’s just use questions from...”

- 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

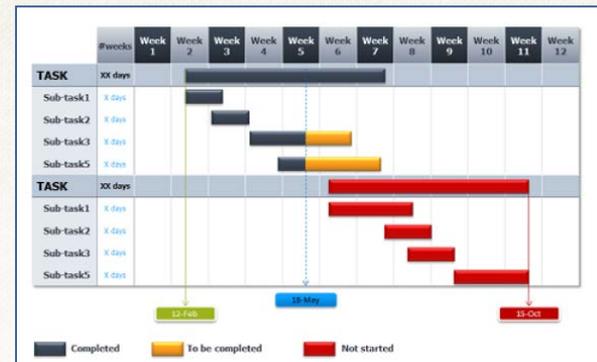
- All questions have to be asked of the same eligibility-type respondent across every household, using the same words or properly translated versions thereof.
- No translation on the fly!



## Individual Application

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

...draft a Gantt Chart for the activity





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## 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.



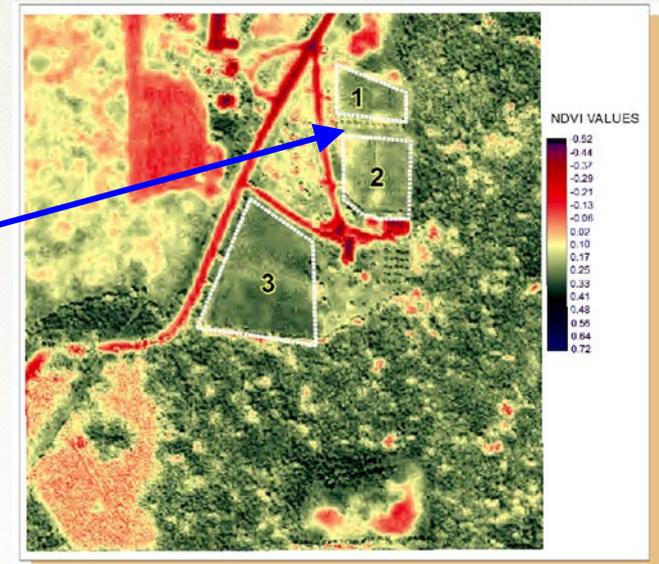


## Measuring Area

### 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

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



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?



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# Measuring Area

## Questions and Answers



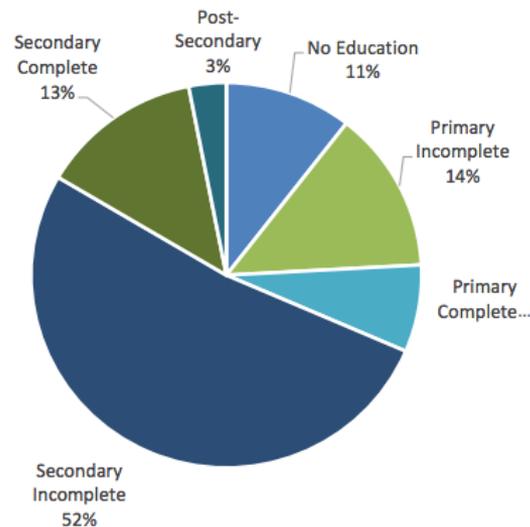


## Using Geospatial Data

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

#### What you typically see:

FIG 3. EDUCATIONAL ATTAINMENT, YOUTH AGES 15-24



Data source: EPDC extraction of DHS dataset 2009

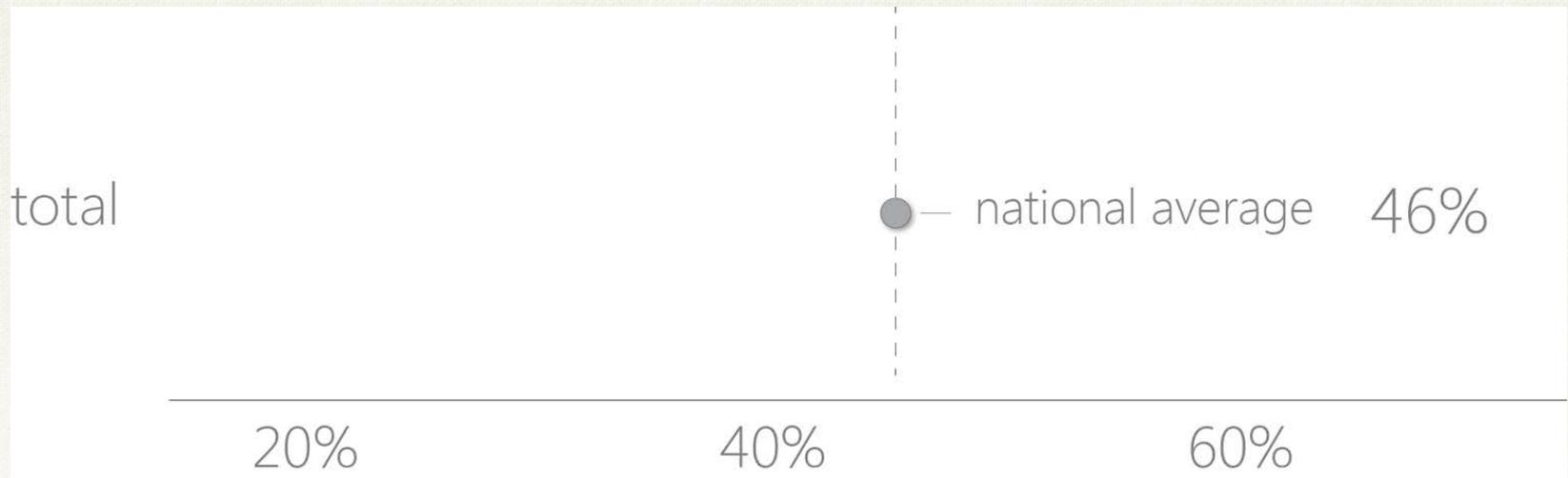
#### What else might you want to know?

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



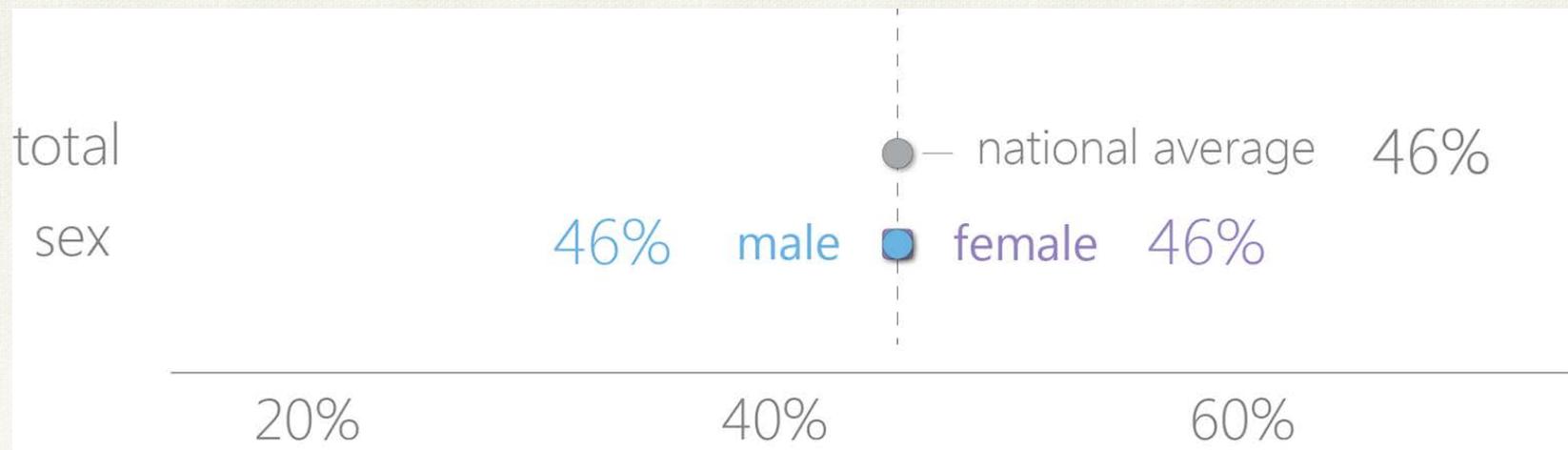
## Breaking down secondary school completion

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



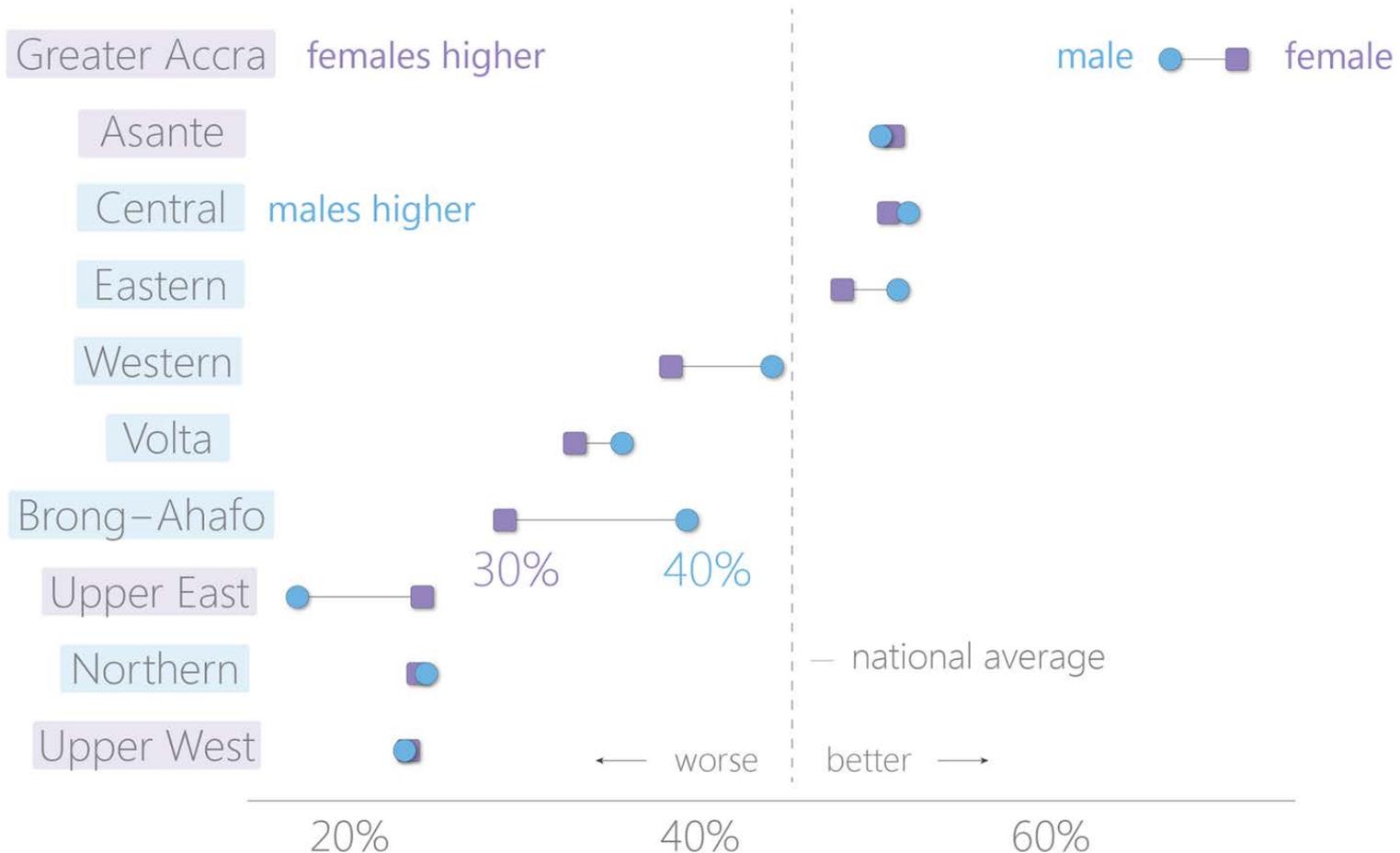


On average, there's no difference between males and females:



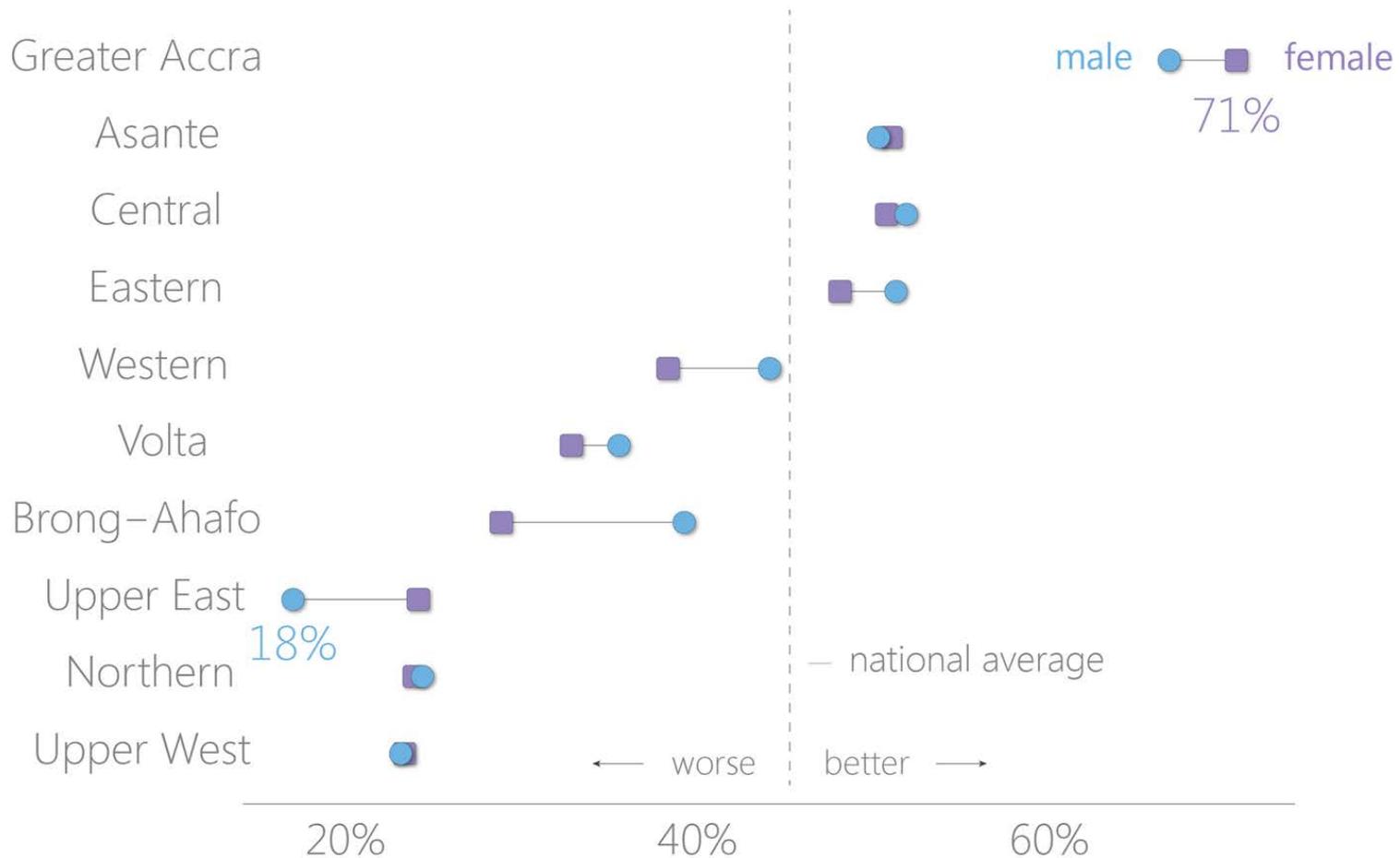


Lower secondary school varies substantially by sex:





## Lower secondary school varies substantially by geography:





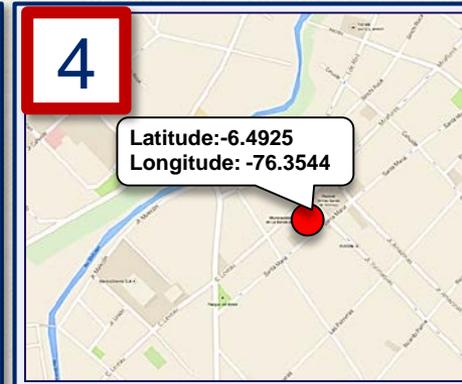
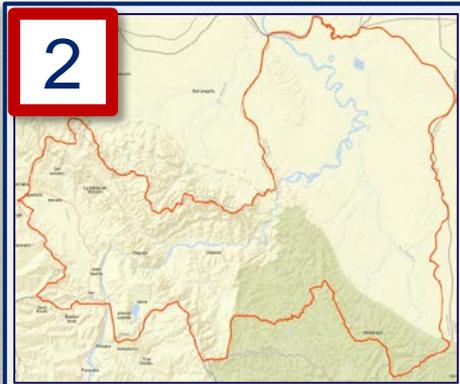
## Common ways to disaggregate data



- 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?



Dept. (Admin 1)

Province (Admin 2)

Populated Place

Exact Location



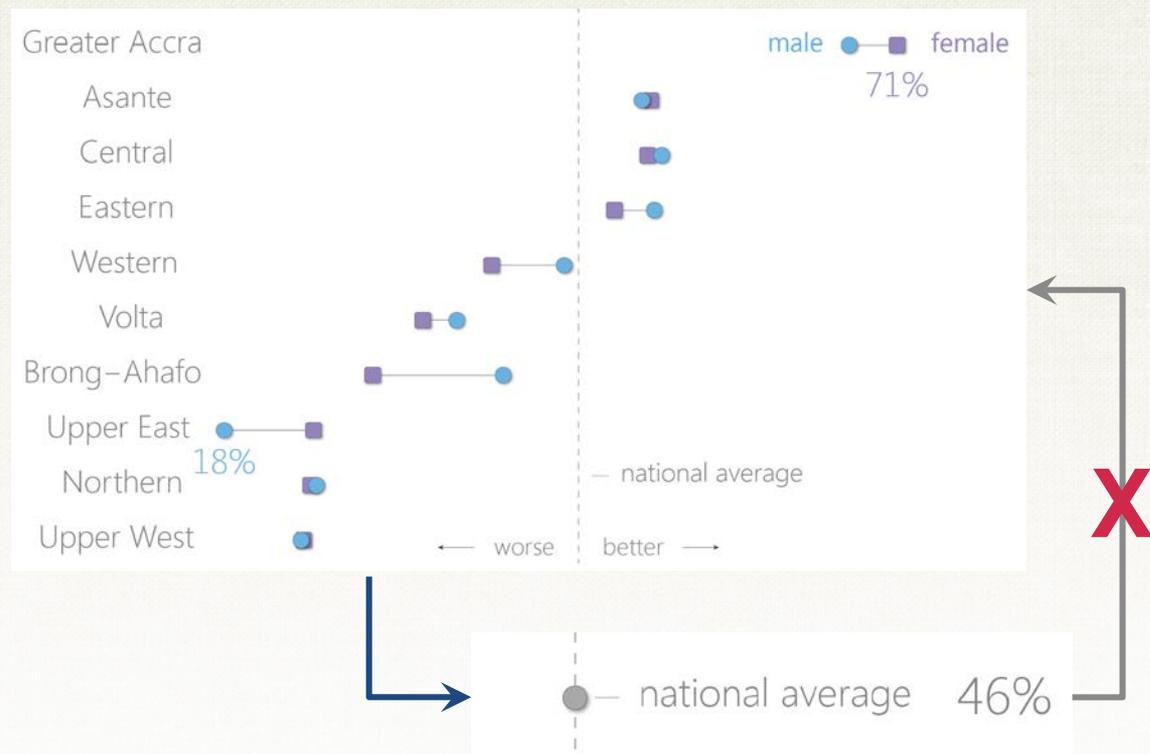
This is how data at these different geographic scales is represented in a table

MAP #	Admin 1	Admin 2	Populated Place	Latitude	Longitude	Activity/IM Task Name
1	San Martin					Microfinance
2	San Martin	Lamas				Microfinance
3	San Martin	Lamas	Tarapoto			Microfinance
4	San Martin	Lamas	Tarapoto	-6.4925	-76.3544	Microfinance



## 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?*



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# Sampling Basics

Performance Monitoring



Photo:

## Two Sampling Principles



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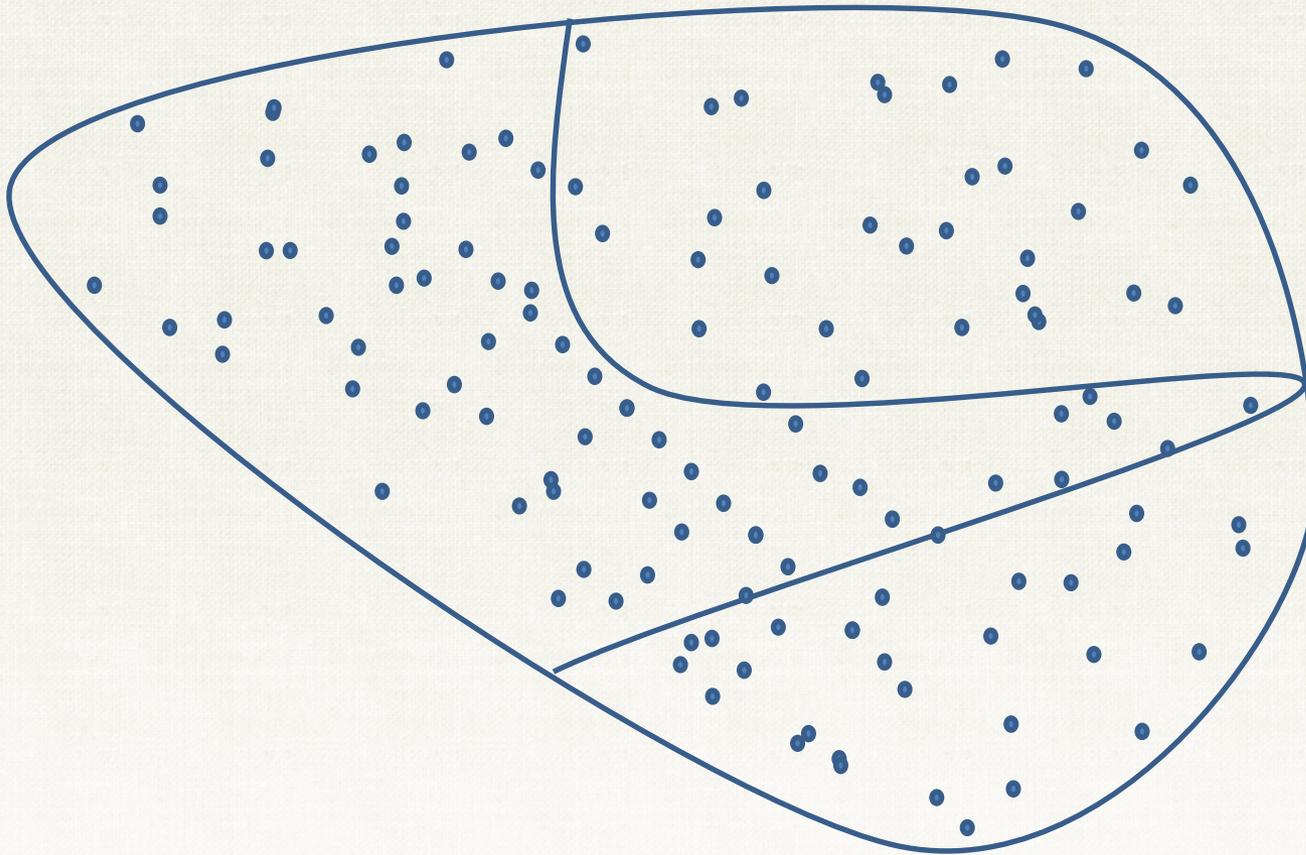
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**We want the sample to be  
representative at a district level.**



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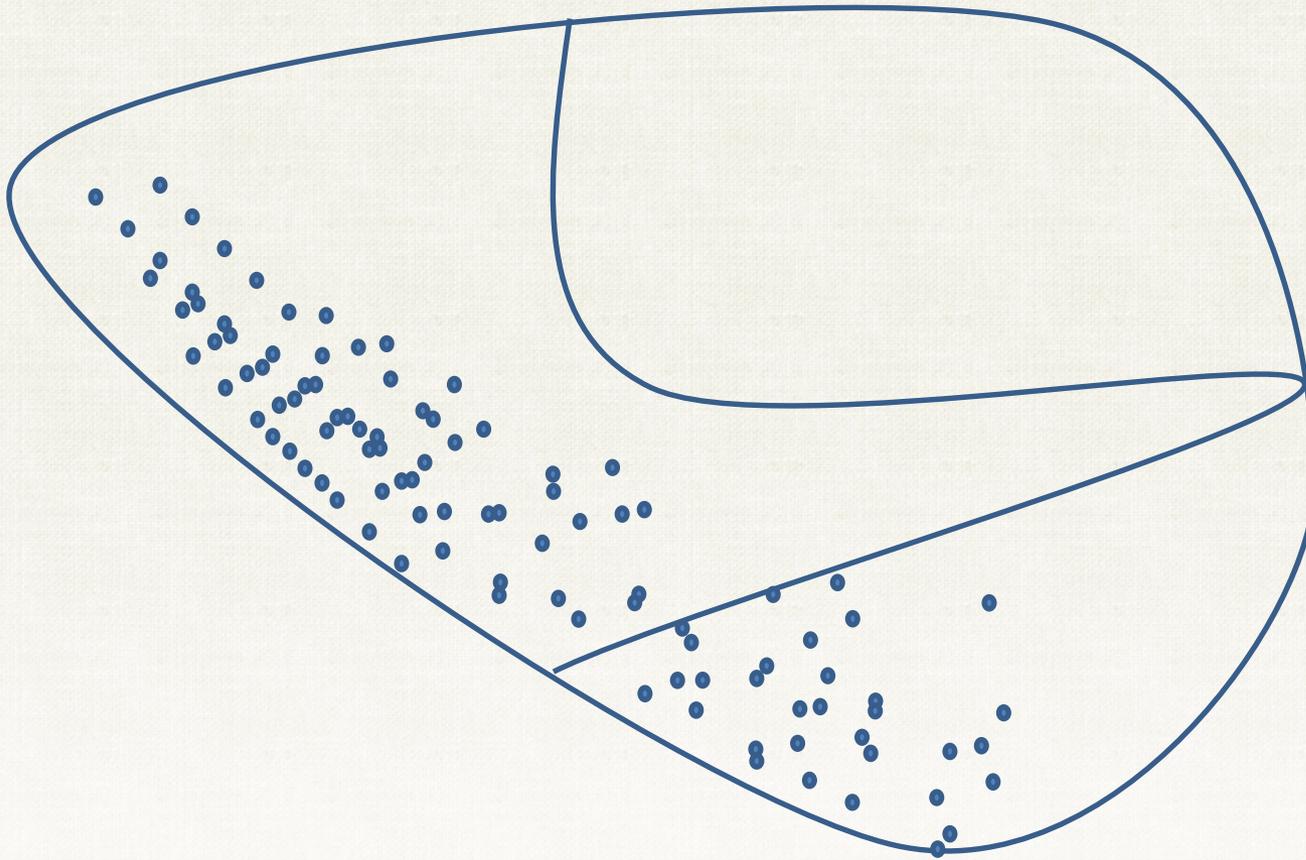
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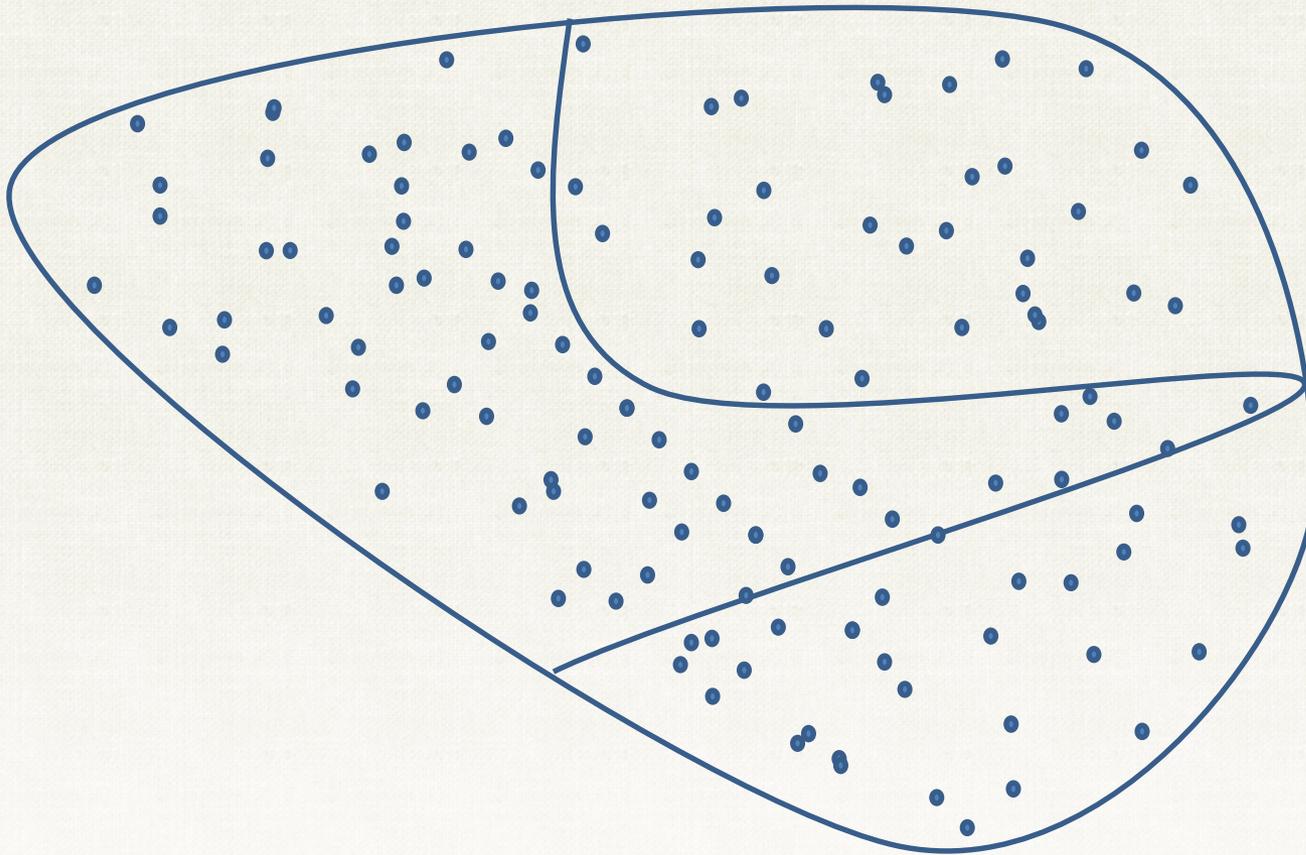
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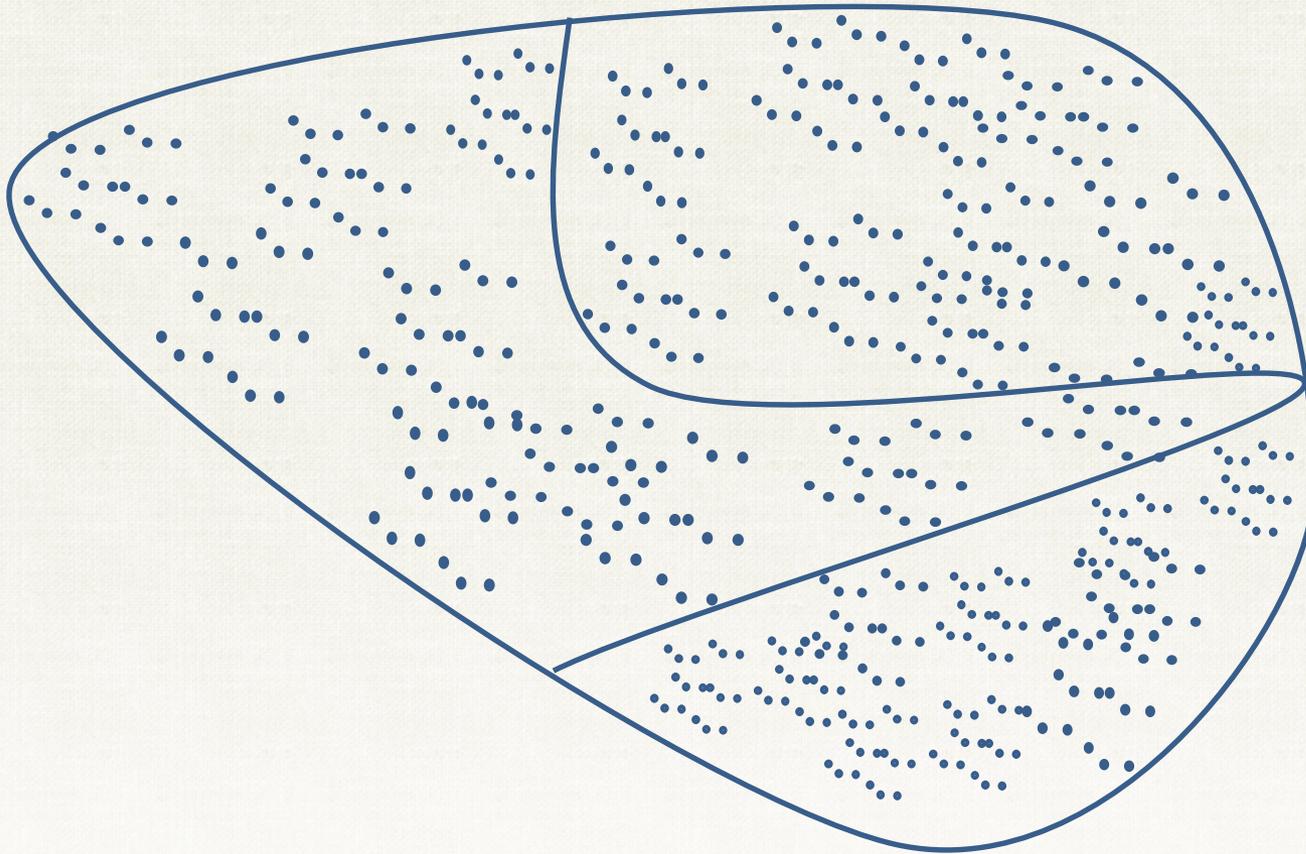
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**We want the sample to be  
representative at a district level.**



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# Sampling Guide for Beneficiary-based Surveys for Select Feed The Future Agricultural Annual Monitoring Indicators & Sample Size Calculator

<https://agrilinks.org/library/sampling-guide-beneficiary-based-surveys-select-feed-future-agricultural-annual-monitoring>



## 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



- Feed the Future Agricultural Indicators Handbook:  
[https://agrilinks.org/sites/default/files/resource/files/FTF\\_Agriculture\\_Indicators\\_Guide\\_Mar\\_2015.pdf](https://agrilinks.org/sites/default/files/resource/files/FTF_Agriculture_Indicators_Guide_Mar_2015.pdf)
- USGS Global Positioning Application and Practice:  
<http://water.usgs.gov/osw/gps/>
- GNSS in Africa : [http://www.gnss-africa.org/?page\\_id=23](http://www.gnss-africa.org/?page_id=23)
- [Measurement, Farm Size and Productivity \(LSMS-ISA/WorldBank\)](http://siteresources.worldbank.org/INTSURAGRI/Resources/7420178-1294259038276/Fact_Artifact_Brief.pdf)  
[http://siteresources.worldbank.org/INTSURAGRI/Resources/7420178-1294259038276/Fact\\_Artifact\\_Brief.pdf](http://siteresources.worldbank.org/INTSURAGRI/Resources/7420178-1294259038276/Fact_Artifact_Brief.pdf)
- The Humanitarian Data Exchange - Open Data Sources for the Global Development Community: <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)



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Session 7:

## Verify **Session 7: Verifying Performance Monitoring Data** Monitoring Data

Photo: Lisa Bacon, Peace Corps Mali



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## 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?**

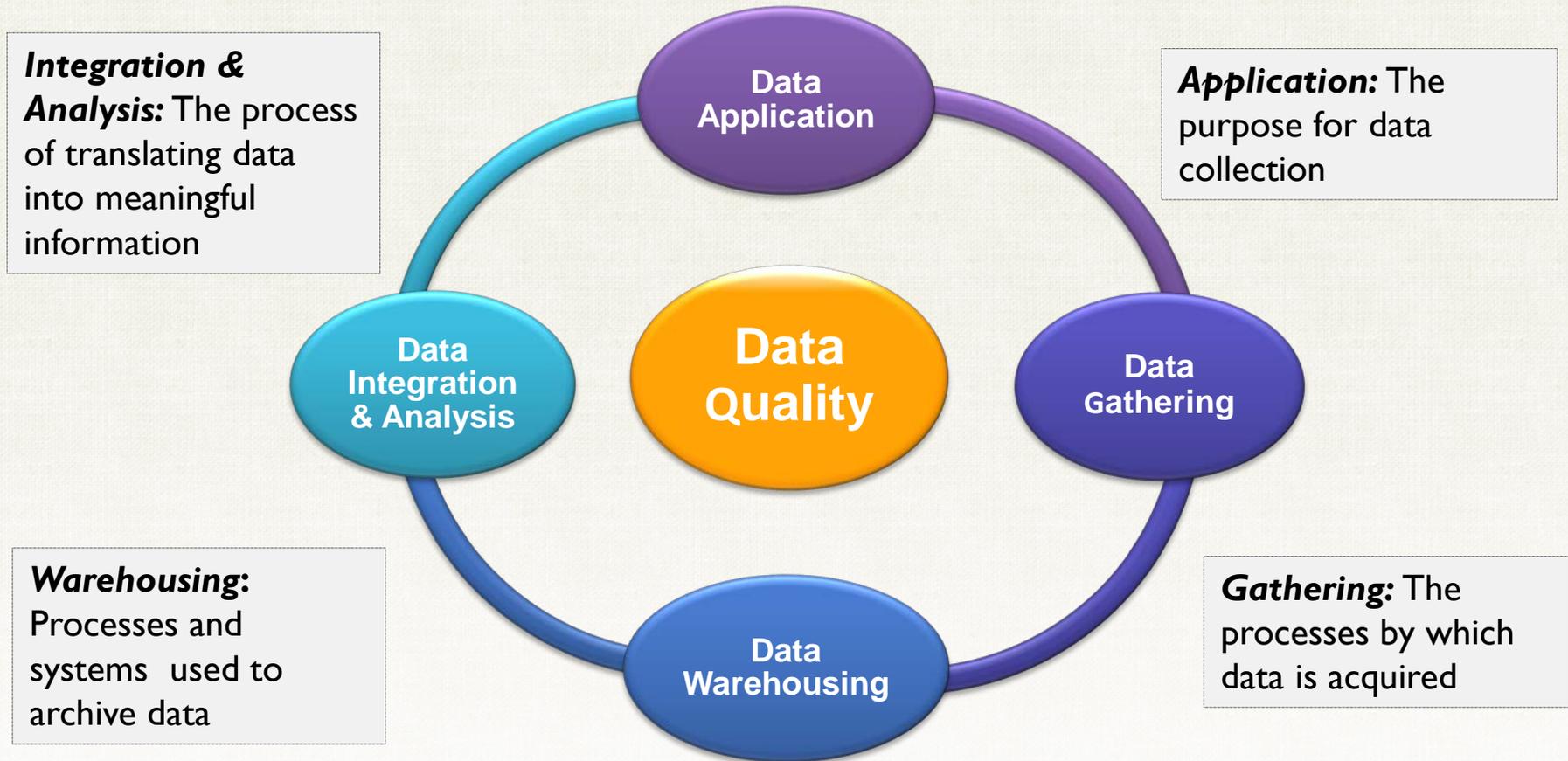


## Why do we care about data quality?

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





## Five USAID Data Quality Standards

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



## 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**



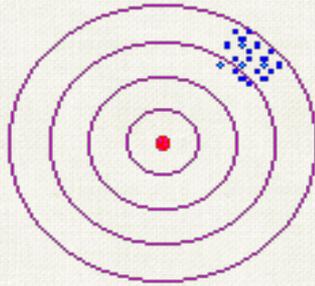
## Precision

- 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**?

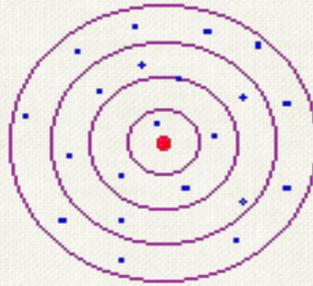




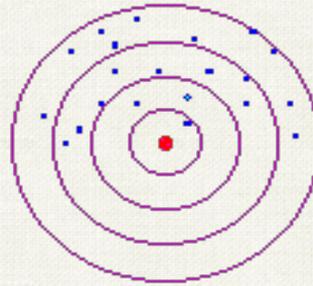
## Validity and Precision



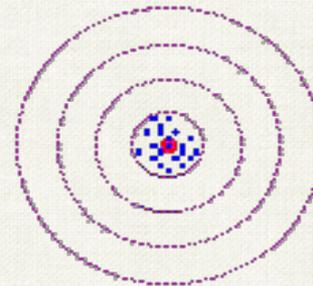
**Precise, but  
not valid**



**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:
  - Sex
  - Technology Type
  - Commodity
  - 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 15<sup>th</sup> 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
  - Data management processes must be documented in M&E plans
  - 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:**

- I. Helping Farmers NGO is measuring Value of Incremental Sales. When drawing a sample, they decide to capture farmers not directly benefitting 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:**

- I. 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:**

- I. 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:**

- I. 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:**

- I. 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

<b>Informal Option</b>	<b>Semi-formal Option</b>	<b>Formal Option</b>
<ul style="list-style-type: none"><li>• Conducted internally by the AO team</li><li>• Ongoing (driven by emerging and specific issues)</li><li>• More dependent on the AO team and individual expertise of program</li><li>• Conducted by the program manager</li><li>• Product: Documented in memos, notes in the PMP</li></ul>	<ul style="list-style-type: none"><li>• Draws on management and M&amp;E expertise</li><li>• Periodic &amp; systematic</li><li>• Facilitated and coordinated by the M&amp;E expert, but AO team members are participants</li><li>• Product: Data Quality Assessment Report</li></ul>	<ul style="list-style-type: none"><li>• Driven by broader programmatic needs, as warranted</li><li>• More dependent on external technical expertise and/or specific types of data expertise</li><li>• Product: Either a Data Quality Assessment report or addressed as a part of another report</li></ul>



## 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

### I. **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



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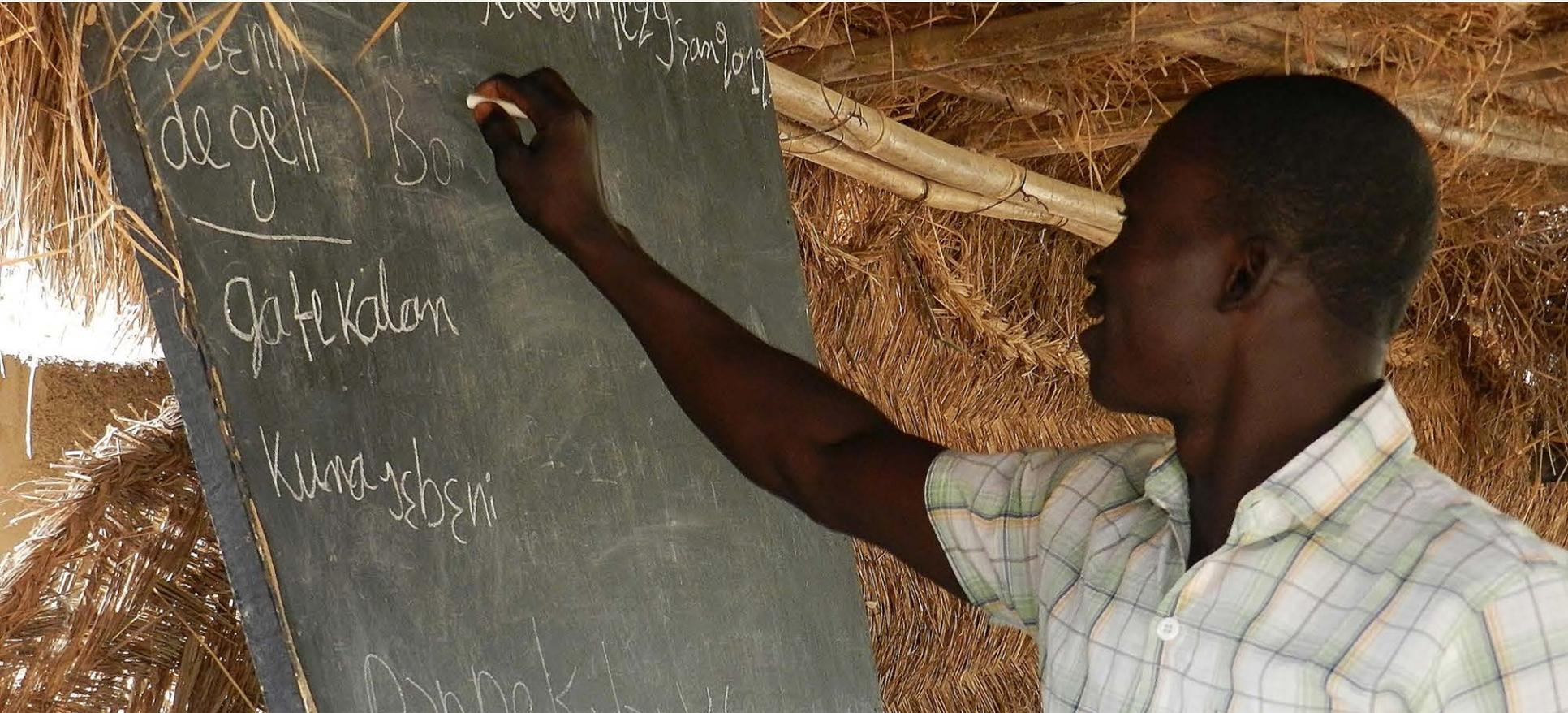


Photo: Lisa Bacon, Peace Corps Mali

Session 8:  
Reporting and

## Session 8: Reporting and Using Data



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- Is NUTSENAG reaching the number of beneficiaries it planned to, overall and with training?
- Does the training seem to be effective?
- Do beneficiaries seem to be facing constraints in applying specific technology types?
- Are beneficiaries having trouble applying some types of technologies more than others?
- Are there crops where beneficiaries are having a harder time applying the promoted technologies?
- Do some of the crops yield a greater return to investment than others?
- Are there differences in the number of direct beneficiaries cultivating each crop?
- Are there are significant differences in gross margin by sex of farmer? If yes, why? Are there differences in yields? In prices received? In inputs per hectare?
- Does the amount of land cultivated under each crop vary by sex of farmer? What about the proportion of the harvest sold?



## What are your findings?

- What did you find?
- How did you find it?
- What does it mean for NUTSENAG?





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**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

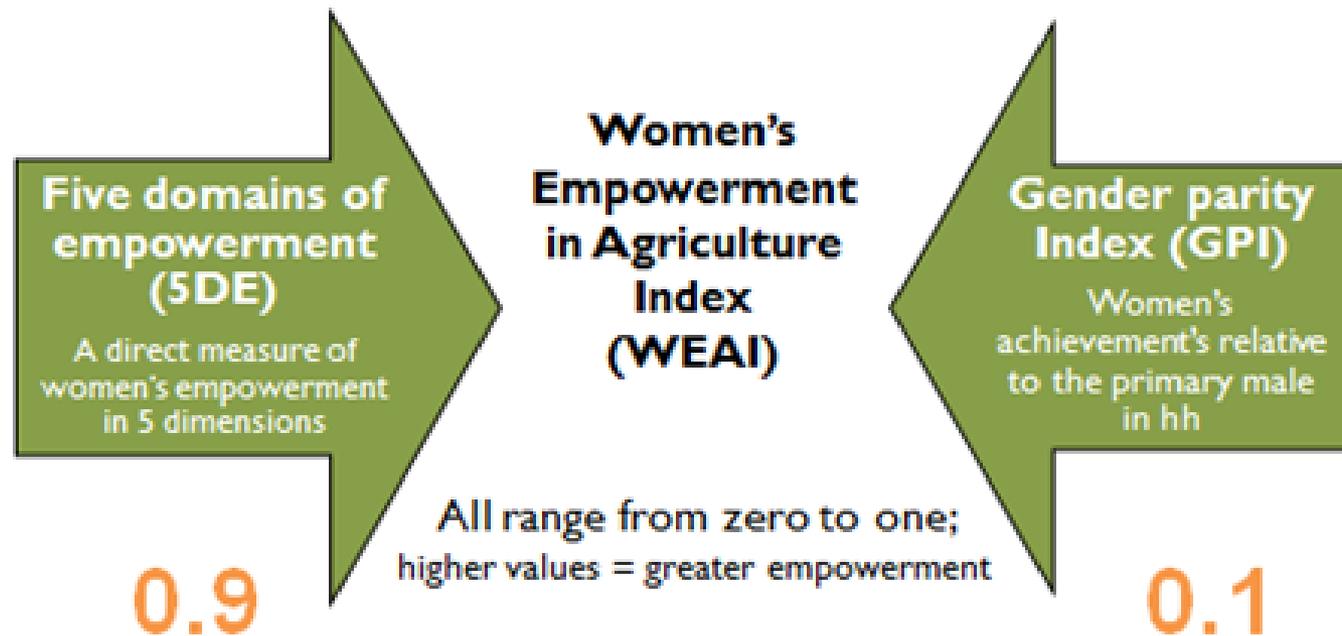


- **Survey-based**
  - Not based on aggregate statistics or secondary data
  - Uses interview of the women and men in the same household
  - Index components designed to apply across countries and cultures



## How Is the WEAI Constructed?

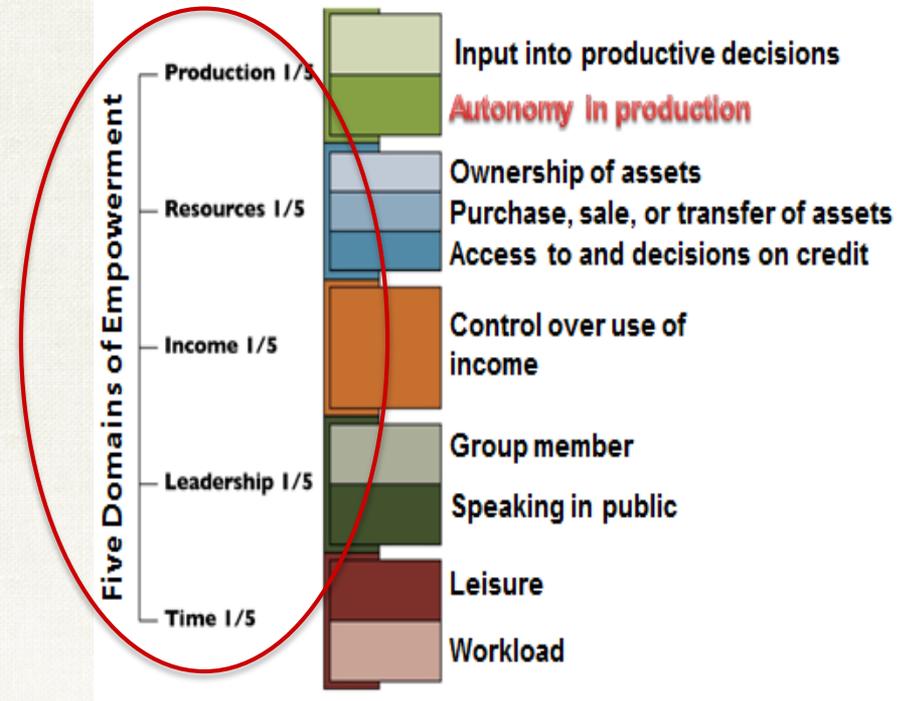
WEAI is made up of two sub-indices





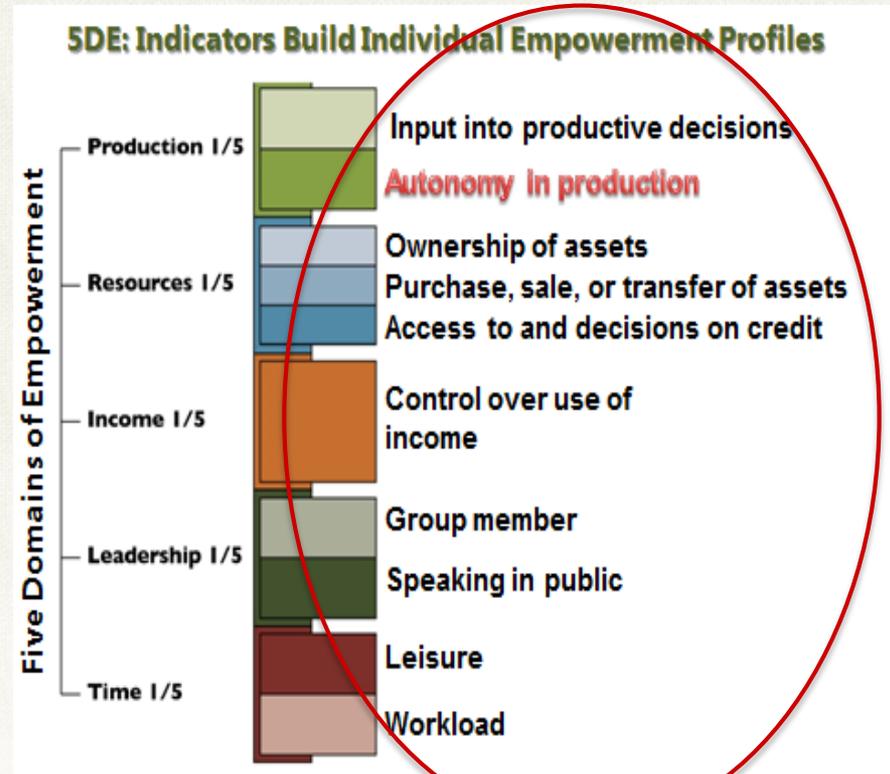
5 different domains

## SDE: Indicators Build Individual Empowerment Profiles



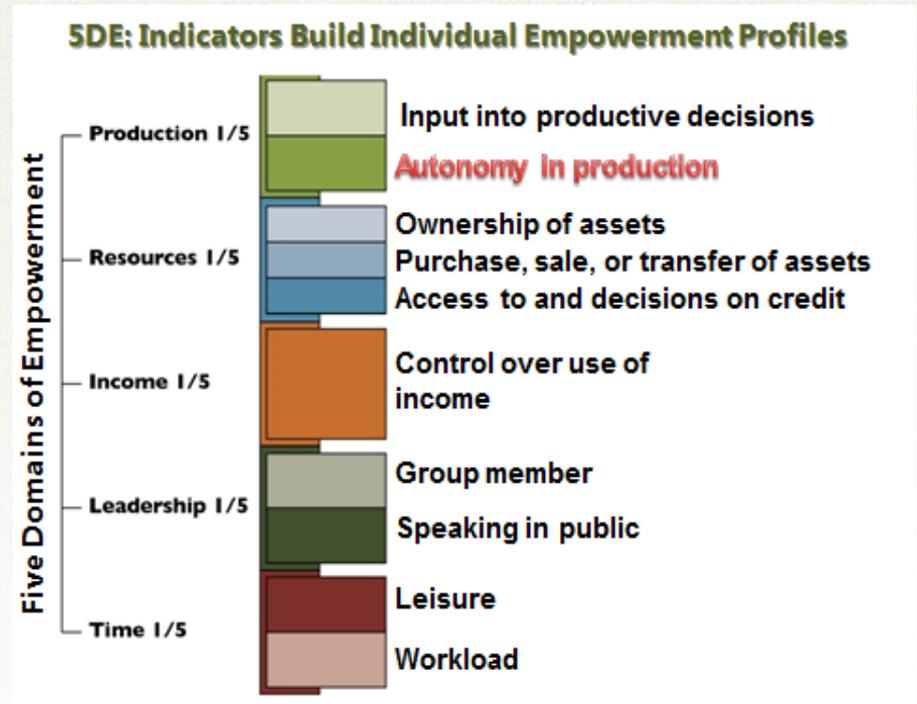


1 to 3 indicators per domain



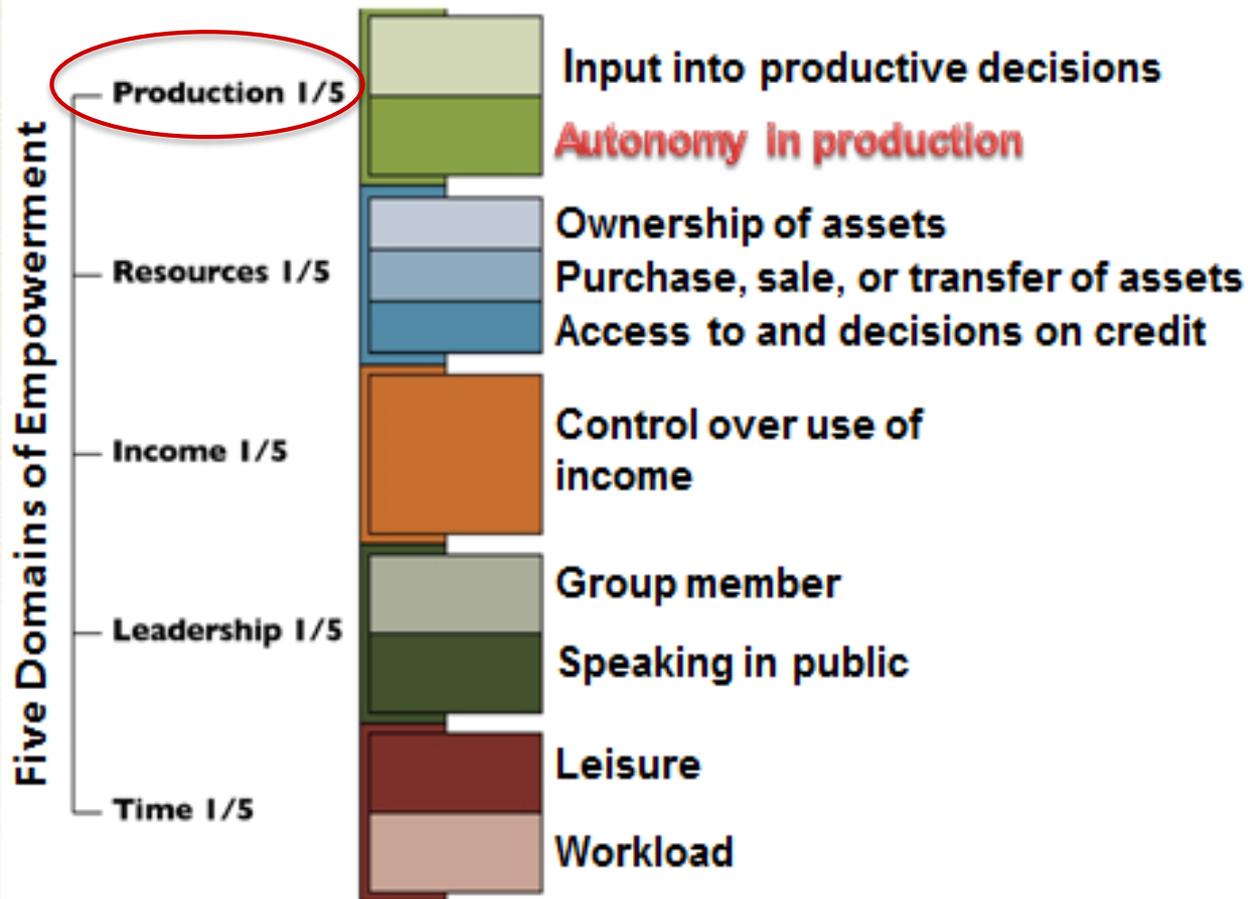


- Index of 0 to 1
- Higher score indicating greater empowerment



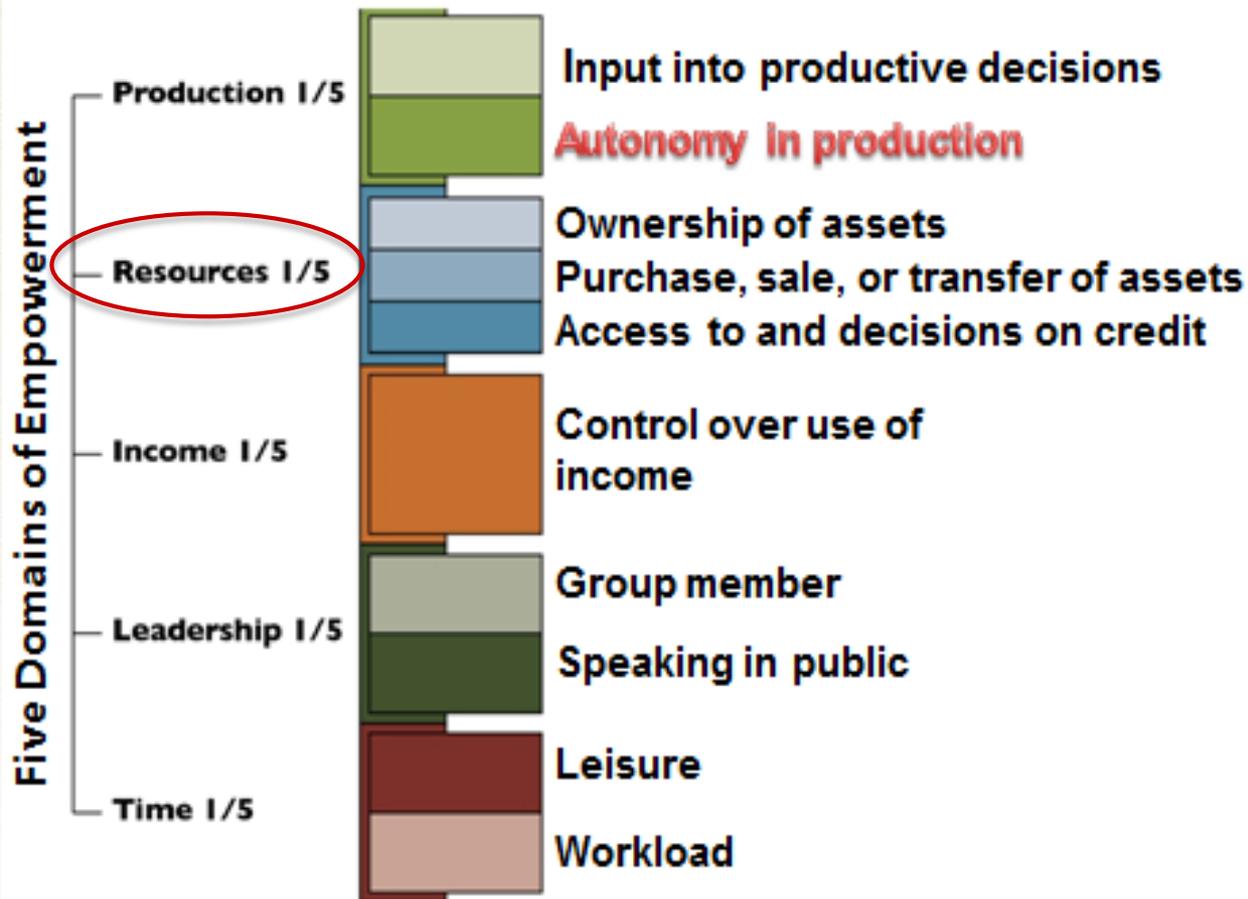


## 5DE: Indicators Build Individual Empowerment Profiles



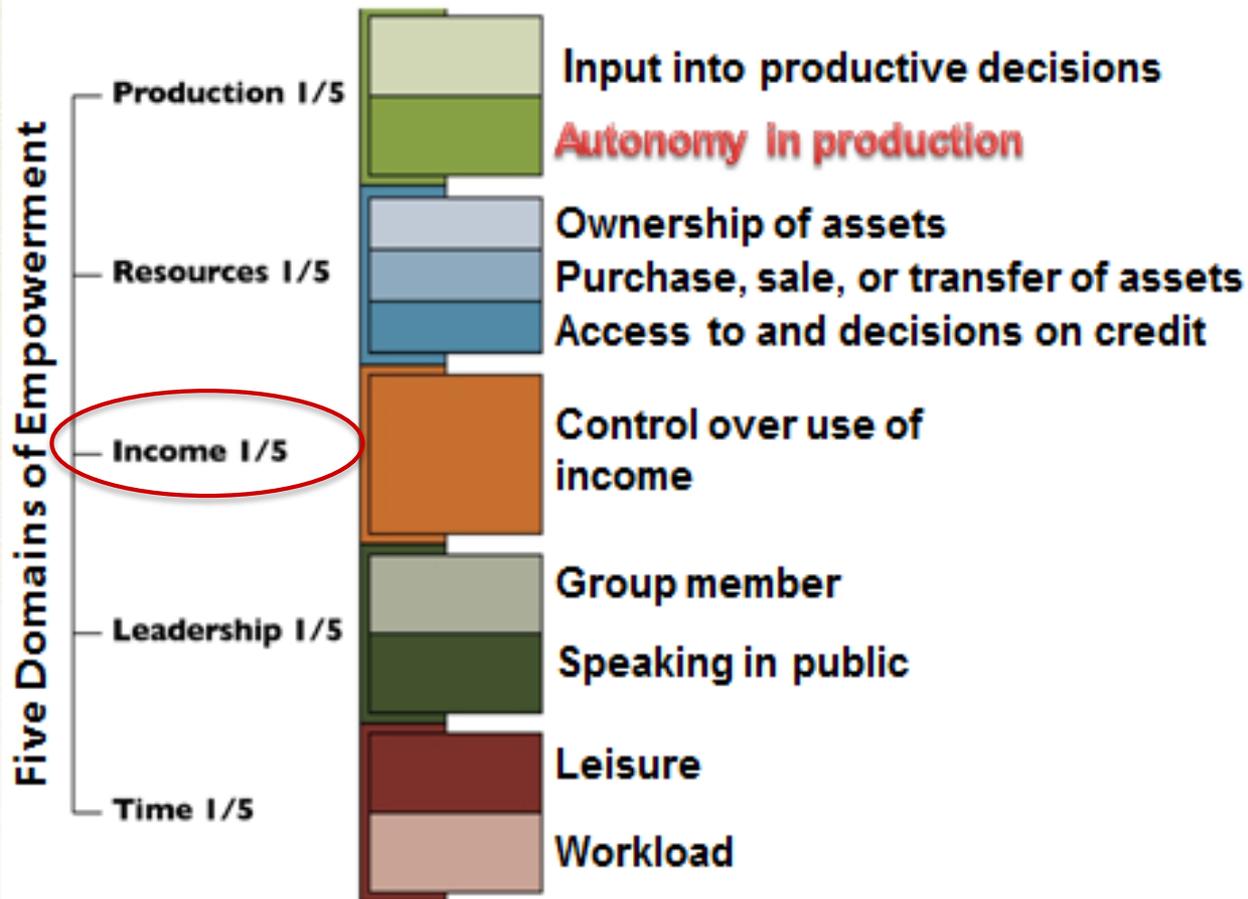


## 5DE: Indicators Build Individual Empowerment Profiles



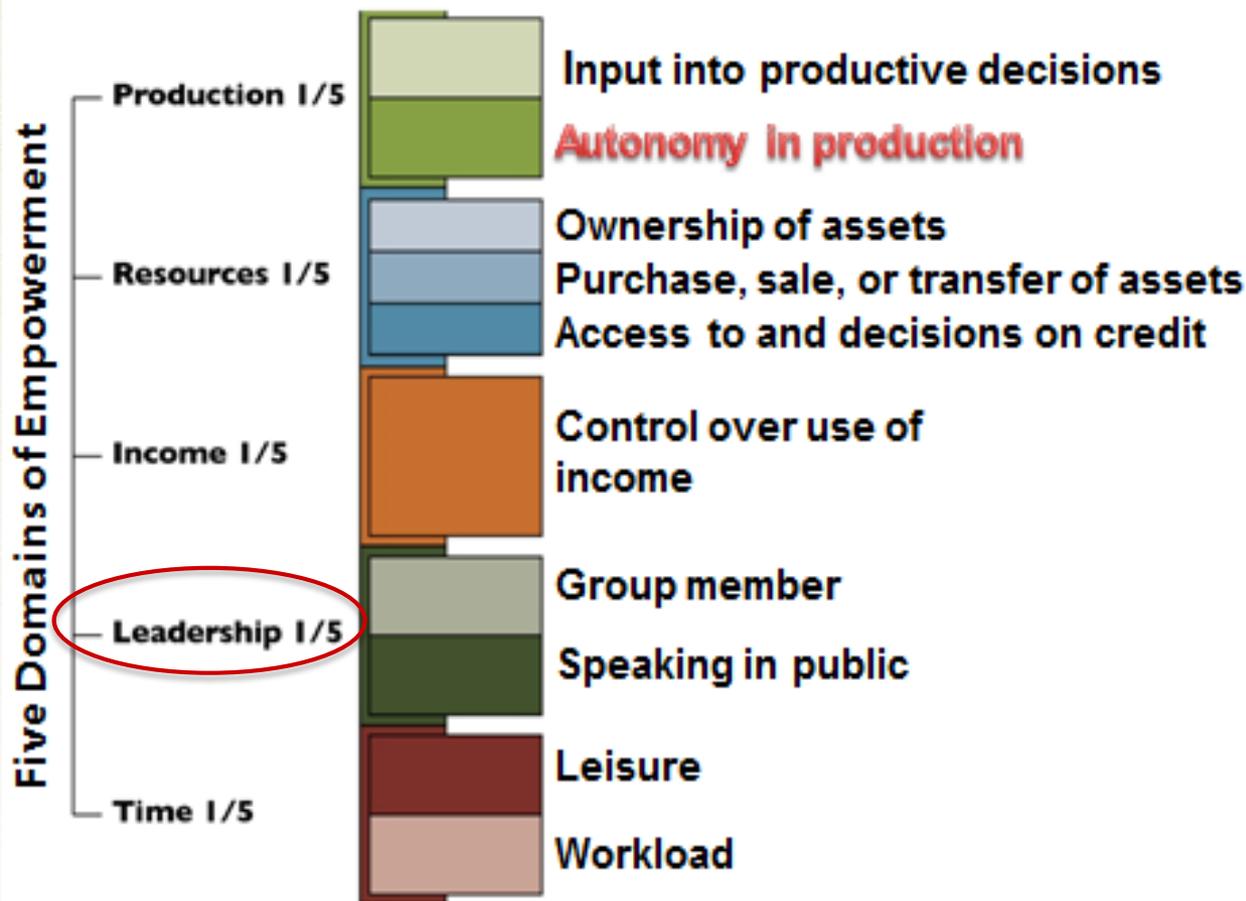


## 5DE: Indicators Build Individual Empowerment Profiles



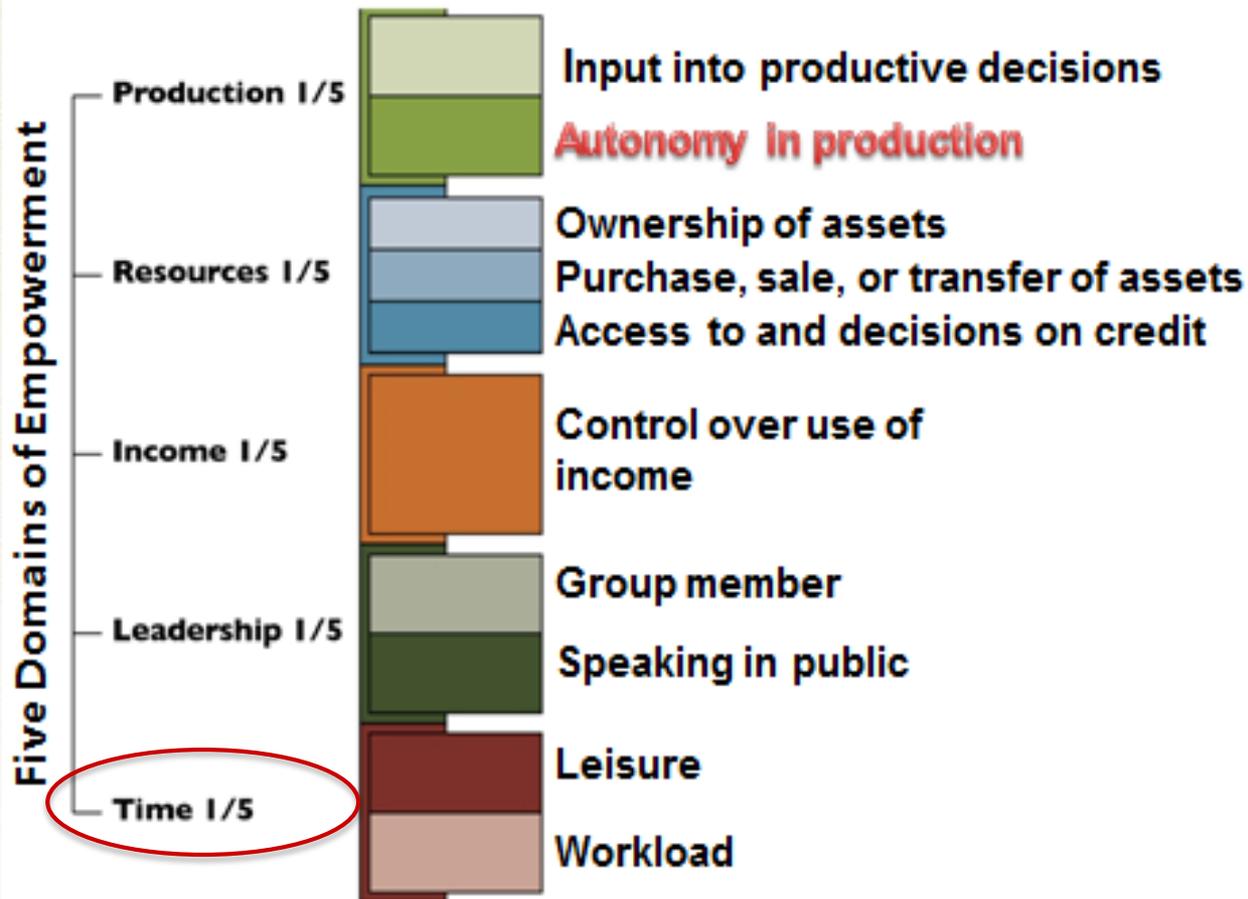


## 5DE: Indicators Build Individual Empowerment Profiles





## 5DE: Indicators Build Individual Empowerment Profiles





## Progress

Empowering women in agriculture will be achieved by:

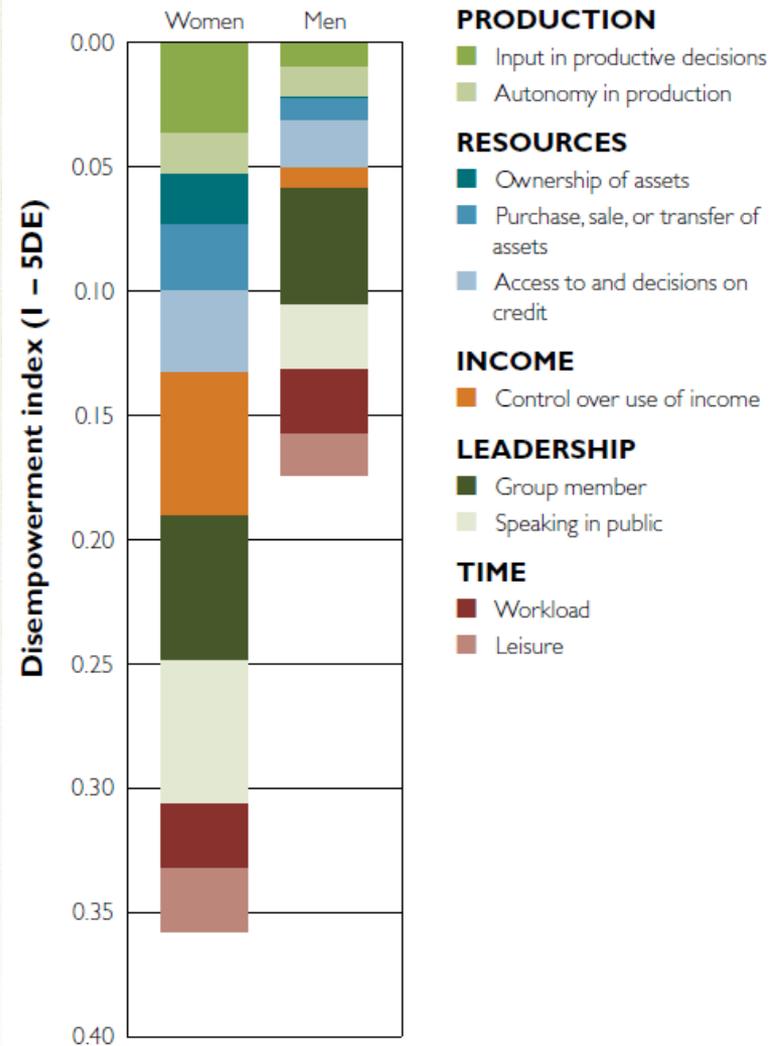
- Empowering women in the 5 domains
- Achieving gender parity within the household.





# Interpreting WEAI

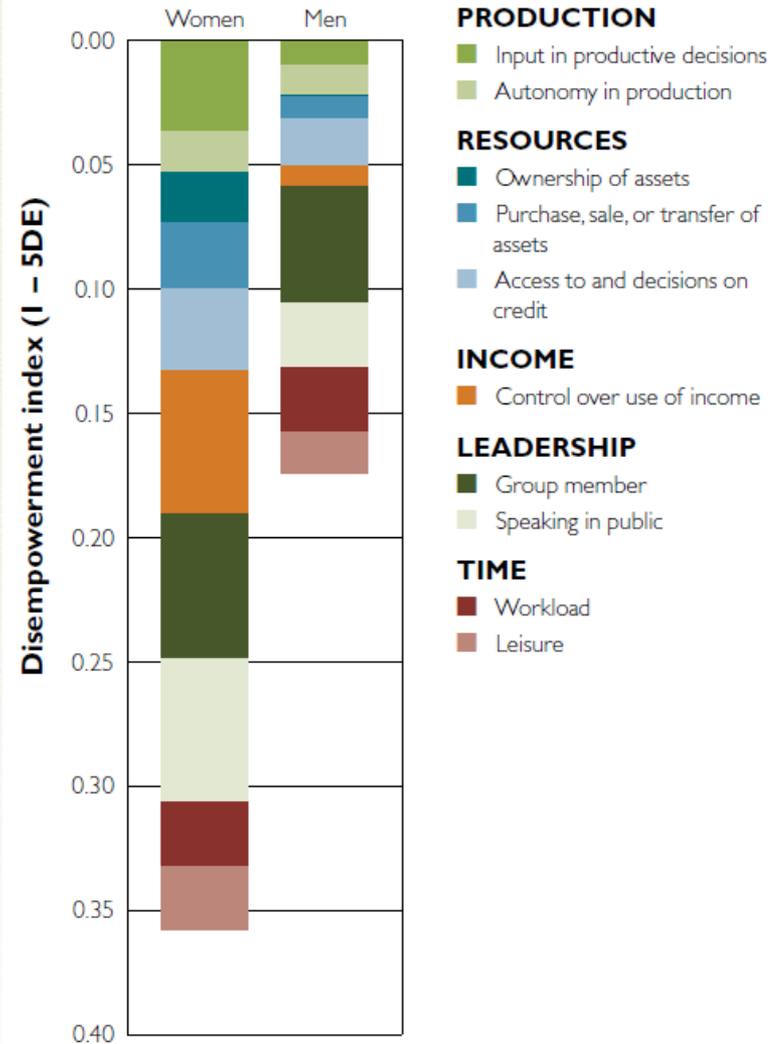
## Bangladesh



Source: IFPRI (2012a).



## What are the three indicators that contribute most to women's disempowerment?

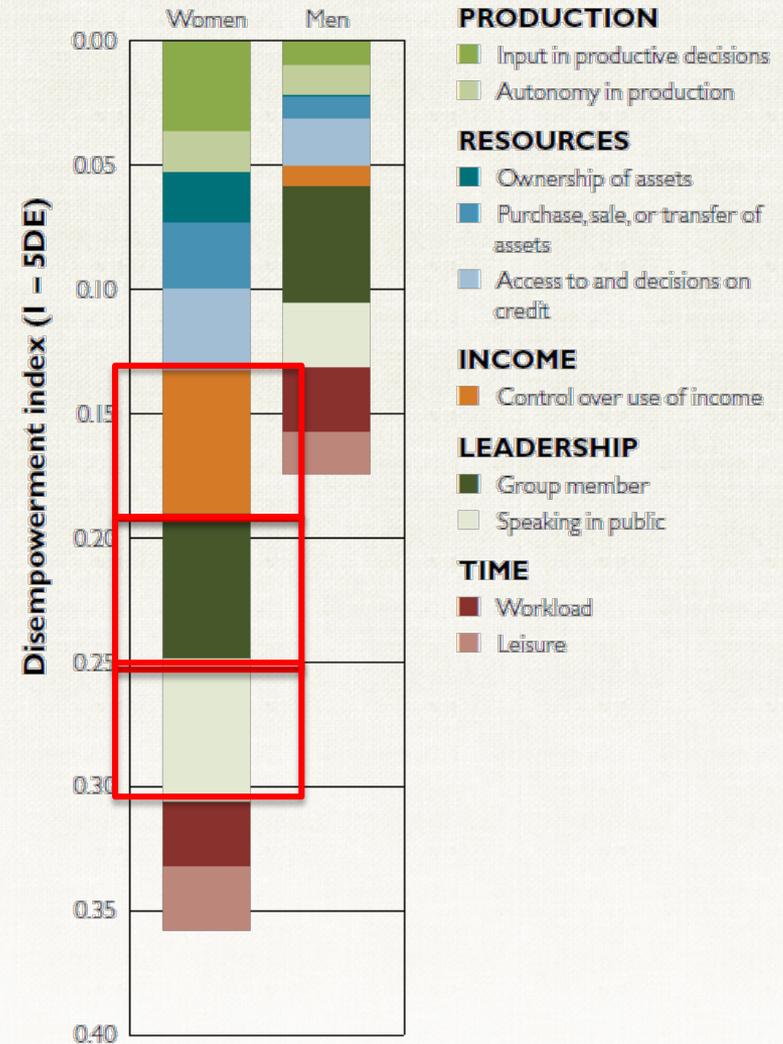


Source: IFPRI (2012a).



## What are the three indicators that contribute most to women's disempowerment?

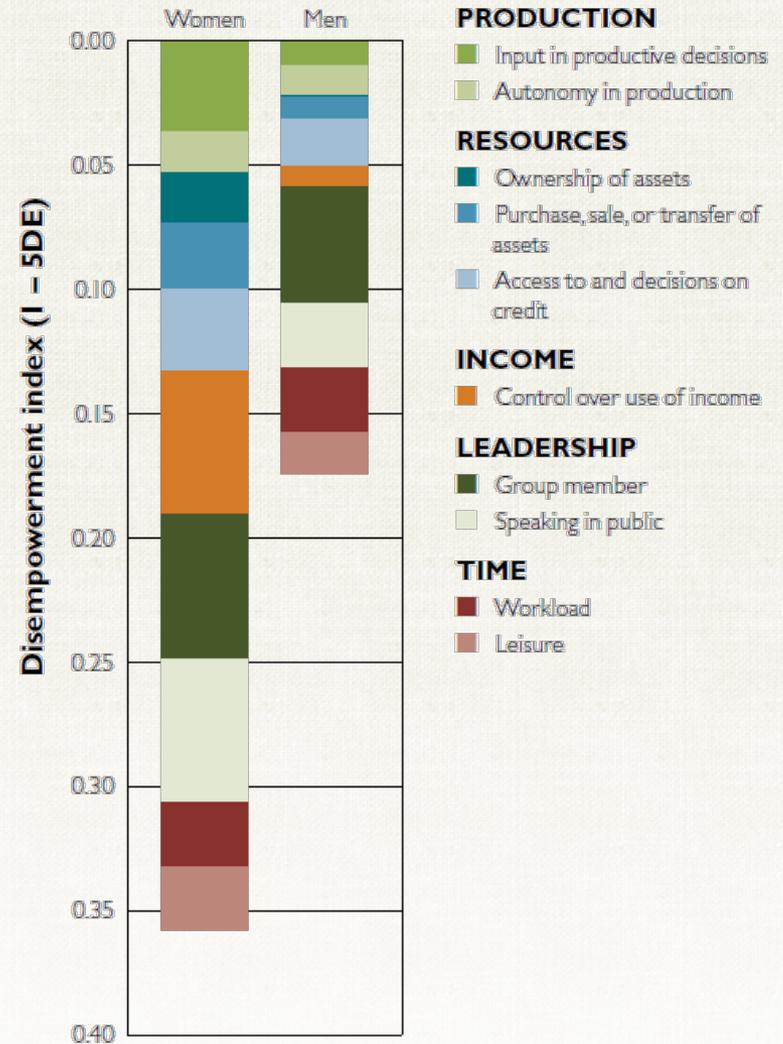
- group membership
- control over income
- speaking in public



Source: IFPRI (2012a).



## What are the three indicators that contribute most to men's disempowerment?

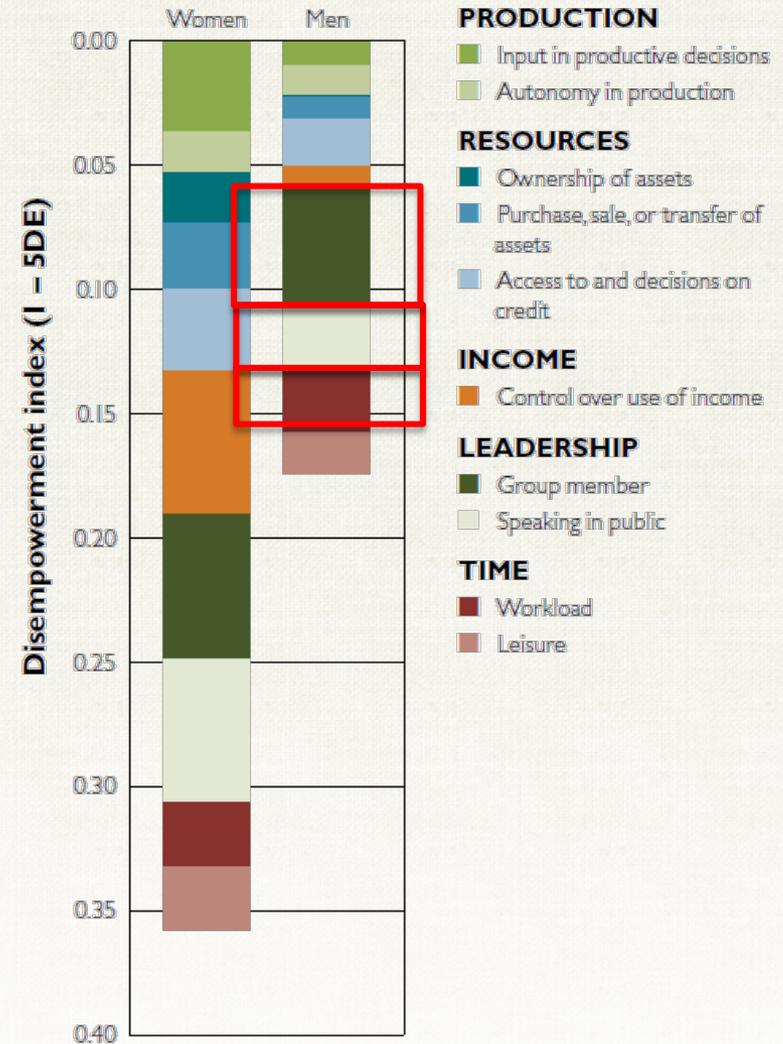


Source: IFPRI (2012a).



## What are the three indicators that contribute most to men's disempowerment?

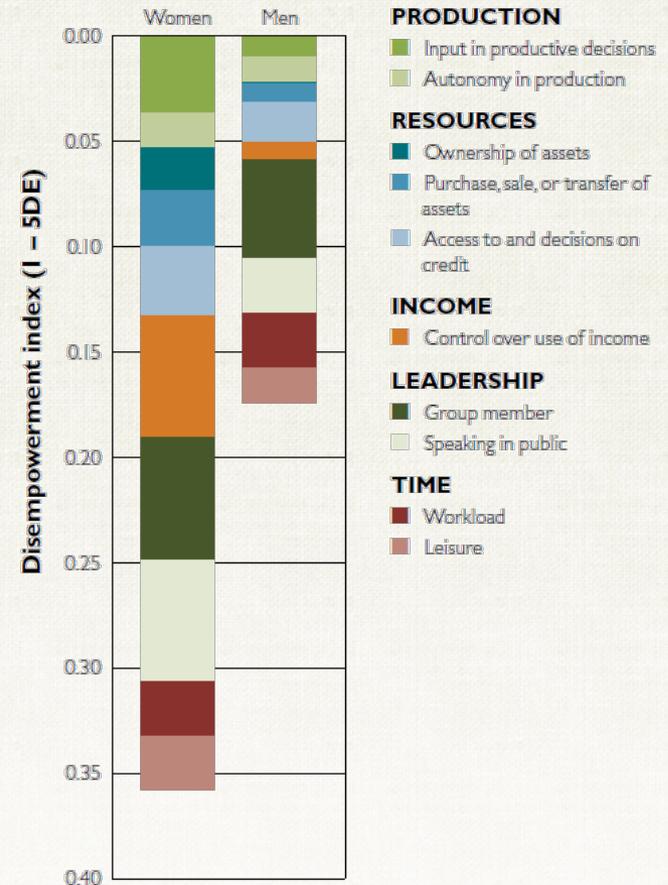
- group membership
- control over income
- workload



Source: IFPRI (2012a).



## What strikes you about the similarities and differences between men's and women's disempowerment?



Source: IFPRI (2012a).



## Exercise

Using the WEAI data for Aredonia in your NUTSENAG 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





<b>Problem or Constraint to Address</b>	<b>Is this problem or constraint relevant in your specific context? Y/N, Please explain and provide evidence.</b>	<b>What activity(ies) are you implementing that address or relate to this problem?</b>	<b>What activity(ies) are you planning that will address this problem and how with they address it?</b>	<b>Activity's Specific Contribution to Outcome</b>
Women do not have equal or adequate control over the use of household income. Women are not engage satisfactorily in household decisions around how to use household income	Based on the WEAI, control over income is the third largest contributor for disempowerment for women. It is also a significant gap between men and women	<b>Fertilizer Deep Placement</b> activity – promotes and supports women’s fertilizer dealerships / retail outlets	<b>Ag inputs</b> activity will certify women retailers and establish start-up grants of women-owned retailers.	By supporting women retailers, this activity will increase the ability of women to earn income outside of the farm that they may have greater ability to control



## NUTSENAG

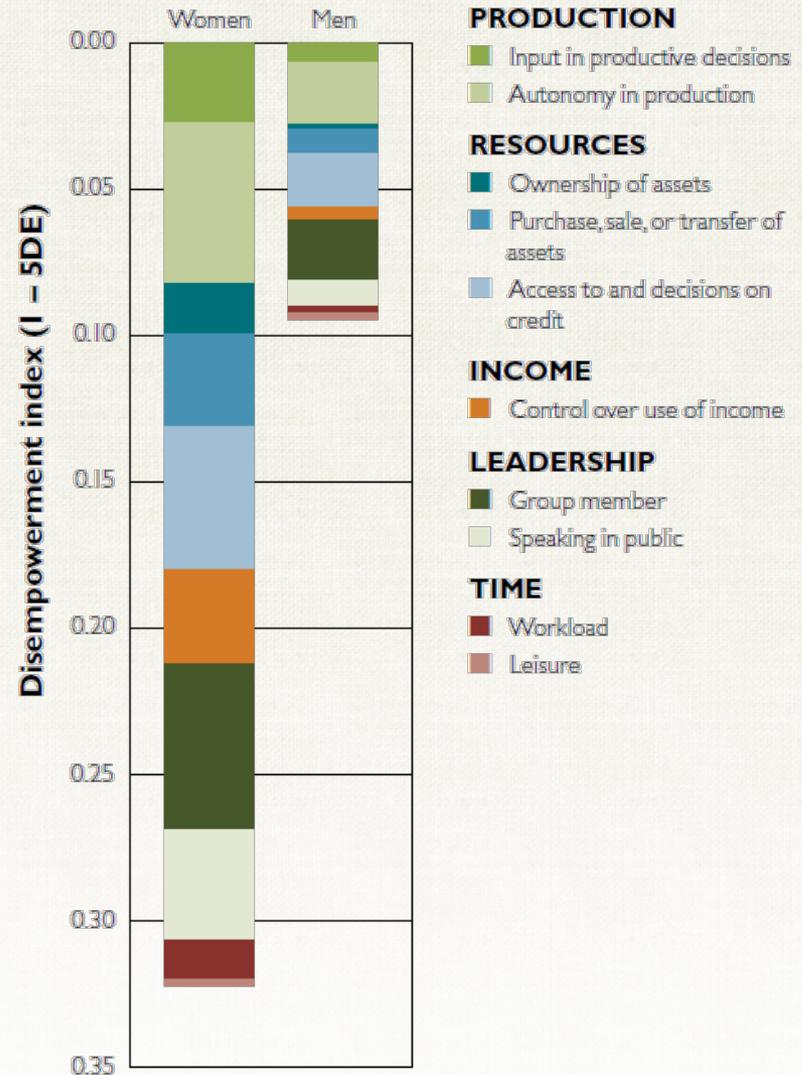
From the performance monitoring data, we found:

- 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





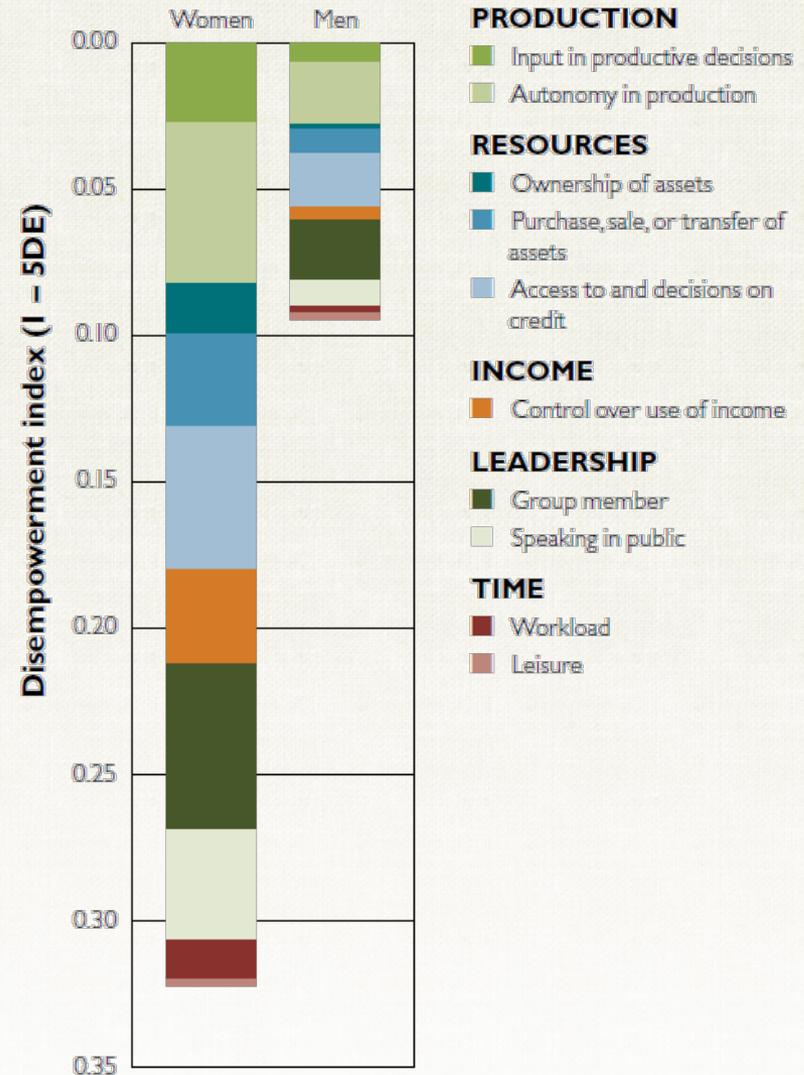
What constraints should NUTSENAG focus on in order to narrow the gap between men's and women's groundnut yields?





## 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*





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TOPIC

## WEAI RESOURCE CENTER

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](#)



flickr (IFPRI/Farha Khan)

Two women collect leafy vegetables in Khulna, Bangladesh, 2014.

### CONTACT US

For more information about the Women's Empowerment in Agriculture Index (WEAI), please contact [IFPRI-WEAI@cgiar.org](mailto:IFPRI-WEAI@cgiar.org).

### WEAI PARTNERS

Global Partners

<http://www.ifpri.org/topic/weai-resource-center>



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## Session 8: Reporting and Using Performance Monitoring Data



***Writing Results Narratives for Missions and Implementing Partners***



## Past FTF Information Requested

How is the activity integrating nutrition?

Why are we not meeting set targets?

**How are interventions promoting increased dietary diversity?**

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 addressing climate change?*

How are activities engaging the private sector?



## 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 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



## Option 1

- Honduras is the second poorest country in the Western Hemisphere, with a poverty rate of 66 percent. Approximately 2.5 million of the extreme poor live in rural areas, 40 percent of which are concentrated in the Western Highlands.

## Option 2

- Nepal is a severely food deficit country recovering from a 10-year civil war and remains the poorest country in South Asia. Malnutrition is a widespread problem in Nepal with rates comparable to those in many African countries.



## 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 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.



## Option 1

- In FY 2011, USAID reached over 435,000 farmers who applied deep fertilizer placement and urea briquettes to improve management practices on more than 244,600 hectares, leading to an average 15% increase in rice yields for these farmers. As a result, the Barisal division in the south experienced its first-ever rice surplus.

## Option 2

- 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.



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# 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





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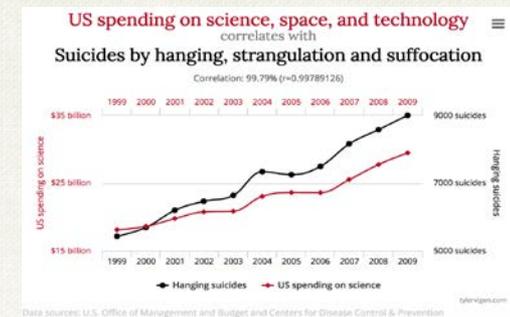
## What visualization can do

- 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



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**I Visualizations are all about  
comparisons**



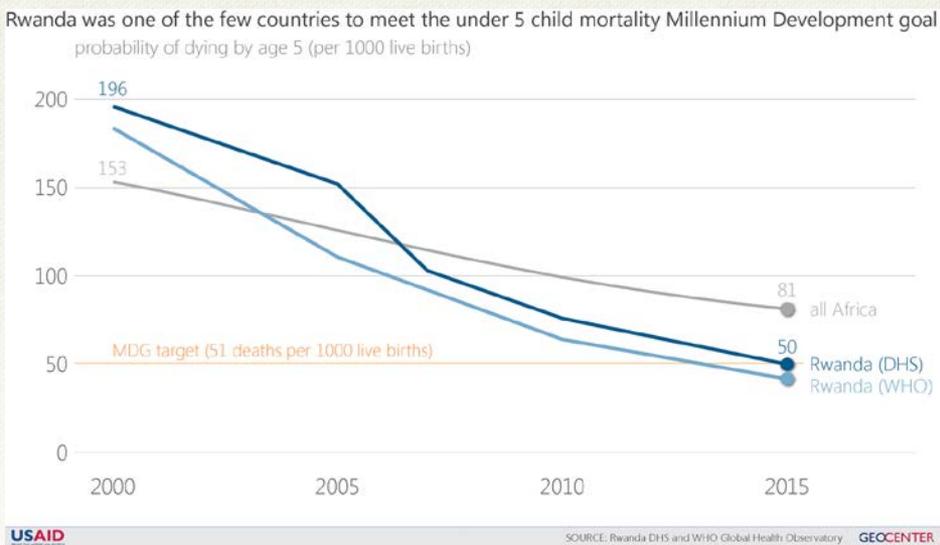
## Who's the audience?

- 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?

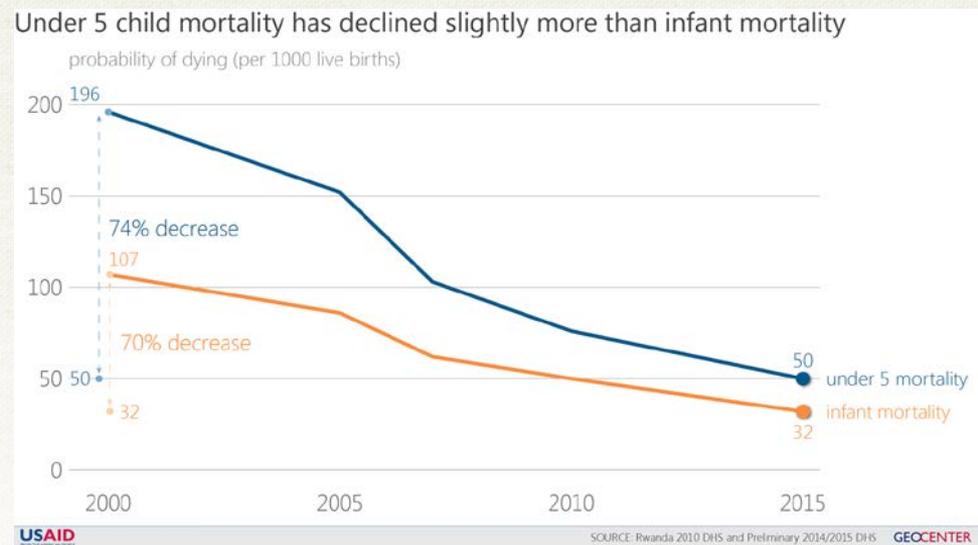


## Change your comparison, change your story

### Two perspectives on the same data:



relative to other countries?



between age groups?



**2**

**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:

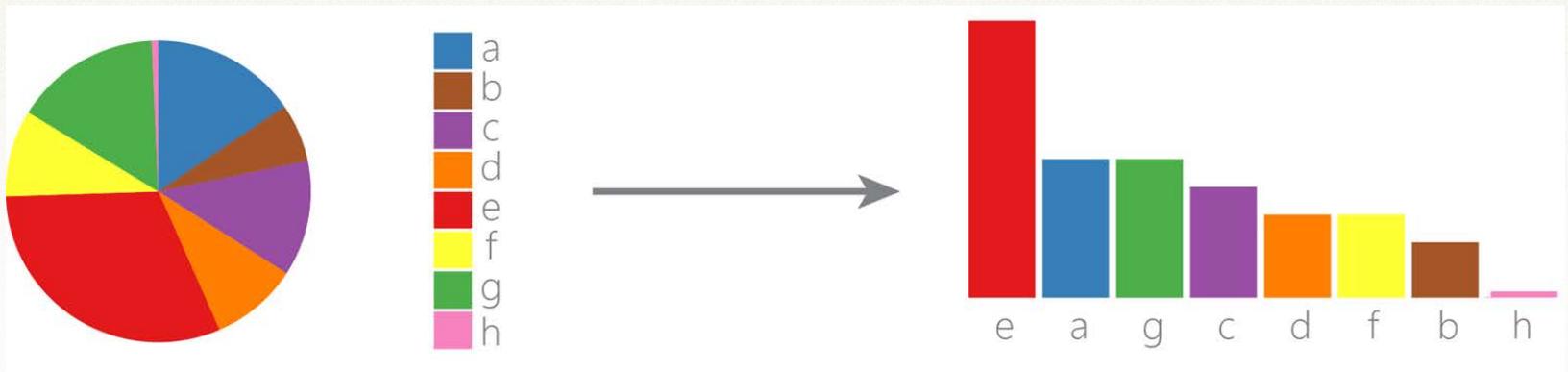
- bar graphs (not pies)
- small multiples
- scatter plots





## Pies are for eating!

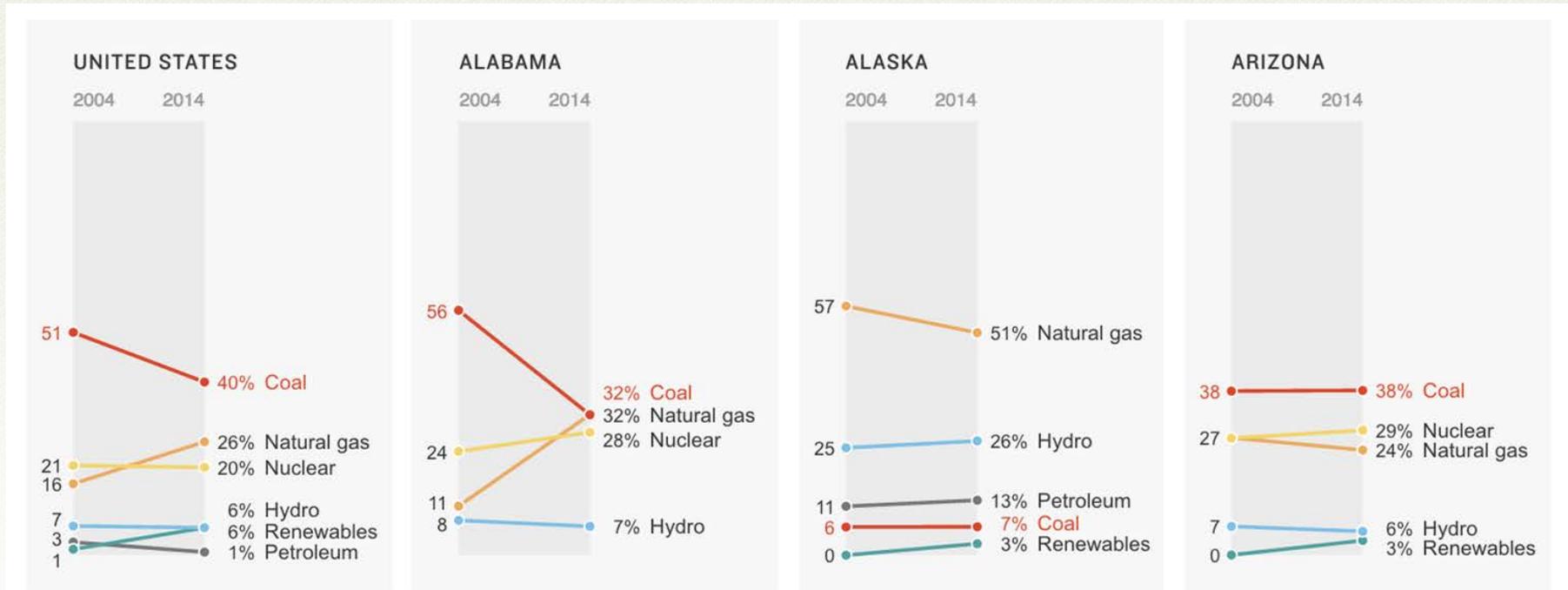
- People are not good at estimating angles
- ... especially when the angle doesn't start at 12 o'clock.
- Comparing more than a few is difficult
- Small numbers get lost





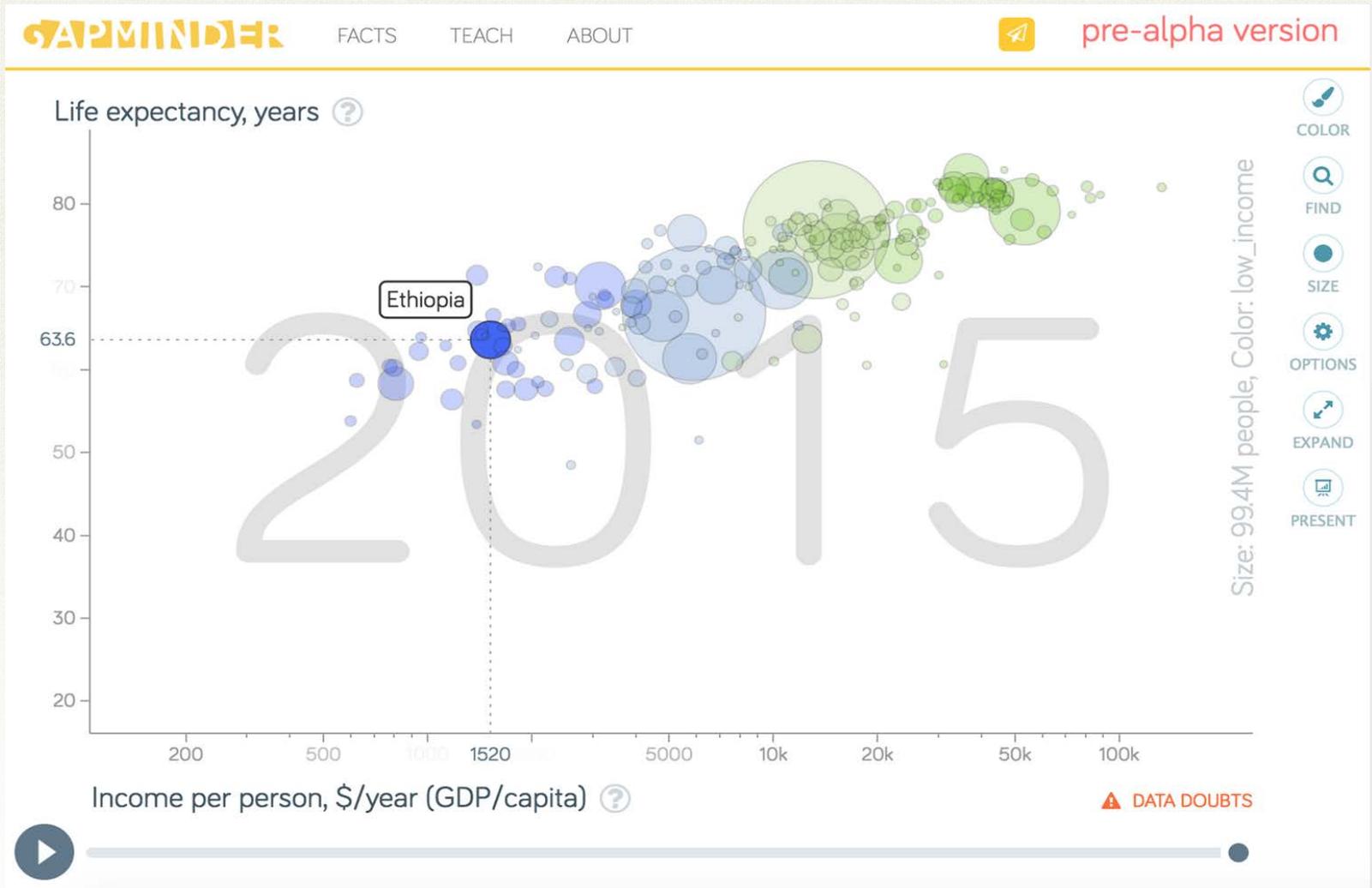
## Don't show everything on the same graph!

Highlight differences between groups with small multiples





## Show relationships with scatter plots





3

**Simplify your message**

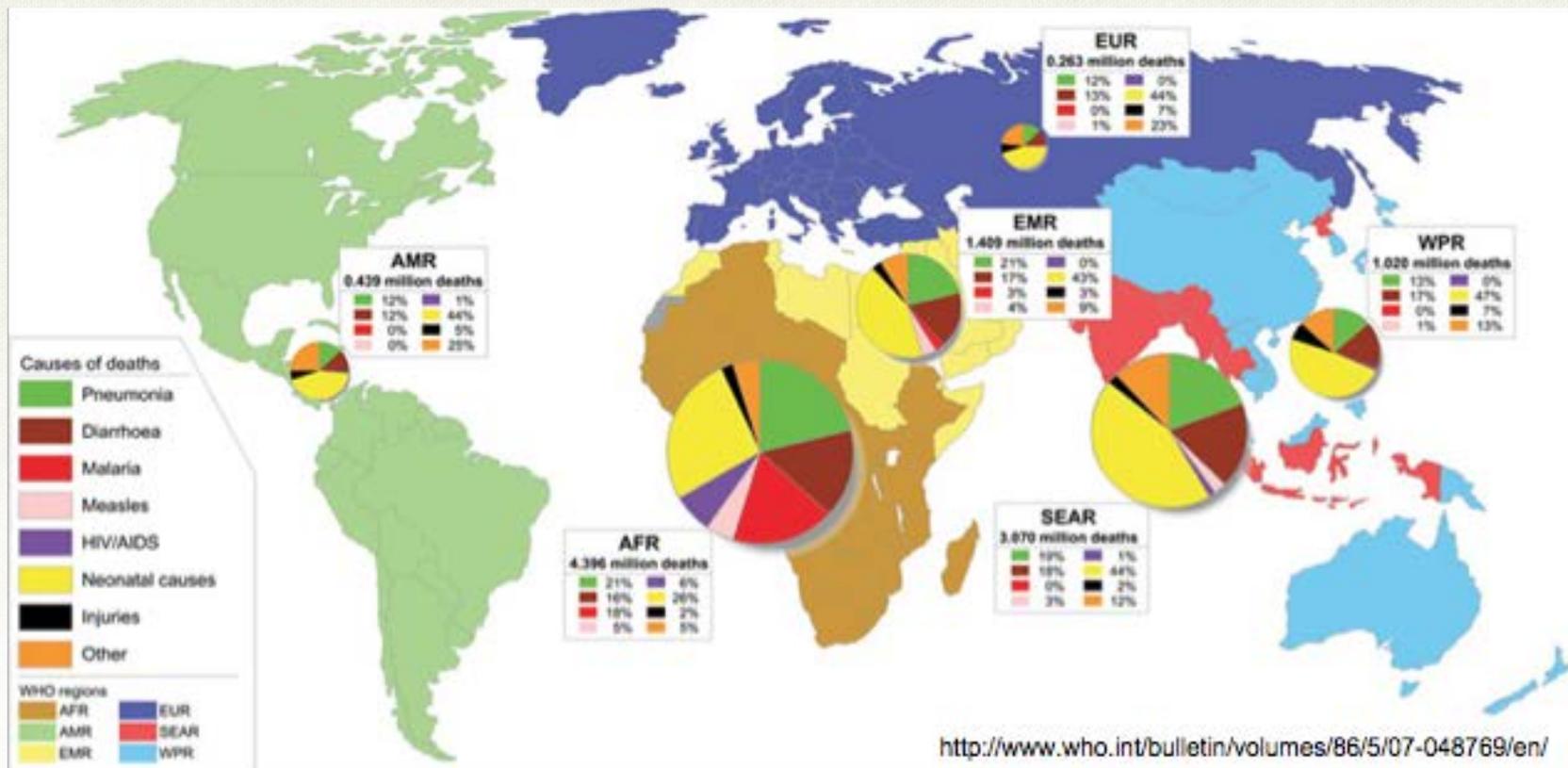
**Simplify your graphics**

**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



Title is accurate and informative-- but doesn't tell a story

WHERE DO I LOOK?

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

WHO region

Why is there a map here?

must look back and forth to read colors on legend

What's WPR?

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

and why doesn't it add to 100%?

WHAT IS THE STORY?

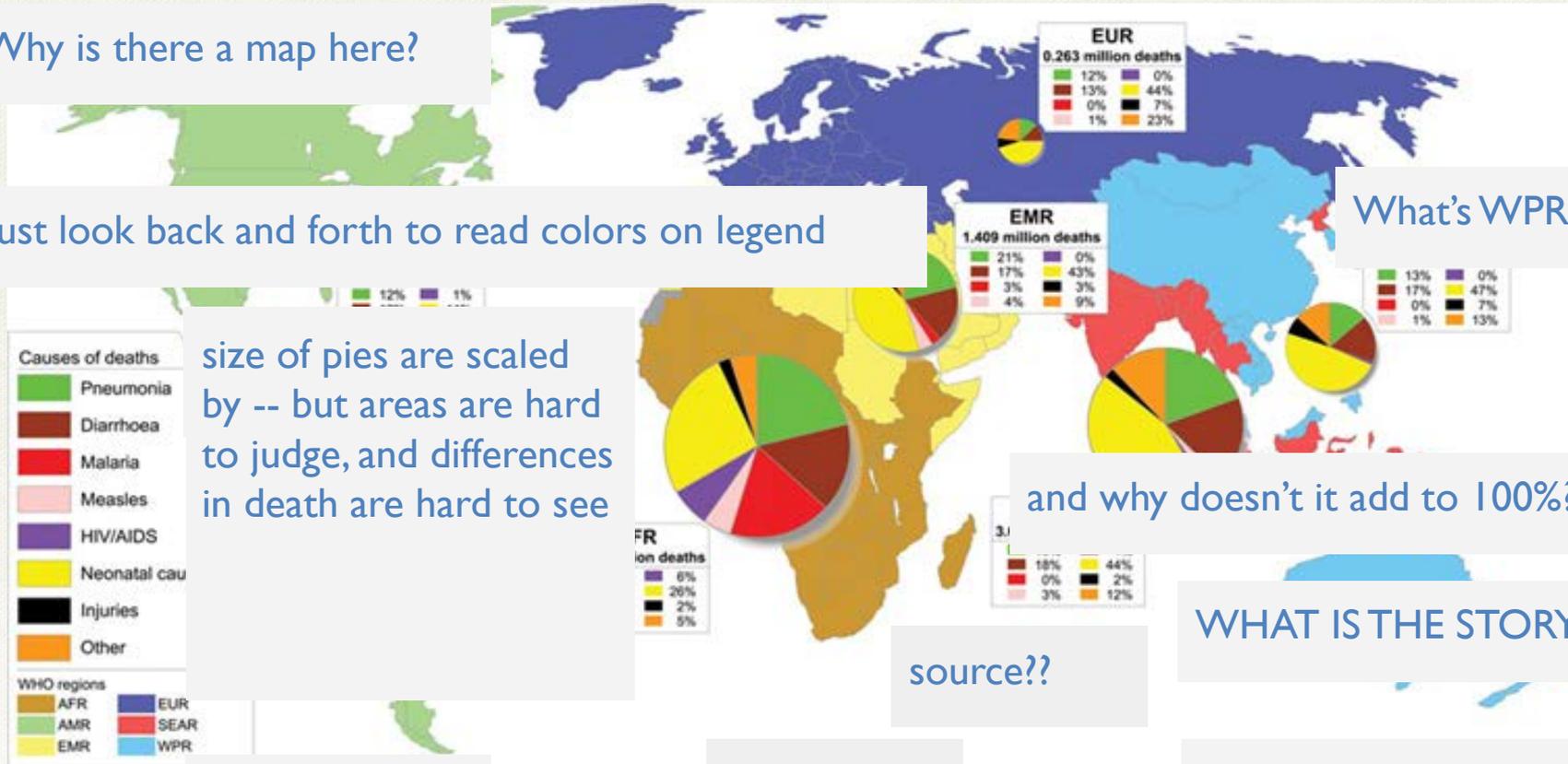
source??

shadow??!

unmeaningful pies.

AH! 2 yellows!

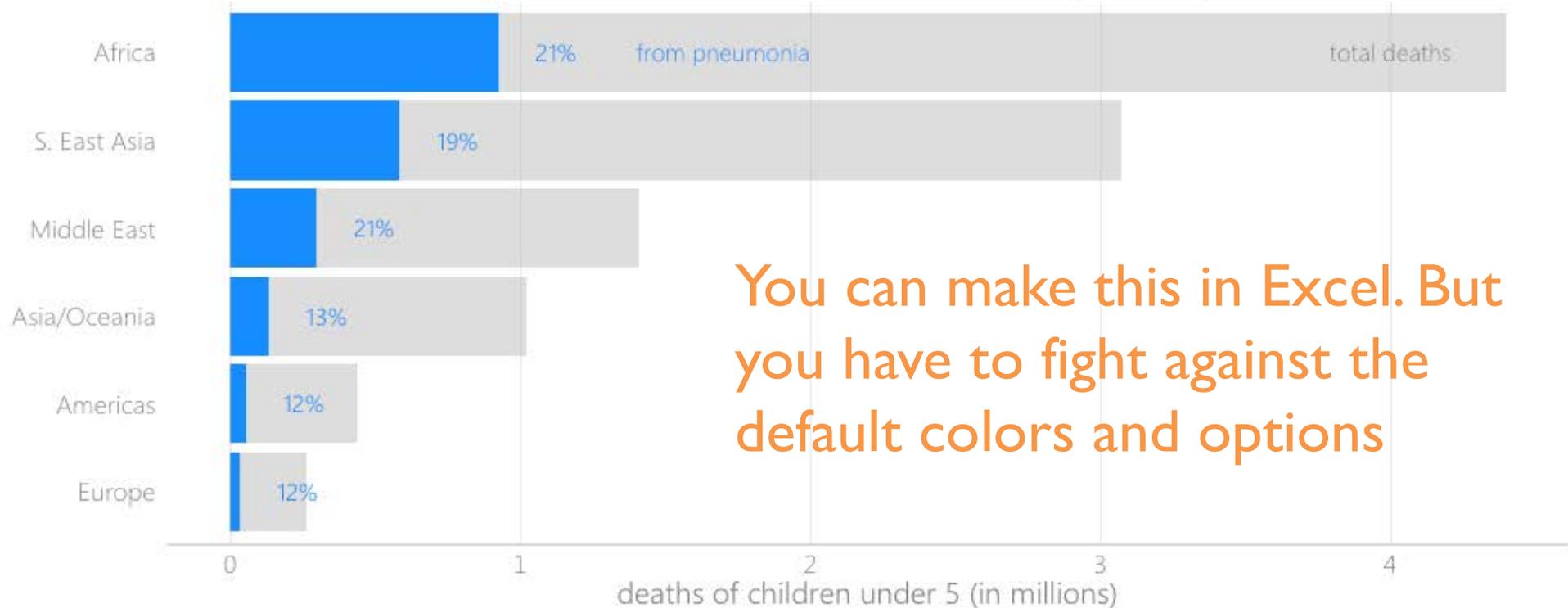
There are SO MANY COLORS my notes have to have a grey box behind them.





## Focus on the story

Child deaths from pneumonia are most common in Africa, S.E. Asia, and the Middle East



You can make this in Excel. But you have to fight against the default colors and options



**4**

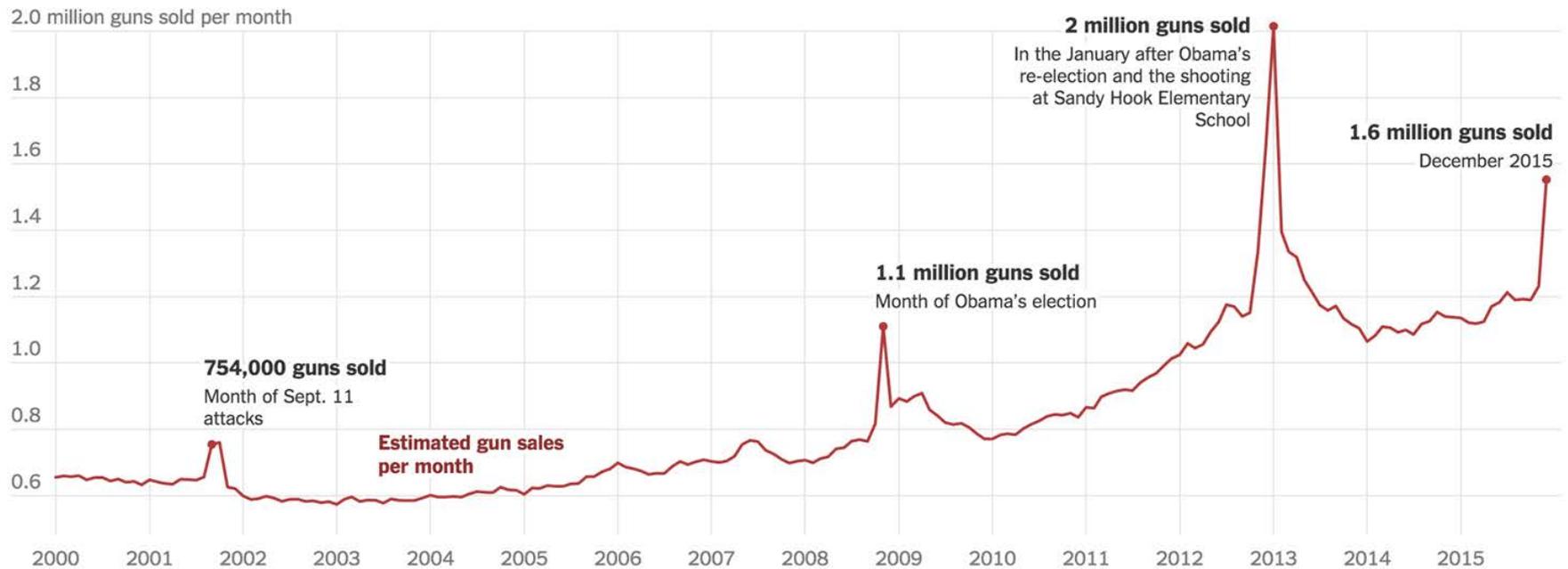
**Annotate to explain  
and provide context**



# What happened in 2013?

## Calls for New Restrictions

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

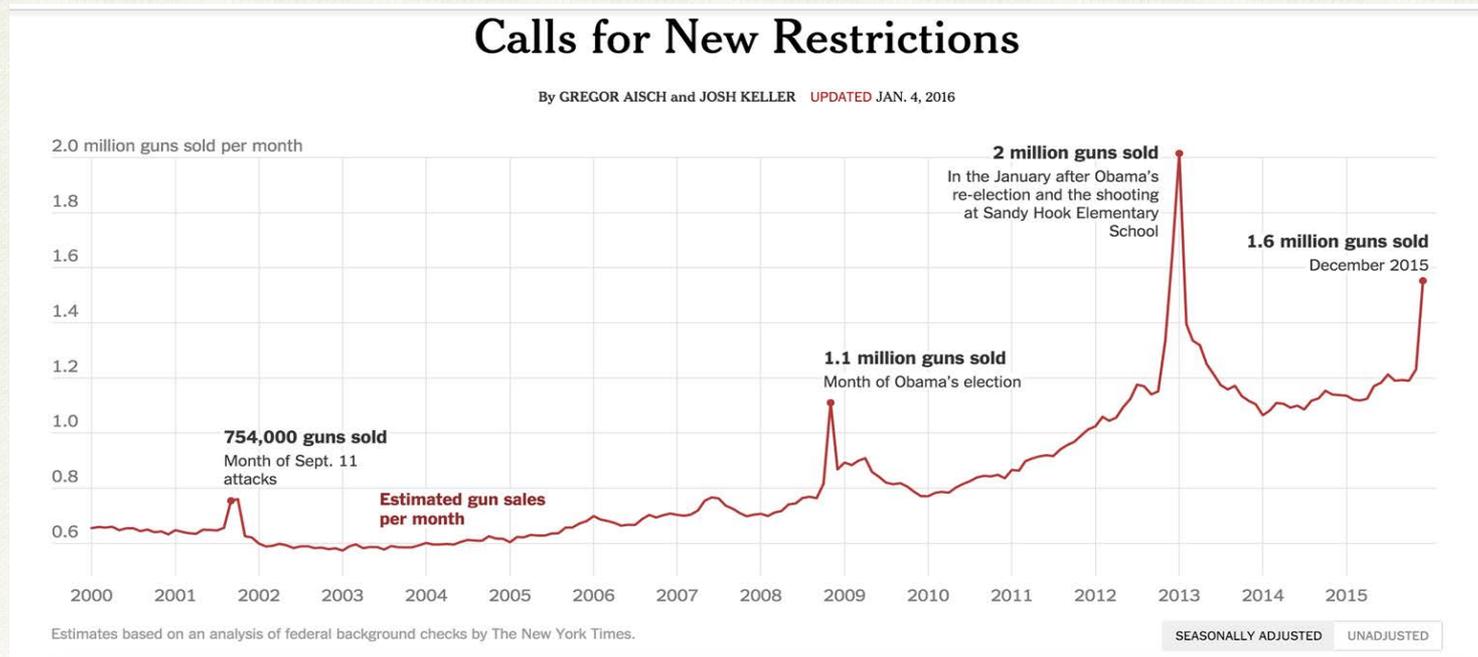


Estimates based on an analysis of federal background checks by The New York Times.

SEASONALLY ADJUSTED UNADJUSTED



## 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



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# **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

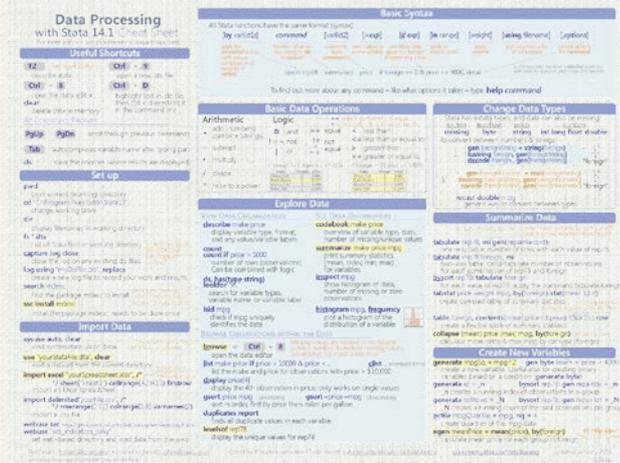
- Free resource to the Agency
- Customized data analyses / visualizations
- Training: maps, data, visualization
- Consultation and second opinions on work

- TONS of books, webinars, classes
  - [geocenter.github.io/StataTraining/resources/](http://geocenter.github.io/StataTraining/resources/)

- Color: [Color Brewer](#)

- Excel: <http://stephanieevergreen.com/>

- Each other!



## Inspiration

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



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## Our Portfolio

### BANGLADESH

#### USAID BANGLADESH LIVELIHOOD MAPPING: HOUSEHOLD NUTRITION

Food consumption is worst in the western half of the country, especially in the north. Diets tend to be similar, with families relying on staples (rice, other cereals, tubers), oils, and vegetables for most of their diet. Higher wealth and better female education is associated with better nutrition.

##### 1 Food Consumption Score

Food Consumption Score

Low HSP

Significant Clusters of Food Consumption Scores

- High FCS
- Low FCS

What are Food Consumption Scores?

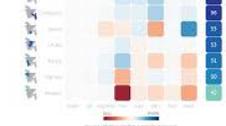
Food consumption scores (FCS) measure the dietary diversity of a household combined with the frequency of consumption and range from:

- <20 poor diet
- 20-35 borderline diet
- 35-45 low-accessible diet
- 54-112 good diet

##### 2 Food consumption is lower in the west.

Food consumption is lower in the west, especially in the north. Diets tend to be similar, with families relying on staples (rice, other cereals, tubers), oils, and vegetables for most of their diet. Higher wealth and better female education is associated with better nutrition.

Food Consumption is nearly the same across districts.



Map of Bangladesh showing Food Consumption Score by district.

##### 3 Significant Relationships

Factors Associated with Better FCS

- Higher wealth index
- Higher female education
- Herds and fish holdings

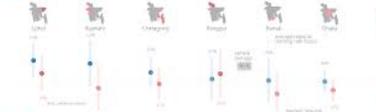
Factors Associated with Worse FCS

- Household in Bangor and Rajshahi

#### USAID BANGLADESH LIVELIHOOD MAPPING: CHILD NUTRITION

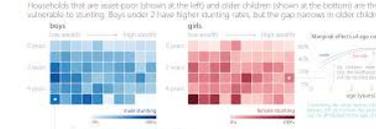
Over half the children in rural Bangladesh experienced some form of malnutrition in 2011-2012. Stunting was high across the country but especially in the north, and has been associated with long-term health impacts. Households with higher wealth (including improved sanitation) and households with younger children report lower stunting rates.

##### 1 Stunting is highest in the north.



##### 2 Significant Relationships (stunting)

Wealth, Age, and Gender



##### Factors Associated with Lower Stunting

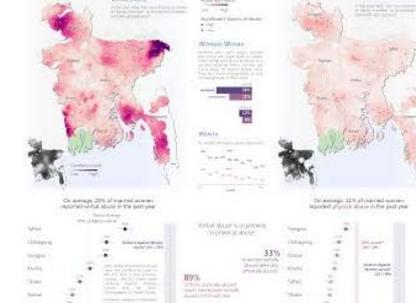
- Younger children
- Higher wealth index
- Households with younger females
- Households with older children

##### Factors Associated with Higher Stunting

- Female-headed households
- More children under 5 years old
- Households with young girls
- Households with fish and/or water

#### USAID BANGLADESH LIVELIHOOD ANALYSIS: WOMEN'S EMPOWERMENT

Bangladesh has some of the highest rates of domestic violence worldwide. An analysis of the Integrated Household Survey indicates that nearly 50% of married women are sexually abused, and over 10% are physically abused. These figures are much lower than previous studies, and likely point towards underreporting by respondents.



##### 1 Domestic Violence is highest in the north.

Domestic violence is highest in the north, especially in the west. Rates are lower in the south and east. Higher wealth and better female education are associated with lower rates of violence.

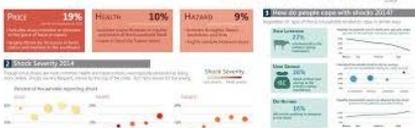
##### 2 Significant Relationships (violence)

- Higher wealth index
- Higher female education
- Household in Dhaka

### ETHIOPIA

#### USAID ETHIOPIA LIVELIHOOD ANALYSIS: HOUSEHOLD SHOCKS

Households in the north and eastern parts of the country were most likely to report a shock of any type. Price shocks were the most common.



#### USAID ETHIOPIA LIVELIHOOD MAPPING: HOUSEHOLD DIETARY DIVERSITY 2012/2014

Diet diversity improved slightly in Ethiopia between 2012 and 2014. A diverse diet is a key indicator of a less vulnerable household. Overnutrition and/or undernutrition can lead to serious malnutrition. Limited diet diversity can be caused by natural limitations, lack of access to markets, or cultural aversion to specific foods.



#### USAID ETHIOPIA LIVELIHOOD ANALYSIS: HOUSEHOLD PRICE SHOCKS

Price shocks affected households more than any other type of shock in 2012/2014. Prices are a key indicator of household vulnerability and food security. Price shocks can lead to household vulnerability in areas with severe reported shocks, but they may not be functioning properly due to natural, local issues or other broader problems.





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Photo: Feed the Future photo contest submission

## 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?



## Privacy Concerns

Changing the mindset of:

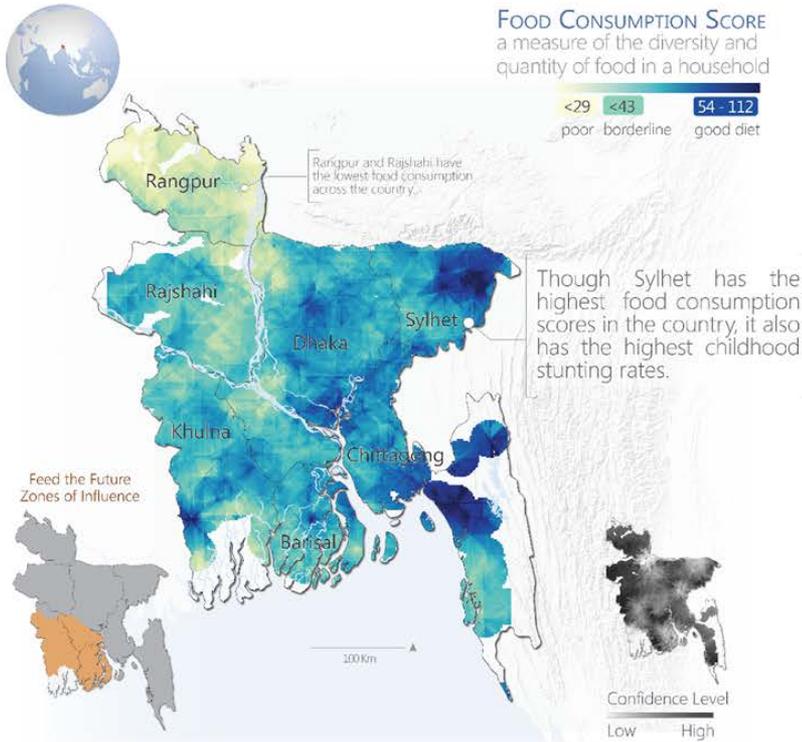
- The alarmed scientist
- The willing (but perplexed) scientist
- The suspicious civil servant
- The poised VP



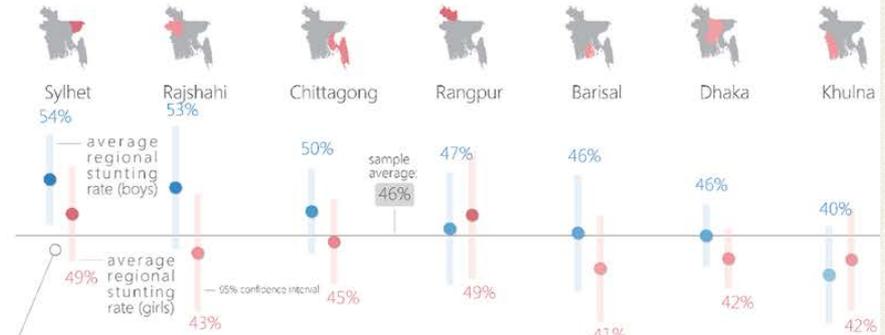


## Data sharing is required and useful

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



... they also have some of the highest 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.



HOUSEHOLDS WITH FEWER ASSETS (shown at the left) have significantly higher rates of stunting. Assets associated with reduced stunting include sealed latrines and better home building materials.





## Data Types

### Structured

- Machine readable
- Highly organized
- Relational databases and language designed to be used with them (JSON, SQL)



### Unstructured

- Multi-media
- Photos, Videos
- Emails
- Narrative reports (Word, PDF)





## Data Management Plans: Key Elements

### Why require a data management plan?

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



## 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

Bureau / Operating unit / Implementing mechanism / Indicator	Prime Partner	Admin1	Admin0
ETH04 Ethiopia Sustainable Agriculture Incubator (ESAI)	PCI	Addis Ababa; Amhara; Dire Dawa; Oromia; Southern Nations, Nationalities and Peoples; Tigray	Ethiopia
46551 SmallHolder Horticulture Project (SHH)	Government of Israel - Center for International Cooperation of the Foreign Ministry of Israel	Amhara; Oromia; Southern Nations, Nationalities and Peoples; Tigray	Ethiopia
TEMPORARY ETHIOPIA WATER WATER	International Rescue Committee	Afar; Oromia; Somali	Ethiopia
42165 Capacity to Improve Agriculture and Food Security (CIAFS)	Fintrac, Inc	Addis Ababa; Amhara; Oromia; Southern Nations, Nationalities and Peoples; Tigray	Ethiopia
TEMPORARY ETHIOPIA MASHAV MASHAV	Placeholder Inc.		Ethiopia



ID	ImplementingMechanism	ImplementingPartner	admin1	admin0
1	42165 Capacity to Improve Agriculture and Food Security (CIAFS)	Fintrac, Inc	Addis Ababa	Ethiopia
2	ETH04 Ethiopia Sustainable Agriculture Incubator (ESAI)	PCI	Addis Ababa	Ethiopia
3	TEMPORARY ETHIOPIA WATER WATER	International Rescue Committee	Afar	Ethiopia
4	42165 Capacity to Improve Agriculture and Food Security (CIAFS)	Fintrac, Inc	Amhara	Ethiopia
5	46551 SmallHolder Horticulture Project (SHH)	Government of Israel - Center for International Cooperation of the Foreign Ministry of Israel	Amhara	Ethiopia
6	ETH04 Ethiopia Sustainable Agriculture Incubator (ESAI)	PCI	Amhara	Ethiopia
7	ETH04 Ethiopia Sustainable Agriculture Incubator (ESAI)	PCI	Dire Dawa	Ethiopia
8	42165 Capacity to Improve Agriculture and Food Security (CIAFS)	Fintrac, Inc	Oromia	Ethiopia
9	46551 SmallHolder Horticulture Project (SHH)	Government of Israel - Center for International Cooperation of the Foreign Ministry of Israel	Oromia	Ethiopia
10	TEMPORARY ETHIOPIA WATER WATER	International Rescue Committee	Oromia	Ethiopia
11	ETH04 Ethiopia Sustainable Agriculture Incubator (ESAI)	PCI	Oromia	Ethiopia
12	TEMPORARY ETHIOPIA WATER WATER	International Rescue Committee	Somali	Ethiopia
13	42165 Capacity to Improve Agriculture and Food Security (CIAFS)	Fintrac, Inc	Southern Nations, Nationalities and Peoples	Ethiopia
14	46551 SmallHolder Horticulture Project (SHH)	Government of Israel - Center for International Cooperation of the Foreign Ministry of Israel	Southern Nations, Nationalities and Peoples	Ethiopia
15	ETH04 Ethiopia Sustainable Agriculture Incubator (ESAI)	PCI	Southern Nations, Nationalities and Peoples	Ethiopia
16	42165 Capacity to Improve Agriculture and Food Security (CIAFS)	Fintrac, Inc	Tigray	Ethiopia
17	46551 SmallHolder Horticulture Project (SHH)	Government of Israel - Center for International Cooperation of the Foreign Ministry of Israel	Tigray	Ethiopia
18	ETH04 Ethiopia Sustainable Agriculture Incubator (ESAI)	PCI	Tigray	Ethiopia



# Structure your data to be useful

activity	category1	subcategory	id	isActive	Country
Water Supply-Groundwater (e.g., hand-dug or drilled)	Water, Sanitation, and Hygiene (WASH)	Water Supply	67	1	Zimbabwe
Water Supply-Surface Water (e.g., e.g. rivers, lakes, )	Water, Sanitation, and Hygiene (WASH)	Water Supply	67	0	Zimbabwe
Water Supply-Rainwater	Water, Sanitation, and Hygiene (WASH)	Water Supply	67	0	Zimbabwe
Water Supply-Other	Water, Sanitation, and Hygiene (WASH)	Water Supply	67	0	Zimbabwe
Water Distribution-Handpumps and/or Community	Water, Sanitation, and Hygiene (WASH)	Water Supply	67	0	Zimbabwe
Water Distribution-Household Taps	Water, Sanitation, and Hygiene (WASH)	Water Supply	67	0	Zimbabwe
Water Distribution-Household Plumbing	Water, Sanitation, and Hygiene (WASH)	Water Supply	67	0	Zimbabwe
Water Distribution- Other	Water, Sanitation, and Hygiene (WASH)	Water Supply	67	0	Zimbabwe
Water Treatment- Disinfection (e.g., chlorine, UV)	Water, Sanitation, and Hygiene (WASH)	Water Supply	67	1	Zimbabwe
Water Treatment- Other (e.g., coagulation/sediment)	Water, Sanitation, and Hygiene (WASH)	Water Supply	67	0	Zimbabwe
Water Quality Monitoring (e.g., pathogen indicators)	Water, Sanitation, and Hygiene (WASH)	Water Supply	67	1	Zimbabwe
Sanitation- Unimproved Latrines (e.g. pit, arborloo)	Water, Sanitation, and Hygiene (WASH)	Sanitation	67	0	Zimbabwe
Sanitation- Improved Latrines (e.g. VIP, pour-flush, c	Water, Sanitation, and Hygiene (WASH)	Sanitation	67	1	Zimbabwe
Sanitation- Flush Toilet or equivalent	Water, Sanitation, and Hygiene (WASH)	Sanitation	67	0	Zimbabwe
Sanitation- Handwashing Stations (e.g., tippy tap, fo	Water, Sanitation, and Hygiene (WASH)	Sanitation	67	1	Zimbabwe
Hygiene & Behavior- Educational or Community part	Water, Sanitation, and Hygiene (WASH)	Hygiene	67	1	Zimbabwe
Operations & Maintenance (O&M) for Systems- Corr	Water, Sanitation, and Hygiene (WASH)	WASH Governance & Capacity	67	1	Zimbabwe
O&M for Systems- External-led (e.g. partner-led O&I	Water, Sanitation, and Hygiene (WASH)	WASH Governance & Capacity	67	0	Zimbabwe
Usage Fees Established for Water/Sanitation	Water, Sanitation, and Hygiene (WASH)	WASH Governance & Capacity	67	0	Zimbabwe
Other (Specify)	Water, Sanitation, and Hygiene (WASH)	Water, Sanitation, and Hygiene (WASH)	67	NA	Zimbabwe
Cost/benefit analyses	Markets, Inputs & Financial Access	Economic analyses	67	1	Zimbabwe
Farm budgeting	Markets, Inputs & Financial Access	Economic analyses	67	1	Zimbabwe
Other (Specify)	Economic analyses	Economic analyses	67	NA	Zimbabwe
Early Warning and Response Systems	Disaster Risk Reduction (DRR)	Disaster Risk Reduction (DRR)	67	1	Zimbabwe
Vulnerability Analysis and Mapping	Disaster Risk Reduction (DRR)	Disaster Risk Reduction (DRR)	67	1	Zimbabwe
Safety Net Programs	Disaster Risk Reduction (DRR)	Disaster Risk Reduction (DRR)	67	0	Zimbabwe
Community Based Preparedness Plans	Disaster Risk Reduction (DRR)	Disaster Risk Reduction (DRR)	67	1	Zimbabwe
Climate Change Programming (including but not limi	Disaster Risk Reduction (DRR)	Disaster Risk Reduction (DRR)	67	1	Zimbabwe
Conflict Mitigation	Disaster Risk Reduction (DRR)	Disaster Risk Reduction (DRR)	67	0	Zimbabwe
Shelters	Disaster Risk Reduction (DRR)	Disaster Risk Reduction (DRR)	67	0	Zimbabwe
Strengthened Government Response Capacity	Disaster Risk Reduction (DRR)	Disaster Risk Reduction (DRR)	67	1	Zimbabwe
Other (Specify)	Disaster Risk Reduction (DRR)	Disaster Risk Reduction (DRR)	67	NA	Zimbabwe
Roads	Infrastructure & Community Assets	Infrastructure & Community Assets	67	0	Zimbabwe

A	B	C	D	E
Program Number	1	2	3	4
Country Count	1	1	1	2
Program Type	Development	Development	Development	Developp
ARR Year Submitted	2014	2015	2014	2014
Country	Bangladesh	Bangladesh	Bangladesh	Burkina F
Awardee	CARE Bangladesh	CARE Bangladesh	Save the Children	Catholic R Service
Program Name	SHOUHARDO II	SHOUHARDO II	Nobo Jibon	FASO (Fan
Start Date of Award	6/1/10	6/1/10	1/6/10	June 20:
End Date of Award	9/30/15	9/30/15	30/09/2015	May 20:
<b>Maternal Child Health &amp; Nutrition</b>	<b>Works on Topic Area?</b>			
Conditional Food Transfer	--	--	--	--
Cash or food vouchers for nutrition	No	No	No	Yes
Supplementary Feeding P/L Women	No	No	Yes	Yes
Supplementary Feeding Prevention Kids 6-24 mos	No	No	Yes	Yes
Support for local production of specialized nutrition foods (i.e. fortified flours, pastes, etc.)	No	No	No	Yes
Household/Protection Rations	No	No	Yes	Yes
<b>Social and Behavior Change Communication</b>	--	--	--	--
Promotion of optimal breastfeeding during the first six months	Yes	Yes	Yes	Yes
Promotion of optimal complementary feeding starting at 6 months with continued breastfeeding to 2 years of age and beyond	Yes	Yes	Yes	Yes
Promotion of optimal nutritional care of sick children	Yes	Yes	Yes	Yes
Promotion of Optimal Women's Nutrition (15-49)	Yes	Yes	Yes	Yes
Prevention of Vitamin A deficiency in women and children	Yes	Yes	Yes	Yes
Promotion of adequate intake of IFA and prevention and control of anemia	Yes	Yes	Yes	No
Promotion of adequate intake of iodine	No	No	Yes	No
Baby WASH*	Yes	Yes	No	Yes
Essential Hygiene Actions	Yes	Yes	Yes	Yes
Care Group	No	No	Yes	Yes
Peer Support Groups (mothers, mens, grandmothers, etc)	Yes	Yes	Yes	Yes
Positive Deviance Hearth	No	No	No	No
Community conversation/discussion groups	Yes	Yes	No	Yes
Early Childhood Development (ECD)	Yes	Yes	No	No

tidy



easy



messy



machine-readable

hard

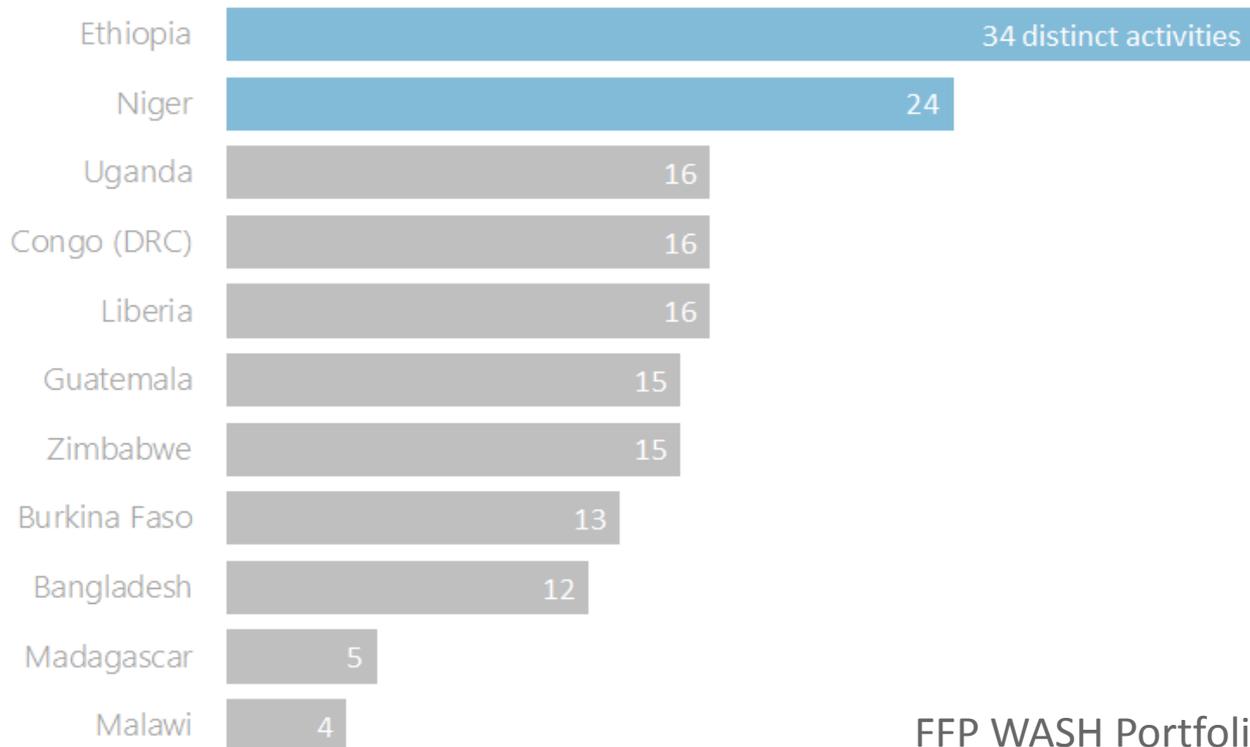


Human (-ish) readable



## 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.





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**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

Observation →

	A	B	C	D	F	H
1	activNo	activID	activity	category1	subcategory	isActive
2	1	1	Cash or food vouchers for nutrition	Maternal Child Health & Nutrition	Conditional Food Transfer	0
3	2	2	Supplementary Feeding P/L Women	Maternal Child Health & Nutrition	Conditional Food Transfer	0
4	3	3	Supplementary Feeding Prevention Ki	Maternal Child Health & Nutrition	Conditional Food Transfer	0
5	4	4	Support for local production of special	Maternal Child Health & Nutrition	Conditional Food Transfer	0
6	5	5	Household/Protection Rations	Maternal Child Health & Nutrition	Conditional Food Transfer	1
7	6	6	Promotion of optimal breastfeeding d	Maternal Child Health & Nutrition	Social and Behavior Change Communication	1
8	7	7	Promotion of optimal complementary	Maternal Child Health & Nutrition	Social and Behavior Change Communication	1
9	8	8	Promotion of optimal nutritional care	Maternal Child Health & Nutrition	Social and Behavior Change Communication	1
10	9	9	Promotion of Optimal Women's Nutriti	Maternal Child Health & Nutrition	Social and Behavior Change Communication	0
11	10	10	Prevention of Vitamin A deficiency in	Maternal Child Health & Nutrition	Social and Behavior Change Communication	0
12	11	11	Promotion of adequate intake of IFA a	Maternal Child Health & Nutrition	Social and Behavior Change Communication	0
13	12	12	Promotion of adequate intake of iodine	Maternal Child Health & Nutrition	Social and Behavior Change Communication	0
14	13	13	Baby WASH*	Maternal Child Health & Nutrition	Social and Behavior Change Communication	0
15	14	14	Essential Hygiene Actions	Maternal Child Health & Nutrition	Social and Behavior Change Communication	0
16	15	15	Care Group	Maternal Child Health & Nutrition	Social and Behavior Change Communication	1
17	16	16	Peer Support Groups (mothers, mens,	Maternal Child Health & Nutrition	Social and Behavior Change Communication	1
18	17	17	Positive Deviance Hearth	Maternal Child Health & Nutrition	Social and Behavior Change Communication	0
19	18	18	Community conversation/discussion g	Maternal Child Health & Nutrition	Social and Behavior Change Communication	1
20	19	19	Early Childhood Development (ECD)	Maternal Child Health & Nutrition	Social and Behavior Change Communication	0
21	20	20	Mass communication campaigns	Maternal Child Health & Nutrition	Social and Behavior Change Communication	1
22	21	21	Home Visit/Outreach for nutrition cou	Maternal Child Health & Nutrition	Social and Behavior Change Communication	1
23	22	22	Home Visit/Outreach for other MCH r	Maternal Child Health & Nutrition	Social and Behavior Change Communication	1
24	23	23	Other SBCC	Maternal Child Health & Nutrition	Social and Behavior Change Communication	1
25	24	24	Child health days	Maternal Child Health & Nutrition	Health Services	0
26	25	25	Baby Friendly hospital Initiative	Maternal Child Health & Nutrition	Health Services	0



Unique id for each observation



## Each variable forms its own column

	A	B	C	D	F	H
1	activNo	activID	activity	category1	subcategory	isActive
2	1	1	Cash or food vouchers for nutrition	Maternal Child Health & Nutrition	Conditional Food Transfer	0
3	2	2	Supplementary Feeding P/L Women	Maternal Child Health & Nutrition	Conditional Food Transfer	0
4	3	3	Supplementary Feeding Prevention Ki	Maternal Child Health & Nutrition	Conditional Food Transfer	0
5	4	4	Support for local production of special	Maternal Child Health & Nutrition	Conditional Food Transfer	0
6	5	5	Household/Protection Rations	Maternal Child Health & Nutrition	Conditional Food Transfer	1
7	6	6	Promotion of optimal breastfeeding d	Maternal Child Health & Nutrition	Social and Behavior Change Communication	1
8	7	7	Promotion of optimal complementary	Maternal Child Health & Nutrition	Social and Behavior Change Communication	1
9	8	8	Promotion of optimal nutritional care	Maternal Child Health & Nutrition	Social and Behavior Change Communication	1
10	9	9	Promotion of Optimal Women's Nutriti	Maternal Child Health & Nutrition	Social and Behavior Change Communication	0
11	10	10	Prevention of Vitamin A deficiency in v	Maternal Child Health & Nutrition	Social and Behavior Change Communication	0
12	11	11	Promotion of adequate intake of IFA a	Maternal Child Health & Nutrition	Social and Behavior Change Communication	0
13	12	12	Promotion of adequate intake of iodin	Maternal Child Health & Nutrition	Social and Behavior Change Communication	0
14	13	13	Baby WASH*	Maternal Child Health & Nutrition	Social and Behavior Change Communication	0
15	14	14	Essential Hygiene Actions	Maternal Child Health & Nutrition	Social and Behavior Change Communication	0
16	15	15	Care Group	Maternal Child Health & Nutrition	Social and Behavior Change Communication	1
17	16	16	Peer Support Groups (mothers, mens,	Maternal Child Health & Nutrition	Social and Behavior Change Communication	1
18	17	17	Positive Deviance Hearth	Maternal Child Health & Nutrition	Social and Behavior Change Communication	0
19	18	18	Community conversation/discussion g	Maternal Child Health & Nutrition	Social and Behavior Change Communication	1
20	19	19	Early Childhood Development (ECD)	Maternal Child Health & Nutrition	Social and Behavior Change Communication	0
21	20	20	Mass communication campaigns	Maternal Child Health & Nutrition	Social and Behavior Change Communication	1
22	21	21	Home Visit/Outreach for nutrition cou	Maternal Child Health & Nutrition	Social and Behavior Change Communication	1
23	22	22	Home Visit/Outreach for other MCH r	Maternal Child Health & Nutrition	Social and Behavior Change Communication	1
24	23	23	Other SBCC	Maternal Child Health & Nutrition	Social and Behavior Change Communication	1
25	24	24	Child health days	Maternal Child Health & Nutrition	Health Services	0
26	25	25	Baby Friendly hospital Initiative	Maternal Child Health & Nutrition	Health Services	0



## 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](http://www.usaid.gov/data/frequently-asked-questions)

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

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

Implementing Partner Notices Portal - Assistance: <http://bit.ly/1ud8ndq>

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](#)



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