Session 6: Collecting Performance Monitoring Data
Gantt Charts

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

Careful planning of data collection activities is critical.

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

Measure twice...
‘Diagramming’ your indicators

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

Starting point:
The woman ate foods.

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

woman (subject) ate (verb) (foods) (d.o.)

The who was direct beneficiary a of ag activities nutrition-sensitive

yesterday (during day or night) grains, roots/tubers, plantains dairy meat, poultry, fish eggs dark green leafies vit. A-rich fruits/veggies other vegetables other fruits

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

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

Add details on:
Who, what, where, when?
The farmer applied the technology/practice to crops on [x] hectares of land.
Questionnaire Design
Questionnaire Design –
Content: Information needs

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

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

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

INSTRUCTIONS:

• Organize into groups of 3-4

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

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

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

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

• Goal: improve efficiency of questionnaire review process

• Complements & improves pretest and pilot exercises
Steps in the QAS

• **STEP 1: READING**: Determine if it is difficult for the interviewers to read the question uniformly to all respondents.

• **STEP 2: INSTRUCTIONS**: Look for problems with any introductions, instructions, or explanations from the respondent’s point of view.

• **STEP 3: CLARITY**: Identify problems related to communicating the intent or meaning of the question to the respondent.

• **STEP 4: ASSUMPTIONS**: Determine if there are problems with assumptions made or the underlying logic.

• **STEP 5: KNOWLEDGE/MEMORY**: Check whether respondents are likely to not know or have trouble remembering information.

• **STEP 6: SENSITIVITY/BIAS**: Assess questions for sensitive nature or wording, and for bias.

• **STEP 7: RESPONSE CATEGORIES**: Assess the adequacy of the range of responses to be recorded.

• **STEP 8: OTHER**: Look for problems not identified in Steps 1 - 7.
Questionnaire Design - Content:
“Let’s just use questions from…”

• Pros?
• Cons?

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

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

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

- No translation on the fly!
Individual Application

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

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

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

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

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

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

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

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

Remote Sensing: Use of satellite imagery to measure area.

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

The Case for Collecting Geospatial Data

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

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

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

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

What you typically see:

What else might you want to know?

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

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

One number is a start, but isn’t very informative:
On average, there’s no difference between males and females:

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>46%</td>
<td>46%</td>
</tr>
<tr>
<td>Sex</td>
<td>20%</td>
<td>40%</td>
</tr>
<tr>
<td>National average</td>
<td>46%</td>
<td></td>
</tr>
</tbody>
</table>
Lower secondary school varies substantially by sex:

- Greater Accra: females higher
- Asante: males higher
- Central
- Eastern
- Western
- Volta
- Brong–Ahafo
- Upper East: 30% females higher, 40% males higher
- Northern
- Upper West

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

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

Brong–Ahafo
- Upper East
- Northern
- Upper West

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

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

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

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

- You can always aggregate data. You can’t go back after the data are collected.
What to keep in mind
• Is your sample representative? Is your sample size large enough to be meaningful?

What would we conclude about the size of M&Ms by color in this sample?
Sampling Basics
Two Sampling Principles
We want the sample to be representative at a district level.
We want the sample to be representative at a district level.
Sampling Guide for Beneficiary-based Surveys for Select Feed The Future Agricultural Annual Monitoring Indicators & Sample Size Calculator

Individual Application

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

• Select one indicator on which you will collect data

• Do you need to disaggregate the data?

• If so, how will you disaggregate the data
Lessons learned about:

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


● USGS Global Positioning Application and Practice: http://water.usgs.gov/osw/gps/

● GNSS in Africa: http://www.gnss-africa.org/?page_id=23


● 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