

# Data and Information Management Basics

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International Federation of Red Cross and Red Crescent Societies  
Fédération internationale des Sociétés de la Croix-Rouge et du Croissant-Rouge  
Federación Internacional de Sociedades de la Cruz Roja y de la Media Luna Roja  
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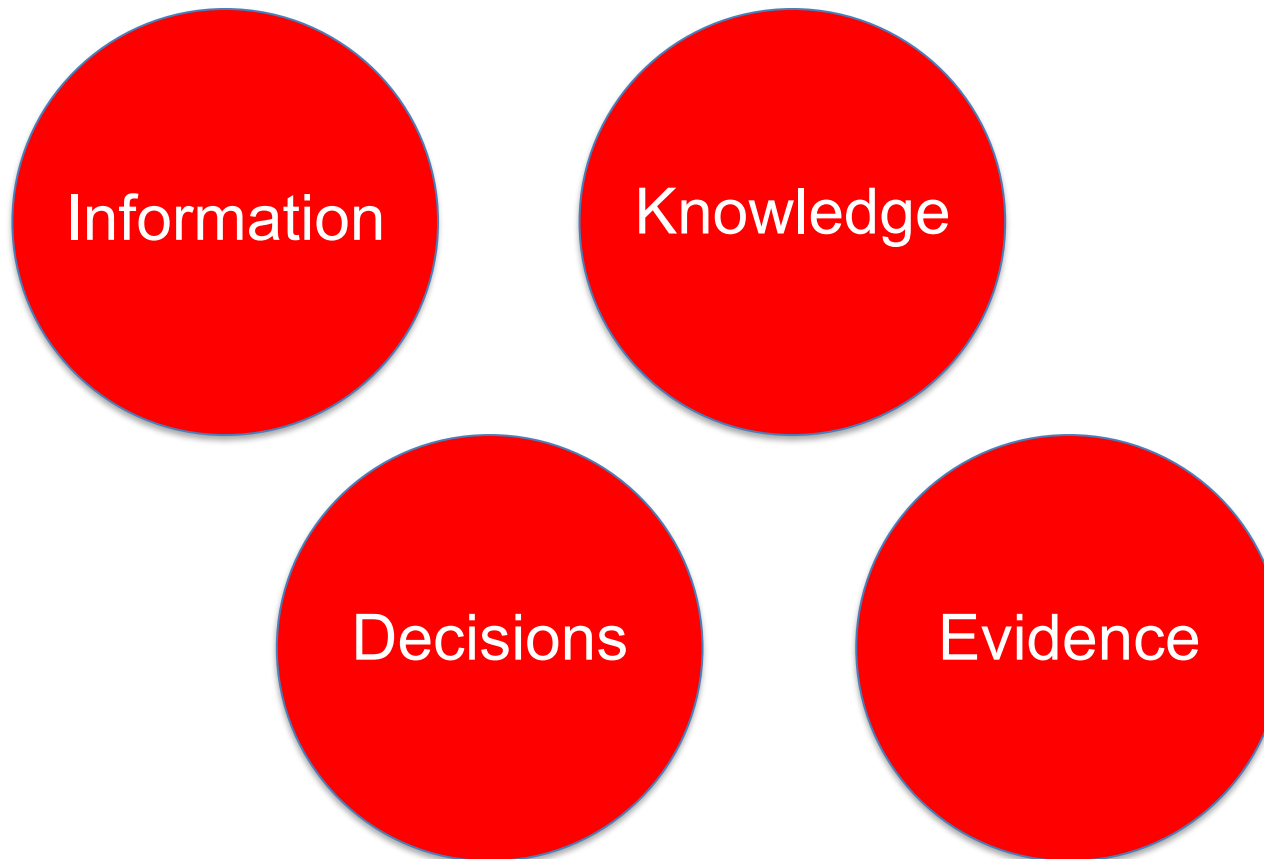
# The Data Revolution is here. Are we Data Ready?



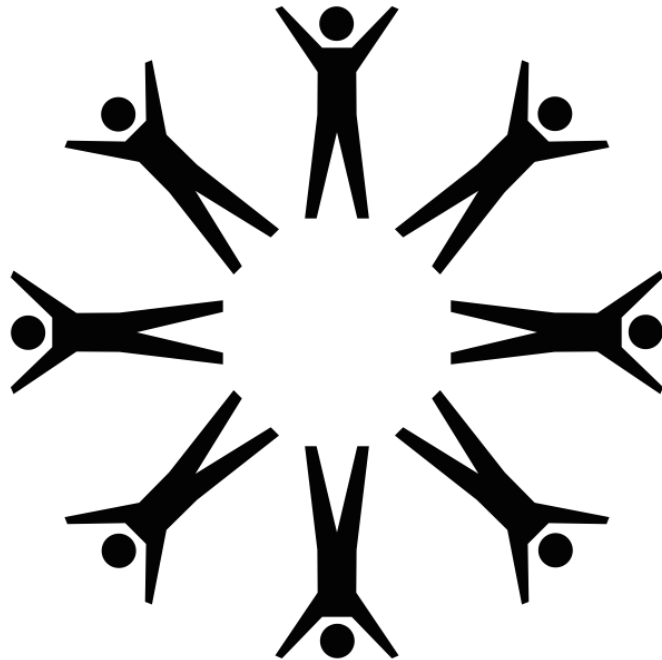
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DATA PLAYBOOK: SLIDEDECK 9

# 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...

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

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

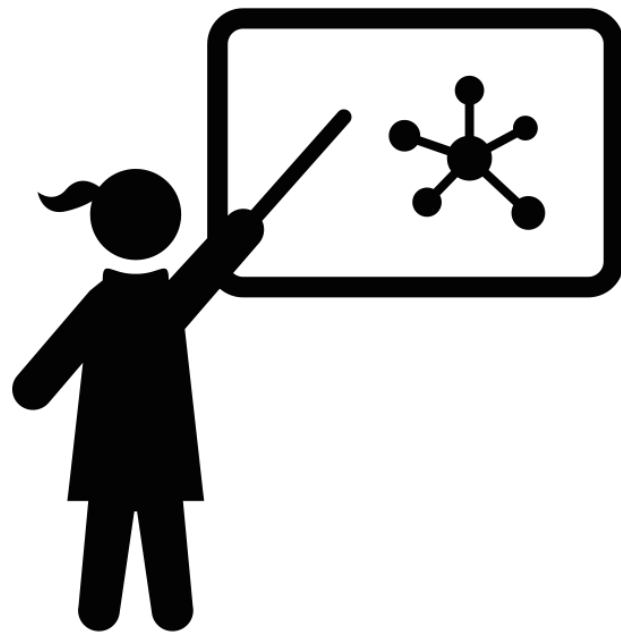


... to turning it into 'information'...

Grade of Priority/Sensitivity level 1 Urgent / Red Cross related services					
Priority	Column Labels				
Sector	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



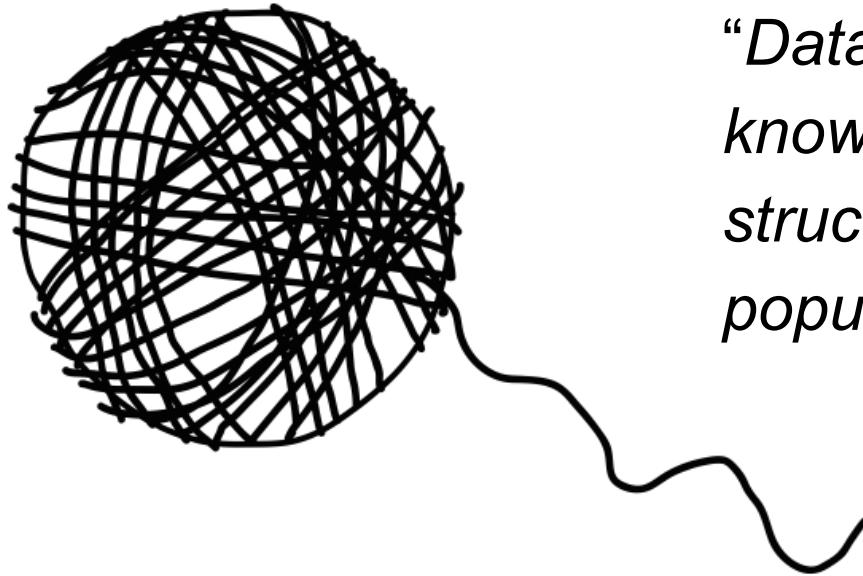
*“A data-literate organisation is one that shares a culture of data and a strong vision of the future. Most people invested in this vision will have no analytic interaction with data and may never need to.”\**

\*Source: Open Data Institute



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# What is Data Literacy?



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

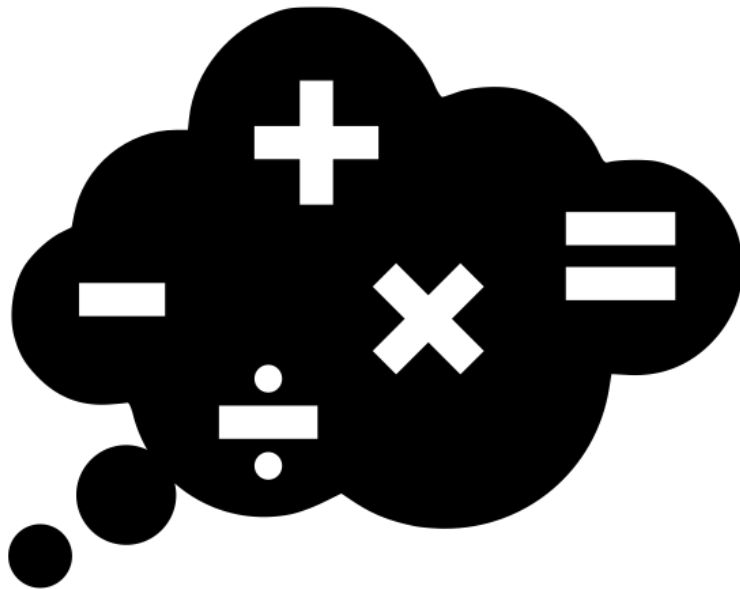
Humanitarian Information Managers (IMs) are often very data-skilled. How can we build an ecosystem of data ready colleagues?

\*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

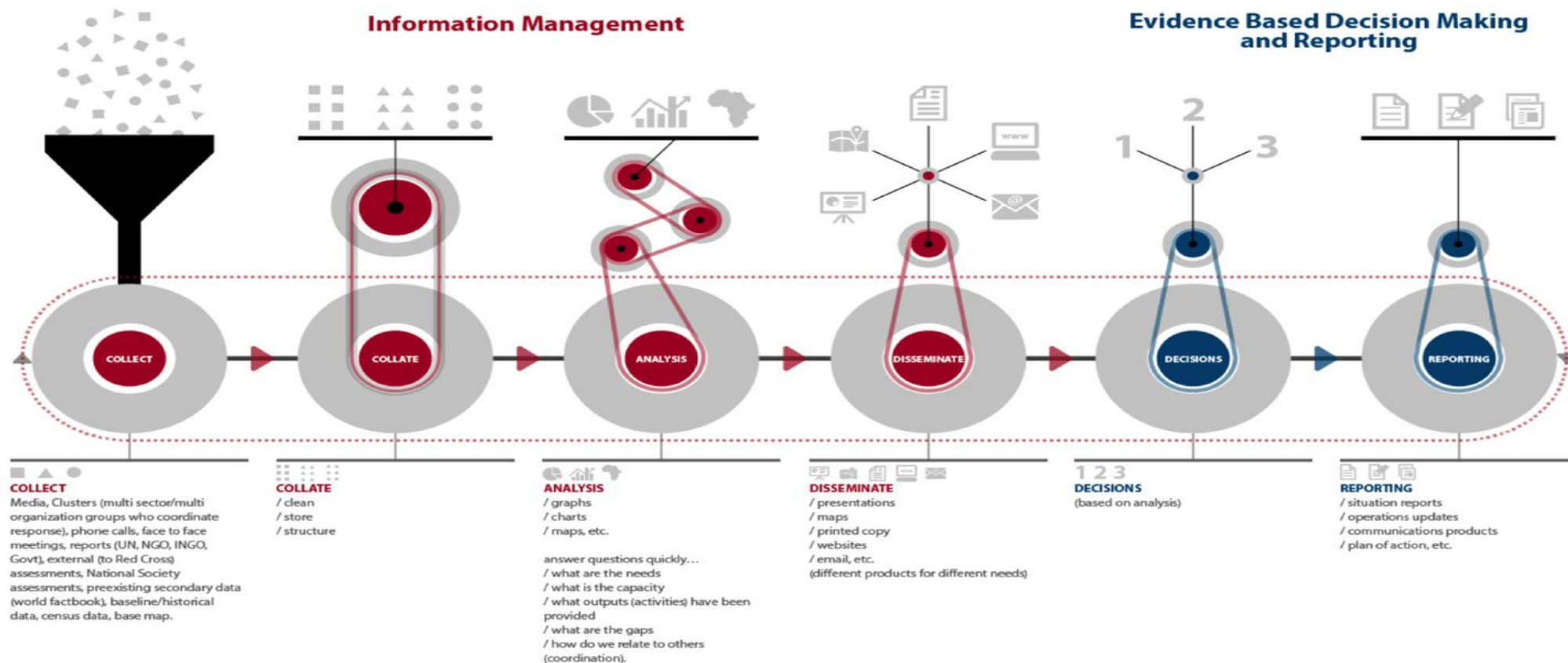


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Graphic Source: School of Data

DATA PLAYBOOK: SLIDEDECK 9

# Disaster Information Cycle



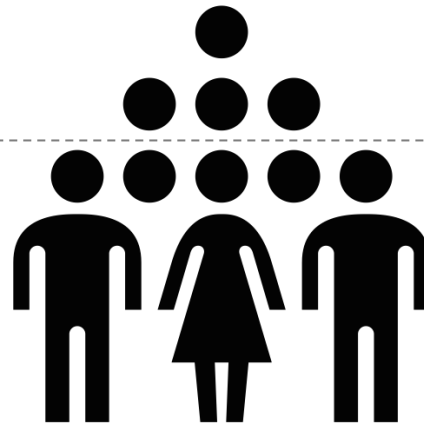
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# Humanitarian Data Teams: Supporting Skills

## 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



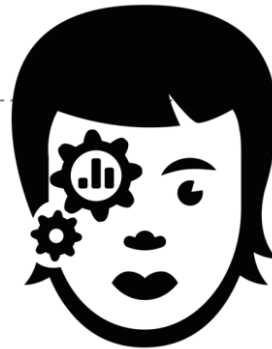
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# Humanitarian Data Teams: Technical Skills

## 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



# 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

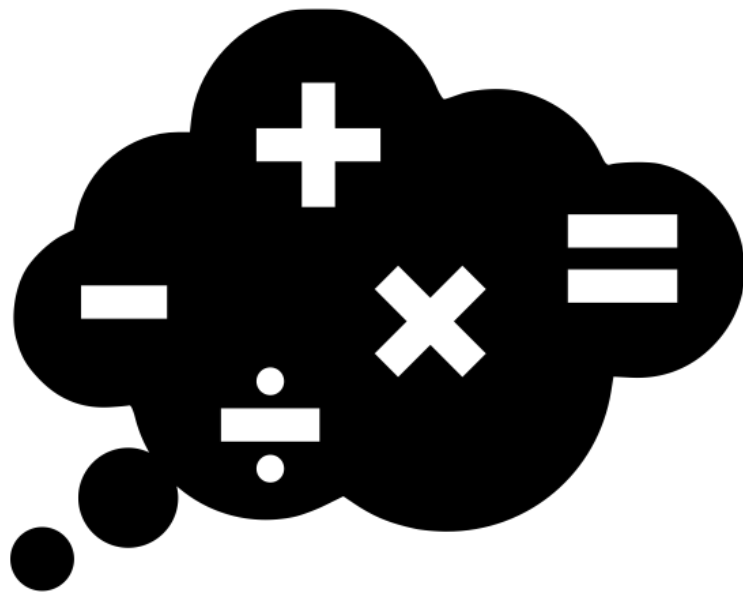
Together we are creating sessions, guides, policies, checklists and modules to work with existing programs and projects.

## 4. Measure & Impact

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



# 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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