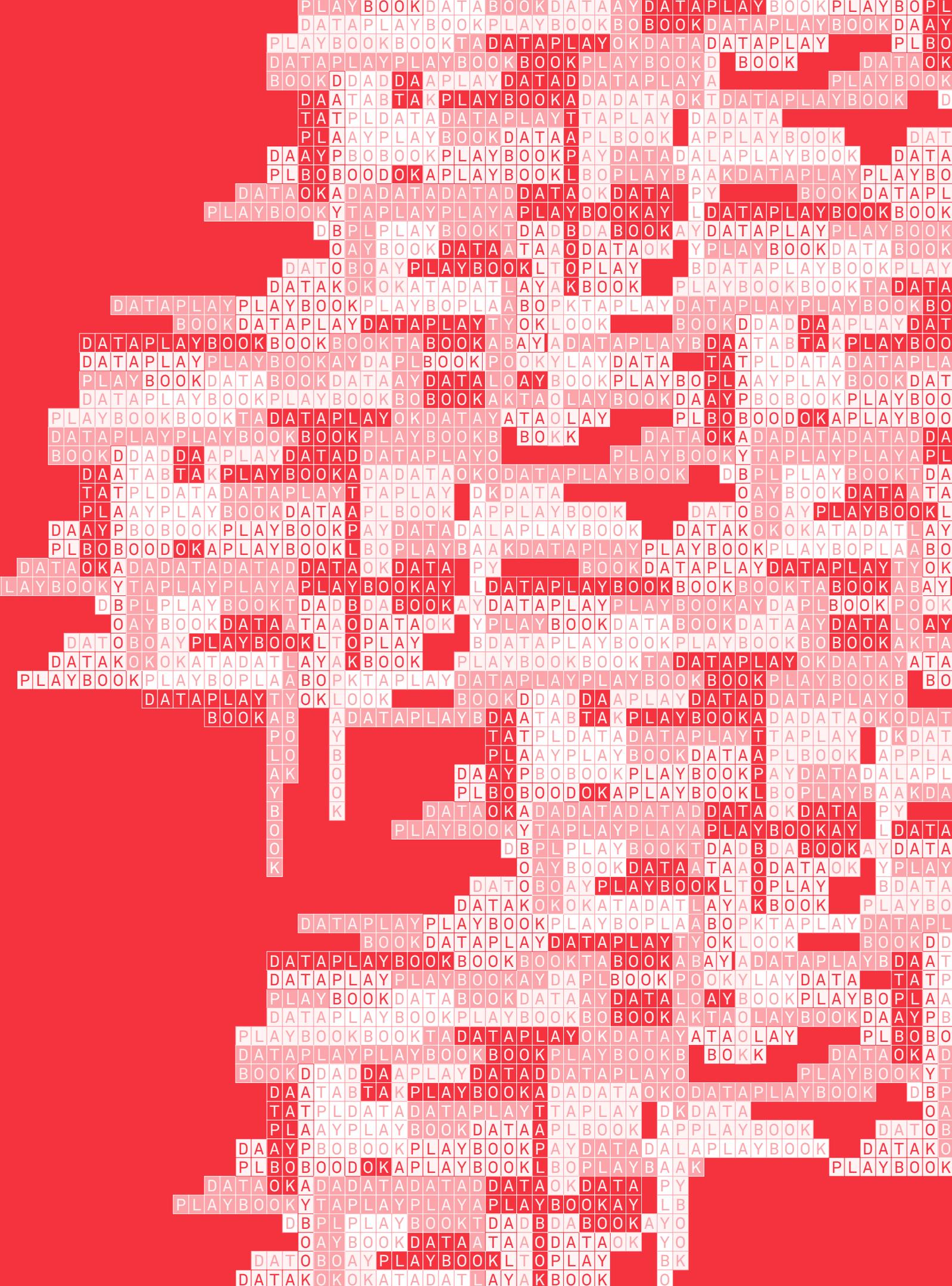


DATA  
PLAY  
BOOK







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# Data Playbook

## Editor's note





# Data Playbook

## Editor's note

---

**Welcome!**

---

**The IFRC Data Playbook V1 (version 1) is created by and for the Red Cross Red Crescent network. Your efforts to make sense of data while using it to support humanitarian response effectively and responsibly is a guiding light.**

**Data is a team sport. We want to thank all the editors, contributors, supporters, advocates, critics, and allies on this data journey. We also want to thank all our partners and supporters in wider data literacy and humanitarian networks.**

**Together we explored how we might:**

**Make a network-centric resource** – Collaboration on resources to create assets for and by the network is a transformation. It was exploratory innovation to create for and by the network using shared and open leadership methods.

**Network and community building with mentors and ambassadors** – We convened multiple communities and networks across the Red Cross Red Crescent. Network-building is complex across time zones, skills and language. While the majority of the sessions were in English, this still provided a unique forum to foster community/network building exercises to support leaders and build peer networking on their data and digital journey.

**Skillshares** – By creating content and spaces, we used a 'sharing' and 'learn by doing' approach to support exposure to innovation methods, data/digital literacy skills, open methodologies, facilitation, peer training, and documentation skills.

**Transformation and innovation** – Both activities show distributed networks can apply open methods to innovate and transform supporting the digital agenda. Participation activities also show a digital divide in our network. If we want to transform how we work together as a network, we need to continue to find and support new ways to connect and create.

We co-created the Data Playbook beta and V1 with 100s of people around the world by convening a series of pilots, sprints, and special events. The network and module editors determined the content for the Data Playbook v1. As with any network-centric resource, it is done with people's contributions and, often, volunteer skills. With your kind forgiveness, the editors take credit for any errors (typos, grammar, spelling, credit and etc.) It was truly a team sport and we did our utmost to resolve any wrinkles. Thanks for your understanding.

This journey is not over! The IFRC Data Playbook V1 is under a Creative Commons license – CC BY-NC 4.0. The IFRC Digital Transformation team as well as other teams will continue to use and evolve the content. You can join that journey as data and digital is part of everyone's work. Please use and remix content, but let us know what you learned – [data.literacy@ifrc.org](mailto:data.literacy@ifrc.org)

Thank you!

Heather Leson, Dirk Slater, and Melissa El Hamouch, co-editors

# Tips for being an excellent facilitator



# Tips for being an excellent facilitator

---

**We hope that the Data Playbook provides you with content for facilitating sessions with your teams or training participants. Here are some tips to help you.**

Be participant centric – know your participants and understand how your training will benefit them. What challenges are they currently facing that your training will help them overcome? This is not about what the participants will learn from the Facilitator. Instead, we invite would-be facilitators to think about what they can learn from the participants. A workshop session is an opportunity to surface the unique set of knowledge and experience from the individuals that you have gathered for the session. As Gunner notes in [Aspiration's Session Design Guidelines](#):

The role of a facilitator is to enable peer sharing of knowledge. It is not to “deliver” a session or present a lot of content in any form. Overall, the primary role of a facilitator is to keep discussions fruitful and focused. Sessions should be designed to be flexible and to serve the needs of the participants. A good workshop session will be:

- ▶ **Participatory:** Engaging and activating participants from the beginning and getting them making and doing, rather than listening and watching.
- ▶ **Purposeful:** Working on meaningful activities toward meaningful outputs
- ▶ **Productive:** Well-scoped so that concrete outcomes are achieved in the allotted time, and participants feel time was well spent.

---

## Understanding how learning happens:

Five statements that summarise research on Adult Learning:

- ▶ Adults need to understand and accept the reason for learning a specific skill.
- ▶ Experience (including error) provides a strong basis for learning activities.
- ▶ Adults need to be involved in both the planning and evaluation of their learning.
- ▶ Adult learning is problem-centred rather than content-oriented.
- ▶ Most people are interested in learning what has immediate relevance to their professional and social lives.

---

## Understand ADIDS as a workshop format.

ADIDS stands for Activity, Discussion, Input, Deepening and Synthesis

Start with an activity in small groups to get participants to surface their own knowledge on the topic. Then get them to discuss what they learned from the activity in a large group. Then reinforce that learning by providing them with input, expertise on the topic, basically the ‘news they can use’. Then provide an opportunity for them to apply the input via deepening exercise. You then wrap up the session by getting participants to synthesise what they got out of the session.

Many of the modules and recipes in the playbook will help you to take ADIDS to scale.

The [Virtual Session Design Canvas](#) from FabRiders can help you plan your training session. See also:

- ▶ [Six Things I've learned about running virtual sessions.](#)
- ▶ [Tips for designing an excellent workshop session.](#)



# How to Use the Data Playbook

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**How users discover content and  
find what they need**

The Data Playbook includes 10 modules with over 120 exercises, games, scenarios, and checklists. We've collected this content to serve diverse audiences and teams. The playbook approach uses a 'pick-and-choose' model rather than something to be 'read and used' from cover to cover in a sequential order. It is for teams to improve their data skills.

There is a guiding table of contents for the whole Playbook. Each module also has a 'cover page' to give you guidance on how to use the content in the module, and sometimes, across modules. We also created some draft 'curriculum /workshop templates' to demonstrate how various teams might use the playbook as part of their planning for individual workshops or even over months at a time.

## Data Playbook Components

### Modules

There are 10 modules in the Data Playbook. Each module has a specific topic and learning outcomes. A module includes exercises, slides, and handouts. The Data Playbook v1 includes content from the IFRC Data Playbook beta, Data Playbook sprints, and newly created content.

We have sequenced Data Playbook Modules from 1 to 10. A project team or trainer could follow this sequence if they were on a journey of discovering how to utilise data to strengthen the effectiveness of humanitarian action.

### Module Cover Sheets

Each of the 10 modules has a 'module cover sheet'. This is a summary of the module's content and includes learning outcomes, recommended resources, recipes, and guidance on the use of the content.

### Exercises/Slide decks, and Handouts/Materials

All the exercises, slide decks, and handouts are organised in the Data Playbook by topical modules. They are discreet pieces and each could be used on its own. Each exercise and handout has a unique identifier to help you find them. Each item was created and reviewed by RCRC colleagues. Most of the content has been tested throughout the last 5 years.

### Recipes

We have tested and made recommendations on how you might use modules, exercises, and handouts together.

**Various types of recipes:**

- ▶ Using content across various modules
- ▶ Using content inside a specific module

“Recipes” can be cited in the module cover pages or in the individual exercises and handouts. The ‘recipes’ link user journeys.

We invite trainers and facilitators to modify these recipes to better suit the context and need. We also invite trainers and facilitators to create their own recipes.

---

## Curriculum/Workshop Examples

We have added draft curriculum and workshop templates to give you ideas on how to use the Data Playbook content together. These are from various workshops or from interviews with IFRC Regions, National Societies, and IFRC focal points across various sectors.

We’d love your feedback as you continue your data journey.

Please connect [data.literacy@ifrc.org](mailto:data.literacy@ifrc.org)

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# 1 Understanding how data matters

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# Understanding how data matters

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**Many projects at IFRC have a data component as data has become a part of everyone's job at IFRC. This module is for anyone who wants to use data but isn't sure where to start. It is also for anyone who wants to help others understand how data matters in their work.**

## Questions this module explores

- ▶ How to explain to teams and organisations the importance of data.
- ▶ What are some of the discussions and best practices to highlight the importance of data in humanitarian action.

## Learning Objectives

- ▶ Differentiate between data and information
- ▶ Explain why data matters in humanitarian action
- ▶ Explain how data matters in humanitarian action

## Topics

- ▶ What is meant by data
- ▶ Importance on the availability of data and the role it plays in humanitarian action
- ▶ Impact of data in humanitarian action

## Recipes

### A suggested step-by-step process to achieve learning objectives

- 1 Start with **What Data is in a Piece of Fruit (1 - 1)** to get people thinking about data and context.
- 2 Guide participants to build an understanding of **What is Data? (1 - 2)**.
- 3 Run the **What is Data? (1 - 2)** to refine the difference between data and information.
- 4 Proceed with **Personify Data (1 - 5)** to elaborate on why data matters within humanitarian projects.
- 5 To provide additional context for data use within IFRC use **Personify Data (1 - 5)**.
- 6 Finish with **No Data Situation (1 - 6)** where participants will be able to discuss how data is important in their work.

## Ingredients

Pick and choose ingredients to create your own recipe. Do you have an ingredient we're missing? Send an email to [data.literacy@ifrc.org](mailto:data.literacy@ifrc.org)

## Exercises

### Short, discrete social learning experiences

- ▶ What is in a piece of fruit
- ▶ Personifying Data
- ▶ No Data Situation

## Session Plans

### Longer social learning experiences

n/a

## Slide Decks

### Presentations to be used and/or adapted:

- ▶ What is Data
- ▶ Data and Information Question and Answer
- ▶ Why does Data Matter

## Checklists/Handouts/Materials

### For documentation of essential elements of the learning experience

n/a



## Next Steps

---

### Relevant modules in the Data Playbook

Are you working with a team or organisation on building their ability to use data in humanitarian work? You should start working with **Nurturing a Data Culture (2)** and continue to work consecutively through the playbook.

### Credit

---

Dirk Slater, Melissa El Hamoush, IFRC V1 Sprint and Data Playbook Beta contributors

# 1 - 1 What Data is in a Piece of Fruit

---

**This exercise will help participants understand how data can be found everywhere and also how when context changes, so does the data.**

- ▶ **People:** 2 to 16 people
- ▶ **Time:** 20 Minutes
- ▶ **Difficulty:** Easy
- ▶ **Materials:** A piece of fruit for each participant (or one per pairs) e.g., an apple or an orange. Something that people can hold without it being messy. Get another kind of fruit if you want to run the extra credit exercise. Flip-chart paper and markers (face-to-face) collaborative online document (online session)
- ▶ **Virtual Materials:** Virtual meeting platform, shared document/writing space.

## Preparation

If the meeting is virtual, ask participants to bring a 'piece of fruit' for the exercise.

# Exercise

---

## Part 1: Explore

Collecting the right data is integral if we are to use data to make the right decisions. When we collect data from human subjects, there are countless data points that we could choose to collect. In this exercise, we will think about the many data points that could be collected.

Pass out a piece of fruit to each participant (apples work great). Get participants to break into pairs and make a list of all the different data they think the apple contains or represent. Likely they will come up with answers around nutrition (calories, vitamins, sugar) and prices, place grown, etc.

After they have had five minutes, ask them to think about what data would come from a bag of the fruit.

## Part 2: Discuss

Then in a large group discussion, get them to share their answers. Point out how the data they find will often depend on what they are going to do with the fruit, for example: different consumers will be interested in different data and what is useful to one data consumer may not be useful for the other. Get the group to practice understanding what

data is needed by different data consumers and what should be excluded. Get the group to write down different data that would be of interest to different data consumers:

**Question:** Person buying fruit; If I'm going to buy the fruit, I want to know the variety, price, the date it was picked, and where it was picked.

**Question:** Person eating fruit; If I'm going to eat the fruit, I may want to know about nutritional values, ie. vitamins contained, calories.

**Question:** Person selling fruit; If I have a bag of fruit, I may want to know how much they are going for at the market.

**Question:** Person picking fruit; If I'm a fruit picker, I may want to know how much I can get paid for a bag of fruit and how long it will take me to pick a bag.

**Question:** Who else?

Ask participants to think about any other scenarios they can think of that would lead them to different data about the fruit.

### Extra Credit

Pass out another kind of fruit and ask, what data will this fruit have that is the same as the other piece of fruit. (To raise issues of standardisation). Also see **Getting the Data We Need (4)** option to present the group with a consumer to compare with the original list of variables and discuss data collection aspect:

"I am a manager of a market and I need to place an order for oranges from a farm or produce distributor". We need to ensure we are collecting the right data from the managers to make a decision, not too much data and not too little data:

- ▶ What data is useful for this manager?
- ▶ What data is no longer useful?
- ▶ Can any of the data be collected from secondary sources?
- ▶ What is left for us to collect?

### Credit

Adapted from [A Data Strategy Workshop Curriculum](#), Dirk Slater, FabRiders

# 1 - 2 What is Data?

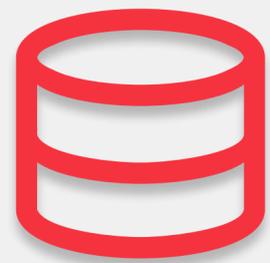
Rachel Yales & Heather Leson

## Data can be defined as:

Discrete pieces of **facts**, such as amounts, prices, measurements, dates, names of places and people, or addresses.

**Facts and statistics** collected together for reference or analysis.

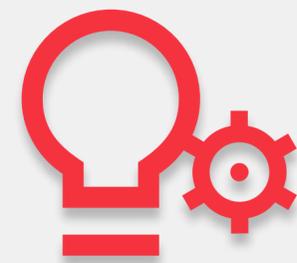
# Data can lead to:



Data



Information



Learning



Decision

(i) Helen Welch, MEAL Director American Red Cross, the Digital Transformation Strategy [digital.ifrc.org](https://digital.ifrc.org)

# From Data to Information:

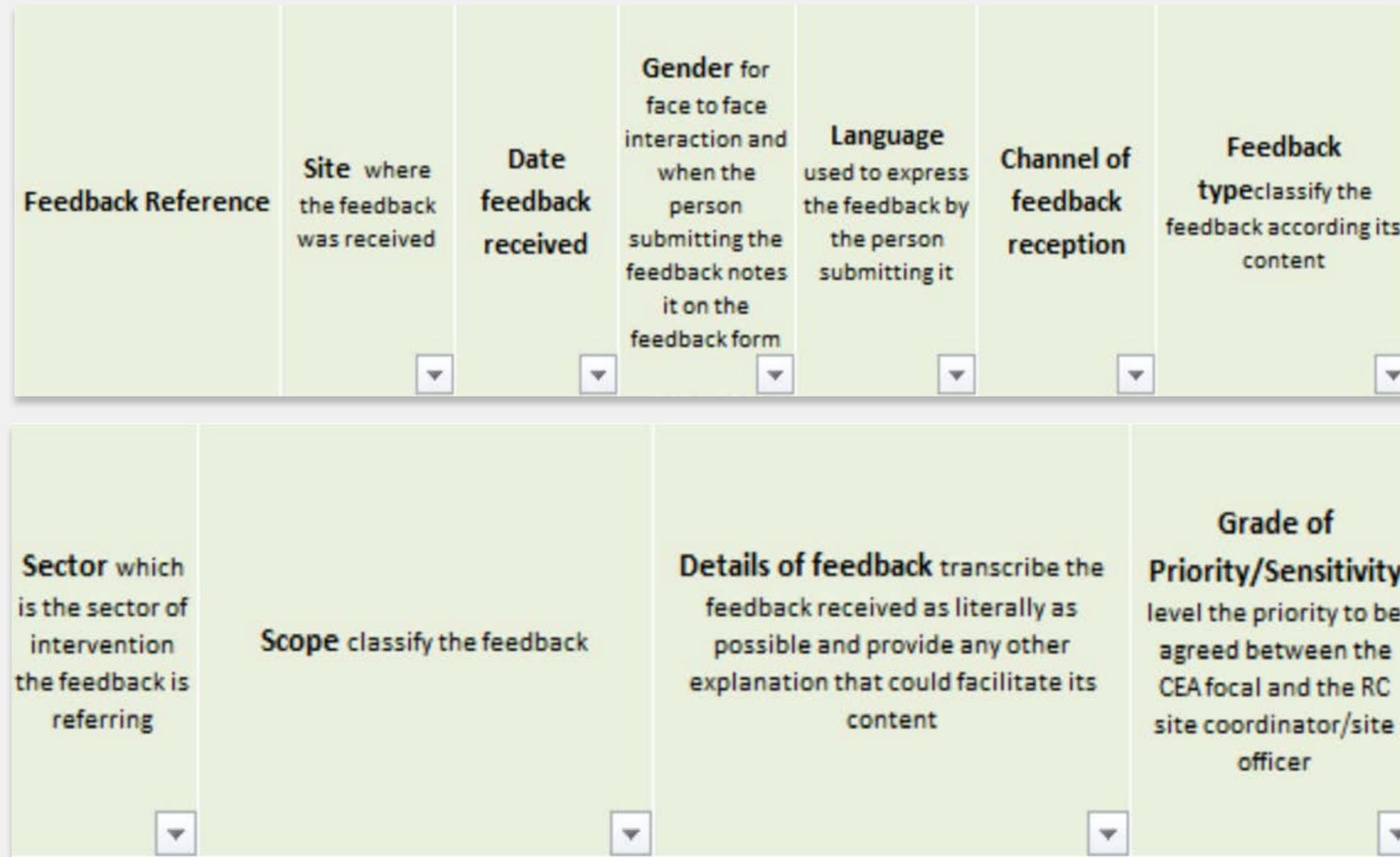
- 1 Data is **everywhere**.
- 2 Data is **naturally messy** and **lacks sense**.
- 3 Data can often be **structured, semi-structured, unstructured** and **processed**.
- 4 **Information** is data that **makes sense**.

## From Data to Information:

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



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



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

Grade of Priority/Sensitivity level 1 Urgent/Red Cross related services			
Priority	Column Labels		
Sector	Ritsona	Skaramagas	Grand Total
Asylum process and legal advice		1	1
BHC	20	24	44
Others	4		4
Protection		1	1
PSS	1		1
Relief	9	4	13
RFL		1	1
Shelter	1	1	2
WASH	6	18	24
<b>Grand Total</b>	<b>41</b>	<b>50</b>	<b>91</b>

# 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 and Emerging Technology

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

(i) Also see the [Data Science and Emerging Technologies \(10\)](#)

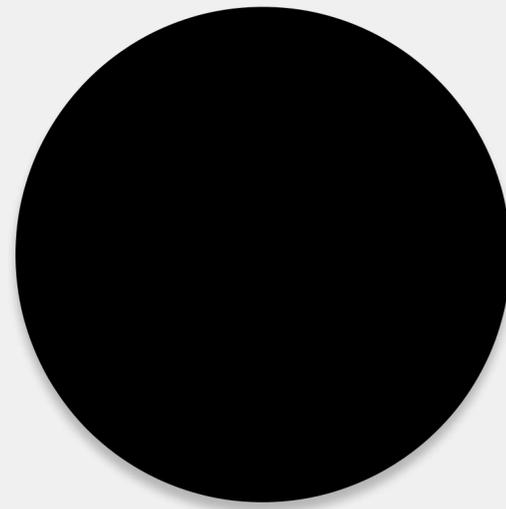
# Thank You

Melissa El Hamouch, Dirk Slater, and Rachel Yales

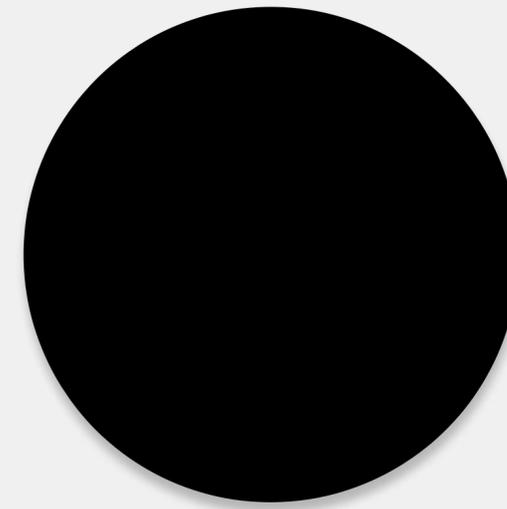
# 1 - 3 Data and Information Q&A

By Isaac Ndoricimpa, Burundi Red Cross Society

# 25 litres of water received by XY HH on 1st March

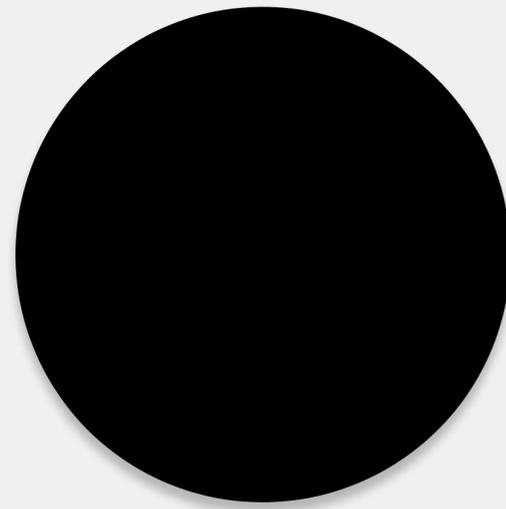


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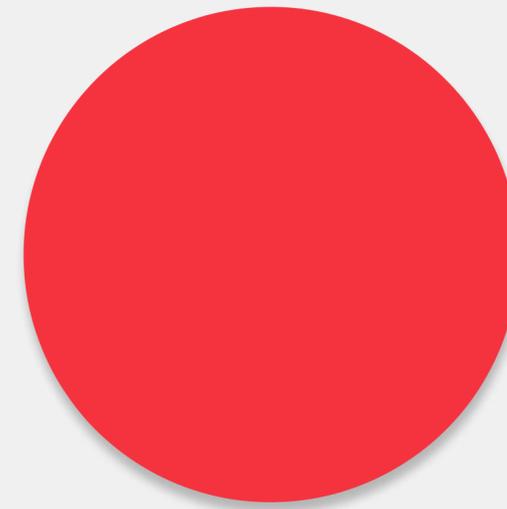


Information

# 25 litres of water received by XY HH on 1st March

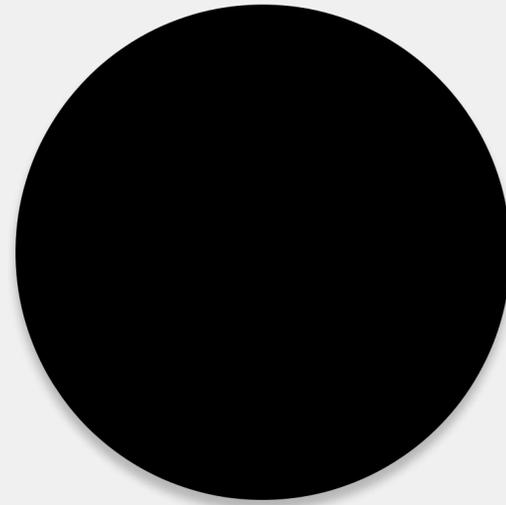


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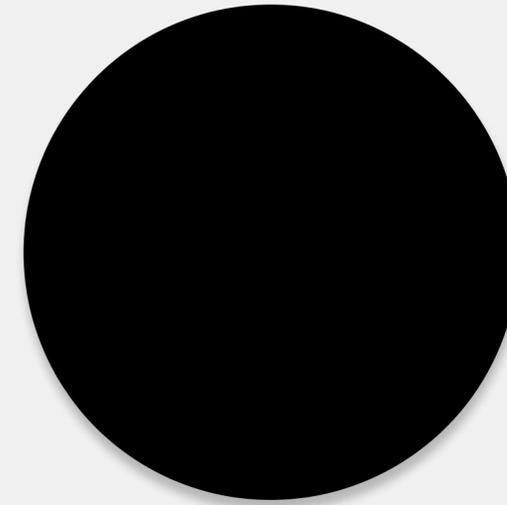


Information

# 25 cases of cholera cases declared in South Health District during February

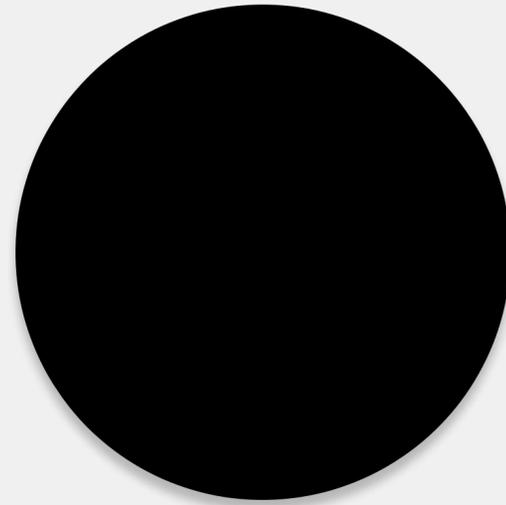


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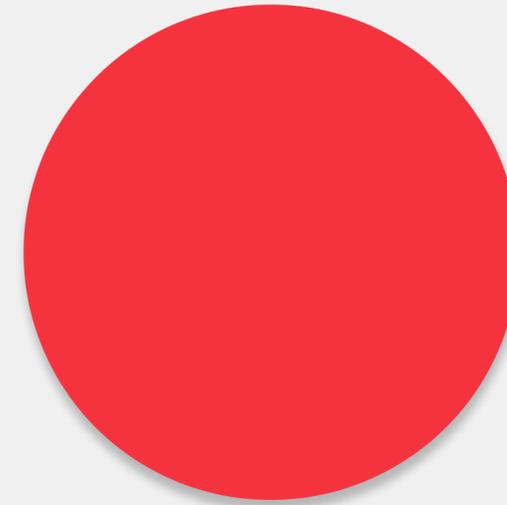


Information

# 25 cases of cholera cases declared in South Health District during February



Data



Information

# Mobile data collection

Data

Information

Method of Data Collection

Tool of Data Collection

# Mobile data collection

Data

Information

Method of Data Collection

Tool of Data Collection

# 60 litres of fuel consumed by Red Cross trucker on 2<sup>nd</sup> February

Data

Information

Method of Data Collection

Tool of Data Collection

# 60 litres of fuel consumed by Red Cross trucker on 2<sup>nd</sup> February

Data

Information

Method of Data Collection

Tool of Data Collection

# 265 volunteers trained on shelter during Q4/2017

Data

Information

Method of Data Collection

Tool of Data Collection

# 265 volunteers trained on shelter during Q4/2017

Data

Information

Method of Data Collection

Tool of Data Collection

# Data vs Information

Data is an element which has not yet been interpreted and put into context.

---

## Examples:

- ▶ Fuel consumed by Red Cross trucker on 2<sup>nd</sup> February: 60 litres
- ▶ Distance traveled by trucker on 3<sup>rd</sup> February: 85km
- ▶ Information: An interpreted data
- ▶ E.g. Number of cholera cases during February month
- ▶ Putting data into context creates added value to constitute information

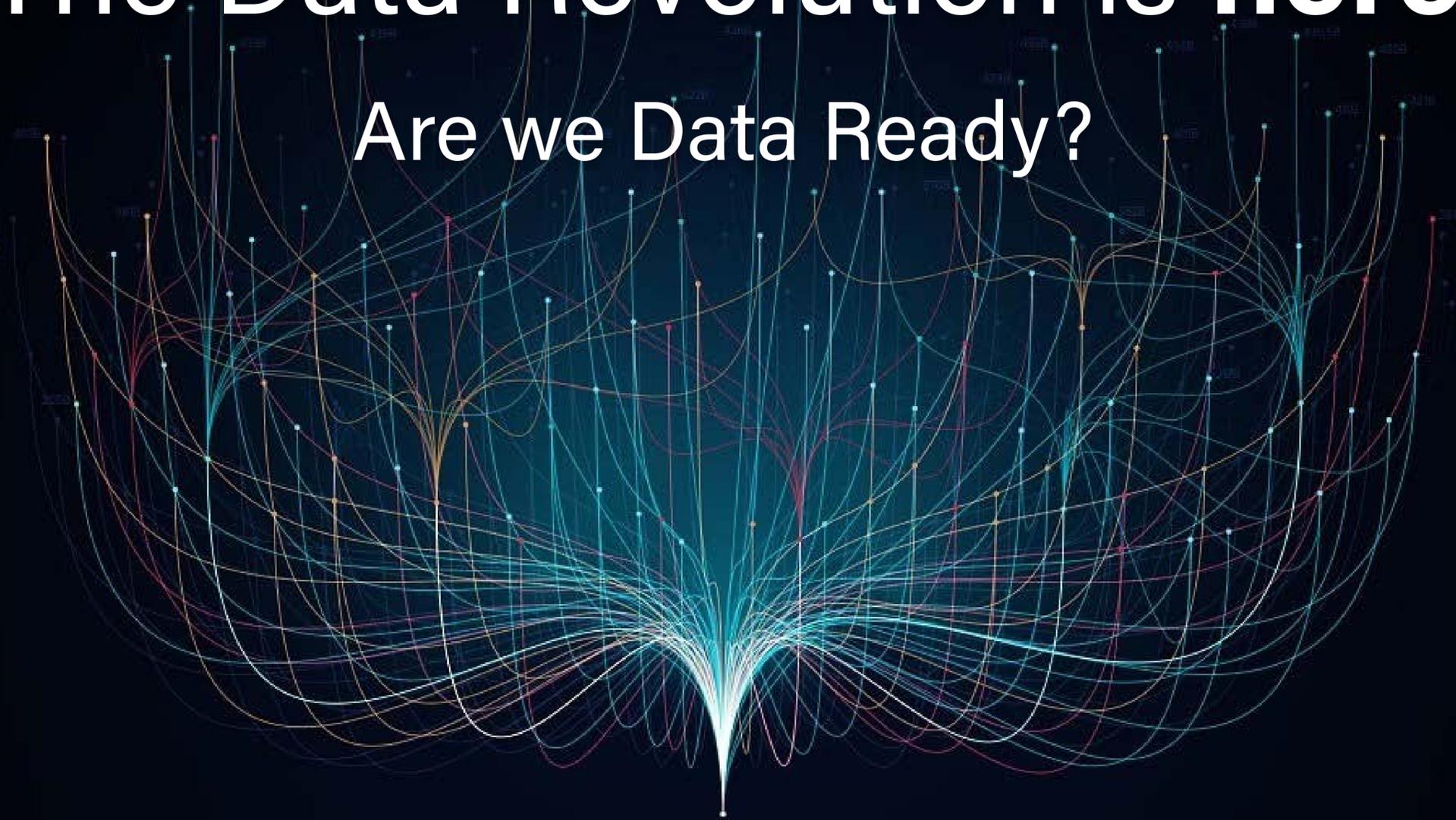
# Thank you

By Isaac Ndoricimpa, Burundi Red Cross Society

# 1 - 4 Why Data Matters

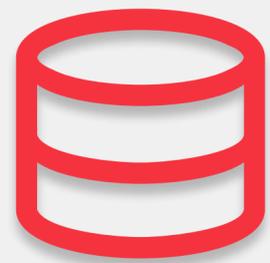
# The Data Revolution is here

Are we Data Ready?



**BIG DATA**

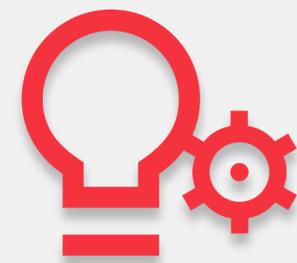
# Data can lead to:



Data



Information



Learning



Decision

(i) Helen Welch, MEAL Director American Red Cross, the Digital Transformation Strategy [digital.ifrc.org](https://digital.ifrc.org)

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Home > Emergencies > Asia Pacific > Bangladesh > Bangladesh - Population Movement (MDRBD018) [Edit Event](#)

## Bangladesh - Population Movement (MDRBD018)

Asia Pacific > Bangladesh >

<b>1,000,000</b> People Targeted	<b>133,000,000</b> Funding Requirements (CHF)	<b>65,972,150</b> Funding (CHF)
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EMERGENCY DETAILS REPORTS/DOCUMENTS SURGE ADDITIONAL INFORMATION

### KEY FIGURES

<b>32,396</b> people reached with NFI items <small>Source: IFRC Situation Report 68, Aug-Sep 2021</small>	<b>105,672</b> people reached with health and PSS intervention <small>Source: IFRC Situation Report 68, Aug-Sep 2021</small>	<b>39,320</b> people reached through WASH activities <small>Source: IFRC Situation Report 68, Aug-Sep 2021</small>	<b>23,565</b> People reached with Shelter support <small>Source: IFRC Situation Report 68, Aug-Sep 2021</small>
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(i) Source: [go.ifrc.org](https://go.ifrc.org)



## Data is part of our **Leadership**

**IFRC is the Secretariat, National Societies, and volunteers.**

We aim to be a data-driven organisation making evidence-based decisions. Digital Transformation enables our humanitarian efforts to meet our global challenges.

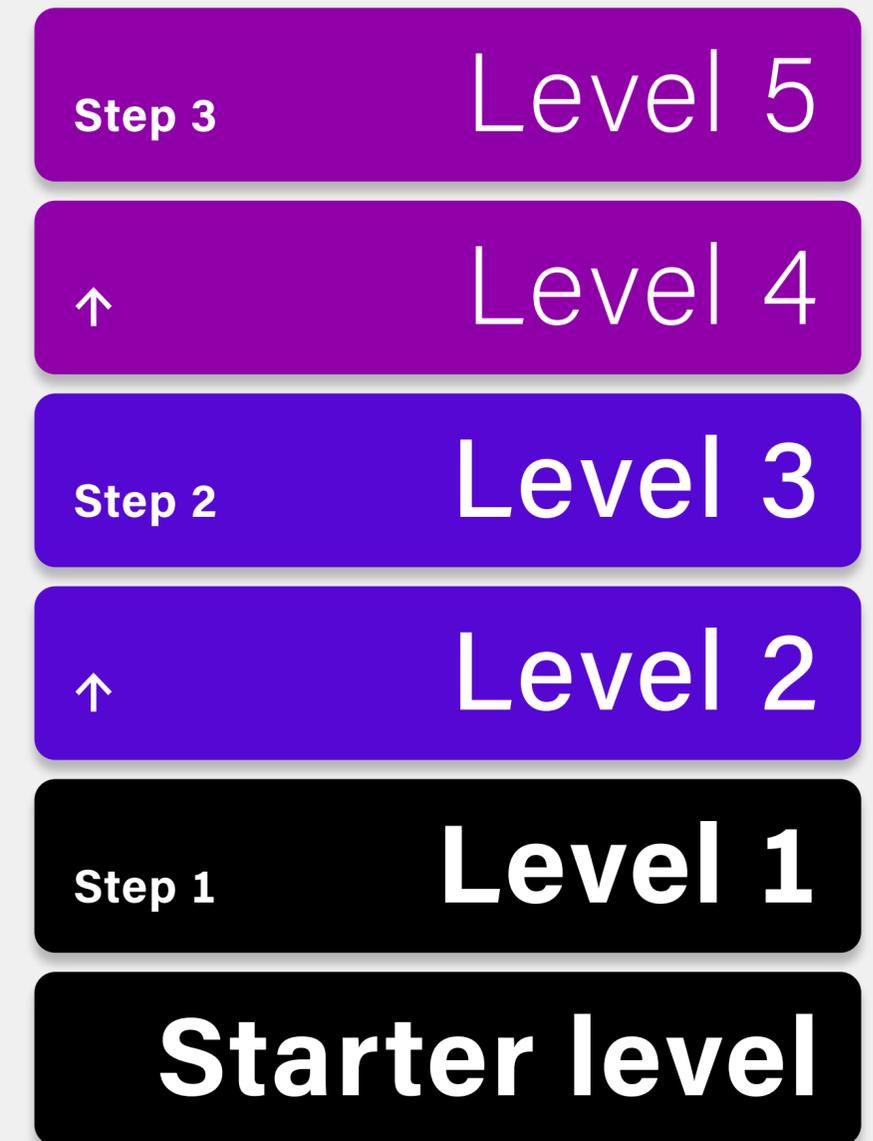
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**(See IFRC Strategy 2030)**

# IFRC Digital Maturity Model

Data literacy is part of the digital transformation journey. There are three main steps in the Digital Maturity model:

- 1 Fundamental IT in place and functional (Starter level -1)
- 2 Leadership driving digital services, increasing capability in systems (level 2-3)
- 3 Digital services at the heart of the culture, recognised expertise in the application of emerging technologies. (level 3-4)



## Digital as an enabler of transformations

Credit: Heather Lesson, Liselot Kattemölle

<p><b>CLIMATE &amp; ENVIRONMENTAL CRISIS</b></p>	<p>Mobilise volunteers and the RCRC movement.                  Provide early warning alerts to support community resilience.                  Get more quality local data, assess impact, inform strategies</p>
<p><b>EVOLVING CRISES &amp; DISASTERS</b></p>	<p>Provide life saving info to communities                  Provide data and digital information for decision-makers                  Tap into the quality data produced by the network and partners to inform disaster preparedness, response and recovery.</p>
<p><b>GROWING GAPS IN HEALTH &amp; WELLBEING</b></p>	<p>Analyse migration trends and patterns and migrants needs                  Connect migrants and communities with their relatives                  Deliver service to the communities.                  Mitigate digital risks for migrants</p>
<p><b>MIGRATION &amp; IDENTITY</b></p>	<p>Analyse migration trends and patterns and migrants needs                  Connect migrants and communities with their relatives                  Deliver service to the communities.                  Mitigate digital risks for migrants</p>
<p><b>VALUES, POWER &amp; INCLUSION</b></p>	<p>Work across functions and organisations and foster a common culture                  Communicate and share concerns, ideas, knowledge and skills                  Work hand in hand with IT</p>

↑ Enabled by digital transformation ↑

## 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.”

(i) 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.”**

(i) Source: [School of Data](#)

# What does data literacy mean for me?

<b>Role</b>	<b>Task</b>
<b>IM/Operations/PMER/Health</b>	Deliver projects with information products/ More people served with less effort
<b>Marketing</b>	Excellent data/analysis, narrative for storytelling
<b>Communications</b>	Brand and fundraising
<b>IT</b>	Faster reaction time, assess and support data products/tools, provide infrastructure
<b>Training</b>	Provide e-learning, workshops and technical training
<b>Manager</b>	More accurate strategic planning, staff development, organisation development
<b>Community served</b>	More efficient targeting and programme delivery, get feedback

# Potential benefits of focusing on Data literacy

- ▶ Teamwork/Collaboration
- ▶ Increased Accountability/Transparency
- ▶ Organisational Effectiveness (reuse, decrease of duplication)
- ▶ Financial improvements
- ▶ Improves digital inclusion
- ▶ Competencies/skills
- ▶ Supports your organisational digital transformation goals

# How can we prove “Data Readiness?”

## **We measure many things at IFRC.**

How Might Data Readiness measurements be incorporated into existing frameworks:

- ▶ IFRC Digital Maturity model
- ▶ PMER/MEAL
- ▶ Surge/IM
- ▶ OCAC/BOCA
- ▶ Program Planning
- ▶ Competencies

# 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.



(i) Source: [School of Data](#)

# 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

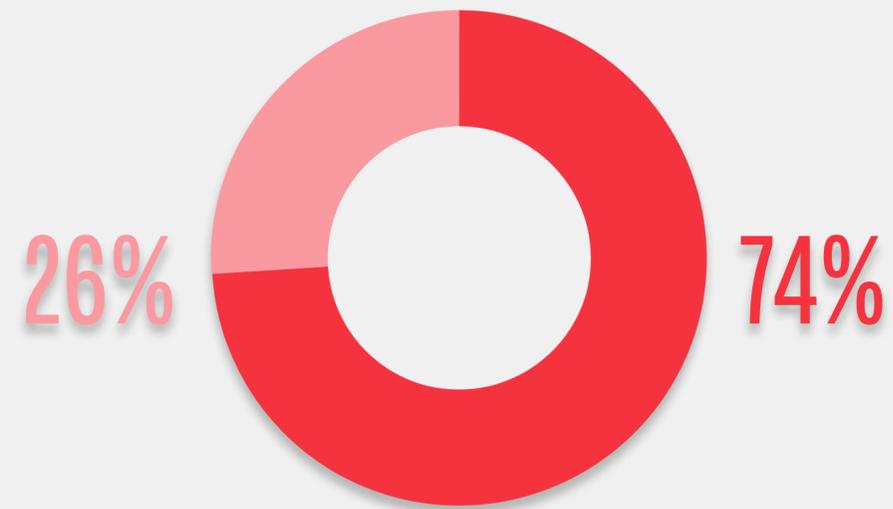
## **Soft Skills**

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

# Humanitarian Data Teams: Technical Skills

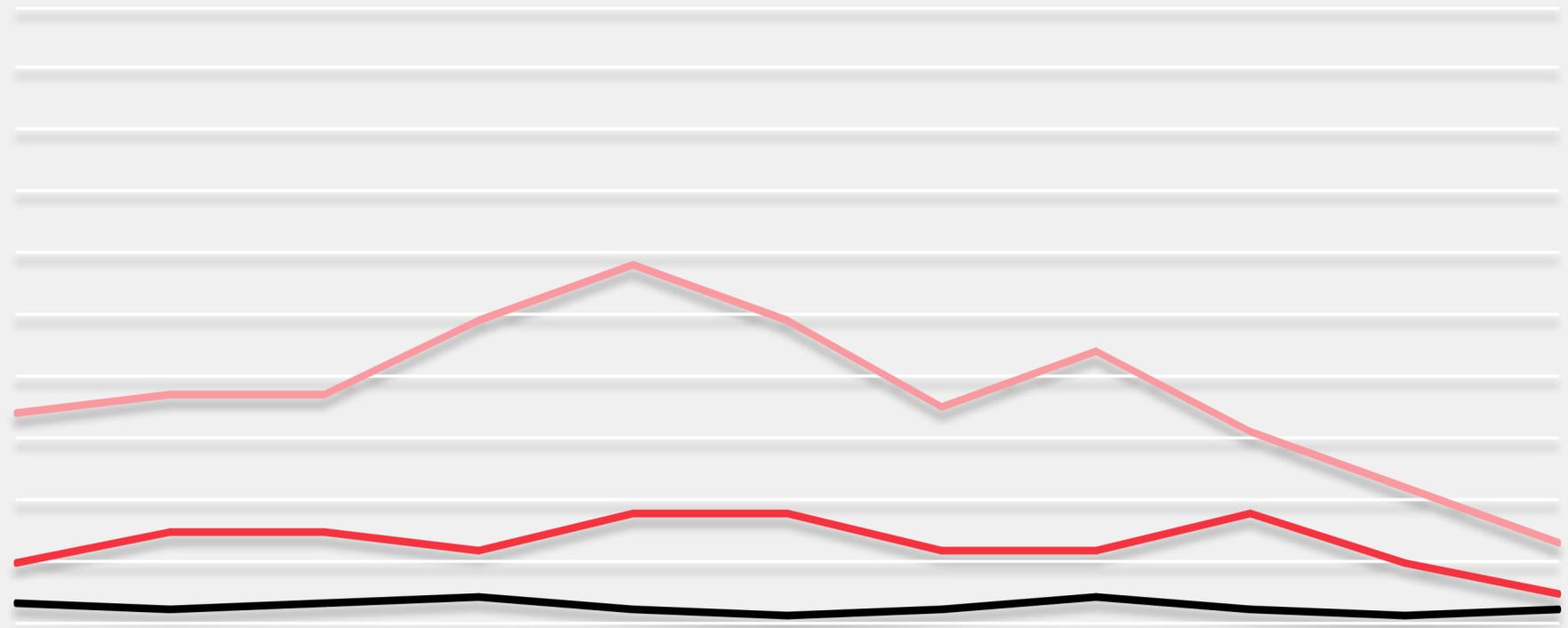
 <b>Math and Statistics</b>	 <b>Data Management</b>	 <b>Hadoop and Hive/Pig</b>	 <b>Programming</b>	 <b>Communications and Visualisation</b>
<ul style="list-style-type: none"> <li>▶ Machine learning</li> <li>▶ Statistical modeling</li> <li>▶ Supervised learning &amp; Unsupervised learning</li> <li>▶ Statistical computing (e.g. R)</li> <li>▶ Relational algebra</li> </ul>	<ul style="list-style-type: none"> <li>▶ Data modelling</li> <li>▶ Data collection</li> <li>▶ Data refinement and cleaning</li> <li>▶ Database, SQL and NOSQL</li> <li>▶ Parallel databases and parallel processing</li> <li>▶ Open Data standards</li> <li>▶ API's</li> </ul>	<ul style="list-style-type: none"> <li>▶ Information Management</li> <li>▶ GIS &amp; Mapping</li> <li>▶ Survey methodology</li> <li>▶ Data analysis</li> <li>▶ Finding &amp; using datasets</li> </ul>	<ul style="list-style-type: none"> <li>▶ Computer science fundamentals</li> <li>▶ Scripting language (i.e. Python, javascript)</li> <li>▶ Filtering scripts (i.e. D3.js)</li> <li>▶ Web development</li> <li>▶ Experience with xaaS like AWS</li> </ul>	<ul style="list-style-type: none"> <li>▶ Story telling skills</li> <li>▶ Translate data-driven insights into decisions and actions</li> <li>▶ Interactive dashboards</li> <li>▶ Infographics</li> <li>▶ Visual art design</li> <li>▶ Knowledge of visualisation tools like Tableau, Adobe toolkit</li> </ul>

# Emergency types by region – Africa



Type of Emergencies in Africa by severity between 2007 and 2017

- Emergency
- Minor Emergency
- Movement Response



Trend in Emergencies in Africa by severity between 2007 and 2017

- Emergency
- Minor Emergency
- Movement Response

# Thank you

Credit: Melissa El Hamouch, Heather Leson

# 1 - 5 Personify Data

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**In this exercise, we want groups to understand why data matters in a humanitarian response. One method of answering the why is personifying data (i.e. turning data into a human) and understanding what Data would want from you and what Data can do for you.**

- ▶ **People:** 2 to 10 people
- ▶ **Time:** 40 Minutes
- ▶ **Difficulty:** Easy to Medium
- ▶ **Virtual Materials:** Virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers

# Exercise

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## Part 1: Explore (25 minutes)

The goal of the exercise is to help teams understand how and why data matters in a humanitarian response. In order for them to do so, the facilitator will introduce the concept of Data as a person rather than an arbitrary object. For this, you can divide your team into groups and for each group assign one person who will role play as Data. The rest of the group will try and befriend Data by asking a series of questions:

To help in role playing Data, here are some characteristics on what type of person is Data?

- ▶ Data wants to help you strengthen your humanitarian response.
- ▶ Data wants to be a resource that you can readily rely upon
- ▶ Data wants to solve your problems
- ▶ Data wants to support your ability to learn

## Question: Who is Data?

Prompt questions and elaboration: Where does Data come from (e.g. location, name, language, primary source, secondary source, etc.)? What type of data is Data (e.g. number, written text, geographical coordinates, etc.)?

## Question: What Data wants from the group?

Prompt questions and elaboration: The person role playing as Data should ask for clarifications on the questions they are getting. Ask the groups to elaborate on the

questions and why they need this information. Data can then guide the team with a list of components that would help in making sure they and the team are working towards the same goal.

## Question: What can Data do for them?

Prompt questions and elaboration: Check what questions Data has answered for the team and where gaps remain. Have the team try and address these gaps with clear questions they can ask of Data.

## Part 2: Discuss (15 minutes)

End the exercise with a discussion on how Data has impacted their project and if Data was able to solve any problems or issues that the team faced. This will allow teams to reassess if it would have been more beneficial to the project to ask different questions to reach a better objective.

### Credit

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This exercise was suggested by Anna Cooper and Hazel Carter and developed and edited by Melissa El Hamouch and Dirk Slater

# 1 - 6 No Data Situation

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**What would happen if a team was faced in a situation where they had no data - zero. In today's world, this scenario will likely never happen. However, introducing this very unlikely and hypothetical situation will get teams to dig deep and discuss how much data matters to their humanitarian response work.**

- ▶ **People:** 2 to 8 people
- ▶ **Time:** 30 – 40 Minutes
- ▶ **Difficulty:** Easy
- ▶ **In person meeting:** Flipchart paper and markers (face-to-face) collaborative online document (online session)
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space.

## Exercise

---

### Part 1: Explore

Teams can work collectively on this exercise or be split into groups. It would be interesting for the facilitator to split the team into groups to discuss the differing approaches and conclusions each group will reach. For the scenario, the facilitator can do one of two things.

**Option 1:** Prepare a hypothetical project that is familiar to a situation the team might face (e.g. food distribution, earthquake response, etc.), but provide them with hurdles (i.e. the lack of available data).

**Option 2:** Present the team with a project that they have worked on and are familiar with. Then the facilitator will ask the team to reflect on how they would go about working on the project if there was no data available to them.

The team might struggle to find approaches to address the given scenario without having data. This is a good thing. Have them write down what they could do without having data and how difficult or easy it would be to achieve that.

---

### Part 2: Discuss

Once the team has reflected on the difficulty level of working a project without data, have them compare the level of difficulty to the situation where they HAD data. The facilitator will then open the discussion by asking the team the following questions:

**Question:** How has having NO DATA impacted your project compared to HAVING DATA?

**Question:** How much does having data matter to the success or failure of a project?



### Extra credit

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Optional to ask further question: How much does data matter in making decisions?

Facilitators have the option to guide further the discussion by introducing **Show and Tell - Data Stories (2 - 8)**.

This exercise was suggested by Hazel Carter and developed and edited by Melissa El Hamouch and Dirk Slater

# 2 Nurturing a Data Culture

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# Nurturing a Data Culture

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**IFRC's strategy 2030 cites Digital Transformation as a top priority for the IFRC network. It is one of the key transformations required to address our main challenges for this decade. Integrating data and digital skills across our programs will enable us to deliver better humanitarian services, faster and at larger scale. This module supports teams on their digital transformation journey. It supports efforts to socialise, develop and strengthen data skills within groups with the aim of building a data culture.**

## Questions this module explores

- ▶ Why does data culture matter?
- ▶ What are some of the discussions and best practices to support a data culture?
- ▶ How can organisations and teams do quick and fun planning to support data culture as a team sport?

Note that the understanding and support of a Data Culture varies by team, individual, region, and country. The goal is to build a common language and journey by sharing data skills and experiences. Use concrete and local examples wherever possible.

## Learning Objectives

**At the end of this module, learners will:**

- ▶ be able to plan activities to build data culture
- ▶ be able to scope data literacy needs
- ▶ understand the larger context of the IFRC's Strategy 2030 and Digital Transformation strategy.

## Module Topics

- ▶ What is Data Culture?
  - A data culture is a learning culture
  - It is a work in progress
  - Why is data a team sport
  - Socialisation of a Data Culture
- ▶ Curating your Data Culture activities
  - What is the "state of data" in the organisation/group
  - How can you design your own curriculum to support a data culture?
  - What are the skills you have and want
- ▶ Connecting Data culture to our collective impact
  - How does data literacy support Strategy 2030?
  - What are some impact stories?
  - Examples of Data literacy with Go and FDRS

## Recipes

### A suggested step by step process to achieve learning objectives

Explore your data culture: Consider how your colleagues can support a data culture with **Informal Data Working Group Planning (2 - 5)**. The following are useful for discussions in teams: Using **Data Audiences at IFRC (2 - 7)**, **Building a Data Culture (guidance for discussion) (2 - 6)**, **How to nurture a data culture – data socialisation? (2 - 1)** or **GO Platform (2 - 12)**. You can discuss with your team which level of digital maturity applies to your National Society, using this **Digital Maturity Framework (2 - 11)** as guidance. Consider sharing **Why Data Matters (1 - 4)**.

Common Language and Impact: Invite participants to share **Show and Tell – Data Stories (2 - 8)** on how data is used in your organisation and/or in the IFRC network. Facilitators can start off the conversation presentations using: **IFRC Digital Transformation Strategy (2 - 9)**, **FDRS Federation-wide Databank and Reporting System (2 - 13)** or **GO Platform (2 - 12)**. Create your own organisation and department story on Data Products/Services/Processes. Invite your Decision-makers to share with **How to support data-informed decision-making? (9 - 2)**.

Curating your own Data Journey: Start off with a **Data Skills Scoping (2 - 2)** followed by **Data Skills Scoping analysis (2 - 4)**

Make a plan: Using the **Activity Plan for Workshops and Learning Sessions (2 - 3)** design your workshop or curriculum over a few months to support a data culture.

If you're interested in measuring your National Societies' current data and digital capabilities with regards to people, process and technology, sign up for the Digital Maturity QuickScan via [digital.ifrc.org](https://digital.ifrc.org). If you wish to take it a step further and plan for a digital transformation roadmap, sign up for the Digital Transformation Assessment (DTA) (approx. 12 week). Contact details on [digital.ifrc.org](https://digital.ifrc.org). For more details, please refer to: **IFRC Digital Transformation Strategy (summary) (2 - 10)**.

## Ingredients

Pick and choose ingredients to create your own recipe. Do you have an ingredient we're missing? Send an email to [data.literacy@ifrc.org](mailto:data.literacy@ifrc.org)

## Exercises

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### Short, discrete social learning experiences

Teams can meet to review the following and discuss how it relates to their work and organisation:

- ▶ Data Stories
- ▶ IFRC's Digital Transformation Strategy (Summary)
- ▶ Overview IFRC Digital Maturity Framework

## Session Plans

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### Longer social learning experiences

- ▶ How to Nurture a Data Culture: Data Socialisation
- ▶ Data Skills Scoping Exercise
- ▶ Informal Working Group Planning Template
- ▶ Activity Plan for Workshops and Learning Sessions

## Slide Decks

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### Presentations to be used and/or adapted

- ▶ About the IFRC Digital Transformation Strategy
- ▶ Example: Go Platform
- ▶ Example: Federation-wide Databank Reporting System

## Checklists/Handouts/Materials

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### For documentation of essential elements of the learning experience

- ▶ Our Data audiences (Handout)
- ▶ Building a Data Culture (Handout)
- ▶ Example: Data Skills Scoping Analysis (spreadsheet)

## Next Steps

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### Relevant modules in the Data Playbook

**Understanding how data matters (1)** and **Data Decision-making (9 - 3)**

### Credit

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Heather Leson, Liselot Kattemölle, IFRC V1 Sprint, and Data Playbook Beta contributors

## 2 - 1 How to nurture a data culture – data socialisation?

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**Handout instruction: The following are some tips on how to Nurture a Data Culture and socialise data skills and use. This can be used as part of your organisation's overall digital transformation strategy.**

# Key Concept: What is Data Socialisation

What is the data culture we need to be a data ready humanitarian organisation? What are the data-driven strategies, programs, activities, and frameworks required to support this transformation? We created the IFRC Digital Transformation Strategy to help implement digital and data maturity across the network. The following are some organisational tactics that might help you foster data literacy in your organisation. The Data Playbook is one of IFRC tools to assist this journey. (See [IFRC Digital Transformation strategy](#) for more details)

Data socialisation is the combination of sharing and widening data skills from the basics to intermediary levels, while fostering a data culture. Often when people talk about data (e.g. Big Data, AI) and technology (eg. tools and infrastructure) there is a focus on the tools, data methodologies, and job roles to deliver 'data' or 'information' products and services. While it is true that individuals and organisations have varying degrees of 'data readiness', what is the content to help foster a data culture? How can we connect the usual data ready colleagues with the data curious?

Collecting user stories and building with existing ecosystems/networks in the Red Cross Red Crescent Movement are two tactics. Data skills are part of everyone's job. Often, – if the participants are not familiar with the technical tools/processes or the ins and outs of, say, machine learning, the staff are not engaged or may even be intimidated. In order for organisations to achieve a sustainable Data Culture, it needs to be inclusive. Data Socialisation and nurturing a data culture focuses on building organisational confidence and trust.

Tips	Description	Example
<b>People Before Data (approach)</b>	<p>With a program designed in a collaborative way, we then employed the 'data help desk' model. Each of the data leaders are genuinely keen to support a data culture. After all the sessions, we made ourselves available to support people to learn, direct them to additional resources, and answer their questions. It is amazing how much people's trust in data and technology has been sprained. Rebuilding this confidence and trust in an open and collaborative way helps foster a data culture. Data and technology can be effective and, even, fun if we approach it with an honest appreciation for people's fear of change and learning styles. By creating spaces for conversations and giving everyone equal access to explore their data skills, we put people before data.</p>	
<b>Informal Data Working Group (team activity)</b>	<p>We convened data leaders from various different work units to plan out initial ideas for activities. The session content is shaped from the intel obtained in the 'Skill Scoping' exercise. The circle widened as more individuals/units expressed interest in leading particular conversations and sessions. The Informal Data Working Group is designed to be open to everyone. We also planned themes/topical sessions based on key milestones like Open Data Day, the launch of the Handbook of Data Protection, and the OpenGeo Week. By finding your allies and co-creating with them, you can build a plan for your organisation and team.</p>	
<b>Skills Scoping (team activity)</b>	<p>How can you get a baseline understanding of the skills and opportunities for an organisation? What if you have a limited budget and time to get a sense of the barriers, opportunities, skills people can share, and skills that they want to learn? Given resourcing restrictions, a full scale ecosystem map of a global organisation was not possible (yet). There are competencies in people's job descriptions, but how can you find out the day to day needs? We conducted a session designed at asking people to talk about data, data types, their data workflows, and what they see as the barriers and opportunities to use data. Then, in the second part of the session, we asked which skills people want to learn and skills they could share. Each organisation and department may have different priorities. This informal Data Playbook session can help start a conversation to socialise data skills as a priority. In previous sessions, the top skills that people want are: analyzing data, spreadsheet skills, data storytelling, data management techniques, and specific technologies. If your department and/or organisation has more time to do an assessment, we recommend you conduct a Digital Maturity Quick Scan as part of the IFRC Digital Transformation strategy.</p>	

Tips	Description	Example
<b>Session Design</b>	Most of the data literacy activities and content were created in modularised format. We created content with a 1-hour maximum content, outcome designed and participatory interactive. We also made choices to remove laptops and technology out of the conversations. Data socialisation is about the critical thinking and contextual approaches to how and why we use data. Some examples include – How do we design incorporating data protection guidance? What are the key questions we ask before making an information product?	
<b>Network-Centric (approach)</b>	All of the news session designs and training materials are being shared via various teams at IFRC, our regional offices, and in National Societies, especially via the Surge Information Management Support (SIMS). We've also collected data skills content from the Burundi Red Cross, Netherlands Red Cross, American Red Cross, Spanish Red Cross, Qatar Red Crescent Society, and more. We've obtained input from the Norwegian Red Cross, Senegal Red Cross and Nepal Red Cross (to name a few). Data leaders have delivered sessions across the world. For example, the Data visualisation module has been shared in Budapest, Honduras, Kenya, Madagascar, Switzerland, Senegal, the Philippines and Qatar.	
<b>Partners/ Allies</b>	Reaching as many people – staff and volunteers – across the IFRC means building partnerships. We look forward to evolving these activities and encourage more connectivity to help the shared joined. We collaborate with amazing partners either formally or informally.	Local businesses, universities and/or humanitarian partners can provide insights on your organisational journey. For example, you could have a guest talk or do a joined event. <a href="#">Centre for Humanitarian data</a>

Credits: *The Data Pipeline* image is from the *School of Data* cc by.

## 2 - 2 Data Skills Scoping

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**Data skills exist across the organisation. This session aims to establish a baseline of data skills and build common language around data. Invite all staff from the office. Be inclusive. In advance, recruit and socialise among key stakeholders from various groups. This exercise could be used in conjunction with a more detailed “Digital Transformation assessment” or “Digital Maturity QuickScan”.**

- ▶ **People:** 8 to 40 people
- ▶ **Time:** 90 Minutes
- ▶ **Difficulty:** Easy
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space.
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers

## Session Goals

- 1 Establish a baseline of data skills
- 2 Provide a shared learning space and build a common language around data use.
- 3 Introduce the topic of data literacy including which type of data exist.
- 4 Locate enthusiasm for data in your team: who is an early adopter and who is data curious?

## Preparation:

- ▶ Ask 3 to 4 people to help guide the session. Explain the goals, formats and outputs.
- ▶ Use breakout groups for small discussions.
- ▶ Advertise the event and be welcoming to all staff. Be mindful of the differing levels of data literacy in your team, especially those who have diverse data skills.
- ▶ Create an online document to collect real-time input from your audience. The document should consists of the following sections:

### State of Data:

- ▶ Types of data
- ▶ Barriers to Data Use

### Opportunities with Data Use

- ▶ Skills Scoping
- ▶ Skills to Learn
- ▶ Skills to Share

## Part 1: Introduction (5 minutes)

We are co-creating a global, interactive network of data learners. Everyone has a voice and we try to make it a vibrant, inclusive experience. Explain that a data culture is part of your organisational digital transformation. Introduce why IFRC (your National Society) is focused on data skills, and be brief. Ask the group to introduce themselves in 3 sentences or less (name, group, and why they are excited about data).

Share the link to the collaboration document and explain how it works. Assign a person to take notes in the collaboration document. Encourage participants to help.

## Part 2: Discover the State of Data (20 minutes)

- ▶ Divide into groups of 6 and ask people to write down the barriers and opportunities for data use.
- ▶ Convene back in plenary and ask each group (not your helper) to share their top 2 items (one key barrier, one key opportunity)
- ▶ Ask the group to add these to the collaboration document.

## Part 3: Skill Scoping for Curriculum (30 minutes)

In the same groups, ask the teams to brainstorm for 20 minutes

- ▶ What skills would they like to learn?
- ▶ What skills could they teach each other?

### Discussion:

- ▶ Return to plenary.
- ▶ Ask people to share key observations.
- ▶ Explain that this is a way to find out people's learning journey.
- ▶ Ask people to put colour-code or comment on the priority types.

## Part 4: Building your local curriculum (15 minutes)

Explain that this exercise is to demonstrate how participants can inform a data skills curriculum in their workplace all the while building organisational/individual confidence. The purpose is to get participants in a leadership position thinking about how to help their organisations use and share data.

- ▶ Put all the results from discussion on sticky notes or your collaborative document.
- ▶ Ask for reflections, advise on next steps.

## Part 5: End of session

- ▶ Thank everyone for coming.
- ▶ Let everyone know that there will be follow-up and that the planning for the first meeting will commence immediately after the meeting.

## Post-Session: Analyse, build plans, & report back

- ▶ Document the notes from the posters in a spreadsheet.
- ▶ Send thank you notes to the helpers and participants with the content collected plus next steps.
- ▶ Begin planning the next event about one month out. Be sure to include your key 'informal working group' allies and topical area leaders in the planning. You can also use **Data Skills Scoping analysis (2 - 4)** to review and analyse the exercise feedback.

### Extra Credit

Start the session with a senior leader sharing why they think a data culture is important (brief talk.) Use the **Activity Plan for Workshops and Learning Sessions (2 - 3)** to help you coordinate your organisation/team's next steps.

## 2 - 3 Activity Plan for Workshops and Learning Sessions

---

### What is the purpose of an Activity Plan, Workshop or Curriculum Plan?

National Societies, Secretariat/Regional Offices and Sector focal points plan workshops, learning and sharing sessions. Learning as a team often requires a clear plan to coordinate content, learning goals and scheduling. this activity plan is a draft template to guide this process.

<b>Activity Goal(s)</b>	<b>E.g. Is this a series of short workshops in a regional office or a dedicated workshop for a sector (e.g. cash ERUs)</b>
<b>Type of Activity</b>	
<b>Organizing Team</b>	
<b>Date(s) of activities</b>	

Please kindly fill out all sections left white below.

## About the Audience

Trainers and Team Leaders working with groups for discovery and learning. Teams working together so they can create processes, workflows, and identify gaps in knowledge. Trainers who are leading sessions with individuals learning together and from each other.

<b>Target Audience</b>	
<b>Main Audience</b>	
<b>Secondary Audience</b>	

# About the Content

What are the main challenges about reaching the audience(s) and training content, if any?

How can we overcome these challenges? Write key points on the importance of the topic.

Do you have any particular recommendations regarding the activity?

What is your plan for the sessions/series? Will it be remote or in person? Please list any additional resources (PDF, Videos, etc).

## Learning Objectives of the Activities

For guidance on writing learning objectives based on Bloom's Taxonomy, click [here](#) or [here](#)

At the end of the activity, learners will:

1

2

3

**Learning Objectives of the Activities**

For guidance on writing learning objectives based on Bloom's Taxonomy, click [here](#) or [here](#)

**Activity Planning**

Include as many topics as necessary cooped with their respective key messages. Be sure to map this against your organisational goals and as well as obtaining feedback from participants.

Topic 1	Key messages
Topic 2	Key messages
Topic 3	Key messages

Select the content from the Data Playbook to serve the learning objectives and organisational needs/feedback. If you are *creating new content*, please do share back with the Data Playbook team. [data.literacy@ifrc.org](mailto:data.literacy@ifrc.org)

**Topic 1****Topic 2****Topic 3**

# 2 - 4 Data Skills

## Scoping analysis

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 [Download Resources](#)

## 2 - 5 Informal Data Working Group Planning

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**Informal working groups were used to inform the IFRC's digital transformation strategy and coordinate data literacy projects. This template sets out the basic outline of such an informal working group. We recommend using this template after running Data skills scoping and reviewing our data audiences.**

## Working Group Meeting Best Practices

- ▶ Schedule your first meeting as soon as possible, pick a date and time that you can make a routine, e.g. third Thursday of the month at 1600. Choose the optimal time for group participation.
- ▶ Coordinate your collaboration spaces and invite people to join.
- ▶ For your first meeting choose a topic that got a lot of attention in the Data Skills Scoping session.
- ▶ Consider emerging topics for future working group sessions. Look for opportunities to solve problems/challenges people may be having. Make the meeting as valuable and engaging as possible.
- ▶ Use a variety of interactive formats: discussions, demos, hands-on, etc.
- ▶ If appropriate, rotate team members to lead the meetings.
- ▶ Remind people via email one week ahead and one day ahead of the time.
- ▶ Document each meeting in a collaborative space (in person or digital).

## Coordination:

- ▶ Have a Topic and/or goal for the session: (e.g., we will build our critical thinking skills on data visualisations)
- ▶ Include occasional sessions with no agenda, but focused on team-building. Being a data advocate is often about socialisation and fun.
- ▶ Have a consistent scheduled time, remember to start and finish on time!
- ▶ Location:
  - In person Location: (A nice space big enough for your group to have small group breakouts)
  - Virtual space: be consistent with the link and tool used
- ▶ A lead, rotate team members for this role to help build expertise and confidence. Use it as a way to develop ambassadors, data advocates and the data active.
- ▶ A note-taker/documenter: (rotate members)
- ▶ A session plan, remember to use a variety of formats, but here's an example.

A brief introduction to the topic, and a quick go-round asking participants to say one sentence on what they want to know about the topic (why did they come?)

- Get people to break into pairs to discuss their challenges on the issue and ask them to generate post-it notes with their challenges on them.
- Present a relevant case study on the topic. If someone on the team has in depth experience in the topic, get them to present for five to 10 minutes
- Always include time for questions and answers

- Ask the group if they have any resources they have seen or found valuable on the topic and create a list on flipchart paper with responses.
- Wrap-up by asking the group if they had any ahas or takeaway learnings from the meeting. Also, ask if there are any relevant next steps/action items individuals or the group may need to take.
- Ask for ideas for a topic and a volunteer to lead the next meeting.
- Follow-up with an email with reminders of next steps/ action items, notes including any relevant resources, and the time and topic of the next meeting.

### Extra credit

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Use the **Activity Plan for Workshops and Learning Sessions (2 - 3)**

# 2 - 6 Building a Data Culture

(guidance for discussion)

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**How do we grow a data culture within teams and organisations? In your teams and organisations, what works and does not work in building a data culture? This document contains guidance for facilitating discussions on data culture in your organization.**

## What works?

- ▶ Leaders at the board-of-directors, management and employee level should share their vision in building data culture
- ▶ Give examples of projects that show the benefits of a data culture
- ▶ Creates spaces of learning in the organisation about building data culture
- ▶ Reduce friction when transitioning between digital tools in creating data culture
- ▶ Finding someone who has a “vision” of what data in their team could be
- ▶ Recognizing that it’s not a short-term problem to solve, but a long-term education and awareness issue — highlighting and explaining all the knock-on results of not investing in data culture
- ▶ Working through partner national societies to link horizontally in a country if they have an IM team rather than from Regional down
- ▶ Having a identified good data focal point in the target team or NS — using Data Playbook to start conversations to find those who gain or know data literacy
- ▶ Having the final product ready or understood by the data contributors

## What does not work?

- ▶ Keeping inflexible leaders in key positions in an organisation
- ▶ Putting only profit as an objective when creating data culture but removing people and planet as objectives in the process
- ▶ Giving up
- ▶ Remote coordination and data collection is hard
- ▶ Not having someone a data literate focal point
- ▶ Only looking short-term project completions

## To build a learning culture

Adult learning expert Malcom S. Knowles developed a learning theory called Andragogy, which essentially means adult-led learning. The following elements to this theory can be useful to keep in mind when engaging your team to learn about data and therefore use it more effectively for your organisation:

- ▶ Adults need to understand and accept the reason for learning a specific skill.
- ▶ Experience (including error) provides the basis for learning activities.
- ▶ Adults need to be involved in both the planning and evaluation of their learning.
- ▶ Adult learning is problem-centred rather than content-oriented.
- ▶ Most adults are interested in learning what has immediate relevance to their professional and social lives.

## Understanding your team members, key questions:

- ▶ What problems are they trying to solve?
- ▶ What are their motivations for using data?
- ▶ How do they apply data in their jobs?
- ▶ What skills are they keen to learn?
- ▶ What can they teach others?

## Best practices for growing a data culture

- ▶ The data culture must take into account people and the planet in the triple bottom line, not just profit.
- ▶ Impose a set of rules on which everyone should follow.
- ▶ Mentorship and network building to help people grow on their data journey
- ▶ Talk about success data product stories and how they improved processes, share ideas openly
- ▶ Communicate your projects and findings, growing your personal network for solving data related problems
- ▶ Write more how to or/and best practices materials, develop your framework for working with data and share with people, adapt best suitable ideas
- ▶ Develop understanding of the importance of quality and timely data.
- ▶ Ensure that the cycle of data is complete. Everyone must be treated as a data contributor and user. In short, what comes out of collected data must be shared with those that contribute to the process.
- ▶ Trying to understand the point of view of the person/people asked to collect the data you want
- ▶ Remembering colleagues are professionals with skills and expertise you know nothing about, and have survived without fancy digital solutions for years. Learning from others will make our data systems better.
- ▶ Documentation, documentation, documentation — RCRC is often rushed to produce things on short notice and no time is left for the documentation side, meaning it cannot be reproduced
- ▶ 'Show' the value of transforming data into information (from a business/operational perspective) (via success stories/practical examples)
- ▶ Projects can originate and be driven from various department focal points. IT is often part of that team.

### Extra credit

Reading on Adult learning: [Reading on Adult Learning](#)

# 2 - 7 Data Audiences at IFRC

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**This handout can be used for a short exercise and discussion.**

IFRC has diverse audiences across the sectors and regions. We've built programming based on these audiences. The key data user profiles inform the development of the playbook and, potentially, future training planning.

- ▶ Data Curious wants to learn/support and be exposed to the data basics. They need a welcome, inclusive environment as they begin their data journey.
- ▶ Data Advocate sees relevance and wants to improve their skills.
- ▶ Data Active are motivated to self-learn and are on their way to being a 'data-leader'.
- ▶ Data Ready are 'trainers' or 'data leaders' who lead data-driven projects and mentor colleagues.

## Data Curious

Are looking for a starting point. They need opportunities to provide context and perspectives about why and how data skills matter. They need:

- ▶ Solutions to their problems
- ▶ Practical Information that meets them where they are at.
- ▶ Easy, accessible and clear explanations and examples
- ▶ A guided path to self-help
- ▶ Access to support and mentorship
- ▶ They are often stakeholders who use products/ services and want to understand more.

## Data Advocate

Will continue on their data skills learning journey. They are likely to be great supporting actors in building a data culture. They know the starting point is to ask a question. They need:

- ▶ Access to a wide range of self-learning materials
- ▶ Mentoring from those with more experience in using data
- ▶ To use data to be more effective and build critical thinking skills

## Data Active

Data use is sometimes part of their job and skill set. They are continuous learners and may mentor others on their data journey. They frequently ask: how might one become more adept with data and improve data skills? They need:

- ▶ To learn by doing things with data
- ▶ Materials to teach others about data
- ▶ Social learning experiences to gain access to peers and expand their networks

## Data Ready

They can range up to very advanced data skills. They may or may not be data scientists, but they are deemed proficient in a range of data skills. They need:

- ▶ To upskill themselves to be even more data ready
- ▶ To address the data skills gaps in their organisations
- ▶ To save time, improve data workflows
- ▶ To grow their network of peers

## Which one are you?

- ▶ Data Curious needs a welcome environment and introduction to learn and be exposed to the data basics.
- ▶ Data Advocate sees relevance and wants to improve their skills.
- ▶ Data Active are motivated to self-learn and are on their way to being a 'data-leader'.
- ▶ Data Ready are 'trainers' or 'data leaders' who lead data-driven projects and mentor colleagues.

## An example strategy to reach audiences

We're designing the Data Playbook for the data curious. Everyone is on their own learning journey. Peer-to-peer learning is an ongoing effort for every data audience. We know the main people who will use the Data Playbook will be the data active and the data ready. We will reach the data curious and the data advocates through them. Data is a teamsport.

# 2 - 8 Show and Tell – Data Stories

**Data is used across all our work. Let's spend some time celebrating the impact of data by sharing data stories and examples. Part of digital transformation and building data literacy is sharing learnings around data-driven products and services for humanitarian response. Giving demonstrations and sharing data stories helps build a data culture and supports a common language for your transformation. This exercise will help you discover your shared data journey and explore opportunities for sharing and learning from each other.**

There are videos on [Solferino Academy website](#) and content on [digital.ifrc.org](https://digital.ifrc.org) to provide some global examples. It is best to have examples from local and regional projects, products and/or services.

- ▶ **People:** 10 to 30 people
- ▶ **Time:** 60 Minutes
- ▶ **Difficulty:** Easy
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers

## Exercise

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### Part 1:

In small groups, get participants to introduce themselves. Share an example of how data is used in your work/your national society. It can be an item, a project, a program or part of a larger project. Or, participants can share an example from other organisations.

Add examples with quotes, screenshots and links to a collaborative document. You can find some video examples on [Solferino Academy website](#) and content on [digital.ifrc.org](https://digital.ifrc.org).

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### Part 2:

What are some examples that you shared? Any common themes? (This is a way to inspire people that they are already driving transformation in their work. It also helps build a data culture by sharing existing products/services.)

### Extra credit

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Invite a guest speaker to share about their data-driven product/service. Participants could also share about FDRS or the GO platform as part of this discussion. Also see **No Data Situation (Exercise) (1 - 6)**

### Credit

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IFRC Data Playbook sprints, Heather Leson

# 2 - 9 IFRC Digital Transformation Strategy

(background information)

(i) Source: [IFRC](#)

# The IFRC's Digital Transformation Strategy

A Digital Transformation is an ambitious journey for each of the 192 National Societies in the IFRC Network and for the Federation as a whole. Your engagement and leadership will be important as we look to align our people, processes, and technology in a common direction.

Digital transformation is inevitable given the ongoing pace and adoption of technology and the changing expectations of staff, societies, and people in need. The IFRC wants to sustain its global position as a leading humanitarian service provider. In order to achieve this, it is a top priority to reduce the digital divide within our network over the next 4 years and grow the digital maturity of both National Societies and the Secretariat.

### Step 1

In 2021, approximately half of all 192 National Societies are in Step 1

### Step 2

In 2021, approx. 20 NS are in Step 2. In 2025, there should be at least 100 NS in Step 2.

### Step 3

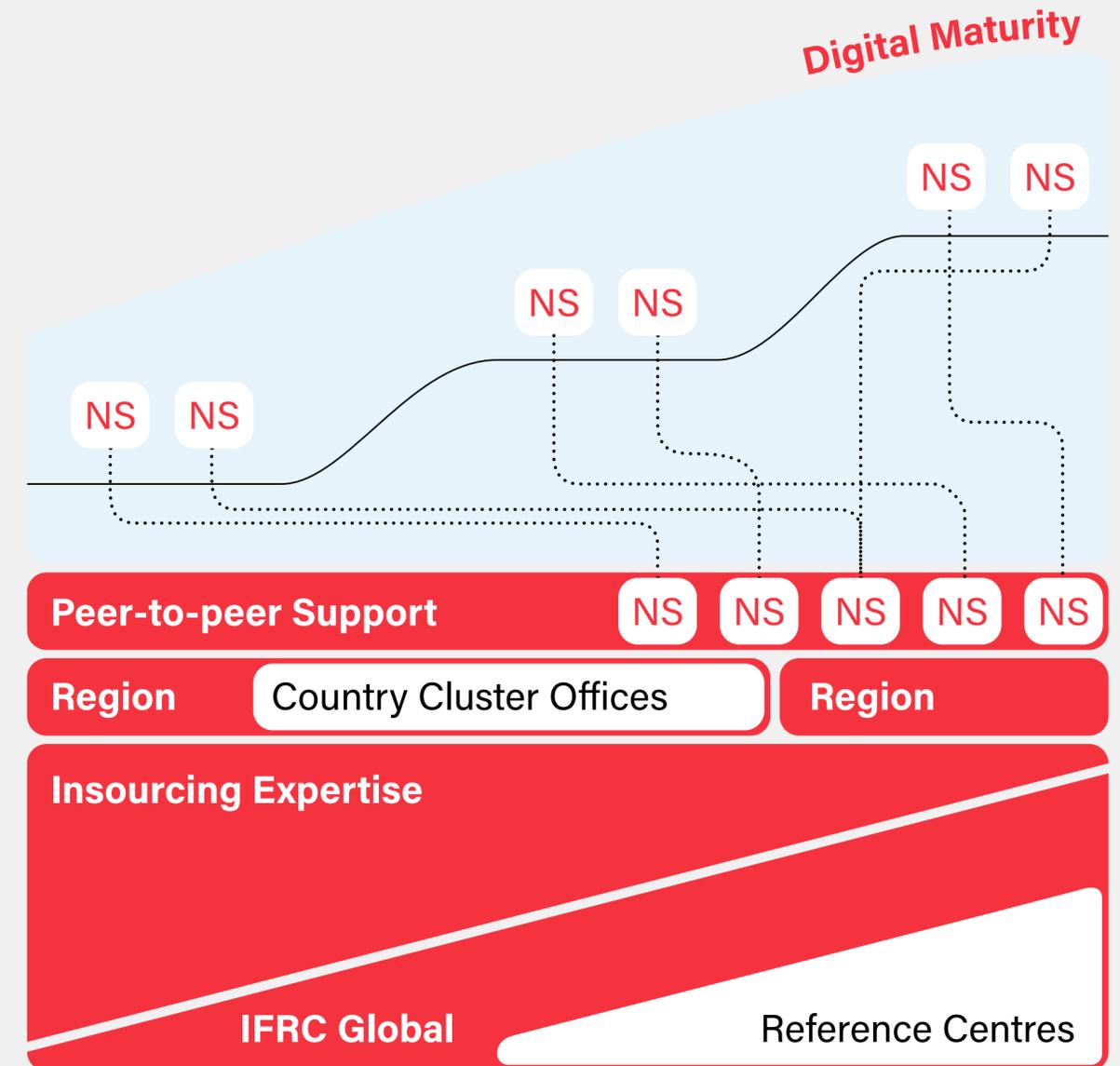
In 2021, approx. 10 NS are in Step 3. Our ambition is that in 2025, 15 NS will be in step 3.

# The IFRC's Digital Transformation Strategy

The IFRC's Digital Transformation Strategy emphasizes National Societies. The ambition is to leverage and augment the skills, smarts & experiences already existing across the network. We do this by an organizing model that includes:

- ▶ The digital maturity framework, in order to speak the same language and structure the digital transformation journey of National Societies;
- ▶ Competency networks to connect and coordinate across National Societies and encourage peer-to-peer collaboration;
- ▶ Coordination of issues and opportunities across the network through
  - Already existing entities (Global, Geneva, Reference centres);
  - A new Accelerator Team (and corresponding governance structure for DT with a director of Digital Transformation at the Secretariat in Geneva);
  - External partner engagement to harness collective negotiating power and to support the expansion of local National Societies' capabilities.

This model enhances connectivity within the IFRC Network to support local solutions, peer-to-peer learning between National Societies, inter-operability between our digital tools and services and better alignment in many other functions such as HR, budget and logistics.



# Digital Transformation & IFRC Strategy 2030

People increasingly rely on and expect a diverse range of digital services to interact with local government, companies, community organisations and services and this shift is already happening in humanitarianism.

At the same time, most of the Red Cross Red Crescent's National Societies are still putting basic IT in place. The digital divide remains a significant challenge but also presents opportunities.

The need for a successful and large-scale Digital Transformation is urgent. Digital transformation naturally supports the other 6 transformations required to address the 5 global challenges of this decade, as outlined by the IFRC's strategy 2030.

Global Challenges	Climate and Environmental Crisis	Evolving Crises and disasters	Growing Gaps in Health and Wellbeing	Migration and Identity	Values power and Inclusion
Goals	People Anticipate, respond to, and quickly recover from crisis		People lead safe, healthy and dignified lives and opportunities to thrive		People mobilise for inclusive and peaceful communities
Transformations	NS as Strong and Effective Local Actors				
	Inspiring and Mobilizing Volunteerism				
	Ensuring Trust and Accountability				
	Working Effectively as a Distributed Network				
	Influencing Humanitarian Action				
	Financing the Future				
↑ Enabled by Digital Transformation					

# The Digital Maturity Framework

Digital Transformation at the IFRC is centred around a digital maturity framework that defines different levels of maturity across three domains: people, process and technology. The objective of the framework is to provide National Societies with a map to assess their current data and digital capabilities and to scope their ambitions for the future. It aims to measure the ability of NS for continuous improvement of its humanitarian operations through application of data analytics and digital technology.

The digital maturity framework has been developed through an extensive research process on the ecosystem of data and digital in the context of humanitarian service delivery in the Red Cross Red Crescent. The framework adopts a Capability Maturity Model Integration (CCMI) approach, which provides an assessment of the status quo, while also indicating what needs to be in place to achieve a next level. As such, it provides guidance of what a roadmap for digital transformation could look like.

## Step 1

National Societies are setting up the basics for digital transformation. They focus on getting basic information technology in place. There is an interest in data and digital development, but limited capacity and resources.

## Step 2

National Societies dedicate specific expertise to data and digital development. They focus on setting up a multidisciplinary data and digital team that shares data across the organisation for insight and analysis.

## Step 3

National Societies are data-driven and develop their own digital services. The organisation has flexible and scalable information technology.

# 2 - 10 IFRC Digital Transformation Strategy (summary)

In virtually all countries, people increasingly interact with local government, private sector and community organisations through a diverse range of digital services. The International Federation of Red Cross Red Crescent's (IFRC) Strategy 2030 identifies that this trend is also happening within humanitarian organisations. At the same time, research shows that the vast majority of the Red Cross Red Crescent's (RCRC) National Societies (NS) do not have or are currently working to put in place basic IT infrastructure, digital applications, digital services, and network systems.

The so-called Digital Divide remains a significant challenge at international, national and local levels, but also presents opportunities.

The need for a successful and large-scale Digital Transformation of our network is urgent. Strategy 2030 identifies digital transformation as one of the seven transformations that the IFRC network must embrace to address the main challenges of the decade to come.

## Organizing for change

The Digital Transformation Strategy aims at strengthening the relevance, speed, quality, reach, accessibility and sustainability of humanitarian services by improving the Network's capacity to utilise data analytics and digital technology. This is not a digital strategy on its own, but a strategy for a digital world.

In order to achieve this aim, the following three enablers are woven through the IFRC Digital Transformation Strategy:

- ▶ Emphasizing that people are at the centre of the process;
- ▶ Energising IFRC network to share global capabilities and knowledge among National Societies; Improving the IFRC's capacity for interoperability and common data standards.

As there are clear actions required to secure digital transformation, an organizing model has been developed, including:

- ▶ A shared digital maturity framework to speak the same language and to create a roadmap for the digital transformation of each national society
- ▶ Competency networks to connect and coordinate across National Societies
- ▶ Coordination of issues and opportunities across the network through regional offices, IFRC Geneva and accelerator Team
- ▶ External partner engagement to augment, in source and expand national society capabilities

## Examples: Data and digital in humanitarian service delivery

### Disaster management: better preparedness through early action protocols Philippines

The Philippines are struck by an average of 20 typhoons annually, with climate change intensifying the effect of these storms. To increase their typhoon response capacities, the Philippines Red Cross (PRC) developed under the sponsorship of the German Red Cross and in collaboration with 510, IFRC and local authorities a Typhoon Early Action Protocol (EAP), powered by data analytics. The EAP can be implemented by PRC chapters in 19 targeted provinces, in four different parts of the country. It is meant to facilitate anticipatory actions of the PRC when certain tropical cyclone forecasts show a high likelihood of a severe impact in the country. This for example includes the evacuation of residents and livestock, early harvesting, and strengthening of shelters.

### Digital community engagement: chatbots Georgia, Armenia, Kazakhstan, and Peru

Interactive text messaging with tools like chatbots helps extend RCRC services to people “where they already are” – namely, through the channels like WhatsApp, Telegram, & Facebook Messenger. The opportunities to use chatbots for community engagement across sectors are numerous. The two-way communication system allows for streamlined, more direct assistance, identification of needs and rumour tracking between National Societies, community members and volunteers. The COVID-19 response accelerated the adoption of digital technologies to continue communication with communities when physical engagement became highly constrained or impossible. For example, National Societies in Georgia, Armenia, Kazakhstan, and Peru deployed chatbots to register volunteers, trace ambulance services, provide psycho-social support, provide COVID-19 specific information or remotely assist displaced people affected by the COVID-19 crisis.

### Digital identities & Digital Cash for improved cash and voucher assistance Kenya

The significance of identification as a prerequisite to access services is significantly increasing. At the same time, rapid advancements in modern technology provide new opportunities for engagement with beneficiaries, such as reaching those who were previously unregistered. In Cash Transfer Programs beneficiaries are given safe access to financial services through the application of a functional ID. For example, the Kenya Red Cross piloted a system where beneficiaries could self-register for a cash distribution

(i) [Philippines Early Action Protocol Summary](#)

(ii) [Digital Identity as analysis for the Humanitarian Sector](#)

program. In addition to self-registration through a low-bandwidth web application, the pilot tested self-sovereign identities, automated one-way communication through SMS (in the language of their choice), cash program management and platform integration with M-Pesa. Cash information management is a key component for National Societies to ensure they have people, processes and technology in place and are cash prepared for disasters.

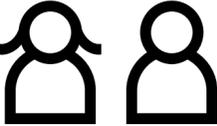
### Maps for disaster preparedness and response: Missing Maps & Lebanon (Beirut blast)

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Accurate maps play a critical role in understanding human communities, particularly for populations at risk. Not existing on maps makes communities and individuals less visible to decision-makers and as a result, are increasingly vulnerable to disasters or epidemics. Likewise, these areas may receive reduced assistance because first responders have less information about them. Missing Maps is an open, collaborative project in which volunteers help to map these unmapped communities, creating better geographic information for humanitarian organisations. Maps also played a key role in coordinating immediate disaster response activities in the wake of the Beirut blast. The Lebanese Red Cross was one of the many first responders on the ground but needed additional support to quickly and efficiently assess the damage at debris level in order to access and reach all communities that were in critical need of assistance. Satellite images and crowd-sourced images were analysed by state of the art algorithms co-developed with volunteers and the private sector to create a damage map which significantly increased the first-responders capabilities to navigate the disaster.

# 2 - 11 Digital Maturity Framework

(i) Source: [IFRC](#)

	Step 1: Beginner		Step 2: Competent		Step 3: Expert	
	Starter Level	Level 1	Level 2	Level 3	Level 4	Level 5
 People	Leadership understands the need for digital transformation and prioritizes it.  There is basic data literacy among staff and volunteers.		Leadership advocates for digital transformation and creates an environment for experimentation.  The National Society actively recruits data and digital experts.		Leadership understands the full potential of digital transformation and uses it to optimise humanitarian response. Staff and volunteers have a vital and accelerating role in digital transformation.	
 Process	Increased use of digital technology to reach multiple audiences, collect feedback and understand needs.  Information remains isolated in siloes.  The National Society seeks some external collaboration, within the IFRC network or with private sector and academia. Data is collected ad-hoc and to respond to external partners' requirements.  There is limited core budget for data and digital technology.		User feedback leads to improved (digital) services and operations.  Information is shared across departments.  The National Society structurally collaborates with the IFRC network, private sector providers and academia. The National Society actively collects data for internal needs. Core budget for data and digital technology is available.		Multiple audiences are able to directly engage with the National Society.  Decisions are driven by data.  The National Society contributes to global data standards within the IFRC network.  The National Society provides reliable and scalable digital services to the IFRC network.  New digital business models generate an income stream.	
 Tech	The National Society's data is not structured and quality is unknown.  Connectivity and IT infrastructure are minimal.		The National Society has data standards in place. Connectivity and IT infrastructure are reliable.		External partners adopt to the National Society's data standards.  Distributed computing mechanisms are used to process high volume tasks.	

# 2 - 12 GO Platform

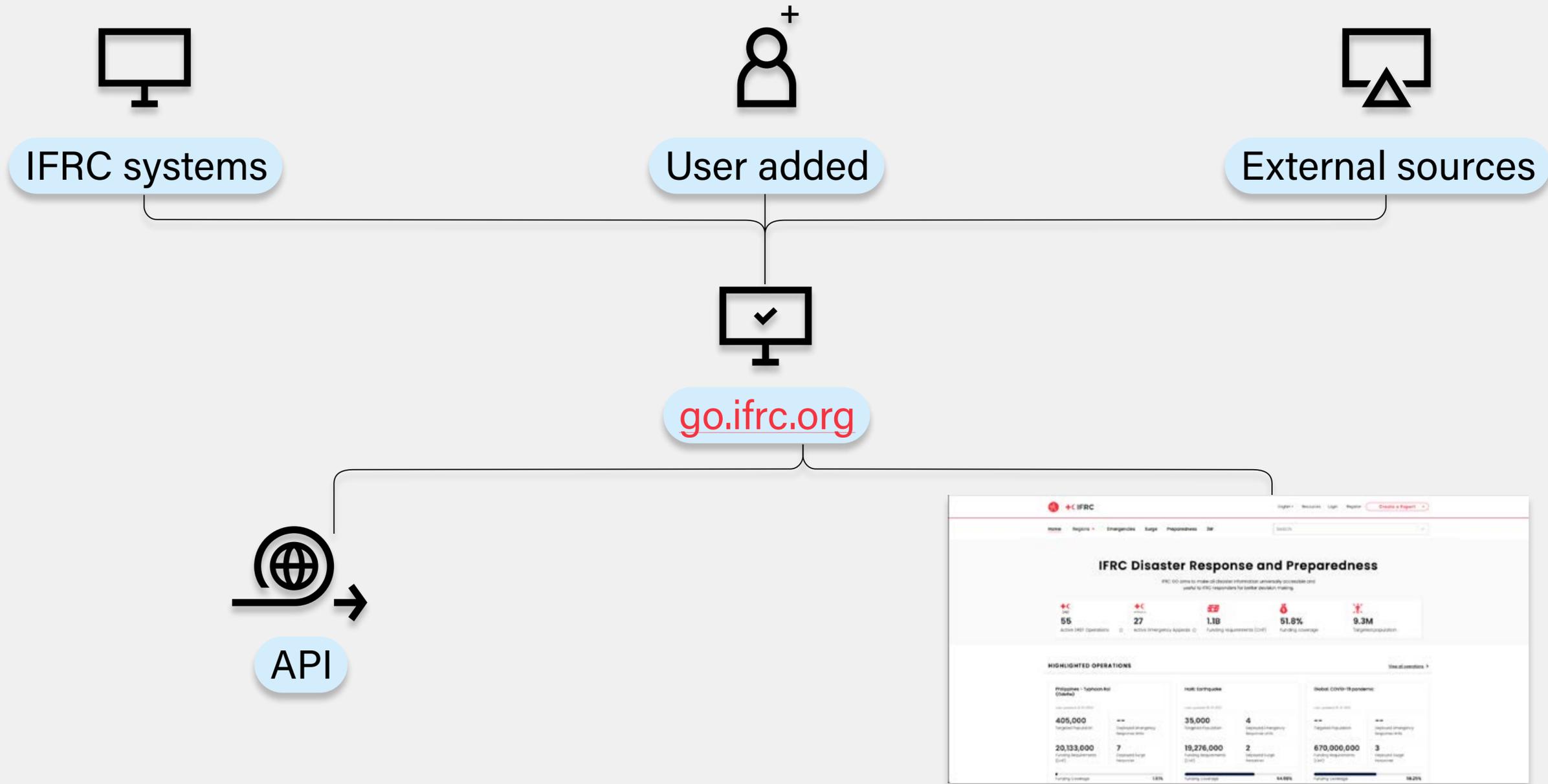
# Video



# Video



# go.ifrc.org



## go.ifrc.org

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

GO is the operational data platform for all IFRC network emergencies.

The data included in GO is **for and by** 192 National Societies and 14.8 million volunteers. Thus, data literacy is key to quality and timely delivery of humanitarian services and decision-making.

(i) Source: School of Data

# GO at a glance



Data on hazards, needs and capacities

Evidence-base

Enhanced operational decision-making

Common situational awareness

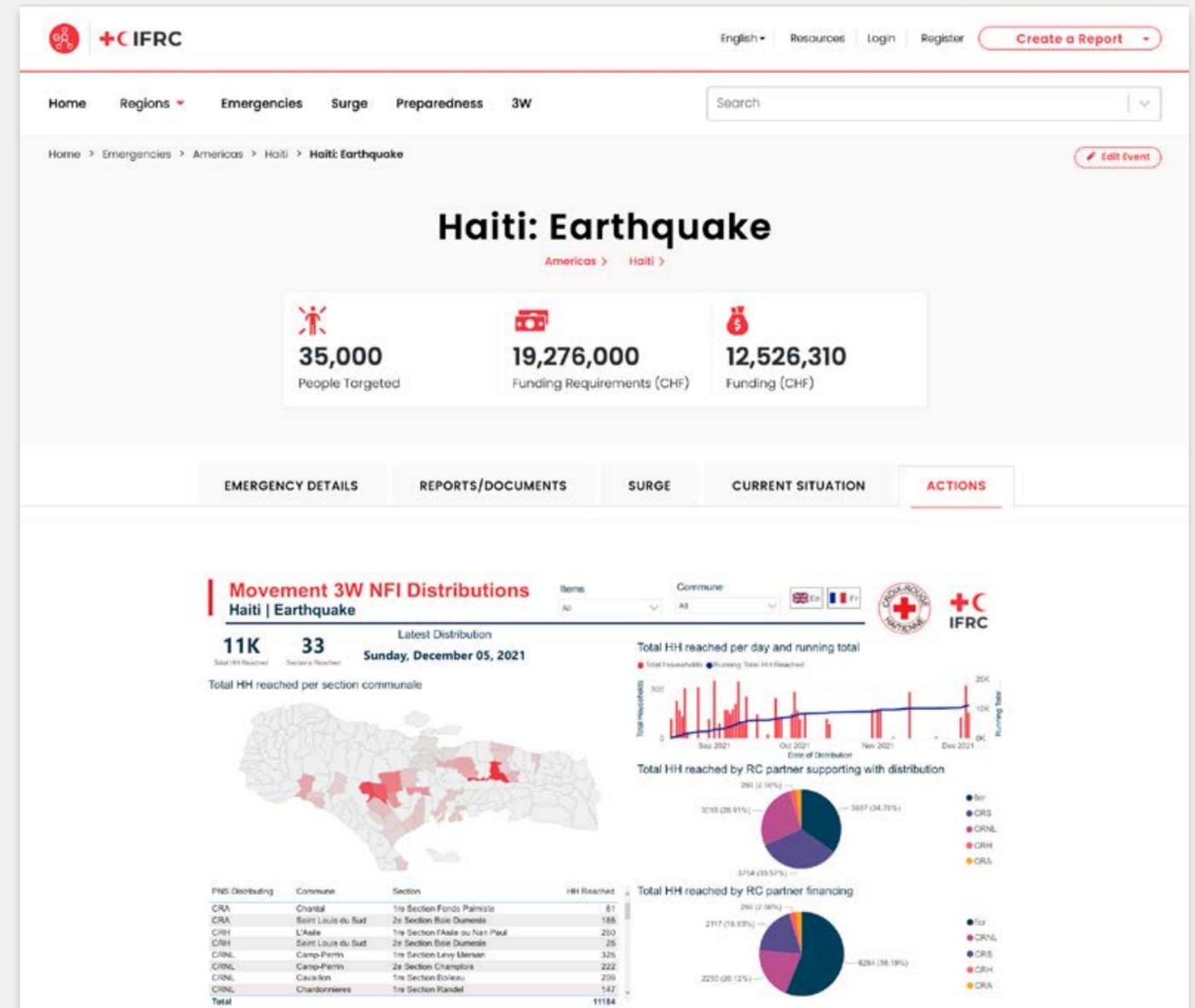
Modularity

Prioritisation

Coordination

# Pooling IFRC-wide field data collection

- ▶ To provide real time situational awareness
- ▶ Improving our analysis before, during and after crises



## [go-user-library.ifrc.org](https://go-user-library.ifrc.org)

- ▶ The GO user library provides templates and access to GO data

## [ifrcgoproject.medium.com](https://ifrcgoproject.medium.com)

- ▶ Read the GO Blog for updates from the GO team

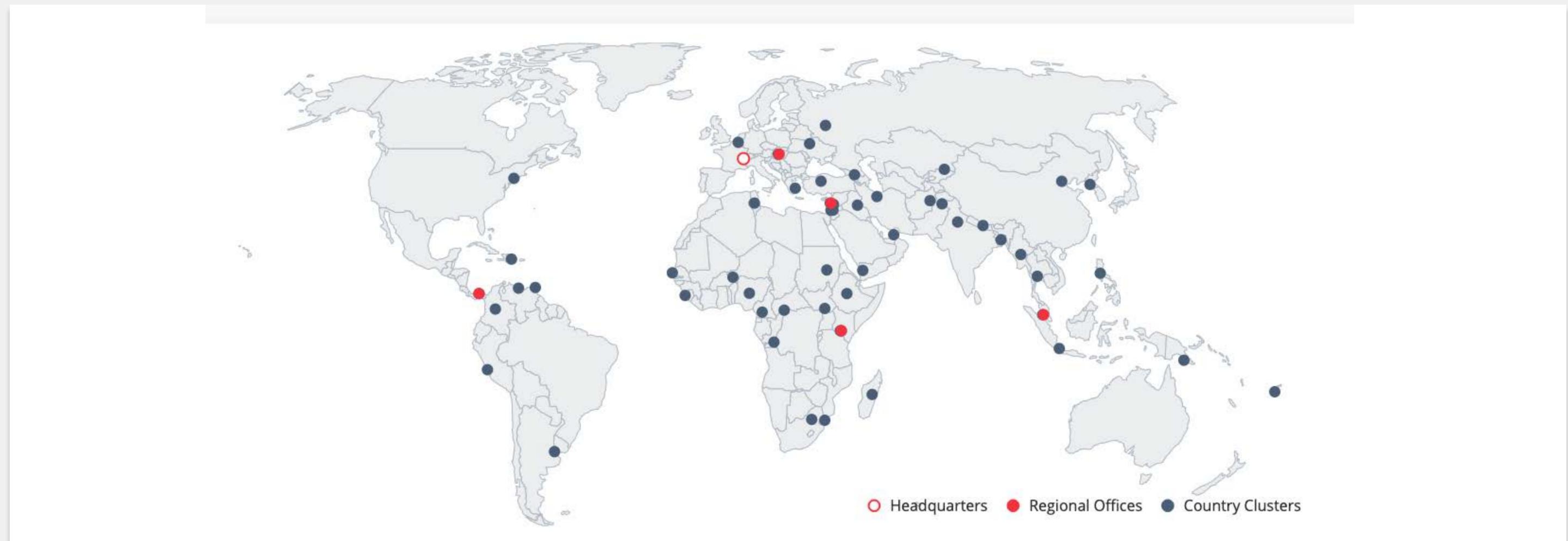
# Thank you!

Please contact [im@ifrc.org](mailto:im@ifrc.org) if you have any further questions, comments, or suggestions

# 2 - 13 FDRS Federation-wide Databank and Reporting System

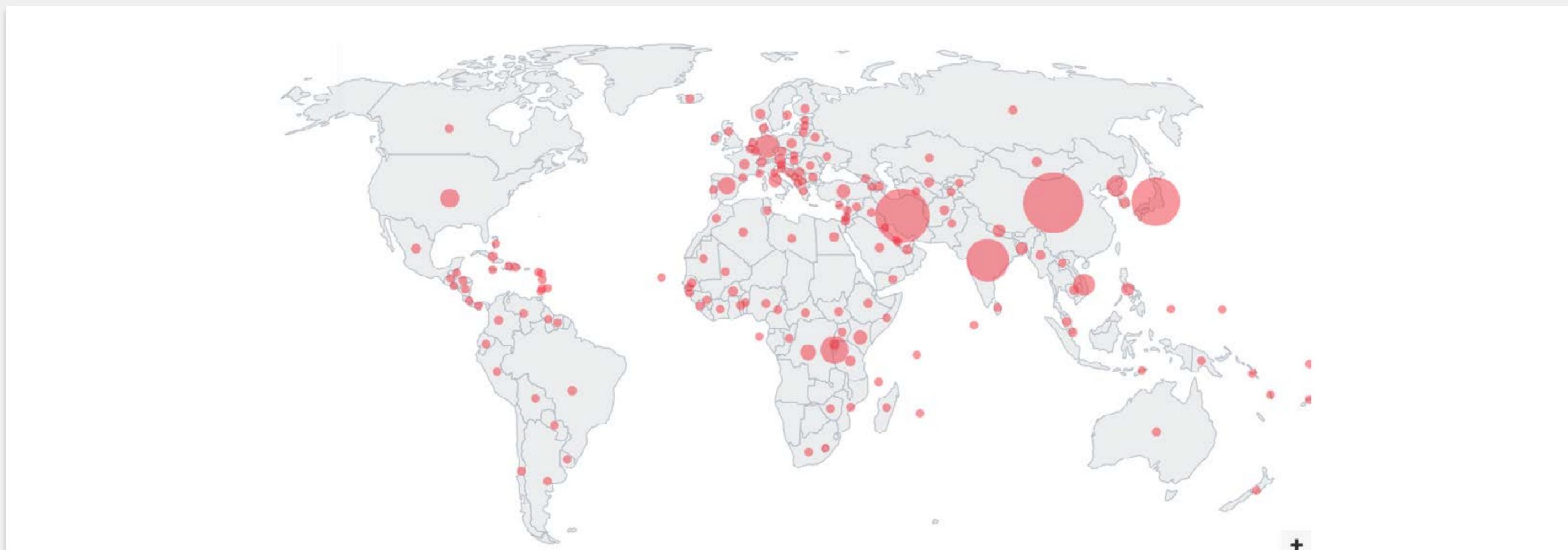
# FDRS: Who, What, Why, where?

FDRS comprises of a global team present in **Geneva, Budapest, Panama** and **Kuala Lumpur**. It is also supported by all PMER teams and other key colleagues in all IFRC offices.



# What?

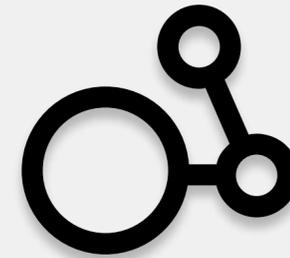
FDRS is a platform that collects annual and semi-annual data from the **192 Red Cross Red Crescent National Societies** twice a year.



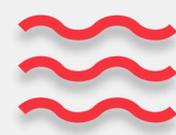
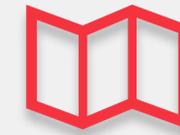
# Evolution of FDRS



Since 2012, the Federation-wide Databank and Reporting System (FDRS) was firmly established as a unique database to show the IFRC's network capacity, resources, and services worldwide, both in disaster response and long-term development programmes.

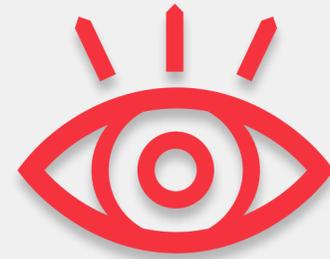


FDRS has built a strong data foundation and has extensive experience collecting Federation-wide data on an annual basis, including established standards, guidance, systems and processes.



FDRS collects National Societies annual and semi-annual data summarized in some indicators. Also, National Societies should report their key documents

# Why?



FDRS was created as a performance platform for National Societies. It is also a constitutional requirement for increased transparency and accountability.

# Why is FDRS such a unique and capable database to show the federation's network capacity and resources?

## 1 **Capacity**

- Experience in Federation-Wide data collection

## 2 **Standards and Processes**

- Solid data collection and data validation process
- Standardized definitions of indicators
- Defined data disaggregation and other key standards
- Systematic processes and a supportive network of National Society focal points
- Established engagement with technical teams and partners

# Supporting data literacy

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## 1. Empowering National Societies to be owners of their data

- ▶ We have developed strong awareness across all National Societies about international standards. We also provide training and guidance to support NSs in their data collection and reporting journeys. All reporting is done through the backoffice shown below.
- ▶ Through our continuous engagement with National Societies, we provide continuous technical support
- ▶ We promote and position National Societies by making their data available and also by encouraging the exchange of experiences and learnings

# Supporting data literacy

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## 2. Encourage questions about the data interpretation

- ▶ Data collected by FDRS goes through an end to end validation process that includes the National Societies, technical team members and FDRS team members. All this promotes transparency in the data as well as encouraging much needed interrogation by all the parties, reducing bias. This culminates in an annual flagship publication known as the *Everyone Counts Report* that provides important analysis to inform National Societies.

# Supporting data literacy

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## 3. Promote knowledge sharing

- ▶ Through webinars, data workshops and forums, FDRS takes every opportunity to share knowledge on its processes and standards with National Societies and staff. **This promotes collaboration and growth for all parties involved.**

# Thank you!

Credit: [FDRS team](#)

# 3 **Strengthening Data Teams and Projects**

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# Table of Contents of the Module

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# Strengthening Data Teams and Projects

Many projects at IFRC have a data component. The purpose of this module is to guide users to think about all the steps in a whole data project rather than their respective field or sector. This module aims to answer the question: How might data teams build and implement a 'Data-Driven Project'? These exercises and tools require a true 'data as a team sport' approach. Facilitators are encouraged to review outputs with a wide-range of expertise from legal to management to ensure that the project is executed adhering to the organisational policies, mandate and principles.

As with any content of a general nature, the guidance (and examples) contained in the module are only intended as a starting point. You should do your own due diligence, involving legal counsel where appropriate, to determine what any specific legal obligations (or other relevant considerations) are in your operating context.

## Questions this module explores

- ▶ How can we map our data projects and data workflow?
- ▶ What are data and technology questions we should be asking?

## Learning Objectives

- ▶ How to test a data project from inception to implementation?
- ▶ Considerations for a holistic approach to a data project
- ▶ How can teams test a data project and do a risk analysis?

## Module Topics

- ▶ How to coordinate a data team and project?
- ▶ How to test a project for risks and gaps?
- ▶ Taking a whole plan approach to a successful data project

## Recipes

### A suggested step-by-step process to achieve learning objectives

- 1 Use **Place Data-Driven Project Items in Order (3 - 1)** to engage participants in the complexities of a data-driven project and discuss **The roles to support each step of the workflow (3 - 2)**
- 2 The Data Simulation 'simulates' data workflows for various topics and teams. Use with the **Data Responsibility Scenario (3 - 12)** and two scenarios in (Module 7) **Polio Campaign Monitoring In Syria (simulation) (7 - 17)** and **PMER Data Simulation (7 - 15)**. The next steps for this brief project review session could be used in conjunction with the **Data and Technology (Checklist) (3 - 3)** and **Risk Register Template (3 - 7)**

- 3 For larger data projects, teams may need to do a more extensive review of their plans. One method is: **Running a Datathon and Red Team (3 - 4)**. Teams can prepare highlight inputs in the **Datathon Output Analysis Template (3 - 6)**. Part of a data project includes a **Data Impact Assessments (3 - 11)** They can also prepare an overall presentation for review and next steps with **Datathon Output (3 - 5)**.
- 4 Data Teams and projects can improve by telling the story. This exercise helps bring clarity to the product/service/project and encourages teamwork in a fun way with **Storyboard a simulation (part 1) (3 - 8)** and Data Product Storytelling.
- 5 In a group discussion, ask participants to synthesise what they've learned by compiling a list of data-driven project best practices.

## Ingredients

Pick and choose ingredients to create your own recipe. Do you have an ingredient we're missing? Send an email to [data.literacy@ifrc.org](mailto:data.literacy@ifrc.org)

## Exercises

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### Short, discrete social learning experiences

Put in Order: Data Project Workflow Steps – Participants the complexities from the beginning to end of a data-driven project

What are the roles needed to support a data workflow – Participants map out the ecosystem of roles needed to implement a data-driven project.

## Session Plans

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### Longer social learning experiences

Data Simulation. Participants 'simulate' data project workflows for various topics.

Data Product Storytelling

## Slide Decks

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### Presentations to be used and/or adapted:

**Datathon Output (3 - 5)** - How to share analysis and next steps on data project

**Storyboard a simulation (part 1) (3 - 8)**

**Data Impact Assessments (3 - 11)**

## Checklists/Handouts/Materials

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### For documentation of essential elements of the learning experience

**Data and Technology (Checklist) (3 - 3)** - A worksheet for developing an efficient, legitimate and responsible workflow in software projects.

**Risk Register Template (3 - 7)** (spreadsheet)

**Datathon Output Analysis Template (3 - 6)** (spreadsheet)

**Running a Datathon and Red Team (3 - 4)** (Handout)

**Data Responsibility Scenario (3 - 12)**

## Next Steps

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### Relevant modules in the Data Playbook

**Getting the Data We Need (4)** and **Data Science and Emerging Tech (10)**. And, keep showing the impact of a data culture with **Nurturing a Data Culture (2)**

### Module credit

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Heather Leson, IFRC ESN team, Turkish Red Crescent Society, IFRC V1 Sprint, and Data Playbook Beta contributors

# 3 - 1 Place Data-Driven Project Items in Order

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Every project is different, however there are some standard steps in a data driven workflow. A workflow relates to the processes and methods an Information Manager or Data Officer may use to implement a project from start to finish. By clarifying a workflow, it is easier to identify needed roles, tools and technologies. Some of these terms may be new to users and vary by sector and industry. Be sure to modify and clarify as needed for your project.

- ▶ **People:** 4 to 16 people
- ▶ **Time:** 30 Minutes
- ▶ **Difficulty:** Easy
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers

## Preparation:

Print or Write the following in large text on your collaboration document:

- ▶ Design/Consult
- ▶ Prototype/Test
- ▶ Assess your users
- ▶ Get/Find Data
- ▶ Verify
- ▶ Process, Organise, & Clean Data
- ▶ Analyse Data
- ▶ Present Data
- ▶ Project Close
- ▶ Archive

## Exercise

### Part 1: Introduction (5 minutes)

Share examples of data-informed projects. This exercise is best done with concrete data projects that your organisation and team are familiar with. Or, conversely, this could introduce a new project and begin your team planning.

### Part 2: Explore (15 minutes)

In small groups (ideally pairs), review the data project steps. Be sure to have a separate document for each team. Take notes on any insights or questions on a shared document. Ask your participants the data steps in order. As they put things in order, be sure to ask people why it goes there. Or, ask them to take notes about why they made that decision. Participants will likely figure out that some bits are linear and the others are cyclical.

What is linear is the pipeline:

- ▶ Ask a question
- ▶ Get/Find Data
- ▶ Process (organise/clean) Data
- ▶ Analyse Data



- ▶ Present Data
- ▶ Project Close
- ▶ Archive

While these pieces are more cyclical:

- ▶ Design/Consult
  - ▶ Prototype/Test
  - ▶ Assess your users
- 

### Part 3: Discuss (10 minutes)

In plenary, ask people to share their decisions and questions. Discuss the nature of data projects and consider how teams may need to repeat many of the steps and learn during each iteration.

#### Credit

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This was adapted from Responsible Data Forum's Data in the Project Lifecycle and Fabriders' A Data Strategy Workshop Curriculum.

Also see, [Infusing ethics into data projects](#)

## 3 - 2 The roles to support each step of the workflow

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**This exercise will demystify what it takes to undertake a data-driven project. This can be run as part of a data simulation, with scenarios provided, or with a team or group that is about to undertake a data related project.**

- ▶ **People:** 2 to 12 people
- ▶ **Time:** 30 Minutes
- ▶ **Difficulty:** Medium
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers

## Exercise

Write each step of the data-driven workflow on individual post-it notes and place them sequentially in a row on the wall. Now ask participants to identify the roles needed for each step.

## An example of what your collaboration space might look like:

Design	Prototype	Find	Get	Verify	Clean	analyse	Present	Project Close	Archive
Project lead	Project lead		Trainers			M & E	Comms officers		IT
Legal			Volunteers				Project analysts/officers		Audit
IT			Local community						
Managers/senior managers									

### Credit

Dirk Slater, Heather Leson

# 3 - 3 Data and Technology

## (Checklist)

Processing data in a responsible way is a core activity throughout the RCRC Movement. This basic worksheet on technology and data processing in software projects will help you develop an efficient and legitimate data workflow. It is for people supporting data-driven projects but also provides insights to those that want to better understand what it takes. This list should be completed as a team and result in a shared understanding of any outstanding questions or next steps for a project.

### RESPONSIBLE DATA IS:

The duty to ensure people's rights to consent, privacy, security and ownership around the information processes of collection, analysis, storage, presentation and reuse of data, while respecting the values of transparency and openness.

[Responsible Data Forum, working definition, September 2014](#)

## Instructions

Fill out as best you can in the amount of time you have. Please continue to answer all the questions until you feel you can assure 'privacy by design'. Note that items with an asterisk (\*) have further details in the 'Things to Consider' section at the end. You will need to engage many different stakeholders to answer these questions and you may want to identify a team with different roles to work on the checklist. Please add more questions that might be relevant for your team and context.

## The checklist

### Project Management

Item	Question	Notes
1.	What is the total cost of the project? This should include software development, training, and other costs connected to the project's lifecycle.	
2.	Will a risk assessment (IT security and/or data protection and/or reputational) be conducted as part of the Project Management review?	
3.	Which stakeholders need to be consulted for signoff?	
4.	Who are the main stakeholders for this project? Who will use the technology, who will be affected by the technology?	

Item	Question	Notes
5.	Within the organisation, what is the process to follow? Who do we need to go to first?	

## General Technical Management

Item	Question/ Comment	Notes
6.*	Must certain software be licenced? What type of licence?	
6.a	If the software is proprietary, will IFRC and/or NS have the right to request customization and/or regular maintenance?	
6.b	Will there be a service contract for this? What does it cover: updates, security, new features, etc?	
7.	Who is supervising the use of the software?	
8.	Who owns the source code for the software?	
9.	Who maintains the software?	
10	How will the hardware be maintained?	
11	Are there data and software backups? Is the system redundant?	

Item	Question/ Comment	Notes
12*	Will cloud hosting be used?	
12. a	Does the service meet the requirements identified in the risk assessment?	
12. b	What is the legal jurisdiction for the server? May data be transferred to other jurisdictions and do we have a chance to object to such transfers? Must consider if there are data protection laws require the data to stay in one jurisdiction.	
12. c	How does backup copying/mirroring work?	
12. d	When is data held by the service provider deleted?	
12. e	Is access management in accordance with statutory requirements and the service provider's own internal control systems?	
12.f	How does the service provider ensure that personal data from one data controller is not mixed with those of another?	
12.g	Can the service provider use the enterprise's data for its own purposes?	

Item	Question/ Comment	Notes
12.h	<p>What protections are in place to ensure the integrity of the data, and protect it from breach (including unauthorized deletion, alteration and access)? What is the plan if data is temporarily or permanently unavailable (lost)?</p> <p>And, how and when will breaches be reported?</p>	
12.i	<p>Can you regulate the service provider's use of subcontractors, and that the enterprise has an overview of and control over such subcontractors.</p>	
12.j	<p>Is the use of cloud computing services audited on a regular basis? In other words, you yourself or an independent third party must perform a security audit to ensure that the data processor agreement is being complied with.</p>	
12.k	<p>If the agreement states that a third party is to perform the audits – will you be provided with the final audit report?</p>	
12. l	<p>Can the data be transferred to a new service provider if this is deemed desirable?</p>	
12. m	<p>Is the solution adequately documented, so that public authorities can perform an audit?</p>	
13.	<p>Have provisions for security and encryption been made? At each stage? Communication, at rest, in transit, etc.</p>	

Item	Question/ Comment	Notes
13.a	Who holds the encryption keys?	

"Selecting enterprise software requires balancing a lot of considerations: software features, viability and support model of the vendor, total cost of ownership, capabilities in your company and your business strategy and growth expectations. Success takes investment. You will pay for your software whether you use open-source or commercial applications."

Source: [Dave Hillis, 'The new world order for open source and commercial software', Techcrunch+](#)

## Data Management

Item	Questions	Notes
14.	Who are the controllers of the data? (the party responsible for determining the why and how of data processing).	
14.a	What "processing of data" is envisioned?	
14.b	Who will be the "processor of the data"?	
14.c	What contract, terms of service, or other agreement relates to the processing of the data? Has it been reviewed by your legal department?	
15	How have you determined your security measures/mitigation?	
15.a	How will "The right to privacy- and family life" be respected while processing data?	

Item	Questions	Notes
15.b	What are the legal jurisdictions for the data management: storage, use and sharing of the data?	
16	If there are data back-ups, who is accountable to keep these up to date?	
16.a	Are the backups in the same or different legal jurisdiction?	
16.b	How many copies of the data will be kept and where? (cloud server? remote server? local server?)	
17	Will the data workflow/ system keep an audit trail and if yes to what level of detail? (who accessed it, when, where and what did the user do)	
18	What is the data workflow process?	
19*	Is it secure and does it include data minimization whenever feasible? Data minimization is the practice of collecting and keeping only the data you need.	
19.a	What are the responsible data risks and mitigation steps during each step of the data workflow?	
20	What are the guidelines for protection of the data?	
20.a	What are the training and accountability needs?	

## Data Sharing

Item	Questions	Notes
21	Who is the data controller, and are there restrictions on the use or sharing of data (for instance intellectual property issues: copyright, etc)?	
21.a	Who has access to the data?	
21.b	Is it possible to open the data?	
22	Who can share the data?	
22.a	Is there an agreement with the party that data is to be shared with? Reviewed by your legal department?	
22.b	Is there a record of data sharing in the system and/or for the organisation?	
23	What capabilities for import, export and exchange of data are required? And in which format?	

## Things to consider

### On item 6:

It is helpful to review [open source licensing](#). Keep in mind that if a university is in charge of the system, they often have a department and a regular student pipeline of people who can upgrade and maintain the system. Note that they would need to abide by the strict guidelines and not have access to the data. Use a processing agreement with strict regulation on confidentiality and privacy. And/or there would need to be a sign off process.

### On item 12:

As per the [ICRC Data Protection Handbook \(2nd Edition\)](#), cloud services can include risks such as the following in the context of Humanitarian Action:

- ▶ The use of services from unprotected locations;
- ▶ Interception of sensitive information;
- ▶ Weak authentication;
- ▶ Data can be stolen from the cloud service provider, such as by hackers; and
- ▶ Possible access by government and law enforcement authorities

If you use cloud service remember there are three different models:

- 1 Public cloud, where the vendor makes cloud computing services available to all customers.
- 2 Private cloud, where cloud computing services are made available only to those businesses to which they apply. This arrangement enables a greater level of customisation than is possible in the public cloud model.
- 3 Hybrid cloud, which can be a combination of the models described above.

If use of cloud remember:

- ▶ To sign a data processing agreement
- ▶ Emphasise the principle of Confidentiality
- ▶ Ask for routine reporting of those who have access to the cloud
- ▶ Identify all the enterprise's systems containing personal data. Then grade the sensitivity of the data (depending on your internal policies, it might look like this: public, restricted, internal, confidential, highly confidential, with categories for personal and sensitive personal data).
- ▶ Evaluate risks (what could go wrong).
- ▶ Assess the consequences if anything were to go wrong, e.g. that personal data falls into the wrong hands.
- ▶ Create a list of security measures that have been implemented to deal with any incidents.
- ▶ Assess the security measures in the agreement with the cloud computing service provider.

## Item 20

Other common denominators that will impact your workflow:

- ▶ The principle of confidentiality
- ▶ Consent
- ▶ Data controller: a person who (either alone or jointly with other persons) determines the purposes for which and the manner in which (means) any personal data are, or are to be, processed
- ▶ Personal data and sensitive personal data (recall that what data is sensitive is context dependent)
- ▶ Processing (any operation on data: collection, storage, deletion, transfer, etc).
- ▶ Red Cross/Red Crescent National Societies are an auxiliary to the public authorities

### Resources

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See the [IFRC Data Protection Policy](#)

### Credit

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Teams that contributed to this checklist are: IFRC Information Management, Health, Legal (IFRC and Norwegian Red Cross), Security, PMER, IT. Updated by Heather Leson and James de France (2021)

## 3 - 4 Running a Datathon and Red Team

### What is a #datathon?

A Datathon is a data related sprint where you are challenged to work on a real-world business case. This method could be used for large and small projects, especially as the templates and exercises have a special focus on designing with data protection and responsible data use. One workshop used this team methodology to assess a project's use of data leveraging different technological areas such as machine learning, AI, and data science. For this specific exercise example, the IFRC conducted a datathon in order to support and improve the data analysis processes and outcomes in support to a data project. The participants will have to come up with solutions and opportunities for data collection and analysis processes within the programme based on the provided datasets.

## What is a Red Team?

Red Teaming is a full-scope, multi-layered simulation designed to measure how well an organisation's people and networks, applications and physical security controls can be exposed to potential vulnerabilities.

A thorough red team test will expose vulnerabilities and risks regarding:

- ▶ Technology — Networks, applications, routers, switches, appliances, etc.
- ▶ People — Staff, independent contractors, departments, business partners, etc.
- ▶ Physical — Offices, warehouses, substations, data centres, buildings, etc.

For this specific exercise, the IFRC will conduct a red team test to understand the potential vulnerabilities and risks regarding: The project data workflow and processes for the IFRC's accountability to donors and to communities we serve.

## Objectives and expected results

The IFRC through this red team exercise and datathon aims in achieving the following objectives:

- ▶ Understand and document the potential risk and vulnerabilities of the data workflow and processes, including smooth auditing and data protection, to ensure the most appropriate accountability to IFRC's donor requirements as well as to IFRC IT internal compliance.
- ▶ Elaborate data models and scenarios in regards to the improving scenarios for potential change, improvement and modification of the targeting criteria of the project and to understand the impact on the various caseloads. Note: This workshop might require/trigger some thinking about potential/additional need for investment on IT/IM, might also require thinking of HR to meet specific requirements too.
- ▶ Refining the setting up of automated data flows for the programme and the data connections and scripts for the solution for IFRC;
- ▶ Elaborate, refine and operationalise the existing scripts for data analysis for the Programme, including data forecasts.

The expected result of this 4 days red team exercise and datathon is to operationalise and improve all of the outcomes into the data analysis workflow.

## Methodology and purpose

The IFRC network has an opportunity to learn and support the host National Society. The Datathon and Red Team exercise is both a project review and a team-building exercise.

The National Society leading this project will be the owner of all outcomes and should be fully engaged in the design, delivery and outputs of this workshop. Ownership is key and the network can support the National Society on this journey. The programme will select individuals from the host global Red Cross and Red Crescent IFRC Network, including from within the IFRC Surge Information Management Support (SIMS) network and from IFRC Geneva, that will be invited to join the face-to-face 4 days exercise. The host National Society will guide and include key staff from across their organisation.

This is a unique opportunity for the National Societies in Red Cross and Red Crescent IFRC Network to be exposed to the fast growing expanding network of data and information management experts of the IFRC (SIMS) in order to reinforce the position of the programme and the host National Society as global leaders in the sector.

Through the 4 days event, the teams will obtain details as innovative leaders and will work together through an agile and innovative approach in order to achieve solid results starting with improved analytics that are evidenced based.

This will be an opportunity not only to be at the centre of an innovative approach, but to mutually benefit from a cutting edge approach to learning, networking and team building in order to raise even more the already well established profile of the National Society.

The programmatic and operations teams, including Senior Management, will join the first day along with National Society staff to introduce the programme and explain the problem statement.

The second and third days will be for the red team and datathon exercises. This includes various stages of the data-driven lifecycle and data protection/responsible data reviews. The team should be cross-functional - IT, IM, Risk, Audit, Finance, Training/Learning and Management. The diversity of skills can support the 'data as a team sport' approach to a success workshop and project.

Finally, the fourth day will be a day of reconvening and presentations of outcomes. Participants will be the invited participants and the teams from the programmatic and operations team, including senior management.

## Important notes

- ▶ The participants of this event will be able to access data and information from the National Society in line with the Data Sharing Agreement only. This is primarily a desktop review exercise.
- ▶ The participants of this event will not access at any time personal information biometric data;
- ▶ The participants will help IFRC structuring the data analytics, using IFRC infrastructure and systems only.

This is in line with what IFRC is establishing and maintaining in terms of systems.



No request to access or potential violation of personal information files will ever occur during this event by the participants;

National Society systems and hardware will not be included as part of this event unless with the formal agreement and consent. The participants will be looking at the process flows. The exercises will be tailored to the problem statement needs and potential risks.

### Credit

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IFRC, IFRC ESSN project, Turkish Red Crescent Society, Dan Joseph, Heather Leson, and Guido Pizzini

# 3 - 5 Datathon Output

# Background

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## Red Team Test

The aim of the red team test is to understand the potential vulnerabilities and risks regarding a project's data workflow and processes for the organisation's accountability to the community and donors

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## #Datathon

A Datathon is a data related sprint where you are challenged to work on a real-world business case on the use of data leveraging different technological areas such as machine learning, AI, and data science. For this specific exercise, the IFRC will conduct a datathon in order to support and improve the data analysis processes and outcomes in support of a project. The participants will have to produce solutions and opportunities for data collection and analysis processes within the programme based on the provided datasets.

# Objectives and expected results

The IFRC through this red team exercise and datathon aims in achieving the following objectives:

- ▶ Understand and document the potential risk and vulnerabilities of the data workflow and processes, including smooth auditing and data protection, to ensure the most appropriate accountability to IFRC's requirements as well as to IFRC IT internal compliance.
- ▶ Elaborate data models and scenarios regarding the potential change, improvement and modification of the targeting criteria of the "the project" and to understand the impact on the various caseloads;
- ▶ Refining the setting up of automated data flows for the "the project" and the data connections and scripts for the solution;
- ▶ Elaborate, refine and operationalize the existing scripts for data analysis for the "the project" including data forecasts. Note: For some projects, this might require/trigger some thinking about potential/ additional need for investment on IT/Information Management, might also require thinking of HR to meet specific requirements too. The expected result of this 4 days red team exercise and datathon is to **operationalize and improve all the outcomes into the data analysis workflow.**

# Methodology

- ▶ Through this 4 days event, the Project teams will obtain from now ownership and enhance a central role as innovative leaders and will work together through an agile and innovative approach in order to achieve solid results starting with improved project analytics that are evidenced based. The project team could enhance the design and implementation of their programmes.
- ▶ This will be an opportunity not only to be at the center of an innovative approach, but to mutually benefit from a cutting-edge approach to learning, networking and team building in order to raise even more the already well-established profile of the team.
- ▶ The project programmatic and operations teams, including Senior Management, will join the first day along with staff to introduce the programme and explain the problem statement.
- ▶ The second and third days will be for the red team and datathon exercises. It is important to have a wide array of expertise in this project exercise including IT, IM, Risk, Security, Audit, Finance and management as well as staff from IFRC and different types of National Societies.
- ▶ Finally, the fourth day will be a day of reconvening between the invited participants and the team's programmatic and operation stream of the including senior management.

# This template

This template exists to support your group work and presentation.

Feel free to:

- ▶ Remove these info slides
- ▶ Modify it to serve your groups needs and your working styles
- ▶ Use text, visuals, flowcharts, or anything else that helps you convey your message

# Terminology

**Objective** An aim, goal or specific result that a person or system aims to achieve within a time frame and with available resources.

- ▶ **Condition** A circumstance that needs to be fulfilled for an objective to be feasible
- ▶ **Enabler** A person, thing or condition that gives power, authorizes or helps something to happen
- ▶ **Barrier** Any condition that makes it difficult to make progress or to achieve an objective
- ▶ **Risk** A potential event where given action or activity will lead to a loss (e.g. data or digital breach) or compromised data
- ▶ **Mitigator** a strategy to prepare for and lessen the effects of threats

# Datathon Group Type Group – Objectives and Conditions

 Objectives

 Conditions


# Datathon Group Type Group – Enablers and Barriers

 Enablers

 Barriers


# Datathon Group Type Group – Risks and Mitigators

 Risks:

 Mitigators


# Findings – Key Insights

What did I learn from my counterparts? What works well? What needs work?

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# Conclusions

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# Recommendations

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# Thank you!

Credit: IFRC ESSN team and Turkish Red Crescent Society

# 3 - 6 Datathon Output Analysis Template

 [Download Resources](#)

The Datathon Output Analysis template is an editable document for teams to consider various types of risks for a project.

# 3 - 7 Risk Register Template

 [Download Resources](#)

The Risk Register team template is an editable document for teams to consider various types of risks for a project.

# 3 - 8 Storyboard a simulation (part 1)

# Objectives

- ▶ Identify information management responses and the different IM needs for each response.
- ▶ Describe a potential IM deployment.
- ▶ To think about how and when you, in your individual roles, could become engaged in surge IM.

# Storyboard a Simulation

- ▶ Your storyboard should show an activation; from setting up of resources, a deployment, support to this deployment and exit from a response.
- ▶ Each group will receive a terms of reference (ToR), of a Rapid Response IM deployment.

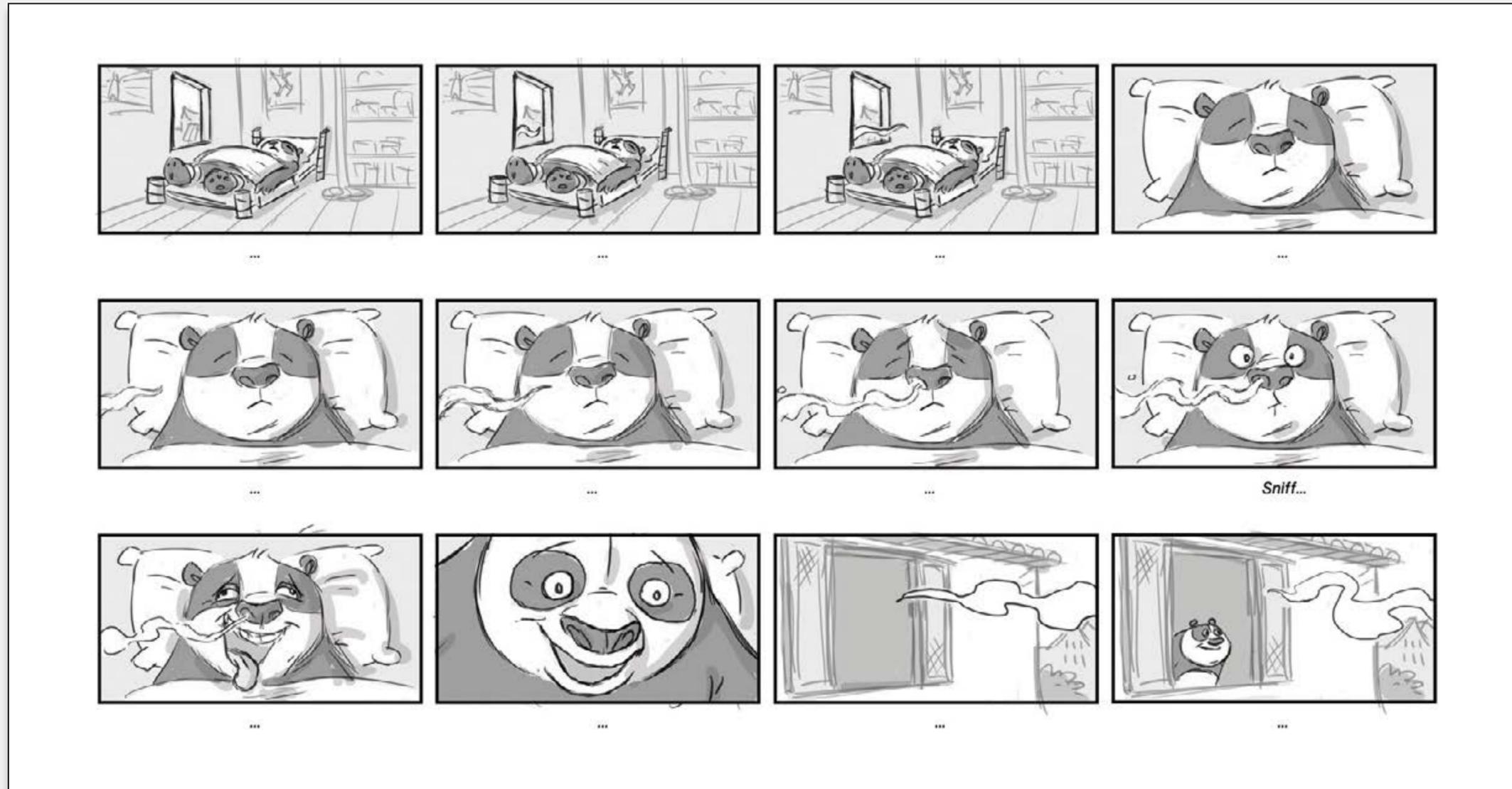
# Storyboard a Simulation

- ▶ This session will introduce:
  - How to work in a team environment
  - How to and be able to delegate work
  - Begin to think about or understand project management
- ▶ Each group will receive a ToR IM deployment.
- ▶ In your groups discuss, and storyboard a deployment:
  - How will you work with a National Society (NS)
  - What products could be created, what IM services could you provide, what could you help with?
  - Think about who you could delegate work to

# Storyboard a Simulation

- ▶ Your storyboard should show an activation; from setting up of resources, a deployment, support to this deployment and exit from a response.
- ▶ This does not have to be perfect!
- ▶ Once complete, we will look at the commonalities and differences between the various group's responses.

# What is a Storyboard?



(i) Source: [Cartoon by Casey Crowe](#)

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## Ideas

- ▶ Think about:
- ▶ What will be the activities that you will conduct
- ▶ How will you work with a National Society (NS)?
- ▶ Will you delegate any work, and who to?
- ▶ What products could be created, what IM services could you provide, what could you help with?
- ▶ Be creative. This is your time to have unrestricted thoughts. What would be the disaster response that you would like to develop?

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## Further resources

- ▶ You will all get a copy of the activity.
- ▶ [DIYtoolkit](#), (printable tools for you to run your own storyboard activity).

(i) Credit: Paul Knight

## 3 - 9 Storyboard a simulation (part 2)

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**This exercise will help participants visualise an ideal sequence of scenarios using pictures, words and a presentation. Storyboarding is a great exercise at the beginning of a workshop for participants to start thinking freely and critically about processes and actions over time, without being hindered by previous experiences. As part of a longer workshop it also allows facilitators to refer to ideas generated at an early stage that participants have thought about. Skills gained during the exercise include: teamwork and understanding working with other National Societies; delegation of work; project management.**

- ▶ **People:** 4 to 30 people
- ▶ **Time:** 45 Minutes to 2 hours
- ▶ **Difficulty:** Easy to Hard (This depends on the scenario and topics selected)
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers

## Exercise

### Preparation:

Facilitators will need to have predefined scenarios relevant to the sector. These should be linked to a disaster response operation and have at least one question that a delegate should be asked to solve. Example Information Management (IM) scenarios are at the end of this recipe. The deployment Terms of Reference can also be handed out to participants, if available.

Storyboards should show the activation process; from setting up of resources, a deployment, support required during a deployment, the delegate's action to answer a question asked of them and processes and tools used, and their exit from a response.

## Part 1: Introduction to Storyboarding (20 minutes)

Use the slides from **Storyboard a simulation (part 1) (3 - 8)**.

## Part 2: Explore (30 minutes)

Divide participants into groups, the minimum group size should be 2. The best size groups are between 3 to 6 participants.

Facilitators ask participants to imagine creating a movie based on the scenario that they have been provided (with the sector specialism). Before it is made into a movie, they will need to create a storyboard and present this to the "producers" (facilitators). The groups will have to discuss the scenario to come up with a movie (an ideal deployment), and storyboard with pictures and text on flipchart paper.

- ▶ Participants may be unfamiliar with storyboarding. Keep in mind your participant profiles and take time to explain the history and process of storyboarding as needed.

- ▶ Facilitators should note some participants might be worried about storyboarding as they may not be the best artist. Positives about this exercise is that it caters for a wide range of participants skills, whether that be artists, story creation, discussing experiences or presenting. This exercise is meant to be fun, so if participants can only draw stick-men then that is fine.
- ▶ Participants should spend 20-30 minutes to discuss their story in groups and a further 20-30 minutes to then draw out their storyboard. Once time is called, groups will present back to the wider group and “producers”. The “producers” (facilitators) will ask why participants chose certain people to be in their storyboard, any key processes during their scenario and if any tools were used based on the question asked of the delegate in the movie.

## Example scenarios (Information Management)

### Flooding: Bangladesh

You’ve been working with Bangladesh Red Crescent Society to streamline reporting information flows from the branch offices as there have been some discrepancies in distribution information. This information is needed to identify the geographic scope at which the response is occurring. However, your counterpart within the national society has just informed you that he is to be on a plane first thing in the morning to a different part of the country as part of an unrelated response.

### Earthquake: Ecuador

“Can you speak with a PMER delegate based in the field, and between the two of you reconcile existing data of relief distributions and come up with a process whereby distributions are recorded in one place from three parts of the country where operations are taking place. Internet connectivity is generally poor and is virtually non-existent in one of the operational areas.” - Head of Operations.

### Cholera: Somalia

“I have set up mobile data collection for the many mobile clinics and health facilities that we are supporting to monitor cholera and nutrition, but the problem now is how to analyse the quantity of data generated daily. We only want to see any spikes in cases. Also, the National Society is setting up ORPs (Oral Rehydration Points) and we will need to see if there were any deaths, so we can follow up with them. Can I also get some help for case tracking, I am not that great with Excel and am just creating a table of cases each week, can you help make it easier for me?” Delegate.

### Population Movement

“The National Societies that are affected by the population movement have different indicators and pieces of information. We need some assistance in creating a single system where National Societies can report and share data. This is to ensure that the neighbouring National Societies understand what each are doing, to best tailor their response to meet the needs of the affected population.” DM Coordinator.

### Hurricane: Dominica

“Can I have help with creating a more streamlined, or automated, data flow for cash? Currently we have many spreadsheets and we manually copy and paste from one to the other. This generates a lot of mistakes between each step.” Cash Delegate

“Can I help creating a post-distribution monitoring (PDM) form? What would be the best way to collect this data and how can I prepare for it?” Delegate

### Ebola: Democratic Republic of Congo

An Ebola Virus Disease outbreak has been confirmed in Democratic Republic of Congo. You have just been deployed to the affected region. Due to visa delays, the National Society has begun completing Safe and Dignified Burials (SDBs). There is no system for recording any SDB activities, or alerts of unsafe burials with data and information being reported as SMS messages, paper, phone calls and whatsapp messages. This is due to lack of mobile signal in areas of the affected region. Can you help compile all the data and set up a system to record future SDBs? You have started to put the data that you have from all the sources into Excel, but it is taking a lot of your time, can anyone help you?

## Part 3: Share and Discuss (15 minutes)

Using your collaboration methods, have participants share their storyboards. Ask for reflections, insights and questions.



### Credits

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Paul Knight - British Red Cross, Ashley Schmeltzer - American Red Cross; D.Gray, S.Brown, J.Macanuo - [Gamestorming: A Playbook for Innovators, Rulebreakers, and Changemakers](#); Walt Disney Studios

# 3 - 10 Data Simulation

Simulations are a big part of preparation for emergency and humanitarian work. There are exercises and training to help people prepare for logistics. The purpose of this session is to apply this methodology to ‘simulate’ data workflows for various topics. The inspiration for this session design came from the work done with the IFRC Health group on problem-solving data protection and data sharing issues. We are preparing two workshop examples: one workshop focused on data sharing and one workshop focused on data protection. This session is designed to “learn by doing” methods rather than providing a textbook or slide presentation. It assumes that peer-to-peer learning can provide a unique forum to ‘negotiate change.’ It provides participants a means to consider how to train and involve people in the conversation to be ‘advocates’ for data protection and/or data sharing. See the specific scenario examples below for the goals and critical workshop steps. Teams will have many questions and discussions about the gaps/needs, and definitions. The goal of the data simulation is to seek a common understanding and make a plan to address any gaps.

- ▶ **People:** 4 to 12 people
- ▶ **Time:** 60 Minutes
- ▶ **Difficulty:** Medium
- ▶ **Materials:** Need large cards/sticky notes by colour for:
  - Roles – Green
  - Pipeline – Orange
  - Actions (sharing/protection) – Yellow
  - Roadblocks – Pink
  - Other Colours
  - Painter’s tape (to ensure items stick to the wall)
  - Flipcharts
  - Markers
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers, Painter’s tape (to stick items to the wall)

## Preparation

- ▶ Create chart with the following headings:
  - Roles – Green
  - Pipeline – Orange
  - Actions (sharing/protection) – Yellow
  - Roadblocks – Pink
  - Other Colours
- ▶ Decide on a scenario that best depicts data sharing or data protection issues (pending on the workshop topic)
- ▶ Have the scenario printed out on paper or visually on a slide.
  - Alternatively, ask participants to ‘create’ a real-world example.
- ▶ Ask participants to consider all the actions, questions and risks/opportunities to achieve a project that has data protection or data sharing goals.
  - Data Sharing Workshop - the primary goal is to ‘simulate’ all the barriers, risks and needs to share data.
  - Data Protection Workshop - the primary goal is to ‘simulate’ all the hurdles, questions, and issues to address to make a project adhere to data protection guidelines.
- ▶ Make a diagram on a whiteboard or use a wall (potentially with paper tacked to the wall). The colours are the ‘sticky notes’
- ▶ The ‘grid’ is to have all moving parts, rather than a rigid box table format. The table can be ‘ad-hoc’, but with clear columns to start. Sticky notes allow the

users to move around the parts, add new items, and consider the stakeholders and transactions to make a data flow simulate data sharing or data protection.

- ▶ Displayed at the bottom of the chart are roles and tasks that need to be part of the whole cycle.
- ▶ Coding the chart:
  - Orange - Data Pipeline items (note that the 'pipeline' includes revisions based on IFRC needs. See [School of Data](#))
  - Green - Key roles involved in a project or data flow
  - Yellow - Data Sharing questions/ Data Protection concerns/ Key actions/needs
  - Pink - Big risks, needs, gaps
  - Other colours or dots - used to identify priority items for a particular scenario.
- ▶ Have a 'parking lot' area to cite outstanding critical questions.
- ▶ Ask people to prioritise questions to be addressed.
- ▶ In the last 15 minutes, ask people to debrief- what were the common themes, lessons for 'data sharing' or 'data protection.' Ask them how they would address these issues. For example, what do they think the opportunities/ barriers are for successful data protection projects and data sharing projects.

### An example of what your space might look like:

Design	Prototype	Find	Get	Verify	Clean	Analyse	Present	Project Close	Archive
Project lead	Project lead		Trainers			M & E	Comms officers		IT
Legal			Volunteers				Project analysts/ officers		Audit
IT			Local community						
Managers/ senior managers									

## Scenario Planning: Data Protection

Data Protection is part of every humanitarian data-driven project. The goal of this session is to drive up conversations about data protection issues that arise when working with a particular data set and/or project scenario. Time flows very fast in 'exercise mode'. This session design is a minimum one-hour timeslot.

The 'data simulation' focus is to drive conversation around delivering a data-driven project scenario.

Get people talking about real-world data protection issues. The method uses scenarios as examples: either real-world or illustrative. The interactive component provides the means to visualise the steps and actions to 'simulate' decision-making.

It also aims to drive a conversation around the 'implementation steps' and 'requirements' to protect data.

### Example Scenario 1: Call Detail Records

During the Ebola response, some telephone companies provided humanitarian data scientists with Call Data Records. This 'metadata' was to be used to help humanitarians obtain population movements. Mobility during an epidemic could potentially cause further spreading of the disease. What are some of the data protection issues that we need to consider.

Source: Sean McDonald, '[Ebola: A Big Data Disaster](#)', CIS India, 1 March 2016

[About CDRs](#)

## Scenario Planning: Data Sharing

Sharing data within an organisation or with other humanitarian actors can help reduce duplication and provide insights to support response. There are as many reasons not to share data as there are to share data. With the growth of the [Humanitarian Data Exchange](#) and the increasing pressure to share data, how can we work through the various steps and attributes of sharing data? The [Innersource methodology](#) provides some tactics for getting to 'open' and 'sharing'.

Time flows very fast in 'exercise mode'. This session design is a minimum one-hour timeslot.

- ▶ Get people talking about real-world data sharing issues. The method uses scenarios as examples: either real-world or illustrative. The interactive component provides the means to visualise the steps and actions to 'simulate' decision-making.

- ▶ OR/ Drive a conversation around the 'implementation steps' and 'requirements' to share data.

The session should start with the group defining a typical list of data types that might be shared. Also, they should make a list of what kinds of data should not be shared. This provides a way to ensure that people have a shared journey as they walk through the scenarios. Edit the list as the session continues.

## Example Scenario 1: Branch Data

You are given a dataset which has a portion of the Red Cross/Red Crescent branches. It was collaboratively created over time and has no 'owner'. The dataset includes country, city, longitude/latitude, admin code level 1, branch name, a point of contact, email address, and phone number. Not all the fields are complete. What type of data would you share or not share? How would you use this dataset? What are the benefits of sharing this data?

# Sharing Data: Basic Considerations

The following is a basic checklist for sharing data. What other questions would assist the decision-maker

- ▶ Consent
- ▶ Aggregated? Disaggregated?
- ▶ License/ Format
- ▶ Risk Assessment?
- ▶ Minimization (Only what you need)
- ▶ Owner/ Data Controller
- ▶ Community Feedback Loop: How Data Was Used

### Key Questions

- ▶ Who needs the data? What is their role? What is the purpose of sharing?
- ▶ Who owns or has access to the data? Is it possible to open the data?
- ▶ Who can share the data?
- ▶ Is there a record of data sharing in the system and/or for the organisation?
- ▶ Is there a terms of service agreement with the party that the data was shared with?
- ▶ Is there a terms of service and license for the data?
- ▶ What capabilities for import, export and exchange of data are required and in which format?

### Credit

Heather Leson, IFRC IM and PMER teams, and the [Centre for Humanitarian Data](#).

# 3 - 11 Data Impact Assessments

# What are Data Impact Assessments?

Using data responsibly (and in compliance with law and/or policy) means planning for and assessing the potential risks, issues and challenges that you might encounter when collecting, using, integrating or sharing data. This is called a “Data Impact Assessment.”

**For the purposes of this presentation, we will focus on two kinds of Data Impact Assessments:**

- ▶ Data Protection Impact Assessments (DPIAs)
- ▶ Privacy Impact Assessments (PIAs)

# Definitions

**Privacy impact assessments (PIAs)** aim to identify the potential risk of harm to individuals' right to privacy that might arise out of data use and is intended to play an early role in project design to ensure Privacy by Design (essentially, that the project and systems are designed in such a way to ensure privacy and data security by default).

- ▶ We aim to put people and affected communities at the centre of our planning.
- ▶ We design with data protection at the forefront and use the privacy by design
- ▶ IFRC and National Societies may need to adhere to different privacy guidelines/laws depending on the location.

# Definitions

**Data protection impact assessments (DPIAs)**, on the other hand, typically have a larger scope. The DPIA will not only analyse the impact on privacy and default data security settings, but will also review:

- ▶ How data might be used to harm against individuals, vulnerable groups;
- ▶ The different legal requirements (and jurisdictions) that may apply;
- ▶ Parties' and individuals' respective roles in a project;
- ▶ How to mitigate any risks identified;
- ▶ What information should be provided to data subjects and their communities;
- ▶ The contractual elements of relationships between the parties;
- ▶ The data flows through respective partners and those partners' abilities to ensure data protection; and
- ▶ The ability to properly deal with a data breach.

DPIA may contain many other elements and should be completed by the staff/ departments that are directly involved in the project.

# When to do a Data Impact Assessment?

## **New Project:**

- ▶ Designing a new project that will require data collection, use, integration or sharing - even if no 'personal' data are being collected as there can still be risks in using non-personal data (for instance, a risk to a community based on their ethnicity).

## **New or Revised Data Source:**

- ▶ Using a new data source for the first time can bring new risks/challenges;
- ▶ Integrating two or more different datasets; or

## **New Tool/process:**

- ▶ Using a new digital data collection, processing/analysis, or visualisation tool;
- ▶ If there is a change in operational conditions, consider if it might generate the potential for new risks or harms.

# Components of a Data Protection Impact Assessment

- ▶ **Description:** A brief description of the data collection, use, integration or sharing that is planned and an outline of why the data is being used;
- ▶ **Defined objective:** If you are using personal or sensitive data, keep a record of why it is necessary to this data to achieve your objective and your analysis of any risks related to the use of that data.
- ▶ **Risk matrix:** An assessment of the risk to an individual's or group's privacy; using the example of medical data collection, there might be a risk of individuals' addresses and/or medical information being disclosed accidentally. This could put certain individuals at risk of reputational damage or ostracisation if, say, positive HIV status was also one of the data points collected;

# Components of a Data Protection Impact Assessment (continued)

- ▶ **Mitigation planning:** The measures you can take to address these risks; again using the above example, you might decide to keep names and addresses, and medical needs in separate databases with a separate document that links them using a unique identifier; while also restricting access to the databases to staff who require such access. Further, you might choose to store that data locally vs on a cloud server.
- ▶ **Monitoring:** How you will monitor and review process - who will be responsible for reviewing the assessment and updating it? How often will this take place?; and
- ▶ **Documentation:** What documentation you will produce - for instance the final data impact assessment.

# What should be in a Data Protection Impact Assessment?

The ICRC's [Handbook on Data Protection in Humanitarian Action](#) (2nd Ed) provides a template. The DPIA covers:

## Suggested table of contents for a DPIA:

1. A cover page indicating the document is a DPIA, the data it was produced and who the contact point is;
2. An Executive Summary if the DPIA exceeds 20 pages;
3. An introduction outlining the process undertaken to complete the DPIA;
4. 'Threshold Assessment' detailing why you thought a DPIA was necessary and how detailed it should be;
5. A description of the activity or project that will be assessed under the DPIA;
6. Minimum required information that should be documented regarding information flows (see to the right);
7. A list of the relevant laws, regulations, codes and guidelines that apply and that need to be complied with;
8. A stakeholder analysis identifying who is involved in the DPIA and who might be affected by it;
9. A risk assessment that details how you came to the conclusions that you did about potential risks;
10. A list of organisational issues detailing who will be responsible for data affected by the assessment as it is collected, used, or shared and what their responsibilities will be to protect the data while in their custody;
11. Details on whether you have consulted with any particular individuals, teams or external partners when developing the DPIA; and
12. Recommendations on steps to take to avoid, minimise, transfer or share data protection risks equitably.

## Minimum required information that should be documented regarding data flows:

- The type of data to be collected;
- Whether sensitive information will be collected;
- The purposes for which data will be used;
- How and where the data will be stored and/or backed up;
- Who will have access to personal data;
- Whether personal data will be disclosed;
- Whether sensitive personal data will be disclosed;
- Whether any data will be transferred to other organisations or countries.

# Data impact assessments and external partners

Data collection, analysis, storage, integration, visualisation and other processing functions rely upon numerous organisations working together to deliver services.

**Question:** Which organisations are you partnered with on a data project? What are some considerations?

**Example:**

- ▶ You may use a specialised app to collect data on a tablet, which is then stored somewhere on a cloud server hosted by another private company, and which is then visualised using the proprietary software of yet another company.
- ▶ All these companies are 'third parties' in that they have **no ownership or direct control** of the data you are collecting and using, but might still be using the data in a way that is incompatible with humanitarian purposes and/or may present specific risks to the population you are serving.
- ▶ This is especially true if you are using ordinary software, services or digital technologies that have not been specifically designed for humanitarian use.

# Data impact assessments and external partners – principal questions

When considering which kinds of digital tools to use, you might want to consider some of the following issues and incorporate them into your DPIA or general data impact assessment as necessary:

- ▶ What are the partner's (or third party's) terms of service (do they include metadata)?
- ▶ What metadata are they collecting when processing your data (and for what purpose(s) are they collecting/processing that metadata)?
- ▶ What data security practices does the third party employ?
- ▶ What data will you be sharing with the third party and is it absolutely necessary to achieving your aim to share it with them?
- ▶ Is the third party affiliated with, or required to provide certain data to, a government?
- ▶ If you agreed to the third party's terms of service, how might that impact upon the rights of people represented in the data?
- ▶ Will any personal or sensitive data be shared and if so what can be done to protect individuals' identities within that data?
- ▶ Do you (or a data subject) have a right to complain if data is somehow misused?
- ▶ Do you (or a data subject) have access to redress if data is somehow misused?

# Parties to involve in Data Impact Assessments

## Engage colleagues/Consult across Organisation:

- ▶ Obtain a broad range of expertise related to the project area. This can inform and support implementation of your data impact assessment.
  - Examples may include: health or WASH, IT and information management colleagues, legal officers, Information Managers/Data-focused staff (e.g. data collectors), and project coordinators.

## Discuss methodology/processes with external partners:

- ▶ External partner examples might include Ministries of Health/government departments, other humanitarian or research/academic partners.
  - Consider their data protection practices and how they intend on using the data to help you assess risks and document them. Also consider the political and legal environment (is the legal system stable and are contracts enforceable?)

# Questions for discussion

(i) Credit: Tom Orrell, James De France

# 3 - 12 Data Responsibility Scenario

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How can we have an interactive discussion about data responsibility? This scenario and method provides a means to show a whole project data lifecycle and provide an opportunity to talk about roles and processes. It also provides an opportunity to identify risks and needs. Use this scenario with the **Data Simulation (3 - 10)**, **PMER Data Simulation (7 - 15)** and **Polio Campaign Monitoring In Syria (7 - 17)**.

- ▶ **People:** 2 to 24 people
- ▶ **Time:** 30-60 Minutes
- ▶ **Difficulty:** Medium

## Scenario

You work for an International NGO in Ethiopia that supports Internationally Displaced Persons in the country. You manage the Monitoring and Evaluation Unit and lead a regular survey that collects comprehensive information about IDPs from key informant interviews. You have recently completed round 8 of the survey, and the report has generated a lot of interest. Most partners are concerned with the worsening situation although some are sceptical of the numbers. The government is especially critical of the numbers.

You and your team have 30 minutes to make decisions and tackle the key questions.

## Key Questions

- ▶ What are some of the risks, gaps and? How will you safeguard the data workflows to protect the most vulnerable?
- ▶ What are some of the steps, roles, and decisions in this survey process?
- ▶ What is the minimal data set that can be shared and with who? Why?
- ▶ How was consent acquired, how is the data stored and transmitted?

## Your Decision Points

You have received a request for the data for the last round from the following partners. Should we be sharing the data with this actor? And at what stage of the process would you do so? How will you manage/share the data with outside providers?

- 1 The public information unit at your NGO's headquarters based in Geneva. They want to take a look at the data to see if they could make a compelling graphic from the data to accompany a press release about the worsening situation.
- 2 The Office of the Governor of one of the worst affected regions identified in the latest round of the survey. They say they would like to take action and need the data.
- 3 The office of the UN Resident Coordinator, who would like to use the data, together with data from other sources to build a clearer picture of the broader situation in the country
- 4 The programme officer from the donor funding your NGO
- 5 One of the key informants/community members who took part in the survey and feels your report did not accurately capture the problem in their area

- 6 There is also a process to share data via an open data sharing platform with the potential to increase the impact of the data through exposing the data to a broad audience through the development of a captivating dashboard based on the data. When would you do this and what data would you give them?

### Credit

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Co-created by IFRC and user tested with [Centre for Humanitarian Data](#)

# 4 Getting the Data We Need

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# Getting the Data We Need

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The journey to getting the data you need requires a good start and planning. The purpose of this module is to guide teams or groups to ask the right questions at key moments in that journey. Collecting data yourself might seem easier, but there's lots of pitfalls, particularly if you go down the path of surveying. Identifying an external dataset might contain the data you need, but it was likely collected for a different purpose.

## Questions this module explores

- 1 What are decisions that will get you the data you need?
- 2 What's the right approach to surveying?  
What do you need to know about an external dataset?

## Learning Objectives

By the end of the module, learners will:

- ▶ Understand how to get the data they need and avoid collecting the data they don't
- ▶ Know when they should get the data themselves by collecting it, or go find an external data set.
- ▶ How to use an external data set.
- ▶ Be able to design surveys and analyse their effectiveness.

## Module Topics

- ▶ Planning to get your data
- ▶ Designing an effective survey
- ▶ Identifying and evaluating an external dataset.

## Recipes

### A suggested step-by-step process to achieve learning objectives

- ▶ Start by getting the team or your participants to review **Making decisions to get the data we need (4 - 1)** worksheet.
- ▶ If they've identified surveying as a way to get the data they need, get them to
  - a) **Design a Bad Survey (4 - 2)**
  - b) then compile **Best Practices for Designing Surveys (4 - 3)**
  - c) Design a survey with the **Household Survey Scenario (4 - 7)**
- ▶ If they've identified external dataset as a way to get the data they need, use **Hands-on Review with External Data sets (4 - 4)**
- ▶ Use **Generating a Data Quality Checklist (5 - 5)** as a final step

## Ingredients

Pick and choose ingredients to create your own recipe. Do you have an ingredient we're missing? Send an email to [data.literacy@ifrc.org](mailto:data.literacy@ifrc.org)

## Exercises

### Short, discrete social learning experiences

- ▶ **Making decisions to get the data we need (4 - 1)**
- ▶ **Design a Bad Survey (4 - 2)**
- ▶ **Best Practices for Designing Surveys (4 - 3)**
- ▶ **Hands-on Review with External Data sets (4 - 4)**
- ▶ **Household Survey Scenario (4 - 7)**
- ▶ **Using Spreadsheets Test (4 - 8)**

## Slide Decks

### Presentations to be used and/or adapted:

**Survey basics (4 - 5)**

## Checklists/Handouts/Materials

### For documentation of essential elements of the learning experience

**Counting People - Handout (4 - 6)**

**Mobile Data Collection and Data Protection (4 - 9)**

## Next Steps



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## Relevant modules in the Data Playbook

**Making Data Useful, Useable and Shareable (5)**

### Credit

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Dirk Slater, IFRC V1 Sprint and Data Playbook Beta contributors

# 4 - 1 Making decisions to get the data we need

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**This exercise will help a team understand how to get the data they need. It will work with any group that is working together to make decisions on how to get data.**

- ▶ **People:** 2 to five people
- ▶ **Time:** This exercise could take anywhere from 30 Minutes to three months depending on progress in their data project
- ▶ **Difficulty:** Medium
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers

## Exercise

Keep asking the team these **10 questions** until you get the data you need!

	Questions	No	Yes
1	Do we know the question we want the data to answer?	No, Stop, go get clarity on the question and then resume.	Yes - go to question 2
2	Does the data we need exist somewhere?	No, go to question 3	Yes, go to question 8
3	Do we need to get it from people?	No, go to question 7	Yes, go to question 4
4	Are people happy to fill out a survey?	No, go to question 7	Yes, Are you sure? Have you surveyed them recently? Please ask question 4 again before going to question 5
5	Is there an existing survey that we could use or modify easily?	No, then go to question 5	Yes, Get that survey and ask are we sure we aren't asking too many questions?
6	Do we know how to design a survey?	No, review these exercises on survey design <b>Design a Bad Survey (4 - 2), Survey basics (4 - 5), and Best Practices for Designing Surveys (4 - 3)</b>	Yes, design and conduct the survey and go to question 10
7	What are the other sources for data? Consider satellite imagery, maps, case studies, reports, etc. After you've found it go to question 9.		
8	Is it in a repository like HDX?	No, go to question 7	Yes, the try <b>Hands-on Review with External Data sets (4 - 4)</b> and go to question 9
9	Does the dataset contain all the data we need to answer the question?	No, Are there other databases that might complement & answer the question?	Yes, go to question 10

	Questions	No	Yes
10	<p>Is the data we have gotten adequate and of quality? Does it actually do the job? Also see: Generating a Data Quality Checklist (Module 5)</p> <ul style="list-style-type: none"> <li>◦ Is it Accurate? No, go back to 2 Yes, then go to b</li> <li>◦ Is it complete? No, go back to 2 Yes, then go to c</li> <li>◦ Is it Consistent? No, go back to 2 Yes, then go to d</li> <li>◦ Is it Valid? No, go back to 2 Yes, then go to e</li> <li>◦ Is it Timely? No, go back to 2 Yes, <b>then you got the data you need!</b></li> </ul>		

**Credit**

Dirk Slater, Miki Tsukamoto, Eero Sario and Mununuri Musori

## 4 - 2 Design a Bad Survey

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**This exercise is for any team or group of individuals that might be undertaking surveying as a way to get the data they need.**

- ▶ **People:** 4 to 16 people
- ▶ **Time:** 60 Minutes
- ▶ **Difficulty:** Easy
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers

## Exercise

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### Part 1: Explore (5 minutes)

Start the exercise by breaking the participants up into pairs or groups of three. Instruct them to share with each other their experiences of being surveyed over the last year (or recent time frame). What did they encounter in filling out a survey that they particularly didn't like? Ask them to list the things they didn't like out as 'elements' for their survey design.

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### Part 2: Discuss (15 minutes)

After they have had 15 minutes to discuss and list elements - ask them to exchange and share elements with the other groups.

---

### Part 3: Design (20 minutes)

Instruct them to design a survey that will frustrate and annoy the respondents. They can choose their own elements or use the elements created in the other groups.

**Give them 20 minutes.**

At the end of 20 minutes, they can exchange their survey with other groups - ask them to rate which one they think is the worst survey.

---

### Part 4: Review (5 minutes)

To wrap up the exercise, ask them to review the elements they've identified. Ask: which elements could you improve and use in the next survey you design?

---

### Part 5: Conclude. (5 minutes)

Remind everyone that survey fatigue is a thing and ask: Do we really need a survey? Is there a more effective way to get the data we need?



## Extra Credit

Use with **Best Practices for Designing Surveys (4 - 3)** and **Household Survey Scenario (4 - 7)**

### Credit

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This exercise was adapted from a concept developed by Mor Rubinstein. Contributors: Dirk Slater, Miki Tsukamoto, Eero Sario and Mununuri Musori.

## 4 - 3 Best Practices for Designing Surveys

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**This exercise is for any group or team who are wanting to design surveys to get the data they need.**

- ▶ **People:** 4 to 16 people
- ▶ **Time:** 45 Minutes
- ▶ **Difficulty:** Easy
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In-Person materials:** Flipcharts/noteboards, sticky notes, markers

## Exercise

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### Part 1: Explore (5 minutes)

Break people into pairs or groups of three and get them to reflect on an experience they have recently had being surveyed. Were they good or bad experiences? Did they find the survey beneficial in any way? Was it informative in any way?

---

### Part 2: Review (25 minutes)

After they have completed conversations in their small groups, bring them back to plenary and review the **Survey basics (4 - 5)** Slide Deck.

Then get people to compile best practices, if online - have people enter their responses into a shared document. If in-person, have people write best practices on stickie notes and put them on a wall. Once they have finished compiling best practices, ask them to identify topics and categories that the best practices could be divided into and move accordingly.

---

### Part 3: Discuss (15 minutes)

After people have compiled the best practices, give them a few minutes to read them and then ask: How will you change your approach to survey design after reading what has been compiled?

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### Extra Credit

Design a survey using the **Household Survey Scenario (4 - 7)**

### Credit

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Based on a concept developed by Mor Rubinstein and designed by Dirk Slater

## 4 - 4 Hands-on Review with External Data sets

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This exercise would be for a team who needs to understand if an external data set has the data they need or for training a group of individuals who want to learn about how to identify if an external data set is up to the task. A prerequisite for this exercise might be **Making decisions to get the data we need (4 - 1)** also in this module.

- ▶ **People:** 4 to 16 people
- ▶ **Time:** 45 Minutes
- ▶ **Difficulty:** Intermediate
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In-Person materials:** Flipcharts/noteboards, sticky notes, markers

## Exercise

### Preparation:

If there is low or no access to the internet, facilitators should download a few example datasets for participants to use. There are datasets available on IFRC FDRS, IFRC Go, [HDX](#) (UN OCHA), and other data portals.

### Part 1: Explore (5 minutes)

What is the question we need to answer? Do we really understand the question and who is asking? Why are they asking this question?

### Part 2: Define (25 minutes)

Participants will require internet access for this step. Alternatively, the facilitator can download a few 'example' datasets on key topics such as climate, health, migration and/or crisis and disaster to use.

There are datasets available on IFRC FDRS, IFRC Go, HDX (UN OCHA), and other data portals.

### Part 3: Review (10 minutes)

Explore the dataset and ask the following questions:

- ▶ What was the purpose of this dataset? Is it aligned with our own?
- ▶ In terms of the question – is the dataset:
  - Accurate?
  - Complete?
  - Consistent?
  - Valid?
  - Timely?

If you've responded 'no' to any of the above then ask if there's another dataset that might do it better or be used to compliment this one. Or, do you need to build your own dataset?



## Part 4: Discuss (5 minutes)

Ask the group to reflect on what they need to consider or do before they identify and use an external dataset.

---

### Extra Credit

It might be helpful to use the **Making decisions to get the data we need (4 - 1)** exercise in conjunction with **Making Data Useful, Useable and Shareable (5)**.

### Credit

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Dirk Slater

# 4 - 5 Survey basics

## Survey says...

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### **Tell us about the last survey you participated in.**

- ▶ Was it what you expected?
- ▶ Was your privacy respected?
- ▶ Did you receive the results?
- ▶ What were the next steps? What was the impact?

## Surveys are:

A survey is a method of gathering information from a sample of individuals. Surveys are done to inform planning and decision-making.

There are many types of surveys. For example, a survey can include questionnaires or interviews to measure characteristics and/or attitudes of people. They can include qualitative and quantitative data.

# Planning Considerations

- ▶ Resources and appropriate timelines available to collect, analyse and use the data appropriately.
- ▶ Plan for processing the data
- ▶ Types of tools used to collect the data. Consider accessibility, social distancing, and other factors: online/offline survey?
- ▶ Is the methodology appropriate? Ethical? Data Privacy by Design? Minimization?
- ▶ Is the content appropriate?
- ▶ Are participants engaged in planning?

# Community/Audiences Considerations

- ▶ Audience/Planning outputs defined?
- ▶ Key informants engaged?
- ▶ Testing and Outreach planning?
- ▶ Consent obtained for fair use?
- ▶ Vulnerability assessed/Survey Literacy?
- ▶ Participants have access to response?
- ▶ Saturation/Fatigue/Duplication?
- ▶ Feedback loops for communities included?
- ▶ Is in-person a responsible way?

# Example of a Survey Design Plan (1)

Survey Timeframe			
Survey Management Team (SMT):			
Survey Team:			
Timing	Activity	Responsibility	Deliverable
1 week	<ul style="list-style-type: none"> <li>Appoint a survey management team</li> <li>Confirm budget available for survey.</li> <li>Review and finalize TOR</li> <li>Create dropbox for sharing background documents with survey team.</li> <li>Prepare draft timeline for survey process.</li> </ul>		Survey management team selected Approved budget available for survey ToR finalized and approved Dropbox created Draft Timeline
2 weeks	<ul style="list-style-type: none"> <li>Advertise ToR on several listser/s (ALNAP, XCeval, MandE) to solicit applications for the survey team positions.</li> </ul>		Advertised ToR
1 week	<ul style="list-style-type: none"> <li>Shortlist/interview candidates and contracting of survey team</li> </ul>		Survey team selected and hired
1 week	<ul style="list-style-type: none"> <li>Survey consultants prepare inception report: include the proposed methodologies, data collection and reporting plans with draft data collection tools such as interview guides, the allocation of roles and responsibilities within the team, a timeframe with firm dates for deliverables, and the travel and logistical arrangements for the team.</li> </ul>		Inception report

# Example of a Survey Design Plan (2)

1 week	<ul style="list-style-type: none"> <li>Data collection</li> </ul>		Data collected via method most appropriate for field context Data monitoring and cleaning
2 weeks	<ul style="list-style-type: none"> <li>Analysis and draft report</li> </ul>		Draft report
1 week	<ul style="list-style-type: none"> <li>Debriefing with relevant stakeholders to check accuracy of data and gather further feedback from participants</li> </ul>		Input from relevant stakeholders
1 week	<ul style="list-style-type: none"> <li>Relevant stakeholders review draft report</li> </ul>		Any feedback sent on draft report
1 week	<ul style="list-style-type: none"> <li>Survey consultants incorporate comments and prepare final report <i>(this marks the end of the work for the survey team)</i></li> </ul>		Final report
1 week	<ul style="list-style-type: none"> <li>Final report is approved by relevant Management. If an IFRC secretariat-supported survey, it should be published on the IFRC Evaluation database. Go to: <a href="http://www.ifrc.org/en/publications-and-reports/evaluations/">http://www.ifrc.org/en/publications-and-reports/evaluations/</a></li> </ul>		Approved final report and payment of survey consultants

# Data Protection, Ethics, and Privacy by Design

- ▶ Rights of participants
- ▶ Protection from harm
- ▶ Collaborating with respondents
- ▶ Interviews guided by ethical responsibilities

# Engaging Participants

Community engagement should be inclusive. Organisations are accountable and transparent.

## Context

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- ▶ Explain the purpose of the survey, length and roles
- ▶ Provide details on the organisation
- ▶ Explain how the information will be used

## Informed Consent

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- ▶ Identify and discuss privacy considerations and risks
- ▶ Obtain informed consent before proceeding
- ▶ Participation is voluntary, questions may be optional

# Data Protection

Every project should be built with principles of privacy by design and protection from harm.

- ▶ Plan to collect only the data necessary to deliver the project goals.
- ▶ Curate Aggregated responses. Be aware that smaller samples in some contexts can be 'disaggregated' potentially causing harm.
- ▶ Be clear who has access to the data with clear roles, responsibilities, and procedures.
- ▶ All people engaged in the project are committed to confidentiality of participants and ensuring protection from harm.

# Be Ethical

Often people designing the survey may not be the interviewers:

- ▶ Plan for privacy and safety of the participant (respondents)
- ▶ Plan for the safety of the interviewers
- ▶ Train the interviewers on the best practices

Data managers may not be the same people who designed or conducted the survey:

- ▶ Instill privacy by design and responsible data use into all the information workflows.
- ▶ Provide context to inform the analysis and outputs.

(i) Note: especially during a pandemic, part of ethics is the decision if it is responsible to conduct the survey in-person.

# Thank you

Credit: Dirk Slater, Mununori Musori, Heather Leson, and Olaf Steenbergen

# 4 - 6 Counting People - Handout

## Summary

IFRC's data teams use best practices for counting people. From the recent COVID-19 response reporting to operational data to regular [Federation-wide Databank and Reporting System \(FDRS\)](#), it is a priority to standardize and adhere to best practices around counting people. This is essential for all reports and data analysis conducted by the FDRS-team and all others using FDRS-data. We have an IFRC document: "Technical Note: Counting People Reached". The following is an excerpt checklist. For more details, please see the [FDRS website](#) for further insights.

One of the main indicators for humanitarian action is “how many people were reached?” IFRC and National Societies report this annually for all our programs and activities.

## How can we count people reached?

This checklist handout will help participants consider how to incorporate best practices. Please fill this out based on the details you might have. Answer all the questions with a ‘privacy by design’ viewpoint.

## Things to consider

- ▶ Counting people reached is one type of measurement at IFRC. We use both quantitative and qualitative data to inform our work. This document pertains to improving quantitative data.
- ▶ This is a complex topic, but the excerpt should help inform how we might achieve data quality with a data standard framework.
- ▶ The Counting People Technical Note is used by the Monitoring & Evaluation practitioners at IFRC. To obtain this you can download a copy through the [Federation-wide Databank and Reporting System](#).

# Checklist

## Organisational Considerations for counting people reached

Item	Overall considerations at the National Society level for counting and reporting on people reached include:	Notes
1	Determine the overall purpose and scope of the people-reached reporting - at the project, program, country, regional or global level?	
2	At a minimum, ensure that counting and reporting on "people reached" meets the minimum National Society reporting requirements for FDRS.	
3	Establish data management systems that support systematic and reliable data collection and management that is responsible and realistic to the organisation. There is an increasing assortment of software solutions to support information management, from mobile data collection on handheld devices, ( e.g. ODK, Magpi/RAMP, KoBoToolbox) to organisation-wide, online management systems. At a minimum, Excel spreadsheets can be used.	
4	Promote understanding and commitment at all levels of data collection and management to support and sustain systematic and reliable counting of people reached. Tailor capacity and incentive building accordingly; in addition to sharing this technical note, consider learning opportunities ranging from in-person and online training to mentoring and direct technical assistance. Refer to the IFRC FDRS website and Regional PMER technical advisors for further guidance and resources. Incentive building also includes sharing and reporting back data to stakeholders to build understanding and an appreciation of its use.	

## Reporting on Multiple Projects/Programmes

Item	Key considerations for aggregating counts on people reached by multiple projects and programmes include:	Notes
5	Promote the use of systematic data entry forms/formats in the field that count people reached by service type, provider, delivery point and timeframe. This will support aggregating data at higher levels for reporting.	
6	Map the service delivery landscape, whether a city or whole country, to help identify and avoid potential double-counting. This typically involves a review of the project/program plans (frameworks) and consulting with managers to identify when certain target populations, services, or providers may overlap in time and place.	
7	Monitor data quality. Do not wait until preparing an annual report to discover that certain projects or programs did not count people reached properly, but be proactive and conduct field monitoring checks on data quality. Typically, such exercises will vary according to program area, and include quality assurance of processes that encompass more than people reached counts. Checklists Relating to Quality of Monitoring Information is a useful resource, but ultimately data quality monitoring will need to be tailored according to organisation and programme Area.	

## Counting and reporting at the project/programme level

Item	Key considerations for counting and reporting on people reached by a single project or programme include:	Notes
8.	Follow any specific reporting requirements and formats for people reached counts (i.e. see Box 2, above, on minimum reporting standards for people reached per the FDRS).	

Item	Key considerations for counting and reporting on people reached by a single project or programme include:	Notes
9	Counting and reporting of people reached should be planned as part of a coherent system to meet other project/program reporting needs. People reached is just one of an assortment of monitoring data needed for management decision-making and accountability. See the IFRC Project/Programme M&E Guide, Section 2.4 (p. 57) on information reporting and utilization.	
10	Use data entry forms/formats that support systematic recording and aggregation of people reached counts by service type, provider, delivery point and timeframe. This will also help identify and avoid double counting.	
11	Ensure human, material and financial resources are adequate and realistic for people reached reporting.	
12	Know in advance how people reached counts will be analysed and used and adapt data collection forms accordingly – for instance, vulnerability and capacity assessments (VCAs), baseline studies, emergency plans of action, the FDRS, etc.	
13	Ensure that data collection should be culturally appropriate, with attention to data collection teams that are representative of the population, linguistically competent, gender-balanced, and aware of cultural norms and taboos.	
14	Ensure people collecting and managing data are trained and prepared with competencies for data ethics, standards and 'do no harm' principles, such as informed consent, data accuracy, privacy and security.	
15	Identify and plan for collection of people reached data according to service type, with particular attention to direct and indirect counts accordingly – for instance, vulnerability and capacity assessments (VCAs), baseline studies, emergency plans of action, the FDRS, etc.	

## Direct counts of people reached

Item	Direct Counts of people reached	Notes
16	When necessary, use a tracking system to uniquely identify each individual receiving a service so that at the end of the reporting period there are accurate lists of people reached (by name and/or ID number).	
17	When possible, disaggregate people reached counts by sex, age, disability and any other relevant sociodemographic characteristics to inform analysis for effective service delivery.	
18	Determine whether using the average household size is necessary and advisable for counting people reached, with special consideration to inherent limitations in accuracy and disaggregated people reached data. If counting individuals in some instances AND households in other instances, be sure the counting does NOT overlap the different counting strategies.	
19	Determine whether catchment counts are reliable and accurate for counting people reached. Catchment counts can be used when the target population is likely to receive at least one service during the given time within the service delivery area.	

## Indirect counts of people reached

Item	Indirect counts of people reached	Notes
20	Counting people indirectly reached is inherently limited in accuracy and detail. Therefore...	

Item	Indirect counts of people reached	Notes
21	Carefully determine data sources to estimate indirect recipients with attention to reliability and credibility of counts.	
22	Do not estimate counts of indirect recipients when they receive services from direct recipients, unless there is a structured mechanism to ensure reliability of this process.	
23	Do not estimate counts of indirect recipients when they are indirectly reached by Federation Network messages or learning from another indirect recipient.	
24	Do not extrapolate and estimate counts of a national population as people indirectly reached unless there is substantial justification.	
25	It is sometimes acceptable to use the average household size or catchment populations to help estimate counts of people indirectly reached.	
26	Typically, it is not possible to disaggregate people “indirectly reached” because the service provider is not present to record demographic differences. However, there are exceptions when it may be justifiable to conclude about overall demographic characteristics for certain service recipients.	

# 4 - 7 Household Survey Scenario

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**This exercise should work for any audience that needs to understand survey design coordination.**

- ▶ **People:** 4 to 24 people
- ▶ **Time:** 60 Minutes
- ▶ **Difficulty:** Intermediate
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers

## Exercise

### Part 1: Explore (10 minutes)

Surveys are part of our work to engage with communities. This example “household survey scenario” is an example for a workshop. In your small groups, review the background details and clarify any issues/questions. Participants may need to make some assumptions to do the scenario. Document these and continue.

## Background

- ▶ Jalistan is a country situated near the equator with a population of 11,103,100 people, made up of many ethnic, tribal and linguistic groups.
- ▶ It is ranked 112 out of 177 on the UNDP human development index. However, the status of the constituent indicators (life expectancy, health and income) of the HDI in southern Jalistan are much poorer than the national average. This is due to over 30 years of intermittent internal conflict.
- ▶ The internal conflict has meant there has been little possibility of the government providing basic services in the southern regions of Jalistan. Following a negotiated peace settlement 1 year ago, many people displaced by the conflict are returning to their villages which they left, in some cases many years ago.
- ▶ The government is now fairly stable and quite well-received, as the overall security situation is quite optimistic.
- ▶ While all assessed villages perform badly on all development indicators, the situation in the villages around Akeret is worse, being devoid of most basic services. In some villages there are very few sources of safe water and in all of them, the schools are run down and understaffed.
- ▶ Rainfall is slightly erratic, over the past 20 years there has only been 3 years with seriously low rainfall.

**Project Goal:** Reduce death and illness related to Water and Sanitation related diseases in the targeted communities in Southern Jalistan.

**Implementer:** This project is entirely designed and carried out by the Jalistan Red Crescent Society.

**Duration:** The project runs from 1 January 2022 to 31 December 2023.

**Survey Objectives:** To collect primary data on a number of indicators related to water, sanitation and hygiene in villages located in Southern Jalistan using mobile technology. The survey findings will be used for village selection and for setting up of a monitoring and evaluation framework on water, sanitation and hygiene practices.

**Survey Methodology:** A quantitative household survey of water, sanitation and hygiene knowledge, attitudes and practices will be carried out in 4 villages in Southern Jalistan using mobile technology. The household interviews will be carried out by volunteers from the Jalistan Red Crescent Society. According to the sampling methodology, up to 100 households will need to be surveyed in order to make significant conclusions from the general observations of the targeted communities. Twenty volunteers (20) from the Jalistan Red Crescent Society will be carrying out the survey. These volunteers will be paired and efforts made to maintain a gender balance. It is expected that the training of volunteers and data collection will be done over a six-day period.

## Part 2: Survey Design (20 minutes)

Design survey questions by combining a scenario with an outcome. Note how your questions change as you switch scenarios with an outcome.

### Scenario 1:

This household is composed of 1 man, his wife and his 3 children in Kijereuk.

▶ **Parents:**

- Husband: Age 29
- Wife: Age 23

▶ **Three children:**

- Girl: 6 months.
- Boy: Age 7
- Girl: Age 8

### Scenario 2:

This household is composed of 1 widow and her daughter in Adong.

- ▶ Widow: Age 65
- ▶ Daughter: Age 35

**Goal: Reduce death and illness related to Water and Sanitation related diseases in the targeted communities**

**Outcome 1: Improved access to and use of sustainable sources of safe water in target communities**

**1.1** Community water points constructed or rehabilitated

**1.2** Community management of water points is improved

**Outcome 2: Improved access to and use of sustainable sanitation facilities among targeted communities**

**2.1** Sanitation facilities constructed

**2.2** Sanitation facility use is promoted

**2.3** Community management of sanitation facilities is improved

**Outcome 3: Enhanced practice of safe hygiene and sanitation in the household**

**3.1** Household knowledge increased on safe hygiene & sanitation

**3.2** Household training on safe hygiene and sanitation provided

## Part 3: Discuss (15 minutes)

In plenary, teams should share their survey plans and share any lessons/observations or insights.

## Extra Credit

Survey Basics} Slide Deck

### Credit

IFRC PMER Handbook

# 4 - 8 Using Spreadsheets Test

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 [Download resources](#)

# 4 - 9 Mobile Data Collection and Data Protection

## Summary

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**Data Protection is important for our work. This handout includes overall questions on how these will affect data and information workflows. This is a draft of key recommendations and some basic research. Please edit.**

# Recommendations

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- 1 Review and update Standard Operating Procedures: By writing out the Standard Operating Procedures for ODK, Kobo etc, we will be closer to meeting the new guidelines. A policy is not enough anyway. We also need a proper workflow analysis (gaps, risks etc) to back-up the SIMs needs.
  - Every data set should have a 'version control and handoff procedure' (light weight). This will offset 'reuse of dataset' inquiry.
- 2 Training and Data Protection Guidance: It might be helpful to have a shared training or guidance document for all data and information workflows on data protection, even if we all work in different countries. This will show preparedness. Eg. the UK office gets only aggregated data via excel (email) spreadsheet from x deployment.
  - Also include guidance on de-identification of personal data, using pseudonymisation (masking) or anonymisation (aggregation, conversion, etc) of dataset. Other examples: Still images of an individual or community, video footage of an individual or community, DNA samples of an individual or community, and social security numbers.

Risks	Priority rating/Mitigation	Background link(s)	notes
Identify clear data governance: who is responsible for collecting, storing, processing and releasing personal data in the organisation?			
Tech setup -security, hosting, storage			
Lack of mapped technical workflow(s) to meet RESPONSIBLE DATA USE guidelines			
Data collection processes - consent, data minimization/mvp data set			
Collected data contains personally identifiable information (PII)			
Collected data contains Demographically Identifiable Information (DII)			
Missing business/legal analysis on risks and preparation for RESPONSIBLE DATA USE			
Data controller does not manage this process			
Analysis on proprietary tool includes full data set			
Processing guidelines			
Processing by NS			
Processing by IFRC			

Risks	Priority rating/Mitigation	Background link(s)	notes
Processing by outside actor and out outside tool (academics/businesses)			
Transferring/Sharing - internal (EU)			
Transferring/Sharing - internal (Non-EU)			
Transferring/Sharing - external			
Inability to reach most vulnerable/do data and information workflows by adhering to Responsible Data Use/Data Protection regulations			
Disaggregation/Re-aggregation			
Archiving			

## Research Background

### ODK Docs

For the most up-to-date information please see the Security and Privacy section of the ODK Docs.

### Risks

- 1 Outside of usage analytics (typically opt-out) and crash reports (typically required), ODK software does not transmit or communicate any information (e.g., survey data) back to ODK's maintainers. When we do gather data, we default to anonymous or aggregate methods.
- 2 The software we have written does not have any mechanisms that might allow us to access or control your devices or systems. There is always the possibility that hackers can discover and exploit deficiencies or bugs in our software or in 3rd-party libraries to access or control your devices or systems.
- 3 "Central" is the ODK server now. See the ODK Security Guidelines. As well, keep informed on all relevant digital and data security, privacy and data protection guidelines of your organisation (IFRC and/or National Society).

- 4 With all 3rd party hosting services, you should expect your data to be viewable by the support staff of the hosting service. Different services go to differing lengths to restrict access to, encrypt, and/or secure the data and communications within their data centres.
- 5 We gather aggregate user behavior through Google Analytics and gather crash logs through Google Firebase Crashlytics. We use secure HTTPS communication to transfer this data to ODK's maintainers. Users may disable analytics in the settings of the application. Crash logging cannot be disabled.

## Handbook on Data Protection (ICRC, chapter 11)

### Key risks

- ▶ need for clear guidance on processing by humanitarian organisations of information extracted from the messaging app
- ▶ lack of awareness about the types of data they process
- ▶ metadata could be accessed and analysed by third parties and used by them in ways detrimental to the vulnerable populations.

## Towards a Secure Framework for mhealth - case study in mobile data collections

Gejibo, Samson Hussien - '[Towards a Secure Framework for mHealth. A Case Study in Mobile Data Collection Systems](#)', [Doctoral Thesis, Bergen Research Open Archive, 05/11/2015](#)

"For this work, we collaborated with the open-source MDCS, openXdata and Open Data Kit (ODK)."

### KoBo

- (i) P. 31 case studies considering security and privacy in data collection, transfers and archives. Very clear explanations of risks and security workflow gaps in international development

- ▶ [KoboToolbox data security measures: Keeping your data safe](#)
- ▶ [IFRC KoBo data protection information](#)

## Overview

There are three points of vulnerability for KoBo data: (a) on the handset, (b) in transmission, and (c) on the server. These are mitigated as follows:

On the handset, the data is available in clear text until it is transmitted, so we recommend that the handset itself is encrypted (a standard Android feature) so that unless an authorised user unlocks it, the data cannot be obtained. Once transmitted, the data is typically deleted from the handset.

In transmission, KoBo uses TLS by default.

On the server, the data is as secure as the server itself and is heavily dependant on the server administration and safety protocols and processes. Some agencies, including IFRC, have chosen to set up their own server partly to guarantee the security of their data to a higher level than that provided by the freely accessible servers.

As an advanced feature, KoBo also supports end-to-end encryption of data payloads so that the data packages are encrypted with a public key when the form submission is finalised on a handset and can only be decrypted by a matching private key held on an individual's local computer. This data is fully encrypted on the handset, in transmission and on the server and needs to be downloaded from the server to a local environment before its local decryption (this renders inaccessible any of the server-provided reporting and analysis options).

In practice, we've found that these points have always been sufficient to alleviate any data protection concerns on a technical level. Also, the actual data protection vulnerabilities are rarely technical but far more often due to poor form design. So we also recommend that anyone deploying any form (whether using KoBo or any other tool) carefully consider whether there is any real need to collect personally identifiable information in the first place. Unless they are explicitly doing beneficiary tracking (in which case the most critical point of vulnerability is the server database where the full information about beneficiaries is brought together, which is not KoBo), there is rarely a need to do so.

## Access to data

As a starting point, only the person who has created a project in KoBo has access to its data.

The only people who can access your data are the server administrators. However, they do not ever view your data (see contractual clauses below)

You can grant permissions to your project's data to additional KoBo users should you wish to do so.

## Security reviews

The ICRC conducted a security review of IFRC's KoBo server in May 2021 and found it secure for their purposes.

As a standard practice for externally hosted servers, the IFRC does not conduct penetration testing. However, given the wide use of the IFRC KoBo server and the nature of the data hosted on it, we would be happy to accept offers for penetration testing.

## Data protection contractual clauses between IFRC and KoBo Inc.

- ▶ Data shall only be stored, processed, sub-processed, backed-up, cached or otherwise hosted on servers in locations approved by the organisation.
- ▶ Under no circumstances shall US servers be used.
- ▶ The service provider shall at all times advise the organisation where data is held and processed, and consult with the organisation should a change in location be contemplated.
- ▶ The service provider shall involve sub-processors only with the consent of the organisation to both the entity concerned and the purpose of the sub-processing and comply with the contractual requirements even where data is processed by sub-processors.
- ▶ If the service provider receives a request for information of the organisation, it shall notify the organisation of such a request; in case of a non-disclosure order, the contract should require that the service provider asserts its contractual obligation to notify the organisation of a request for its information.
- ▶ Any information of the organisation processed by the service provider or any sub-processors remains the organisation's property and assets. Such information, including information about where data is stored or by whom it is processed, is confidential and the service provider must not disclose such information to any third party without prior written consent from the organisation. If the service provider receives a request for information from a State where organisation enjoys P&I, it shall explicitly assert organisation's privileges and immunities and state that data stored with the service provider constitutes property and assets that belong to the organisation and are subject to absolute immunity from search and seizure. Should the organisation not itself be in a position to do so, the service provider shall approach the relevant Ministry of Foreign Affairs, informing that Ministry of a request for information and asserting the organisation's P&I.

- ▶ In case of a request for information, and if privileges and immunities are not accepted by authorities, the CSP shall raise legal defences as instructed by the organisation. If the organisation cannot be notified of a request, the service provider shall raise all reasonable legal challenges available under the law applicable, including that of the State requesting information, to both the prohibition on notice and the legal demand to disclose the data.
- ▶ The contract is governed by Swiss law. The Parties shall not, under any circumstances refer to US law.

## Privacy Implementation Assessment template

[Towards a privacy impact assessment template for mobile health data collection systems](#)

Privacy IA template is typically structured in four parts:

- 1 Description of the application (i.e., Mobile Data Collection Systems - MDCS), in terms of its objective, requirements, users, stakeholders, application architecture, and data flows.
- 2 Identification of privacy threats with respect to a list of privacy targets embedded in the legal framework EU GDPR.
- 3 Proposal of technical and organisational controls for mitigating the identified privacy threats, i.e., counter measures
- 4 Documentation of the PIA regarding the MDCS being analysed

## Threat identification and selection of countermeasures

By looking into the MDCS context, a list of privacy threats can be postulated and associated to the aforementioned privacy targets. This threat identification analysis can be carried out by a group of experts, using brainstorm sessions and iterative reviews.

### Two preliminary examples of such threats are

#### Threat 1

User profiling (data minimization threat) The use of MDCS makes it fairly easy to link subject's data (i.e., patients or families), activities, kinship, demographics, and etc. User profiling is inherent in the health surveillance process. The further exploitation of data

relationships, creation of more complete profiles, might result in the use of personal data beyond the original purpose.

## Threat 2

Vague purposes (purpose biding threat): Vaguely defined purposes allow MDCS to be used for purposes not previously defined during the design stage. For example, do not follow the premises of meaningful use of medical data, and uses it for secondary purposes

## Why is data protection important to us?

- ▶ Humanitarian organisations collect and share more data than ever before
- ▶ Dignity and privacy of beneficiaries – privacy of home and family is recognized under international instruments
- ▶ Higher risk of harm to beneficiaries depending on their political, ethnic, religious affiliation or health status – the “do no harm” principle
- ▶ Comply or face risks of large fines up to 4% or 20M EUR
- ▶ Reputational and operational risks

## Data protection vs security vs responsibility..?

**“Data responsibility in humanitarian action is the safe, ethical and effective management of personal and non-personal data for operational response. It is a critical issue for the humanitarian system to address and the stakes are high.” [IASC](#)**

Legal Compliance	Privacy Policy	Terms and Conditions	Registry of processing	Lawyers and consultants
	DPIA	Internal policies	Notify DPA	

<b>Data Protection</b>	Consent Tracking	Audit Trail	Right to forget	You
	Identity	Breach Notification	Risk assessment	
	Data sharing policies	Data portability	Right to object	
<b>Data Security</b>	Authentication	Access Control	Secure transfert	IT and you
	Key Storage	Key Rotation	Search operation	
	Encryption at rest	Redundancy	API security	

## All you need to know...

- ▶ ...Is that personal data collected is accurate and relevant, and that the personal data is not misused, lost, corrupted, or improperly accessed and shared.
- ▶ Informed and freely given consent
- ▶ Gather only minimum amount of personal data
- ▶ Keep the data only as long as is needed
- ▶ Ensure access to personal data is controlled
- ▶ Use personal data only for its allowed purposes
- ▶ If in doubt, consult an expert!

## Refresher on GDPR

All EU NS are subject to GDPR, even when working outside the EU.

## Some key aspects of GDPR

Right to be informed (Ensure your users have been told what personal data you are collecting and how you will use it)

Right of access (If requested, provide a full copy of all their data within a reasonable time)

Right to rectification (If a user requests rectification, you must update/correct the data you hold about them without undue delay)

Right to erasure (to be forgotten) (When a user asks, you must delete all the data you hold on them without undue delay if there is no overarching reason to continue processing it. This is problematic if you are storing backups.)

## Sharing personal data outside your NS?

Anytime there is a contract, formal or otherwise where personal information will be shared, your NS should ask that the recipient of the personal data guarantee a minimum set of protections (GDPR Art. 28(3)):

- ▶ Only use the data according to your NS instructions
- ▶ Keep the data secure
- ▶ Assist your NS with any data protection requests you might receive
- ▶ Notify your NS of any breach immediately
- ▶ No subcontracting or data sharing without approval
- ▶ Delete and/or return data at the end of the contract

## Use Cases

(Answers provided by James De France)

## Case: Consent forms

**"We have refugees from different countries speaking different languages. Do we need to translate the consent forms to every language we encounter?"**

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**“Yes, this would be ideal. If the person cannot understand why consent is being requested, then the consent is invalid, because it was not fully informed, nor freely given.”**

## Case: Device encryption

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**“Should smartphones and laptops be encrypted in the field? Which resources are available to do these?”**

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**“To the extent that it is possible, yes. Minimally, devices containing personal data should be password/fingerprint/passcode protected. Where possible, with the option to remotely wipe them if they are lost.”**

## Case: Cloud services

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**“Can personal data be saved into a cloud service to which many people have access?”**

---

**“Yes. However, never make the link publicly accessible. Also, carefully review the terms of service for the cloud provider (run by legal). Only individuals who receive the link should be able to access the data, which should then also be password protected.”**

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**“However, I would not use Google Docs to do this as Google has access to all data in its terms of service.”**

## Case: Sharing personal data

**"Sharing personal data of affected population with government? Other operational actors?"**

**"Should only happen after reviewing possible consequences and should be subject to a written agreement that restricts the use of the provided personal data. However, this also depends on any particular legal requirements in the country and whether the NS is the data controller."**

## Case: Data minimization

**"IFRC stance on data minimization? For example, when giving a kitchen set to a family, what data do you actually need?"**

**"This may depend on national law, donor or audit requirements. Only collect enough data to make sure that each family gets one kitchen set (if that is the objective)."**

### Resources

- ▶ ICRC [handbook](#) on data protection in humanitarian action (300+ pages)
- ▶ IFRC data protection [policy](#) (9 pages)
- ▶ IFRC data protection policy [guidance note](#) (2 pages)
- ▶ IFRC data protection [flyer](#) (2 pages)
- ▶ IFRC eLearning course [Targeted – An introduction to cyber security](#)
- ▶ IASC [operational guidance](#) on data responsibility in humanitarian action (37 pages)
- ▶ IFRC Data Playbook: [Responsible Data](#) (various resources)
- ▶ Data protection impact assessment (DPIA) [tool](#)

### Credit

Eero Sario, Dan Joseph, and James de France

# 5 Making Data Useful, Useable and Shareable

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# Making Data Useful, Useable and Shareable

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**Just because a dataset is created, it doesn't mean it's actually useable. The purpose of this module is to strengthen a team or a group of training participants' abilities to make their data useful to themselves and others. These might be people who need to think through how to comply with standards or make decisions on how to create them. We also cover the concept of Data Quality and help participants understand what it is and how to achieve it.**

## Questions this module explores

- ▶ Who are data users and what do they want to learn from the data?
- ▶ Why do we need to care about standards?
  - How do Standards ensure useable and interoperability?
- ▶ How do we know that the data is 'quality data'?

## Learning Objectives

- ▶ The importance of understanding data users
- ▶ How to make data useable to themselves in the future
- ▶ How to ensure their data will be useable to others that can benefit.

## Module Topics

- ▶ Data user profiles
- ▶ Standards and formatting.
- ▶ Data Quality

## Recipes

### A suggested step-by-step process to achieve learning objectives

- 1 Begin the journey on useability, start by getting participants to understand **What do we know about our data users? (5 - 1)**.
- 2 To explore how rules and standards benefit communities and humanitarians use **Standards support humanitarian action (5 - 2)**
- 3 Once your participants have gotten an understanding how standards are important give them an opportunity to think through how to **Should We Apply Standards to Our Data? (5 - 3)**.
- 4 Use the **Understanding data standards (5 - 4)** slide deck to cover key concepts.
- 5 Once they have comprehension of standards, introduce them to the concept of Data Quality by getting them to **Generating a Data Quality Checklist (5 - 5)**
- 6 Further explore **Data Quality: Opportunities and Barriers (5 - 6)** for tackling data quality.

- 7 Use the **Data Quality Workflows (5 - 7)** to strengthen comprehension of the concept

## Ingredients

Pick and choose ingredients to create your own recipe. Do you have an ingredient we're missing? Send an email to [data.literacy@ifrc.org](mailto:data.literacy@ifrc.org)

## Exercises

### Short, discrete social learning experiences

- ▶ **What do we know about our data users? (5 - 1)**
- ▶ **Standards support humanitarian action (5 - 2)**
- ▶ **Should We Apply Standards to Our Data? (5 - 3)**
- ▶ **Generating a Data Quality Checklist (5 - 5)**
- ▶ **Data Quality: Opportunities and Barriers (5 - 6).**

## Slide Decks

### Presentations to be used and/or adapted

- ▶ **Understanding data standards (5 - 4)**
- ▶ **Data Quality Workflows (5 - 7)**
- ▶ **Open Data Basics (5 - 9)**

## Checklists/Handouts/Materials

### For documentation of essential elements of the learning experience

- ▶ **Dataset Check-In Process (5 - 8)**



## Next Steps

Once you have ensure that your data is useable/useful and shareable, Move on to **Understanding and Analysing Data (6)**

### Credit

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Dirk Slater, with inputs from Johnny Henshall, Liselot Kattemölle, Ana Maria Escobar, Thomas Raffort, Lionel Denis, Simon Weiss, Ian O'Donnell & Vincent Annoni. Also, thanks to IFRC V1 Sprint and Data Playbook Beta contributors.

# 5 - 1 What do we know about our data users?

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In order to promote data use in any organisation you need to understand how individuals who use our data will benefit.

- ▶ **People:** 4 to 16 people
- ▶ **Time:** 60 Minutes
- ▶ **Difficulty:** Easy
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers

## Preparation

For a 'Face to Face' - you can either print the user profile template on A4 or write the prompts on flipchart paper, ready for your participants to use them. If online you can copy the user profile template into a collaborative document. Also, have copies of **Data Audiences at IFRC (handout) (2 - 7)** (Module 2) printed and ready to share.

## User Profile Template

- ▶ Name:
- ▶ Age:
- ▶ Role:
- ▶ What are their values? how do they want to be seen?
- ▶ What problems are they trying to solve?
- ▶ How do they apply data in their jobs?
- ▶ What are their motivations for using data?
- ▶ What are their barriers to using data?
- ▶ What skills do they want to learn?
- ▶ What can they teach others?
- ▶ Review the Module 2: Data Audiences Handout and determine if they are (check one)
  - Data Curious
  - Data Advocate
  - Data Active
  - Data Ready

## Exercise

### Part 1: Create small working groups

This exercise will work best by breaking people into the smallest groups possible, so either pairs or triplets. NOTE: If you have people that are working on the same project, still

stick to the smallest groups possible, if different groups end up developing personas on the same user, they can compare notes afterwards.

---

## Part 2: Build Data User Profiles

Instruct people to fill out the profile using the knowledge they have about an individual that is or will be using their data. On things that don't know, they can make assumptions but should take note of that they will need to confirm at a later date. Also: use **Data Audiences at IFRC (handout) (2 - 7)** (Module 2) to answer the final question. They should generate as many profiles as they can in the time allotted.

---

## Part 3: Review the personas

After they have had time to generate a few user personas, get everyone to review each other's personas. If in-person, spread them out around the room and let people roam from one to another (Gallery Style). If online, just have everyone read the collaborative doc containing the personas.

---

## Part 4: Large Group Discussion

Finish the exercise by asking everyone:

- ▶ How well do you think you know your data users?
- ▶ What assumptions have you made that you want to confirm?
- ▶ What will you change in your data project as a result?

---

## Part 5: Next Steps

End the exercise by asking participants to share how they will confirm their assumptions and learn more about their Data Users.

### Credit

This is modified from FabRiders' [A workshop exercise on creating user personas](#) that is published under a [Creative Commons Attribution 4.0 International License](#)

## 5 - 2 Standards support humanitarian action

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**This exercise is for the Data Curious. It is designed as an entry point for participants to understand how to maximise benefit, useability and interoperability of data by applying standards.**

- ▶ **People:** 4 to 24 people
- ▶ **Time:** 30 Minutes
- ▶ **Difficulty:** Easy
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers

## Exercise

### Part 1: Small Group Discussion

Split the group into random pairs or groups of three (preferably people that don't normally work together). Instruct them to identify things that are shared within their community that they have used within the last week and list them, either in a shared collaborative doc (if online) or on post-it notes (if in person). You could give roads as an example.

After 10 minutes and while still in small groups or pairs, get them to consider which of those things are critical for community well being.

### Part 2: Large Group Discussion

After they have identified all the things that are shared and are critical to their community, bring them back to the large group and ask them what are the sorts of decisions that needed to be made to ensure their useable to the community? Hopefully they will bring up examples of rules and standards that needed to be followed.

### Part 3: Facilitator Input

Then explain the connection to data standards.

Data standards are meant to ensure that data can be useable in different contexts and by different communities. Data standards are documented agreements on representation, format, definition, structuring, tagging, transmission, manipulation, use, and management of data.

### Part 4: Deepening

Break people back into small groups and get them to brainstorm standards that should be applied to their data to make it useable to themselves and others in the long run. Here you might need to get people who work together in small groups (not bigger than three).

Ask: What are standards might we need to apply to our data for it to be used to strengthen humanitarian action? Things they might want to consider:

- ▶ How might we ensure a shared vocabulary, that the words used are understandable to all?

- ▶ How might we ensure the ability to exchange data, what formats might they need to be in?
- ▶ How might we ensure the quality of our data, that it can serve it's purpose?

---

## Part 5: Next Steps

After the lists are created bring them back to large group to discuss how they might implement the standards

### Extra credit

Refer to Types of [Open Standards for Open Data](#) from Open Data Institute for more details.

### Credit

Dirk Slater, FabRiders, with help from ASM Shawon, IFRC, Leeba El Seed, WFP, Rumana, IFRC, Esra Yilmaz, Turkish Red Crescent, & Bahati Nsaba, IFRC.

## 5 - 3 Should We Apply Standards to Our Data?

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How can we teach and build a common language around standards and why they matter? The goal of the exercise is to understand and discuss needs surrounding quality, standardisation, and measurement. Consider your audience and share the slides after the exercise. This topic may cause semantic debate with some audiences, redirect the conversation, and ask them to do the exercise first and then discuss the topic.

- ▶ **People:** 6 to 20 people
- ▶ **Time:** 30 Minutes
- ▶ **Difficulty:** Easy
- ▶ **Materials:** Chocolates, peanuts or Aqua-tabs (50 per box) or equivalent items that are useful/available. e.g. band-aids (Each group should get between 30 – 50 items.)
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers

## Exercise

### Part 1 - Considerations

- ▶ In the small groups, give the boxes of items and ask people to consider:
  - Who needs these items?
  - How would you distribute the items?
  - What do you need to keep track of? What do you need to measure?
  - What information will you gather as you distribute?
- ▶ After 10 minutes, have each group share their answers.

### Part 2 - Discussion

- ▶ In Plenary, ask – Is everyone measuring the same thing?
  - Outcome 1 - People are not measuring the same thing. Ask: Why is that problematic?
  - Outcome 2 - People are measuring the same thing. Ask: If people are measuring the same thing, how do they make sure they can all benefit from that measurement?
- ▶ Share any real-world experience with distributing Aquatabs or similar items.

### Part 3 - Deepening

- ▶ In their groups, ask: Do they have any similar examples from their sector related to 'Standards'?
- 1 You could use one of the two scenarios for further discussion:
- 2 Scenario 1: There are 10 Partner National Societies in a post-cyclone situation. These National Societies and other stakeholders (IFRC, other humanitarian organisations, and governments) are using multiple tools to collect damage assessment and other humanitarian response information. Decision-makers

need a global picture - an aggregation of assessment and initial response information. Everyone in this emergency does their own response based on their own assessments. For this operation, they started with fewer coordinated data flows but made the decision to coordinate differently for the response. They simply could not get a global picture of what was happening as the groups could not aggregate content from multiple tools for the assessment.

- 3 Scenario 2: There was a collective decision by the government in the affected area to require one tool to aggregate all the humanitarian workflows. As the National Society is an auxiliary of the government, this worked well for the coordinated response. This type of standardization enables the ability to obtain one global picture of what happened, what worked, and what needs work. Standards can help support community feedback loops, recovery planning, and obtaining/measuring a global impact potential results.

### Extra credit

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Review the [Humanitarian Exchange Language \(HXL\) standard](#).

### Credit

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Mununuri Musori, Senior Officer, Information Management, Planning and Reporting, IFRC

# 5 - 4 Understanding data standards

## Standards are:

A criteria, a method, a model, a pattern, a template, or a framework to help assess and make judgements on quality and accuracy.

# Why do data standards matter?

Data Standards exist across the humanitarian space. Examples of their use include: indicators, reporting, measuring, survey design, financial management, data analysis, audit, and more.

# Types of Data Platforms with standards at IFRC

## Federation-Wide Databank and Reporting System (FDRS)

- ▶ The Federation-wide Databank and Reporting System (FDRS) provides data insights on the world's largest humanitarian organisation. Each National Societies reports on key indicators. Take a look - <http://data.ifrc.org/fdrs>

## GO - Global Operations Platform

- ▶ IFRC Go aims to make all disaster information universally accessible and useful to IFRC responders for better decision making. See data about emergencies and deployments across all the regions - <https://go.ifrc.org/>

# Indicators and Reporting

Data standards are the indicators used. Numbers reported are on the types of indicators used. An example of a data standard indicator and the question used to obtain reported numbers is:

**Example:** How many volunteers were engaged at IFRC this year?

# Indicators and Reporting

We report on indicators to help us achieve our goals for a given time frame. They help us measure our activities and services against our priorities.

**Example:** How many disasters and which types of emergencies did IFRC respond to in the calendar year?

# Indicators and Reporting

We can use common types of data to assess and to compare our work.

**Example:** how many typhoons or hurricanes did IFRC respond in 2012?

# Why do Standards Matter

Standardization can help ensure that our data is compatible and comparable between different actors thus allowing for the internal and external actors to realise mutual gains. What are the agreements made to measure and 'encode' data?

Standardisation should be more about using similar or convertible metrics (as opposed to using the same tools) to ensure and easier comparability and aggregation and analysis of data.

# Benefits of Standards

- ▶ Measuring our reach, our leadership and success
- ▶ Identifying gaps and needs
- ▶ Be more accountable to communities and to each other
- ▶ Be more transparent
- ▶ Compare, share, and coordinate our work
- ▶ Inform and collaborate with other humanitarian organisations

# Other Data Standards

Data Sharing in humanitarian action is complex. Two types of standards are:

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## HXL

- ▶ The [Humanitarian Exchange Language](#) (HXL) is a simple standard created to improve information sharing during a humanitarian crisis without adding extra reporting burdens.
- 

## IATI

- ▶ The [International Aid Transparency Index](#) (IATI) Standard is a way to allow data to be compared. Key uses include financial and programmatic results reporting.

## Discussion

Standards save lives by addressing the time sensitivity of response, provide the potential to prevent rework or duplication, affect community engagement, and improve the quantity and quality of distribution. Often humanitarians don't have the time to talk with each other and fix the data workflows in the middle of an emergency. The risk is that the quality of the response cannot be assessed because we do not know what we distributed.

# Thank you

Credit: Heather Leson, Mununuri Musori, and Fernando Suárez Jiménez



# 5 - 5 Generating a Data Quality Checklist

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**This exercise should work for any audience that need to understand and define what data quality means and looks like for their project, team or organisation.**

- ▶ **People:** 4 to 24 people
- ▶ **Time:** 60 Minutes
- ▶ **Difficulty:** Easy
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers

## Exercise

---

### Part 1: Explore

Start by asking participants to share what “Data Quality” means to them. They can document their responses on either a collaborative document or with post-it notes depending on the event format.

---

### Part 2: Discuss

After they have had an opportunity to review each other’s definitions, share the following definition, and advise that it’s a more generic definition:

“Data Quality is the measure of how well a data set will serve an intended purpose.”

Then ask the group to consider:

“How do we define “Data Quality” in the service of Humanitarian Action?”

---

### Part 3: Generate

After the group has had an opportunity to respond to that question, then get them to generate questions they would need to ask to ensure ‘data quality.’

Ask: “What are questions we might ask under the following topics to support Data Quality?”

Write these headings in the collaboration space with room for responses:

- ▶ ACCESS
- ▶ ACCURACY
- ▶ RESPONSIBILITY
- ▶ COMPLETENESS
- ▶ VALIDITY
- ▶ UNIQUENESS
- ▶ TIMELINESS

If there are other relevant topics that came up, please include them as headings as well.

---

## Part 4: Review

Once they have generated the questions - ask them to identify which questions they would include in a Data Quality checklist they would use in the future.

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## Next Steps:

**Data Quality: Opportunities and Barriers (5 - 6)** Exercise

## Credit

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This exercise was created by Dirk Slater, FabRiders. Roger Simard, Hazel Carter (IFRC, Caribbean), Anna Cooper (British Red Cross) and Sabrina Boutin (Canadian Red Cross) contributed to a trial of this exercise.

# 5 - 6 Data Quality: Opportunities and Barriers

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**Quality data is needed to provide evidence-based decisions. For every data-driven project, there is feedback about the quality of data available. There are many reasons why quality data (quantitative or qualitative) may not be available. This exercise is designed to help teams work through the root cause of 'data quality.' It is important to have diverse stakeholders in the room - data collectors, volunteers, managers, and the data project owner (sector).**

- ▶ **People:** 2 to 30 people
- ▶ **Time:** 30 Minutes
- ▶ **Difficulty:** Medium
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers

## Exercise

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### Part 1: Activity

Divide people into pairs or groups of no more than five. Assign 'barriers' and 'opportunities' to different colours. In part 1, ask people to outline all the 'barriers' to obtaining 'quality data.' Then, ask them to document the "opportunities."

---

### Part 2: Discussion

In the plenary, ask the participants to sort the content. Give them an opportunity to discuss and rate the items. The team should then discuss any additional gaps in the data workflow.

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### Key Questions:

- ▶ What are the true costs (time/resources/skills) to achieve 'data quality'?
- ▶ What are some of the opportunities and barriers around achieving 'quality data'?
- ▶ How can organisations plan for these items while supporting the data literacy journey?

### Extra credit

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- ▶ Use the **Data Quality Workflows (5 - 7)** (SlideDeck)
- ▶ Assess: the feedback with this [Causes Diagram](#)
- ▶ Dive deeper into [Systems Mapping](#)

**Discuss:** What is web or digital literacy?

- ▶ Here are two articles with diagrams to read and potentially share: [Mozilla](#) & [WeForum](#)

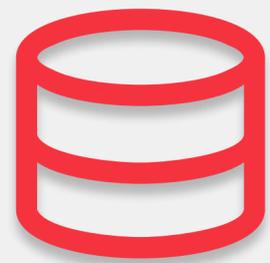
### Credit

---

This exercise was co-created by Josse Gillijns, Miki Tsukamoto, Olta Ndoja, Astrid Legaye, Heather Leson, and Gabriel Pictet.

# 5 - 7 Data Quality Workflows

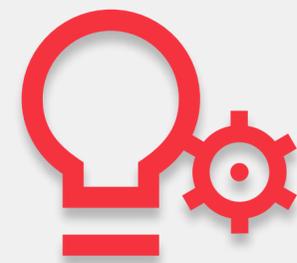
# Data can lead to:



Data



Information



Learning



Decision

(i) Helen Welch, MEAL Director American Red Cross, the Digital Transformation Strategy [digital.ifrc.org](https://digital.ifrc.org)

# Introduction

Using data to inform our work often means comparing, consolidating, and analyzing data.

Data can be primarily sourced or used with secondary data sources. Data quality and standards are two key requirements to become more data ready.

**Why do data standards matter and how might we address data quality issues?**

# From Data to Decision

## Data

Data is an abstract item. It is often hard to link to our work.

It needs context, language and knowledge to translate into next steps.

Data can be biased or missing or contain mistakes.

## Decision

Data may or may not be 'evidence' or '*knowledge*'. Data does not always translate to or inform a decision.

'*Quality data*' can improve with the methodology. It may result in improvements in information products or reports, and decisions. Quality of data is necessary to get the right information, knowledge, evidence or to make the right decisions. Data with low quality may not be useful, as it can lead to wrong conclusions.

# What we need to avoid

Appeal Update



Donors Report



Annual Report



FDRS



How to summarize compare, analyse, benchmark?



HQ

Different metrics of measurement is used to capture data in the field.



Branch



Forms

# What we need to achieve

Appeal Update



Donors Report



Annual Report



FDRS



We need consistency, able to compare "🍏 Apple to 🍏 Apple".



HQ



Branch



Forms

# Quality can mean more details

	National Society #1	National Society #2	National Society #3	National Society #4
Thematic area (e.g. health, wash, PMERr, etc.)	1,000 communities	1,000 schools	1,000 households	Reached 1,000 communities or schools or households that made up of 10,000 direct recipients, of which 3,469 are male and 6,531 are female.  <b>Age breakdown:</b> 0 - 5            0 6 - 12          0 13 - 17        788 18 - 49        3,574 40 - 59        4,541 60 - 69        1,097 70 - 79        0 80+            0

# Defining the dimensions

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## Consistency

Standardized between branches/  
NS for collective achievements;  
Federation-wide aggregation

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## Accuracy

How accurate data reflects real world/  
situations/Analysis/Triangulation of  
data

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## Completeness

All parameters are collected as required.  
(How flexible are we in accepting  
limitations/gaps?)

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## Data Quality Dimensions

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## Validity

Syntax (format, type & range)/Common  
language on data/indicators, validation  
process

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## Collection and storage

Data collected are cleaned  
and stored.

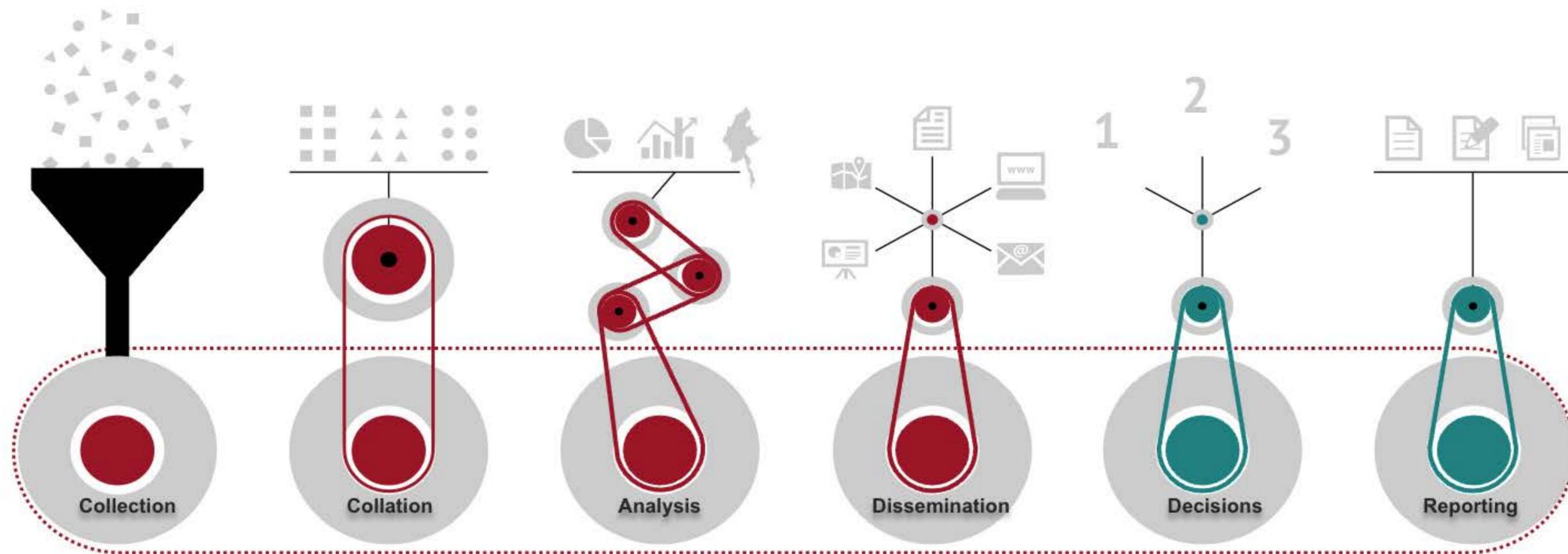
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## Timeliness

Frequency of data collection/Dynamic  
or non-dynamic records/usage, deal  
with data decay

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# Example: Decisions



# Mapping your work

Every National Society and sector has unique characteristics.

These examples illustrate the complexity of data workflows with multiple stakeholders.

How would you map your workflows?

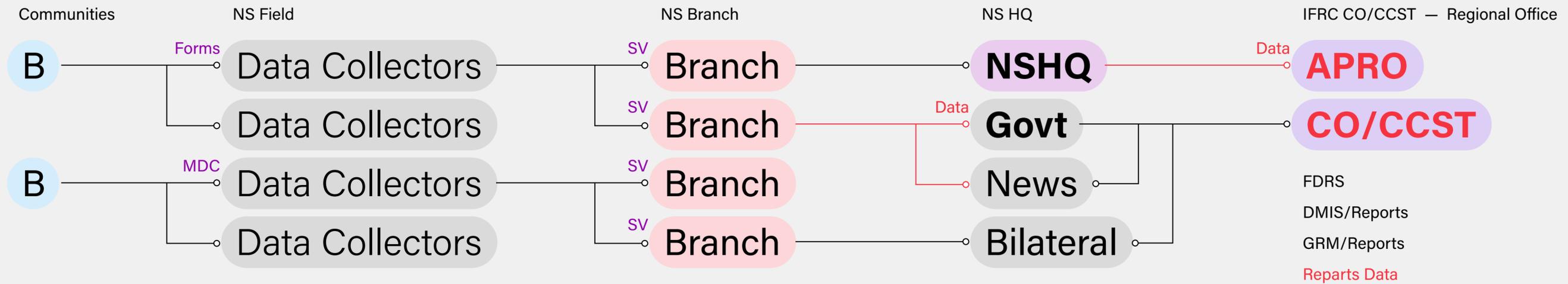
## Example: Data Workflow

Data quality can be complex. This is especially true in a complex humanitarian organisation.

The following examples show how multiple groups have different data needs and processes. For example, there are data workflows for reporting and data for delivering programming.

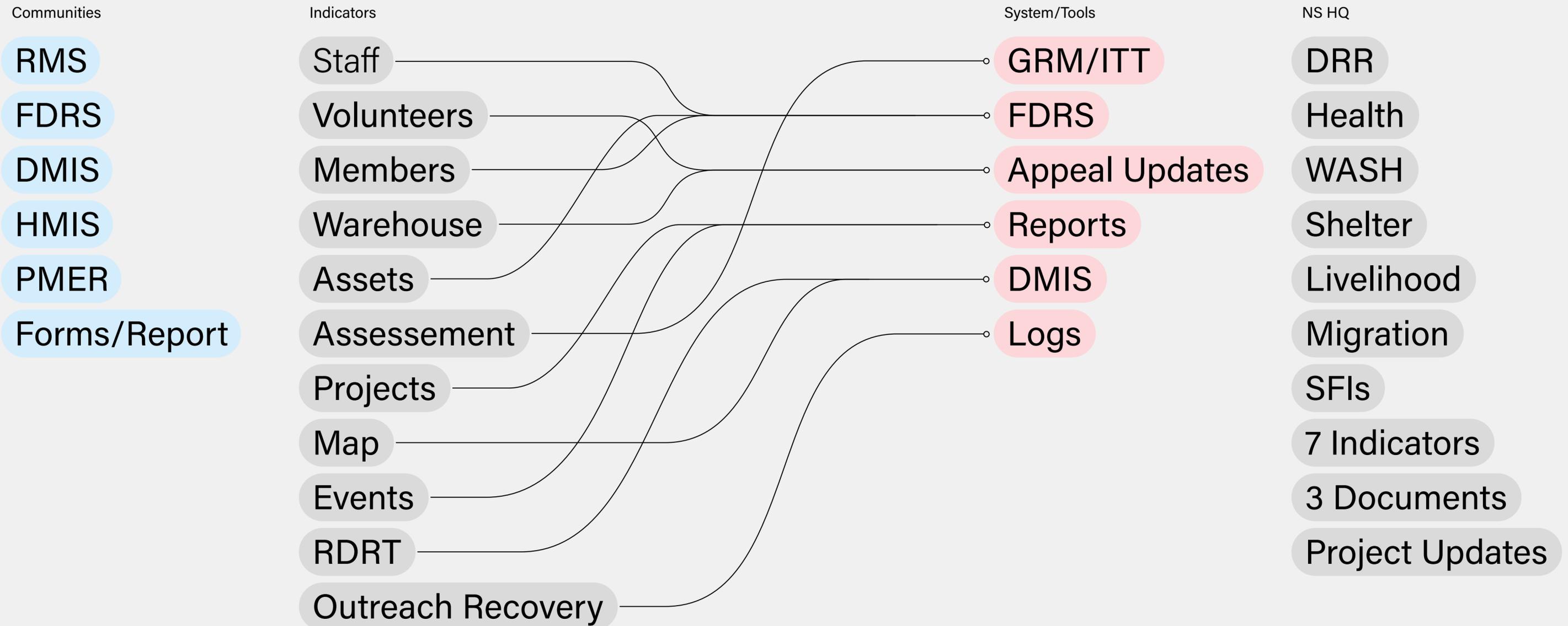
In reviewing, focus on the flow of information rather than the stakeholder acronyms.

# Example: Data Collection Flow



- NSHQ** National Society HeadQuarters
- APRO** Asia Pacific Regional Office, CO/CCST
- CO/CCST** Country Office/Country Cluster Office

# Example: Data Collection Flow\*

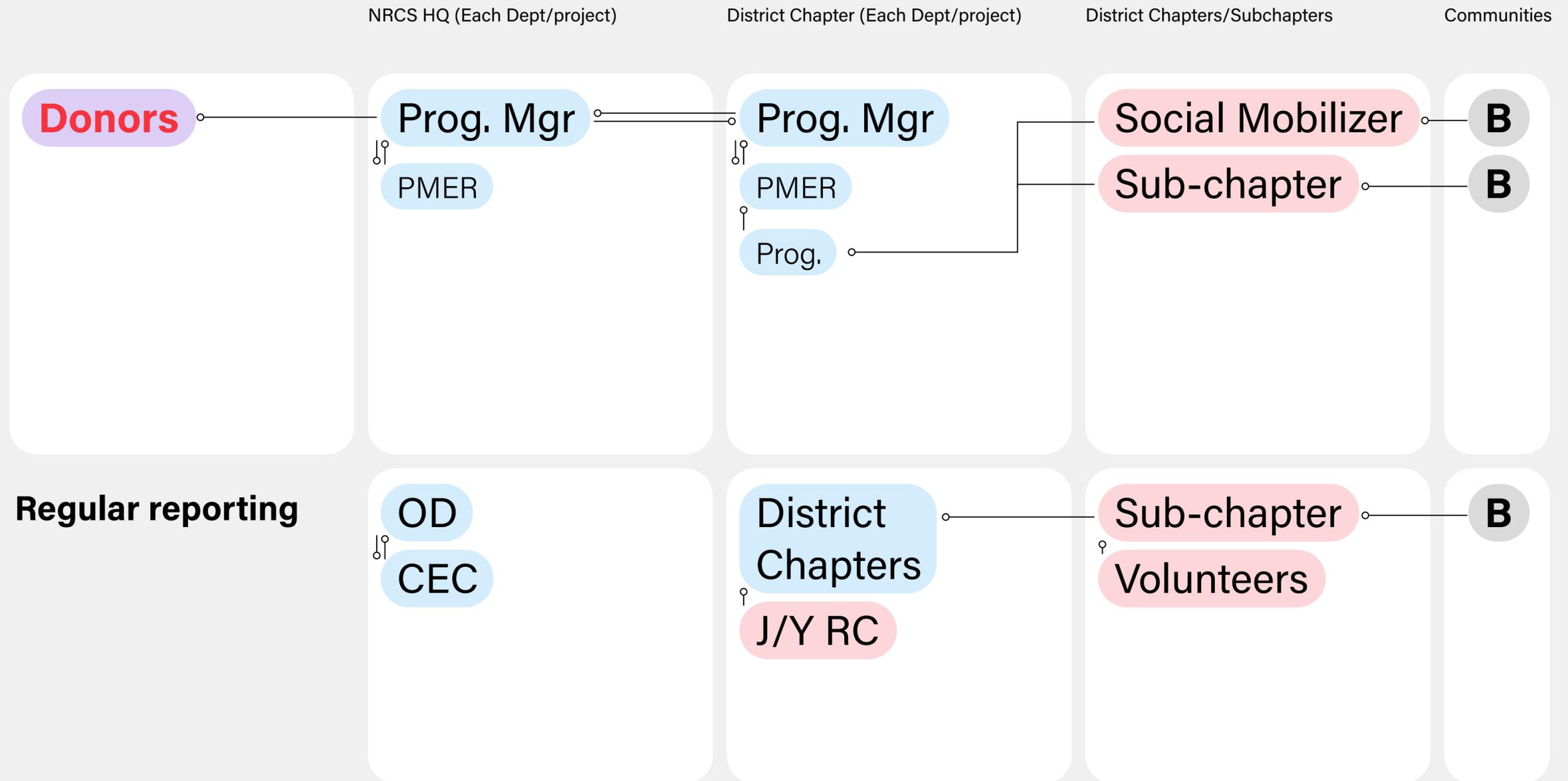


\* This is former workflow.

# Example: Mapping Information Flows

## Projects Reporting

Data collection and monitoring use different methodologies and tools. There is a lack of standards across various programs and National Society stakeholders.



# Questioning Quality

What are some of the data workflows in IFRC and your organisation?

How can we be more consistent with metrics, measurement, and methodologies?

How can we better compare, analyse, summarize and report?

# Thank you

Credit: Heather Leson, Amritpall Singh Harminder Singh and Fadzli Saari, IFRC Asia Pacific office.

# 5 - 8 Dataset Check-In Process

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**There are many teams in the IFRC Secretariat that collect data. This dataset check-in process could be part of your data project planning. Currently, datasets are stored on backup drives, individual hard drives or within business units. IFRC is also working on a common data model to support the Digital Transformation agenda. And, partners such as the Humanitarian Data Exchange allows users to either share the data or provide a dataset description.**

The goals of this data check-in process could be:

- ▶ Improve transparency and sharing within the Secretariat
- ▶ Provide a data protection check/balance for audit purposes
- ▶ Decrease duplicate efforts

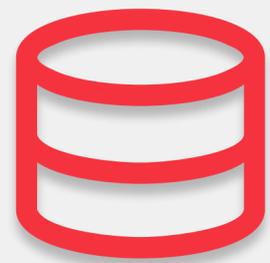
There are concerns about the process of sharing the datasets, especially when it comes to data protection guidelines. There is less risk in sharing the existence of a particular dataset. At the current state, we do not have a means to track if we are protecting data. (See the [ICRC Handbook on Data Protection, 2nd edition](#)).

A basic checklist should be used for data collected, where and by whom. This is metadata that can be included

Item Name	Location	Owner	Date collected	Date Expired	Data Controller
Water Pumps in shools	Kibera, Nairobi, Kenya	eg.Kenyan RC, contact name, division		Eg. Collect data 1 every two years	Who to contact if data requested
					Who has authority to share the data

# 5 - 9 Open Data Basics

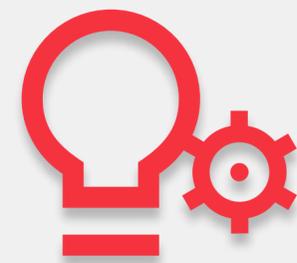
# Data can lead to:



Data



Information



learning



Decision

(i) Helen Welch, MEAL Director American Red Cross, the Digital Transformation Strategy [digital.ifrc.org](https://digital.ifrc.org)

# Data can be qualitative or quantitative. Some 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 and Emerging Technology

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

# Open Source



**Open-source software (OSS)** is computer software with its source code made available with a license in which the copyright holder provides the rights to study, change, and distribute the software to anyone and for any purpose.

Examples: Firefox<sup>®</sup>, OpenDataKit<sup>®</sup>, Apache<sup>®</sup>

# What is Open Data

Open data is data that can be freely used, modified, and shared by anyone for any purpose.

(i) Source: [Open Data Handbook](#)

Data is Open if	=	Legally Open	+	Technically Open
" <b>anyone is free to use, reuse, and redistribute it</b> subject only, at most, to the requirement to attribute and/or share alike."		It is important to <b>place a license</b> on open data. The World Bank's own data policy is licensed under: ODC-BY Open Data Commons Attribution License		The Data Needs to be made <b>available, in bulk, in a machine-readable</b> format.

# Why Open Data?

Without better and more inclusive data, we are not connecting with local communities to understand risk, address key issues.

# Open Data Charter

## Open By Default

This represents a real shift in how government operates and how it interacts with citizens. At the moment we often have to ask officials for the specific information we want. Open by default turns this on its head and says that there should be a presumption of publication for all. Governments need to justify data that's kept closed, for example for security or data protection reasons. To make this work, citizens must also feel confident that open data will not compromise their right to privacy.

(i) Source: [Open Data Charter](#)

## Timely and Comprehensive

Open data is only valuable if it's still relevant. Getting information published quickly and in a comprehensive way is central to its potential for success. As much as possible governments should provide data in its original, unmodified form.

## Accessible and Usable

Ensuring that data is machine readable and easy to find will make data go further. Portals are one way of achieving this. But it's also important to think about the user experience of those accessing data, including the file formats that information is provided. Data should be free of charge, under an open license, for example, those developed by Creative Commons.

## Comparable and Interoperable

Data has a multiplier effect. The more quality datasets you have access to, and the easier it is for them to talk to each other, the more potential value you can get from them. Commonly-agreed data standards play a crucial role in making this happen.

## For Improved Governance & Citizen Engagement

Open data has the capacity to let citizens (and others in government) have a better idea of what officials and politicians are doing. This transparency can improve public services and help hold governments to account.

## For Inclusive Development and Innovation

Finally, open data can help spur inclusive economic development. For example, greater access to data can make farming more efficient, or it can be used to tackle climate change. Finally, we often think of open data as just about improving government performance, but there's a whole universe out there of entrepreneurs making money off the back of open data.

# Why does open data matter for Funders?

## Open Data Charter Government Stewards: UK, Canada, Mexico, France, Italy

### Organisations:

- ▶ [World Bank Group](#)
- ▶ [United Nations](#)
- ▶ [Organisation of American States \(OAS\)](#)
- ▶ [Organisation for Economic Co-operation and Development \(OECD\)](#)
- ▶ [Inter-American Development Bank \(IADB\)](#)
- ▶ [African Development Bank Group, Economic Commission for Latin America and the Caribbean \(ECLAC/CEPAL\)](#).

# Open Government Partnership (OGP)



The Open Government Partnership is a multilateral initiative that aims to secure concrete commitments from governments to promote transparency, empower citizens, fight corruption, and harness new technologies to strengthen governance.

(i) Source: [Open Government Partnership](#)

# International Aid Transparency Index (IATI)

**IATI makes information about aid spending easier to access, use and understand.**

**IATI** is a voluntary, multi-stakeholder initiative that seeks to **improve the transparency of aid, development, and humanitarian resources** in order to increase their effectiveness in tackling poverty. IATI brings together **donor and recipient countries, civil society organisations, and other experts** in aid information who are committed to working together to increase the transparency and openness of aid.

# Examples of Open Data: UNDP, Unicef

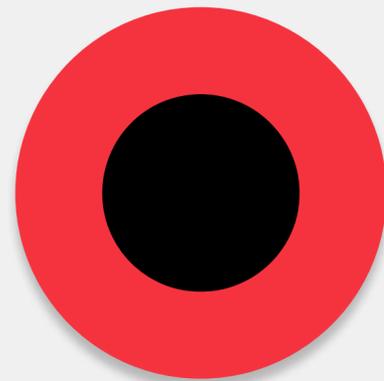
The Innovation Fund has made investments in 126 frontier technology solutions that have the potential to create a positive change for humanity.

**10.09M** invested

**68** countries

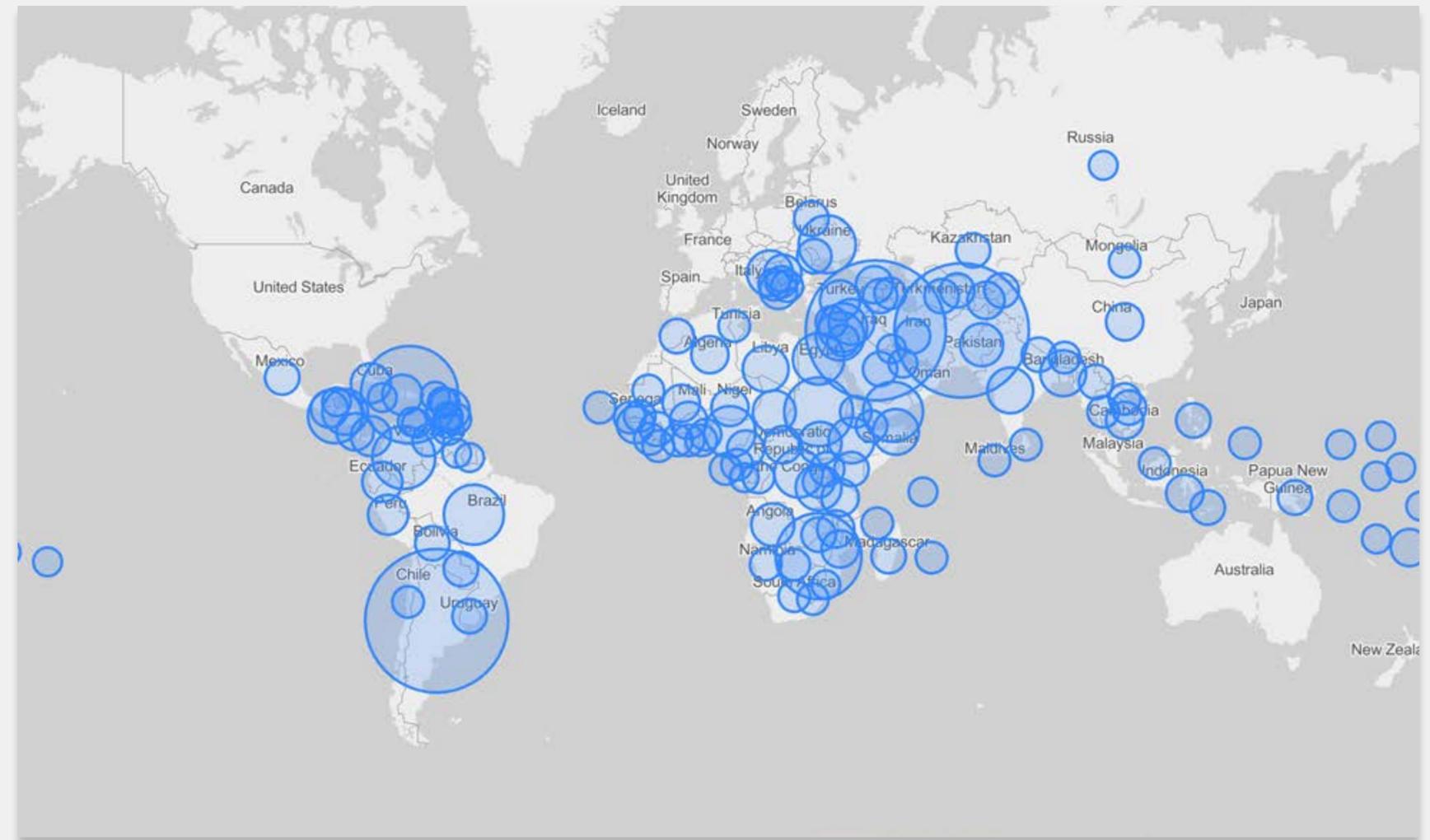
**40%** female founders

UNICEF Innovation Fund



**113 Investments**  
**84 Graduated**

[open.undp.org](https://open.undp.org)



(i) <https://www.unicefinnovationfund.org/portfolio>

# IFRC Example: Missing Maps



(i) Source: [Missing Maps](#)

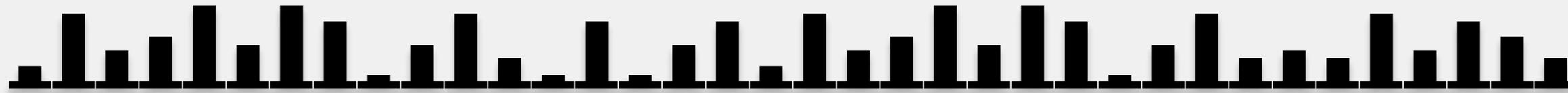
# Cash Hub



The Cash in Emergencies Toolkit includes guides and templates for the **OpenDataKit**.

See: [rcmcash.org](http://rcmcash.org)

# Responsible Data Use



How do we gauge what data we can and should share?

Responsible Data and Data Protection guidelines are important. Open Data cannot happen without decisions around data sharing or data protection. We need to be deliberate, but open to investigating.

# Thank you

Credit: Heather Leson

# 6 Understanding and Analysing Data

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# Understanding and Analysing Data

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**The module is for beginner and experienced humanitarians who want to discover the basics of analysis.**

## Questions this module explores:

- ▶ What are the possibilities and what are the analysis challenges in a humanitarian setting?
- ▶ What is the analysis spectrum?
- ▶ What are the most common biases and pitfalls, and how to avoid them?
- ▶ What questions to ask when looking at performing a humanitarian data based analysis?

## Learning Objectives

This module aims to support the learner in applying the following objectives:

- ▶ Be able to define a data analysis methodology based on the needs, capacity, and data quality.
- ▶ Be aware of biases in data analysis and interpretation
- ▶ Be able to explore data, identify gaps and perform a document analysis

## Module Topics

- ▶ Analysis and its spectrum
- ▶ Biases in analysis
- ▶ Exploring data and documenting analysis

## Recipes

### A suggested step-by-step process to achieve learning objectives

This module contains 60 to 90 minutes exercises and it is recommended to deliver it across 5 sessions.

- ▶ **Session 1:** Defining humanitarian analysis? (45 mins)
  - Exercise: **What is analysis in a humanitarian context? (exercise) (6 - 9)** to invite participants to get to a common understanding of what analysis may mean in this particular context
  - Handout **Proposed definition for analysis in humanitarian settings (6 - 5)**

- ▶ **Session 2:** Discovering the analysis possibilities. (60 mins)
  - Exercise: **Unveiling the analysis spectrum (6 - 2)** to discover the types of analysis available and understand how they relate to each other, and the resources and preliminary questions/answers required to perform them.
  - Handout the **Description of the analysis spectrum (6 - 1)**
- ▶ **Session 3:** Beware of the biases (60 mins)
  - Exercise: **Mental shortcuts and thinking errors (exercise) (6 - 3)** to discover the most common biases or errors in humanitarian analysis and how to spot and correct them.
  - Handout **Analysing Analysers (6 - 7)**
  - Handout **Cognitive Biases in Humanitarian Analysis (6 - 6)**
- ▶ **Session 4:** Understanding the challenge of using data for exploratory analysis (60 mins)
  - Exercise: **Exploratory analysis, gaps and pitfalls (exercise) (6 - 12)** to discover the most common biases or errors in humanitarian analysis and how to spot and correct them.

## Ingredients

Pick and choose ingredients to create your own recipe. Do you have an ingredient we're missing? Send an email to [data.literacy@ifrc.org](mailto:data.literacy@ifrc.org)

## Exercises

### Short, discrete social learning experiences

- ▶ Exercise 1 – What is Analysis in a humanitarian context? (45 mins)
- ▶ Exercise 2 – Unveiling the Analysis Spectrum. (60 mins)
- ▶ Exercise 3 – Mental shortcuts and inherent thinking errors. (60 mins)
- ▶ Exercise 4 – Exploratory analysis, gaps and pitfalls. (60 mins)

## Slide Decks

### Presentations to be used and/or adapted:

- ▶ HIAC examples of analysis

## Checklists/Handouts/Materials

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### For documentation of essential elements of the learning experience

- ▶ Handout 1 – Proposed definition of analysis in a humanitarian setting.
- ▶ Handout 2 – Overview of the Analysis Spectrum.
- ▶ Handout 3 – ACAPS cognitive biases in humanitarian analysis poster.
- ▶ Handout 4 – Analysing Analysers & Cognitive bases. Data and Technology Checklist

## Next Steps

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### Relevant modules in the Data Playbook with suggested content\*

\*Feel free to explore the whole modules

- ▶ Module 4 – Getting the data we need: Hands on Review with External Data Sets and the UsingSpreadsheets Test
- ▶ Module 5 – Data for Decision Making: Dataset Check-in
- ▶ Module 8 – Presenting and Visualising Data: Data MakerOvers
- ▶ Module 9 – Making Data Useful/Useable to Ourselves and Others: Making Decisions with Data

### Credit

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Mununori Musori, Laurent Fernandez, IFRC V1 Sprint and Data Playbook Beta contributors

### Module reviewers

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Esra Yılmaz, Kemal Öztürk, Parima Davachi

### Resources

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[Data Action](#) by Sarah Williams – Humanitarian Analysis Program (IFRC)

# 6 - 1 Description of the analysis spectrum

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We usually identify 6 types of analysis in humanitarian settings. The usages range from discovering data or phenomena to building scenarii about potential future phenomena to plan actions. In disaster and crisis management, this ranges from identifying a sudden event to making scenarios about what potential disasters or crises may happen in the future.

Different analysis types have different concrete purposes: identifying an event and whether populations are affected allows deciding whether efforts should be dedicated to understand better its current humanitarian consequences and trigger an emergency response, while building scenarii can be useful to identify the future evolution of a disaster, it's potential effect on existing crises, or its potential to trigger a crisis. It can even be used to prepare communities for disasters or crises that have never affected them before.

These analyses can be used in many areas other than disaster and crisis management.

## Types of analysis

### Exploratory analysis

Engage and discover what is there and how usable it is.

**Eg. looking for relevant data sets, evaluating their quality and useability**

### Descriptive analysis

Descriptive analysis reports or summarizes what is known about situations, people, places, or objects. It identifies what is valid or worth noting about "who, what, when, where, and how," and organizes the data in a way that is easy to comprehend and recall. Many assessment products nowadays clump data and reports together without useful judgments or questions like "so what," and leave the interpretation to the reader, without explaining further.

**Eg. using data to build a situation report**

### Explanatory analysis

Explanatory analysis probes the reason or immediate causes of a situation, explaining why it has or is developing in the way portrayed by valid sources. At this level, analysts do not just organize and report interesting information, but must use argumentation to give context for the facts, judgments, and observations about patterns or changes in behaviour. Explanatory analysis is often included in assessment products to provide a rationale for a recent trend, such as increasing violence between communities and the resulting needs.

**Eg. using data to understand the causes of a current humanitarian situation**

## Interpretive analysis

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Interpretive analysis examines the significance of a problem or topic of interest as it relates to the decision maker's interests, using logic to interpret and make judgments about various values or meanings behind the data. All of the previously mentioned analytical levels and techniques are used in evaluative analysis, but the distinction is found in the structure, the selected data, and argumentation of the product. This may entail evaluating the nature of a situation - is it a severe humanitarian crisis?

The extent of a problem - is it a major food-security crisis? Or, the significance of a situation - do decision makers need to pay attention now rather than next year?

**Eg. using data to interpret a current humanitarian situation and design an immediate emergency response**

## Anticipatory analysis

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Anticipatory analysis looks to the future, asking what might happen next and proactively trying to anticipate courses of action that decision makers may take in response to potential issues or triggers. Forecast analysis by definition is carried by its underlying framework of drivers, influences, and assumptions in the absence of hard data. Forecasts are based on lessons learnt, the analysts' experience, knowledge, and strategies for modelling evidence that include scenarios and risk analyses.

**Eg. using data to build scenarios on what humanitarian situations could arise and unfold**

## Prescriptive analysis

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Prescriptive analysis is known as response analysis and planning in the humanitarian sector. It entails the selection and design of appropriate and proportionate responses or interventions.

**Eg. using data to prepare communities and plan a response to future events**

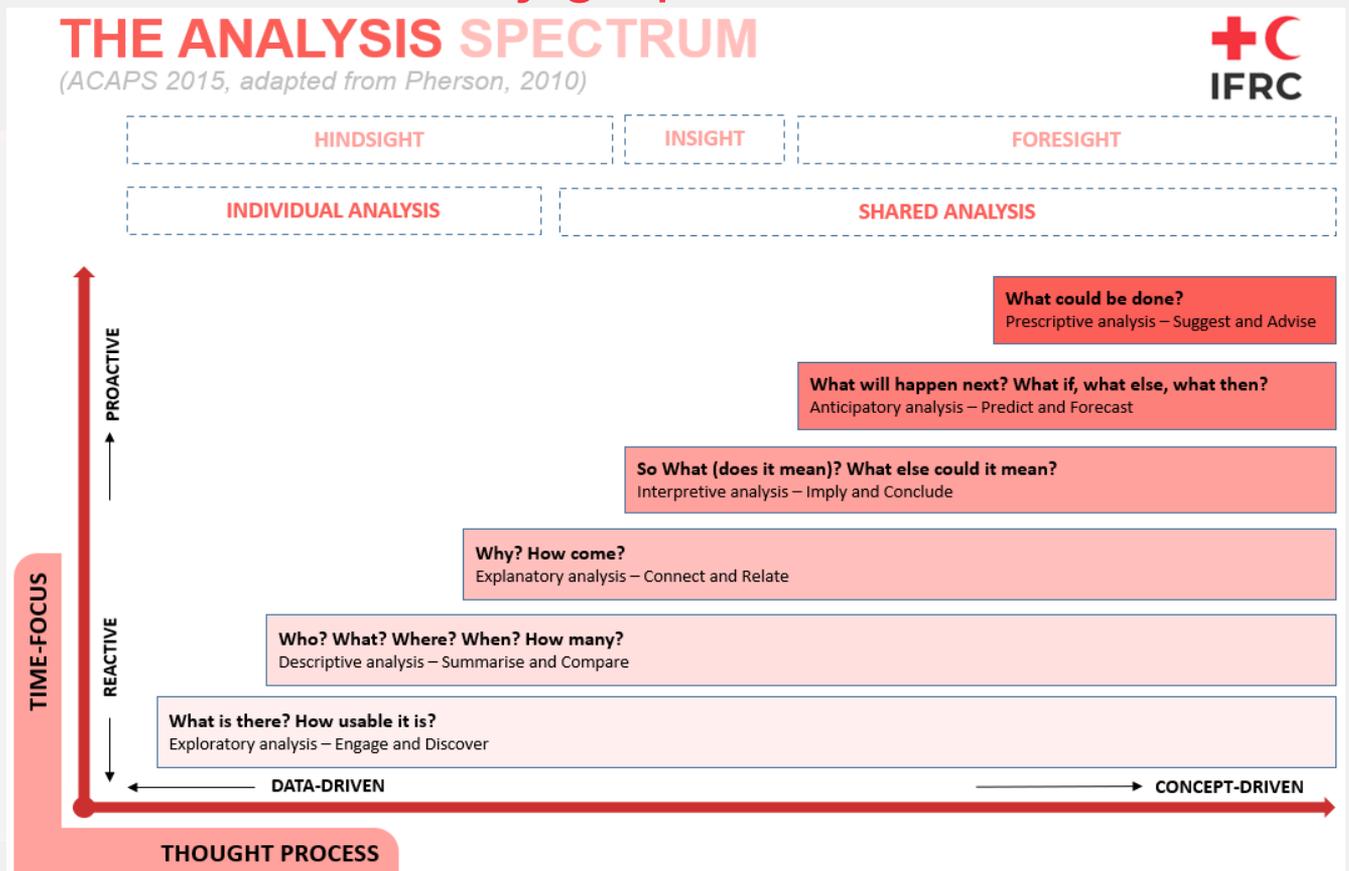
## Who uses what type of analysis

What we can say as a good rule of thumb is that an individual analyst can do an Exploratory, Descriptive analysis.

While an individual may be able to perform an Explanatory analysis, it is likely that this would require collaborating with others.

Interpretive, Anticipatory and Prescriptive analysis will most likely require working as a group, benefiting from a wide range of perspectives and expertise. Several brains think better than one and at the end of the day the human brain is the best analytical tool we have...

## Summary graph: the



### Credit

ACAPS 2015, Pherson, 2010 — HIAC, [ACAPS](#)

## 6 - 2 Unveiling the analysis spectrum

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**With this exercise, participants will discover the different types of analysis that can be used, and get the basic knowledge allowing them to know what type of analysis they need, or can apply. The exercise should be facilitated by a data ready person or expert in data analysis.**

- ▶ **People:** At least 6 participants, Facilitator (analyst)
- ▶ **Time:** 60 to 90 Minutes
- ▶ **Difficulty:** Medium
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers

## Exercise

### Preparation:

Review and prepare accompanying content **Unveiling the analysis spectrum (exercise material) (6 - 8)**, **Mapping the types of Analysis (6 - 11)**, and **Description of the analysis spectrum (6 - 1)**. You may also use **HIAC examples of analysis (6 - 10)**.

### Part 1: Share (10 minutes)

In the plenary, present the 6 types of analysis of the analysis spectrum, and their purpose (see document **Unveiling the analysis spectrum (exercise material) (6 - 8)**).

### Part 2: Explore (30 minutes)

Form groups of 3 to 4 people. In small groups, assign analysis types to the groups.

Ask the groups to answer the following questions about the assigned analysis types:

- ▶ Who needs to do it? Who needs the result?
- ▶ What do we need to know before doing the analysis?
- ▶ Provide a real life or fictitious example by analysis type

Each group/individual takes notes in the table such as the one at the bottom of the document **Unveiling the analysis spectrum (6 - 2)**.

### Part 3: Discuss (20 minutes)

- ▶ Share findings in plenary and discuss analysis type by analysis type/group by group (15 minutes)
- ▶ Split participants into groups again and ask each group/individual to place each type of analysis on a time-focus/thought-process graph (1 graph by group). Tip: replicate the example found in the document **Mapping the types of Analysis (6 - 11)** using a tool that allows using virtual post-its such as jamboard, or miro. (5 - 10 minutes)
- ▶ Regroup in plenary for groups to present their graphs and discuss. (5 minutes)
- ▶ Show the right answer (graph at the bottom of the document **Description of the analysis spectrum (6 - 1)**). Before leaving, make sure to hand this overview document out to the participants.



### Extra Credit

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If you need to provide examples for each type of analysis, you can use the slide deck **HIAC examples of analysis (6 - 10)**.

### Credits

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IFRC, [ACAPS](#), [Pherson](#)

## 6 - 3 Mental shortcuts and thinking errors (exercise)

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The objective of this exercise is to raise awareness of some of the cognitive biases that we find in humanitarian analysis, and of the errors that they lead us to commit. By working in groups, the participants will learn to recognize biases in themselves and in others.

- ▶ **People:** 10+ participants, 1 facilitator
- ▶ **Time:** 60 Minutes
- ▶ **Difficulty:** Medium
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers

## Exercise

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### Preparation:

Review and prepare accompanying content **Background, field info and biases list (exercise material) (6 - 4)**, **Cognitive Biases in Humanitarian Analysis (6 - 6)** and **Analysing Analysers (6 - 7)**.

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### Part 1: Share

In plenary, Share and read aloud the objectives of the exercise:

"As a group: Reach agreement on the 3 most important issues.

Everyone will be assigned a bias and participate in the discussion in line with their assigned bias ; Other group members try to guess which bias is being exercised. If a participant's bias has been recognised, the player is out of the discussion."

Read the background information to the participants and share the handout material document **Background, field info and biases list (exercise material) (6 - 4)**.

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### Part 2: Discuss

Assign a bias to each participant (send private message or have a 'confidential discussion' to the individuals to assign the biases). Make sure you have pre-defined the biases for each individual beforehand.

Split participants in groups to discuss.

Regroup in plenary.

- ▶ Did you come to an agreement?
- ▶ What challenges did you face?
- ▶ Could you identify all the biases within the group?

Handout **Cognitive Biases in Humanitarian Analysis (6 - 6)** with all biases for people to put on their wall.

Handout the **Analysing Analysers (6 - 7)**



### Credits

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IFRC, HIAC, [ACAPS](#), [Pherson](#)

# 6 - 4 Background, field info and biases list

(exercise material)

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Material to be used with **Mental shortcuts and thinking errors (exercise) (6 - 3) (exercise)**

## Background

You are working for DG ECHO in Brussels. Together with your colleagues, you have been tasked to look at the current humanitarian situation in Libya.

About 3 weeks ago, protests started in Libya against the acting government. As unrest rapidly spread throughout the country, governmental security forces began responding to protesting crowds with increasing violence.

During the workshop, you, together with a group of experts from different organisations, are to decide on the 3 most important humanitarian issues in Libya.

The discussion is influenced by overt and concealed biases of the participants. The objective of this exercise is to train your brain to exercise and recognise these specific heuristics and cognitive biases.

## Information from the field

Your team has received the following reports and snippets of information on the current situation in Libya:

<ul style="list-style-type: none"> <li>◦ Around 3.2 million people are likely to be in need of humanitarian support including those that have fled to neighbouring countries, Sub-Saharan migrants and those living in areas affected by conflict (according to pre-crisis population estimates).</li> </ul>	<ul style="list-style-type: none"> <li>◦ During the meeting, one of your colleagues contacts a friend in Tripoli, who owns a grocery shop. He explains that first aid to those injured, fuel and repairs to the traditionally poor road infrastructure are the main needs. There is no need for food support as there are sufficient supplies in stock.</li> </ul>
<ul style="list-style-type: none"> <li>◦ Several media outlets reported that some people in Tripoli have turned to selling their kidney in order to be able to survive.</li> </ul>	<ul style="list-style-type: none"> <li>◦ Bread prices in Tripoli are 0.5 LD for a loaf of bread, 2 in El Brega city and up to 4 LD (eight times the pre-crisis price) in Zawiya city.</li> </ul>
<ul style="list-style-type: none"> <li>◦ In humanitarian emergencies, women and children are more vulnerable to abuse and human rights violations. Indigenous ethnic groups and tribes tend to live away from easy-to-access settlements, and are traditionally marginalised. An international human rights organisation reports that Sub-Saharan migrants face violence in all of the affected areas. A majority of them are unable to flee and are trapped in their houses. The organisation states that they are the most vulnerable group and in need of additional support.</li> </ul>	<ul style="list-style-type: none"> <li>◦ Since the start of the crisis 3 weeks ago, the humanitarian community has been working under the assumption that markets where communities buy their basic needs are accessible and functional. Cash-based programming is seen as the preferred modality in all affected locations. However, recent findings of a phone assessment showed that key informants in almost half of the affected communities indicate that insecurity impedes access to markets.</li> </ul>
<ul style="list-style-type: none"> <li>◦ A new way of collecting data by tracking mobile phone movement was recently piloted. The resulting preliminary analysis showed that almost 50% of the population, or 3.2 million people, are displaced.</li> </ul>	<ul style="list-style-type: none"> <li>◦ The assessment shows as well that affected families are unable to access sufficient food and are in need of improved access to health facilities.</li> </ul>
<ul style="list-style-type: none"> <li>◦ The number of children seen begging on the street has increased. The number of nurses not showing up for work has increased as well.</li> </ul>	

## Biases at play in the game

1	Anchoring bias	The tendency to rely too heavily on one piece of information (often the first piece of information heard) when making decisions.
2	Clustering Illusion bias	The human brain excels at finding patterns and relationships, but tends to overgeneralise – The tendency to see patterns where none exist.
3	Confirmation bias	Only seeking information that is consistent with the lead hypothesis, judgment, or conclusion.
4	Framing bias	Being influenced in our decisions by how the situation is presented.
5	Group Thinking bias	Adopting a belief because many other people do.
6	Halo Effect	The tendency to accept or reject everything another group member says because the analyst likes/respects or dislikes/disrespects the person.
7	Institutional bias	Interpreting information in line with the interests of a certain organisation.
8	Mirror Imaging bias	Assuming that, given similar circumstances, others will always act as you would.
9	Pro-Innovation bias	Tendency to overvalue the usefulness of innovation and undervalue its limitations.
10	Saliency bias	A tendency to focus on the most easily recognisable, interesting or shocking features in a set of data.
11	Stereotype bias	The tendency to expect a group or person to have certain characteristics without having real information.
12	Impact bias	To overestimate the significance of an event based on the potential impact

# 6 - 5 Proposed definition for analysis in humanitarian settings

The structured, transparent, controlled and iterative human process of transforming raw data into actionable insights for decision making. It involves:

- 1 Uncovering and describing **trends, patterns** and **anomalies** in your data
- 2 **Explaining** and interpreting these patterns and trends by placing them in **context**, using **lessons learned** and **experience**.
- 3 Use those findings to identify **current** and **forecasted priority needs**, and inform **decision making**

# 6 - 6 Cognitive Biases in Humanitarian Analysis

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 [Download Poster](#)

# 6 - 7 Analysing Analysers

---

Material to be used with **Mental shortcuts  
and thinking errors (exercise) (6 - 3)**

A good analyst is one who is constantly thinking about the way (s)he is thinking. This document talks about the way the brain works cognitively, when it comes to analysis. It presents the different types of cognitive bias that affect analysis, as well as different techniques to counter those biases.

Here, we talk about the way the brain works cognitively, when it comes to analysis. We also discuss different types of bias that affect analysis and present some of the different techniques to counter bias. It's not enough just to recognize it but we must be constantly aware of its influence.

## How the brain thinks

Our brain uses two types of thinking when facing a question or situation.

<b>fast thinking</b>	<b>slow thinking</b>
to address simple problems	to address more complex problems
often "automatised" or unconscious	conscious thinking process, requires focus and reasoning
operates on biases and shortcuts that may not be accurate	evaluates mental shortcuts to assess how right they are in a given situation.
hard to modify	flexible
low energy requirement for the brain	high energy requirement for the brain

To manage our energy, the "lazy" brain prefers using fast thinking, which exposes us more to biases.

## The good analyst

Fast and slow thinking are complementary when working together. One should base decisions on experience and ideally make decisions quickly BUT also one doesn't want to ignore new information or get stuck due to your biases. Changing our thinking is tiring! It takes energy to use a different system of thinking and maybe even harder to accept the conclusion.

### A good analyst:

- ▶ never stops thinking about thinking
- ▶ has an acute understanding about how the brain works and the cognitive pitfalls we keep falling for if we don't pay attention to the way we think, at the same time as we are thinking it.
- ▶ is able to constantly challenge fast thinking by switching to slow thinking to identify and correct biases.

An analyst must recognize and account for the presence of cognitive biases and heuristics, the influence of background and experience as well as how our memory works when selecting and processing information, and subsequent consequences for analysis.

Perception is a deliberate process where we pay attention to a small part of the whole picture and exclude almost all that is not within the scope of attention. Perception frames our view of the world and our actions and can make us unaware of other's vision of the same issue.

So, what shapes our perception?

- ▶ Past experience can handicap analysis as well as aid analysis. Past experience can make us think that we know better when fresh eyes can spot important factors,
- ▶ Our education (he is from Oxford and the other from some generic unknown university),
- ▶ Or even cultural values – such as the fact that someone went to university and the other didn't,
- ▶ Roles and tasks (he is the country director),
- ▶ Assumptions and preconceptions,
- ▶ Memory which is unreliable.

## Cognitive Biases

Biases are always around, independently of the types of analysis of the Analysis spectrum (from exploratory to prescriptive analysis) (see document **Description of the analysis spectrum (6 - 1)**), and all along the data management process (from data collection to interpretation and decision making).

- ▶ They are normal processes, designed to make decisions quickly. They are unconscious, automatic and non-controllable...
- ▶ They are inherent thinking errors caused by our simplified information selection and processing strategies
- ▶ Knowing/understanding/recognizing them and applying key structured techniques can help mitigate their negative consequences
- ▶ SLOW DOWN!

Take a look at the 14 most common cognitive biases in humanitarian analysis listed by ACAPS, grouped by category **Cognitive Biases in Humanitarian Analysis (6 - 6)**

- ▶ Selection biases (Anchoring Effect, Availability Cascade, Confirmation, Evidence acceptance, Saliency)
- ▶ Social biases (Groupthink, Halo Effect, Institutionalization Bias, Mirror imaging, Stereotyping)
- ▶ Process biases (Clustering Illusion, Framing Bias, Hindsight Bias, Impact Bias)

Cognitive biases are particularly sneaky, just knowing you have them, won't change them at all. You can't suppress them either. In fact, fighting bias too hard creates new biases. "Since learning about confirmation bias, I keep seeing it everywhere"

## Improving Analysis

Knowing, being aware of biases is NOT half the battle – but it is just a first step. Make sure you have enough time – using slow thinking takes time and it is common for us to default to fast thinking when we don't have enough time AND we're under pressure. The analyst needs focus (not being disturbed) as well as skills, knowledge of tools and techniques that can improve the quality and credibility of the analysis.

### Five habits of master analysts:

- 1 Know when to challenge key assumptions—usually far more often than you think!
- 2 Consider alternative explanations or hypotheses for all events—including the null hypothesis and the deception hypothesis when applicable.
- 3 Look for inconsistent data that provides sufficient justification to quickly discard a candidate hypothesis.
- 4 Focus on the key drivers that best explain what has occurred or what is about to happen.
- 5 Anticipate the customers' needs and understand the overarching context within which the analysis is being done.

### Credit

IFRC HIAC, [ACAPS](#)

# 6 - 8 Unveiling the analysis spectrum

(exercise material)

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Use with **Unveiling the analysis spectrum (6 - 2)**

# Types of analysis and why use them

The list of analysis (ACAPS 2015, Pherson 2010) and purposes below is extracted from a more detailed Data Playbook document on the analysis spectrum.

## Exploratory analysis

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Engage and discover what is there and how usable it is.

## Descriptive analysis

---

Report or summarize what is known about situations, people, places, or objects

## Explanatory analysis

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Probe the reason or immediate causes of a situation, explaining why it has developed or is developing.

## Interpretive analysis

---

Examine the significance of a problem or topic of interest as it relates to decision maker's interests, using logic to interpret and make judgments about various values or meanings behind the data

## Anticipatory analysis

---

Look to the future, asking what might happen next and proactively try to anticipate courses of action that decision makers may take in response to potential issues or triggers

## Prescriptive analysis

---

Known as response analysis and planning in the humanitarian sector. It entails the selection and design of appropriate and proportionate responses or interventions

## Deep-diving in the analysis spectrum (group work)

Type of analysis	Who needs it? When?	What do we need to know before doing the analysis?	Real life example
Exploratory			
Descriptive			
Explanatory			
Interpretive			
Anticipatory			
Prescriptive			

## 6 - 9 What is analysis in a humanitarian context? (exercice)

**This exercise is an introduction to the field of data analysis and why it is important. It invites participants to reflect about the broader meaning of analysis in a humanitarian context. Participants will explore the different definitions of analysis available on the web and come to a shared definition. The exercise should be facilitated by a data ready person or expert in data analysis.**

- ▶ **People:** 6 to 20 participants
- ▶ **Time:** 45 Minutes
- ▶ **Difficulty:** Easy
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers

## Exercise

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### Preparation:

Review and prepare accompanying content: **Proposed definition for analysis in humanitarian settings (6 - 5)**

---

### Part 1: Explore (30 minutes)

- ▶ Form groups of 3 to 4 people
  - ▶ Invite groups to look for definitions of "analysis" on the web and to discuss and choose their favourite definition, write it in the shared note-taking space.
  - ▶ Optionally, invite the groups to illustrate the definition with a drawing (virtual or not) of their choice.
- 

### Part 2: Discuss (15 minutes)

- ▶ Invite groups to present in plenary, sharing the definition, (and optionally the drawing on camera or by sharing screen) and explain why they think this definition reflects well analysis in humanitarian settings.
- ▶ Share the definition proposed in the document **Proposed definition for analysis in humanitarian settings (6 - 5)**
- ▶ Invite participants to compare this definition to theirs.
- ▶ Before leaving, make sure the participants will still have access to the note taking document and the proposed definition.

### Credit

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IFRC, HIAC, [ACAPS](#)

# 6 - 10 HIAC examples of analysis

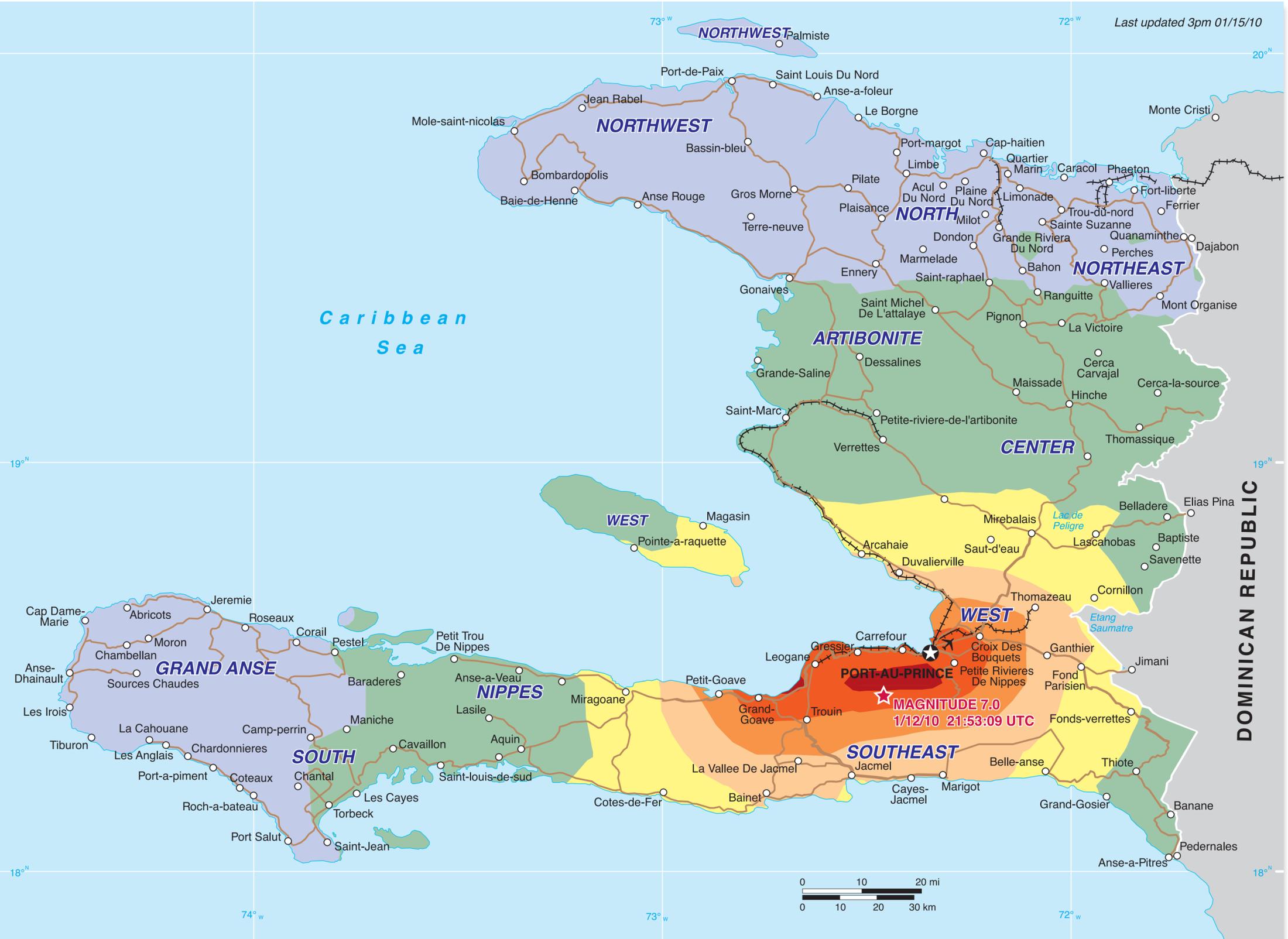
## Humanitarian Information Analysis Course

Last updated 3pm 01/15/10

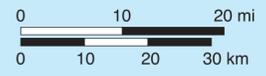
**EARTHQUAKE INTENSITY**  
The Modified Mercalli (MMI) Intensity Scale\*

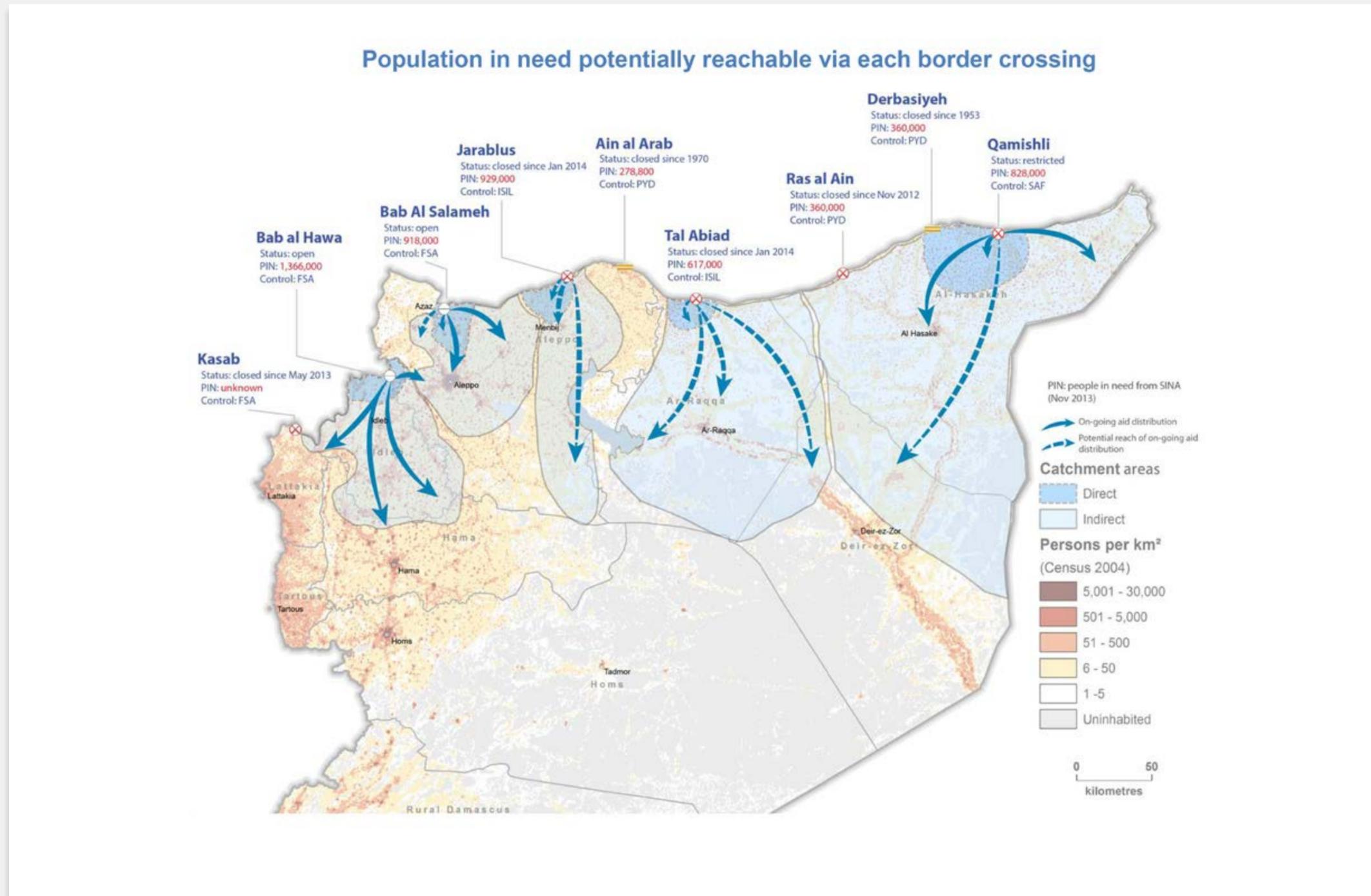
ESTIMATED MMI INTENSITY	POPULATION EXPOSED TO SHAKING
4 LIGHT	5,887,000
5 MODERATE	7,261,000
6 STRONG	1,049,000
7 VERY STRONG	571,000
8 SEVERE	314,000
9 VIOLENT	2,246,000
10 <sup>^</sup> EXTREME	332,000

\*MMI is a measure of ground shaking and is different from overall earthquake magnitude as measured by the Richter Scale.  
 ^Area shown on map may fall within MMI 9 classification, but constitute the areas of heaviest shaking based on USGS data.  
 Source: USGS/PAGER Alert Version: 8



The boundaries and names used on this map do not imply official endorsement or acceptance by the U.S. Government.

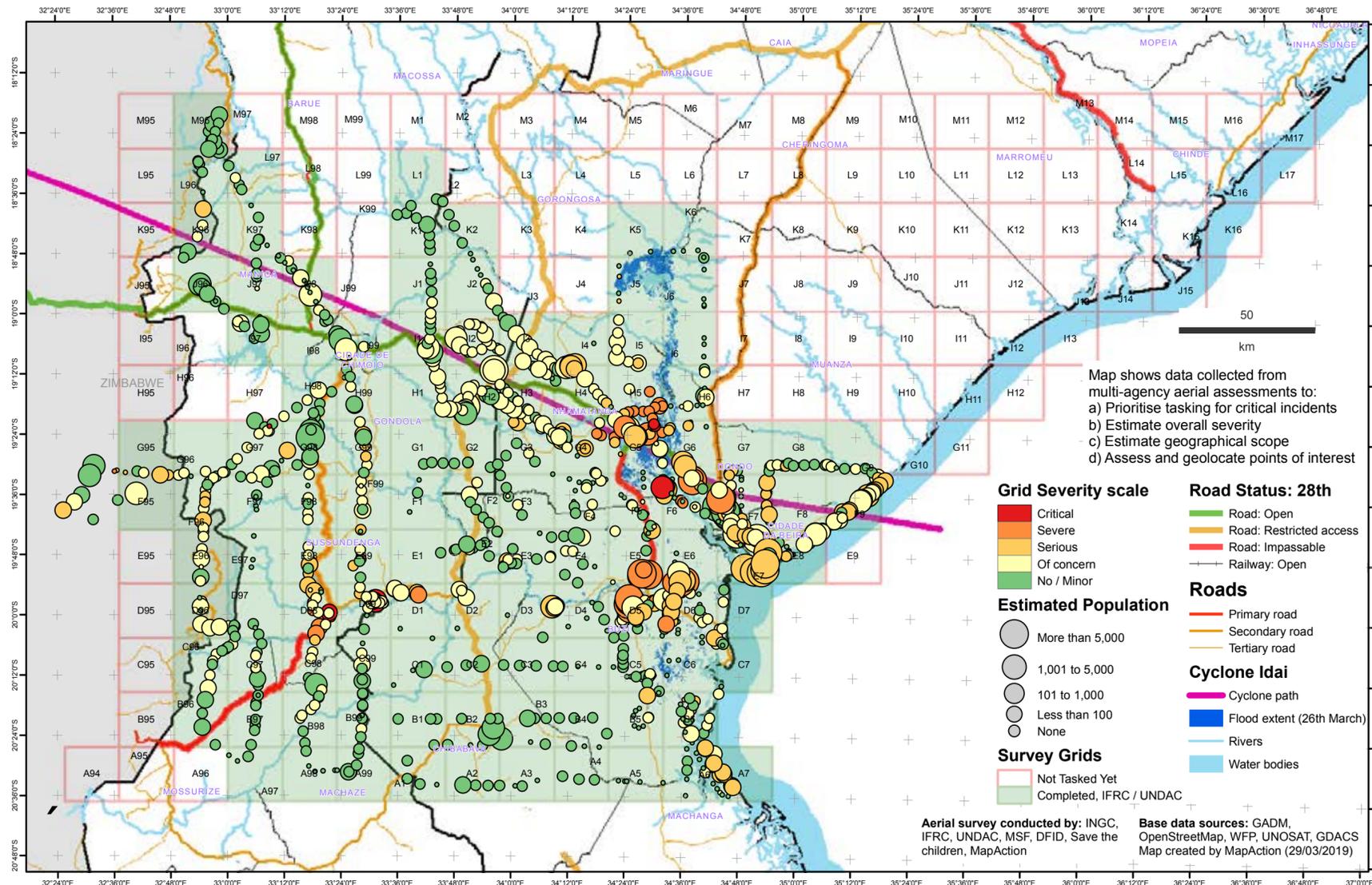
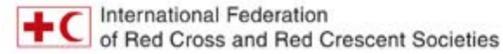




(i) Source: ACAPS

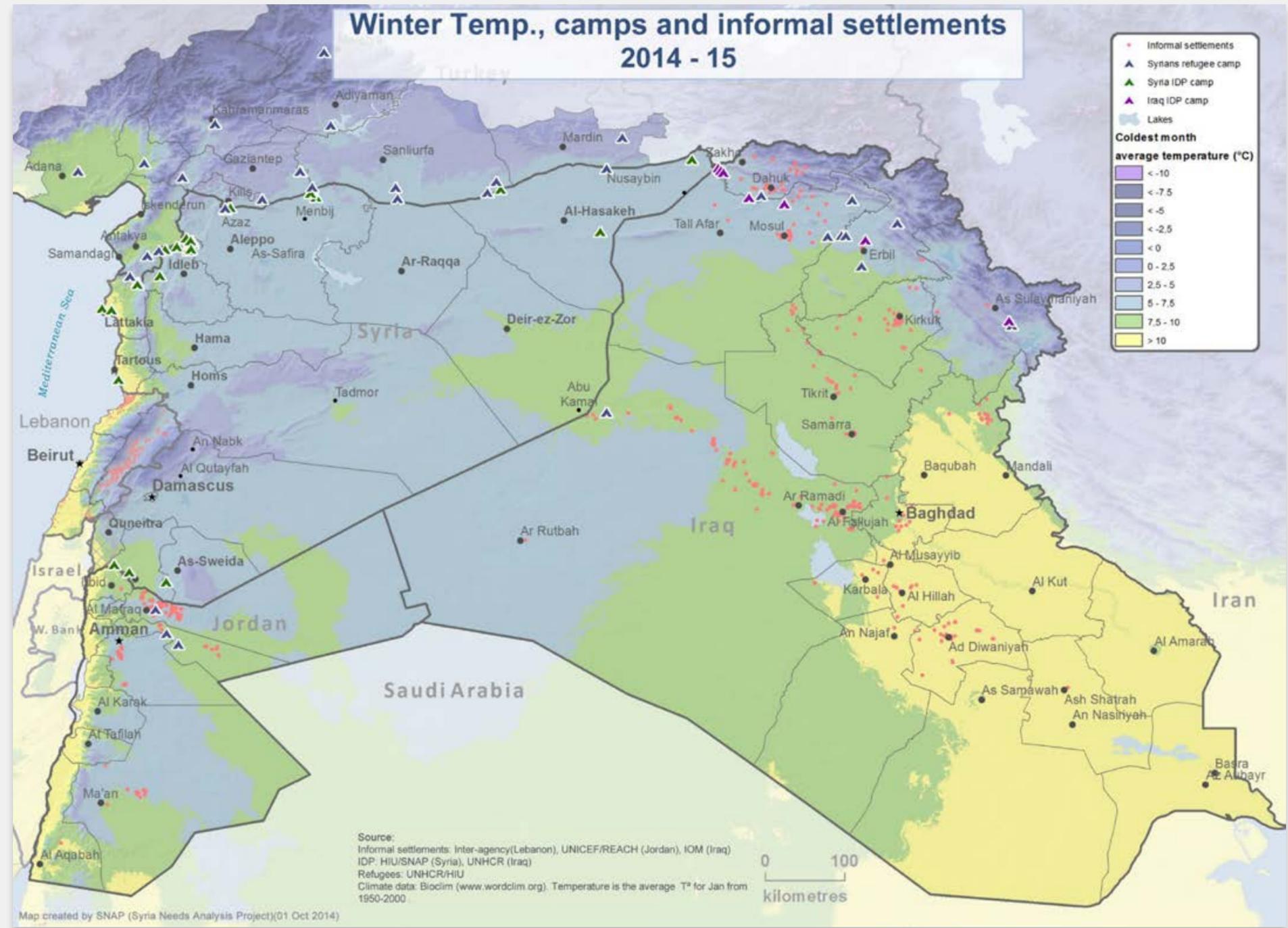
### Mozambique: Cyclone Idai - results and analysis of aerial survey as of 29th March 2019

MA028 v11



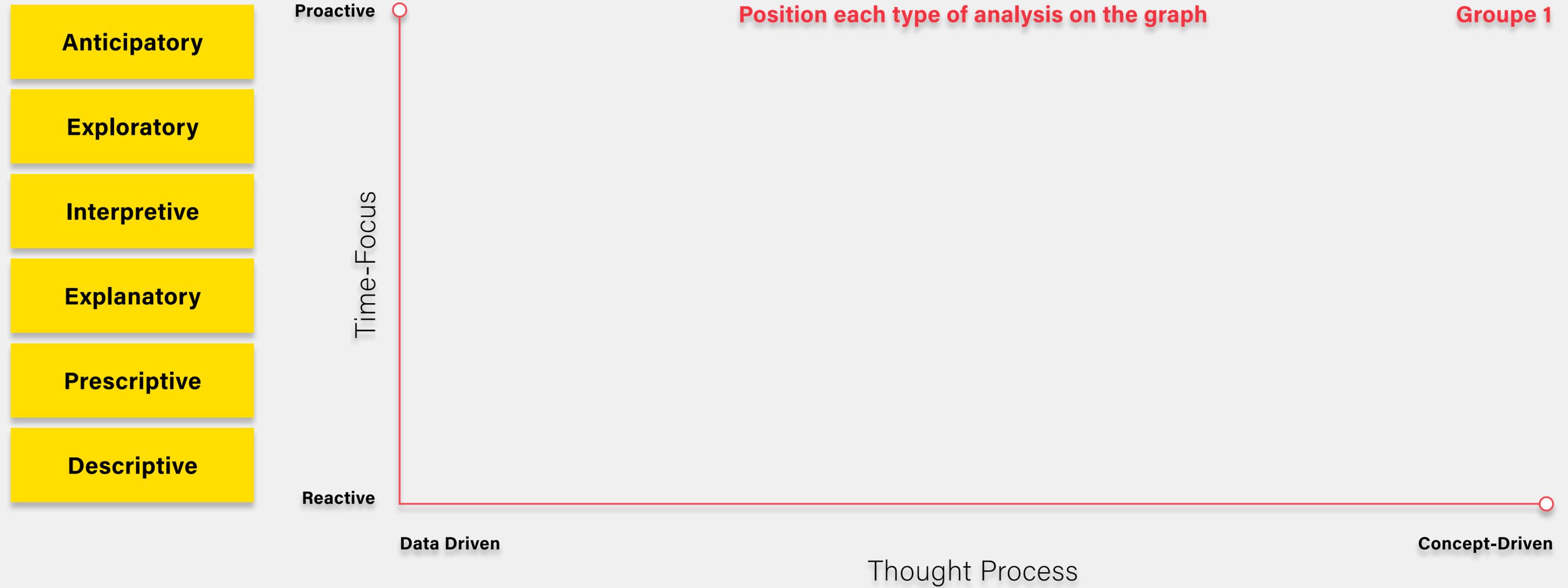


We are in September 2014 (winter is coming). How would you modify this information product so it can have more analytical value for humanitarian decision makers?



(i) Source: ACAPS

# 6 - 11 Mapping the types of Analysis



# 6 - 12 Exploratory analysis, gaps and pitfalls (exercise)

---

Explore an existing dataset to look for gaps and potential pitfalls for analysis. Think about ways to tackle these challenges and about what would have been useful to know about the dataset.

- ▶ **People:** At least 8 to 10 participants
- ▶ **Time:** 60 Minutes
- ▶ **Difficulty:** Easy to Medium
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers

## Exercise

### Preparation:

Review and prepare accompanying content: **Description of the analysis spectrum (6 - 1)** and **Exploratory analysis, gaps and pitfalls (exercise) (6 - 12)**.

In this exercise, you will invite participants to do an exploratory analysis of a dataset inspired by an existing damage and needs assessment dataset from Mozambique.

- ▶ Present the Exploratory type of analysis (see document **Description of the analysis spectrum (6 - 1)**)
- ▶ Share the dataset **Cidade Da Beira assessment (mock data set) (6 - 13)**

### Part 1: Explore

Form groups of 4 to 5 people. As a group, invite participants to explore the data set in view of answering one or both the following questions from the head of operations:

- ▶ How many families are in need of emergency shelter/tents in Cidade da Beira?
- ▶ Which neighborhood has the most affected people?

As they explore the dataset, instruct the participants to particularly answer the following three questions that they will have to report on in plenary:

- 1 Do you have enough info to answer the question asked by the head of operations? Why? Particularly pay attention to:
  - a) Which columns are not useful for determining shelter needs?
  - b) Which data columns or rows have confusing information/why?
  - c) What is the missing information?
- 2 What would you do about the inconsistencies and how would you obtain the missing data?
- 3 What information would have been useful to know about the dataset?
- 4 After determining the geographical areas for the shelter intervention, what data do you need to collect to select recipient households?

### Part 2: Discuss



- ▶ Regroup in plenary and ask the groups to share their answers.
- ▶ Debate in plenary

## CREDITS

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IFRC, [HDX](#)

# 6 - 13 Cidade Da Beira assessment

(mock data set)

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 [Download Resources](#)

# 7 Responsible Data Practices and Data Protection

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# Responsible Data Practices and Data Protection

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**Ensuring Data protection and responsible data use are top priorities at IFRC and throughout the Movement. With this Module, we hope to provide information and exercises that explore the issues you might face and help you to be better prepared to understand and solve those issues in practice.**

As with any content of a general nature, the guidance (and examples) contained in the module are only intended as a starting point. You should do your own due diligence, involving legal counsel where appropriate, to determine what any specific legal obligations (or other relevant considerations) are in your operating context.

## Questions this module explores:

- ▶ What does responsible data use and data protection mean to humanitarians and why are the concepts important?
- ▶ What are the differences between non-personal, personal and sensitive data and why is it important to know the differences?
- ▶ What does it take to protect and use data responsibly in practice?

## Learning Objectives

- ▶ Understand why responsible data use and data protection are important to the implementation of the IFRC's work and how they link to humanitarian principles;
- ▶ Develop the confidence and knowledge to identify and distinguish between different kinds of data (e.g. non-personal, personal, sensitive and sensitive group data) and what that means for how it should be used responsibly; and
- ▶ Explore legal, ethical, practical and cultural factors impact upon data protection in practice in complex emergency settings.

## Module Topics

- ▶ Using data responsibly includes protecting it but also requires thinking about broader humanitarian responsibilities like Do No Harm and Impartiality.
- ▶ Distinguishing between different kinds of data can make it easier to understand what data needs to be protected. Humanitarians have a duty to protect and responsibly use information that might be used to identify an individual or vulnerable group.
- ▶ It is important to work with local communities to identify possible risks to them and then take steps to responsibly use that data.
- ▶ Responsible data use and data protection should be considered at each step of a project's workflow and need to be thought through before any new data collection activities commence.
- ▶ How data should be protected and used responsibly in any given context depends largely on the IFRC/NS's mandate to operate there. As humanitarians, communities' consent isn't always needed to use data about them, but that data must always be used responsibly.

- ▶ Documenting decisions (and how those decisions were reached) about how data has been protected and used is a key part of using data responsibly. Data Protection Impact Assessments, Data Sharing Agreements and Consent Forms can be helpful when doing this.

## Recipes

### A suggested step by step process to achieve learning objectives

- 1 How can we incorporate best practices of data protection and responsible data use into our work? With your teams, explore: **People Before Data (handout) (7 - 16)**, **What data do we really need? (7 - 9)**, **What can we do vs. What should we do? (7 - 10)**, and
- 2 Humanitarians collaborate across organisations. Data sharing is important for humanitarian response. Yet, sharing data must be done carefully and guided by the practices of Data Protection and Responsible Data use. Start by having a short discussion. **Would you Share it? (7 - 12)** Teams can then plan with their existing projects by reviewing this handout and associated checklist: **Data Sharing Agreements (part 1) (7 - 1)** (part 1 and part 2).
- 3 How does data protection align with our values and principles? The **Humanitarian Values & Data Protection (7 - 7)** (exercise) combined with the **Humanitarian Values & Data Protection (7 - 8)** (handout) can guide teams through these conversations.
- 4 The **Polio Campaign Monitoring In Syria (7 - 17)**, **PMER Data Simulation (7 - 15)** 'simulates' data workflows for various topics. Teams should use these scenarios in conjunction with the **Strengthening Data Teams and Projects (3)** (Module 3).

## Ingredients

Pick and choose ingredients to create your own recipe. Do you have an ingredient we're missing? Send an email to [data.literacy@ifrc.org](mailto:data.literacy@ifrc.org).

## Exercises

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### Short, discrete social learning experiences

- ▶ What is the Data We Really Need?
- ▶ What should we do vs What Can we do?
- ▶ Data Responsibility (scenario)
- ▶ PMER Data Protection (Scenario)
- ▶ Polio Monitoring (Scenario)

## Session Plans

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### Longer social learning experiences

- ▶ Debate Club: Data Protection and Digital Risks
- ▶ In Your Shoes
- ▶ Matching Humanitarian Values and Data Protection Principles
- ▶ Data Protection Nightmares
- ▶ Wheel of Misfortune

## Slide Decks

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### Presentations to be used and/or adapted:

Provides context for data use and its importance within IFRC

- ▶ Understanding and Identifying different types of data
- ▶ Understanding the 'legal basis'

## Checklists/Handouts/Materials

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### For documentation of essential elements of the learning experience

- ▶ Data Sharing Agreements (Part 1)
- ▶ Data Sharing Agreements (Part 2)
- ▶ Matching Principles (Handout)

- ▶ Data Hygiene (checklist)
- ▶ People before Data (handout)

## Next Steps

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### Relevant modules in the Data Playbook

- ▶ (Module 3: Strengthening Data teams and Project) and (Module 4: Getting the Data we need)

### Resources

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- ▶ [IFRC Data Protection guidance](#)
- ▶ [Handbook on Data Protection in Humanitarian Action, 2nd Edition \(ICRC\)](#)
- ▶ [IASC Operational Guidance on Data Responsibility in Humanitarian Action](#)
- ▶ [OCHA Data Responsibility Guidelines](#)
- ▶ [IFRC Digital Transformation Strategy](#)
- ▶ [Digital Dilemmas \(interactive website\)](#)

### Credit

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James De France, Tom Orrell, Heather Leson, IFRC V1 Sprint and Data Playbook Beta contributors

# 7 - 1 Data Sharing Agreements

## (part 1)

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**In our work, there are many questions about “data sharing” and “data sharing agreements.” This handout can be used pre-deployment/ pre-project planning session as part of responsible data use and data protection training. It can also be used in the field as a rapid reference tool and checklist to help staff think through the requirements of data sharing.**

Data sharing is the practice of granting other individuals or organisations access to data that you are responsible for. Data sharing could be anything from sending a spreadsheet to a colleague at another humanitarian organisation via email, to providing limited access to Red Cross Red Crescent data to governments. This handout is an explanation for Data Sharing Agreements. See Part 2 for a draft document to fill out as you coordinate.

## What are Data Sharing Agreements?

Within the Red Cross Red Crescent’s work, ‘data sharing agreements’ (DSAs) refer to a range of documents that cover the transfer of data within and between the Movement and governmental and non-governmental partners. DSAs need to address a number of considerations; and where they relate to the sharing of personal or sensitive data, need to clearly define how that data will be protected and individuals’ rights respected.

At a minimum, DSAs need to establish clarity and a degree of certainty about what data will be shared, how data will be shared, why it is being shared, what it will be used for, who will be sharing and receiving the data, and when and where the sharing will take place, and how to ensure the data is protected and not misused after sharing. Ideally, DSAs should also include agreed terms relating to how intellectual property rights will be upheld, how and where any disputes relating to the agreement will be resolved, and any other relevant considerations.

Within the Red Cross Red Crescent, DSAs should be used any time data is being transferred into, out of, or between the different organisations that comprise the Movement.

## What does a Data Sharing Agreement include?

Contents	Explanation
What data is expected to be shared?	<ul style="list-style-type: none"> <li>Be as specific as possible about what datasets are going to be shared. Ideally, list them out.</li> <li>It is extremely important that you separate out ‘personal and sensitive’ datasets from ‘non-personal’ and ensure that you abide by any applicable local data protection and privacy laws, and IFRC guidance on personal data sharing.</li> </ul>
Who is sending data and who is receiving it?	<ul style="list-style-type: none"> <li>List all the names and contact details for the organisations/people who will be sharing data – both those sending the data and those receiving it.</li> <li>If some or all of the data that is being shared belongs to another organisation, make sure that you have permission to share it or also include them in the agreement if they have control over the data.</li> </ul>

Contents	Explanation
<b>When will the data sharing start and when will it end?</b>	<ul style="list-style-type: none"> <li>◦ Specify the start and end dates for the data sharing. Specify what will happen to the data at the end of the agreement – will it be returned to the data provider, deleted, archived, etc.</li> <li>◦ If you are not sure when the data sharing will end, add a clause into your agreement agreeing to review the timeline at an appropriate juncture (e.g. you could agree to review in a month, or three months, or a year, depending on the nature of your needs at the time).</li> </ul>
<b>If personal data is involved, what measures are needed to ensure that it continues to be protected during and after transfer (access is provided)?</b>	<ul style="list-style-type: none"> <li>◦ Review the proposed data sharing plan with all of the data protection principles in mind: i.e. legal basis, minimization, purpose limitation, data security, transparency, proportionality and data subject rights.</li> </ul>
<b>Why is the data being shared?</b>	<ul style="list-style-type: none"> <li>◦ Make sure to clearly list out the reasons why data is being shared.</li> <li>◦ If personal or sensitive data is being shared, ensure that you document all the legitimate legal bases upon which that data is being shared.</li> </ul>
<b>How is the data being shared?</b>	<ul style="list-style-type: none"> <li>◦ The DSA should specify how data will be transferred; for instance, by email, by granting remote access to a server, via the cloud, etc.</li> <li>◦ Where possible, the agreement should specify the standards and formats that apply to the data being shared.</li> </ul>
<b>Where is the data being shared from and where is it going to?</b>	<ul style="list-style-type: none"> <li>◦ It is important to clarify where data is being transferred from and to because this could affect the laws that cover the data sharing. For example, under the European Union General Data Protection Regulation (GDPR), there are special rules that must be followed when making international data transfers. Each organisation and/or region/country may have their own legal obligations around data protection.</li> <li>◦ The agreement should set out which country's laws (jurisdiction) apply to the agreement and ensure that the DSA complies with those requirements. This might require legal guidance.</li> <li>◦ This will require a review of any applicable national or regional data protection and privacy laws.</li> </ul>

Contents	Explanation
<b>Other Considerations</b>	<ul style="list-style-type: none"> <li>◦ Who will own the intellectual property rights over any outputs produced from the shared data?</li> <li>◦ Who will cover the costs associated with the transfer, processing or analysis of the data?</li> <li>◦ How will any Red Cross Red Crescent logos and emblems relating to the data be used?</li> <li>◦ What will happen to the agreement in the event of some unforeseen circumstance cutting it short (force majeure)?</li> <li>◦ How will you and the other parties to the agreement agree to compensate each other and protect yourselves financially in the event of a financial loss (indemnification)?</li> </ul> <p>If you are operating in a high-stress emergency setting and you need to share data quickly with a trusted partner such as a colleague at another humanitarian agency in exceptional circumstances, remember to consider the following things:</p> <ul style="list-style-type: none"> <li>◦ You can share non-personal data unless there is a good reason not to – DO NOT share any data externally that might put individuals or communities at risk, jeopardise the delivery of humanitarian programmes or operations, or bring the Movement into disrepute.</li> <li>◦ If you need to share personal data: <ul style="list-style-type: none"> <li>– Think about what precise data you need to share to meet your urgent need and what the best way of sharing it might be;</li> <li>– Agree how the data will be used, who else it should or should not be re-shared with and what steps will be taken to protect it;</li> <li>– Set a time limit for how the data that is being shared will be used and agree on what you'll do with the data once it's been used. Agree a time and way in which you will formalise your data sharing;</li> <li>– Consider whether conducting a Data Protection Impact Assessment (DPIA) is appropriate; and</li> <li>– Ensure that you document your data sharing decisions and enter into a data sharing agreement as soon as possible. All sharing of personal or sensitive data must be documented and recorded.</li> </ul> </li> </ul>

## Credit

Tom Orrell, consultant IFRC Data Playbook

# 7 - 2 Data Sharing Agreements

## (part 2)

In our work, there are many questions about “data sharing” and “data sharing agreements.” This handout can be used pre-deployment/pre-project planning session as part of responsible data use and data protection training. It can also be used in the field as a rapid reference tool and checklist to help staff think through the requirements of data sharing. Data sharing is the practice of granting other individuals or organisations access to data that you are responsible for. Data sharing could be anything from sending a spreadsheet to a colleague at another humanitarian organisation via email, to providing limited access to Red Cross Red Crescent data to governments. This Handout can be used with part 1 (explanations).

## Coordinate your Data Sharing Agreement:

Contents	Description
Who is sending data and who is receiving it?	
When will the data sharing start and when will it end?	
What data is being shared?	
Why is the data being shared?	
How is the data being shared?	
Where is the data being shared from and where is it going to?	
<b>Other Considerations</b> <ul style="list-style-type: none"> <li>◦ Who will own the intellectual property rights over any outputs produced from the shared data?</li> <li>◦ If personal data is involved, what measures are needed to ensure that it continues to be protected during and after transfer (access is provided)? Review with all of the data protection principles in mind: i.e. legal basis, minimization, purpose limitation, data security, transparency, proportionality and data subject rights.</li> <li>◦ Who will cover the costs associated with the transfer, processing or analysis of the data?</li> <li>◦ How will any Red Cross Red Crescent logos and emblems relating to the data be used?</li> <li>◦ What will happen to the agreement in the event of some unforeseen circumstance cutting it short (force majeure)?</li> <li>◦ How will you and the other parties to the agreement agree to compensate each other and protect yourselves financially in the event of a financial loss (indemnification)?</li> </ul>	

### Credit

Tom Orrell, consultant IFRC Data Playbook

# 7 - 3 Debate Club - Data Protection and Digital Risks

Organisations and individuals have many questions and concerns about data protection, responsible data, and digital risk. In this interactive session, we will host an “informal debate club.” The purpose is to openly discuss (with humour and role playing) some of these questions and concerns. The output is a list of questions/policies and practices that need more explanation/shared understanding.

Each of the participants will work in small groups to write up some informal 'statements' that could be debated on high level topics. An example statement is 'AI's benefits outweigh any risk of bias.' Each group/individual will make statements about 'agreeing' or 'disagreeing' with the statements. It is encouraged to debate different viewpoints to prompt discussions and highlight nuances of the topics. Participants should be encouraged to discuss the topic in a spirited role playing manner. This session is for all audiences to explore concerns around responsible data use, Data Protection and Digital risks. Invite subject-matter experts to be available for the introduction and for the 'after discussion' during this session. Some examples might include a cybersecurity officer, lawyer, communications officer, or policy colleague.

- ▶ **People:** 5 to 30 people
- ▶ **Time:** 60 Minutes
- ▶ **Difficulty:** Easy
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person Materials:** flipcharts/noteboards, sticky notes, markers

## Exercise

Session guidelines: Advise participants that there will be no recording or directly identifying quotes from the conversations. The goal is to create an open conversation space.

### Part 1: Setting the scene

- ▶ Welcome people to the session
- ▶ Introduce guest subject-matter experts.
- ▶ Begin the session with a brief introduction to the topics (some definitions and workplace policies/practices) and provide some examples to get people thinking about the context of the work.
- ▶ Depending on group size and team – ask people to share 1 thing about what worries them about data and digital risks
- ▶ Explain the exercise (Parts 2 – 4)
- ▶ Demonstrate how the 'debate' portion would work. Discuss with two people to represent the flow of a 'debate'

Some Examples:

- AI's benefits outweigh any risk of bias
- The government protects all vulnerable citizens so we should share citizens' personal data with the government
- We must share HIV data of beneficiaries with local government health organisations
- When a delegation/donor pays for a program, they should be entitled to all of the client data (including personal data).
- We should pay ransom in case of a ransomware cyber attack

- As long as we get consent, we will not have any data protection issues.

Each 'presenter' will state whether they agree or disagree with the statement. Encourage colourful responses.

- ▶ Optional: For a virtual event, you could also have a series of prepared statements to get people thinking and collaborating on statements explaining why they may agree and disagree with the statement. Ask participants to put initials on the line and then ask them to explain.

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## Part 2: Breakout groups

In breakout groups of 2 - 4 people, introduce yourselves. Create up to 5 'statements' related to the session theme - "What are some examples around responsible data, data protection and digital risks?" Statements should inspire debate: controversial and creative. Take notes in the collaborative document or on sticky notes. Also, capture any questions to be addressed in the future. We will use these in the plenary 'DEBATE'. Pick your top 2 statements to bring to the 'debate club'.

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## Part 3: Debate in Plenary

Each team will take turns sharing their 'statement'. One of the team mates should present the 'agree' or 'disagree' statement viewpoint. Open the discussion to have people share their viewpoints. Capture notes, insights and questions.

Depending on the time of the session and size of the group, do 3 - 4 rounds of statements.

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## Part 4: Coordinate questions and insights

Ask participants - What were some of the outstanding questions they identified? Any insights? Capture these in your collaborative document or on a flip chart.

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## Extra Credit

Use this exercise to foster team discussion before sharing your organisation's Data Protection/Responsible Data Policies and Practices.

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## Resources

- ▶ [IFRC Data Protection Guidance](#)
- ▶ [InterAgency Standing Committee Guidance on Data Responsibility](#)
- ▶ [Facilitation guidance](#) (Aspiration, Spectrogram exercise)

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## Credit

Aspiration, IFRC Data and Digital Week participants

# 7 - 4 Understanding and identifying different kinds of data

Consider the data you are using for any project. Is it **non-personal, personal, sensitive** or **group sensitive** data?

Identify the **categories** the data you are using. Then, you can make a plan to protect and use the data **responsibly**.

# Personal data

Personal data is any data that can be used to identify an individual, whether on its own or when combined with any other data.

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## Examples:

- ▶ Individuals' names, addresses, dates of birth, social security numbers can all potentially be personal data if they can be used to identify an individual.
- ▶ Personal data can include things like someone's GPS coordinates (location), their IP address, or internet browser cookies.

# Personal data

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## Context matters:

- ▶ Remember, context matters. For example, some names that might be very common in one country – and thus likely to not be personal data on their own – might be considered personal data if they appear in countries where they are rare – and thus more likely to result in an individual being identifiable.
- 

## Aggregating (combining) datasets:

- ▶ Some data THAT might be non-personal on its own, can become personal if combined with another data point.
  - ◉ **Example:** the GPS data from an IFRC vehicle in the field on its own is probably not personal data, but if combined with data from a register of approved IFRC drivers, it could become personal data as it is likely that the vehicle's driver could be identified as an individual if both data points were available to the same person.

# Non-personal data

Non-personal data is simply data that cannot be used to identify any particular individual or vulnerable group.

Non-personal data is not usually subject to strict legal requirements for data protection. However, **this data may still be confidential or otherwise sensitive** and MAY still need to be securely stored, regularly maintained and updated, and used responsibly.

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## Example: Non-Personal Data

- ▶ Logistical data such as inventories of medical supplies or the number of IFRC vehicles registered in a particular country.

# Sensitive data

Sensitive data is personal data that, if disclosed, could be used to discriminate against someone or cause them harm (mental or physical).

- ▶ Sensitive data is **context specific** and data that is not sensitive in one country, might be sensitive in another depending on local social and cultural norms.
- ▶ In many countries, sensitive data requires a very high degree of protection and/or should not be collected, used or shared unless absolutely necessary.

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## Example:

- ▶ Individuals' medical records, HIV-status, biometric data or DNA, religious or political beliefs, ethnic background and nationality, or sexual orientation and gender identity.
- ▶ A name, for instance, is not typically considered sensitive. However, in some places, certain last names may reveal religion or ethnicity.

# Sensitive group data

Sensitive group data is data that can't be used to identify individuals, but can be used to **identify vulnerable groups**, either on its own or when combined with any other data.

Sensitive group data is **context specific** but very important to protect in emergency settings. Ideally, any sensitive group data that is collected or used should be subject to the same rules as sensitive data.

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## Example:

- ▶ Aerial photograph showing the location of an uncontacted indigenous tribe. While no individual is identifiable, the image clearly depicts a community that is vulnerable in numerous ways and if it were to fall into the wrong hands, could lead to harm coming to the community.

# Thank you

Credit: Thomas Orrell, James de France, Heather Leson

# 7 - 5 Understanding the 'legal basis' when collecting and using data

# What is a 'legal basis' for data collection?

If you plan to collect any personal or sensitive data it is important to think about whether you are permitted to do so.

There are a limited number of reasons for which personal and sensitive data can be collected and used. (sometimes referred to as a 'legitimate basis.')

# What are the generally accepted legal bases for data collection?

Legal bases for data collection and data use include:

- ▶ Fully informed and freely given consent
- ▶ Public interest
- ▶ Legitimate interest
- ▶ Vital interest
- ▶ Contract
- ▶ Legal obligation

# Fully informed and freely given consent

Fully informed and freely given consent is the approach that gives individuals the most rights and power to decide whether data about them is used and shared.

In humanitarian settings, consent may not be the appropriate legal basis, as individuals may feel that they have no choice but to provide their data (thus, it is not freely given). Moreover, relying on consent as the only legal basis can come with additional administrative challenges, especially in emergency settings. It should also be noted that consent may be withdrawn by individuals at any time.

Consent is best suited to the collection of non-essential data, and in non-emergency settings.

See examples in the [Practical Guidance for Data Protection in Cash and Voucher Assistance](#).

## Fully informed and freely given consent (continued)

For consent to be 'fully informed,' the data collector needs to clearly communicate the following to the individual that data is being collected from/about: how and why their data will be processed, how that data will be protected, if it will be shared, how long it will be kept, any consequences of not providing the data, and how to address any concerns he/she might have.

In order for consent to process personal data to be 'freely given,' the person collecting the data needs to be reasonably certain that the individual providing the information has not been coerced or forced to give up their information; that they truly have a choice to provide the information without negative consequences.

# Public interest

Personal or sensitive data can sometimes be collected and used on the basis that such processing is in the 'public interest.'

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## Example: public health emergency

- ▶ Government might ask (not require) a National Society to support data collection for the emergency. In many countries, what is considered as in the public interest must be based on existing law. However, there is a trend toward viewing humanitarian action as in the public interest. It is best to review your national legal requirements when seeking to rely on this basis.

# Legitimate interest

Legitimate interest is an activity that supports the underlying mandate(s) of the organisation. For example, fundraising is needed to provide support for ongoing operations. It is in the organisation's legitimate interest to collect donors' personal data in order to receive donations and to enable future communications with those donors. When using legitimate interest as a legal basis, you must evaluate whether the rights of the data subject might outweigh the interests of the organisation. Another example might be the collection of personal data during an audit of a project in order to determine whether it was successful and if/how improvement could be made.

# Contractual performance

Personal and sensitive data is often collected in order to fulfil an agreement.

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## Example:

- ▶ Staff might be required to provide details about their address, families and next of kin, nationality and financial details when joining the movement as employees.
  - It is necessary to collect certain data to ensure that staff receive their salary payments, thus fulfilling one of IFRC's contractual obligations to a staff member.
  - Other data about family members may be necessary to properly calculate benefits that are due as part of the employment contract.

# Legal obligation

Sometimes a legal obligation requires that certain data be collected and processed.

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## Example:

- ▶ For staff moving to a new country to take up their duties, the IFRC must collect certain data and provide it to the government in order to ensure that the proper residency permit (or visa) may be obtained. A government has imposed this obligation in order to obtain the permit.

# Vital interest

Sometimes it might be absolutely necessary to collect personal data to help someone. Collecting and using personal data on the basis of vital interest is typically considered appropriate where there is a relatively immediate threat, either physical or mental.

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## Example:

- ▶ if someone is severely injured, you could collect all necessary data (such as health data) to help that person on the basis of protecting his/her vital interests. Once that emergency situation has passed, and the person is physically and mentally stable, you might then rely on other legal bases for your personal data processing.

# How do I know which legal basis to use?

- ▶ It is not easy to know what the right legal basis to use is. You must always evaluate situations individually to determine which is right.
- ▶ Remember, if people are in need of help, consent may not be used if the assistance is conditioned upon receiving data. That is not freely given.
- ▶ Also, regardless of which legal basis is relied upon, at least the following information should always be provided to data subjects in an understandable and accessible form:
  - ◉ why the information is being collected;
  - ◉ what it will be used for;
  - ◉ who it will be shared with;
  - ◉ how long it will be retained;
  - ◉ whom they can contact with questions.
- ▶ If in any doubt, you should ask your legal department.

# Questions for discussion

- ▶ What are some of the challenges that you think might arise in trying to collect and use data on the basis of 'fully informed and freely given consent' in an emergency context? When would it be appropriate for the IFRC or a National Society to use consent? When might it be inappropriate?
- ▶ What additional responsibilities do you think that the IFRC network needs to take into account when collecting and using data on a basis other than consent?
- ▶ If you had to collect personal or sensitive data on the basis of either legitimate or public interest, what kinds of information would you strive to provide to the individuals from whom you are collecting that data?

# Thank You!

Credit: Thomas Orrell, James de France, Heather Leson

## 7 - 6 In Their Shoes

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**Using ‘consent’ as a basis for data collection and use in a humanitarian setting requires a series of judgement calls. In an ideal world, IFRC staff and volunteers would be able to get each and every individual’s personal data that they need on the basis of fully informed and freely given consent. In reality, the urgency and complexity of emergency settings make it extremely difficult to do so. While the IFRC and National Societies are often authorised to use personal or sensitive data without necessarily having obtained individuals’ consent, when they do so, they still need to think about the ways in which that data should be used responsibly and in line with data protection best practices.**

This scenario-based role-playing exercise is designed to surface some of the complexities that the collection and use of data on the basis of consent gives rise to. It also touches upon the duties to be open and transparent about data that the IFRC collects and uses, as well as the responsibilities that the IFRC has to be an ethical and responsible data steward. The exercise is targeted at an intermediate and advanced audience that already has an understanding of the bases upon which data can be collected and used, and the ways in which humanitarian values and data protection principles overlap.

- ▶ **People:** 5 to 20 people
- ▶ **Time:** 60 – 90 Minutes
- ▶ **Difficulty:** Intermediate
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person Materials:** flipcharts/noteboards, sticky notes, markers

## Exercise: Role Playing

A National Society is preparing to meet a large group of people who had to evacuate their lands and homes due to severe flooding. The international community and host country have recognised the crisis and have issued mandates - both internationally and within the host country - to support the communities that have been affected. Staff are being mobilised to establish meeting posts at which they will undertake a rapid assessment of families that are arriving and register them for support (support envisioned: food, shelter, basic cash assistance via a voucher, psychosocial and medical.). The people arriving are deeply traumatised, having lost their homes and livelihoods as well as family members and friends. They are often destitute, exhausted and in a state of shock.

### Roles:

- ▶ National Society response coordinator – responsible for planning and establishing the meeting points, including the processes for data collection
- ▶ Data collector – on the ground staff member or volunteer who will be collecting data
- ▶ Deeply traumatised adult who is seeking assistance
- ▶ Deeply traumatised minor traveling alone seeking assistance
- ▶ Any others that are needed?

### Part 1: planning - group discussion

- ▶ What processes should the response coordinator put in place to collect data – how should this be done?
- ▶ What data needs to be collected?
- ▶ How should the data collector approach data collection in practice?

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## Part 2: data collection - simulation

- ▶ Simulate an initial interaction between the data collector and affected communities. What kinds of questions would be asked? What would the responses likely look like?
  - ▶ If the data collector tried to gain 'fully informed and freely given consent' from the communities, what would this entail? What would a conversation likely look like?
  - ▶ What other basis might be more appropriate in this instance to collect data?
  - ▶ What additional considerations are there when interviewing the unaccompanied minor?
- 

## Part 3: data use - group discussion

- ▶ Once the data has been collected, given the vulnerability of the communities, what responsibilities does the National Society have to use it responsibly and keep it secure?
- ▶ What information should be provided to the affected communities about how their data will be used? When would be the best time to provide them with this information given their state of shock and trauma?
- ▶ Looking back over the scenario now, would consent be an appropriate basis to collect data in this instance? If so, why? If not, why not?

### Extra Credit

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Present your organisation's Data Protection Policy and discuss next steps and examples of applying the lessons in your work. See the [IFRC Data Protection](#) guidance

### Credit

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Tom Orrell, James De France, Heather Leson

# 7 - 7 Humanitarian Values & Data Protection

Responsible data use and data protection can often be difficult topics to raise with participants who are not familiar with data and what some of the potential risks of digital technologies are. This exercise requires just a basic understanding of humanitarian values and what personal data is. The objective of the exercise is to connect humanitarian principles to data work and introduce key concepts of responsible data use and data protection from a values perspective instead of a legalistic one. Participants can build confidence in their ability to understand the terms and concepts within data protection.

- ▶ **People:** 2 to 12 people
- ▶ **Time:** 30 – 60 Minutes
- ▶ **Difficulty:** Easy
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person Materials:** flipcharts/noteboards, sticky notes, markers

## Exercise

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### Part 1: Explore

In small groups (ideally pairs), discuss:

- 1 What do you think it means to 'protect information' as a humanitarian?
- 2 What does it mean to use data 'responsibly'?

Take notes on any insights or questions on a shared document.

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### Part 2: Review

Discuss responses as a whole group asking each group to share 1 highlight from their conversation.

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### Part 3: Discuss

Share the Matching Principles (Handout). In small groups, discuss the following questions:

- ▶ How does our independence impact how we collect, use and share data?
  - ▶ Should we be open and transparent about what information we collect from communities and how it is used?
  - ▶ Should we collect as much data about the communities we serve as we can or do we need to collect as little as possible? How do we find a balance?
  - ▶ Take notes on any insights or questions on a shared document.
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### Part 4: Reflect

In plenary, ask for reflections and questions. Share further details about the organisation Data Protection policy.

### Extra Credit

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This exercise could also include a scenario for part 2. A scenario-based learning component can link the concepts to real-world situations that participants face where they need to think about what it would mean to use data responsibly and protect it.

### Examples:

- ▶ A local NGO partner shares data with a National Society but refuses to disclose how the data was collected, raising doubts about its quality. What challenges does this scenario raise? How would you handle the situation?
- ▶ You have collected data from a village about their medical needs. You got their consent when collecting the data to only use it to help your own logistical activities. You now want to share that data with local health authorities. Can you share this data? What information should you disclose to the community about your plans?
- ▶ You're collecting data in a very fragile conflict zone. Local communities are reluctant to provide you with information because they are worried about the repercussions if it fell into the wrong hands. What steps can you take to ensure that their concerns are taken into account?

Facilitators: you may want to initially divide groups into pairs to first discuss the scenario between themselves before then encouraging a group discussion on the key themes. This exercise is likely to take about 30-45 minutes per scenario to run depending on the number of participants involved.

### Considerations:

As you review the exercises and the Extra Credit activities, consider that: 1) all data processing should comply with data protection principles (i.e: having one or more legal bases, accurate and minimized data, transparent communication about the processing, data only used for compatible purposes, ensuring data security, and respecting data subject rights), and 2) our actions, while assisting a government, must remain aligned with the fundamental principles, in particular here independence and neutrality. Our objective must be to serve a humanitarian purpose, not only for the aid of, or direction by, a governmental entity.

### Credit

Tom Orrell, Arturo Garcia, Dirk Slater, Heather Leson, Melissa el Hamouch, James De France

# 7 - 8 Humanitarian Values & Data Protection

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Humanitarian action is rooted in human empathy and solidarity. It's purpose is to protect life and provide relief to the most vulnerable. Within the humanitarian community, the highest held value is the idea that humanitarians should *'do no harm'* in their actions. Increasingly, this also applies to how humanitarian organisations use digital tools and data.

What does it mean, though, to 'do no harm' when collecting, analysing, using or sharing communities' and individuals' data? A good place to start is to think, and discuss, more deeply about how humanitarian values and principles, and data protection principles overlap and reinforce each other. In this way, it is possible to start to find answers to questions like what it means to 'protect' use data 'responsibly'. This handout will link Red Cross Red Crescent Movement Fundamental Principles with an overview of some key data protection principles.

## Movement Fundamental Principles:

- ▶ Humanity – the need to act to prevent and alleviate human suffering
- ▶ Impartiality – non-discrimination of anyone
- ▶ Neutrality – taking no sides in conflict
- ▶ Independence – being autonomous and resisting any interference
- ▶ Voluntary Service – a desire to help others, not prompted by a desire for self-gain
- ▶ Unity – there can only be one RCRC society in any one country
- ▶ Universality – IFRC is worldwide and carries a collective responsibility to all

## Data Protection Principles:

- ▶ Don't collect personal data you don't need – only collect data that could identify an individual ("personal data") if you really need it
- ▶ Keep your datasets up-to-date and in good shape, just like any other asset – personal data collected should be accurate, complete and kept up-to-date
- ▶ Be clear, and document, why you are collecting data – the reasons personal data have been collected need to be clearly stated and only personal data needed for those reasons should be collected
- ▶ Only use personal data for specific reasons/activities that you have already planned – personal data collected for a particular purpose, should only be used for that purpose
- ▶ Make sure your datasets are safe and in your control – personal data should be protected from unauthorised access, destruction, use, modification or disclosure/publication
- ▶ Be open about the data you have and what you're doing with it – information about what personal data is collected and how it is used should be available to the data subjects
- ▶ Respect individuals' right to decide how data about them is presented and used – people have the right to ask what information about them has been collected, what it's being used for and have the right to have it changed, and sometimes removed (if the data was collected with their consent)
- ▶ The IFRC is accountable to the communities it serves, this includes how it uses their data – those collecting and using personal data need to be accountable to the people whose data they are using and compliant with any applicable international or local laws



## References

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[IFRC Data Protection Policy](#)

## 7 - 9 What data do we really need?

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This exercise explores the principles that guide responsible data use and data protection with a scenario-based approach. Two key concepts explored in the scenario are: *'data minimisation'* and *'privacy by design'*.

What is the 'need' throughout the data lifecycle? What data needs to be collectioned, what information needs to be provided to data subjects (and their communities), who needs to have access to the data, what needs to be done to secure it, does it need to be shared, and how long does it need to be kept before being deleted.

- ▶ **People:** 4 to 20 people
- ▶ **Time:** 60 Minutes
- ▶ **Difficulty:** intermediate
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person Materials:** flipcharts/noteboards, sticky notes, markers

## EXERCISE

### Part 1: Explore

In plenary, Introduce the data lifecycle and summarize the objective of the scenario: discuss 'what is the data we really need?'

### Part 2: Review

Scenarios are most effective in small discussion groups. In groups, participants should introduce themselves, assign a note-taker. Review the scenario:

### Regular/ Ongoing Data collection

Your NS runs a local health clinic. In order to better predict the needs of the community, plan for resources needed and to gauge satisfaction with the services, you regularly collect data from individuals that visit the clinic. You explained the reasons for the data collection to families in the community. You also informed them that if they did not want to provide some of the information, they could still access the healthcare services. Thus, consent was the legal basis relied upon for data collection, at least with respect to patients that did not have medical emergencies.

- ▶ What data would you need to collect in the above scenario (understanding that we are not medical or procurement experts)?
- ▶ Once you've assessed the needs, what should you do with the data that was collected?

Just before you start collecting data, you get a call from colleagues who inform you that there is a planned cash intervention in the works targeting the same community. They want you to ask a few more questions so that they do not have to come back to the families in the future.

- ▶ What additional information would be needed for the cash intervention?

- ▶ What additional information, if any, should you provide to the individuals about the data you want to collect regarding the cash programme?

A local NGO learns about your work and wants access to your data to inform its own interventions.

- ▶ Do you need to share the data?
- ▶ What information needs to be shared if you decide to?
- ▶ What additional information (or choices) should you provide to individuals before sharing?

A new IT staff member notifies you that the database of personal data is available for access by anyone in the NS, and further is hosted in an unprotected cloud server.

- ▶ Who needs access to the data?
- ▶ What should be done to ensure it is securely stored?

In a positive turn of events, the local government has completed a new hospital and has secured funding to provide long-term healthcare to the community. Your NS can close the clinic and focus on other initiatives.

- ▶ What data needs to be kept?
- ▶ How long and in what form should it be kept?
- ▶ Can we use that data for other purposes?

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## Part 3: Discuss

In plenary, ask for reflections and questions. Share further details about the organisation Data Protection policy. See the [IFRC Data Protection policy](#).

### Extra Credit

This is a short exercise to discuss the high level concepts. If the team has more time, have participants share examples directly from their work related to the two concepts 'data minimisation' and 'privacy by design'.

### Credit

Tom Orrell, James De France

# 7 - 10 *What can we do vs. What should we do?*

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Part of understanding what responsible data use and data protection mean in a humanitarian setting is being able to recognise the difference between ethical dilemmas (responsible data good practices) and legal issues (data protection). This exercise is designed to break these concepts down into more relatable content by reframing data protection requirements vs. ethical dilemmas as 'what CAN we do' (data protection requirements) vs. 'what SHOULD we do' (responsible data practices).

This exercise is primarily targeted at participants who have limited knowledge and understanding of responsible data and data protection and want to expand their knowledge. At the end of the exercise, participants should be able to identify the differences between data protection requirements and responsible data good practices, and what that means for how they should approach particular situations.

- ▶ **People:** 4 to 16 people
- ▶ **Time:** 60 Minutes
- ▶ **Difficulty:** Easy
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person Materials:** flipcharts/noteboards, sticky notes, markers

## Exercise

### Part 1:

In small groups (ideally pairs), discuss: what do data protection and responsible data use mean to you? How does this apply to our work?

Take notes on any insights or questions on a shared document.

### Part 2:

Review the scenarios and discuss: "What *can* we do? vs. What *should* we do? Each group should try to do 2 scenarios.

Scenario 1: A friend working at a partner organisation asks you for some data your colleagues recently collected about HIV cases in a particular locality. They plan to offer additional medical/psychosocial support to the community and need to know where to focus their activities.

Can you share the data? Would sharing comply with data protection requirements? If so, should you share the data? Why or why not? If you decide to share, what considerations should be made before providing the information? What if there was a particular danger of violence or stigma against HIV positive individuals in the community? What if your friend worked in the government? And, even if we remove the identifying data, are there still risks of sharing?

- ▶ Where would you turn to find out what you could do?
- ▶ What should we do? Even if the rules permit it, are there other reasons to not share?
- ▶ What shouldn't we do? And why?

Scenario 2: You recently collected some data from a local community in an emergency that contains names, addresses and other identifiable information. Your tablet/laptop was running out of battery so you made a quick back-up on a flash drive without protecting

the data in any way (no password or encryption). You get back to the office and you realise you've lost the flash drive. What do you do? What steps could you take before going to collect data to ensure that even if you lost your back-up drive, the data would still be safe?

- ▶ What can we do?
- ▶ What should we do?
- ▶ What shouldn't we do?

Scenario 3: Your office is approached by a large tech company that offers to help you manage your office's data for free during an emergency. Should you accept this offer?

(Options: Tech company #1 has a long and well-reputed history of contributing to humanitarian emergencies and doing charitable work; tech company #2 has large contracts with governments and other companies that could be seen as not respecting privacy or other human rights.)

- ▶ What can we do?
- ▶ What should we do?
- ▶ What shouldn't we do?

---

## Part 4:

Discuss results in plenary. Ask what other ethical dilemmas they should consider.

### Extra credit

Review your organisation's Data Protection Policy with participants. Invite your IT focal point or Security officer to share about digital and data risks after the scenario exercise. This might provide real context to your National Societies' work.

### Resource

[Digital Dilemmas](#)

[IFRC Data Protection Policy](#)

### Credit

Tom Orrell, Heather Leson

# 7 - 11 Data Protection nightmares

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**Which one of these scenarios might keep you up at night?**

- ▶ **People:** 4 to 12 people
- ▶ **Time:** 60 Minutes
- ▶ **Difficulty:** Easy
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person Materials:** flipcharts/noteboards, sticky notes, markers

## Instruction:

Break people into small groups and get them to consider if any of the following might keep them up at night. After they have identified potential nightmares, bring them back to the large group to talk about the data protection policies in their organisations.

## Exercise

### Part 1: Explore

Break people into small groups and get them to consider if any of the following might keep them up at night:

- 1 We didn't get consent
- 2 We don't have adequate data storage procedures
- 3 Every now and then one of our laptop/devices goes missing
- 4 We failed to backup our critical data
- 5 We missed the bias in our data
- 6 We might have unauthorized data access
- 7 We are not clear about which data might be sensitive
- 8 We've been sharing/posting Personal Data (Identifiable information) and didn't realise it
- 9 People have opted out of having their data used, but we used it anyways
- 10 Our data policies aren't robust enough

Ask: Are there any other scenarios that might keep you up at night?

### Part 2: Discuss

After they have identified potential nightmares, bring them back to the large group to talk about the data protection policies in their organisations. Share the Data Protection policy of your organisation. Address any outstanding questions that might need resolution with your team. This can also be used with Digital Transformation planning to identify organisational and team needs. See - [digital.ifrc.org](https://digital.ifrc.org).

### Credit

Dirk Slater

# 7 - 12 Would you Share it?

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Responsible data sharing can be tricky to operationalise. While sharing information is vitally important to emergency and humanitarian work, there is often hesitancy and uncertainty about what should or shouldn't be shared, keeping in mind data protection needs. This exercise is designed to help participants better understand the basics of data protection and data sharing and how they intersect. The session was inspired by work being undertaken by a National Society to train Emergency Response Unit (ERU) staff pre-deployment.

The first part of the exercise hopes to equip participants with a more grounded understanding of responsible data use, data protection and data sharing by building on individuals' own perceptions of what information about themselves they would or wouldn't be comfortable sharing. The second phase raises scenario-based group discussions which replicate real-world humanitarian examples in which data sharing questions arise. These scenarios can either be sourced from the participants themselves as part of the exercise, or introduced by the facilitator if there is a specific issue that needs to be addressed.

- ▶ **People:** 4 to 12 people
- ▶ **Time:** 60 Minutes
- ▶ **Difficulty:** Intermediate
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person Materials:** flipcharts/noteboards, sticky notes, markers

## Exercise

### Part 1: Would You Share It? 30mins

Divide participants into small groups of no more than four and ask them to discuss and respond to each of the statements (below). Each individual should respond to the statements and answers should be based on individual preferences. This part should take about 10 minutes to complete. The content could be placed in a table or diagram (depending whether the event is virtual or in person.) Participants are encouraged to share examples from their personal life and work examples. Take notes on any insights or questions on a shared document. For the purposes of this exercise, please focus on personal data (i.e. data that alone or with other data can be used to identify a natural person).

Statement:	Answers:
It is useful to share this kind of data:	
I want to share this kind of data:	
I don't want to (or won't) share this kind of data:	
I don't want to (or won't) share this kind of data:	
I have no choice but to share this data:	

Once the full group reconvenes, ask participants to review each other’s answers and ask them to comment on similarities/differences. You may want to ask participants how their answers could change if they lived in a conflict or disaster setting. This part of the exercise will likely take about 20 minutes.

## Part 2: Scenario-Based Learning (45-60 mins)

For this part of the session, there are prepared scenarios (below). Or, you can create your own organisation specific scenario. It is recommended to do this well in advance with a teammate.

### Example Scenario 1: Branch Data

As part of a previous relief effort, your NS branch collected data on beneficiaries that sought medical care for an infectious disease. The collected data is stored in an Excel file containing the following fields: ID number (which is not an official ID, but a number assigned by your NS branch), medical condition, age, region and village, number of children in household, education and phone number (if the individual had one). You have been asked by the local government health department to provide the data on the individuals. What type of data would you share or not share? Why? What are the benefits (or risks) of sharing this data?

### Example Scenario 2: Cash and Voucher Assistance data

In the aftermath of an earthquake a National Society tries to identify the people that have lost their homes as they may qualify for cash or voucher assistance. An association in the most affected village offers to share a list of persons currently without shelter due to the earthquake. What information would you ask the association in the village to share with you? What kinds of issues do you think might arise - e.g. how the association itself collected the data, how trustworthy it will be, etc? What steps could you take to mitigate these challenges?

The session should start with the group defining a typical list of data types that might be shared during the scenario. Also, they should make a list of what kinds of data should not be shared. This provides a way to ensure that people have a shared journey as they walk through the scenarios. (Note: Not all questions may be applicable or you may be lacking some information.) Take notes on any insights or questions on a shared document.

Question	Response
Who needs the data? What is their role? What is the purpose of sharing?	
Where does the data come from? Who has access to it? Is it possible to openly publish the data?	

Question	Response
Who can share the data?	
Is there a record of data sharing in the system and/or for the organisation?	
Is there a data sharing agreement/MoU in place with the party that the data was shared with?	
If personal data is being shared, what additional things do you need to consider? Can you aggregate, pseudonymize or anonymize the data? Can/should you remove certain fields?	
Is there a terms of service and license for the data?	
What capabilities for import, export and exchange of data are required and in which format?	

### Extra credit

Optional: Creating a new scenario: Teams may create their own scenario for this exercise. It is recommended to do this well in advance of the session with teammates.

- ▶ Get people talking about real-world data sharing issues. The method uses scenarios as examples: either real-world or illustrative. The interactive component provides the means to visualise the steps and actions to 'simulate' decision-making. Provide them with an example. Often, it might be best to have someone from the team prepare this in advance of the session.
- ▶ OR/ Drive a conversation around the 'implementation steps' and 'requirements' to share data.

### Credit

Dirk Slater, Heather Leson, Arturo Garcia, Melissa el Hamouch, Tom Orrell, James De France

# 7 - 13 Data Hygiene Checklist

These are categories of data to consider when assessing data protection needs.

Data Categories	Notes
Basic identity information such as name, location (address, community, etc.) and ID numbers	
Web data such as location, IP address, cookie data and RFID tags	
Health and genetic data	
Biometric data	
Racial or ethnic data	
Political opinions	
Sexual orientation	

The second part of this analysis is to match the categories of data to the formal terms below:

Data categories	Dataset	Notes
Non-personal data	E.G. logistical data such as number of vehicles a national society has	
	Etc	
Personal data	E.G. Names and addresses of families receiving support in the community	
	Etc	
Sensitive data	E.G. Biometric data, health data, racial or ethnic data	
	Etc	
Sensitive group data	E.G. Photographs/satellite images from which vulnerable groups of people might be identified - e.g. refugee camps, indigenous peoples' villages	

# 7 - 14 Wheel of Data Misfortune

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**The Wheel of Data Misfortune might help spark discussion while highlighting data protection and data literacy issues. Use this as an interactive introduction to the organisation Data Protection policy.**

- ▶ **People:** 2 to 24 people
- ▶ **Time:** 30 Minutes
- ▶ **Difficulty:** Medium

## Making the wheel

Time to make: Not more than 2 hours

### Supplies

- ▶ 8 colours of large poster board paper
- ▶ Scissors
- ▶ Stick glue
- ▶ Bracket for spinning

Measurements: 50 × 50cm

17 sections, about 3-4 per quarter





## Identify

Identify 17 Categories. The 17 below are highlighted as examples, feel free to choose and remix given the context of your participants

- 1 Consent
- 2 Data storage
- 3 Data loss
- 4 laptop/device stolen
- 5 Backups
- 6 Data bias
- 7 Archive plan
- 8 Unauthorized data access
- 9 Understanding which data is sensitive
- 10 Survey fatigue
- 11 Are there external standards (e.g. IATI) that we should be adopting?
- 12 Personal Data (Identifiable information)
- 13 Tracking people with data
- 14 Affected person opting out/objecting to data use
- 15 Bad/Fake data
- 16 No data
- 17 Government data request

## Exercise

- ▶ Have all the categories selected
- ▶ In the Session open up the discussion by having someone spin the wheel to determine the topic. Ask if people have a story or question on it. (Do a few rounds to get the conversation started, then turn it over to other key topics that they think are missing or are top priorities from gaps to opportunities.)

After the session, leave it in the hallway (or on a digital version) with some notes asking people to anonymously share their data stories or responsible data issues that they think are a priority.



### Resources:

- ▶ [How to Build a Wheel of Fortune Wheel \(with Pictures\)](#) – wikiHow
- ▶ [How To Make Pinwheels](#) – Paper Source
- ▶ [How We Made Wheel of Fortune From Cardboard](#) – PLAYTIVITIES

### Credit

Heather Leson

# 7 - 15 PMER Data Simulation

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In this session, we will use an example emergency to guide conversations on risks, roles, decisions, gaps and evidence needs for our work. This should be used with **Strengthening Data Teams and Projects (3)** (Module 3).

## Scenario: Mass deportation of migrant workers from Randowsa

The country Randowsa is reliant on regular and irregular migrant workers. The Randowsa Government has policies in place to prevent irregular migration and workers from working without necessary documentation.

Due to recent political instability, the Randowsa Government is enforcing their policies around irregular migrant workers, which has prompted fear of arrest or deportation amongst migrant workers. Over the past seven days more than 400,000 people have left the country in fear – many voluntarily, some deported, and companies are being fined large amounts if found to have employed irregular workers. Many of the migrants have crossed the border into Dakandka. There is a growing camp forming and RCRC is ramping up activities to support the complex mandates.

PMER has been engaged to support the various sectors' efforts on survey design with the NS as well as planning the mobile data collection process. You are leading a mobile data collection project involving multiple National Societies. Data processing takes place in the country as well as by remote help via Surge Information Management Support (SIMS teams) in National Societies as well as a 3rd party processor (a research group). Regular health, shelter, wash, and PSEA surveys are conducted to collect comprehensive information with key informant interviews. Each of the surveys is different and run by different National Societies. You recently completed a review of all the various surveys. The report has generated a lot of interest. Most partners are concerned with the worsening situation although some are sceptical of the numbers. The government is especially critical of the numbers.

## Exercise

Each team of 3 to 4 people has 30 minutes to make decisions and tackle the key questions.

### Key Questions

- ▶ What are some of the risks, gaps and needs? How will you safeguard the data workflows to protect the most vulnerable?
- ▶ What are some of the steps, roles, and decisions in this initiative?
- ▶ What is the minimal data set that can be shared and with who? Why?

---

## Your Decision Points

You received a request for the data for the last round from the following partners. Should we be sharing the data with this actor? And at what stage of the process would you do so? How will you manage/share the data with outside providers?

- 1 The IFRC PMER unit wants to look at the data to see if they could make a compelling graphic from the data to accompany a press release that will be made about the worsening situation. They requested the full data set.
- 2 The Office of the Governor and the worst affected regions identified in the latest round of the survey say they would like to take action and need the data.
- 3 The project officer from the donors would like to see the data.
- 4 One of the key informants/community members who took part in the survey and feels your report did not accurately capture the problem in their area.

### Credit

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IFRC Migration team, Heather Leson, Miki Tsukamoto

# 7 - 16 People Before Data (handout)

Credit

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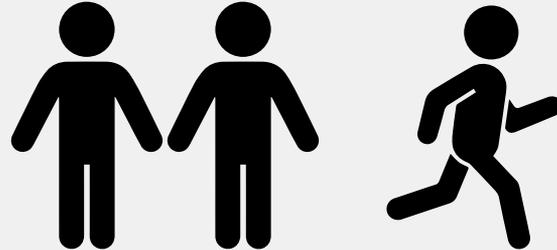
Jennifer Chan

---

## The Past



Data Collection

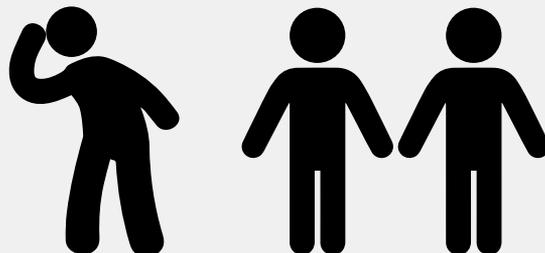


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## Maybe now



Data Metrics



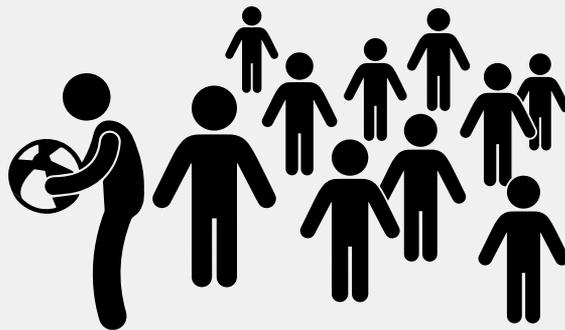
People and Data learn to talk

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## The Future



Data Metrics



People harness data for a purpose and meaning

# 7 - 17 Polio Campaign Monitoring In Syria

## Scenario

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**Qatar Red Crescent Society works as a third-party monitor for a polio campaign in Syria. It is supported by the World Health Organisation (WHO).**

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As you review the scenario set out below, please consider the following questions regarding what data protection (notably, information provision) and data responsibility measures should be considered throughout the campaign.

- ▶ What are some of the risks, gaps and needs to support the campaign? How will you safeguard the data workflows to protect the most vulnerable?
- ▶ What are some of the steps, roles, and decisions in this campaign?
- ▶ What is the minimal data set that can be shared and with whom? Why, and what issues should be considered before sharing?
- ▶ Should we rely on consent for data collection, and if so how will it be acquired?
- ▶ How should the data be stored and, if necessary, transmitted?
- ▶ Any other data protection or responsible data concerns?

## The team's workflow is as follows:

- 1 Prepare data collection forms on paper. (Note: Be sure to clearly define which data can and should be collected. Adhere to applicable data protection guidance (laws and/or policies).)
- 2 Input data fields into the data collection platform (DHIS2).
- 3 A monitor collects data from centres and communities.
- 4 A supervisor, responsible for leading a team of monitors in a defined reporting area, provides updates to the district supervisor.
- 5 The district supervisor may then provide aggregated reports on the campaign.
- 6 Reporters analyse the collected data and extract pre-defined reports to show vaccination indicators which are then shared with the WHO and immunization Task force.

Third-party monitoring is working on three main stages during the campaign:

- 1 Pre- Campaign (visits centres and check in centres, vaccine and vaccination team preparedness).
- 2 Intra-Campaign (during the campaign, monitors check the vaccination progress in centres and make visits to homes and marketplaces to monitor vaccine coverage).
- 3 Post-Campaign (after the campaign, monitors make visits to homes and marketplaces to collect data about the coverage of the campaign).

We usually visit vaccine centres one or two days before the campaign to check the centre's and team's preparation, and make sure that everything is going according to plan.

Also, we pick random people from markets and ask them if they know anything about the campaign and the vaccine and where they heard about them.

## Background

In March 2016, in pre-campaign stage, an independent body for the besieged area of Homs, analysed the data and found something wrong with the vaccine vials. We sent pictures of the vials to WHO, and they decided to close the campaign until they have a new vaccine.

The importance of the pre-campaign stage isn't just to check the vaccine and vaccination team, it's also about gathering information from a targeted place, to measure people's knowledge about the campaign and vaccine.

In August 2017 pre-campaign indicators showed a decrease of knowledge about the campaign. 40% of people didn't know about the campaign that was supposed to start the next day! Therefore the campaign was postponed for another week.

### Credit

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Hesham Othman Hassan and Nami Ghadri, Qatar Red Crescent Society

# 7 - 18 Data Monologues

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A “Data monologue” is a summary of a ‘data project lesson’ or ‘data fail’. People provide the scenario, issues, mitigation steps and results.

## RESPONSIBLE DATA IS:

“Data responsibility in humanitarian action is the safe, ethical and effective management of personal and non-personal data for operational response.”

### Data Protection:

Data protection means a set of principles and practices put in place to ensure that any personal data collected and used by, or on behalf of, the Federation is accurate and relevant, and that the personal data is not misused, lost, corrupted, or improperly accessed and shared. ([IFRC Policy on the Protection of Personal Data](#))

**Protecting the Personal Data of individuals is an integral part of protecting their life, integrity, and dignity. This is why Personal Data protection is of fundamental importance for Humanitarian Organisations. (Brussels Privacy Hub/ICRC Handbook on Data Protection, ICRC, 2017)**

## Session Goals

The following is a 1 hour to 1.5-hour session to help you and your team talk about Responsible Data Use and Data Protection Guidelines. Goals for this session:

- Build advocates and expertise to support responsible data use in humanitarian response.
  - Build a common language around responsible data use.
  - Foster data protection and responsible data literacy for the RCRC
  - Introduce Data Protection Policies, get input for training needs
  - Introduce the Handbook on Data Protection in International Humanitarian Action (2nd edition, ICRC/Brussels Privacy Hub Publication)
- ▶ **People:** 12 to 24 people
  - ▶ **Time:** 90 Minutes
  - ▶ **Difficulty:** Easy
  - ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
  - ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers
  - ▶ **Preparation:** Ask 3 to 4 people to help guide the session. Explain the goals, formats and outputs for the meeting. Assign them to different areas of the space.
- Arrange chairs or desks in circle or in small groups/Use virtual session breakouts
  - Place welcome signs on the door/ have a shared documentation space
  - Each group will need:
    - Assigned facilitator
    - Dedicated note taker (s)
    - Example scenarios in print and digital formats
    - Welcome everyone as they join. Ask people to put away their laptops and phones. Start and stop on time.

---

## Sharing in a Healthy Manner

- ▶ It would be advisable to encourage a safe place using “Chatham House rules” – focus on the topic and lessons rather than the people/organisation/division.
- ▶ “a rule or principle according to which information disclosed during a meeting may be reported by those present, but the source of that information may not be explicitly or implicitly identified”

**Provide participants with the following summary:** The session objective is to share with and update participants about the increasing attention given to responsible data practices, including the ICRC Handbook on Data Protection in Humanitarian Action, the IFRC Data Protection policy, IATI, and related topics.

**Background for the session:** easier and faster data processing of increasing quantities of personal data have given rise to ethical concerns about balancing transparency and open access to information with issues of confidentiality and the possible intrusion into the private sphere of individuals. Organizationally, this requires attention to responsible data practices, data protection planning and overall data literacy, transparency and confidentiality. Thus, organisations like IFRC, ICRC, CRS, Oxfam have either published or are working on data policies. This session will share key lessons and considerations on this topic.

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## What is a Data monologue?

- ▶ A “Data monologue” is a summary of a ‘data project lesson’ or ‘data fail’. People provide the scenario, issues, mitigation steps and results.
- ▶ The group will share some data-driven project stories, select the best example of a complex issue, then prepare a “pitch” to illustrate some fundamental questions/observations.
- ▶ The “Data Monologues” can include names of individuals or organisations removed. Chatham house rules apply (meaning – we will ask people not to share until permission granted). Participants will describe the problem, the risks, any mitigation measures taken, the results and what could be improved.

---

## Part 1: Data monologues: Small group discussion (20 minutes)

- ▶ Breakout into groups of 4 to 5 people
- ▶ Share data stories for 20 minutes
- ▶ Each person shares an example of issues/scenarios they encountered.
- ▶ Try to use personal/ organisational examples, rather than third-party examples.

---

## Part 2: Data monologues (40 minutes)

- ▶ Pick one of the examples to share in plenary including what happened, results and mitigation.
- ▶ The group facilitator documents the core questions/concepts on flipcharts.
- ▶ Return to plenary

- ▶ The “pitch” of the Data Monologue should be like a ‘Pecha Kucha’ or ‘ignite’ talk: summary, lessons, and next steps. A monologue should not be longer than five minutes. There will be 4 – 5 pitches.

---

### Part 3: Adding Data Protection & Responsible Data Use (15 minutes)

- ▶ During the discussions, participants will inevitably discuss issues of consent, data breach, data sharing, data storage, data protection, and more.
- ▶ Prepare slides to illustrate these key terms.
- ▶ Provide resources to read more about implementation data protection and responsible data use into humanitarian work.

---

### Part 4 Wrap-up (10 minutes)

- ▶ Finish with a quick go-round asking participants to share a single ‘aha’ or learning from the monologues before ending.

---

### Post-Event:

- ▶ Collate the critical questions from the groups.
- ▶ The example “Data Monologues” should only be used again if permitted.
- ▶ Send thank you notes to the helpers and participants.

### Resources

Heather Leson and PMER Network, IFRC Data Protection Policy, [IASC Operational Guidance on Data Responsibility](#)

# 8 Presenting and Visualising Data

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# Presenting and Visualising Data

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**Data visualisation is an important component of the data lifecycle. When data is analysed, valuable insights are extracted from the data. When we visualise data, it is our responsibility to ensure that those insights are not buried within a complex data set, but rather, that they are presented in a way that is understandable, relevant, and actionable for the target audience.**

In this module, we will help your team to learn to present and visualise data so that it can be effectively used to make planning and operational decisions.

## Questions this module explores

- ▶ What are the principles of data presentation and visualisation?
- ▶ What are some of the key considerations to communicate the key insights in your data?

### Learning Objectives

- ▶ Be able to identify data visualisation best practices and the reasons for applying them
- ▶ Be able to verify and communicate an accurate, effective story with data
- ▶ Be able to review data visualisations for audience appropriateness and accessibility

### Module Topics

- ▶ Data visualisation overview: Identifying data visualisation best practices and why we should take the time to apply these best practices
- ▶ Data visualisation storytelling: How to tell an effective story with data
- ▶ Data visualisation accessibility: Ensuring data visualisations are appropriate and accessible for your audience

## Recipes

### A suggested step-by-step process to achieve learning objectives

- 1 Present the **Data Visualisation Overview (8 - 4)** slide deck to give participants a refresher on strategic ways data can be presented in order to best convey the data's key insights.
- 2 Provide participants with the **Data Visualisation Best Practices (8 - 3)** handout so that they can refer to it for subsequent learning exercises.
- 3 Ask participants to apply their knowledge in the **Data Makeovers (8 - 1)** exercise, in which they will give a "makeover" to a series of charts that are either misleading, confusing, or have an unclear key message.
- 4 Once they have completed the exercise, go through the **Data Visualisation Accessibility Overview (8 - 13)** slide deck, which will introduce different accessibility challenges that audiences may face when consuming a data visualisation.

- 5 Ask participants to return to their Data Makeovers product and make any necessary revisions in order to make it more accessible to different audiences.
- 6 Have each group present their Data Makeover again, this time noting the revisions they made to improve accessibility.

## Ingredients

Pick and choose ingredients to create your own recipe. Do you have an ingredient we're missing? Send an email to [data.literacy@ifrc.org](mailto:data.literacy@ifrc.org)

## Exercises

### Short, discrete social learning experiences

- ▶ **Data Makeovers (8 - 1)**: In this exercise, participants give a "makeover" to a series of charts that are either misleading, confusing, or have an unclear key message.
- ▶ **S-C-A-M-P-E-R (8 - 2)**: In this exercise, participants will apply a user-experience (UX) lens to improve navigation and user-friendliness of a data dashboard.
- ▶ **Data Gallery (8 - 5)**: In this exercise, participants interact with, and think critically about, data visualisations and the effect to which they are trustworthy, unbiased, and accurate.
- ▶ **Infographic Drawing (8 - 6)**: In this exercise, participants will be challenged to think visually about a data narrative.
- ▶ **Translating Technical Concepts for Audiences (8 - 7)**: In this exercise, participants with statistical analysis experience will practice their skills in communicating complex topics to non-technical audiences.
- ▶ **Data Sculptures (8 - 8)**: In this exercise, participants will review a dataset provided, identify the key insights, decide how to communicate those insights with the decision maker audience in mind, and frame the insights in an effective storytelling format without the aid of a computer.
- ▶ **Understanding Different Types of Colour Vision Deficiencies (8 - 12)**: In this exercise, participants will practice critically assessing iconography choices for audience appropriateness.

## Slide Decks

### Draft presentations to be used and/or revised:

- ▶ **Data Visualisation Overview (8 - 4)**: This slide deck provides an overview of common data visualisation best practices and why they should be applied.
- ▶ **Understanding Different Types of Colour Vision Deficiencies (8 - 12)**: This slide deck helps participants to gain familiarity with how colours are interpreted by individuals with different colour vision deficiencies.
- ▶ **Data Visualisation Accessibility Overview (8 - 13)**: This slide deck provides an overview of different accessibility challenges that audiences may face and provides tips to make a visualisation more accessible.

## Checklists/Handouts/Materials

### For documentation of essential elements of the learning experience

- ▶ **Data Visualisation Best Practices (8 - 3)**: This handout provides a helpful reminder as to the common data visualisation best practices.
- ▶ **Infographic Design Best Practices (8 - 9)**: This handout provides a helpful reminder as to the infographic design best practices.
- ▶ **10 Ideas to Visualise Qualitative Data (8 - 10)**: This handout provides the participant with some creative options for visualising qualitative data.
- ▶ **Data Visualisation Accessibility Checklist (8 - 14)**: This handout is a helpful checklist that participants can follow in order to improve the accessibility of their visualisation.

## Next Steps

### Relevant modules in the Data Playbook

- ▶ **Nurturing a Data Culture (2)** (Module 2) and **Making Decisions with Data (9)** (Module 9)

### Module lead credit

Katherine Lilly with IFRC V1 Sprint and Data Playbook Beta contributors

# 8 - 1 Data Makeovers

Data visualisation does not mean making your data look more aesthetically pleasing—although that is a positive side effect! Rather, it facilitates greater comprehension of your data by your audience and promotes data use and evidence-based decision making. In this exercise, participants will work in groups to give a “makeover” to charts that are either misleading, confusing, or have an unclear key message. This exercise is aimed at **Data Active** participants who have reviewed the list of **Data Visualisation Best Practices (8 - 3)** prior to the exercise.

## Learning objective

Apply the data visualisation best practices and highlight a chart’s key message.

## People

Teams of 2 to 4 people

## Time

- ▶ Option 1: one hour.
- ▶ Option 2: If 2-4 teams, two hours. If 5-10 teams, half day session.
- ▶ Option 3: a week-long group data makeover team competition, as explained below. This option has more flexible timing and is designed for teams to fit into their existing schedules at their convenience.

## Difficulty

Intermediate

## Materials

Slide deck with “before” data visualisations and associated data files.

- ▶ **In person:** Flipchart paper and markers (face-to-face)
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space.

## Preparation and sources

We've prepared some examples of 'before' and 'after' visualisations with accompanying datasets and sources for your use. Please be sure to cite all sources of data and visualisations. You can also add your own versions that relate to your organisational work.

Please find the files for the datasets and images that are used for this exercise. To prepare, facilitators should download and reference accordingly.

- 1 [2018/W28: Volcano Eruptions](#)
- 2 [Smartphone Ownership Among Youth Is on the Rise](#)
- 3 [Zambia Southern Province Confirmed Malaria Cases](#)
- 4 [Violence Against Women & Girls](#)
- 5 [Women in Power](#)
- 6 [What Policymakers Know about Women's and Girls' Issues](#)
- 7 [Visualizing Conflict](#)
- 8 [The Rise of Soccer](#)
- 9 [Food: Greenhouse Gas Emission](#)
- 10 [Women in the Olympics](#)

## Instructions

**Option 1**, a Data Makeovers mini-exercise:

- 1 This option is designed for those with less data visualisation software experience, but who still want to practice interpreting and communicating a visualisation's key message. Each team is given the same dataset and corresponding data visualisation (a.k.a "The Before").
  - Questions to ask:
    - Is data presented accurately in this visualisation?
    - What is the key message?
    - How easy or difficult is it to interpret what this visualisation is saying?
- 2 In your team, work together to analyse the data set and identify the key message you want to highlight (this message may be the same or different than in the original "Before" visualisation).
- 3 Using pen and paper only, draw some visualisation ideas that you feel better communicate the chart's key messages.
- 4 When you are finished, discuss with other teams the ideas you had to improve the way the chart was presented.
  - Questions to ask:

- What steps did you take to improve the visualisation?
- How do those changes better convey the chart's key message than the "Before" version?

---

**Option 2**, a one session Data Makeovers exercise:

- 1 Each team is given the same dataset and corresponding data visualisation (a.k.a "The Before").
  - Questions to ask:
    - Is data presented accurately in this visualisation?
    - What is the key message?
    - How easy or difficult is it to interpret what this visualisation is saying?
- 2 In your team, work together to analyse the data set and identify the key message you want to highlight (this message may be the same or different than in the original "Before" visualisation).
- 3 Then, improve upon the original data visualisation you were given by applying data visualisation best practices, improving accessibility, and/or clarifying the message that the visualisation conveys. You may identify only small changes to make, or you may decide to recreate the whole visualisation in order to properly convey your key message. You may use whatever data visualisation tool you feel comfortable with for this exercise (i.e. a dashboard, a map, Excel chart, an infographic, etc.)
- 4 After everyone is completed, teams will have an opportunity to present their "Before" and "After" visualisation to the full group.
  - Questions to ask:
    - What steps did you take to improve the visualisation?
    - What data visualisation best practices did you apply?
    - Why does the "After" version better convey your key message than the "Before" version?

---

**Option 3**, a week-long, interactive Data Makeovers Team Challenge:

This format is similar to Option 1, but may be friendlier for virtual settings, and would be easier to facilitate outside of a formal data visualisation training session.

- 1 Preparation: participants are pre-assigned to teams, and each team should be set up with a virtual workspace (i.e. Microsoft Teams, Slack, Discord, etc.). Ensure that there is also a separate channel/workspace set up that all teams have access to.
- 2 Day 1: Each team's workspace is loaded with their data set and corresponding "Before" data visualisation.
- 3 Day 2: Teams are given a set amount of group work time (recommendation: 2 hours) to analyse their data, assign roles, brainstorm ideas, and start to develop their makeover visualisation. Time allotted can be whatever

works for your team's schedule that day. The idea is for this option to be more flexible than Option 1 so that it can fit into a normal day.

- 4 Day 3: Teams are given a set amount of group work time to continue to work on their visualisation.
- 5 Day 4: Teams post their completed first draft to the Challenge's shared virtual channel/workspace. Using an interactive social media-style commenting system, teams can comment on each other's posts, tag people, send GIFs, and share ideas and feedback.
- 6 Day 5: Teams are given a set amount of time to meet back in their team workspace, review the comments and feedback that came in on Day 4, and make any revisions that they want to make.
- 7 Day 6: Gallery day- each team gives a virtual presentation of their visualisation. Teams can then vote for categories of winners, like Overall Winner, Most Improved Based on Feedback, Most Creative, Best Storytelling, etc., and maybe even given certificates or a fun prize!
  - Questions to ask:
    - What steps did you take to improve the visualisation?
    - What data visualisation best practices did you apply?
    - What changes did you make based on your colleagues' feedback?
    - Why does the "After" version better convey your key message than the "Before" version?

### Extra credit

Instead of using the example "Before" data visualisations and data sets, teams can use the data makeover exercise to periodically reflect upon the visualisations they have produced and identify areas of improvement for next time. Using their original data set (or an updated version of the same dataset), participants can review their visualisation and ask:

- ▶ What do we still like about this visualisation?
- ▶ What could we do differently to improve this visualisation, knowing what we know now?
- ▶ (If data has been updated) How has the key message changed since this visualisation was originally developed?

### Credit

Inspired by [Makeover Monday](#), a weekly social data project

## 8 - 2 S-C-A-M-P-E-R

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In this exercise, participants will undergo a user experience exercise to improve navigation and user-friendliness of a data dashboard. SCAMPER is a mnemonic—each letter stands for a process or concept that allows participants to question and test different ideas by looking at them from a different angle. Participants should consider some of the best practices for user experience design, including:

- 1 Putting yourself in the user's position
- 2 Don't overwhelm users with too much information
- 3 Use a simple and consistent interface
- 4 "Principle of Least Astonishment" - functions of the dashboard should behave the way the user expects them to behave
- 5 Pay attention to how you feel while using the product, not only what you think about it

This exercise is aimed at Data Ready participants who have advanced data visualisation experience and are interested in taking their information products to the next level by improving the user experience.

## Learning objective

To gain experience with user experience design through redesigning a data dashboard.

## People

Teams of 4 people

## Time

One hour

## Difficulty

Advanced

## Materials

- ▶ Pre-built data dashboard (example provided here or they can use their own example).
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers

## Instructions

- 1 Each team is given their example data product and set up with a Jamboard or Miroboard (if in a virtual setting) or sticky notes and poster board (if in an in-person-setting).
- 2 Teams explore their data product and brainstorm improvements that can be made by answering 7 questions (S-C-A-M-P-E-R!). Not all solutions have to be viable- this is a brainstorming exercise! Teams should record their brainstorming for each category:
  - a) **\*S—Substitute\*:** What element within the data product can be swapped with something else? If you swap something, what would happen?
  - b) **\*C—Combine\*:** What elements of the data product can be combined? How would this affect the product?
  - c) **\*A—Adapt\*:** What aspects of the product can be adapted to a different context and how?
  - d) **\*M—Modify\*:** What can be modified to improve the product?
  - e) **\*P—Put to other uses\*:** Are there any other uses this product can serve?
  - f) **\*E—Eliminate\*:** Is there anything within the product that can be removed to make it simpler?
  - g) **\*R—Rearrange or reverse\*:** What can be reversed or rearranged to make this product better?
- 3 When teams are completed, they should reflect upon their suggested changes. Each team should take turns presenting to the group, summarizing their S-C-A-M-P-E-R findings.
  - Questions to ask:
    - Did you come up with any ideas that stand out as viable solutions to improve the data product?
    - How did your feelings change about the product, from the original version to the revised version?
    - Did this process spark any ideas for how to improve one of your own data products?

## Example dashboard for S-C-A-M-P-E-R exercise

The dashboard for this exercise is found at this [link](#)

Data Source: [The United Nations Survey for a Better World. Positive Impact Events](#)

# Data set

[Positive Impact Events - Actions](#)

[Positive Impact Events](#)

## Extra credit

---

Instead of using the example pre-built dashboard, teams can use the S-C-A-M-P-E-R exercise to periodically reflect upon the visualisations they have produced and identify areas to improve the user experience. For example, if a dashboard has been produced but isn't being used optimally by the target audience for decision-making, this could be an ideal time to make some simple improvements to the user experience using S-C-A-M-P-E-R.

## Credit

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S-C-A-M-P-E-R mnemonic device developed by Bob Eberle, an education administrator and author. Serrat, Olivier. (2017). The SCAMPER Technique. 10.1007/978-981-10-0983-9\_33. Exercise designed by: Katherine Lilly

# 8 - 3 Data Visualisation Best Practices

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 [Top Ten Tips for Visualising Data](#)

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 [10 Astuces pour la visualisation des données](#)

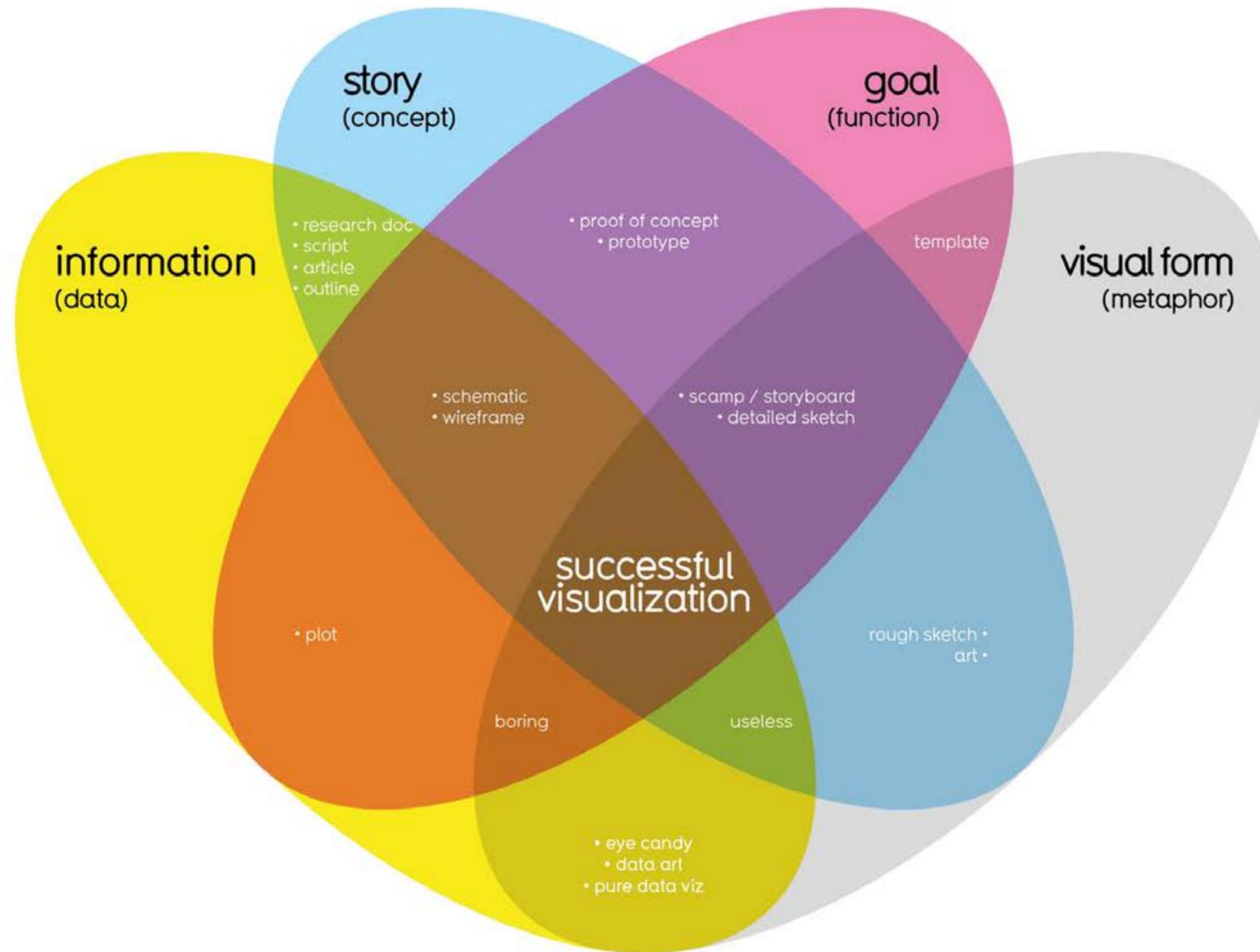
Top 10 Tips for Data Visualisation handouts developed by: Katherine Lilly, American Red Cross, [katherine.lilly@redcross.org](mailto:katherine.lilly@redcross.org)

# 8 - 4 Data Visualisation Overview



📊 Data visualisation is the 🖋️ graphical representation of 📈 information and 🗄️ data...

...used to 🔄 share 🗂️ analysis and make 📌 data-driven decisions.



David McCandless  
InformationisBeautiful.net

taken from new book  
Knowledge is Beautiful

find out more  
[bit.ly/KIB\\_Books](http://bit.ly/KIB_Books)

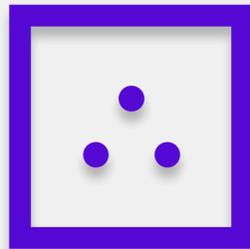
[informationisbeautiful.net](http://informationisbeautiful.net)

# Eight steps for success

- 1 Define your **audience**
- 2 Set clear **goals**
- 3 Define your **layout**
- 4 Choose your topic and your **story**
- 5 Collect your **data**
- 6 Process your **data**
- 7 Find the story in the **data**
- 8 Identify **patterns**

# Building a data viz

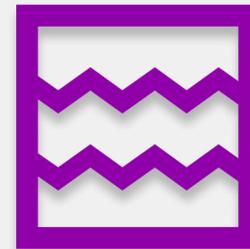
## Define data type



### Discrete

Numerical data that has a finite number of possible values.

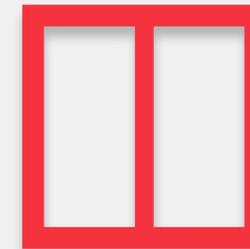
Example: Number of employees in the office.



### Continuous

Data that is measured and has a value within a range.

Example: Rainfall in a year.

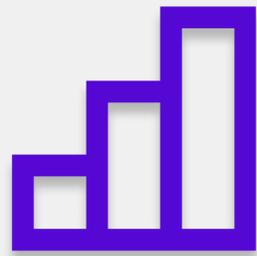


### Categorical

Data that can be sorted according to group or category.

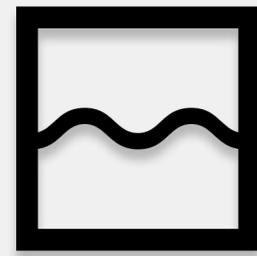
Example: Types of product sold.

# Look for data relationships



## Nominal comparison

A simple comparison of the quantitative values of subcategories.



## Deviation

How data points relate to each other, particularly how far any given point differs from the mean.



## Correlation

Data with two or more variables that may demonstrate a positive or negative correlation to each other.



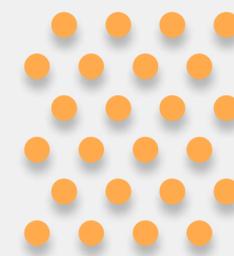
## Ranking

How two or more values compare to each other in relative magnitude.



## Time series

Track changes in values of a consistent metric over time.



## Distribution

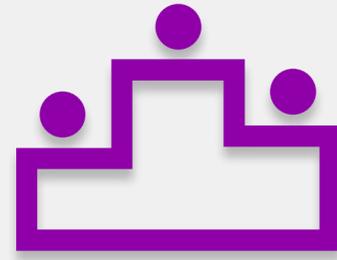
Often around a central value.

# Think about these principles

And apply them



**Simplification**



**Hierarchy**



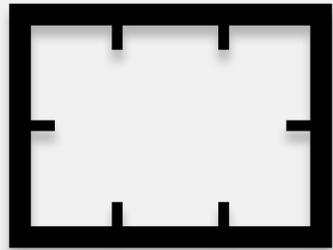
**Layout**

**Eye Flow - "Z" path**

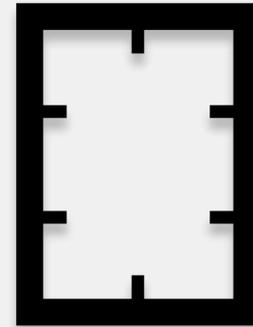
From the + important to the - important

# Draft your layout

Anticipate your needs



Use **Landscape** for presentation



Use **Portrait** for printing or mobile phone viewing

# Make use of gridlines

The baseline grid provides a guide for **positioning elements on the page with accuracy**, which is difficult to achieve by eye alone.

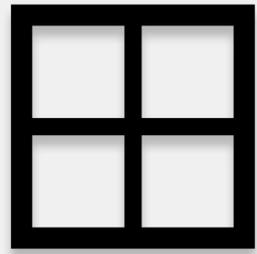


# Focus on alignment

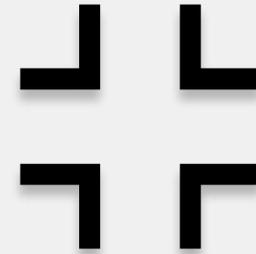
Make your design visually more appealing and **helps to create relationships between elements.**



## Measure proximity



**Related** elements should be placed closer.

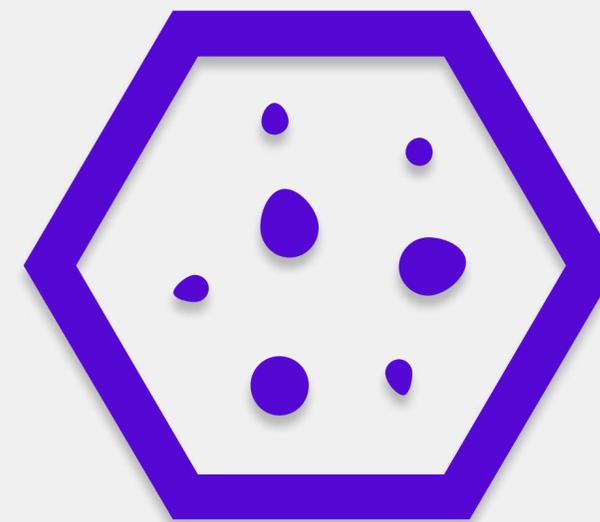
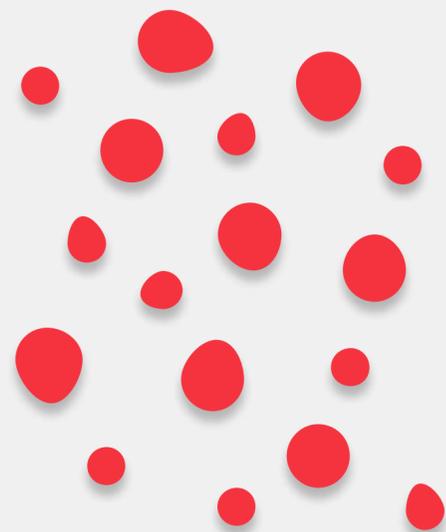


**Unrelated** elements should not be placed closed.

Use lines or space to separate elements, find the balance.

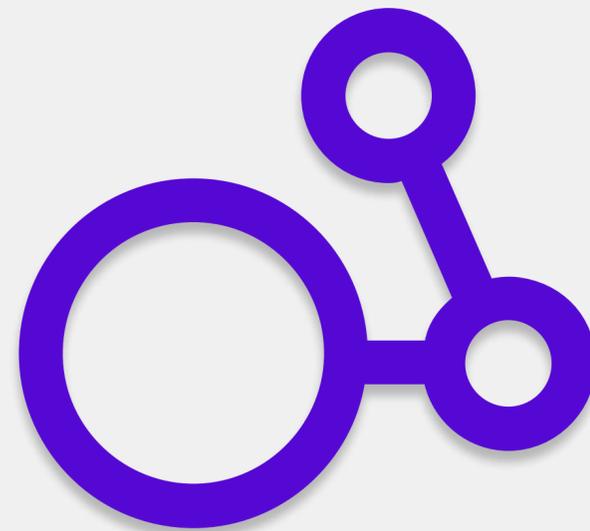
# Enclose your data points

Eyes perceive object as belonging together when they are **enclosed**.



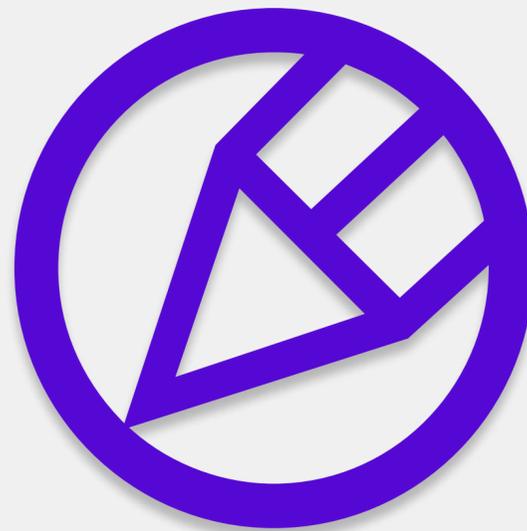
# Enclose your data points

Eyes perceive object as belonging together when they are **connected**.

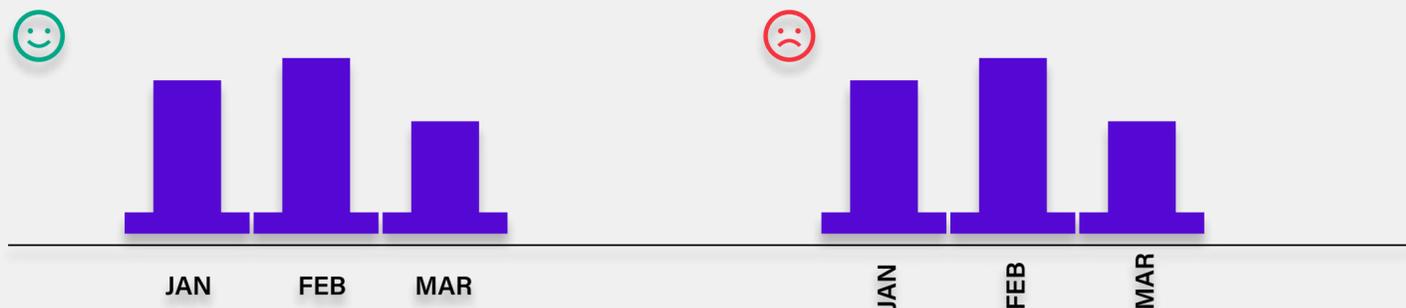


# Is your design consistent?

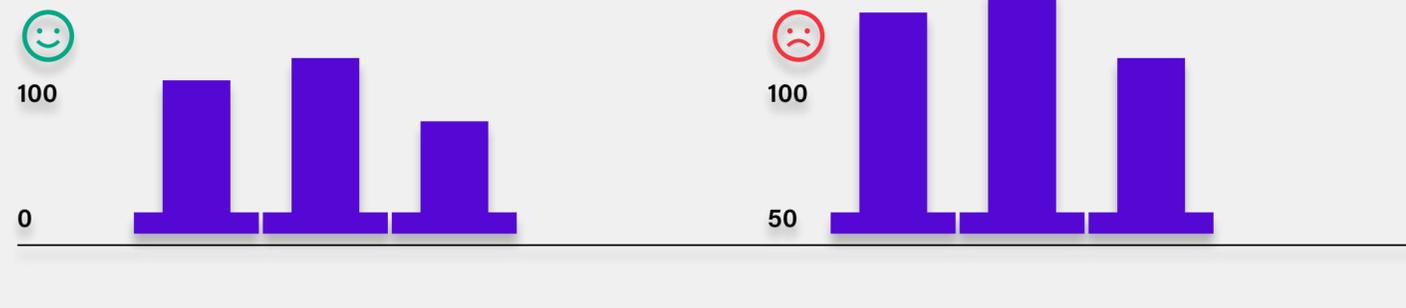
Establish a  **style** for each element in a design and use it on similar element.



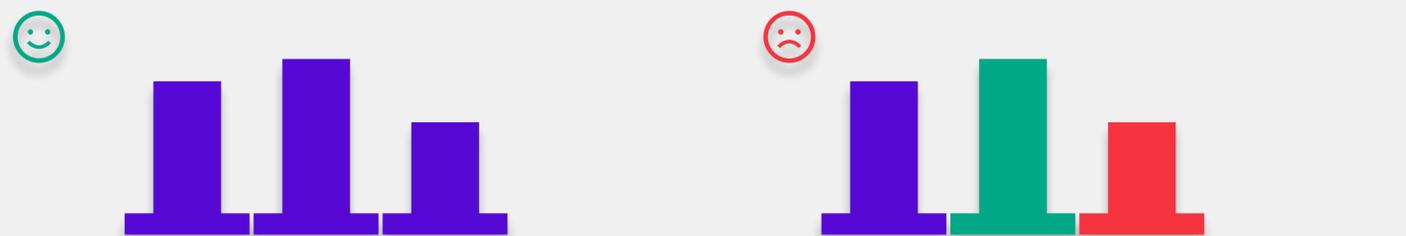
# If you want to use bar charts



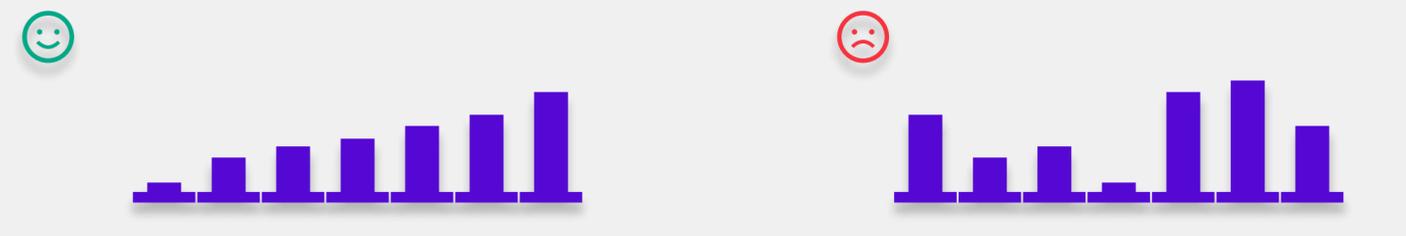
**Use horizontal labels:** Avoid steep diagonal or vertical type, as it can be difficult to read



**Start the Y-axis value at 0:** Starting at a value above zero truncates the bars and doesn't accurately reflect the full value



**Use consistent colours:** Use one colour for bar charts. You may use accent colour to highlight a significant data point.



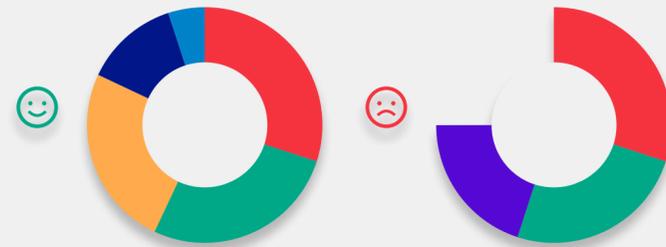
**Order data appropriately:** Order categories alphabetically, sequentially, or by value

# If you really want to use pie charts



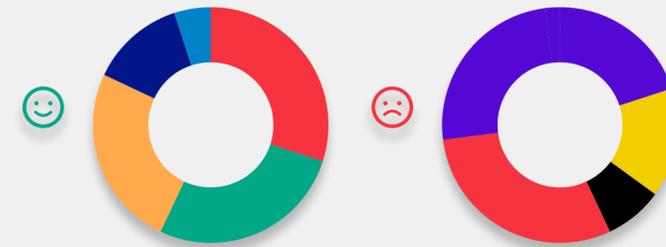
## Visualise no more than 5 categories

It is difficult to differentiate between small values.



## Make sure all data adds up to 100%

Verify that values total 100% and that pie slices are sized proportionate to their corresponding value.

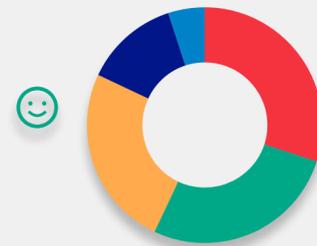


## Start at 12 o'clock

Always start at 12 o'clock with the largest segment clockwise.

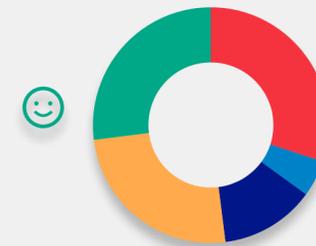
## Order slices correctly

There are two ways to order sections, both of which are meant to aid comprehension:



## Option 1

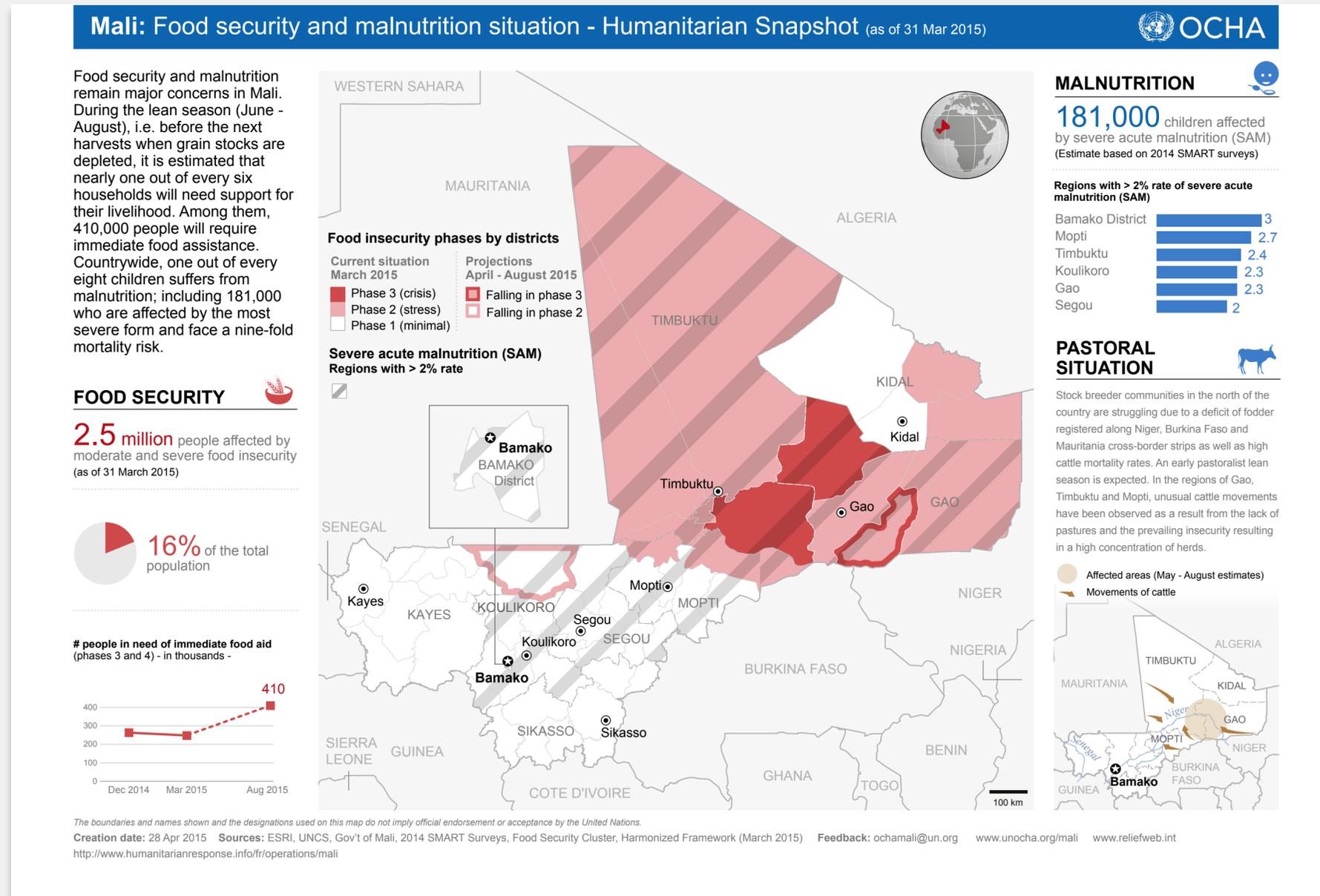
Start the largest at 12 o'clock, going clockwise. Place remaining sections in descending order, going clockwise.



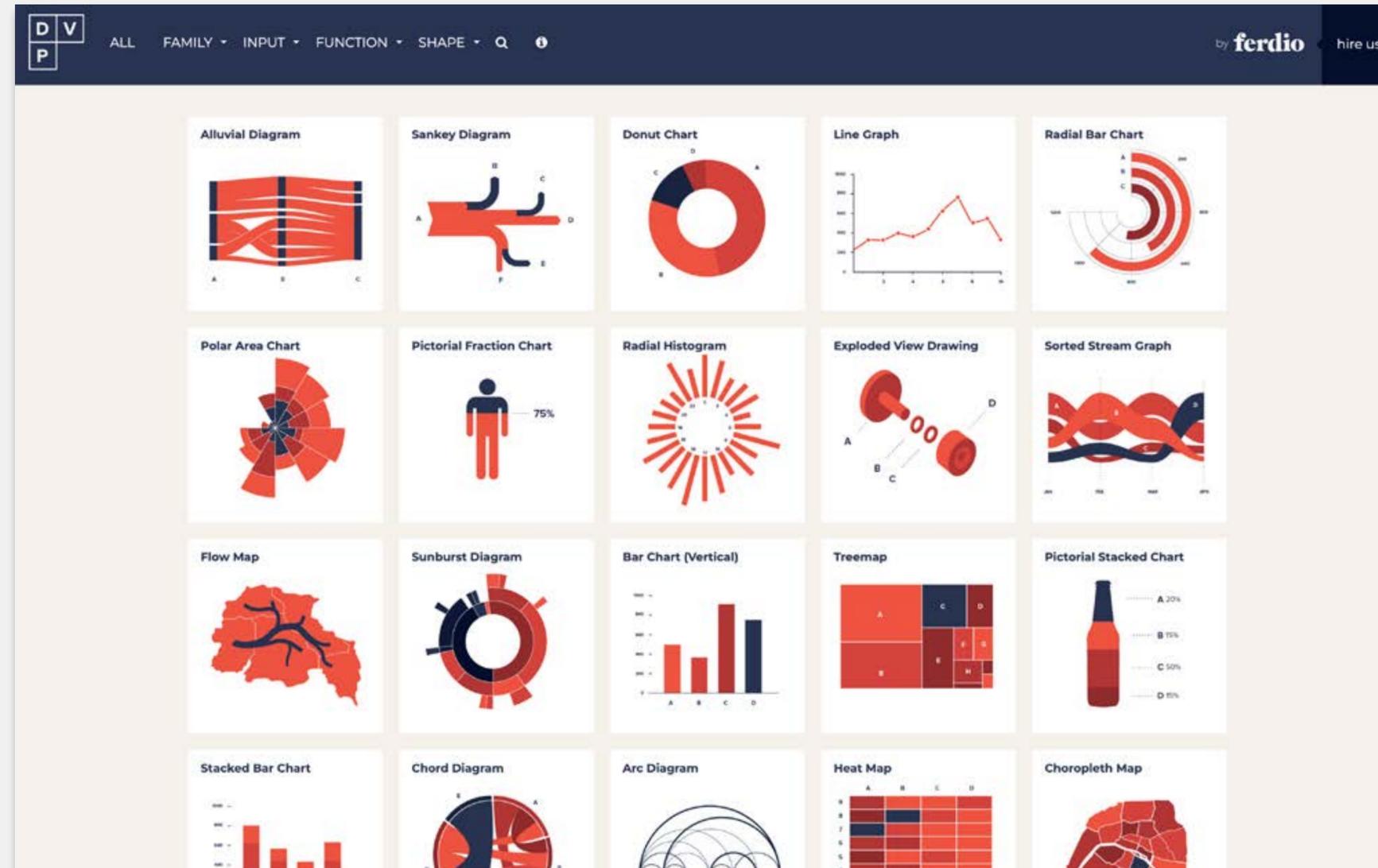
## Option 2

Place the largest section at 12 o'clock, going clockwise. Place the second largest section at 12 o'clock going counterclockwise. The remaining sections can be placed below.

# Maps and dashboards

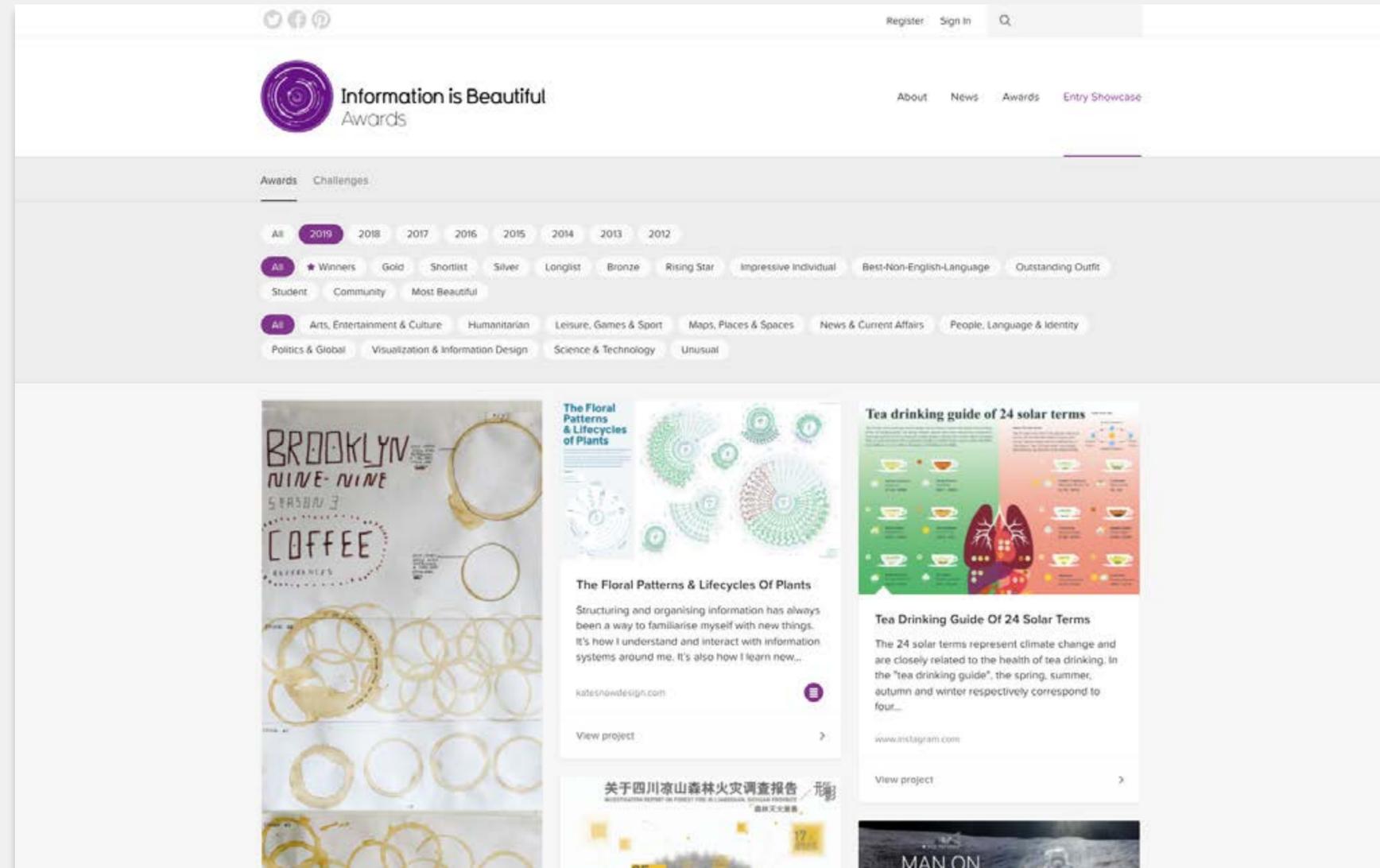


# Looking for inspiration?



(i) <https://datavizproject.com/#>

# Looking for inspiration?



(i) <https://www.informationisbeautifulawards.com/>

# Looking for tools

Review of 20 big data visualisation tools

**No coding required**

**Coding required**



**RAW**Graphs



**infogram**

Datawrapper



**NVD3**

# IFRC operations

-  [Bangladesh - Population Movement](#)
-  [Bahamas: Hurricane Dorian](#)
-  [Ebola Virus Disease Response](#)

## It's time to be creative!

On your table, you can find a piece of flipchart paper – turn in into a dashboard showing information about:

- **Group 1 and 2 - people in the room (participants and facilitators),**
- **Group 3, 4, and 5 - content/summary of the training.**

It's an emergency operation so you have very little time  
– 30 minutes to put all data and information together  
(unless you really want to skip your coffee break).

Each group will have 5 minutes to present their final product.

# Thank you

## 8 - 5 Data Gallery

---

**“Can this data visualisation be trusted?” It is important to present your data as accurately and transparently as possible, in order for your audience to trust that data to guide decision-making. In this exercise, participants interact with, and think critically about, data visualisations and the effect to which they are trustworthy, unbiased, and accurate. This exercise is aimed at Data Curious participants who want to build their skills in creating data visualisations to be used for decision-making.**

## Learning objective

To critically assess a data visualisation for effectiveness and trustworthiness, and identify areas where content may be manipulated.

## People

6-12 people, in groups of 3

## Time

One hour

## Difficulty

Beginner

## Materials

12 A3 prints of data visualisations

## Instructions

- 1 Preparation: Preselect 12 infographics and data visualisations from the selection included here, or others that you have encountered. Choose a variety of visualisations, from those that show a lot of data to those that are just using visual metaphors. Print them on larger paper (A3 or Tabloid works well) if possible. Place them on the walls around the room with an equal amount of space between them. Number them with post-it notes. Try to disperse complicated ones evenly between those that are not so complicated, so that you avoid bottlenecks during the gallery walk.
- 2 Each group of three should start in front of one poster (try to spread out around the room if possible). In your group, review the data visualisation on the poster in front of you. Spend 3 minutes discussing the following questions:

- a) What's the message?
- b) Who is the creator of this data visualisation and who is the audience?
- c) What's the evidence or data contained?
- d) Is there a source cited? Do you think the source is credible?
- e) Does the data appear to be presented accurately?
- f) Is the presented key message a correct interpretation of the data?

**3** Every 3 minutes your group should rotate in a clockwise direction until you have looked at all the posters.

**4** After all groups have reviewed all the posters, all participants should come back together for a discussion about the posters they reviewed. Discuss topics such as:

- g) Which ones were the most effective? Why?
- h) Which ones were the least effective? Why?
- i) Were there any posters where the data source was not included, or where the data source was not credible?
- j) Were there any posters where the data was not presented accurately, or where the key message may have been misinterpreted?
- k) Reinforce for participants how knowing your audience is critical. Talk about how different audiences might understand a visualisation differently than others. Emphasize the importance of presenting data accurately, above all else, and reviewing your visualisation to ensure it is not misleading, biased, or manipulated.

### Credit

Adapted from an exercise originally created by Tactical Technology Collective

## 8 - 6 Infographic Drawing

---

One of the most important components of data storytelling is to communicate the action you want your audience to take based on the data. This exercise will challenge participants to think visually about a data narrative. This exercise is aimed at *Data Active* and *Data Advocate* participants who have reviewed the list of **Infographic Design Best Practices (8 - 9)** prior to the exercise.

## Learning objective

Apply the infographic design best practices. Gain practice with highlighting the desired action for the audience to take.

## People

Teams of 2 to 5 people, up to 24 participants total

## Time

One hour

## Difficulty

Intermediate

## Materials

Example Data Narrative (see below), either shown to all participants on a slide or distributed as a handout. A computer with internet access for each group.

- ▶ **In person:** Flipchart paper and markers (face-to-face)
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space.

## Instructions

- 1 Preparation: Distribute the Example Data Narrative (see below) to each group of participants.
- 2 Take about 5 minutes to read through the Example Data Narrative and figures included.
- 3 After you have read through the Example Data Narrative, spend about 10 minutes examining the data and fact-checking. Determine if all the information provided is accurate or not. You are welcome to use the internet for research.

- 4 Spend the next 20 minutes sketching your infographic, based on the narrative and data provided. You may refer to the list of Infographic Design Best Practices for tips. As you are designing your infographic, please consider the following:
  - a) If you find errors or inaccuracies in the information and data provided, you should not include those errors. Please only include accurate data in your infographic.
  - b) If you have additional data and information related to the subject presented, you are welcome to integrate and complement information based on your sources.
  - c) You are welcome to use any graphics, maps, charts, text, or any other elements you find relevant to tell your story.
  - d) Ensure that you communicate an action that you want the audience to take based on the data.
- 5 After you have finished, please use tape to hang your infographic on the wall.
- 6 Conduct a "gallery walk": Everyone should spend 5 minutes walking around the room and reviewing all the infographics. They should be on the lookout for: 1) following the Infographic Design Best Practices, and 2) an action that they think they should take based on the data.
- 7 Each group should then take turns presenting their infographic.
  - e) Questions to ask:
    - What did you learn during this infographic design process?
    - How did you address any inaccuracies in the data?
    - What action did you want your audience to take and how is that communicated on your infographic?

## Example Data Narrative

The African Union (AU) is a continental union consisting of all 55 countries on the African continent. It was established on 26 May 2001 in Addis Ababa, Ethiopia, and launched on 9 July 2002 in South Africa, with the aim of replacing the Organisation of African Unity (OAU). The most important decisions of the AU are made by the Assembly of the African Union, a semi-annual meeting of the heads of state and government of its member states. The AU's secretariat, the African Union Commission, is based in Addis Ababa.

All UN member states based in Africa and African waters are members of the AU, as is the disputed Sahrawi Arab Democratic Republic (SADR). Morocco, which claims sovereignty over the SADR's territory, withdrew from the Organisation of African Unity, the AU's predecessor, in 1984 due to the admission of the SADR as a member. However, on 30 January 2017 the AU admitted Morocco as a member state.

Top 10 most populated countries in Africa:

- 1 Nigeria: 182.2M

2	Ethiopia:	99.39M
3	D.R. Congo:	77.27M
4	Algeria:	39.67M
5	Uganda:	39.03M

Please feel free to add additional data on missing countries or other information that you might find interesting!

### Credit

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Exercise: Guido Pizzini

Infographic Design Best Practices: Katherine Lilly, American Red Cross

# 8 - 7 Translating Technical Concepts for Audiences

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When you are creating a data visualisation for an audience outside of yourself or your data team, there's a good chance that your audience will be less familiar with your data than you are. However, if your audience does not understand the insights in your data, they will not be able to use those insights for decision making. This exercise is aimed at Data Ready participants with statistical analysis experience who want to practice their skills in communicating complex topics to non-technical audiences.

## Learning objective

Translate complex, technical data for non-technical audiences. Ensure that any technical concepts presented (such as weights, benchmarks, confidence intervals, etc.) are explained to improve comprehension and transparency.

## People

Teams of 2 to 4 people

## Time

One hour

## Difficulty

Advanced

## Materials

Example visualisation (Sampling Distribution Mean Income) and scenario below; one computer with PowerPoint/Google Slides access for each group.

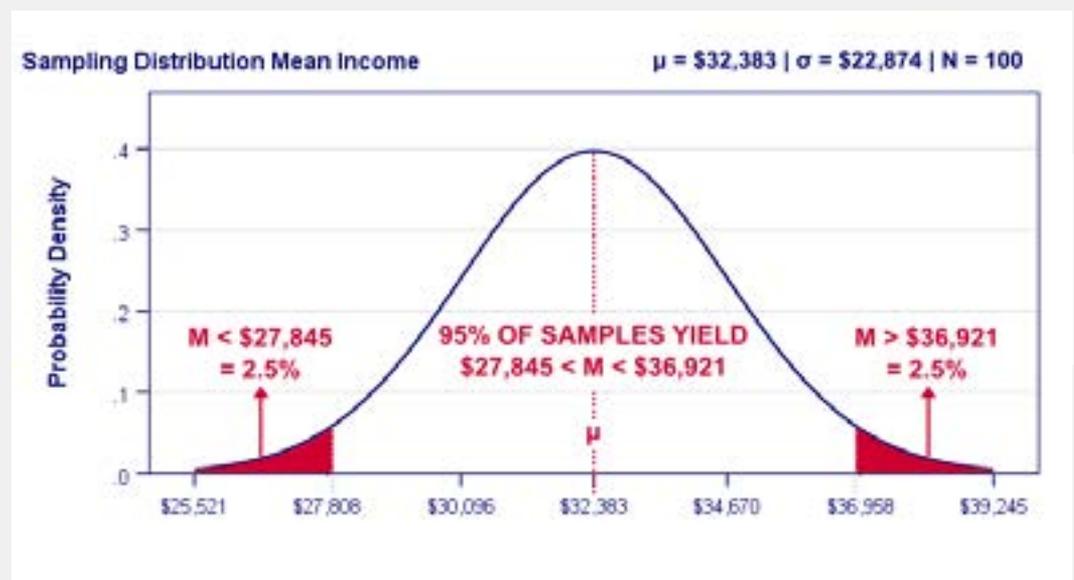
- ▶ **In person:** Flipchart paper and markers (face-to-face)
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space.

## Instructions

- 1 Review the scenario below. Pretend that you and your group represent a team of statisticians, and you have to share the findings from your data in an upcoming presentation with a client. The client does not have a statistics background, so you will need to communicate the key insights from your data in a way he will understand.

- 2 With your group, spend a few minutes reviewing this visualisation. Make a list of a few of the elements that may be hard for a non-technical audience to understand. These may include, but are not limited to:
  - a) Population mean ( $\mu$ )
  - b) Population standard deviation ( $\sigma$ )
  - c) Probability density
  - d) Confidence intervals
  - e) Sampling distribution
- 3 Then, think about the elements from your list that are critical to include in order to communicate your chart's key message, versus what should be excluded or explained in a different way.
- 4 Create a Powerpoint/Google Slide that communicates the insight that you want your client to understand. Be sure to explain any technical concept in a simple way.
- 5 Each group should then present their slide to the rest of the participants. Participants should act as non-technical audience members, and ask the presenting group to explain any elements or concepts that are still unclear.
  - f) Questions to ask:
    - What strategies did you use to adapt your visualisation for a non-technical audience? Focus not only on what you changed but why.
    - How did your new key message compare to the original chart's key message?

## Scenario





### Credit

---

Katherine Lilly. Exercise adapted from SPSS Tutorials: [Simple Introduction to Confidence Intervals](#)

# 8 - 8 Data Sculptures

**This playful exercise encourages participants to focus more on presentation of key messages than the visualisation itself. As an energizer activity, it may also help to break down power structures that may exist within the group. Participants will act as individuals responsible for communicating an insight to a key decision maker. They should review a dataset provided, identify the key insights, decide how to communicate those insights with the decision maker audience in mind, and frame the insights in an effective storytelling format. Oh, and one more thing: participants cannot use computers or any writing utensils for this exercise! This exercise is aimed at Data Curious and Data Active participants who are new to data visualisation, or who want to provoke some creative energy within their data team.**

## Learning objective

To channel their creativity by telling a data story using art supplies/crafts/recyclables, etc. To encourage participants to “think outside the box” when it comes to telling stories with data, and be reminded that not every data communicator has the ability to rely on a computer.

## People

Teams of 4 to 5 people

## Time

45 minutes (could be an optimal ice breaker activity or early morning energizer activity)

## Difficulty

Beginner

## Materials

- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers
- ▶ Handout with two traditional charts. Locally available physical art/craft supplies such as: plastic bottle caps, wooden sticks, coloured paper, Play-do or clay, Legos or blocks, tape, glue, scissors, wire, cardboard rolls. (Note - if this is a digital session, be sure to send the supplies list in advance so that people can plan accordingly.)

## Instructions

- 1 Preparation: Distribute the art supplies and handout to each group of participants.

- 2 For 15-20 minutes, each team should use the art supplies to create a “data sculpture”. A data sculpture is a creative presentation of the key messages of the data. Avoid recreating traditional charts (i.e. making bar charts out of blocks). Think creatively and use your art supplies to help you think outside of the box.
  - Questions to ask:
    - How would you communicate this data to someone unfamiliar with traditional data visualisations like charts, or to a child, or to someone who cannot read?
  
- 3 For the remainder of the session, teams should present their data sculptures.
  - Questions to ask:
    - What are some similarities or differences between the sculptures? (i.e. Did Group A focus on one interesting data point, while Group B focused on a big picture story?).
    - Was it challenging to communicate the data without using a computer?
    - What are some ways that you can incorporate creative thinking to ensure your data message reaches non-traditional audiences, such as someone unfamiliar with traditional data visualisations like charts, or to a child, or to someone who cannot read?

### Extra credit

---

Other icebreaker/energizer activities that involve use of physical materials to creatively understand and communicate data:

- ▶ DataBasic.io, [“Data Storybook” activity](#): targets a team’s ability to understand the story within the data
- ▶ DataBasic.io, [“Remix an Infographic” activity](#): targets a team’s ability to pinpoint and communicate the story within an infographic using art supplies

### Credit

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Exercise: [DataBasic.io](#)

Reference Article: [Tools Won’t Write Your Data Story for You](#)

# 8 - 9 Infographic Design Best Practices

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 [Top Ten Tips for Designing Infographics](#)

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 [10 Astuces pour la conception des infographies](#)

# 8 - 10 10 Ideas to Visualise Qualitative Data

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 [10 Ideas to Visualise Qualitative Data](#)

# 8 - 11 Iconography Interpretation

When are icons appropriate or not appropriate?

# Icons may mean different things in different settings

- ▶ Icons are a helpful design element to represent a person, place, or thing in your maps, infographics, and dashboards.
- ▶ At the IFRC, we know that there are some icons that are universally recognized, like the Red Cross emblem!
- ▶ Other commonly used and accepted icons may include:



- ▶ However, other icons may be misinterpreted or misunderstood when presented in different contexts.

## Game rules:

This game is meant to be played in a group setting, with up to 10 participants in each group. Participants may include anyone from the Data Curious to the Data Ready; anyone who uses icons in their information management products!

On the following slides you will see examples of icons. For each icon, participants should discuss a situation where that icon would be **appropriate** to use and a situation where the same icon would be **inappropriate** to use.

Remember to consider cultural appropriateness, as well as other audience characteristics such as age, education level, gender, religion, wealth, literacy, tech-savviness, career, etc.



---

**What are some situations where you could use this icon appropriately?**

---

**What are some situations where you should not use this icon?**

(i) Source: Wilson Joseph from The Noun Project



---

**What are some situations where you could use this icon appropriately?**

---

**What are some situations where you should not use this icon?**

(i) Source: Creative Stall from The Noun Project



---

**What are some situations where you could use this icon appropriately?**

---

**What are some situations where you should not use this icon?**

(i) Source: IronSV from The Noun Project



---

**What are some situations where you could use this icon appropriately?**

---

**What are some situations where you should not use this icon?**

(i) Source: Anna Racaza from The Noun Project



---

**What are some situations where you could use this icon appropriately?**

---

**What are some situations where you should not use this icon?**

(i) Source: Dmitry Mirolyubov from The Noun Project



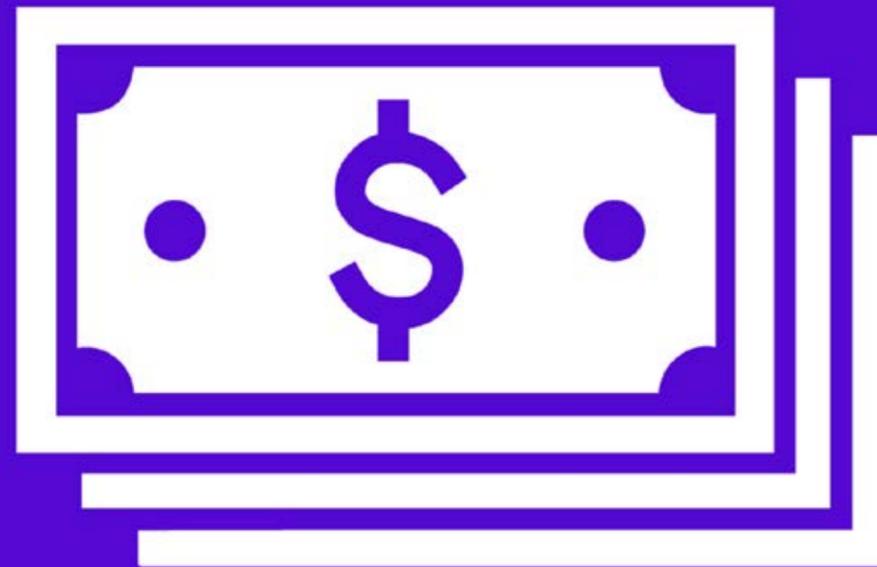
---

**What are some situations where you could use this icon appropriately?**

---

**What are some situations where you should not use this icon?**

(i) Source: IconTrack from The Noun Project



---

**What are some situations where you could use this icon appropriately?**

---

**What are some situations where you should not use this icon?**

(i) Source: Saeful Muslim from The Noun Project



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**What are some situations where you could use this icon appropriately?**

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**What are some situations where you should not use this icon?**

(i) Source: David Khai from The Noun Project



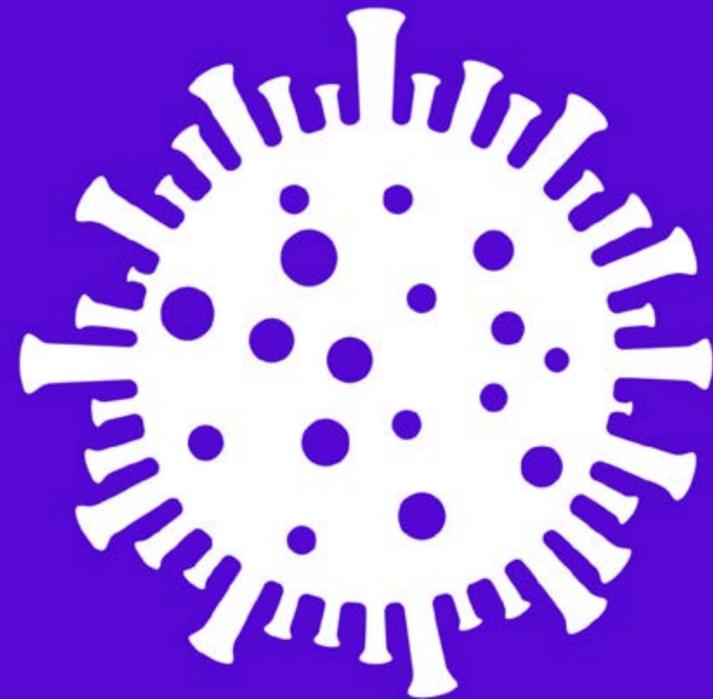
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**What are some situations where you could use this icon appropriately?**

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**What are some situations where you should not use this icon?**

(i) Source: Мила Омина from The Noun Project



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**What are some situations where you could use this icon appropriately?**

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**What are some situations where you should not use this icon?**

(i) Source: Ainul Muttaqin from The Noun Project

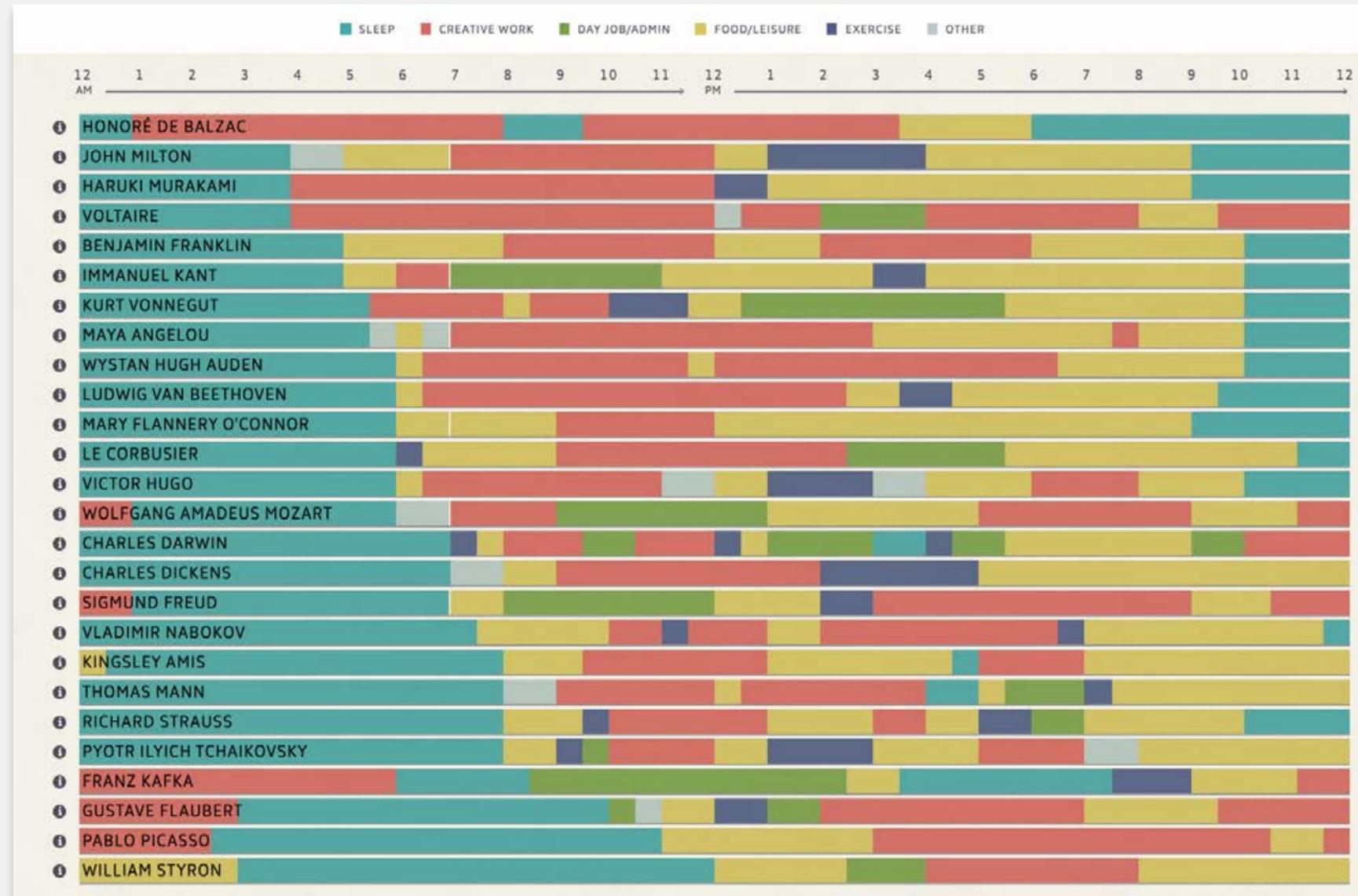
# Conclusion

- ▶ Can you think of any more examples from your own work where you had to reconsider an icon based on appropriateness?
- ▶ How will you think about choosing icons in the future?

(i) Credit: Katherine Lilly

# 8 - 12 Understanding Different Types of Colour Vision Deficiencies

# Check out this nice data visualisation!

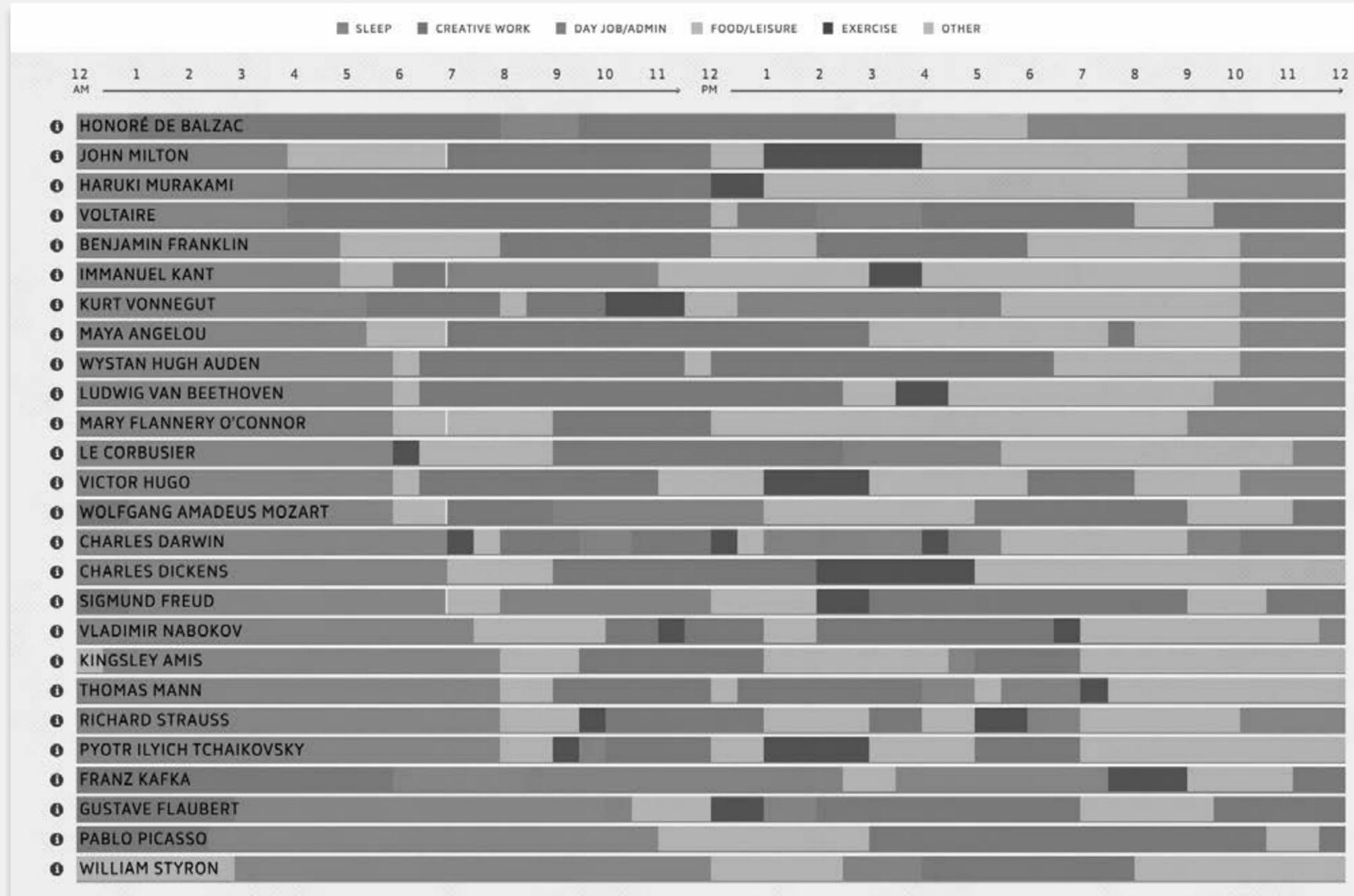


(i) [Data from Maison Currey of Daily Rituals](#), Visualization created by [Podio](#)

This visualisation displays data on daily routines of famous creative people.

What are your initial impressions of the appearance of this visualisation?

# Check out this nice data visualisation!



Click back and forth between the previous slide and this slide.

Would the data be interpreted the same in both charts?

Colour vision deficiency is prevalent, to some extent, in **1 in 12 men** and **1 in 200 women**.

# There are three main types of colour vision deficiency

Red-green colour vision deficiency (most common type of colour vision deficiency):

---

- **Deuteranomaly**, which makes **green** appear more **red**
- **Protanomaly**, which makes **red** appear more **green**

Blue-yellow colour vision deficiency:

---

- **Tritanomaly**, which makes **blue** appear **green** and **yellow** appear **red**
- **Tritanopia**, which makes **blue** appear **green**, **purple** appear **red**, and **yellow** appear **pink**

Complete colour vision deficiency:

---

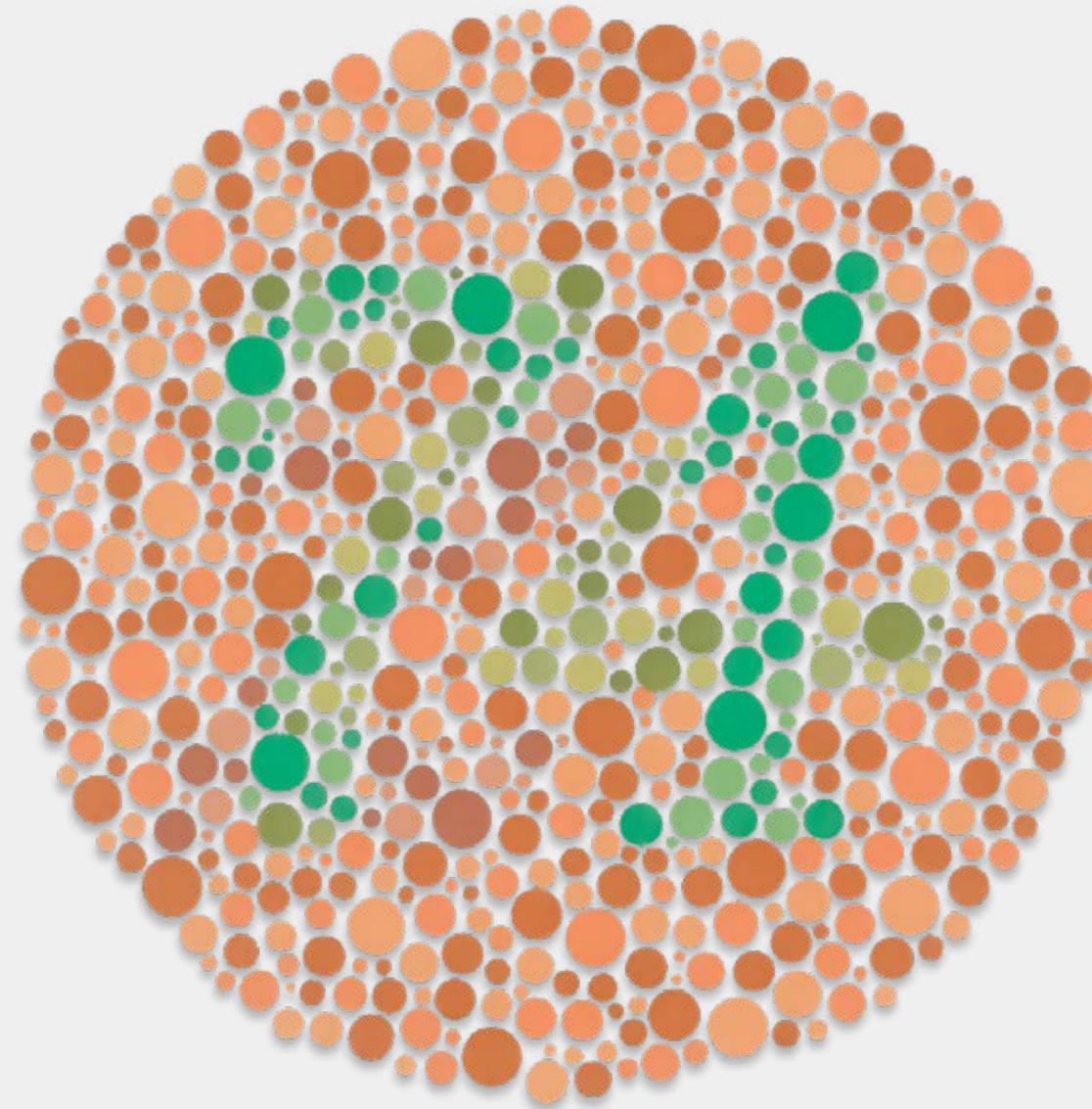
- **Achromatopsia, achromatomaly, or monochromacy**, which make colours appear in shades of gray
- These are the most rare types of colour vision deficiency and usually are accompanied by other visual impairments.

# There are three main types of colour vision deficiency

In the circle to the right, people with normal vision should see the number **"74"**.

People with red-green colour vision deficiency will see the number **"21"**.

People with monochromacy may see no number in the circle.

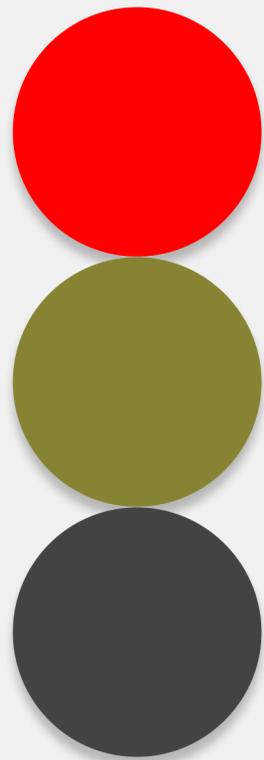


(i) Source: Shinobu Ishihara, a professor at the University of Tokyo, who first published his tests in 1917.

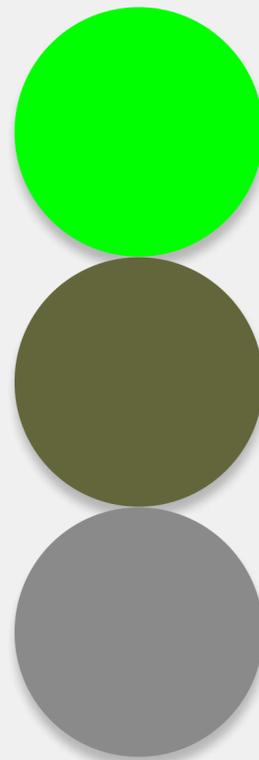
# Should I avoid red and green altogether?

No, these are still very culturally-relevant colours and useful for communicating data. However, you can make tweaks to the colours used to ensure they are visible to people with colour vision impairments.

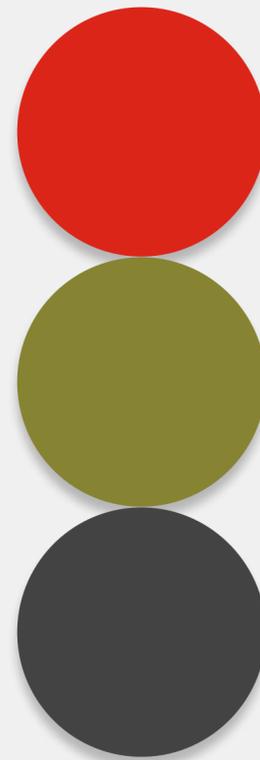
"Pure" red



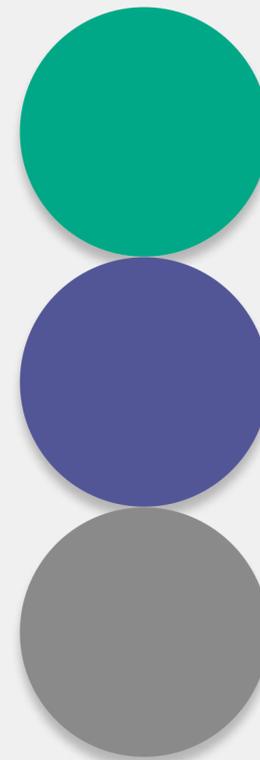
"Pure" Green



Orangish Red



Bluish Green



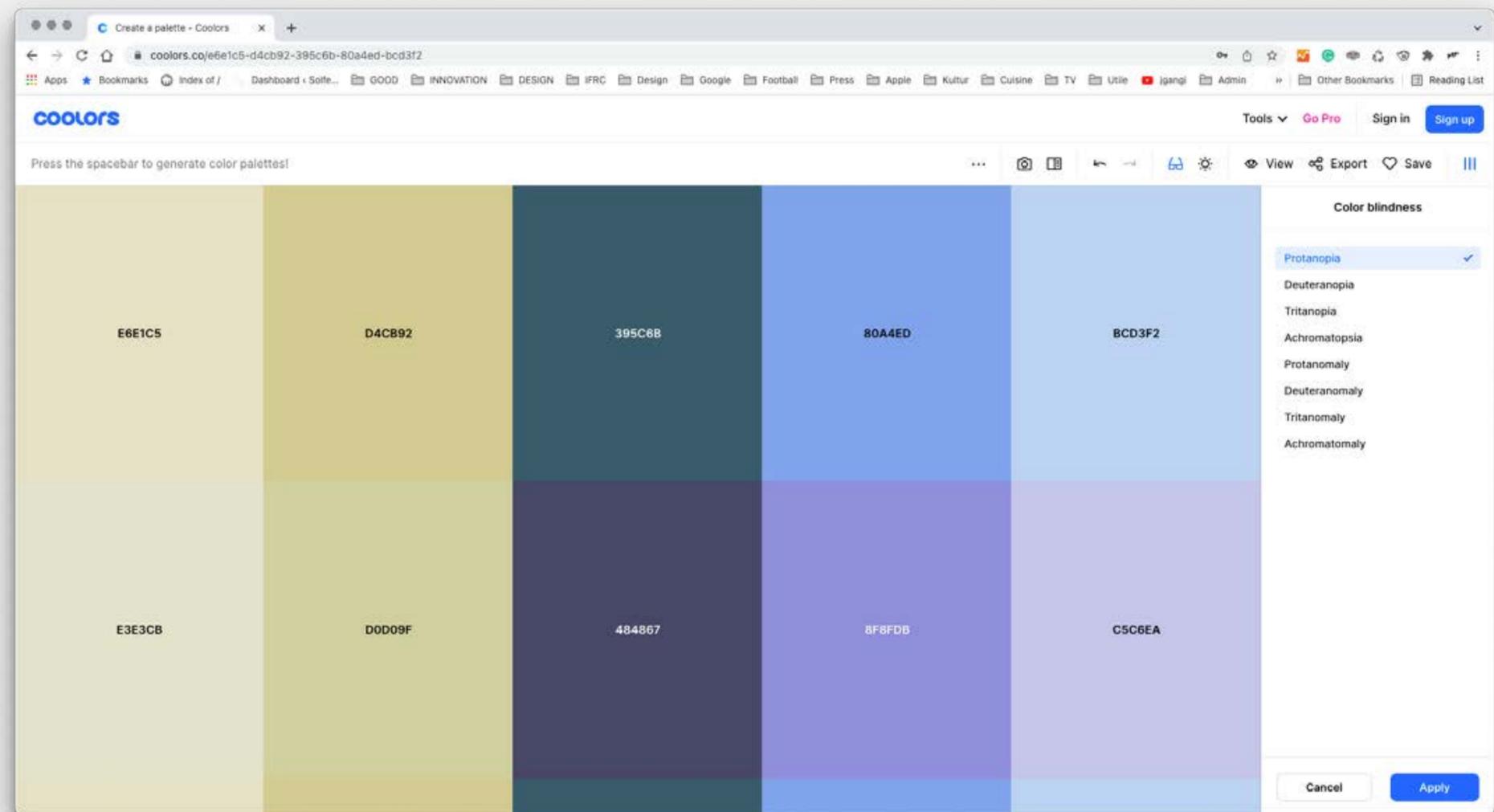
For example: use reds that are more towards orange, and greens that are more blue.

(i) Source: Nancy Organ, [An Incomplete Guide to Accessible Data Visualisation](#). Towards Data Science.

# Resources for ensuring your colour palette is accessible

**Coolors.co:** Enter in the hex codes of your colour palette and see how it would be viewed by people with different types of colour vision deficiency.

**WebAIM Contrast Checker:** Tells you if your colours have sufficient contrast between them to be distinguishable.



# 8 - 13 Data Visualisation Accessibility Overview

# Introduction

## What is meant by “accessible”?

- ◉ Creating dashboards, maps, charts, tables, graphics, and other information management products that all individuals can use, inclusive of those with disabilities or life experiences that result in temporary situational limitations.
- ◉ Making design modifications to our products so that our data insights can be communicated to individuals with auditory, cognitive, neurological, physical, speech, or vision disabilities.

## Why is this so important?

- ◉ Within the RCRC Movement, we are working to become more diverse, equitable, and inclusive. We do not want anyone to feel excluded from understanding our data on the basis of a disability or temporary situational limitation.
- ◉ This slide deck is a very brief overview, but there are many resources online to help you improve the accessibility of your data visualisations.

# Introduction

There are many types of conditions that could affect the way a user interacts with or consumes information. Not all are permanent; some could be temporary or situation-based.

It isn't possible to anticipate the conditions of every single one of your users. Nor is it possible to create a "perfect" visualisation that is accessible to everyone.

However, there are some design tricks we can employ to make sure we are making our visualisations as easy to interpret as possible.

	Permanent	Temporary	Situational
Touch	 One arm	 Arm injury	 New parent
See	 Blind	 Cataract	 Distracted driver
Hear	 Deaf	 Ear infection	 Bartender
Speak	 Non-verbal	 Laryngitis	 Heavy accent

(i) Source: [Microsoft Inclusive Design Guide](#)

## Reflection moment

- ▶ In the United States, 1 in 4 adults have some type of disability. This amounts to **61 million people**.
- ▶ Take a moment to look up some statistics about disability in your country.

(i) Source: [Centres for Disease Control and Prevention](#)

# Accessibility tips and best practices

In the following slides, you will find some examples of design modifications you can make that will help your visualisation to be more accessible.

When you make the time and effort to conduct an accessibility check on your visualisation, you are helping to create a more inclusive learning environment for your audience.

# Colour modifications

## Colour vision deficiency

---

**Colour vision deficiency, sometimes referred to as “colour blindness”, is a condition where an individual interprets colour differently. With some types of colour vision deficiency, colours are subdued and blend together, and with other types colours appear as different colours altogether.**

For more information on the types of colour vision deficiency, refer to this Data Playbook Scenario: **Understanding Different Types of Colour Vision Deficiencies (8 - 12)**.

---

# Improving colour contrast

Do:

Waffle

Butter

Syrup

Don't:

Waffle

Butter

Syrup

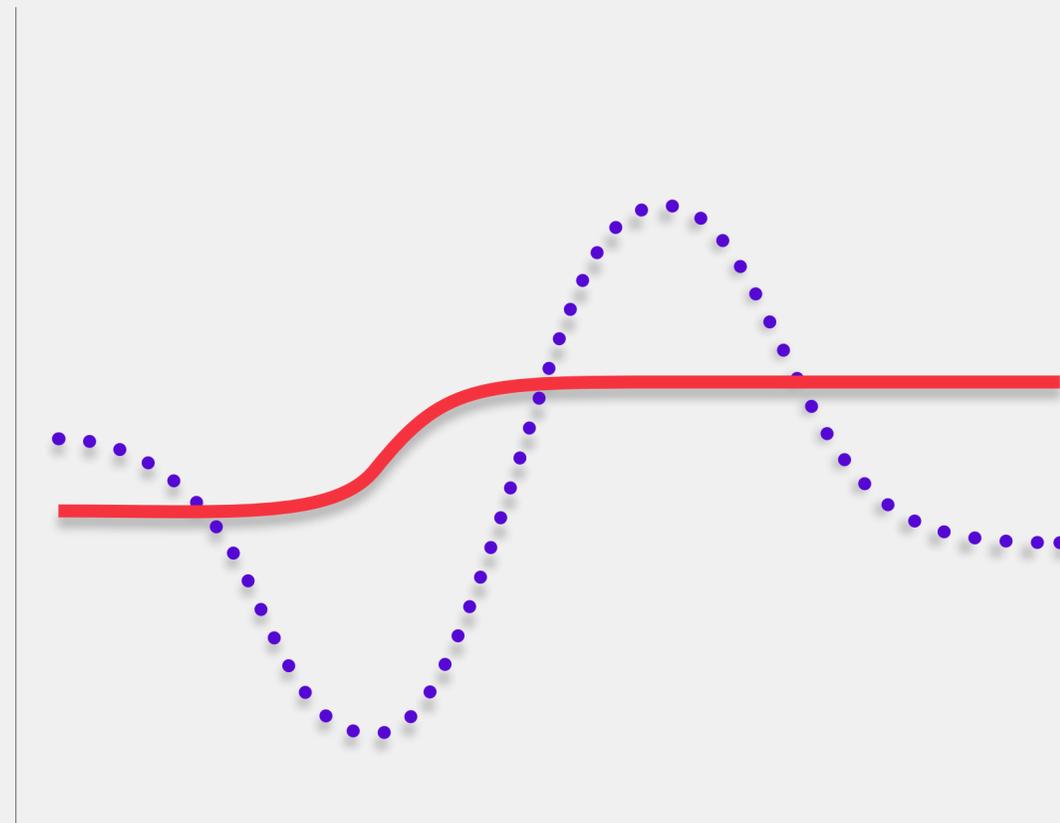
The image on the left has a high colour contrast, meaning text stands out easily from the background. The image on the right has a low colour contrast. Text blends into the background. This would be hard to read from a distance, or if you have a vision impairment.

Use a [contrast checker](#) to ensure that your text and backgrounds have sufficient contrast.

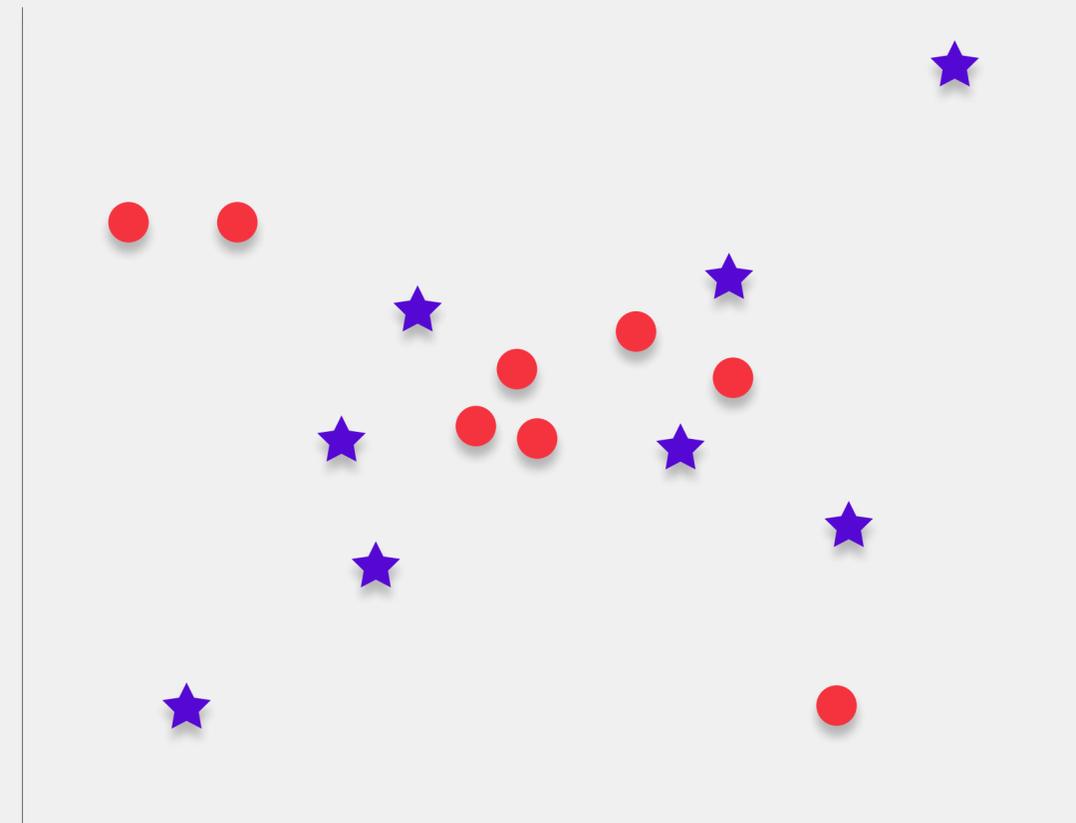
(i) Source: Amanda Miller, Betterment. [A Comprehensive Guide to Accessible Data Visualisation](#).

# Rely on more than just colour to differentiate elements

If you have multiple lines, bars, dots, or other data points, try to incorporate some texture to differentiate them. You can use dotted lines, fill textures, or varying shapes as an alternative to just colour.



With line Texture

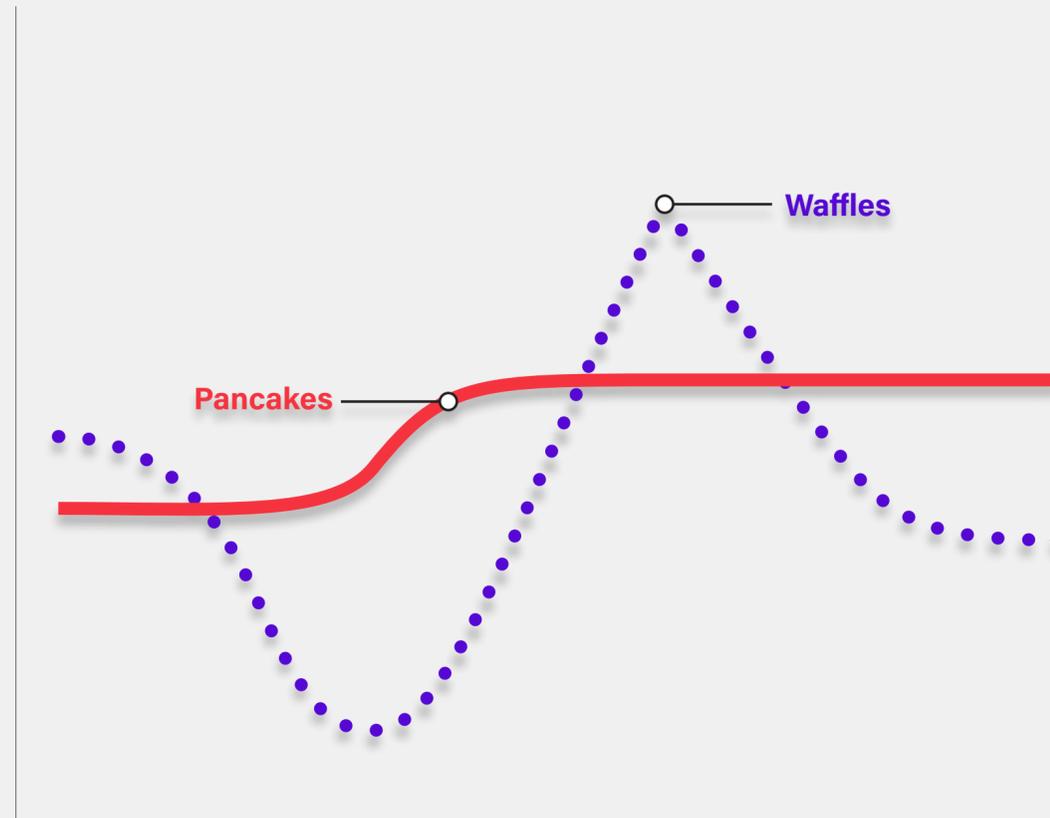


With shape variability

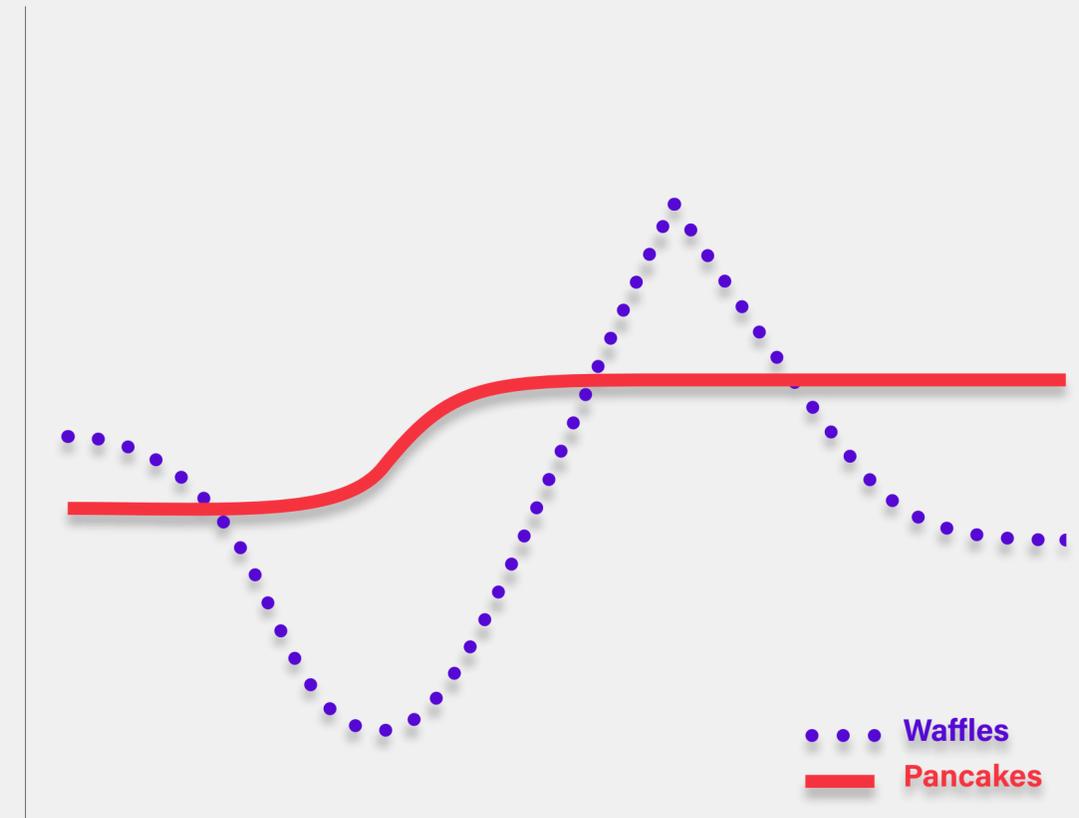
(i) Source: Nancy Organ, Towards Data Science. [An Incomplete Guide to Accessible Data Visualisation](#).

# Label data points directly

Labeling data points directly, instead of in a separate legend, could help users with colour vision deficiency to differentiate between the data points in your chart.



Do



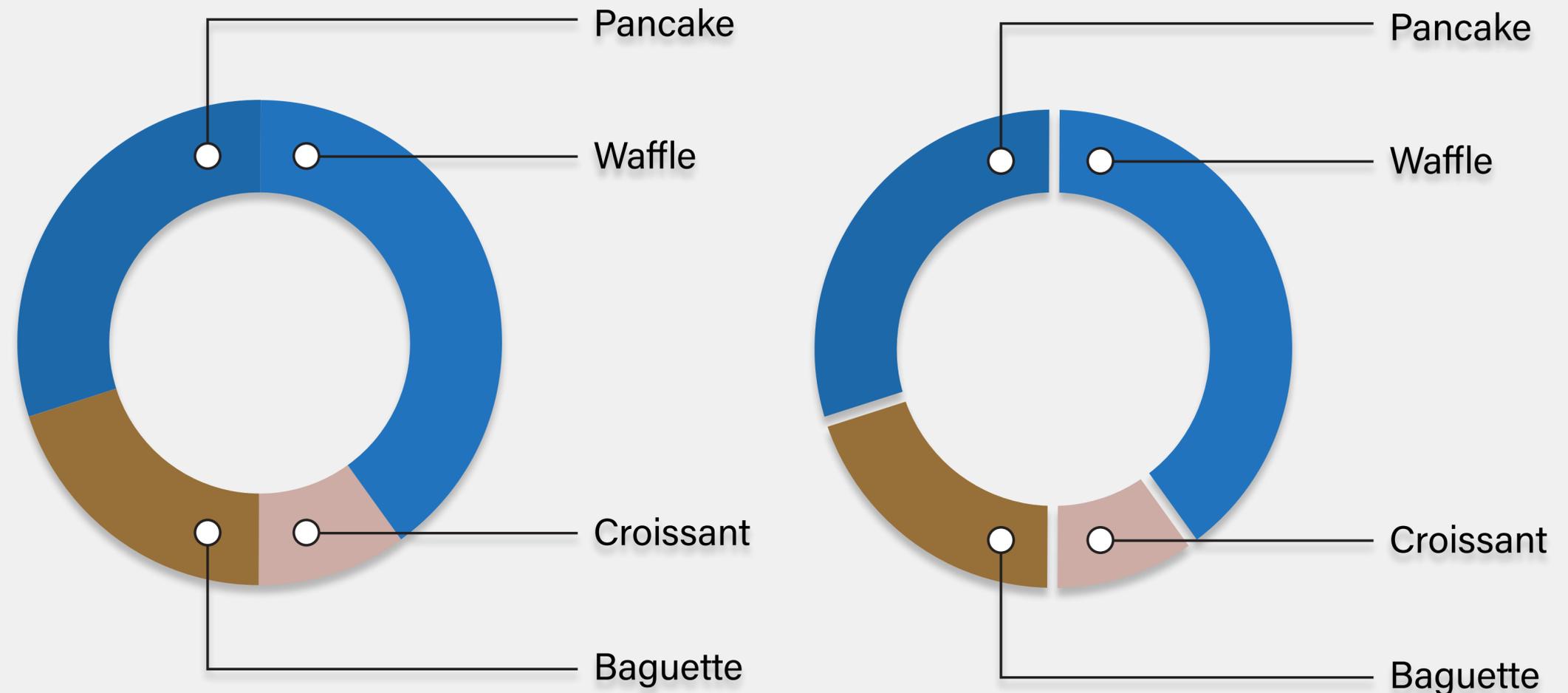
Don't

(i) Source: Amanda Miller, Betterment. [A Comprehensive Guide to Accessible Data Visualisation](#).

# Use white borders between data segments

In this image, a filter is applied to show how a user with deuteranopia would view these two charts. There is not enough contrast between the shades, causing colours to blend together.

If you add white borders around data segments, a user could more easily differentiate between them, even if they have trouble differentiating the colours used.



(i) Source: Amanda Miller, Betterment. [A Comprehensive Guide to Accessible Data Visualisation](#).

# Adjust your colour palette



The most common type of colour vision deficiency results in an individual incorrectly interpreting red and green.

If you're using red and green in your visualisation, use red shades that are more towards orange, and green shades that are more towards blue.

Check your colour palette using a simulator like [coolers.co](https://coolers.co).

(i) Source: Nancy Organ, Towards Data Science. [An Incomplete Guide to Accessible Data Visualisation](#).

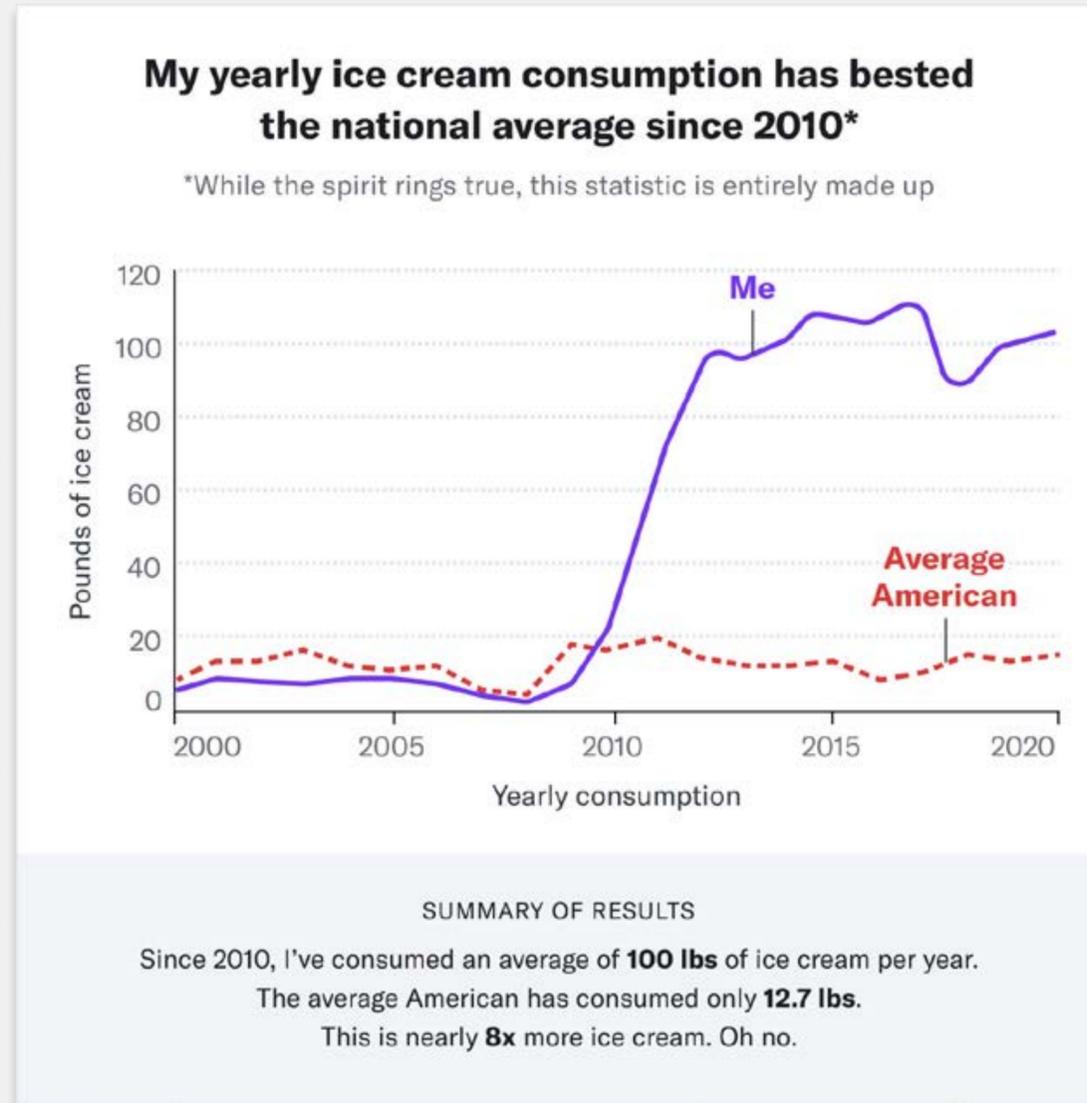
# Preparing visualisation for assisted technology, like screen readers

## What are screen readers?

Screen readers are commonly used by individuals with limited vision or blindness to help them consume digital content. Text is read by the screen reader technology and translated into braille or read aloud to the user.

Here are some suggestions for optimizing your data so that it can be interpreted by a screen reader and communicated effectively to the user.

# Screen reader tips



(i) Source: Amanda Miller, Betterment. [A Comprehensive Guide to Accessible Data Visualisation](#).

**Title:** Instead of using a generic chart title (e.g. "My yearly ice cream consumption"), summarize the chart's key message in the title.

**Summary of results:** Include a caption that summarizes your analysis.

**Labels:** Ensure all axes and chart elements are clearly labeled (if possible, without the user having to refer to a separate legend).

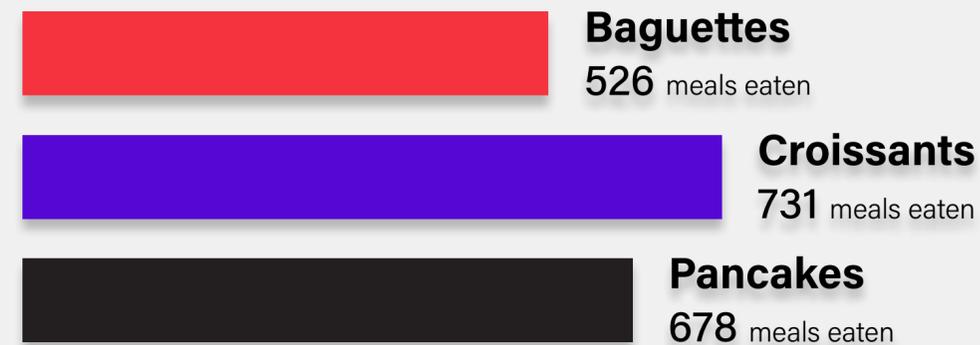
**Alt text:** Ensure your visual has descriptive alt-text. This is a text box that appears when you hover the cursor over the image. A screen reader can read the alt-text and then describe the visual to the user.

# Screen reader tips

Interactive dashboards often require a user to hover over the data point to see key information about that point, yet this hover-over feature may not be interpretable by assisted reader technology.

Instead (or in addition to the hover-over feature), include labels next to the data point. Or, include data in a table or CSV download.

Do



Don't



# Tips to improve cognitive understanding of your visualisation

## **Remove/write out acronyms and avoid jargon**

There are some instances where users with certain types of learning disabilities may have trouble understanding how acronyms should be interpreted. It is best to write out acronyms and abbreviations in visualisations when possible, even if they are written out elsewhere in your document.

You should also avoid figures of speech or idioms that may not be familiar to someone to does not speak your language fluently. Use language that is as simple and clear as possible!

## Choose user-friendly fonts

Your choice of fonts is important to accessibility and readability, especially to users with dyslexia. Many fonts are created specifically with this in mind. Sans serif fonts are generally preferred, as they tend to be perceived as less crowded. Studies also recommend avoiding cursive/italic font styles.

Note that line spacing and word spacing also affect font readability, and should be taken into consideration.

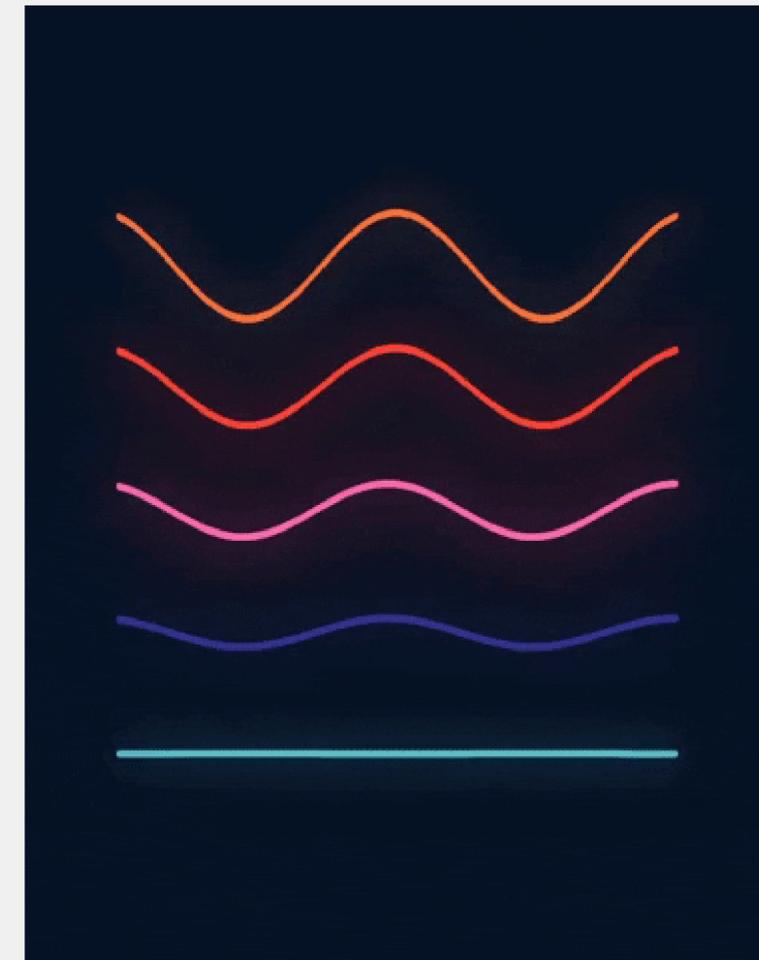
 **This is a User Friendly Font**

 ***This font may be hard to read by some***

# Give options to turn off animations

Users with vestibular disorders could experience nausea or other sensitivities from animated content. Other users could also be distracted or confused by animations, causing them to divert their attention away from your visualisation.

If your visualisation or graphic features some type of animation, it is a good idea to have an option for the user to turn off the animation and view the visualisation as static. This will allow them enough time to process your visualisation's key message and not cause unnecessary distraction or movement sensitivities.



## In summary...

Making small modifications to our visualisations, like the ones included here, help our visualisation to be more easily understandable to everyone, not just individuals with disabilities. Several of them overlap with data visualisation best practices you are already familiar with!

This is just a brief list of ways to make your visualisations more accessible. You may want to explore this topic further by doing your own research. Making our visualisations more accessible will help us ensure that our data reaches as many people as possible!

# 8 - 14 Data Visualisation Accessibility Checklist



[Data Viz Accessibility Checklist](#)

# 9 Making Decisions with Data

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# Making Decisions with Data

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Every day humanitarians make decisions with data. The IFRC Digital Transformation strategy prioritizes data literacy as a component to enable more efficiency and effectiveness in humanitarian response. Building a data culture is supporting 'data readiness' and improving 'data literacy' is a long-term organisational transformation. How can we improve our decisions with data and be more evidence-driven? There are many complexities in decision-making, organisational data readiness, and digital transformation. Data readiness for local communities provides an opportunity for local leadership to be supported.

## Questions this module explores:

- ▶ How can we use data for decision-making?
- ▶ What are some ways to localise data workflows?
- ▶ How can decision-makers use data to negotiate and have impact?

## Learning Objectives

- ▶ Explore the different decision-making processes
- ▶ Understand the (potential) role of data throughout these processes
- ▶ Consider and become familiar with the different needs and complexities surrounding decision-making

## Module Topics

- ▶ What is decision-making/Data-driven decision making for everyone
  - Using data in everyday operations - who makes the decision
  - Using data for decisions tactically
  - using data for decisions strategically
- ▶ How to make decisions with data
  - Improving our workflows with local data
  - Don't make the decision first
  - Understand who is making the decision
  - Beware of confirmation bias
  - Don't forget the humans
  - Questioning the data - is it true?
- ▶ How do we keep learning after a decision gets made? – Encourage the use of data for decision-making for leaders
  - Influencing the program strategy
  - Involving leaders in a directed conversation on the State of Data
- ▶ Different levels of data complexity
  - Dealing with the complexity of decision making inputs - from data to politics to social/org needs, information overload
  - What is evidence? Why or why not?
  - From a question to answer

## Recipes

### A suggested step-by-step process to achieve learning objectives

- 1 A good starting point for considering how we make decisions with data is to consider the: **[State of data (9 - 9)]** and review **[What is Evidence? (9 - 1)]**. These two sessions with senior decision-makers and staff can be helpful to determine next steps on the data and digital journey. Also see **[Nurturing a Data Culture (2)]**.
- 2 How are decisions made? Teams can consider this exercise **[Making Decisions with Data (9 - 5)]** with the accompanying slides **[Information Needs for Decision-making (9 - 12)]**. At the end of the workshop, participants can review and revise this and this handout **[Best Practices for Data-informed Decisions (9 - 4)]**.
- 3 Localisation and community engagement are two priorities in our humanitarian work. How can we better engage and learn with local communities while making decisions with data? This exercise and associated handout can provide insights for teams to discuss and plan their efforts to achieve these priorities. Exercise: **[Engaging local communities in data projects (9 - 7)]** Handout: **[Localising Data Workflows Checklist (9 - 6)]** (handout)
- 4 The opportunity to use data for decisions requires communication and data literacy of staff and decision-makers. Asking questions and **[Negotiating with leaders (9 - 10)]** (exercise) is important to build a common understanding and support use of data as part of decisions. Teams also put together these **[Best Practices for Data-informed Decisions (9 - 4)]** (handout). It is recommended to share this handout after the exercise for further discussions.
- 5 An important aspect of being data-driven in our decisions is to evaluate the decisions we make based on data. The following hand-out provides a way to keep learning from our decisions, improving the way we make future decisions within the IFRC: **[How do we keep learning from decisions? (9 - 11)]**. In addition, for those especially interested in this topic, the following report can be read to get even more in-depth knowledge on this topic: **[Data, Decisions, and Strategy 2030 (9 - 3)]** (PDF)

## Ingredients

Pick and choose ingredients to create your own recipe. Do you have an ingredient we're missing? Send an email to [data.literacy@ifrc.org](mailto:data.literacy@ifrc.org)

## Exercises

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## Short, discrete social learning experiences

- ▶ [State of data (9 - 9)]
- ▶ [How do we keep learning from decisions? (9 - 11)]
- ▶ [Engaging local communities in data projects (9 - 7)]

## Session Plans

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### Longer social learning experiences

- ▶ [How to support data-informed decision-making? (9 - 2)]
- ▶ [Making Decisions with Data (9 - 5)]
- ▶ [How to Localise Data Workflow Exercise (9 - 8)]
- ▶ [Negotiating with leaders (9 - 10)] (exercise)

## Slide Decks

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### Presentations to be used and/or adapted

- ▶ [What is Evidence? (9 - 1)]
- ▶ [Information Needs for Decision-making (9 - 12)]

## Checklists, Materials, Handouts

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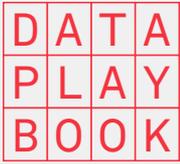
### For documentation of essential elements of the learning experience

- ▶ [Data, Decisions, and Strategy 2030 (9 - 3)] (PDF)
- ▶ [Best Practices for Data-informed Decisions (9 - 4)] (handout)
- ▶ [Localising Data Workflows Checklist (9 - 6)] (handout)

## Next Steps

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### Relevant modules in the Data Playbook



- ▶ **[Nurturing a Data Culture (2)]**
- ▶ **[Understanding and Analysing Data (6)]**

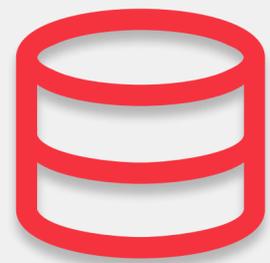
### Credit

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Olaf Steenbergen, Margarita Griffith, Rania Alerksoussi, Heather Leson, and IFRC V1 Sprint and Data Playbook Beta contributors

# 9 - 1 What is Evidence?

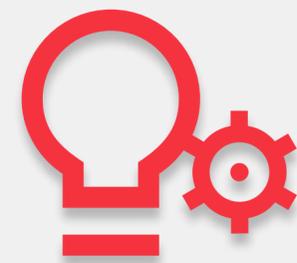
# Data can lead to:



Data



Information



Learning



Decision

(i) Helen Welch, MEAL Director American Red Cross, the Digital Transformation Strategy [digital.ifrc.org](https://digital.ifrc.org)

# What is Evidence?

Data can translate to more than numbers or statistics: a dataset, observation, interview transcript, or picture.

Evidence is **facts** or **information** indicating whether a belief or proposition is *true* or *valid*.

# Evidence is...

a coherent set of testable hypotheses (e.g. a theory or idea) of why something is likely to work backed by the robust data to validate and refine these hypotheses.

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## It can be achieved with:

- ▶ A theory of change - what type of change expected?
- ▶ Data (Qualitative and Quantitative)
- ▶ Context, knowledge
- ▶ Ability to validate, test, and refine.

# Your Evidence

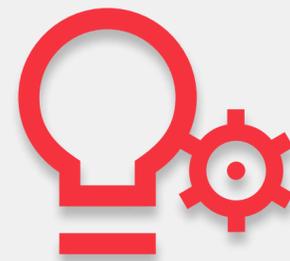
1. Can you share some specific examples of how data influenced a decision?



Data



Information



Learning



Decision

2. How do we keep learning after decision gets made?

# Example: IFRC People Reached as Evidence

- ▶ IFRC has reached 305 million people for health response (Source: FDRS, 2022), (See FDRS for the most updated data)
- ▶ This data was obtained and validated by the FDRS and from the National Societies. The FDRS team aggregated the information and provided the full evidence on the website.

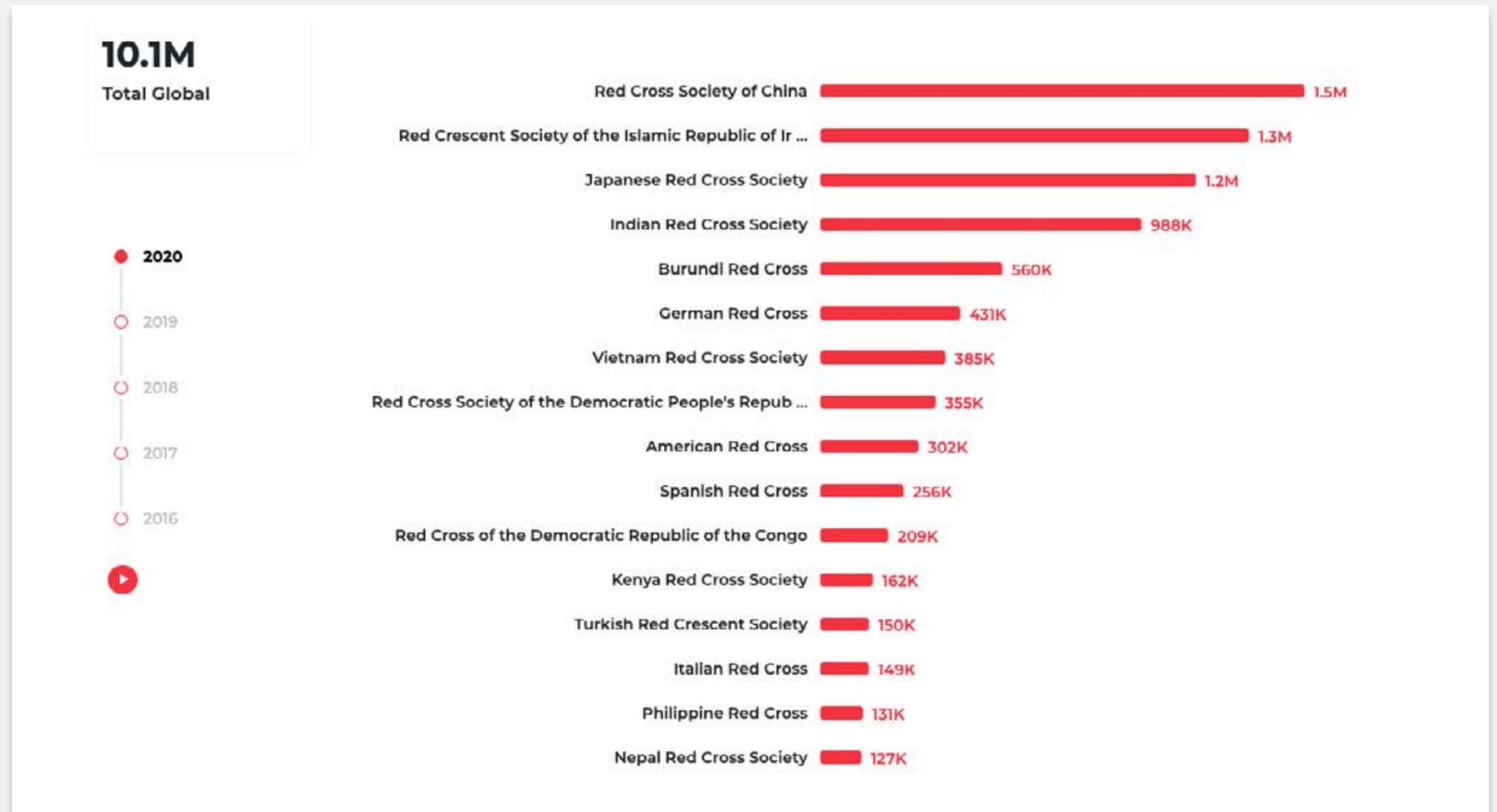


(i) Source: <https://data.ifrc.org/fdrs>

# Counting People

National Societies follow processes to count people. They consult and verify information in partnership with their chapters and local units/branches. The Regional Offices and the IFRC Secretariat also consolidate and verify this data.

These processes for counting people have refined over time. We have teaching materials and verification processes to ensure the most valid data is presented as evidence. Only validated data is published on FDRS's website. This data is also used for analysis.



(i) To learn more about this process see the [Everyone Counts Report](#) — (Source: chart data from FDRS, 2021)

# From Research to Action

IFRC and National Societies are using the '*evidence*' from **FDRS** and the *Everyone Counts Report*.

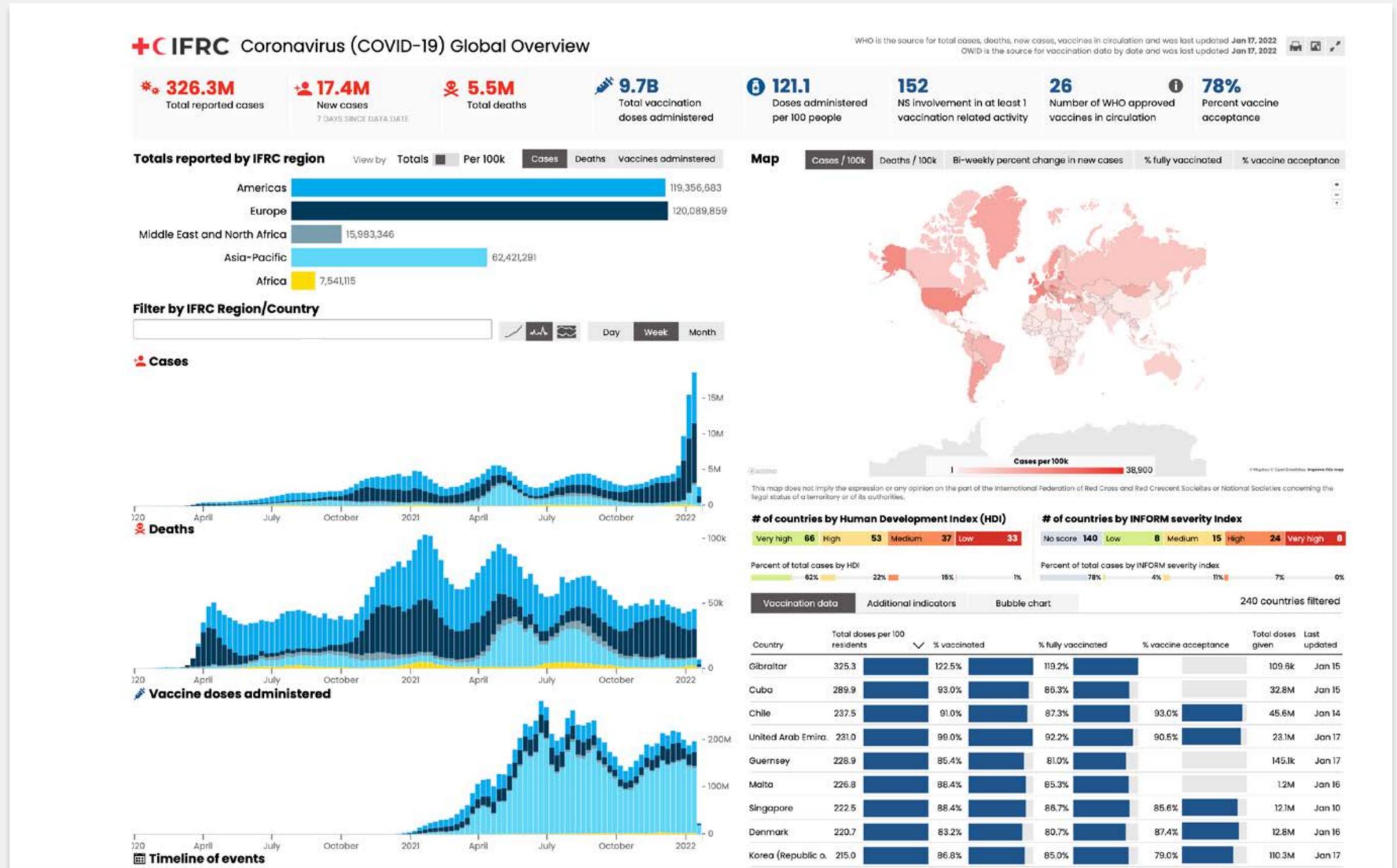
This data raises awareness about volunteer engagement. It is also a **key result** (denominator) used as evidence to influence strategy and policy.

Data and analysis are provided to decision-makers to design policies adapted to the context and to **implement relevant actions**.

# IFRC Global reporting for Covid response

- ▶ Methodology
  - ◉ Used and augmented existing FDRS-team, processes, and tools
  - ◉ Increased frequency of data collection (every 3 months, then every 4 months)
- ▶ Network approach:
  - ◉ Worked together with IFRC GO team to survey and publish data
  - ◉ IFRC Regional offices had a bigger role in data collection
  - ◉ 100s of people engaged to get quality and timely data
- ▶ Impact:
  - ◉ 170 countries reported on expenditures and needs for response
  - ◉ Data used by senior leaders, donors and staff.
  - ◉ The Everyone Counts, Covid edition with full analysis will be published in 2022. Also, see the [Go platform](#) (Covid emergency data)

IFRC Go - Global: Covid-19 pandemic



(i) Source: Go platform (Covid emergency data)

# Questioning evidence

- ▶ How can we be sure that our humanitarian work is **evidence-based**?
- ▶ What is **evidence** in a complex and volatile world where what seemed *true* yesterday is obviously *wrong* today?
- ▶ How **reliable is evidence** when facts and figures are filtered by six or more layers of bureaucracy with competing interests, siloed expertise and differing worldviews?
- ▶ How can any kind of evidence help **predict a project's success** or the **consequences of a policy**?

Thank you

## 9 - 2 How to support data-informed decision-making?

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There are many factors that influence and inform a decision. We aim to make data-informed decisions whenever possible. How can we support this methodology? What are some best practices or lessons?

- ▶ **People:** 4 to 30 people
- ▶ **Time:** 60 Minutes
- ▶ **Difficulty:** Easy
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers

## Exercise

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### Part 1: (10 minutes)

Ask people to map out or draw how a recent decision was made in their organisation. Recommend some creative drawing of this 'map' and or diagram. The goal is to represent the complexity of decision-spaces and get participants considering the variables. They can work as individuals or pairs.

---

### Part 2: Explain and show types of Decision-making (15 minutes)

Ask people to share their examples (briefly). Then, ask people to share types of decision-making (in plenary)

Types can include Strategic, programmatic, operational.

**Strategic** - policies, long term planning

**Programmatic, tactical** - delivery, targets/indicators

**Operational** - project implementation, monitoring, training

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### Part 3 (20 minutes)

In small groups, discuss:

- ▶ How do we support data-informed decision making?
  - ▶ What is your experience in supporting data informed decision-making, what works and what doesn't?
  - ▶ Take notes on any insights or questions on a shared document.
- 

### Part 4: Plenary (10 minutes)

Ask people to share some of their best practices. Any insights.



### Extra credit

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Create your own handout of best practices to support data for decision-making.

### Credit

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IFRC Data and Digital Week participants, Olaf Steenbergen, Dirk Slater, Heather Leson, IFRC Humanitarian Information Analysis (HIAC) course (internal)

# 9 - 3 Data, Decisions, and Strategy 2030

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 [Download resources](#)

# 9 - 4 Best Practices for Data-informed Decisions

Decisions are often informed by many factors, data as evidence is one component. On the journey to being data ready, staff and volunteers shared the following best practices to support data-informed decisions. This handout was co-created at the IFRC Data and Digital Week. It is encouraged that organisations add to this list and co-create one with your network. It is not designed to be 'comprehensive.'

## People

- ▶ Create a supportive environment for individuals, teams and the organisation as a whole regarding data literacy and the importance of data for informed decision making:
  - Advocate importance of data driven process to non technical people;
  - Make sure people within the National Society understand the full purpose of why we collect data (beyond just for reporting to donors);
  - Understand exactly who uses the data and the decisions they face by developing and maintaining data-user personas.
  
- ▶ Choose the right team to work with:
  - Allow coworkers to share and apply their best skills;
  - Facilitate and allow the opportunity for upskilling within the team;
  - Recruit for specific and different skill sets;
  - And, most importantly: do all this with a vision; a people strategy (staff and volunteers) to support the shift.
  
- ▶ Have a clear overview of who the decision makers are, so that the level of decision making is clear:
  - Prevent 'information-overload': have a clear overview of who the decision makers are, what data they require (quantitative vs. qualitative), how you will present the data;
  - More information: The humanitarian decision makers taxonomy | ALNAP.
  
- ▶ Monitor how decision makers respond to the information presented to them by gathering feedback systematically; what works to the decision makers to adapt data presentation:
  - Understand how decisions have been taken in the past and are being taken: don't assume that more/new data is the answer or will change decisions or decision-making processes;
  - Realize that data literacy is key for decision makers to be able to appreciate the role of previous collected data.
  
- ▶ Actively incorporate stakeholders:
  - Establish a stakeholder 'data and tech'-advisory board which collaboratively defines roadmaps for any new data creating tools within the organisation;
  - Breaking down silos and creating understanding on what data is critical and what is not;
  - Understand and gather feedback on how to package information to decision makers at different levels (country level, regional level, etc.) and donors: how to influence different structures to make sure no interventions are done that cause harm.

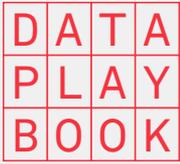
- ▶ Present data in an effective way:
  - Always put the data into context: decision makers appreciate comparisons, instead of just showing quantitative. Without context, data is often unable to explain the “complex systems” we work in. More information: Complex systems modeling for humanitarian action – The Centre for Humanitarian Data (humdata.org)
  - Do not present data in a complex way: clear connection to the data, make sure the data collected is relevant;
- ▶ Allow decision makers to connect data to decisions easily:
  - Clearly explain and show the process of data collection and the outcome. The decision maker should understand the process to have trust in it;
  - Have bilateral discussion between decision makers and technical people producing statistics and communication of goals;
  - Decision-making is everyone (everyone makes data decisions), so strive to share this power and understanding throughout the organisation.
- ▶ Advocate the importance of market and needs assessment: helps inform how the response will look like in the community when presenting to the decision makers.
- ▶ Make sure to share back the processed data with those who shared it with you.
- ▶ Decision makers do not always understand what they need to know on beforehand:
  - Accommodate sensible request for information; use observative and iterative approaches to develop info products;
  - Involve decision-makers at the start, as many as useful.

## Policy

- ▶ Realize the importance of data privacy and data security as part of everything we do;
- ▶ The management of data is essential: governance of systems needs to account for what the business needs in order to evolve. This includes a vision for the future, instead of looking only at the immediate needs;
- ▶ Develop proper protocols, ethical guidelines and a plan before starting the process of collecting and managing data.
- ▶ The whole team should be aware of these protocols, guidelines, and plan, so that it is known when, what, and how the work will be done;
- ▶ Consider different perceptions and approaches beforehand, such as cultural backgrounds, beliefs, and regulations. This empowers people and increases the acceptance of data-driven initiatives.

## Process

- ▶ **Begin with the end in mind, identify the knowable outcomes and associated actions to alleviate some of the work:**
  - Know what questions you want to answer with the data, before finding ways to use data: What do we need/want to know? How is this going to inform our programs? Why do we need this data?
  - Understand the needs before jumping on data collection and analysis.
- ▶ **Visualise data to aid communication effectively by using visuals, graphs and other presentation formats to aid decision making:**
  - Make data accessible for all to profit from;
  - Connect data from different branches (within national societies) and between national societies;
  - Define data parameters.
- ▶ **Involve yourself in the data collection to understand it better and use the right language to transmit results.**
- ▶ **Question and analyse everything, look from different perspective:**
  - Ask as many questions needed before we (data analysts) and program managers agree on the analytical needs;
  - Analysing everything without being biased and without making value judgments, we just verify our information and make decisions from what we have;
  - Find the right balance between proactive and reactive responses when having data-informed decisions to prevent analysis paralysis and/or reckless abandon.
- ▶ **Be clear in designing data collection tools and collecting data with proper tools and guidance:**
  - Be SMART in the use of metrics;
  - Use a centralized approach to data sharing to inform international policy;
  - Make data accessible to all;
  - Understanding what is quantitative and qualitative data;
  - Keep data as simple and succinct as possible; less is more, unless that extra thing is bringing anything of value to the table.
- ▶ **Define processes (who, when, where) to reflect on collected data and make it the actual base for decisions:**
  - Define data structure and the process for data collection
  - Understand the data cycle as a circular process: from defining the research question to data collection, data analysis, reporting... and USING the results!



**Credit**

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IFRC Data and Digital Week participants

# 9 - 5 Making Decisions with Data

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**What is the process by which people make decisions? What are some of the influences and risks? Using scenario-based learning, this exercise aims to explore some concepts around Decision-making.**

- ▶ **People:** 6 – 20 people
- ▶ **Time:** 60 Minutes
- ▶ **Difficulty:** Intermediate
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers

## Exercise

This exercise will use a scenario to drive some key questions around 'How to make decisions with data.' There are a few parts to this event - breakout discussion, plenary feedback and conclusion.

In advance of the session, discuss a plan with two decision-makers. It is recommended that they play 'roles' in this scenario. One role example might be to have someone be a decision-maker who is working with 'confirmation bias' - meaning -they already made their decision and want the data to provide backup. It is encouraged to advise participants to have fun as they imagine real world and/or fictional experiences with decisions.

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### Part 1: Reflection (15 minutes)

Ask participants to share either on a collaborative document or verbally:

- ▶ How do they make decisions with data?

Take notes on any insights or questions on a shared document.

---

### Part 2: Scenario (30 minutes)

It's Tuesday, September 28th, 2021. Just 6 weeks ago, Haiti was struck by disaster, an earthquake with a magnitude of 7.2 at a depth of 10.0 km. You have been called in to provide information management support to the Haiti Earthquake.

Your decision-maker needs help and you need to meet the needs.

A donor has provided you with a total of 65,000 NFI's to distribute among the affected population. The items include:

- ▶ 25,000 First Aid kits
- ▶ 20,000 hygiene kits
- ▶ 10,000 tents
- ▶ 10,000 mosquito nets

The decision-maker will need to decide:

*Which area should we send these 65,000 Non-food items (NFI's)?*

- 1 South
- 2 Nippes
- 3 Grande'Anse

## Instructions

Participants should be divided into two groups for the discussion. If you have a smaller group, consider coaching your 'decision-makers' to debate in the small group. In your groups, you will meet your 'decision-maker'. You will need to determine what are the decisions to be made. How will ensure that the data informs the decision.

Facilitators should advise participants that decision-makers have some additional information that you need to 'discover' by asking questions. Take notes on any insights or questions on a shared document.

---

### Part 3: Discussion (15 minutes)

Groups should report back on the questions they asked and provide any insights. The 'role playing' should be helpful in highlighting these conditions around decision-making. If participants don't cite these, bring these topics up in the plenary discussion.

- ▶ Improving our workflows with local data
- ▶ Don't make the decision first
- ▶ Understand who is making the decision
- ▶ Beware of confirmation bias
- ▶ Don't forget the humans
- ▶ Questioning the data – is it truth?

### Extra Credit

Invite a guest decision-maker for operational or strategic work speak at the end of the session to provide reflections about the real world complexities of decision-making in their role. Concrete and practical guidance linking decision-makers with 'data ready' colleagues can help inform shared understanding around data-informed decision-making.

### Credit

Olaf Steenbergen, Margarita Griffith

# 9 - 6 Localising Data Workflows Checklist

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How can we better incorporate local data in our decision-making?

How might we localise aid by keeping local communities at the centre of our work? Data is one component of humanitarian work. Currently, there are data workflows that engage local volunteers in program/project design and data collection. There is a growing recognition that we also need to support new and existing data skilled colleagues. Community engagement and accountability (CEA) and the localisation agenda are two IFRC priorities. Involving communities in all parts of the data cycle is the improved method for more effective and inclusive humanitarian services. Local data could result in the most current snapshot of what is needed. This draft checklist is to drive conversation on how we might use and improve data workflows at a local level. It is not a comprehensive list, but it is a way to illustrate how data/information management workflows incorporate local communities.

What are some of the examples and tactics to integrate multiple data types, including crowdsourcing or other data collection methods, into your workflows? How might we use Community Engagement and Accountability lessons? What are some of the barriers and opportunities to improve this?

There is space at the end of each list to add your own questions. Consider your data-driven project design and responsible data/data protection practices. Update this checklist to your sector and specific use case. Some of the items may not apply for your situation.

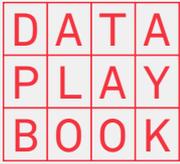
## Primary questions

Item	Question	Notes
1.	How is the National Society engaged? Do they have any local data workflows and/or datasets to share?	
2.	Do other National Societies work in the area? Do they have data that they might share?	
3.	Have you reviewed the data on FDRS and GO? Both platforms have different types of data about national societies. Does the Regional office have additional data?	

Item	Question	Notes
4.	What other sectors might have relevant local sources? eg. health, surge, wash, etc.	
5.	How is the local community engaged? There may be NGOs or civil society groups who have access to appropriate, verified datasets?	
6.	Is there a local or national data portal or official statistics website?	
7.	How will you incorporate Responsible Data/ Data Protection Practices into your workflow?	
8.	How will you incorporate a community engagement and accountability plan with your project?	
9.	How do you plan to learn from the above considerations of the project? Will you actively implement feedback mechanisms?	
10.	How are you planning on taking the lessons learned from the project into future projects? How will we keep increasing our engagement with local communities?	
11.		
12.		

## Planning with the community

Item	Question	Notes
1.	How are the National Society/chapters/ local units/branches engaged? Do they have any local data workflows and/or datasets to share?	
2.	Do other National Societies work in the area? Do they have data that they might share?	
3.	Have you reviewed the data on FDRS and GO? Both platforms have different types of data about national societies. Does the Regional office have additional data?	
4.	How will you involve the local community? Who are the key stakeholders? Who are the respondents?	
5.	What is the community structure, leadership style or cultural needs? What are the risk and vulnerability considerations?	
6.	What considerations should be taken around the literacy rate and language use? What are the best communication methods?	
7.	What is the local infrastructure and/or preferred communication style? E.g. internet access, use of mobile phones, paper use.	
8.		
9.		



### Credit

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Isaac Ndoricimpa, Henk Hoff and Heather Leson. This session was piloted at the Nairobi Data Skills Workshop in partnership with the [Centre for Humanitarian Data](#). Thank you as well to Malcolm McKinlay.

# 9 - 7 Engaging local communities in data projects

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**Engaging local communities in our work is essential for effective and inclusive humanitarian response. What are some of the examples and tactics to integrate multiple data types, including crowdsourcing or other data collection methods, into your workflow? What are some of the barriers and opportunities to improve this? This exercise uses breakout groups for discussion.**

- ▶ **People:** 6 to 30 people
- ▶ **Time:** 60 to 90 Minutes
- ▶ **Difficulty:** Intermediate
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers

## Preparation

Invite a guest speaker to help inform this conversation. This person should be from a local community/national society and be familiar with field data from the local community perspective. They will serve as the subject matter expert or the 'key informant'.

Allocate 1 facilitator helper/notetaker for every 6 - 10 people. Be sure to meet with them in advance to explain the exercise to support the experience.

## Exercise

### Part 1: Introduction (15 - 20 minutes)

Introduce the topic and the guest speaker highlighting the following topics. The speaker should encourage people to build plans to 'localise data workflows' and provide concrete examples and impact statements. Some topics that can help build the conversation

- ▶ Importance of Community engagement data workflows/localisation/inclusive
- ▶ New types of data – Crowdsorce/collective intelligence data as one data type
- ▶ Process considerations – What is localized data and why is it important
- ▶ Data sharing – Collaborating locally and globally

Describe a situation in which you need data to implement and monitor a program. You want to have local data (from the community you are going to work with). What kind of data do you need? The group will work with you on setting up a process/checklist on how to get this data.

### Part 2: Create a Checklist (25 minutes)

Depending on the size of participants, break into 2 groups (maximum 25 per group). In the sub-groups, people will create a 'localise data checklist' for all users.. The goal is 'talking points' and 'things you need to know' to better include local data into your overall data workflows.

Invite participants to document those key points on sticky notes or collaborative documentation. Your helpers should add these to the two separate documents. Encourage people to consider the topics at a high level. This exercise is about identifying the next

stage discussions rather than solving all the issues during the brief session. Participants should have an equal moment to share their observations.

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### Part 3: Discussion (15 minutes)

It is best to host this discussion in plenary rather than in small groups. The reason is that the 'shared dialogue' for decision-makers means hearing all the key examples and needs for a 'big picture' effect.

Each group is tasked to create a checklist guidance to 'localise data workflows.' Some questions to consider:

- ▶ What are the problems you are addressing with local data?
- ▶ How would you implement this? Which types of data are needed? How will you collect and involve the community?
- ▶ What were the results/how does this localized data inform/improve the work?

Some further guidance:

- ▶ Be interactive
- ▶ Consider the steps and workflows
- ▶ Ask about the challenges.

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### Part 4: Conclusion and next steps (15 minutes)

Ask people to reflect on barriers and opportunities for local data flows:

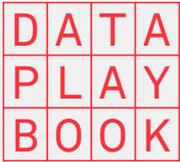
- ▶ What are some best practices for community engagement?
- ▶ How can we be more inclusive when it comes to engaging local communities in data projects?
  - Do we see that certain groups are currently excluded from participation?
  - What is the reason that this is happening?
  - What do we need to actively involve these groups?

### Resources

[IFRC CEA Toolkit](#)

### Extra credit

Consider asking one of the groups to include a "Community Role Play" aspect to do an informal needs assessment. This will highlight the opportunity to change the workflows.



### Credit

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Isaac Ndoricimpa, Henk Hoff and Heather Leson. This session was piloted at the Nairobi Data Skills Workshop in partnership with the [Centre for Humanitarian Data](#).

# 9 - 8 How to Localise Data Workflow Exercise

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With 192 National Societies and 14.8 million volunteers, the IFRC is the largest humanitarian network in the world. It is both a local and global network. How can we ensure that our activities include local data and local perspectives? This exercise asks participants to consider the key questions on more locally-driven '*data practices*'. We've provided you with a generic draft checklist. Edit this for your own purposes. To help in your dialogue, we're sharing participant input from a previous session.

- ▶ **People:** 2 to 10 people
- ▶ **Time:** 30 Minutes
- ▶ **Difficulty:** Medium
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers, printed or shared copies of the [\[Localising Data Workflows Checklist \(9 - 6\)\]](#).

## Exercise

### Part 1: Reflection (5 minutes)

Ask participants to share either on a collaborative document or verbally: Ask colleagues to share an example on how local data informed their work. Local data means 'primary data' or data obtained with the local community.

### Part 2: Exploration (15 minutes)

Depending on the number of participants, divide into small groups. Ask each group to a project that you and your team are doing. Ask: How are local communities engaged throughout the process? Use the handout to assist in guiding the conversation Localising Data Workflow (handout).

- ▶ How should it be updated for your work?
- ▶ What does localisation mean and why does it matter?
- ▶ How can we improve our workflows with local data?

### Part 3: Discussion (10 minutes)

In plenary, ask people to share their insights and questions about their projects. Discuss human-centred design methods. What changes can be made to their projects - current ones or future projects? Share the principles of community engagement and accountability as well as how our fundamental principles can be applied in a digital age.

### Resources

[IFRC Fundamental Principles](#)

[IFRC CEA Toolkit](#)

### Extra credit

Using the [\[Data Simulation \(3 - 10\)\]](#), consider how you might engage the local community in your activities throughout all the stages of a data-driven project.



### Credit

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Isaac Ndoricimpa, Henk Hoff and Heather Leson. This session was piloted at the Nairobi Data Skills Workshop in partnership with the [Centre for Humanitarian Data](#).

## 9 - 9 State of data

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**How can we get an overview on the 'State of Data' in our offices, sectors, or the wider organisation? This data discussion can help teams. The team members engaged should be from across the organisation: management, various sectors, and other 'data curious'/'data advocates'. This discussion can be an open forum to gain their perspectives on data use and quickly have the team share a common view on the 'state of data'.**

- ▶ **People:** 5 to 30 people
- ▶ **Time:** 60 to 90 Minutes
- ▶ **Difficulty:** Intermediate
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers

## Preparation

It is very important that senior leadership is engaged in this conversation. Brief them well in advance and provide them with this exercise worksheet to support advocacy. Engage with all the stakeholders in advance to encourage them to join the dialogue. Invite them to prepare some observations and potential solutions. There are often different reasons for data - data for reporting and data for programming.

Here are some questions to share in the invitation notice and in your communications:

- ▶ How is data used at **[add organisation/division/region name]**?
- ▶ What are some of the skills and tools/technology around being data-driven? Are there challenges/gaps/opportunities?
- ▶ What are some of the data workflows? Do we have the right data?

## Exercise

### Part 1: Explore (40 minutes)

For the session, create two documentation spaces (either digitally) or in person with the following questions:

- ▶ What is the "State of Data" in (add organisation/division/region name)?
- ▶ How might we use our data for leadership (decision-making)?

Encourage participants to share their perspectives and organisational knowledge in an equal way. Depending on the size of the group, using breakout groups might be helpful. There should be 1 helper per 6 people to support, drive, and document the conversation. Take notes on any insights or questions on a shared document.

### Part 2: Discussion (20 minutes)

Once people have completed sharing their perspectives, ask people to share some high level observations and insights from the discussion. Identify any future actions. Encourage the most senior leader to provide a summary and feedback on those next steps.



### Extra credit

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The next steps would be to share the IFRC Digital Transformation strategy or your national society strategy. Teams/organisations should consider undergoing a digital maturity model assessment and digital 'quick scan.' Details can be found on [digital.ifrc.org](https://digital.ifrc.org). Also see [\[Nurturing a Data Culture \(2\)\]](#).

### Credit

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IFRC Nairobi Regional Office, IFRC IM team, Henk Hoff, and Heather Leson.

# 9 - 10 Negotiating with leaders

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**How is data supporting decision-making in humanitarian response? Do decision-makers use information products to guide their work? This session requires two unique stakeholders - one decision-maker in a disaster response/ operational role and one decision-maker in a strategic policy and/or operational manager roles. The speakers will introduce how data can be useful for emergency operations and how data supports the decision-making process during humanitarian response. Participants will first hear from the leaders to frame the discussion. Then, they will divide into teams to prepare their negotiation with decision-makers.**

- ▶ **People:** 10 to 40 people
- ▶ **Time:** 60 – 90 Minutes
- ▶ **Difficulty:** Intermediate
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers

## Session Goals

The goal of this session is to build a common language around how data might be used for evidence. The session also seeks to provide guidance from decision-makers on how colleagues can provide more useful evidence as well as tactics to talk about how to negotiate the use of data to inform decision-making. Participants will explore each of the topics with these key questions:

- ▶ Useful: What data do you consider useful to inform response?
- ▶ Types of Data: How are decision-makers using data? How can data be better communicated in order to reach its full potential?
- ▶ Local Capacity: How do you invest in local capacity and facilitate local ownership of data? Or what needs to be done to increase local ownership?
- ▶ Consensus and Negotiation: How do we reach agreement on data to set priorities for decision-making?

## Preparation

Each speaker should be briefed in advance on the session. Here's what they need to know to prepare:

### Part 1:

Decision-makers will speak for 5 minutes each about their experiences. Slides are welcome but encourage a conversation-based approach. Concrete humanitarian examples will help the understanding and future conversations during the session.

### Part 2:

Decision-makers become observers. They are encouraged to support the teams by listening to the discussion and taking some notes. They will provide some comments and reflections in part 4.

### Part 3:

Each team will share the various talking points in plenary on how data can support their work. Decision-makers should be prepared to give real world examples. Their role is to help the audience frame their work in terms of 'negotiating with decision-makers.' They should be prepared to reflect on the key questions and challenges to making evidence-based decisions.

Depending on your audience (e.g. sector), pick a few example datasets/tools or types of information products that can 'guide' the audience in their discussion.

Each group should be assigned in advance of the session. In addition, signs should be made for each group topic:

- ▶ **Group 1** – Confusion and Knowledge gaps
- ▶ **Group 2** – Challenges in systems, new technology, and processes
- ▶ **Group 3** – Trust, Accuracy, bias, and quality
- ▶ **Group 4** – Security, legal, and policy

## Exercise

### Part 1 - Explain the format and Frame the discussion (15 minutes)

The host introduces the 3 parts of the session. Speaker 1 and Speaker 2 each talk between 5 - 8 minutes about their experiences around evidence-based decisions. They can attempt to address the key questions by illustrating real-world examples. Slides are ok, but the preference is to default to conversational insights.

### Part 2 - Breaking down the talking points (20 minutes)

Participants will prepare their negotiation to consider their learnings around data/information products for decision-makers. Be sure to use some example tools and datasets from both internal and external sources. Each sector might have a different type of 'information delivery mechanism.' One example might be a dataset from the Humanitarian Data Exchange (HDX) or another example is a dataset from GO (the IFRC emergency operations tool.)

The room will be divided into 4 groups. In their groups, people have 20 minutes to determine the top answers for 'data-driven' arguments to negotiate with the decision-makers by listing on their collaborative spaces:

- ▶ Type of challenges decision-makers might have in order to not use our data
- ▶ Arguments to overcome these challenges

- Group 1 - Confusion and Knowledge gaps
- Group 2 - Challenges in systems, new technology, and processes
- Group 3 - Trust, Accuracy, bias, and quality
- Group 4 - Security, legal, and policy

Groups will pick their top 2 points and assign 1 person to report back in Part 3. Document and rate ideas on flip charts.

---

### Part 3 - Negotiation Room (25 minutes)

Now that the participants have determined their talking points for the decision-makers, they will use 'negotiation' tactics and 'share' why the decision-makers should use the datasets.

- ▶ Each group gets 2 minutes to give their highlights. The panel will then listen and take notes (10 min).
- ▶ The panellists will give feedback on what they thought worked or did not work. They will identify gaps and opportunities to improve negotiating with leaders about using data (10 min).
- ▶ Closure – The host will summarize the session, and highlight outcomes of the session.

#### Extra credit

Here are some additional exercises to build teamwork and a common language:

- ▶ [Atlassian Team Playbook](#)
- ▶ [Humanitarian Data Exchange](#)
- ▶ [IFRC GO Platform](#)

#### Credit

IFRC Africa regional office, Henk Hoff, Assanke Koedam, Guido Pizzini, and Heather Leson. Isaac Ndoricimpa, Henk Hoff and Heather Leson. This session was piloted at the Nairobi Data Skills Workshop in partnership with the [Centre for Humanitarian Data](#).

# 9 - 11 How do we keep learning from decisions?

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**Using data as evidence to inform our decisions also includes the need to 'learn from our decisions'. In this exercise, participants are encouraged to explore how data-informed decisions might have an impact on organisational transformation. How are we learning from decisions over time? Are we using data as part of decisions? What is the impact of doing so or not doing so?**

« Without data you're just another person with an opinion » — Edward Demings

- ▶ **People:** 6 to 20 people
- ▶ **Time:** 60 – 90 minutes
- ▶ **Difficulty:** easy
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers

## Exercise

### Part 1: Guest Decision-maker (30 minutes)

Invite a guest decision-maker to share concrete examples on how we might learn from data-informed decisions? And, specifically, how can we keep learning from decisions? The guest could share strategic, reporting and/or operational examples.

This portion of the event would be 30 minutes for the talk plus time for questions.

### Part 2: Explore (30 minutes)

Coordinate the teams into small groups. Ask participants to share a story about a time they made a decision based on information or data. This may either be as local as possible, but can be head office level. Assign someone to take notes on any insights or questions on a shared document. Teams can answer all or elect to answer some of these questions in the conversations:

- ▶ Explain the process after the decision was made:
- ▶ Was it the right decision?
- ▶ Did you afterwards review the decision?
- ▶ What was the added value of the data/information for your decision?
- ▶ Did you have biases that influenced your decision?
- ▶ What were your main “lessons-learned” from the scenario?
- ▶ How could the decision have been improved – what would you have needed for future decisions (documents, better information, a procedure, etc.)?

### Part 3: Discussion (15 minutes)

After everyone has given input, ask for participants to identify similarities in stories:

- ▶ What are the overlapping “lessons-learned”?
- ▶ How would we translate that into the playbook?
- ▶ In short: How to revolutionize decision-making?



### Extra credit

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The team could create their own checklist or reminders on 'how to build learning from decisions based on evidence '.

### Credit

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Olaf Steenbergen, Margarita Griffith, Heather Leson

# 9 - 12 Information Needs for Decision-making

# Levels of decision making

Strategic planning, long term, macro, policies, goal settings, slowly changing (senior management)

- ▶ Government leaders
- ▶ surge team leaders, head of delegation
- ▶ Humanitarian coordinators/ Resident coordinators
- ▶ Humanitarian country teams
- ▶ Policy-makers, Donors
- ▶ Cluster lead agencies
- ▶ NGOs (Regional/Country directors)

Programme planning, medium term, meso level, delivery methods, targeting and conditionality (middle management)

- ▶ National/local authorities
- ▶ Cluster coordinators
- ▶ Cluster member organisations
- ▶ Inter Cluster Coordination Mechanism/OCHA
- ▶ NGOs (Programme managers)

Project implementation, short term, micro, local partnerships, monitoring, training, etc.

- ▶ Project managers
- ▶ Team leaders
- ▶ Project staff
- ▶ Functional specialists



# Examples

## Strategic

- ▶ Target groups includes: IDP, refugee, returnee, host community
- ▶ Timeframe, budget
- ▶ Geographic areas of the country
- ▶ Political dimensions
- ▶ Specific sectors to be given priority
- ▶ Elements of early recovery

# Example

## Programmatic

- ▶ Cash, services, goods.
- ▶ Temporary, semi-permanent, permanent solutions.
- ▶ Work with/through the cluster system.
- ▶ Partnership with relevant government departments.
- ▶ Standards to be adhered to.

# Examples

## Operational

- ▶ Where are the hubs
- ▶ How many staff
- ▶ Source items locally or abroad
- ▶ Security measures/protocols
- ▶ Logistics chain
- ▶ Numbers of tents, NFIs, schools supplies etc.

# 10 Data Science and Emerging Technologies

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# Data Science and Emerging Technologies

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**This module introduces teams to basic concepts of data science and its connection to humanitarian objectives and goals. It is meant to guide teams who would like to explore the possibilities of Data Science and Emerging technologies in their daily work towards innovation and transformation.**

## Questions this module explores

- ▶ How can we effectively adopt and use data science and emerging Technology in our work?
- ▶ How can we understand and support the use of data science and emerging technologies in our work?

## Learning Objectives

- ▶ Explore how teams understand and use data science and emerging technologies in their work
- ▶ Guide teams towards critical success factors they need to know and key questions they need to ask when adoption data science projects
- ▶ Assess the required level of awareness about emerging technologies

## Module Topics

- ▶ Why use emerging technologies in our work
- ▶ How to use data and the fundamental principles to address strategic humanitarian challenges and transformations
- ▶ What are the initiatives and perspectives of data science and emerging technologies in our work

## Recipes

### A suggested step-by-step process to achieve learning objectives

- 1 Start with identifying **Humanitarian objectives through data science (10 - 1)** to get an understanding on why emerging technologies are introduced in humanitarian work.
- 2 Next discuss **Sustainable implementation processes and improve maturity (10 - 4)** that is illustrated in the emerging technologies learning canvas.
- 3 Take a closer look at **Data, Emerging Technologies & Sustainable Goals (10 - 5)** and how that is represented in the framework for sustainable goals
- 4 Allow groups to **Mapping Aspects of Data Science Work (10 - 7)** they find in their work and discuss why they need machine learning.
- 5 Guide participants on **How to Implement a Data Science Model (10 - 11)**.
- 6 Present the groups with **Help Decisions Given Specific Settings (10 - 9)**.

- 7 In a group discussion, ask participants to share if they will be integrating data science projects to assist in their humanitarian work

## Ingredients

Pick and choose ingredients to create your own recipe. Do you have an ingredient we're missing? Send an email to [data.literacy@ifrc.org](mailto:data.literacy@ifrc.org)

## Exercises

### Presentations to be used and/or adapted:

- ▶ Opportunities in addressing humanitarian objectives through data science
- ▶ Framework for sustainability goals: a closer look at sustainability in AI
- ▶ Principles: social diversity, equity, inclusion in data science
- ▶ Mapping different aspects of data science work
- ▶ Why do we need machine learning
- ▶ Questions to help guide decisions on platforms, tools and skill selection
- ▶ How to implement a data science model

## Slide Decks

### Draft presentations to be revised/used:

- ▶ Sustainable implementation processes to improve maturity. Provides context on the emerging technologies learning canvas.

## Checklists/Handouts/Materials

### For documentation of essential elements of the learning experience:

- ▶ Role of a volunteer data science team (Canvas). Material to be used with **Why Do We Need Data Science (10 - 8)** (exercise).
- ▶ What a data scientist's job description should look like (Terms of Reference). Material to be used with **Why Do We Need Data Science (10 - 8)** (exercise).

- ▶ Data Science platforms (Slides). Provides context on granular components that are included in data science tools and their use. Material could be referred to in **Mapping Aspects of Data Science Work (10 - 7)** (exercise).
- ▶ Red cross churn analysis (Jupyter Notebook). Material to be used with **How to Implement a Data Science Model (10 - 11)** (exercise).

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## External Resources

- ▶ [An Abstraction Framework for Reducing Complexity in AI Governance \(Article\)](#)
- ▶ [Knowledge sharing and collaboration: Example of data and digital week \(Blog Post\)](#)
- ▶ [Examples from Red Cross Red Crescent experiences: Go Github data science projects \(GitHub Repository\)](#)
- ▶ [Artificial Intelligence Suitability Framework \(Slides\)](#)
- ▶ Alsolbi I., et.al (2021). Analyzing Donors Behaviors in Nonprofit Organisations: A Design Science Research Framework.
- ▶ Goffi E. R., Momcilovic A. (dir.) (2022). [Global Trends in AI 2022: Food for thought from GAIEI experts. Global AI Ethics Institute](#), Notes n° 1.

## Next Steps

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### Relevant modules in the Data Playbook

Refer to Module **Responsible Data Practices and Protecting Data (7)** to get a better understanding on how to mitigate risks and to the **Cognitive Biases in Humanitarian Analysis (6 - 3)** (Handout) in Module **Understanding and Analysing Data (6)**.

### Credit

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Mahendra Samarawickrama, Jenny Paola Yela-Bello, and IFRC V1 Sprint and Data Playbook contributors

# 10 - 1 Humanitarian objectives through data science

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**When applying data and related emerging technologies on humanity, it is important that we have identified opportunities, ethics, values and social justice. In this perspective, teams need to ensure that they understand and grasp why data science and emerging technology is being used in their work. This exercise will allow teams to collectively look and discuss some frameworks. These frameworks assist teams capture opportunities that address specific humanitarian objectives within their work.**

- ▶ **People:** 2 to 8 people
- ▶ **Time:** 40 Minutes
- ▶ **Difficulty:** Medium
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers

## Exercise

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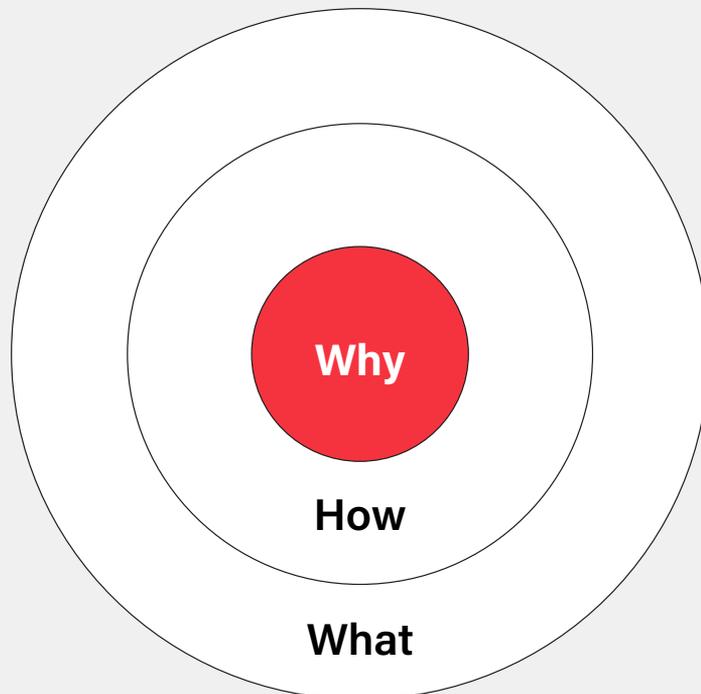
### Introduction

In this exercise we address why data, AI and emerging technologies are important to address in humanitarian perspectives. The goal of the exercise is to find answers to why data, AI, and emerging technologies should be considered as a component of strategy information, and why they play a big role in humanitarian work.

---

### Part 1: Explore

In teams please review the following



For this exercise, the IFRC strategy 2030 and the United Nations 17 Sustainable Development Goals are used as frameworks. Teams can work collectively or be split into

groups to discuss questions on why data science and emerging technology should be a key component in strategy formation. After discussions have been made, the facilitator can merge the ideas that were shared into a broader light on why the data science opportunities apply in their work and how they can be applied.

Note: [The role of artificial intelligence in achieving the Sustainable Development Goals.](#)

## Part 2: Discuss

Question 1: Keeping the Strategy 2030 in mind, identify the opportunities that data science and Artificial Intelligence bring into humanity?

This can be discussed for 10 minutes

### [IFRC Strategy 2030](#)



## 3 Goals

**1**  
People anticipate, respond to, and quickly recover from crisis

**2**  
People lead safe, healthy and dignified lives and have opportunities to thrive

**3**  
People mobilise for inclusive and peaceful communities

## 5 Challenges

**1**  
Climate and environmental crisis

**2**  
Evolving crisis and disasters

**3**  
Growing gaps in health and well-being

**4**  
Migration and identity

**5**  
Values, power and inclusion

## 7 Transformations

**1**  
Supporting and developing National Societies as strong and effective local actors

**2**  
Inspiring and mobilising volunteerism

**3**  
Ensuring trust and accountability

**4**  
Working effectively as a distributed network

**5**  
Influencing humanitarian action

**6**  
Undergoing a digital transformation

**7**  
Financing the future

Question 2: Do you know the [United Nations 17 Sustainable Development Goals \(SDGs\)](#)? Do you know 79% of these goals can be supported by AI? Can you map some of them to our mission? The team can then discuss the diagram for 10 minutes.



### Credit

For development of the exercise Mahendra Samarawickrama

# 10 - 2 Role of a volunteer data science team

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 [Download Resources](#)

# 10 - 3 What a Data Scientist job description might look like

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 [Download Resources](#)

# 10 - 4 Sustainable implementation processes and improve maturity

# Emerging technologies learning canvas: Tool for briefing the business challenge

## Problem & opportunity

**Donor value proposition/project vision:** This defines 'what and why' we are doing this.  
**Donor problem:** what problems we are solving  
**Business Opportunity:** what value will this provide to the business

## Donor segments or personas

List your target donors & users for whom we are solving the problems and providing the solutions.

## Supporting context

**Existing research and insights:** key outputs from initial user testing, donor research or any qualitative research, surveys. Can also include any previous validated research from previous iterations. This supports the 'what and why' in above opportunity section.

## Goal

Success: What does success mean and how will we know we are delivering value? What is the key metric for success?

## Hypotheses

**Learning:** the idea or proposed solution that will deliver the value and take us close to the goal.

Which key strategies will drive the most value? Or what validated learning is important to confirm our path to success? This is the 'how' to the goals. A good hypotheses captures what needs to be tested through measurement and experimentation (to be proved or disproved)

## Timeline

What are the critical milestones?

## Team/stakeholders

Business Owner  
 Product Owner

# 10 - 5 Data, Emerging Technologies & Sustainable Goals

The Red Cross Red Crescent mission is to prevent or reduce human suffering, wherever it is found. We are part of the world's largest humanitarian movement, operating in over 192 countries. We have over 14.8 million volunteers worldwide. RCRC plays an auxiliary role to the government – recognised as a reliable partner for mobilising the power of humanity. With the implementation of the 2030 Strategy and increasing the use of digital tools in RCRC missions, there needs to be a closer look at how digital tools (Artificial Intelligence being one of them) can be sustained and reflective of the RCRC values, strengths and culture.

- ▶ **People:** 2 to 8 people
- ▶ **Time:** 60 Minutes
- ▶ **Difficulty:** Medium
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers

## Exercise

In this exercise, the team with the guidance of the facilitator will talk about aspects that are important to highlight and work towards when driving AI towards sustainability.

### Part 1: Explore and Review

It will be a plenary discussion in 4 parts.

The session will cover 4 main points coupled with diagrams and an overview that can help lead the discussion.

### Why do Data Science and AI need to be governed ethically?

The Australian Red Cross is working on AI governance for sustainability because AI has a huge potential for humanity and significant risk if not properly governed. It is predicted that AI can contribute as much as 15.7 trillion to the world economy by 2030. At the same time, AI creates great risks for humanity such as autonomous weapons, automation-spurred job loss, socio-economic inequality, privacy violations, Deepfakes, and bias caused by data and algorithms. Further, it has been predicted that by 2022, 85% of AI projects will fail due to bias in data, algorithms, or the teams responsible for managing them.

One way of addressing sustainable AI for sustainability is to enhance AI ethics and governance while following best practices. Can you think of other ways that can be integrated and used?

**What are our values, purpose and strength when focusing on data science and AI? open the discussion after having a look at the diagram below.**

Please visit the whiteboard [animation](#)

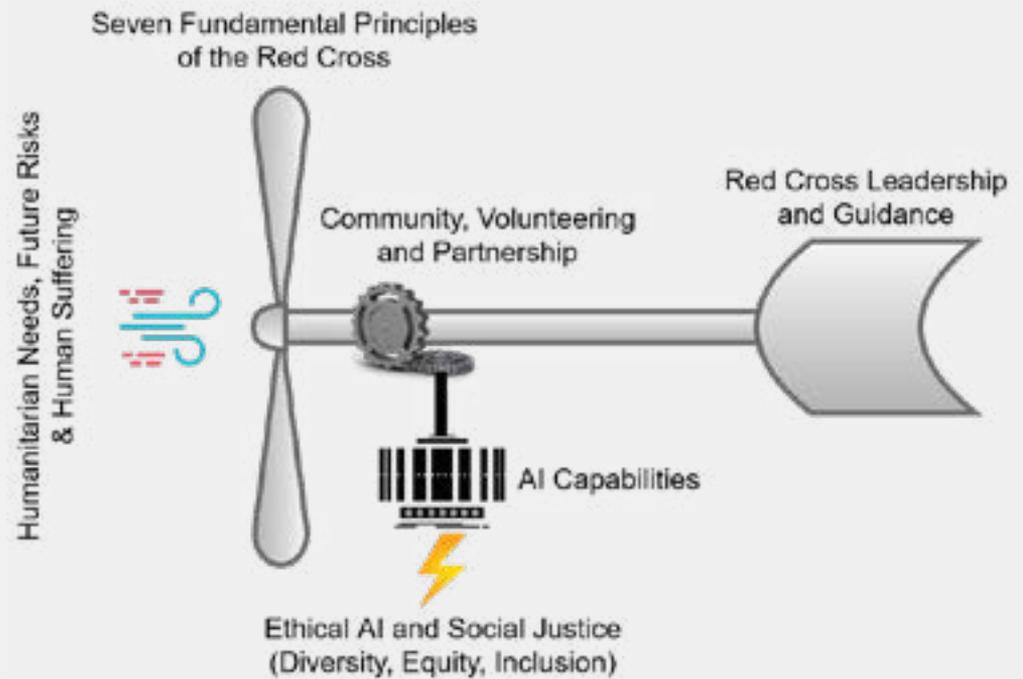


Fig.: A conceptualised model to drive AI ethically. (Source: <https://hyperight.com/social-justice-and-sustainability-by-leveraging-data-science-and-ai-interview-with-dr-mahendra-samarawickrama/>)

People, culture and Mission in AI. What can we reflect about AI based on our people, culture and mission? Discuss these attributes and the illustrated figure below.

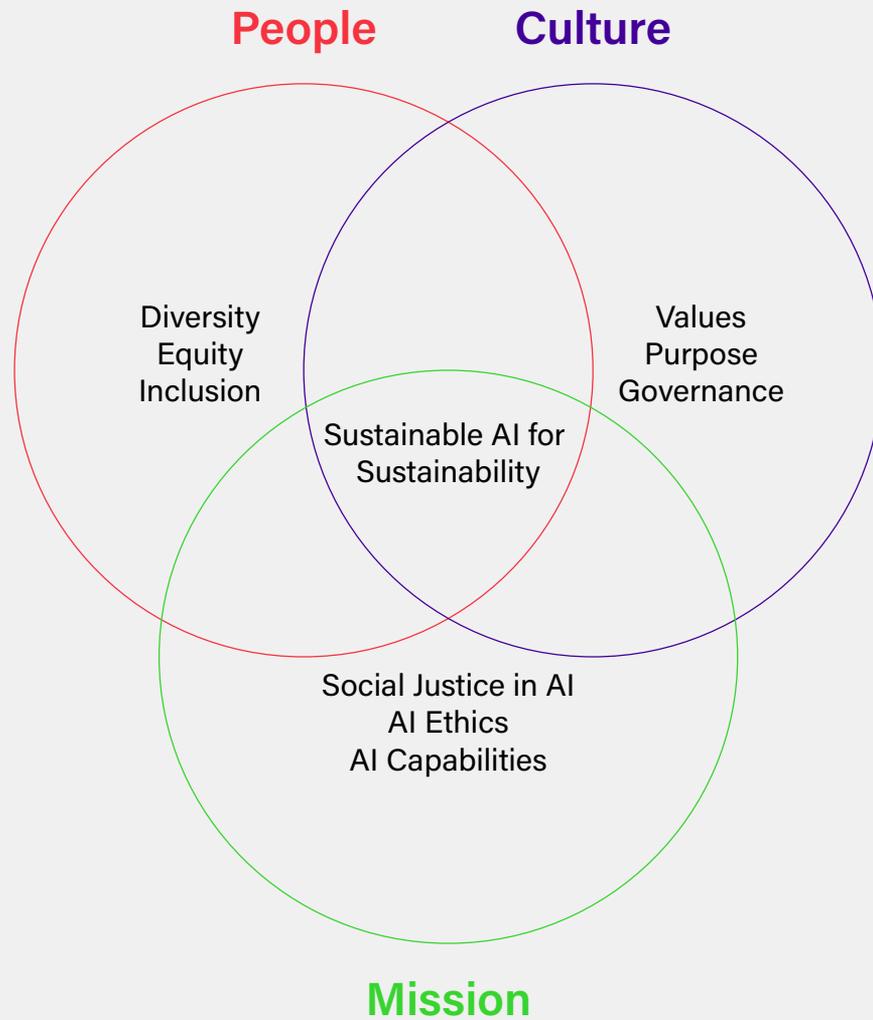


Fig.: The aspects of people, culture and mission on sustainable AI for sustainability.

How can we make Data Science and AI as core competency?  
 Discuss ways of integrating AI as part of the core competencies, while looking at the diagram below.



Fig.: Develop AI as a core competency to drive business.

## Part 2: Feedback

Ask people to reflect on the exercise and cite 1 or 2 observations or insights.

### Extra credit

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The Australian Red Cross keynotes related to AI ethics and governance:

Data Innovation Summit 2021 | AI for ESG Toolkit | [A Unified AI Governance Toolkit for ESG](#)

Ai4 Conference 2021 | [A Unified AI-Governance Collaborative Framework for Sustainability](#)

### Credit

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For developing the exercise Mahendra Smarawickrama and Paola Yela.

# 10 - 6 Social Diversity, Equity and Inclusion

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**To address social diversity, equity and inclusion, there needs to be a wider understanding on emerging technology governance and how that plays a role in sustainability and humanity within our network.**

- ▶ **People:** 2 to 8 people
- ▶ **Time:** 30 Minutes
- ▶ **Difficulty:** Medium to Hard
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers

## Exercise

### Part 1: Explore and Review

#### AI and Emerging Tech Governance for Sustainability and Humanity

When bringing diversity, equity and inclusion (DEI) to data and emerging technologies, leaders and contributors should be aware of different perspectives of why, how and what.

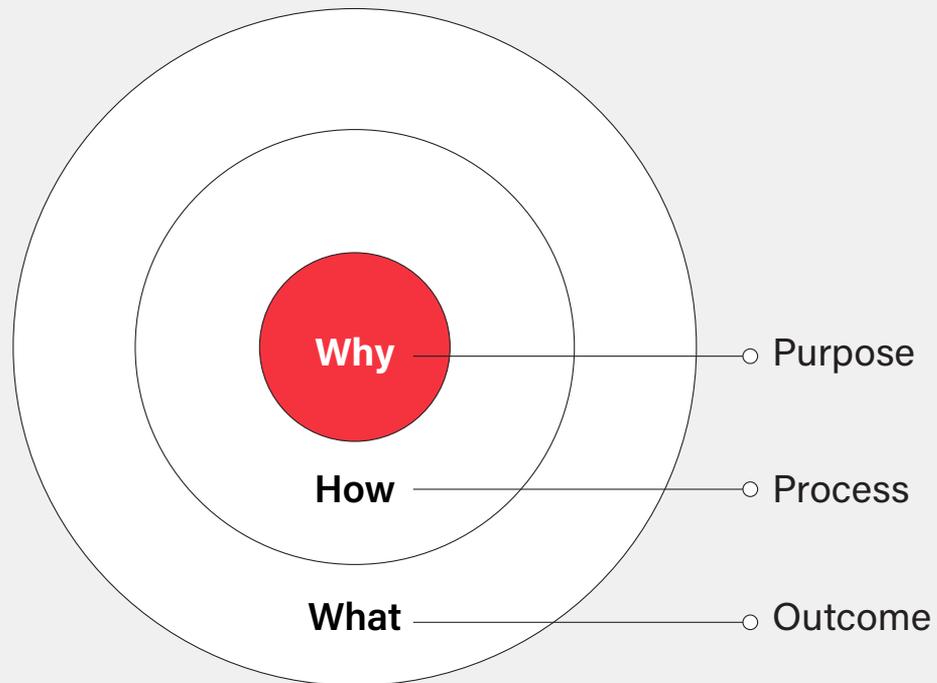
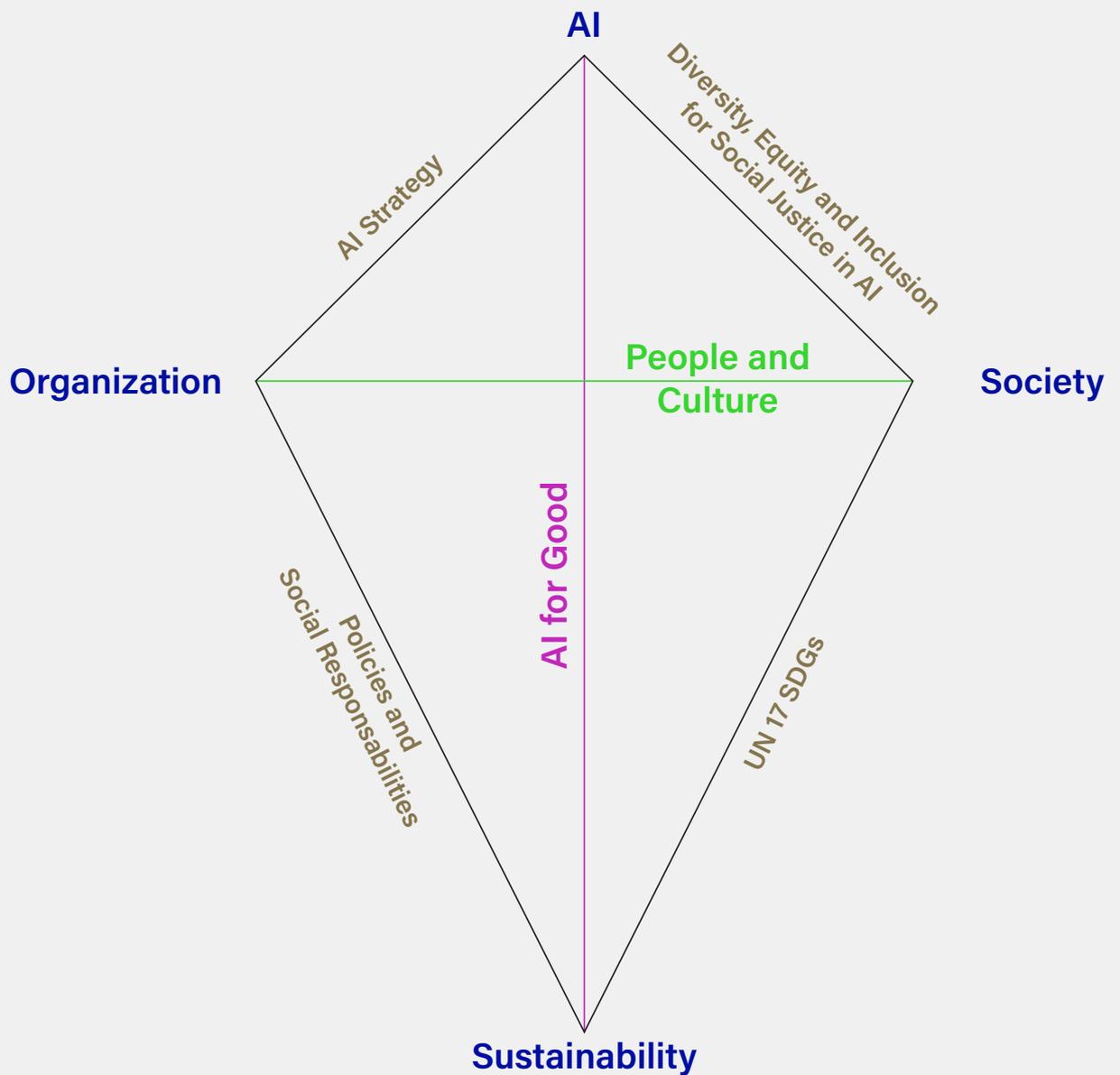


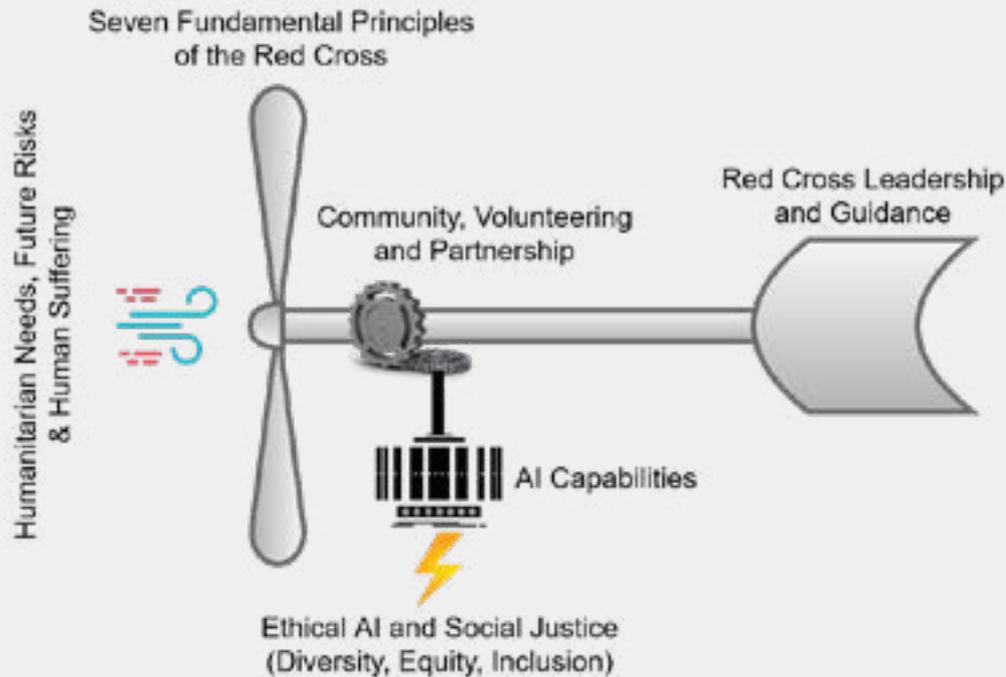
Fig: Golden Circle

For success in DEI, understanding the importance of people, culture and mission towards emerging technologies and mitigating the risk of failure due to biases are important. Please refer to the following whiteboard animations:

What are the important aspects of emerging technologies and AI governance? (Understanding of “Why” questions; such as why data and AI play a key role and why AI governance and sustainability need to be considered). Please, play: [The KITE Abstraction Framework for AI Governance and ESG for Sustainability](#).



**How to bring the Red Cross values to emerging technologies and AI governance? (Understanding “What” and “How” questions). Please play the Wind Turbine conceptual model whiteboard animation.**



**Can you discuss how social diversity, equity and inclusion is brought to your emerging technologies or AI project? How confident are you about the social justice of your project? Did you contribute to sustainability (i.e., social or environmental)?**

- ▶ Please check the following success story recently presented in IFRC Planet:Red Summit?
- ▶ Session Link: <https://planetredsummit.com/session/UJSGJU-1>
- ▶ Streamed Video session: <https://youtu.be/psySmdBc0IE>
- ▶ Please share your story as well.
- ▶ Additional resource: Samarawickrama, M. (2022). [Keeping AI Honest. Company Director, 38\(2\), 52-53](#)

Your Society	Public link to the Success Story

## Part 2: Feedback

Ask people to reflect on the exercise and cite 1 or 2 observations or insights

### Extra credit

How to bring social diversity, equity and inclusion from volunteers.

- ▶ If time is available we can talk about the formation of a volunteer data science team in your society. Please use the Emerging Tech Innovation Canvas for this.
- ▶ Please use the canvas populated by the Australian Red Cross to establish their diversified volunteer data science team.
- ▶ [Canvas](#)
- ▶ [Job description](#)
- ▶ [Australian Red Cross Volunteer Data science Team](#)

This could be used with Module **Responsible Data Practices and Protecting Data (7)** and **Humanitarian Values & Data Protection (handout) (7 - 8)** (exercise).

### Credit

Mahendra Samarawickrama and Paola Yela for developing the exercise

# 10 - 7 Mapping Aspects of Data Science Work

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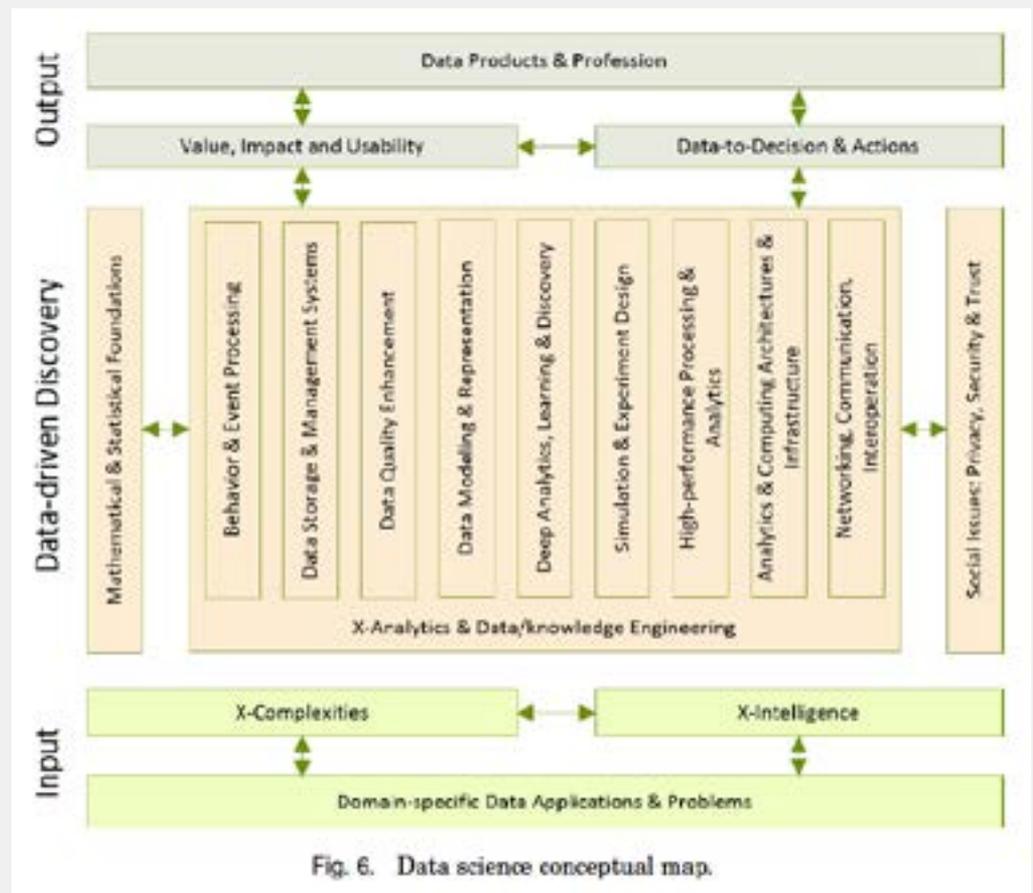
**Clarifying what we understand by data science. Mapping different aspects of the data science work, why do we need data science and illustrating the type of products/analysis we can expect from it. This exercise allows teams to verify if their conceptualization of data science is aligned. By the end of this session, we hope everybody will have an overview of data science, its different perspectives, and can understand their role in the data science work spectrum.**

- ▶ **People:** 2 to 8 people
- ▶ **Time:** 30 Minutes
- ▶ **Difficulty:** Easy to Medium
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers

## Exercise

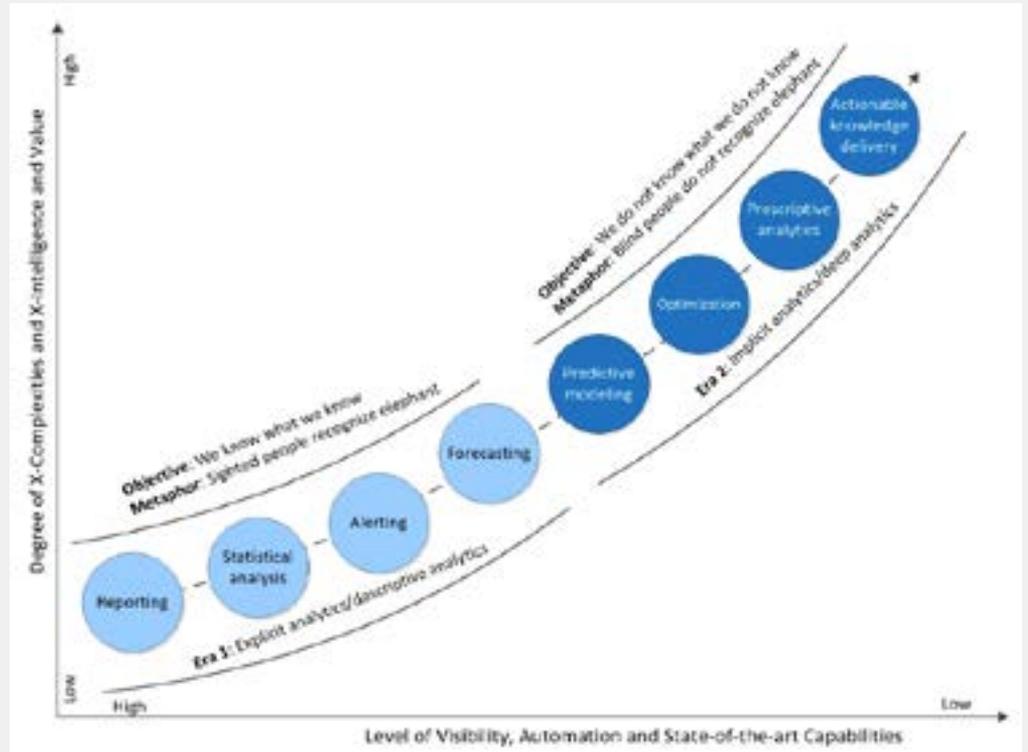
### Part 1: Explore and Review

Please discuss how a data science team can be established by referring to the below diagram and where do their roles best fit in the spectrum?



(i) Taken from here: Source: <https://arxiv.org/abs/2007.03606>

Discuss the main components of data science illustrated by the following diagram and reflect back on whether these match the needs of your National Society in forming their data team. ([Data Science: A Comprehensive Overview](#))



## Part 2: Feedback

Ask people to reflect on the exercise and cite 1 or 2 observations or insights.

### Extra credit

The facilitator can follow up on this discussion by referring to Why do we need Data Science exercise in Module 10 through linking the key takeaways from this session to exploring the capabilities of a data science team.

### Credit

For developing the exercise Mahendra Samarawickrama and Paola Yela

# 10 - 8 Why Do We Need Data Science

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**Clarifying what we understand by data science. Mapping different aspects of the data science work, why do we need data science and illustrating the type of products/analysis we can expect from it. This exercise explores the need of establishing a data science team and helps uncover some need-to-know key aspects when working with data science teams at RCRC begins.**

- ▶ **People:** 2 to 8 people
- ▶ **Time:** 45 – 60 Minutes
- ▶ **Difficulty:** Medium to Hard
- ▶ **Materials in person:** Flipchart paper and markers
- ▶ **Virtual Material:** Virtual meeting platform, shared document/writing space

## Exercise

### Part 1: Explore and Review

Case study: The senior leadership team of the ABC Red Cross society decided to establish a data science team that can drive data science and analytics to drive business.

Referring to the scenario, allow groups to discuss a series of questions that can help them explore the need of establishing a data science team and if that brings them a step closer to identifying the use of machine learning in the data science spectrum.

### Questions that will be used for discussion:

- 1 What is data science?
  - (prompt for facilitator - answers can include: data science = statistics + informatics + computing + communication + sociology + management | data + environment + thinking)
- 2 Why does senior leadership need a data science team?
  - (prompt for facilitator - answers can include: to assist data informed decision making, to personalize customer experience, to assist in making predictions and risk management, to diversify the services and strategy, etc.)
- 3 What are the current capabilities that the senior leadership team should be aware of?
  - (prompt for facilitator - answers can include: platforms, skills of people, tools being used, the data culture, etc.)
- 4 What investments the leadership team should be ready to spend on?
  - (prompt for facilitator - answers can include: training staff, acquiring technology such as tools and platforms, etc.)
- 5 What skills does the leadership team include in the new job description?

- (prompt for facilitator - answers can include: Red Cross values, communication skills, machine learning skills, knowledge in statistics, knowledge in Python and R, etc.)
- 6 What would be the team composition?
    - (prompt for facilitator - answers can include: gender and diversity in the team, try and promote women in AI, etc.)
  - 7 Other than the fundraising campaign, what are the socially impactful data sets that Red Cross is interested in?
    - (prompt for facilitator - answers can include: climate change data, migration data, health and wellbeing data, volunteer data, etc. -Can refer to the Red Cross Strategy 2030)
  - 8 What risk management was currently put in place to manage the data risks?
    - (prompt for facilitator - answers can include: IT cyber security policy, IT data governance policies, data compliance guidelines, legal compliance, etc.)
  - 9 Your society at the moment is using Tableau, Power-BI or any other business intelligence tool. At which stage you are on the data science road map?
    - (prompt for facilitator - answers can include: reporting and exploratory data analytics, etc.)
  - 10 Which stages of data road map machine learning bring to the organisation?
    - (prompt for facilitator - answers can include: predictive and prescriptive analytics, etc.)
  - 11 What does machine learning do?
    - (prompt for facilitator - answers can include: Identify patterns in the data and create a model in which we can make predictions in advance)

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## Part 2: Feedback

Ask people to reflect on the exercise and cite 1 or 2 observations or insights.

### Extra credit

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To dive deeper into the integration of machine learning in data science projects, the groups have the option to answer the following questions:

- 1 Have you heard about machine learning algorithms?

- 2 Can you explain them to a non-technical person?
- 3 What does garbage in garbage out means in data science modelling?
- 4 What is a hypothesis in Data Science modelling?
- 5 Can you explain the bias and variance in data science modelling using the hypothesis?

Option for the facilitator to refer to the Role of a volunteer data science team and What a Data Scientist job description should look like additional material provided in Module 10.

### Credit

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For developing the exercise Mahendra Samarawickrama and Paola Yela, Edited by Melissa El Hamouch

Extra resource: Eggleton, M., 2022. Award-winner warns of the failures of artificial intelligence. [The Australian Financial Review - Special Report of Reimagination 2022](#), pp.S4-S5.

# 10 - 9 Help Decisions Given Specific Settings

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**When various options of data science processes are available, it is not always easy to identify which option is the best to implement for a given project. This exercise will help teams discuss their available options based on their resources and capacities.**

- ▶ **People:** 2 to 8 people
- ▶ **Time:** 45 – 60 Minutes
- ▶ **Difficulty:** Hard
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers

## Exercise

### Part 1: Explore and Review

This exercise allows teams to answer questions about their resources, capacities, and time in order to understand what is the most suitable option for them to select for a particular objective. The facilitator can either come up with a theoretical project task or discuss one that the team proposes.

Note: Have teams write down different options that can be cross-checked against the resources they have and the situation in which they are in.

The facilitator can then guide the team in identifying what option will work best for their situation. A list of questions can be asked to help groups and teams think along.

#### Questions can be as follows:

- ▶ How many resources do you have?
- ▶ How much time is available?
- ▶ How much time will it take to work on the project?
- ▶ What potential constraints might be faced?
- ▶ What is the budget allocated for the project?
- ▶ How much staff is available to work on the project?
- ▶ What skills are needed from the team?
- ▶ What is the setting of which the work will take place in (emergency setting or not)?
- ▶ What data does the team have (historic data, secondary data, no data, etc.) and what data do they need to have?

The facilitator has the option to present the team with the below cases as a starting point for discussions. They can then refer back to the set of questions presented above to get a more indepth view from the team and assess what is needed and what is available. This will help them in deciding what data science process and resources will be most efficient.

#### CASE A:

The National Society XYZ has a repository of community risk assessments that were done in several regions within their country. The assessments are unstructured documents that have similar content but are in varied formats.

The National Society risk management team would like to get key information from those documents, however they don't have the internal capacity to process all the documents. It is not an urgent task, but they have some resources that could be invested for this task.

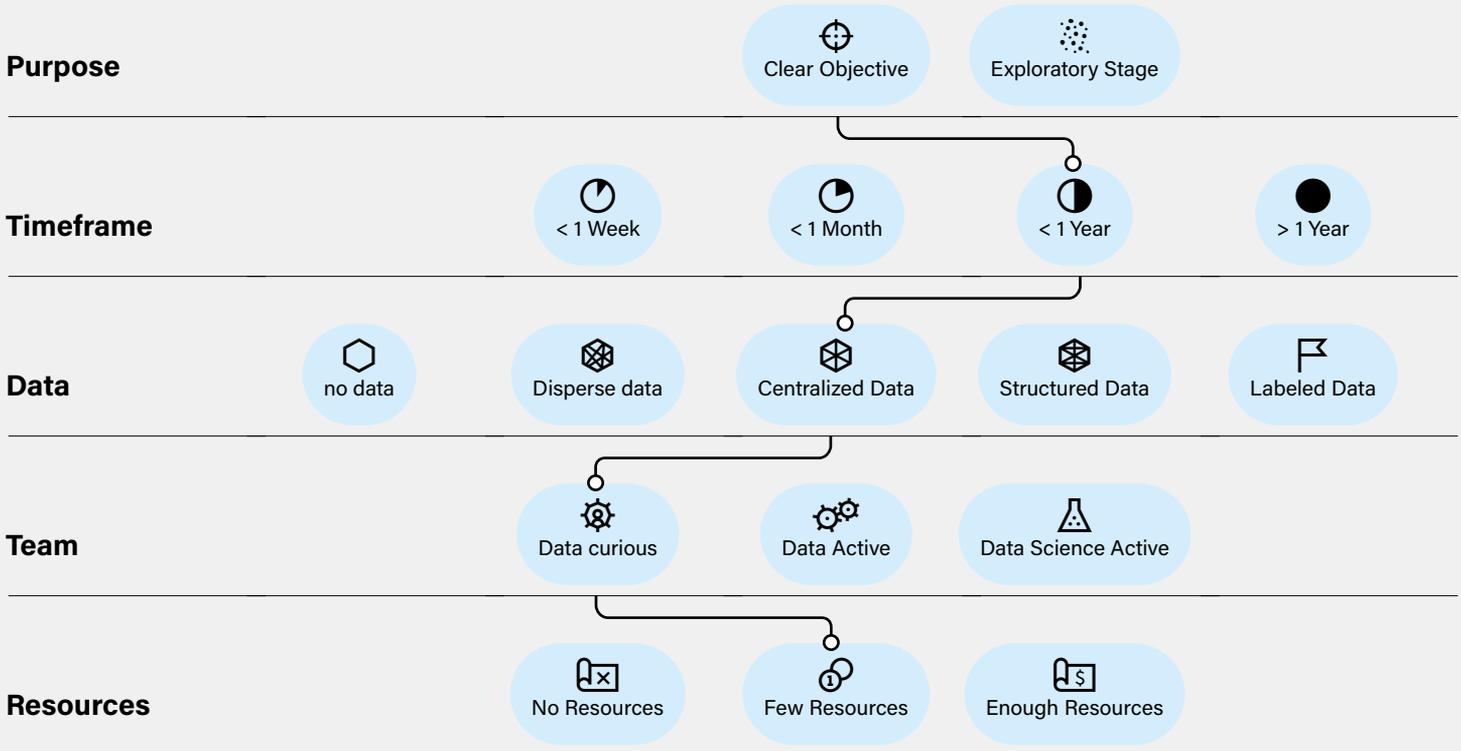
**Purpose**

**Timeframe**

**Data**

**Team**

**Resources**



The team in National Society XYZ decided to go for a 4 months internship at a technical institution. Would your team do the same? Which option would you have preferred?

## CASE B:

Please select your situational path:

### Purpose



Clear Objective



Exploratory Stage

### Timeframe



&lt; 1 Week



&lt; 1 Month



&lt; 1 Year



&gt; 1 Year

### Data



no data



Disperse data



Centralized Data



Structured Data



Labeled Data

### Team



Data curious



Data Active



Data Science Active

### Resources



No Resources



Few Resources



Enough Resources

Which option would you consider? Which other options would you propose for such a situation?

Internships Research partnerships Consultancies Hackathons Internal data

collection project Internal DS project Movement support Tech partnerships

Internal labeling project Data partnerships Engage volunteers Working groups



## Part 2: Feedback

Ask people to reflect on the exercise and cite 1 or 2 observations or insights.

### Extra credit

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For further reading, teams can view the [AI Suitability Framework](#) which provides a set of questions that should be asked through the development of a data science project. It brings enough details and tries to preserve a practical perspective. The above represented graph can be seen as a first approach to it.

### Credit

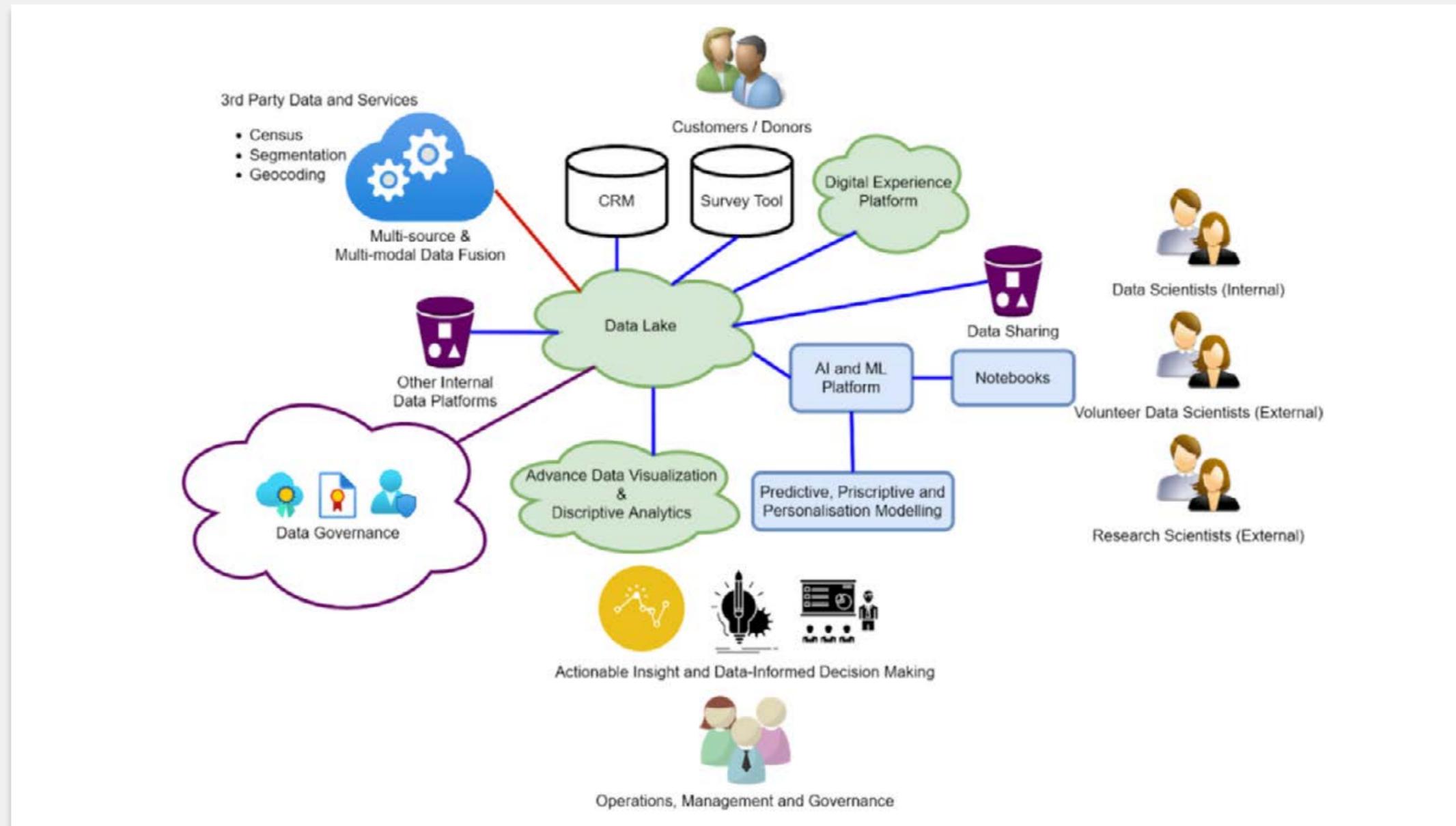
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For exercise development Paola Yela and Melissa El Hamouch

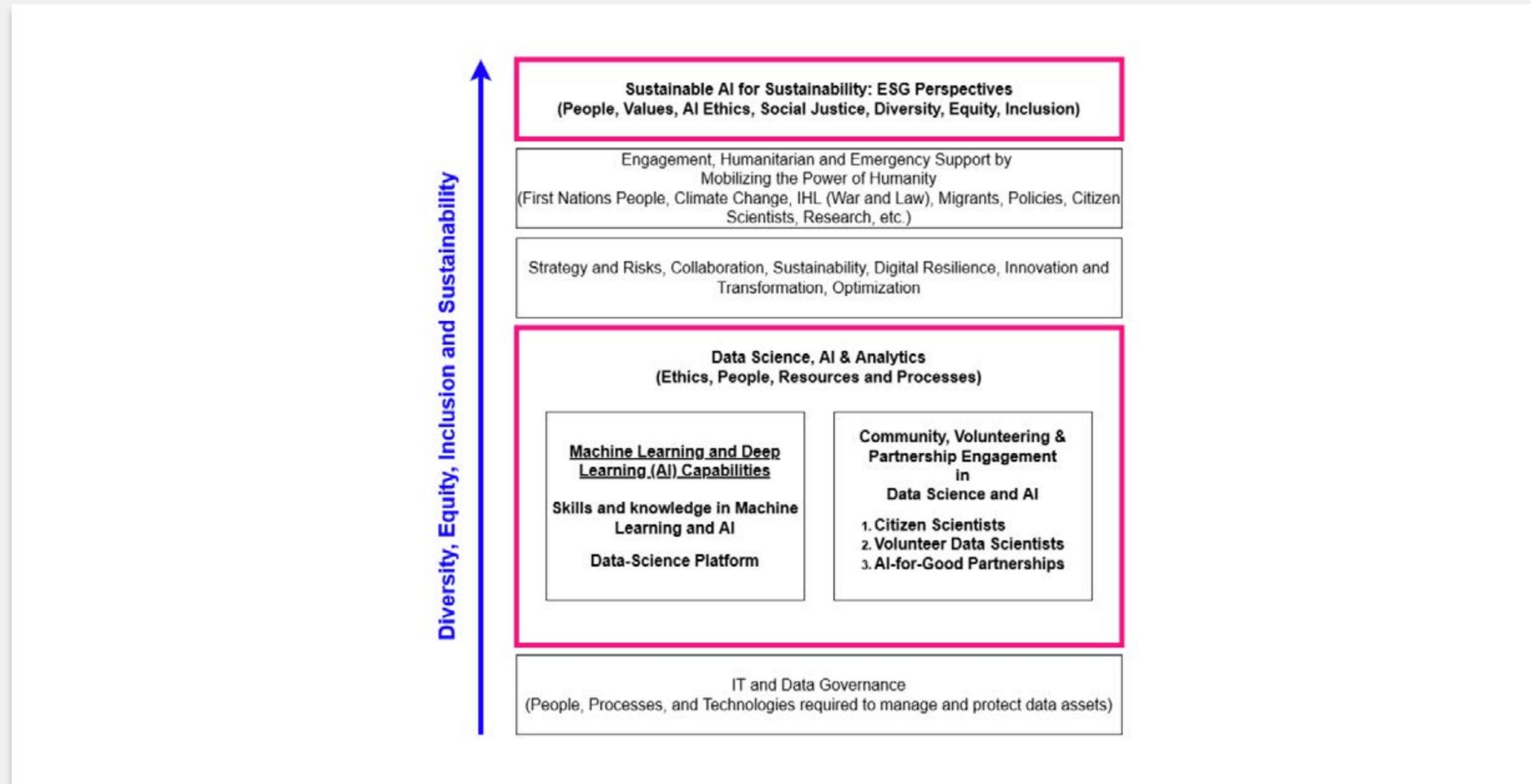
# 10 - 10 High-Level Overview of Typical Data Science Platform and Processes

Credit: Mahendra Samarawickrama for the IFRC Data Playbook

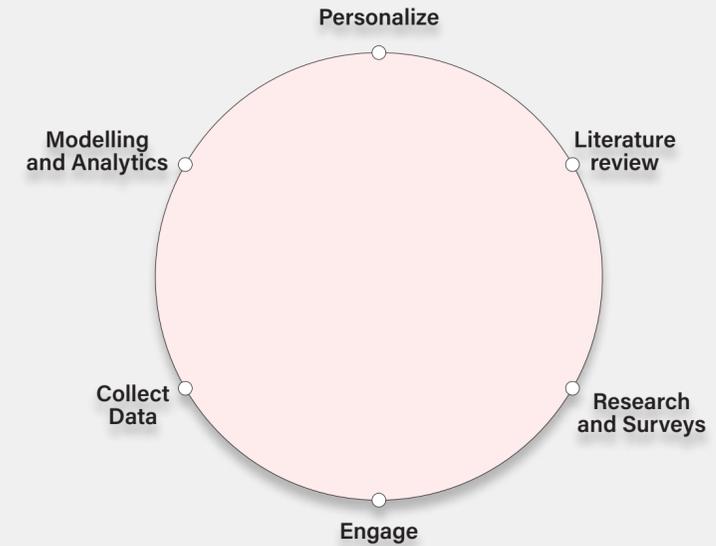
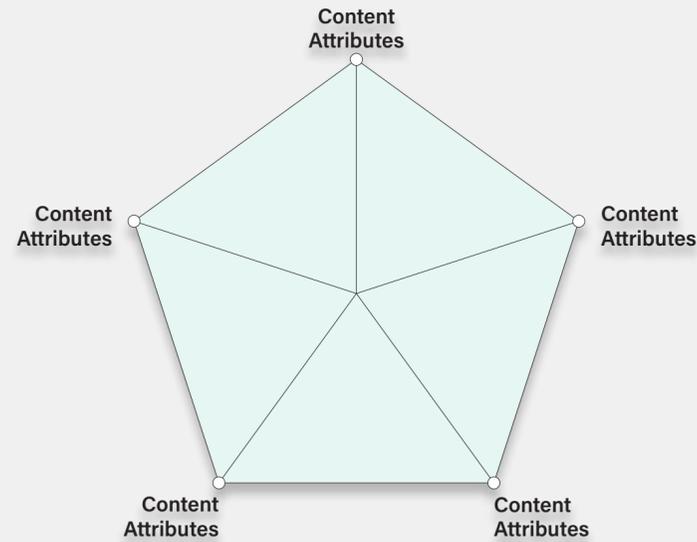
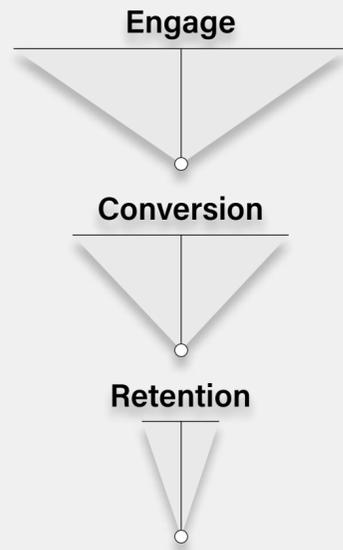
# Typical Data Science Platform Schematic



# Typical Data Science Process Focusing on Humanitarian Goals

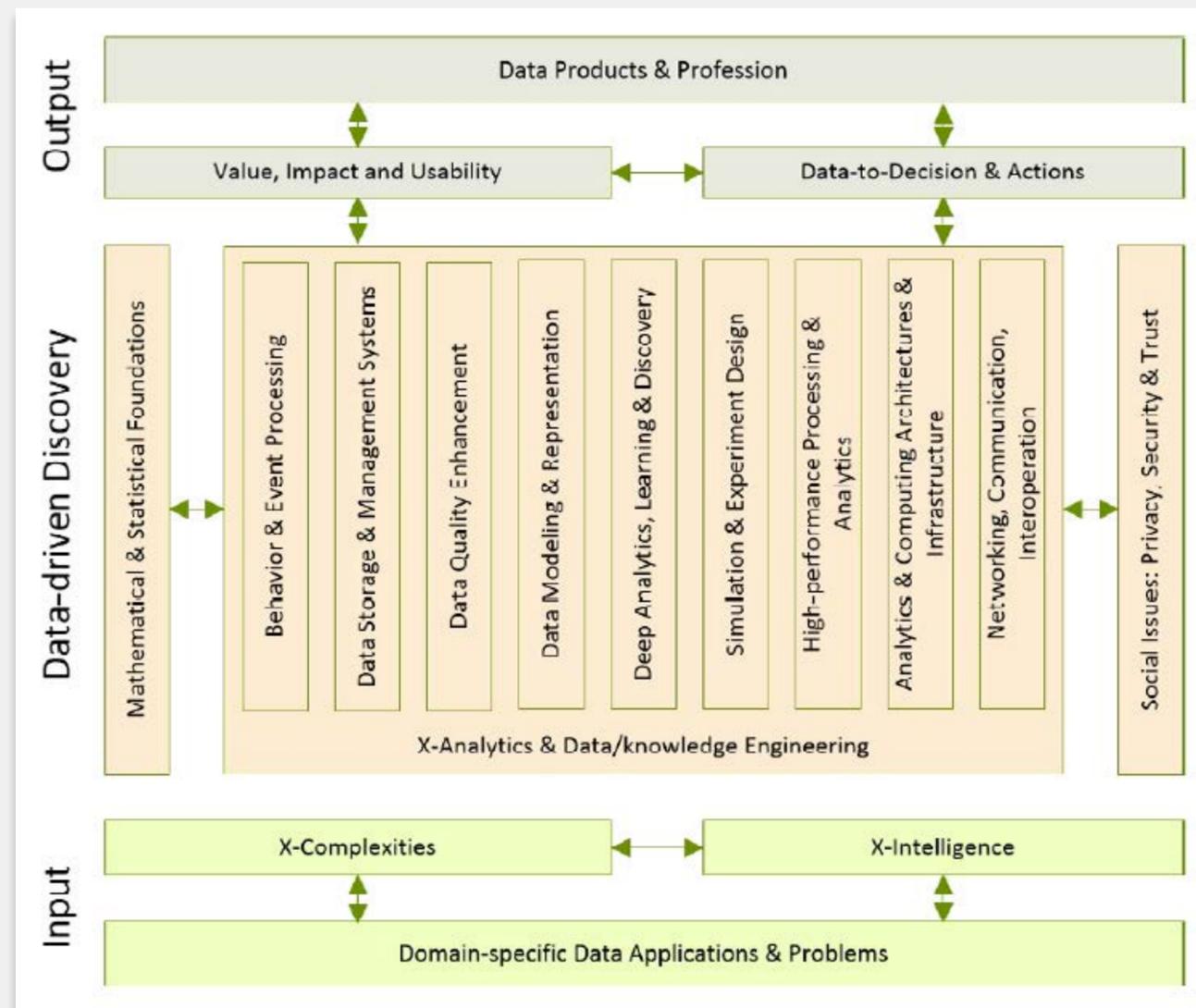


# Data Science for Personalization



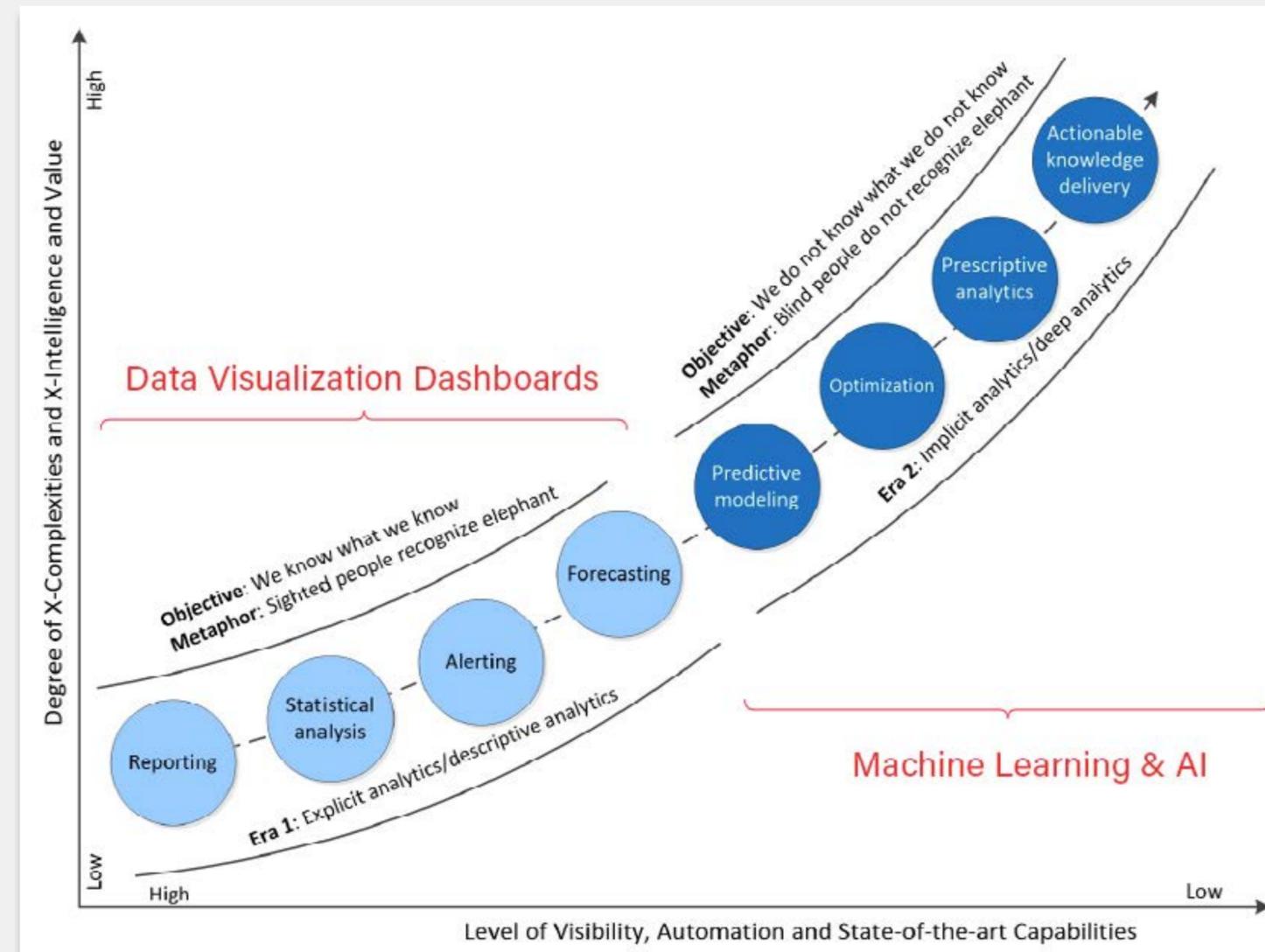
<b>Engagement and Support</b>				
<b>CX</b>	<b>Acquisition And Loyalty</b>	<b>Digital</b>	<b>Marketing</b>	<b>Finance</b>
<b>Data Insight as a Service</b>				
<b>Data Science (E.g., Personalization, Prediction, Advance Analytics)</b>				
<b>Data Architecture (E.g., Infrastructure)</b>				
<b>IT (E.g., Data Security)</b>				

# Data Science Conceptual Map



(i) Source: Longbing Cao. 2017. Data Science: A Comprehensive Overview. ACM Comput. Surv. 50, 3, Article 43 (June 2017), 42 pages. DOI: <https://doi.org/10.1145/3076253>

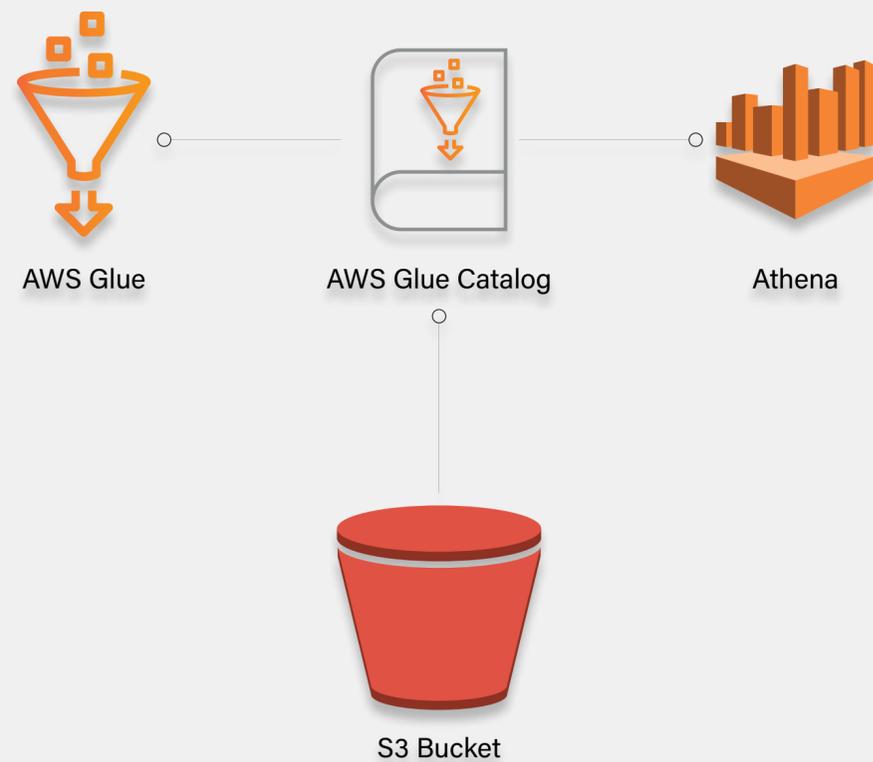
# Data Science Road Map (Value Creation)



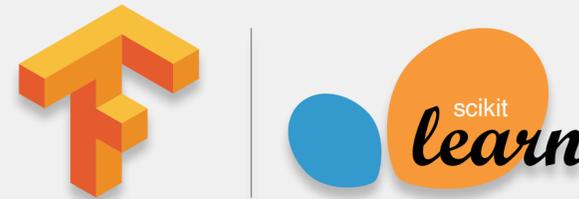
(i) Source: Longbing Cao. 2017. Data Science: A Comprehensive Overview. ACM Comput. Surv. 50, 3, Article 43 (June 2017), 42 pages. DOI: <https://doi.org/10.1145/3076253>

# Typical Data Science Platform Components

## 1. Data Lake



## 2. Machine Learning and AI Platform



**AI Services:**

Amazon Rekognition • Amazon Polly • Amazon Lex

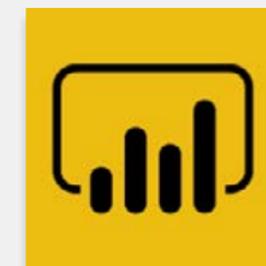
**AI Platforms:**

Amazon Machine Learning • Amazon EMR • Spark & Spark ML

**AI Engines:**

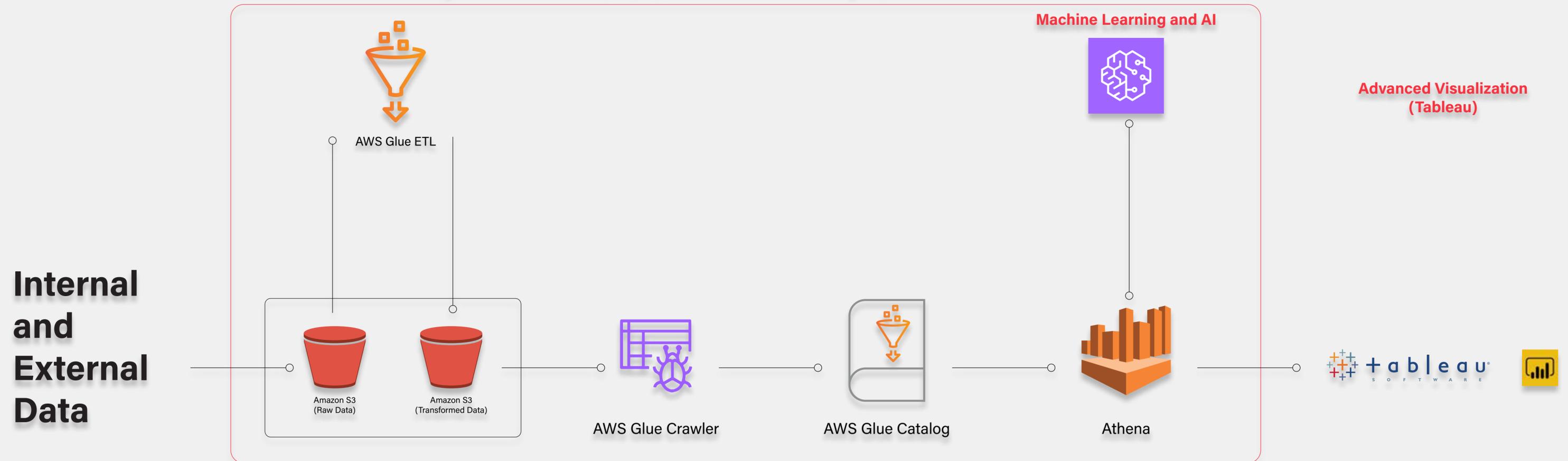
Apache MXNet • TensorFlow • Caffe • Torch • Theano • CNTK • Keras

## 3. Visualisation Framework

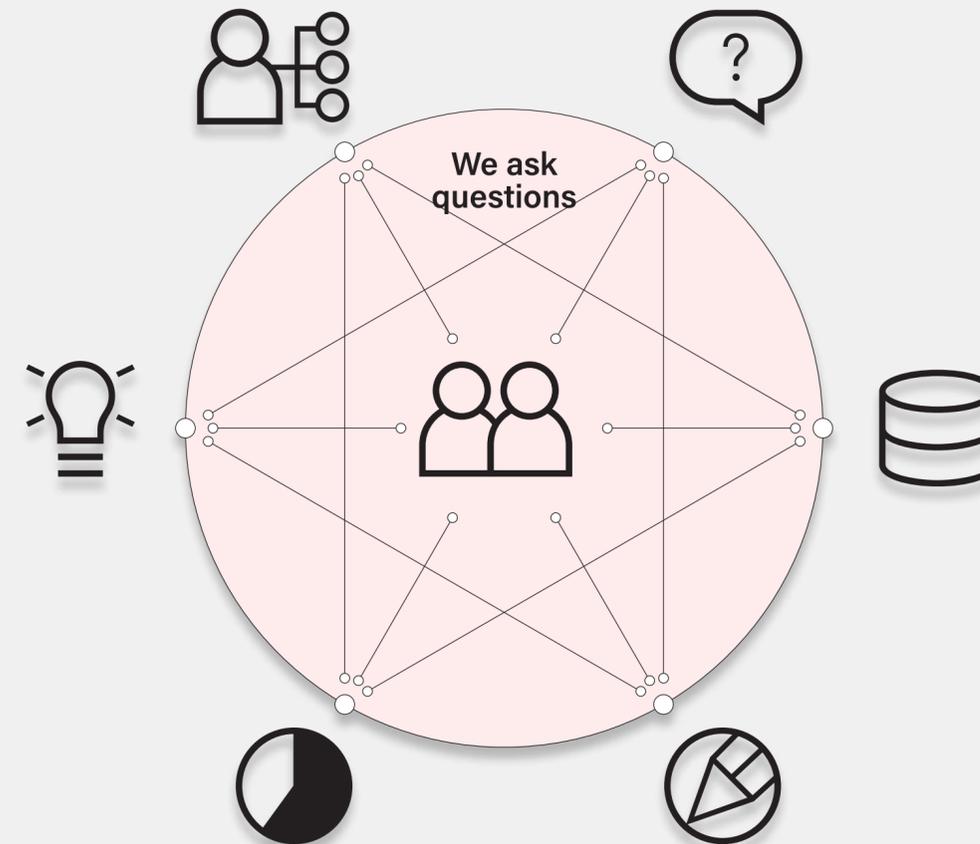
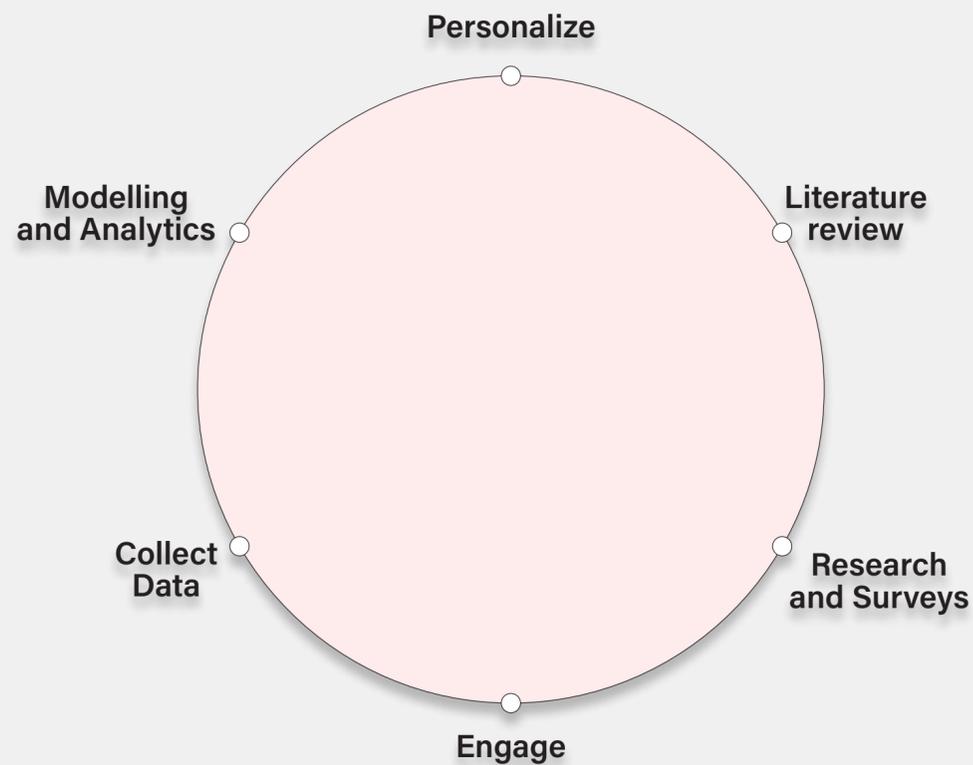
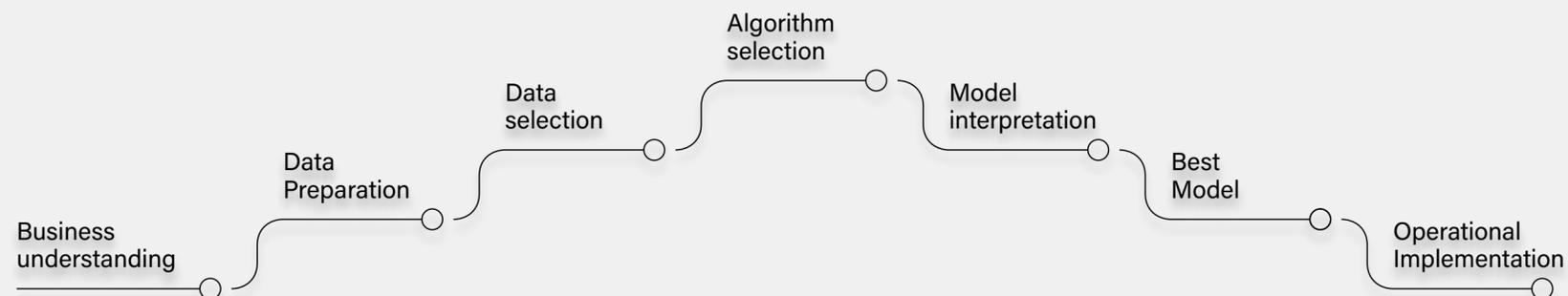


# Example for a Typical Data Science Platform (for illustration purposes only)

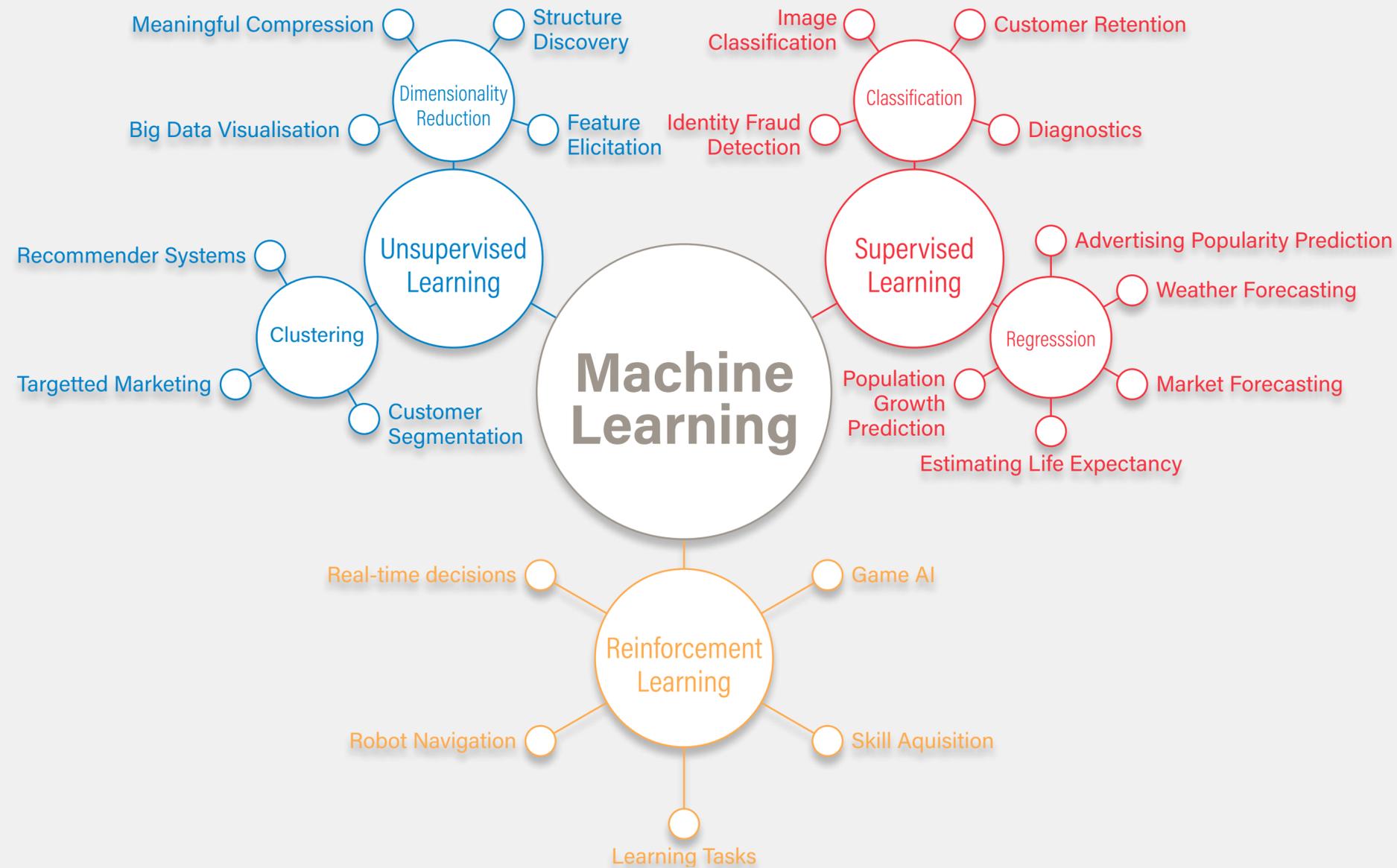
Data Lake + Machine Learning + AI + Visualization (Simple, Low Cost and Custom-designed)



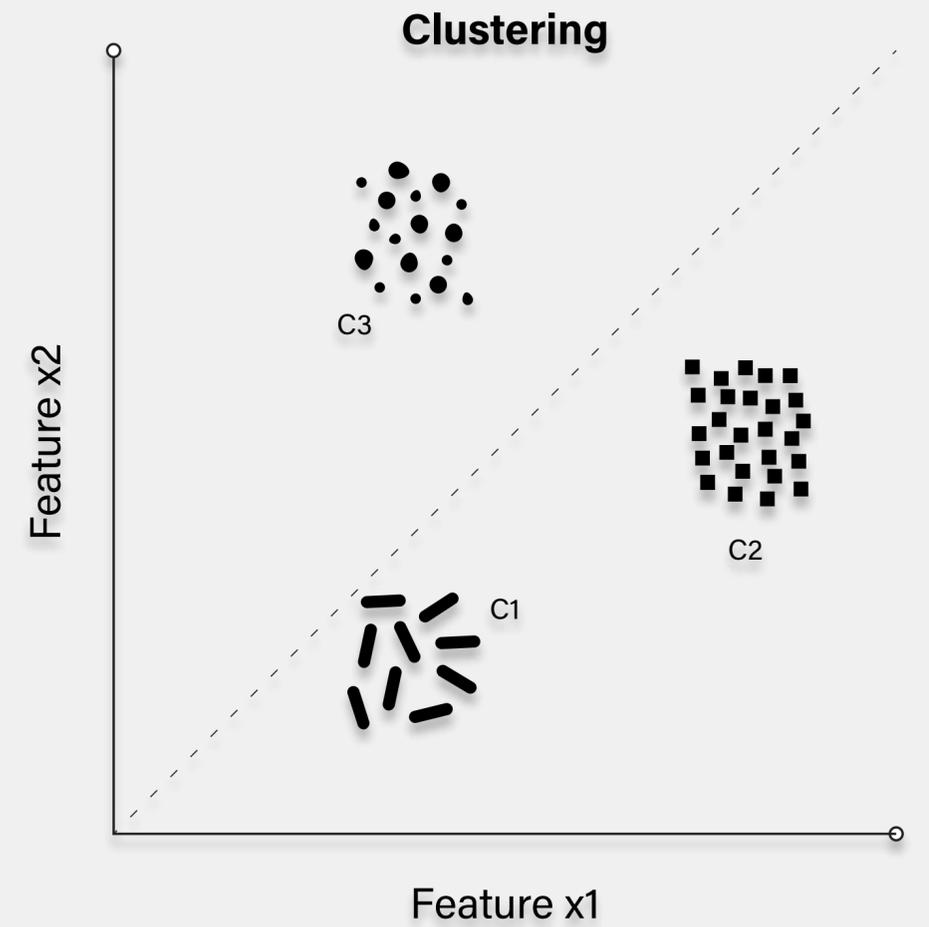
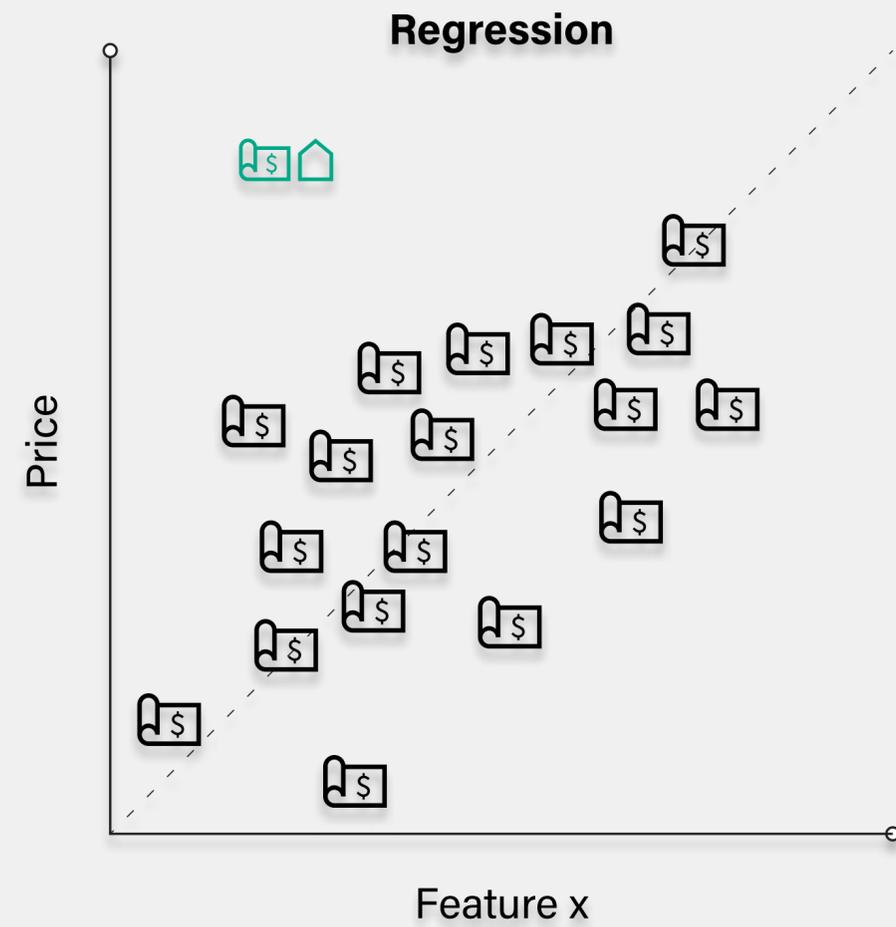
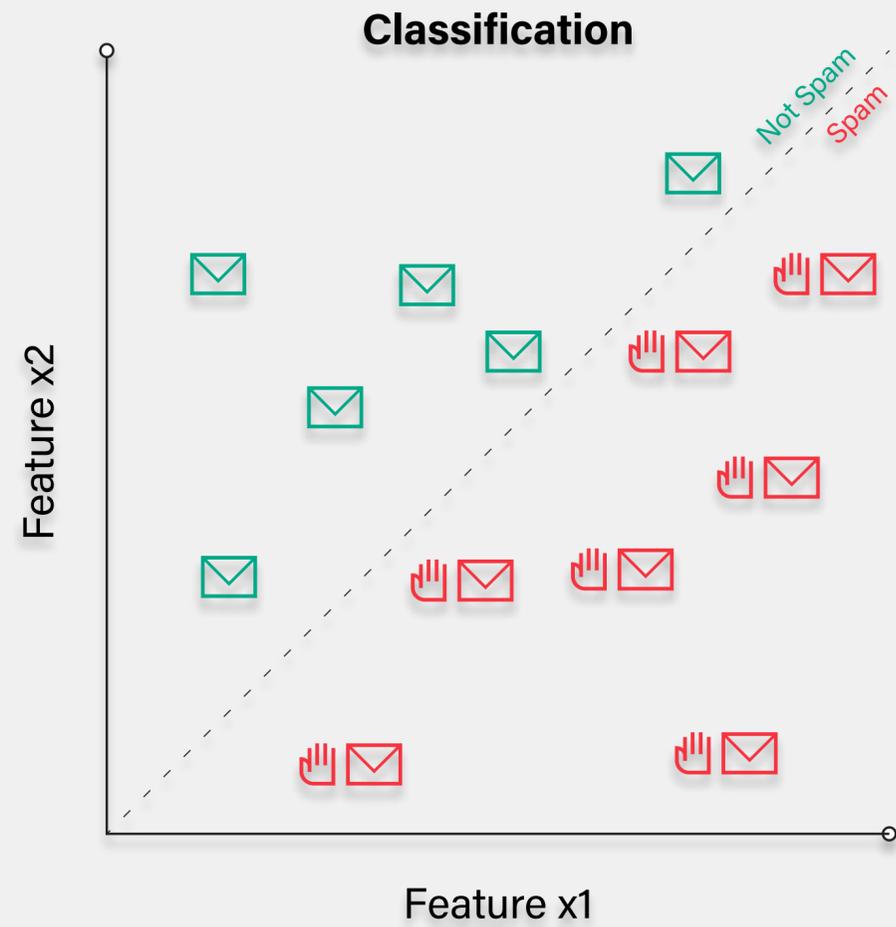
# Data Science Process (Iterative & Interactive Process)



# Machine Learning Framework



# Machine Learning: High-Level Overview



# 10 - 11 How to Implement a Data Science Model

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**This exercise will allow teams to have hands-on experience in machine learning. By allowing teams to get a better understanding on how a data science model is implemented, they can better assess what can be integrated in their work.**

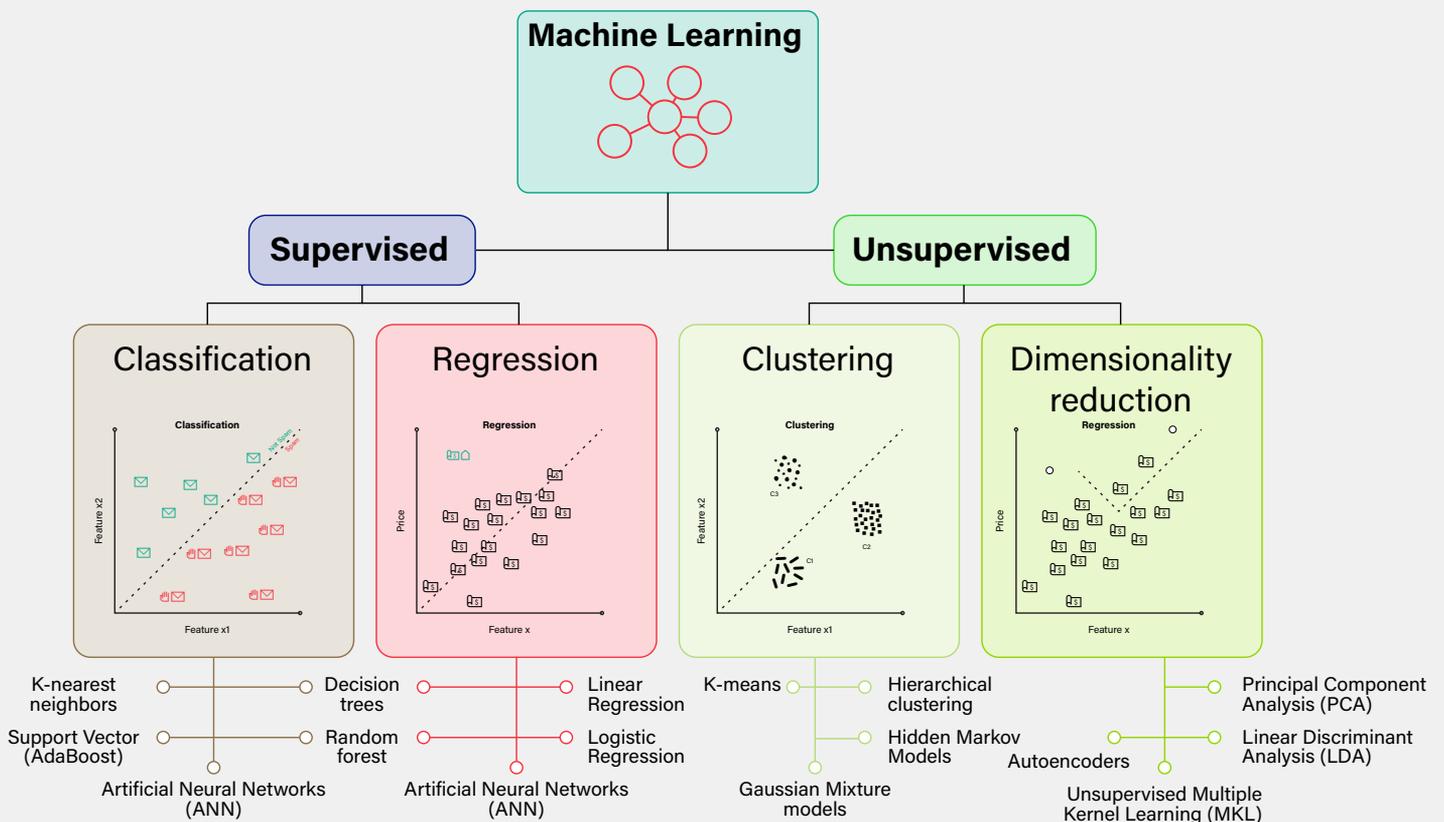
- ▶ **People:** 2 to 8 people
- ▶ **Time:** 45 Minutes
- ▶ **Difficulty:** Medium to Hard
- ▶ **Virtual Materials:** virtual meeting platform, shared document/writing space
- ▶ **In Person materials:** Flipcharts/noteboards, sticky notes, markers

## Exercise

### Part 1: Explore and Review

Machine Learning Hands-on Exercise (How to implement a data science model)

- 1 We have prepared a Jupyter Notebook to illustrate a simple machine learning classification model. [How to setup Google Colab](#). Note what is a classification model from the following diagram.



- 2 We are going to develop a simple churn model.
- 3 Because this is a binary classification model, we need to know the donor labels prior to modelling. In this case, we need to know who were active and who were not active donors. We trained this model based on past data.
- 4 Note the following
  - Data preparation stage
  - Sampling stage
  - Exploratory data analysis stage
  - Split of data to training and validation
  - Training the model (Note the LightGBM Classification Model)
  - Validation stage (Note which measure was used to validate the accuracy of the model)
  - Analysis of the model
- 5 You may further read about this kind of Machine Learning modelling:
  - <https://youtu.be/8b1JEDvenQU>
  - <https://www.youtube.com/watch?v=GM3CDQfQ4sw>
  - <https://www.youtube.com/watch?v=4jRBRDbJemM>

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## Part 2: Feedback

Ask people to reflect on the exercise and cite 1 or 2 observations or insights.

### Extra credit

For further reading on the subject you can refer to the following links

- 1 <https://unstats.un.org/unsd/undataforum/blog/KITE-an-abstraction-framework-for-reducing-complexity-in-ai-governance/>
- 2 <https://hyperight.com/social-justice-and-sustainability-by-leveraging-data-science-and-ai-interview-with-dr-mahendra-samarawickrama/>

### Credit

For developing the exercise Mahendra Smarawickrama and Paola Yela.

# 10 - 12 Red Cross Churn analysis Jupyter Notebook

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 [Download resources](#)

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 [Download resources](#) (Data Model CSV)

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 [Download resources](#) (Data Model SQL)

# I Curriculum Development Templates

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# Volunteer Training – Activity Plan for Workshops and Learning Sessions

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**What is the purpose of an Activity Plan,  
Workshop or Curriculum Plan?**

National Societies, Secretariat/Regional Offices and Sector focal points plan workshops and learning/sharing sessions. Learning as a team often requires a clear plan to coordinate content, learning goals and scheduling. This is a draft template to for people to guide pilots, workshops and regular learning sessions for their specific national society, secretariat/regional office, sector (eg. Health, cash etc).

<b>Activity Goal (s)</b>	A small National Society wants to bring local community volunteers together – to learn the importance of data, to see the value of data collection; the importance of data protection.
<b>Type of Activity</b>	Series of short workshops
<b>Organizing Team</b>	National Society  (Thanks to the Tonga Red Cross team for their input)
<b>Date(s) of activities</b>	To be determined

Please kindly fill out all sections left white below.

## About the Audience

Trainers and Team Leaders working with groups for discovery and learning. Teams working together so they can create processes, workflows, and identify gaps in knowledge. Trainers who are leading sessions with individuals learning together and from each other.

<b>Target Audience</b>	
<b>Main Audience</b>	National Society Volunteers
<b>Secondary Audience</b>	National Society Staff

# About the Content

## What are the main challenges about reaching the audience(s) and training content, if any?

- People want to know the impact they are having and the associated skills. There is a disconnect.
- Real emergency needs /Concrete preparedness activities – fire assessment needs, Non-Food items (NFI) distribution, evacuation centre assessments
- For staff: available time, too many hats – efficiency, motivation
- Language barriers – content, facilitator

## How can we overcome these challenges? Write key points on the importance of the topic.

- Trainings/ train the trainers
- Impact – Stories

## Expected Outcomes

- Better reporting, coordination
- Ownership and confidence, trust – teamwork
- Volunteer engagement – give back/value, consistency (network building )

## What is your plan for the sessions/series? Will it be remote or in person? Please list any additional resources (PDF, Videos, etc).

- Now: in person first
- In future: virtual, for people in branches

## Learning Objectives of the Activities

For guidance on writing learning objectives based on Bloom's Taxonomy, click [here](#) or [here](#)

At the end of the activity, learners will:

1. explore new skills
2. use data skills more effective
3. impact on response

## Activity Planning

Include as many topics as necessary cooped with their respective key messages. Be sure to map this against your organisational goals and as well as obtaining feedback from participants.

Select the content from the Data Playbook to serve the learning objectives and organisational needs/feedback. If you are creating new content, please do share back with the Data Playbook team.

Topic 1 Build a Common language and Impact	Key messages /exercises (choose 1 or 2 for your audience)
Nurturing a Data Culture	<ul style="list-style-type: none"> <li>◦ What data is contained in a piece of fruit? (module 1)</li> <li>◦ Why Data Matters (module 1)</li> <li>◦ Data product storytelling (module 3)</li> <li>◦ Data Visualisation Overview (module 8)</li> <li>◦ Data Visualisation Best Practices (Module 8)</li> <li>◦ What is Evidence (module 9)</li> </ul>
Topic 2 Using data	Key messages (choose 1 or 2 for your audience)
<ul style="list-style-type: none"> <li>◦ Survey, Data Collection</li> <li>◦ Data Protection and Responsible Data</li> </ul>	<ul style="list-style-type: none"> <li>◦ In your Shoes (module 7)</li> <li>◦ People before data (module 7)</li> <li>◦ What is the data we really need? (module 7)</li> <li>◦ Making Decisions to Get the Data We Need (Module 4)</li> <li>◦ Counting People (Module 4)</li> </ul>
Topic 3 Impact and storytelling	Key messages
<ul style="list-style-type: none"> <li>◦ How can we show our impact?</li> </ul>	<ul style="list-style-type: none"> <li>◦ Infographic Drawing (Module 8)</li> <li>◦ Infographic Design Best Practices (Module 8)</li> <li>◦ Data Gallery (Module 8)</li> <li>◦ Share examples of visualisations. E.g. vaccination #s</li> </ul>

# PMER Activity Plan for Workshops and Learning Sessions

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**What is the purpose of an Activity Plan,  
Workshop or Curriculum Plan?**

National Societies, Secretariat/Regional Offices and Sector focal points plan workshops and learning/sharing sessions. Learning as a team often requires a clear plan to coordinate content, learning goals and scheduling. This is a draft template to for people to guide pilots, workshops and regular learning sessions for their specific national society, secretariat/regional office, sector (eg. Health, cash etc).

<b>Activity Goal (s)</b>	Set of workshops with a multidisciplinary group – across departments and 'organisational levels' of people from a National Society
<b>Type of Activity</b>	Workshop, brainstorming – multiple short sessions
<b>Organizing Team</b>	FDRS-member
<b>Date(s) of activities</b>	To be determined

Please kindly fill out all sections left white below.

## About the Audience

Trainers and Team Leaders working with groups for discovery and learning. Teams working together so they can create processes, workflows, and identify gaps in knowledge. Trainers who are leading sessions with individuals learning together and from each other.

<b>Target Audience</b>	
<b>Main Audience</b>	Everyone involved in the annual cycle of FDRS-process, from the data collection until the data reporting.
<b>Secondary Audience</b>	IFRC Secretariat, IFRC Regional Office, Country (Cluster) Delegations

# About the Content

## What are the main challenges about reaching the audience(s) and training content, if any?

It may be difficult to gather members of the National Society across different departments and organisational levels, which makes conducting a workshop with such a multidisciplinary team a challenge to plan. In addition, it may be difficult to identify who is part of the 'FDRS-cycle', since some people are unaware that they are part of it (e.g., the people collecting data during operations). As a result, it may be difficult to motivate people to attend the workshop.

## How can we overcome these challenges? Write key points on the importance of the topic.

It is important to clearly highlight the purpose of the workshop (to smoothen the FDRS-cycle within the National Society and to increase the quality of data reporting) and the benefit of this for each individual participating in the workshop.

## Do you have any particular recommendations regarding the activity?

Plan the workshop/series of workshops a lot of time ahead, so you have time to map the FDRS-cycle within the NS and people are invited in time regarding their expected attendance

## Not only map the FDRS-cycle, but also visualise it, so that people can see where they are in the cycle, creating a sense of purpose.

What is your plan for the sessions/series? Will it be remote or in person? Please list any additional resources (PDF, Videos, etc).

- Preferably in person;
- Assessing each step of the FDRS-cycle on a whiteboard in the centre of the room
- Identifying who conducts each step of the cycle and the possible improvements within each step
- Mapping the 'future FDRS-cycle' on a whiteboard
- Identifying the (potential) role of the IFRC secretariat (especially the FDRS-team itself) in each step: how can the National Society be best supported?

## Learning Objectives of the Activities

For guidance on writing learning objectives based on Bloom's Taxonomy, click [here](#) or [here](#)

At the end of the activity, learners will:

1. Better understand the role of data in their National Society and the importance of this data for the IFRC Secretariat;
2. Better understand their own role in the FDRS-cycle (and the broader data collection cycle) of the National Society

## Activity Planning

**Include as many topics as necessary cooped with their respective key messages. Be sure to map this against your organisational goals and as well as obtaining feedback from participants. Select the content from the Data Playbook to serve the learning objectives and organisational needs/feedback. If you are creating new content, please do share back with the Data Playbook team.**

<b>Data collection - Module 4</b>	<b>Key messages</b>
<ul style="list-style-type: none"> <li>◦ Data collection during operations</li> <li>◦ Disaggregating data</li> <li>◦ The future of data collection</li> </ul>	<ul style="list-style-type: none"> <li>◦ The role of data collection and communities/ responsible data use</li> <li>◦ Counting people; (Module 4)</li> <li>◦ Understanding different data types (Module 7)</li> <li>◦ The importance of disaggregating data</li> </ul>
<b>Data synthesization - Module 5</b>	<b>Key messages</b>
<ul style="list-style-type: none"> <li>◦ Combining data from different operations, EAs, and other projects</li> <li>◦ Combining data from different branches</li> </ul>	<ul style="list-style-type: none"> <li>◦ The opportunities and challenges of synthesizing data</li> <li>◦ The importance of data quality</li> <li>◦ Data quality workflow; Generating a data quality checklist; Data quality opportunities and barriers. (Module 5)</li> </ul>
<b>Data for decision-making - Module 9</b>	<b>Key messages</b>
<ul style="list-style-type: none"> <li>◦ Providing data to decision-makers</li> <li>◦ The role of the data within the larger network</li> <li>◦ The role of the data within the National Society</li> </ul>	<ul style="list-style-type: none"> <li>◦ What are the ways that data contributes to decisions</li> <li>◦ The role of data within the organisations across multiple organisational levels</li> <li>◦ What is evidence (Module 9)</li> <li>◦ What data do we really need (Module 7)</li> <li>◦ Engaging communities; (module 9)</li> <li>◦ How do we keep learning from decisions; Different information needs. (Module 9)</li> </ul>

# National Society Transformation – Activity Plan for Workshops and Learning Sessions

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**What is the purpose of an Activity Plan,  
Workshop or Curriculum Plan?**

National Societies, Secretariat/Regional Offices and Sector focal points plan workshops and learning/sharing sessions. Learning as a team often requires a clear plan to coordinate content, learning goals and scheduling. This is a draft template to for people to guide pilots, workshops and regular learning sessions for their specific national society, secretariat/regional office, sector (eg. Health, cash etc).

## Summary

A National Society is on a digital transformation journey. A team from the international department and colleagues from other groups are initiating a plan to discover how the IFRC Data Playbook might support this overall journey with a special focus on key projects.

<b>Activity Goal (s)</b>	National Society (with input from the Norwegian Red Cross)
<b>Type of Activity</b>	Data literacy workshops
<b>Organizing Team</b>	
<b>Date(s) of activities</b>	To be determined

Please kindly fill out all sections left white below.

## About the Audience

Trainers and Team Leaders working with groups for discovery and learning. Teams working together so they can create processes, workflows, and identify gaps in knowledge. Trainers who are leading sessions with individuals learning together and from each other.

<b>Target Audience</b>	
<b>Main Audience</b>	Two key projects
<b>Secondary Audience</b>	National Society teams – domestic and international

# About the Content

## What are the main challenges about reaching the audience(s) and training content, if any?

- ⦿ Overall there is a gap in common understanding around data.
  - How can staff consume data?
  - How to build ownership and tackle scaling?
  - How to engage decisionmakers – tie to impact?
  - What is the change management to have data and digital strength
  - How to build link with ops to strategic financial data
- ⦿ How can we support delegates? There is an increased need to use and understand data for emergency operations. The Standard Operating Procedures could be a way to better connect data literacy goals.
- ⦿ There are projects occurring in partners national societies. Data Literacy could assist the journey to go deeper with product use and understanding

## How can we overcome these challenges? Write key points on the importance of the topic.

- ⦿ Explore what the project teams need to learn
- ⦿ Consult with Delegates and other National Societies

## Suggested Outcomes

## What is your plan for the sessions/series? Will it be remote or in person? Please list any additional resources (PDF, Videos, etc).

- ⦿ Remote learning

## Learning Objectives of the Activities

### For guidance on writing learning objectives based on Bloom's Taxonomy, click [here](#) or [here](#)

At the end of the activity, learners will:

1. Explore their data culture and needs
2. Improve and support existing projects
3. Consider how to collaborate to tell their impact with decision-makers

## Activity Planning

Include as many topics as necessary cooped with their respective key messages. Be sure to map this against your organisational goals and as well as obtaining feedback from participants. Select the content from the Data Playbook to serve the learning objectives and organisational needs/feedback. If you are creating new content, please do share back with the Data Playbook team.

Topic 1 Common language	Key messages
Data Culture and digital transformation are priorities	<ul style="list-style-type: none"> <li>How is data used across the organisation? What are the opportunities/barriers? Use – What is the State of Data (module 9)</li> <li>Explore the digital strategy with About IFRC Digital Transformation Strategy (Module 2)</li> </ul>
Topic 2 Impact via products/programs	Key messages
How can our project have best data practices	<ul style="list-style-type: none"> <li>What are the roles needed to support each step of the workflow? (Module 3)</li> <li>Data product storytelling (Module 3)</li> <li>Data and Technology checklist (Module 3)</li> </ul>
Topic 3 Reaching Decision-makers	Key messages
We want to reach our decision-makers.	<ul style="list-style-type: none"> <li>Making Decisions to Get the Data We Need (Decision Tree) (Module 4)</li> <li>How can we support data-informed decision-making? (Module 9)</li> <li>Negotiating with Decision-makers- Exercise (Module 9)</li> </ul>

# Digital Maturity Assessment Activity Plan Workshops and Learning Sessions

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**What is the purpose of an Activity Plan,  
Workshop, or Curriculum Plan?**

National Societies, Secretariat/Regional Offices, and Sector focal points plan workshops and learning/sharing sessions. Learning as a team often requires a clear plan to coordinate content, learning goals, and schedule. This is a draft template for people to guide pilots, workshops, and regular learning sessions for their specific national society, secretariat/regional office, sector (eg. Health, cash, etc).

<b>Activity Goal (s)</b>	Understand how to grow data culture for National Societies that have completed the Digital Maturity Quicksan and Digital Transformation Assessment.
<b>Type of Activity</b>	A 3-hour workshop introducing the concepts of data culture and strengthening data teams
<b>Organizing Team</b>	
<b>Date(s) of activities</b>	To be determined

Please kindly fill out all sections left white below.

## About the Audience

Trainers and Team Leaders working with groups for discovery and learning. Teams working together so they can create processes, workflows, and identify gaps in knowledge. Trainers who are leading sessions with individuals learning together and from each other.

<b>Target Audience</b>	
<b>Main Audience</b>	NS staff that have been involved in the Digital Transformation Assessment.
<b>Secondary Audience</b>	Senior management that wants to be directly involved in the knowledge development of their team.

## About the Content

<b>What are the main challenges about reaching the audience(s) and training content, if any?</b>
The audience might not understand what is the direct outcome of their participation in the workshop.

**How can we overcome these challenges? Write key points on the importance of the topic.**

Introducing what data culture is important to gain a cumulative knowledge and understanding about data within an organisation.

**Do you have any particular recommendations regarding the activity?**

**What is your plan for the sessions/series? Will it be remote or in person? Please list any additional resources (PDF, Videos, etc).**

Preferable in-person

### Learning Objectives of the Activities

For guidance on writing learning objectives based on Bloom's Taxonomy, click [here](#) or [here](#)

At the end of the activity, learners will:

- understand the need and effects of data
- have a common understanding of data projects occurring in their organisation
- identify their role in data projects

### Activity Planning

**Include as many topics as necessary cooped with their respective key messages. Be sure to map this against your organisational goals and as well as obtaining feedback from participants. Select the content from the Data Playbook to serve the learning objectives and organisational needs/feedback. If you are creating new content, please do share back with the Data Playbook team.**

Topic 1	Key messages
<ul style="list-style-type: none"> <li>◦ Why data matters</li> </ul>	<ul style="list-style-type: none"> <li>◦ Introducing the audience to why data matters at an organisational level and not only at an individual level</li> <li>◦ Why data matters (Module 1)</li> </ul>
Topic 2	Key messages
<ul style="list-style-type: none"> <li>◦ Data culture</li> </ul>	<ul style="list-style-type: none"> <li>◦ Sharing data goals and learning from data projects within the organisation</li> <li>◦ Show and Tell: Data stories (Module 2)</li> <li>◦ Building a data culture handout (Module 2)(additional material that can be used/shared with the group)</li> </ul>
Topic 3	Key messages

- Strengthening data teams
- Building a common language around data and
- Identifying the roles needed to support the data workflow in an organisation
- Data Skills Scoping (Module 2)
- Data Workflow and Roles (Module 3)

# Data Protection – Activity Plan for Workshops and Learning Sessions

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**What is the purpose of an Activity Plan,  
Workshop or Curriculum Plan?**

National Societies, Secretariat/Regional Offices and Sector focal points plan workshops and learning/sharing sessions. Learning as a team often requires a clear plan to coordinate content, learning goals and scheduling. This is a draft template to for people to guide pilots, workshops and regular learning sessions for their specific national society, secretariat/regional office, sector (eg. Health, cash etc).

<b>Activity Goal(s)</b>	Encourage Data Protection and Responsible Data use across the RCRC
<b>Type of Activity</b>	Series of short workshops to build advocacy and knowledge
<b>Organizing Team</b>	Data Protection focal points/Responsible Data advocates/practitioners
<b>Date(s) of activities</b>	To be determined

Please kindly fill out all sections left white below.

## About the Audience

Trainers and Team Leaders working with groups for discovery and learning. Teams working together so they can create processes, workflows, and identify gaps in knowledge. Trainers who are leading sessions with individuals learning together and from each other.

<b>Target Audience</b>	
<b>Main Audience</b>	National Society staff – project and program leads
<b>Secondary Audience</b>	Volunteers

# About the Content

## What are the main challenges about reaching the audience(s) and training content, if any?

- ⦿ People need clear examples to relate to the concepts
- ⦿ There is a need to make it applicable and implementable – How to apply to day to day
- ⦿ Be clear on What is it and Why it matters/What are the consequences
- ⦿ Unpack the principles across legal basis and interpret it

## How can we overcome these challenges? Write key points on the importance of the topic.

- ⦿ Tailor to different audiences
- ⦿ Users/project managers
- ⦿ Users/decision makers
- ⦿ Legal

## Do you have any particular recommendations regarding the activity?

- ⦿ Make it 4 workshops 1 hour over time
- ⦿ Keep scope small – easy to grasp and follow

## What is your plan for the sessions/series? Will it be remote or in person? Please list any additional resources (PDF, Videos, etc).

- ⦿ Remote

## Learning Objectives of the Activities

*For guidance on writing learning objectives based on Bloom's Taxonomy, click [here](#) or [here](#)*

At the end of the activity, learners will understand:

1. Why data protection matters – how to be responsible with data – assume not heard about it
2. how to apply to day to day/implement it – with local concrete examples/scenario and consequences
3. The sense of principles, ownership, interpret, where to start as an NS or staff member
4. How to build organisational/individual mental muscle and ask for help /confidence/trust/security

## Activity Planning

**Include as many topics as necessary coupled with their respective key messages. Be sure to map this against your organisational goals and as well as obtaining feedback from participants. Select the content from the Data Playbook to serve the learning objectives and organisational needs/feedback. If you are creating new content, please do share back with the Data Playbook team.**

Topic 1 Key Concepts	Key messages
<p>Provide overview of key concepts to build common understanding. Consult with teams on what questions they may have.</p>	<ul style="list-style-type: none"> <li>◦ What is Data Protection (module 7)</li> <li>◦ Data Hygiene checklist (module 7)</li> <li>◦ Introduce the IFRC and/or your National Society Data Protection policy</li> <li>◦ What is the legal basis? and provide some ethical guidelines? (module 7)</li> <li>◦ How can we talk about consent? <a href="#">Practical Guidance</a></li> </ul>
Topic 2 Data Collection and Data Sharing	Key messages
<p>Consider the processes around data collection and coordination</p>	<ul style="list-style-type: none"> <li>◦ Data Protection nightmares (Module 7)</li> <li>◦ Know what is the data we really need (Module 7)</li> <li>◦ Understanding and Identifying different types of data (module 7)</li> <li>◦ Know if we should share it (Module 7)</li> <li>◦ Review Data Sharing Agreements (checklists) (Module 7)</li> </ul>
Topic 3 Making it part of your day to day work	Key messages
<p>Depending on your projects and team's needs, these are next step sessions to help people incorporate data protection and responsible data use into their work.</p>	<ul style="list-style-type: none"> <li>◦ Data Protection Impact Assessments (module 7)</li> <li>◦ Apply responsible data use throughout your project (Module 3)</li> <li>◦ Exercise: Debate club (module 7)</li> <li>◦ Data Simulation (Module 5/7)</li> <li>◦ Data and Technology checklist (Module 7)</li> </ul>

# Health draft- Activity Plan for Workshops and Learning Sessions

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**What is the purpose of an Activity Plan, Workshop or Curriculum Plan?**

National Societies, Secretariat/Regional Offices and Sector focal points plan workshops and learning/sharing sessions. Learning as a team often requires a clear plan to coordinate content, learning goals and scheduling. This is a draft template to for people to guide pilots, workshops and regular learning sessions for their specific national society, secretariat/regional office, sector (eg. Health, cash etc).

<b>Activity Goal (s)</b>	Discussing survey designs and how formulating proper forms aids in efficiency getting the data we need.
<b>Type of Activity</b>	As part of a data collection training for the health team at a national society, the facilitator kick off the training with a 2 hour workshop covering survey design.
<b>Organizing Team</b>	
<b>Date(s) of activities</b>	To be determined

Please kindly fill out all sections left white below.

## About the Audience

Trainers and Team Leaders working with groups for discovery and learning. Teams working together so they can create processes, workflows, and identify gaps in knowledge. Trainers who are leading sessions with individuals learning together and from each other.

<b>Target Audience</b>	
<b>Main Audience</b>	Health team that will be collecting data in the field
<b>Secondary Audience</b>	Volunteers supporting data collection processes

# About the Content

## What are the main challenges about reaching the audience(s) and training content, if any?

Preparing small workshops and practical sessions with the health team that will be applying these skills in health emergencies.

## How can we overcome these challenges? Write key points on the importance of the topic.

Small workshops that act as a refresher for the team before entering the field for data collection.

## Do you have any particular recommendations regarding the activity?

## What is your plan for the sessions/series? Will it be remote or in person? Please list any additional resources (PDF, Videos, etc).

Preferable in person

## Learning Objectives of the Activities

For guidance on writing learning objectives based on Bloom's Taxonomy, click [here](#) or [here](#)

At the end of the activity, learners will:

1. understand the decisions on what data needs to be collected
2. understand the effects of good and bad surveys
3. consider data protection when setting mobile data collection

## Activity Planning

Include as many topics as necessary cooped with their respective key messages. Be sure to map this against your organisational goals and as well as obtaining feedback from participants. Select the content from the Data Playbook to serve the learning objectives and organisational needs/feedback. If you are creating new content, please do share back with the Data Playbook team.

Topic 1	Key messages
What data do we need?	<ul style="list-style-type: none"> <li>◦ Making Decisions to Get the Data We Need (Module 4)</li> <li>◦ Making decisions to get the data we need (Module 9) Clear understanding of what questions and decisions need to be made food the data that needs to be collected</li> </ul>
Topic 2	Key messages

<p>Building a survey</p>	<ul style="list-style-type: none"> <li>◦ Designing a bad survey (module 4) to understand where things go wrong</li> <li>◦ Best practices for designing a survey (Module 4)</li> <li>◦ Survey basics slidedeck (Module 4) Understand survey design coordination for different outcomes and scenarios</li> <li>◦ Household survey scenario (Module 4)</li> </ul>
<p><b>Topic 3</b></p>	<p><b>Key messages</b></p>
<p>Data protection in mobile data collection</p>	<ul style="list-style-type: none"> <li>◦ Understand how data protection and responsibility will affect the data and information workflows</li> <li>◦ Mobile data collection and data protection handout (Module 7)</li> </ul>

# Activity Plan for Workshops and Learning Sessions

---

**What is the purpose of an Activity Plan, Workshop or Curriculum Plan?**

National Societies, Secretariat/Regional Offices and Sector focal points plan workshops and learning/sharing sessions. Learning as a team often requires a clear plan to coordinate content, learning goals and scheduling. This is a draft template to for people to guide pilots, workshops and regular learning sessions for their specific national society, secretariat/regional office, sector (eg. Health, cash etc).

<b>Activity Goal (s)</b>	E.g. Is this a series of short workshops in a regional office or a dedicated workshop for a sector (e.g. cash ERUs)
<b>Type of Activity</b>	
<b>Organizing Team</b>	
<b>Date(s) of activities</b>	

Please kindly fill out all sections left white below.

## About the Audience

Trainers and Team Leaders working with groups for discovery and learning. Teams working together so they can create processes, workflows, and identify gaps in knowledge. Trainers who are leading sessions with individuals learning together and from each other.

<b>Target Audience</b>	
<b>Main Audience</b>	
<b>Secondary Audience</b>	

## About the Content

<b>What are the main challenges about reaching the audience(s) and training content, if any?</b>
<b>How can we overcome these challenges? Write key points on the importance of the topic.</b>

Do you have any particular recommendations regarding the activity?

What is your plan for the sessions/series? Will it be remote or in person? Please list any additional resources (PDF, Videos, etc).

### Learning Objectives of the Activities

For guidance on writing learning objectives based on Bloom's Taxonomy, click [here](#) or [here](#)

At the end of the activity, learners will:

- 1.
- 2.
- 3.

### Activity Planning

Include as many topics as necessary cooped with their respective key messages. Be sure to map this against your organisational goals and as well as obtaining feedback from participants. Select the content from the Data Playbook to serve the learning objectives and organisational needs/feedback. If you are creating new content, please do share back with the Data Playbook team.

Topic 1

Key messages

Topic 2

Key messages

Topic 3

Key messages

# II Data Playbook Credits and Thanks

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Thank you to all the editors, contributors, supporters, partners, and National Societies.

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# III License





# IFRC Data Playbook License

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# **IV Designer's Note**



# Designer's Note

---

**Thank you for using the Data Playbook! Co-creating content with a design workflow and a large number of contributors is a new type of innovation for the Red Cross Red Crescent Movement. How can we make content useful, usable, and designed in a way that helps the content shine? Designing a complex, collaborative product from a beta to a version 1 was the task we took. There were many lessons, but let's share more about the design process.**

## Scope

This was a large design effort to create a Playbook in a collaborative, editable, and professional book format. Some data to help users understand the scope of the content:

- ▶ 10 modules
- ▶ 102 media (images, infographics, icons...)
- ▶ 120 exercises, games, scenarios, check lists, handouts
- ▶ 217 Cross-References
- ▶ 270 unique contributors (including writing style and content format)
- ▶ 289 hyperlinks
- ▶ 704 pages
- ▶ 473,922 characters
- ▶ 76,797 words
- ▶ 9,162 paragraphs

## How can users use and enhance the design content

We will be sharing the design files so that people can edit and use these design elements to promote their Data Playbook use. We encourage you to use the same look and feel when you edit the content to serve your Data Playbook activity. See the IFRC Prepare Centre.

## A quick note to share how the Data Playbook was designed

- ▶ **Hardware:** Apple Mac Mini, keyboard, mouse and external display, chair and table
- ▶ **Software:** Adobe Creative Cloud ecosystem (InDesign, InCopy, Illustrator, Acrobat Pro, Recosoft Plugin, DocsFlow plugin, PDF\_individuals.jsx export script)
- ▶ **Sourcing:** GoogleDocs ecosystem (Google Sheets, Google Docs, Google Slides)
- ▶ **Fonts:** Acumin Pro, Diglû (Icons), Chartwell (infographics)
- ▶ **Icons:** Creation, Diglû and the Noun Project

Thank you and happy playing,

Yann le Floc'h



