Session 8: Reporting and Using Data
• Is NUTSENAG reaching the number of beneficiaries it planned to, overall and with training?
• Does the training seem to be effective?
• Do beneficiaries seem to be facing constraints in applying specific technology types?
• Are beneficiaries having trouble applying some types of technologies more than others?
• Are there crops where beneficiaries are having a harder time applying the promoted technologies?
• Do some of the crops yield a greater return to investment than others?
• Are there differences in the number of direct beneficiaries cultivating each crop?
• Are there significant differences in gross margin by sex of farmer? If yes, why? Are there differences in yields? In prices received? In inputs per hectare?
• Does the amount of land cultivated under each crop vary by sex of farmer? What about the proportion of the harvest sold?
What are your findings?

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

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

WEAI is made up of two sub-indices

Five domains of empowerment (5DE)
A direct measure of women's empowerment in 5 dimensions

0.9
higher values = greater empowerment

Women's Empowerment in Agriculture Index (WEAI)

Gender parity Index (GPI)
Women's achievement's relative to the primary male in hh

0.1
5 different domains
1 to 3 indicators per domain
• Index of 0 to 1
• Higher score indicating greater empowerment
5DE: Indicators Build Individual Empowerment Profiles

- Production 1/5
  - Autonomy in production
    - Input into productive decisions
    - Ownership of assets
    - Purchase, sale, or transfer of assets
    - Access to and decisions on credit
  - Control over use of income
- Resources 1/5
- Income 1/5
- Leadership 1/5
  - Group member
  - Speaking in public
  - Leisure
- Time 1/5
  - Workload
SDE: Indicators Build Individual Empowerment Profiles

- Production 1/5
  - Input into productive decisions
  - Autonomy in production
- Resources 1/5
  - Ownership of assets
  - Purchase, sale, or transfer of assets
  - Access to and decisions on credit
- Income 1/5
  - Control over use of income
- Leadership 1/5
  - Group member
  - Speaking in public
- Time 1/5
  - Leisure
  - Workload
SDE: Indicators Build Individual Empowerment Profiles

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

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

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

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

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

- **Production 1/5**: Input into productive decisions, Autonomy in production
- **Resources 1/5**: Ownership of assets, Purchase, sale, or transfer of assets, Access to and decisions on credit
- **Income 1/5**: Control over use of income
- **Leadership 1/5**: Group member, Speaking in public, Leisure, Workload
- **Time 1/5**
SDE: Indicators Build Individual Empowerment Profiles

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

**Five Domains of Empowerment**

- Production 1/5
- Resources 1/5
- Income 1/5
- Leadership 1/5
- Time 1/5
Progress

Empowering women in agriculture will be achieved by:

• Empowering women in the 5 domains
• Achieving gender parity within the household.
Interpreting WEAI

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

- group membership
- control over income
- speaking in public
What are the three indicators that contribute most to men’s disempowerment?
What are the three indicators that contribute most to men’s disempowerment?

• group membership
• control over income
• workload

Source: IFPRI (2012a).
What strikes you about the similarities and differences between men’s and women’s disempowerment?
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
<table>
<thead>
<tr>
<th>Problem or Constraint to Address</th>
<th>Is this problem or constraint relevant in your specific context? Y/N, Please explain and provide evidence.</th>
<th>What activity(ies) are you implementing that address or relate to this problem?</th>
<th>What activity(ies) are you planning that will address this problem and how will they address it?</th>
<th>Activity's Specific Contribution to Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women do not have equal or adequate control over the use of household income. Women are not engaged satisfactorily in household decisions around how to use household income</td>
<td>Based on the WEAI, control over income is the third largest contributor for disempowerment for women. It is also a significant gap between men and women</td>
<td>Fertilizer Deep Placement activity – promotes and supports women’s fertilizer dealerships / retail outlets</td>
<td>Ag inputs activity will certify women retailers and establish start-up grants of women-owned retailers.</td>
<td>By supporting women retailers, this activity will increase the ability of women to earn income outside of the farm that they may have greater ability to control</td>
</tr>
</tbody>
</table>
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
The “Women’s Empowerment in Agriculture Index” (WEAI), launched by IFPRI, Oxford Poverty and Human Development Initiative (OPHI), and USAID’s Feed the Future in February 2012, is the first comprehensive and standardized measure to directly capture women’s empowerment and inclusion levels in the agricultural sector.

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

Key Resources

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

http://www.ifpri.org/topic/weai-resource-center
Past FTF Information Requested

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

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

How are interventions promoting increased dietary diversity?

Why are we not meeting set targets?

How are activities engaging the private sector?
Key Considerations

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

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

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

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

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

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

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

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

- Almost **one billion** people suffer from chronic hunger
- More than **3.5 million** children die from undernutrition each year
- The world’s population will increase to more than **9 billion by 2050**
- Food production will have to **increase by 70%** to feed the world
<table>
<thead>
<tr>
<th>Option 1</th>
<th>Option 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Honduras is the second poorest country in the Western Hemisphere, with a poverty rate of 66%</td>
<td>• Nepal is a severely food deficit country recovering from a 10-year civil war and remains the</td>
</tr>
<tr>
<td>Approximately 2.5 million of the extreme poor live in rural areas, 40% of which are concentrated</td>
<td>poorest country in South Asia. Malnutrition is a widespread problem in Nepal with rates comparable</td>
</tr>
<tr>
<td>in the Western Highlands.</td>
<td>to those in many African countries.</td>
</tr>
</tbody>
</table>
Solving the Problem

• Get to the point of what you are doing
• Be Specific
  – Don’t use jargon (e.g., “capacity building”)
  – Talk about commodities, geographic location
• What is your direct intervention?
Option 1

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

Option 2

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

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

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

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

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

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

- In FY 2013, 11 million households benefited directly from FTF investments which was an increase of 2 million from FY 2012.
In FY 2011, USAID reached over 435,000 farmers who applied deep fertilizer placement and urea briquettes to improve management practices on more than 244,600 hectares, leading to an average 15% increase in rice yields for these farmers. As a result, the Barisal division in the south experienced its first-ever rice surplus.

Malawi has completed a CAADP Compact, CIP Peer review and Business Meeting. Malawi’s FTF strategy is fully aligned to Malawi’s CIP. Through a public-private partnership with Lilongwe Dairies, FTF beneficiaries doubled milk yields in 2011 as a result of USAID training in feeding practices and fodder conservation improved animal breeds, and improved storage facilities.
The Potential

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

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

Option 2

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

Know your audience and purpose

Be specific

Be concise

Use numbers

Talk about: the problem, solving the problem, the result, the potential
Deviation Narratives

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

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

Option 2

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

> ≠ 

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](https://stories.usaid.gov/#intro)
Group Activity

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

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

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

20 minutes
Individual Reflection

Record your key learnings about writing performance narratives.

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

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

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

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

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

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

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

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

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

Two perspectives on the same data:

relative to other countries?  

between age groups?
Choose an appropriate chart type
Choosing chart types

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

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

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

Highlight differences between groups with small multiples

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

http://www.who.int/bulletin/volumes/86/5/07-048769/en/
Title is accurate and informative-- but doesn’t tell a story

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

Why is there a map here?

must look back and forth to read colors on legend

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

What’s WPR?

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.

http://www.who.int/bulletin/volumes/86/5/07-048769/en/
Focus on the story

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

Calls for New Restrictions

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

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

- 1.6 million guns sold
  December 2015

- 1.1 million guns sold
  Month of Obama’s election

- 754,000 guns sold
  Month of Sept. 11 attacks

Estimated gun sales per month

Annotations provide context

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

• Draw one
  – Scenario card
  – Findings card

• Sketch out your data story

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

• What relationship are you showing?

• How did you decide to represent the data?

• What was challenging?

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

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

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

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

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

- Color: [Color Brewer](http://colorbrewer2.org/)


- Each other!

**Inspiration**

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

BANGLADESH

ETHIOPIA