

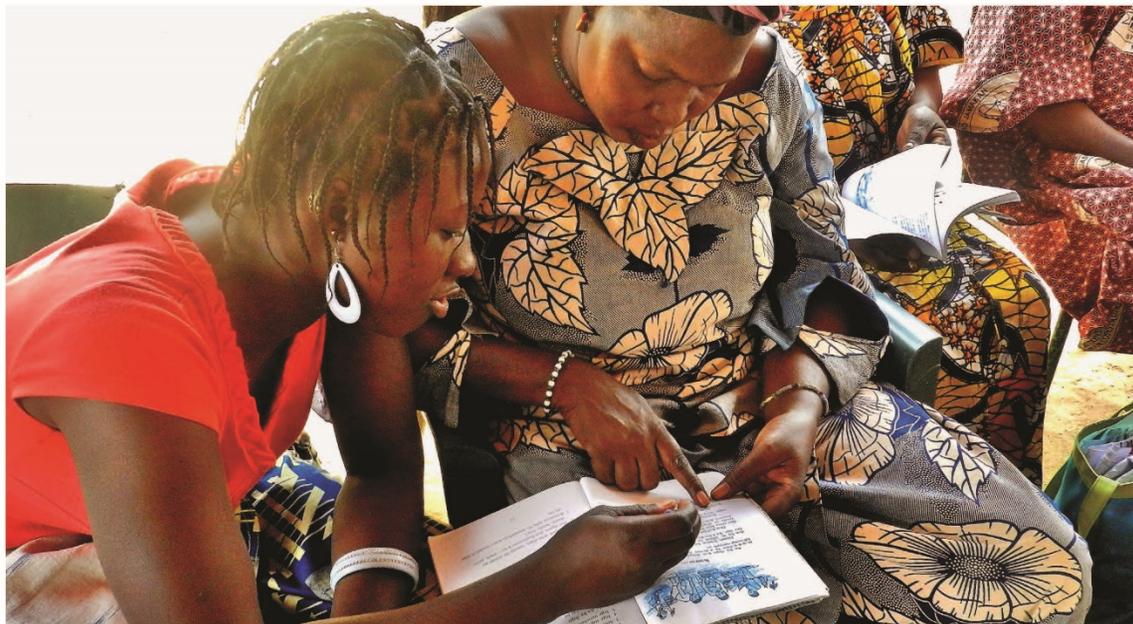


FEED THE FUTURE

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

PERFORMANCE MONITORING

FACILITATOR'S GUIDE



USAID
FROM THE AMERICAN PEOPLE

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

August 2016

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Session 9: Submitting Open Data **7**

H. Materials, Supplies and Checklist

Session Materials

Session Nine

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

Supplies

Have the following standard office supplies available:

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

Equipment

- LCD project and screen
- Laptop loaded with course PowerPoint slides

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

Session 9: Submitting Open Data

Session Goal: Submit data meeting FTF policy and requirements for open data

Learning Objectives:

- Know the policy and requirements for submitting open data

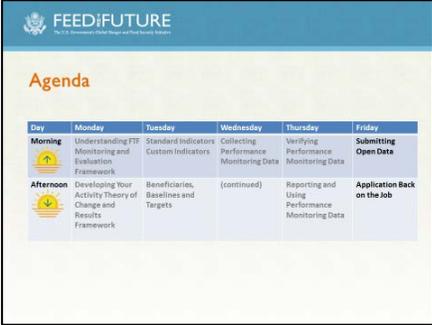
Session Length: 120 minutes

Session Materials:

- Session 9 slides
- Prepared flipcharts with the headings:
 - What reasons do you have to share data?
 - Why would you not share data?
 - What types of data do you think should be public?
 - What data should we keep restricted?
- Markers
- Tidy Data Exercise
 - Tidy data set
 - Messy data set
 - Additional data set

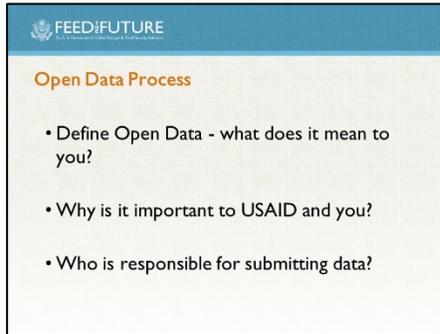
Facilitator Notes:



Time & Facilitator	Content/Activities	Materials
<p>9:00 am (15 min.)</p>	<p>Start of the Day</p> <p>Welcome participants back to the course. Ask for any “overnight thoughts” about the previous day’s material.</p> <p>Share the agenda for the day.</p> 	
<p>9:15 am (120 min.)</p>	<p>Introduction</p> <p style="text-align: center;">Slide 1</p>  <p>Say: The objective of the Open Data policy is to ensure useable data as a delivery, promote transparency and data sharing. Accessible, discoverable, and usable data fuels entrepreneurship, innovation, scientific discovery, and enhances development outcomes. It contributes to improved design and implementation of development programs while reducing expensive and redundant data collection efforts.</p> <p style="text-align: center;">Slide 2</p>  <ul style="list-style-type: none"> • 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) 	

Say: USAID implemented ADS 579 in response to the Open Data Policy in October 2014. It is USAID's implementation of [Executive Order 13642](#), "Making **Open** and Machine Readable the New Default for Government Information," and the White House Office of Science and Technology Memorandum, "[Increasing Access to the Results of Federally Funded Scientific Research](#)."

Slide 3



Ask the participants the questions on the slide and allow for a robust discussion.
 Answer: *Implementing Partners*

Group Exercise

Slide 4



Directions:

- Post four flipcharts around the room each flipchart having one of the following headings:
 - What reasons do you have to share data?
 - Why would you not share data?
 - What types of data do you think should be public?
 - What data should we keep restricted?
- Have participants go to each flipchart and write their answers to the question posted on the flipchart.

Debrief the exercise:

- Review the answers on the flipchart
 - Compare and contrast the answers to questions first and second questions and the third and fourth questions
 - Allow for participants to "challenge" each other when views differ

Conclude saying: Sharing data supports meta analysis or deeper dive, saves money, and fosters continued research. Open Access/Open Data is vitally important to increasing

Flipcharts with the headings:

- What reasons do you have to share data?
- Why would you not share data?
- What types of data do you think should be public?
- What data should we keep restricted?

Markers

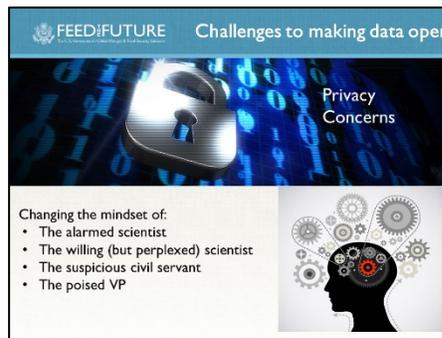
the visibility and impact of agriculture research to development stakeholders and beneficiaries.

Data is not required to be shared if:

- Personal safety of U.S. personnel or recipients of U.S. resources;
- Interferes with ability to discharge ongoing foreign assistance activities;
- National security interests;
- Business or proprietary information of non-governmental organizations, contractors, or private sector clients;
- Laws or regulations of a recipient country apply to a bilateral agreement and restrict access to information; or
- Contain private information about individuals that must be kept confidential consistent with ethical guidelines and federal regulations

Lecturette

Slide 5



Ask:

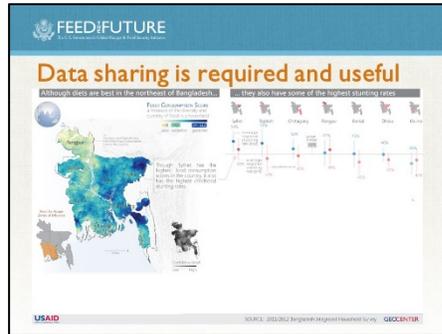
- Why do you think research scientists may be reluctant to share data?
- Civil servants?
- VPs?

Potential answers:

- Research Scientists may feel they will lose competitive advantage/future funding opportunities/job security, recognition etc. Is the data worth making open?
- Civil servant may feel that sharing with the public may cause problems; concerns about data quality; unsure of policy and practices.
- Poised VP consults with legal which results in so much data being omitted that it is no longer worth sharing.

Say: To address privacy concerns, remember, researchers must get informed consent for all human subject research. Data must be submitted with all components to the DDL and are subject to a Privacy Threshold Analysis (PTA) by CIO - clearance process is currently paused - stay tuned!

Slide 6



Say: Data allow us to analyze our priorities of where we work. All of our processing and analysis code is open to anyone inside USAID.

For example, the USAID GeoCenter analysis of the FtF baseline in Bangladesh on this slide leads to an observation that food consumption scores were worse in the northwest of the country, while stunting is worst in the north.

Slide 7

Review the two categories of data on the slide: structured and unstructured.

Summarize saying: Structured data = machine readable e.g. CSV, shapefile, Excel file, XML, JSON. Unstructured = pdf, doc, jpeg.

Slide 8

Field Location	Network	Institutional and Contact Person	Description	Data Privacy & Security	Data Submission	Data Ownership	Data Retention	Data Repository & Archiving	Responsible Party	Target Stakeholders
100+ Districts	Government, NGOs, Private Sector, Academia, Donors, etc.	USAID, USAID/HRN, USAID/EDD, USAID/EDD/HRN, etc.	Humanitarian response, food security, nutrition, etc.	Highly sensitive, often classified, requires strict access controls and encryption.	Regular, frequent, and timely.	USAID/HRN, USAID/EDD, etc.	5-7 years, with some data retained indefinitely for historical purposes.	USAID/HRN, USAID/EDD, etc.	USAID/HRN, USAID/EDD, etc.	USAID, USAID/HRN, USAID/EDD, etc.

Say: A rigorous and consistent approach to data management ensures that data is collected, stored, analyzed and shared in a manner that will have the greatest impact, while also protecting the rights of third parties and stakeholders when appropriate.

DMPs facilitate data calls - we know what will be available. Enables better support to offices. Helps track deliverables.

Suggestions:

- Subaward or Activity, Institution and Contact Person Responsible for Data
- Dataset Type
- Description
- Data Privacy & Use Restrictions
- Pre-submission data processing for PII
- Final Data Deliverable
- Estimated Publication Date & Embargo Request
- Data Repository
- Responsible Party for Data Submission
- Target Submission Date

DMPs should be updated periodically (as stipulated in Work Plan per A/COR) when M&E plans are updated. Data and the supporting documentation (Metadata) should be submitted to a publicly accessible database or to DDL. Even if the data is accessible via a public database, it still must be registered on the DDL with a link to the url. Data access level (public, restricted-public, non-public) is set in the online DDL form.

Slide 9

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U.S. Department of Health & Human Services

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)

Say: The first challenge with open data is finding the data, getting it, and releasing it. But just because the data are open doesn't necessarily mean that they're useful.

There are three critical components to making data useful for other people:

1. Get good data! Think back to designing survey questions; how you ask the question influences the data you get back.
2. Structure-- organize them so they're easy to visualize and analyze
3. Document who collected the data, how it was collected, and how it was manipulated. How the data should be interpreted.

This isn't just good practice to comply with ADS 579 and to make data useful for the external world. It's equally important for you. If you go back to your data in a few months (or years), can you quickly use it?

	<p style="text-align: center;">Slide 10</p> <div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: fit-content;">  <p style="text-align: center;">"Design from beginning to get good data rather than spending a ton of money to cleanse the data."</p> <p style="text-align: center;">-Michael Angus</p>  </div> <p>Say: As the quote says, invest in good data design (questions and structure) rather than trying to fix it after the fact. In the best case scenario, trying to fix data afterwards will cost a lot of money and time. Worst case scenario, you can't actually fix it. If you ask the question wrong, there's no going back. If you didn't disaggregate the data into males and females, it's highly unlikely that you can figure out who is male and who is female. Get it right from the start.</p>	
	<p>Group Exercise</p> <p>Overview of the exercise: Groups will be given a "tidy" version of a dataset or a messier one and asked to find all the programs tagged as being FTF and the number of projects for each region of Ethiopia. Facilitators will time the difference in the amount of time it takes to be able to use the information. Structure matters to make information useful to others!</p> <p style="text-align: center;">Slide 11</p> <div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: fit-content;">  <p>Exercise: Can you easily get information from a dataset?</p> <ul style="list-style-type: none"> • 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 l (each Region like "Afar") </div> <p>Directions: <u>Part One</u></p> <ol style="list-style-type: none"> 1. Divide the trainees into groups of 2 - 5 people. 2. Give roughly half the groups example dataset #1 (the tidy version) and half example dataset #2 (the messy version). <ol style="list-style-type: none"> a. Instructor note: data are from the FTF-MS on where people are working. 3. Ask them to look at the data and analyze them to find: <ol style="list-style-type: none"> a. Find which IP works in the most places b. Count the number of projects per Admin (each Region like "Afar") so you can make a graph of the number of projects per region 	<p>Tidy Data Messy Data Additional Data</p>

4. Facilitator to time how long (roughly) each group takes to do each task

Part Two

5. You now have new information that you want to be able to combine with these data on where we are working.
 - a. Data on stunting
 - b. Data on PSNP participation -- a social safety net program
6. Using your dataset, figure out how difficult it is to combine the information together.
7. What assumptions do you have to make? What challenges do you encounter?

Debrief

Say: Each version of the data had the **same** information. Let's explore what made them different.

Show slides of both data sets:

Slide 12

Which version is easier to use?

Each dataset has *the same* information
What made it easy or hard to use?
Version 1

Name	Operating unit / Implementing mechanism	Indicator	Data Partner	Address	Address
LT104 Libano Sustainable Agriculture Incubator (LSAI)	ICP			CPHO (Cairo, Ankara, Erit, Paris, Ottawa, Stockholm)	Yogyakarta
10111 Smallholder Horticulture Project (SH)	Department of Water - Center for International Cooperation of the Foreign Ministry of Israel		General Manager, Southern Region, Nationalities and Immigrant Absorption		Yogyakarta
TEMPORARY ETHIOPIA WATER VALTER	International Rescue Committee		Alan Charles, Regional		Yogyakarta
10136 Capacity to Improve Agriculture and Food Security (CAIFS)			Adisa Hailemariam, Director, Southern Nations, Nationalities and Peoples State		Yogyakarta
TEMPORARY ETHIOPIA MALINDAO MADHAY			Phanindran, Inc.		Yogyakarta

Slide 13

Which version is easier to use?

ID	Implementing Mechanism	Implementing Partner	Name	By	Address
1	10136 Capacity to Improve Agriculture and Food Security (CAIFS)				Adisa Hailemariam
2	ETHIO-BRITAIN Sustainable Agriculture Incubator (BSAI)	ICP			Adisa Hailemariam
3	TEMPORARY ETHIOPIA WATER VALTER	International Rescue Committee			Alan
4	10136 Capacity to Improve Agriculture and Food Security (CAIFS)				Adisa Hailemariam
5	10051 Smallholder Horticulture Project (SH)	Department of Water - Center for International Cooperation of the Foreign Ministry of Israel			Adisa Hailemariam
6	ETHIO-BRITAIN Sustainable Agriculture Incubator (BSAI)	ICP			Adisa Hailemariam
7	ETHIO-BRITAIN Sustainable Agriculture Incubator (BSAI)	ICP			Eric David
8	10136 Capacity to Improve Agriculture and Food Security (CAIFS)				Adisa Hailemariam
9	10051 Smallholder Horticulture Project (SH)	Department of Water - Center for International Cooperation of the Foreign Ministry of Israel			Adisa Hailemariam
10	TEMPORARY ETHIOPIA WATER VALTER	International Rescue Committee			Adisa Hailemariam
11	ETHIO-BRITAIN Sustainable Agriculture Incubator (BSAI)	ICP			Adisa Hailemariam
12	TEMPORARY ETHIOPIA WATER VALTER	International Rescue Committee			Sonali
13	10136 Capacity to Improve Agriculture and Food Security (CAIFS)				Southern Nations, Nationalities and Peoples
14	10051 Smallholder Horticulture Project (SH)	Department of Water - Center for International Cooperation of the Foreign Ministry of Israel			Southern Nations, Nationalities and Peoples
15	ETHIO-BRITAIN Sustainable Agriculture Incubator (BSAI)	ICP			Southern Nations, Nationalities and Peoples
16	10136 Capacity to Improve Agriculture and Food Security (CAIFS)				Tigray
17	TEMPORARY ETHIOPIA WATER VALTER	International Rescue Committee			Tigray
18	ETHIO-BRITAIN Sustainable Agriculture Incubator (BSAI)	ICP			Tigray

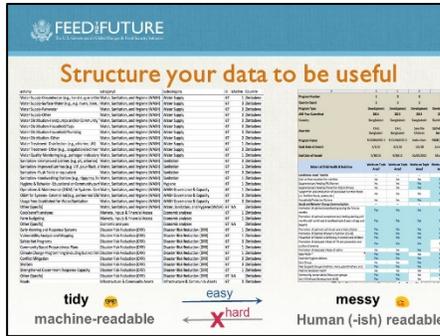
Ask:

- How easy was it for you to find the information? How long did it take?
 - Facilitator notes the difference in time each group took
 - Facilitator to show how easy it is to sort with a computer
- What made it easy or hard?
- Were each of the tasks equally easy or challenging?
- If you were doing the same exercises with these data in a computer, how would you find the information? Which dataset would be easier?

If there is time, demonstrate how easy it is to use the information within Excel to filter, aggregate, etc.

Lecturette (continued)

Slide 14

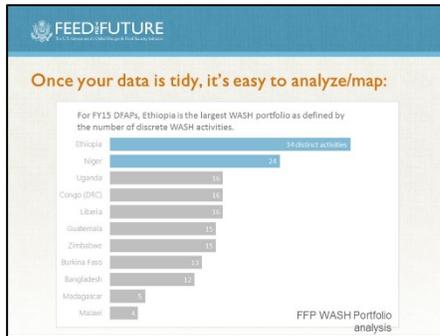


Say: Data stored in rows and columns in a database/spreadsheet. Ideally, the data should be structured and values should be entered in a consistent manner.

In this example how would you filter the data to pull out just the Bangladesh data? How would you aggregate (create sums) of all the MCH data? In the tidy version, this is simple-- just filter a single column, or create a pivot table for the MCH data. In the messy version, you'd either be searching by eye or by Ctrl-F. Not only is this less efficient, but it's more likely to introduce error. What if you miss one of the Bangladesh entries?

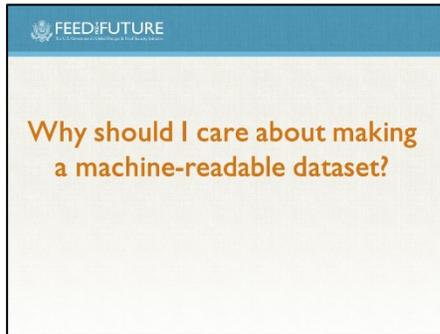
The point is that you can always go from the machine-readable version to a more human-readable version. It's much harder to go the other way.

Slide 15



Say: Tidy, structured data is the precursor to any analysis or visualization. Once it's in this form, you can quickly see patterns, like that Ethiopia has the largest WASH portfolio within FFP.

Slide 16



Flipchart Markers

Ask: Why should you care about making a machine-readable dataset?
 Capture participants' responses on a flipchart.

Summarize by displaying slide 17.

Slide 17

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 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

Say: It sounds like structuring data is work. But it's worth investing time upfront to make everyone's life easier and **it must be done before any analysis or visualization is possible**. Tidy data is also an easily recognized format by analysts, human readable data may or may not be recognizable.

Slide 18

FEED:|FUTURE
 Each observation (record) has its own row

Observation	A	B	C	D	E	F	G	H
1	1	1	1	1	1	1	1	1
2	1	2	1	1	1	1	1	1
3	1	3	1	1	1	1	1	1
4	1	4	1	1	1	1	1	1
5	1	5	1	1	1	1	1	1
6	1	6	1	1	1	1	1	1
7	1	7	1	1	1	1	1	1
8	1	8	1	1	1	1	1	1
9	1	9	1	1	1	1	1	1
10	1	10	1	1	1	1	1	1
11	1	11	1	1	1	1	1	1
12	1	12	1	1	1	1	1	1
13	1	13	1	1	1	1	1	1
14	1	14	1	1	1	1	1	1
15	1	15	1	1	1	1	1	1
16	1	16	1	1	1	1	1	1
17	1	17	1	1	1	1	1	1
18	1	18	1	1	1	1	1	1
19	1	19	1	1	1	1	1	1
20	1	20	1	1	1	1	1	1
21	1	21	1	1	1	1	1	1
22	1	22	1	1	1	1	1	1
23	1	23	1	1	1	1	1	1
24	1	24	1	1	1	1	1	1
25	1	25	1	1	1	1	1	1
26	1	26	1	1	1	1	1	1

Unique id for each observation

Say: So what is tidy data? Tidy data has individual observation/records, which is a single entry in a dataset. Basically, think one piece of information in every box (cell) within a spreadsheet.

Warning: **Don't use merged cells. Please, just don't.**

Slide 19

FEED:|FUTURE
Open Data for the World

Each variable forms its own column

id	variable	category	subcategory	dataset
1	1	1	1	0
2	2	2	2	0
3	3	3	3	0
4	4	4	4	0
5	5	5	5	1
6	6	6	6	1
7	7	7	7	1
8	8	8	8	1
9	9	9	9	0
10	10	10	10	0
11	11	11	11	0
12	12	12	12	0
13	13	13	13	0
14	14	14	14	0
15	15	15	15	1
16	16	16	16	1
17	17	17	17	1
18	18	18	18	1
19	19	19	19	1
20	20	20	20	1
21	21	21	21	1
22	22	22	22	1
23	23	23	23	1
24	24	24	24	1
25	25	25	25	0
26	26	26	26	0

Say: And then each variable -- or each type of measurement -- is stored in a single column. This makes it easy to find that information, to filter it, to aggregate it, and to compare it to other measurements.

Slide 20

FEED:|FUTURE
Open Data for the World

Things to watch out for:

- 1 Merged cells (rows or columns)
- 2 No unique id
- 3 Inconsistent data (names, numbers, codes)
- 4 Variable (column) names not meaningful
- 5 Special characters within numeric variables (\$, "...")
- 6 Variable names contain measurements (quarter1, quarter2)
- 7 Information recorded for human not computer consumption
- 8 Spreadsheet layout designed for human consumption

Animated slide

Say: This is a laundry list of the most common problems we see in datasets. Note: Click through the slide and reach bullet point.

Slide 21

FEED:|FUTURE
Open Data for the World

Document your data to be useful

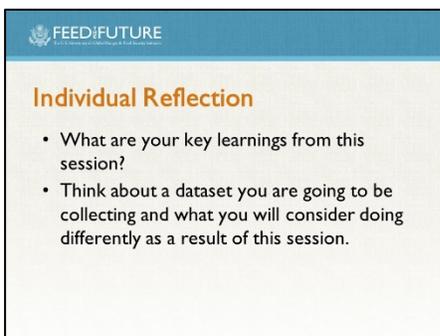
Codebooks / Data Dictionary

- 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

Say: Now that you have good data and they're structured logically, you have to tell others (including your future self!) what they mean. Data dictionaries and codebooks are required under ADS 579, and they describe how the data were collected, how they were manipulated, and what each variable means (e.g. stunting is a numeric measurement of height-for-age compared to the WHO reference standard, and ranges from -6 to +6 standard deviations).

Individual Reflection

Slide 22



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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.

Individual exercise:

- Refer participant guide and have them record their individual reflections:
 - Key learnings from the session
 - Think about a data set they are going to be collecting/analyzing, what will consider doing differently as a result of the session.

Debrief in plenary:

- Ask two or three participants to share their reflections.

Resources

Slide 23



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Resources

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

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

Policy Announcement: <http://1.usa.gov/1F8COg>

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

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/10kPd6>

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

ADS 579 Fact Sheet

11:15 am
(15 min.)

Break

Data structure exercise: Dataset 1

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

GEOCENTER

Data structure exercise: Dataset 2

ID	ImplementingMechanism	ImplementingPartner	admin1	admin0
1	42165 Capacity to Improve Agriculture and Food Security (CIAFS)	Fintrac, Inc	Addis Ababa	Ethiopia
2	ETHo4 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	ETHo4 Ethiopia Sustainable Agriculture Incubator (ESAI)	PCI	Amhara	Ethiopia
7	ETHo4 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	ETHo4 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	ETHo4 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	ETHo4 Ethiopia Sustainable Agriculture Incubator (ESAI)	PCI	Tigray	Ethiopia
19	TEMPORARY ETHIOPIA MASHAV MASHAV	Placeholder Inc.	unknown	Ethiopia

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Data structure exercise: Merging data

admin1	stunting_pct	PSNP_participation
Addis Ababa	22.9	NA
Afar	46.1	65.6
Amhara	42.2	14.8
Dire Dawa	27.1	59.2
Oromiya	38.2	2.3
SNNP	44.1	15
Somali	36.5	12
Tigray	47.5	28.9

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BIOGRAPHIES –



Anna Brenes began work in July 2012 with USAID | Haiti as the GIS Mapping and Reporting Specialist where she assisted M&E teams with data collection, analyses, and management using the Haiti DevResults information management systems. She joined the USAID/BFS/SPPM/MEL team in January 2016 as a Data Support Specialist. Prior to working with USAID, Ms. Brenes worked with the State of Minnesota as a GIS Analyst. She has lived abroad with her husband and children in Morocco, Bolivia, and the Netherlands. Ms. Brenes has an undergraduate BA degree from the University of Wisconsin, Madison in International Relations, and a graduate MS degree in Agriculture Education/Sustainable Community Development from the University of Wisconsin, River Falls.



Laura Hughes is a data scientist at the U.S. Agency for International Development. As a member of the GeoCenter, she uses data science and visualization to analyze international development issues. She also trains people on how to use data visualizations to communicate complex problems and solutions. Trained as a biophysical chemist, Laura is passionate about translating messy data and complex statistical analyses into understandable insights that can influence policy and investment decisions. She holds a Ph.D. from Stanford University, an M.Phil. from the University of Cambridge as a Gates Cambridge Scholar, and an M.S./B.A. from Northwestern University.



FOR MORE INFORMATION:

For more information about the Feed the Future Performance Monitoring Course, contact:

Anne Swindale (aswindale@usaid.org) or **Salik Farooqi** (sfarooqi@usaid.gov)

Monitoring, Evaluation and Learning

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