

Data and Information Management Basics

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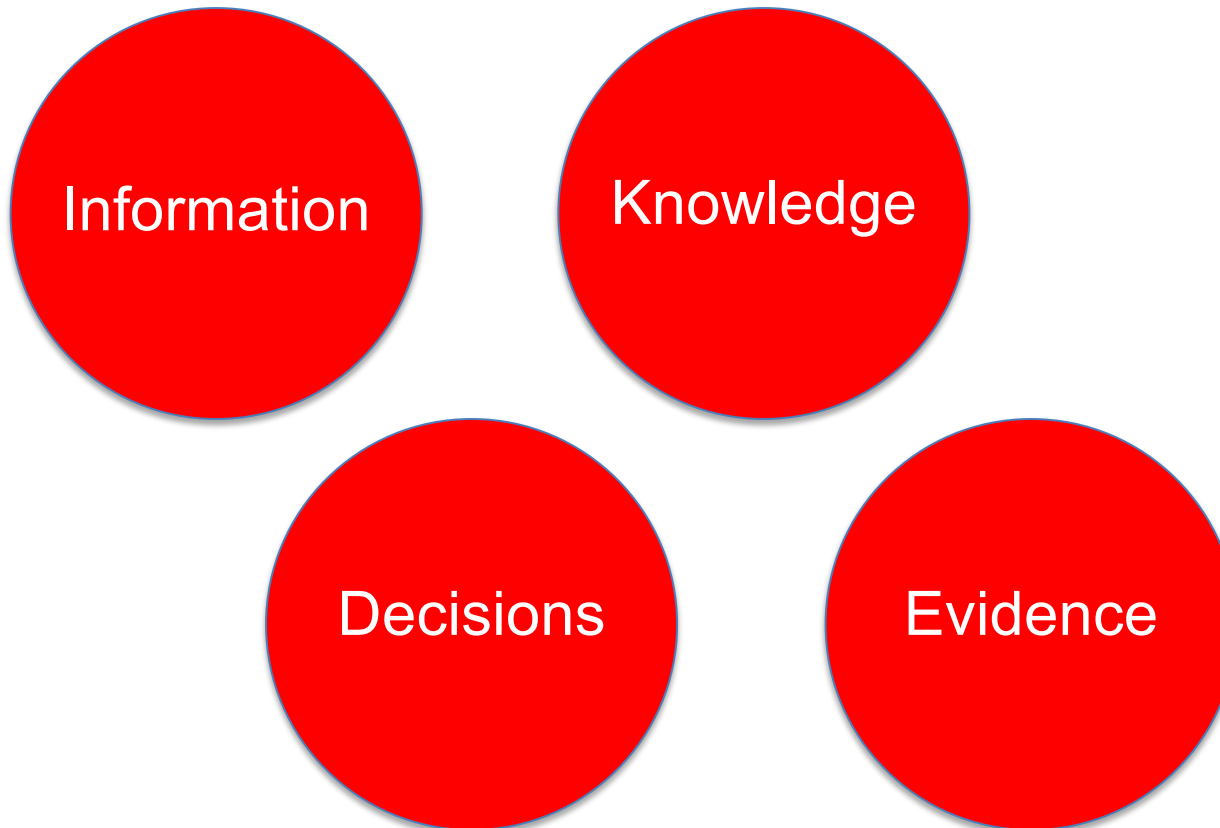
The Data Revolution is here. Are we Data Ready?



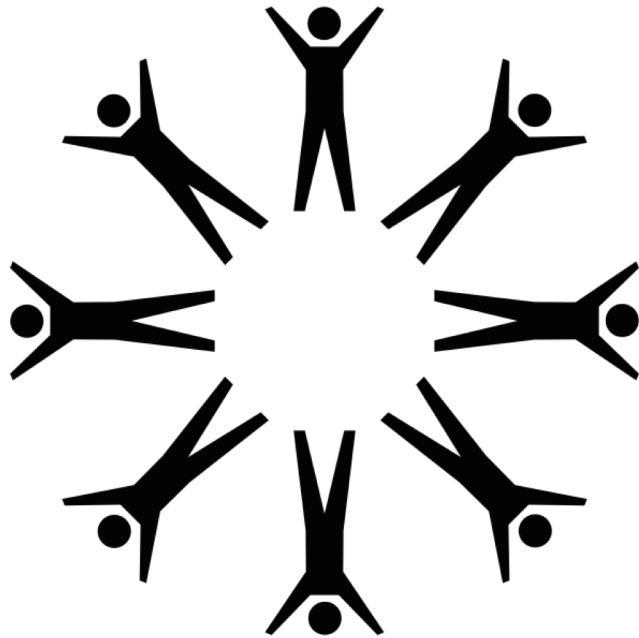
International Federation of Red Cross and Red Crescent Societies
Fédération internationale des Sociétés de la Croix-Rouge et du Croissant-Rouge
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DATA PLAYBOOK: SLIDEDeck 9

Data can lead to:



Data is part of our Leadership



IFRC is the Secretariat, National Societies, and volunteers.

We aim to be a data-driven organization making evidence-based decisions. It is cited in our 2020 strategy.

Data Types

Community/Citizen

- SMS/Mobile data
- Email
- Surveys
- Social Media (WhatsApp, Facebook, Twitter, Instagram)
- Multimedia (photos, video, VR)

Government

- Census/Population
- Statistics
- Infrastructure
- Finance/Budgets/Spending
- Companies/Land Ownership
- Pollution Index/Water Quality

Physical

- Geographical
- Infrastructure

Aerial/Satellite

- Satellite
- Aerial/UAV
- Balloon Mapping

Sensor/New Tech

- Biometric
- Genetic (Crispr)
- Movement
- Meteorology
- Bitcoin



From Data to Information

1. Data is **everywhere**.
2. Data is **naturally messy** and **lacks sense**.
3. Data can often be **structured** and **processed**.
4. **Information** is data that **makes sense**.

From Data to Information

Data must be interpreted, processed, analysed, or presented to become **Informative.**

From Chaotic Data



... to processing and organizing the data...

Feedback Reference	Site where the feedback was received	Date feedback received	Gender for face to face interaction and when the person submitting the feedback notes it on the feedback form	Language used to express the feedback by the person submitting it	Channel of feedback reception	Feedback type classify the feedback according its content
	▼	▼	▼	▼	▼	▼

Sector which is the sector of intervention the feedback is referring	Scope classify the feedback	Details of feedback transcribe the feedback received as literally as possible and provide any other explanation that could facilitate its content	Grade of Priority/Sensitivity level the priority to be agreed between the CEA focal and the RC site coordinator/site officer
▼	▼	▼	▼

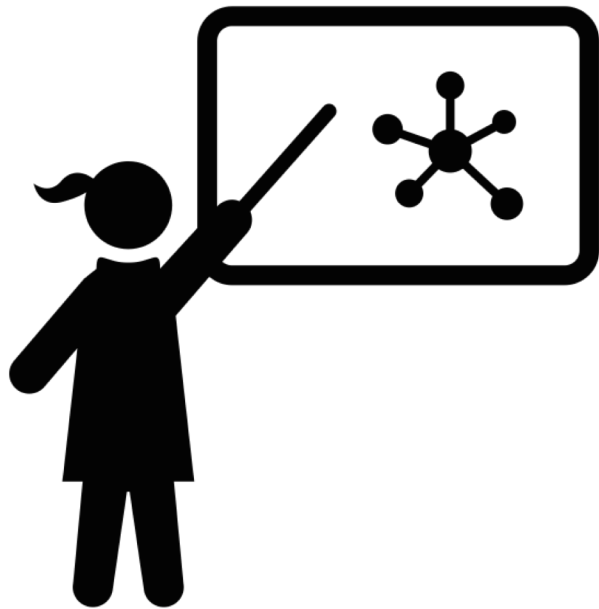


... to turning it into 'information'...

Grade of Priority/Sensitivity level 1 Urgent / Red Cross related services				
Priority Sector	Column Labels			
	Ritsona	Skaramagas	(blank)	Grand Total
Asylum process and legal advice			1	1
BHC	20	24	2	46
Others	4			4
Protection		1	1	2
PSS	1			1
Relief	9		1	10
Relief		4		4
RFL		1		1
Shelter	1	1		2
WASH	6	18	7	31
Grand Total	41	49	12	102



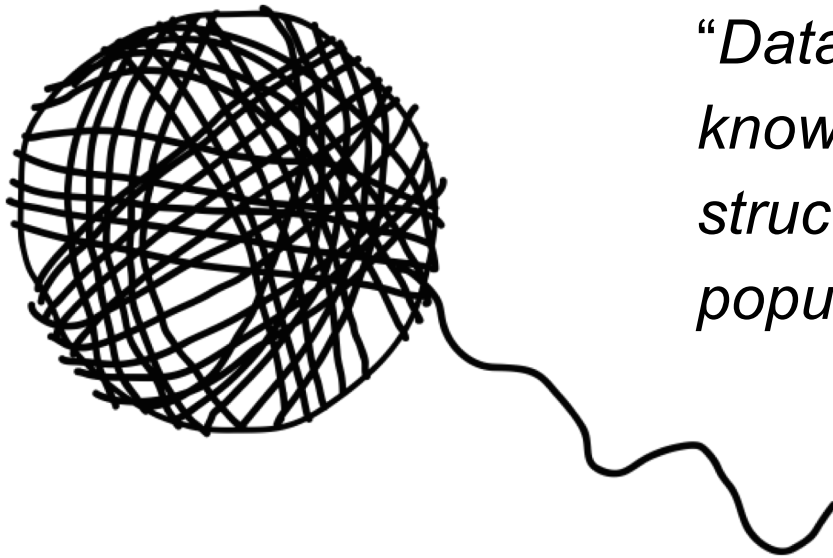
Data-literate is not the same as data-skilled



*“A data-literate organisation is one that shares a culture of data and a strong vision of the future. Most people invested in this vision will have no analytic interaction with data and may never need to.”**

*Source: Open Data Institute

What is Data Literacy?



*“Data Literacy includes the skills, knowledge, attitudes, and social structures required for different populations to use data.”**

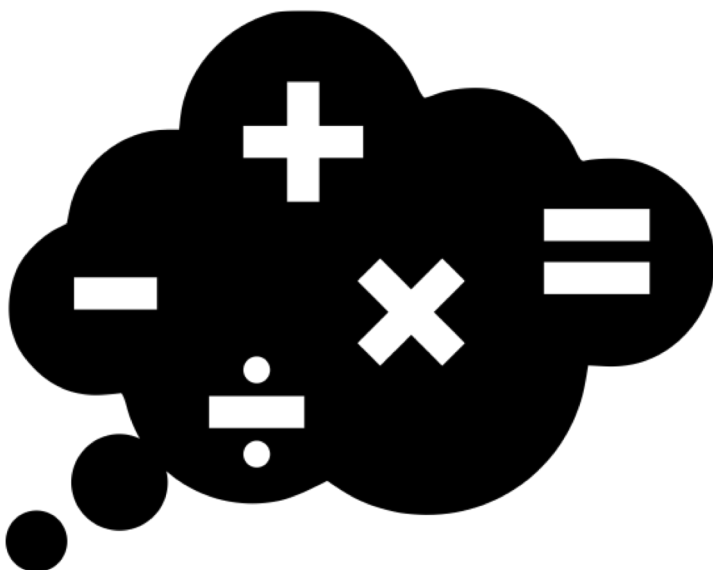
Humanitarian Information Managers (IMs) are often very data-skilled. How can we build an ecosystem of data ready colleagues?

*Source: School of Data



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Potential benefits of focusing on Data literacy



- Teamwork / Collaboration
- Increased Accountability/Transparency
- Organizational Effectiveness (reuse, decrease of duplication)
- Financial improvements
- Competencies / Skills



What does data literacy mean for me?

Role	Task
IM/Operations/PMER/Health	Deliver projects with information products/Assess project and programme delivery
Marketing Communications	Excellent data/analysis, narrative for storytelling, Brand and fundraising
IT	Assess and support data products/tools, provide infrastructure
Training	Provide e-learning, workshops and technical training
Manager	Strategic planning, staff development, organization development
Community served	Provide data, obtain help/services, get feedback



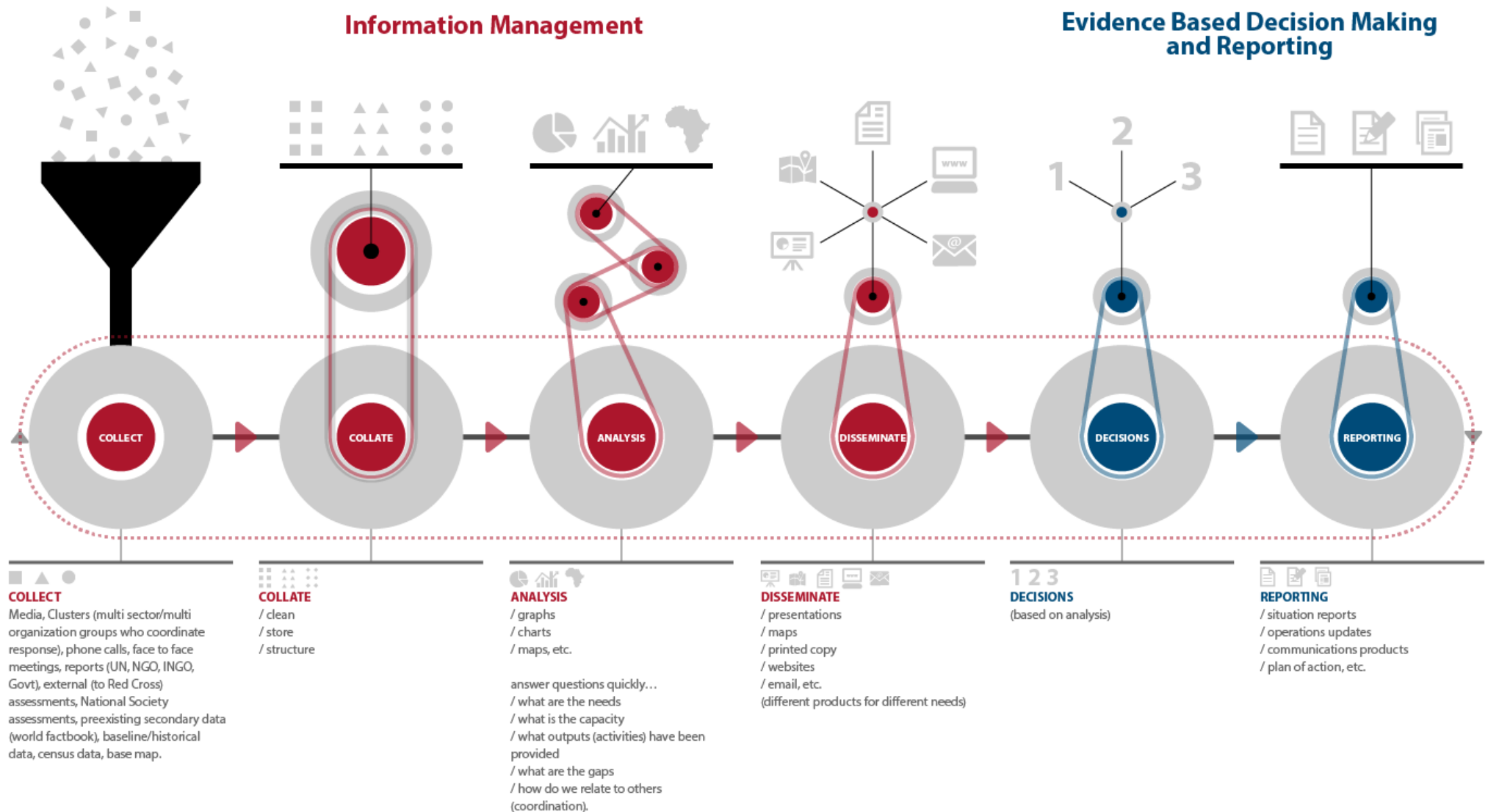
Data Pipeline

When we talk about “data”, people often focus on the **skills**, **tools** and the **process** steps for delivery of data products like a “dataset.”

The ‘Data Pipeline’* is an example of data ready skills. We all have varying levels of know-how.

*Source: School of Data

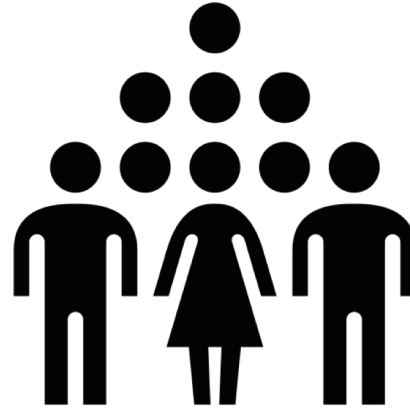
Disaster Information Cycle



Humanitarian Data Teams: Supporting Skills

Humanitarian Business

- Cluster coordination
- Assessments
- Operational planning
- Logistics/Roster Management
- Disaster Risk Reduction
- Response preparedness
- Disaster relief/Recovery
- Thematic Areas of Focus
- Health, Gender and Social Inclusion



Network

- Clients
- Humanitarian agencies
- Development agencies
- Access to skilled people, information managers, database managers, data analysts
- Businesses
- Investors, sponsors and donors

Business Skills

- Leadership
- Strategic business planning
- Marketing & Sales
- Customer relations
- People management & HR
- Administration
- Public speaking
- Problem resolution
- Finance and accounting skills
- Delegating tasks
- Motivating team

Soft Skills

- Strategic, proactive, creative, innovative and collaborative
- Curious about data
- Influence without authority
- Problem solver
- Hacker /Maker mindset

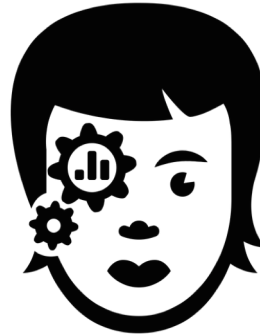


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Humanitarian Data Teams: Technical Skills

Math and Statistics

- Machine learning
- Statistical modeling
- Supervised learning & Unsupervised learning
- Statistical computing (e.g. R)
- Relational algebra



Programming

- Computer science fundamentals
- Scripting language (i.e. Python, javascript)
- Filtering scripts (i.e. D3.js)
- Web development
- Experience with xaaS like AWS

Data Management

- Data modelling
- Data collection
- Data refinement and cleaning
- Database, SQL and NOSQL
- Parallel databases and parallel processing
- Open Data standards
- API's
- Hadoop and Hive/Pig

Information Management

- GIS & Mapping
- Survey methodology
- Data analysis
- Finding & using datasets

Communications and Visualization

- Story telling skills
- Translate data-driven insights into decisions and actions
- Interactive dashboards
- Infographics
- Visual art design
- Knowledge of visualisation tools like Tableau, Adobe toolkit



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About the Data Literacy Program

1. Connect

We are connecting the data curious and the data ready across the Secretariat and National Societies.

2. Learn

The Data Literacy program is creating learning spaces via skillshares, workshops and webinars.

3. Create

Together we are creating sessions, guides, policies, checklists and modules to work with existing programs and projects.

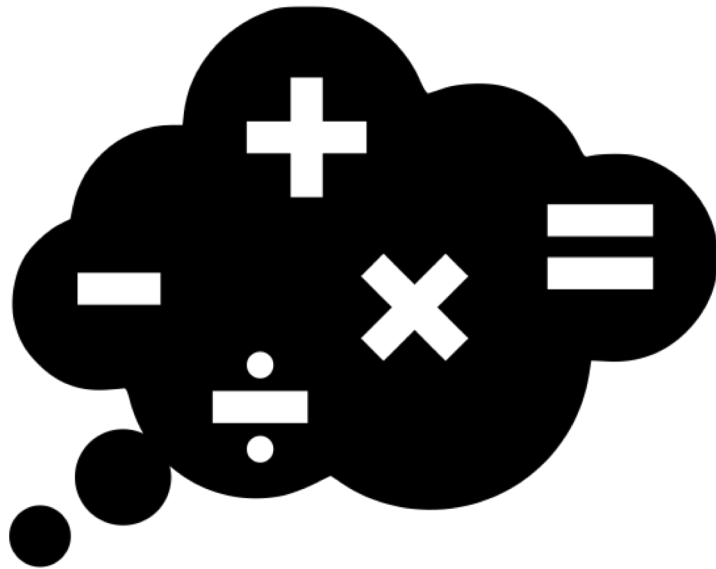
4. Measure & Impact

We are assessing metrics for data readiness and collecting impacting examples.



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How can we prove “Data Readiness?”



We measure many things at IFRC.
How Might Data Readiness
measurements be incorporated into
existing frameworks:

- PMER/MEAL
- Surge/IM
- ICT Health Check/Digital Divide
- OCAC/BOCA
- Program Planning
- Competencies

Data Literacy Menu

1. Connect

- A. Informal Data Working Group
- B. Local data Stories
- C. Ecosystem Map
- D. Data Simulations

2. Learn

- A. Skillshare sessions
- B. Build with existing Curriculum inside RCRC
- C. Connect with other Data Educators
- D. Excel around the World

3. Create

- A. Data Playbook: templates, checklists, session design, scenarios, and best practices

4. Measure & Impact

- A. Responsible Data Policy/Guidance
- B. Data Readiness Measurement/Competencies



The Future of Data

“The full exploitation of humanitarian data sources has the potential to **improve the way crises are forecasted, monitored and addressed. Proper management of data could drastically increase the impact and timeliness of humanitarian assistance and protection activities**, such as identifying the needs of affected populations or distributing life-saving resources. But the path ahead is rocky and complex.”

“...the humanitarian sector has yet to produce the policy, strategies and governance change **that the data buzz has promised. Few organizations have truly embraced and incorporated data at the core of their programming or professional development activities.**”

THANK YOU

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