Information Management in Emergencies at the IFRC
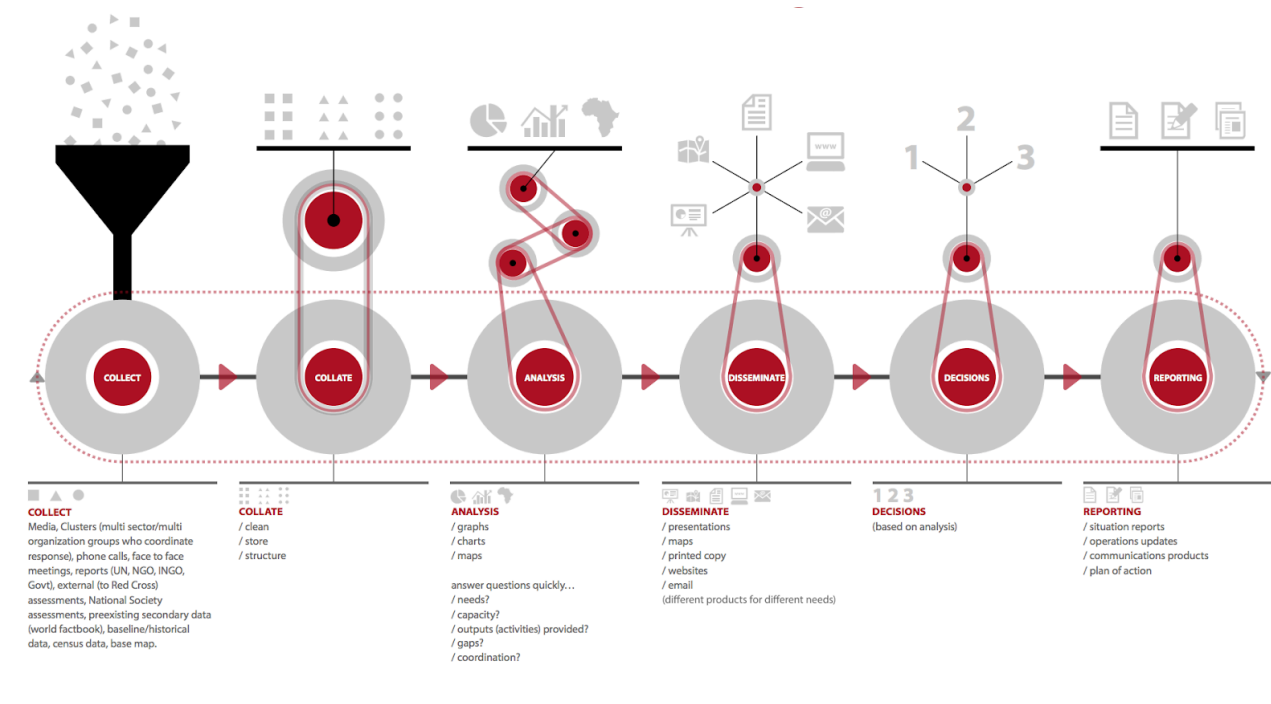
Guido Pizzini, Senior Information Management and Data Analyst, IFRC)

WHAT IS INFORMATION MANAGEMENT?

Information management (IM) is the process that enables the capturing, manipulation, collation, analysis and dissemination of data pertaining specifically to operations and to populations of concern, including geographical, demographic and statistical information to be able to support an evidence-based decision-making and reporting process.

This involves thematic and sector-specific data analysis and information on needs and vulnerability as well as geo-referenced data.

INFORMATION MANAGEMENT WORKFLOW

COLLECT
Media, Clusters (multi sector/multi organization groups who coordinate response), phone calls, face to face meetings, reports (UN, NGO, INGO, Govt), external (to Red Cross) assessments, National Society assessments, preexisting secondary data (world factbook), baseline/historical data, census data, base map.

COLLATE
/ clean
/ store
/ structure

ANALYSIS
/ graphs
/ charts
/ maps

answer questions quickly…
/ needs?
/ capacity?
/ outputs (activities) provided?
/ gaps?
/ coordination?

DISSEMINATE
/ presentations
/ maps
/ printed copy
/ websites
/ email
(different products for different needs)

DECISIONS
(based on analysis)

REPORTING
/ situation reports
/ operations updates
/ communications products
/ plan of action

GO SUPPORTING EMERGENCY OPERATIONS

"The IFRC GO Platform will make all disaster information universally accessible and useful to IFRC responders for better decision making."

Information and Data Services

Provide a platform to easily access existing data sets and insights.

National Society Engagement

Engage National Societies to prepare for disasters by supporting data readiness activities including collection, collation, analysis and visualisation.
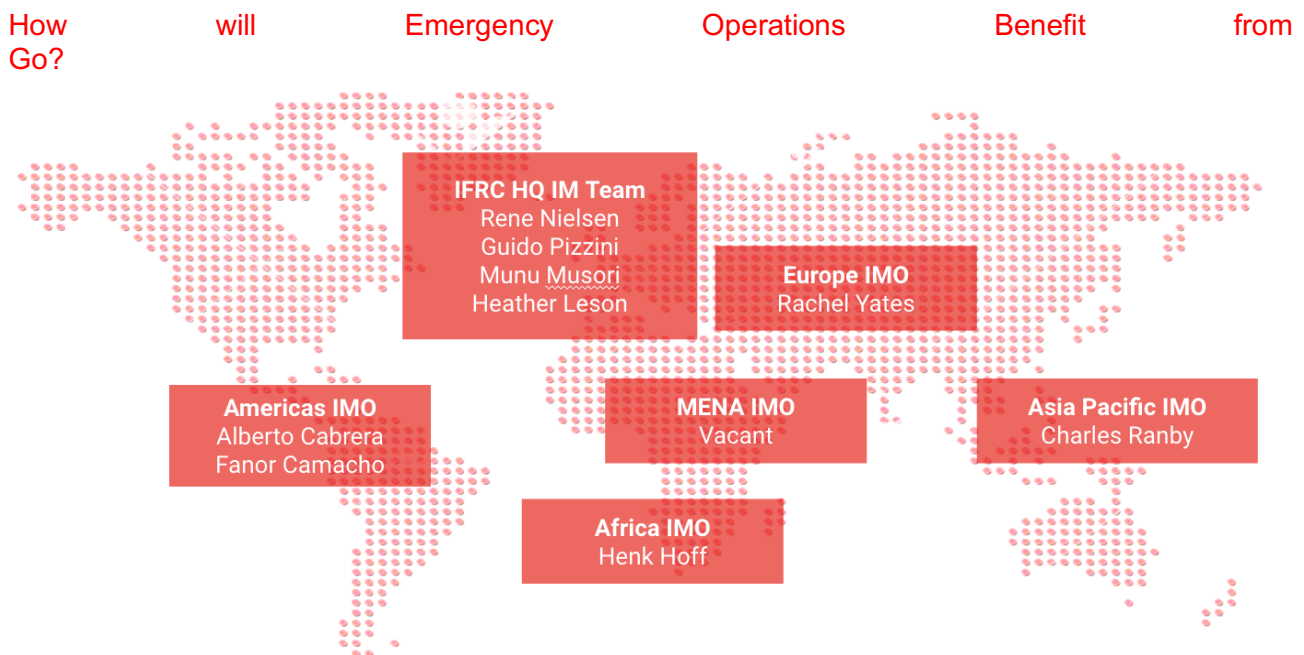
Improve Data Literacy

Increase capability for the movement to create, manage and use data to support operations.

Data Visualisation and Analysis

Help the movement use data by providing tools to analyse and visualise data.

Information Management Capacity within the IFRC

How will Emergency Operations Benefit from Go?

IFRC HQ IM Team
Rene Nielsen
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Heather Leson

Europe IMO
Rachel Yates

Americas IMO
Alberto Cabrera
Fanor Camacho

MENA IMO
Vacant

Asia Pacific IMO
Charles Ranby

Africa IMO
Henk Hoff

- Faster decision-making through effective information management
- Better and faster analysis through visualization & interaction with data
- Reorient IFRC data from reporting to analytics and research
- Improve engagement with Movement and external stakeholders during emergency response

BOUNDARIES OF INFORMATION MANAGEMENT

> *The term 'information management' covers 'the various stages of information processing from production to storage and retrieval to dissemination towards the better working of an organization.'* Association for Information Management 2005

The humanitarian information management sector is fast growing and evolving. The Haiti earthquake is viewed as a turning point with unprecedented raw data being available and new technologies and techniques being used. Both within the IFRC and in the larger community the role of information management is being recognised as critical for effective humanitarian response.

Traditionally the IFRC has conflated the role of reporting and information management. While the two are inherently interlinked with the former being dependent on the latter, they both play their own distinct roles. Humanitarian Information management is the process of collecting, organising, analysing, visualising and disseminating data and information.

What should an Information Management Officer be doing at the IFRC?

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Math & Statistics

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

Data management

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

Programming

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

Communication & vizualisation

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

Information management

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

Humanitarian business

- Cluster coordination
- Assessments
- Logistics
- Roster management
- Disaster Risk Reduction
- Response preparedness
- Disaster relief
- Recovery
- Operational planning

Soft skills

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

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 & Human resources
- Administration
- Public speaking
- Problem resolution
- Finance and accounting skills
- Delegating tasks
- Motivating team

INFORMATION MANAGEMENT AS A SUPPORT SERVICE

Information Management at the IFRC is considered an essential support service for emergency operations in order to better respond, understand, analyze and share information and knowledge for a specific emergency response.

Before a Crisis

Through the analysis of risks, vulnerabilities and secondary data analysis. Information Management plays an invaluable role in ensuring data and information preparedness before a specific event. This is a primary role for Go, by ensuring coordination and collaboration with different teams in the IFRC Secretariat and the IFRC Regions.
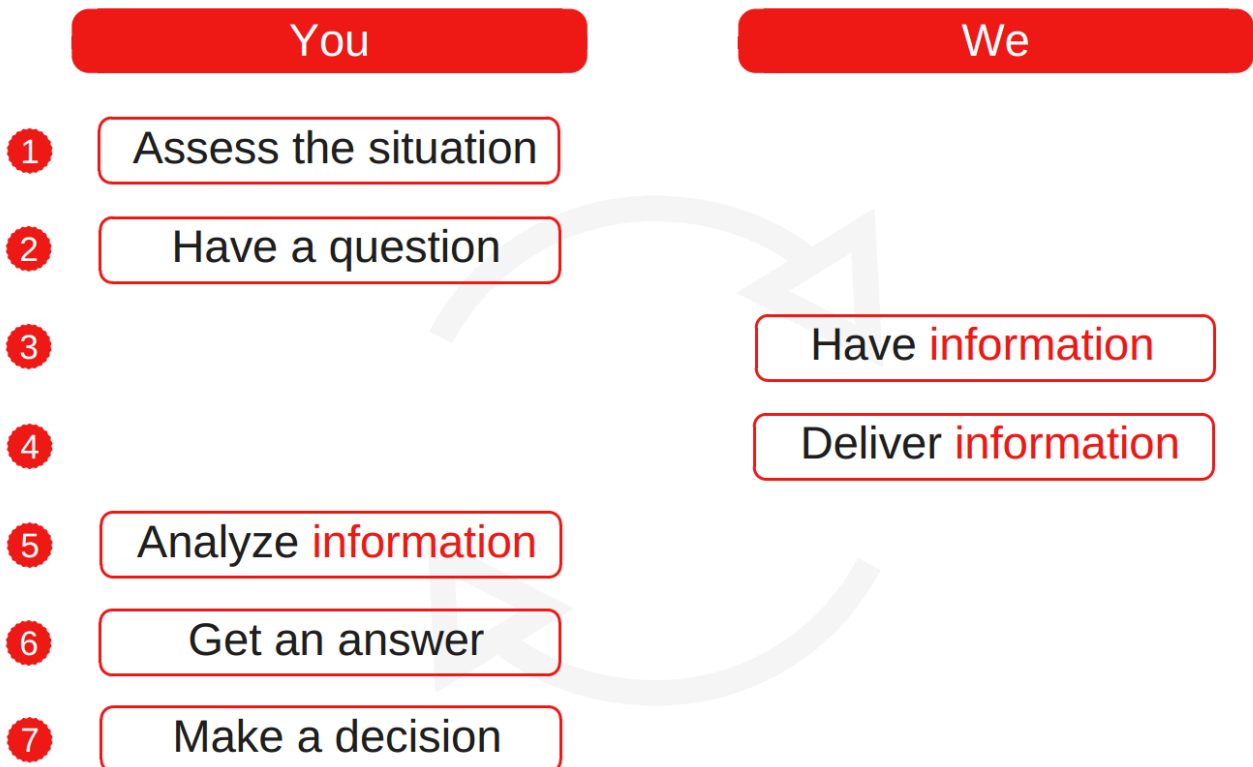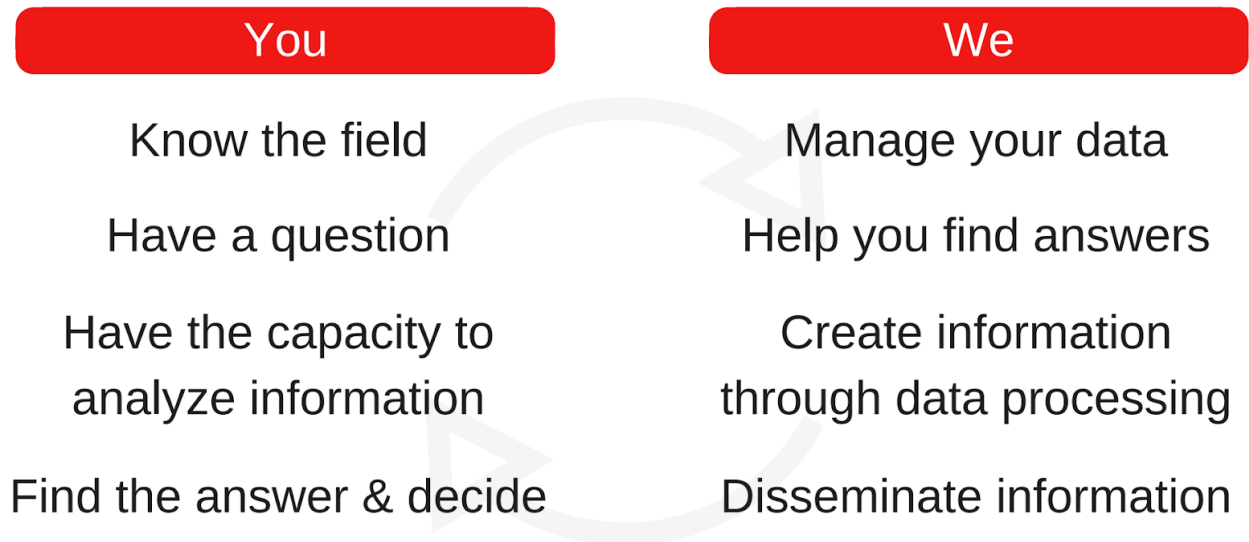
During a Crisis

By supporting primary data collection exercises and supporting the analysis of needs assessments to better understand the operational context, the available information as well as the gaps. Information Management during a crisis is "the place to go" for understanding the situation during an event, including the response status, the funding level, the rendering of data and information through visuals, dashboards and maps.
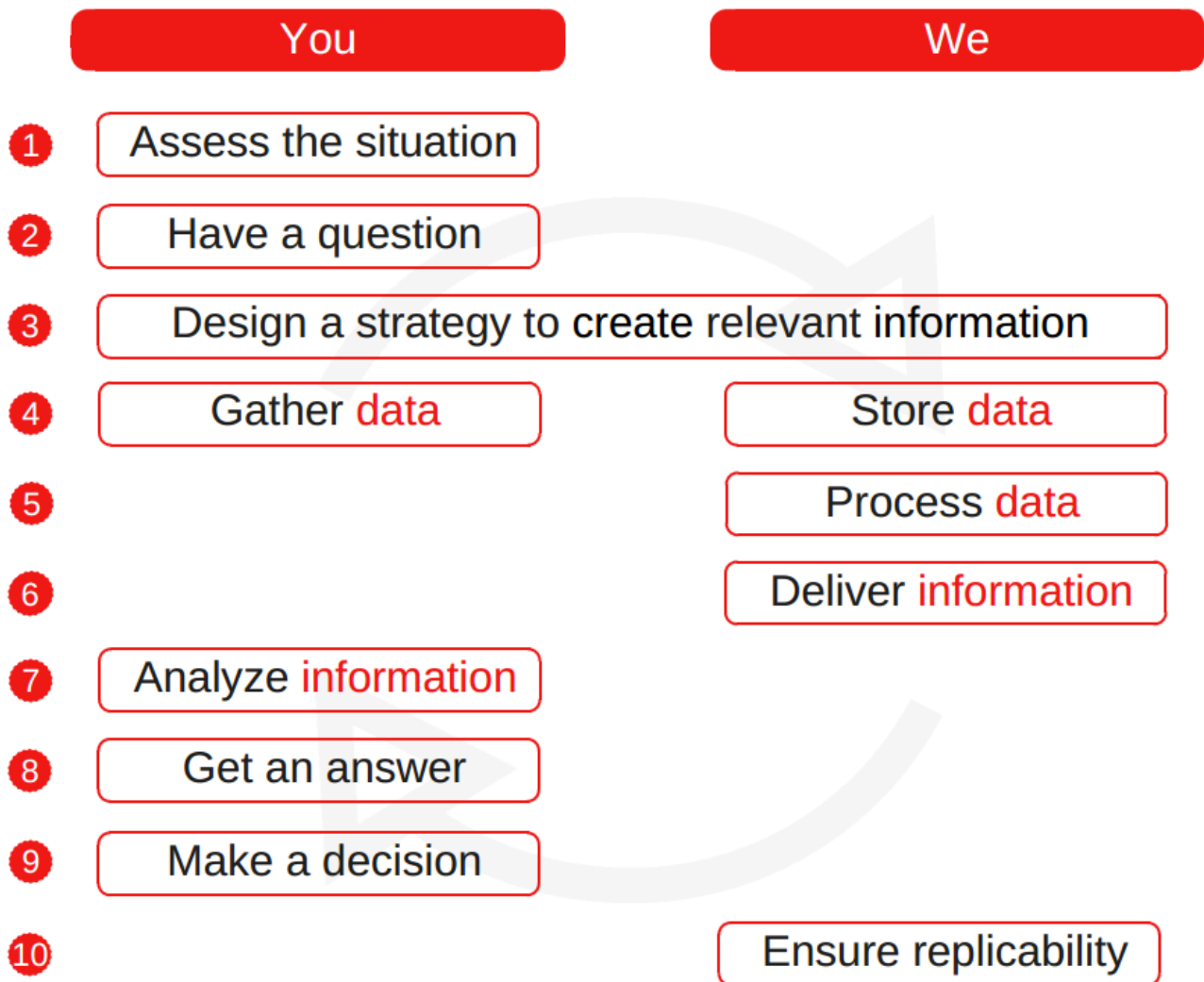
During a crisis, IFRC emergency operations will benefit from SIMS Remote Support, SIMS deployments as well as Go supporting the Joint Task Force meetings and ensuring that gaps are covered between Geneva, the Regions of IFRC, and the National Societies - including coordination.

After a Crisis

Information Management is always active, even when a crisis is not happening or about to happen. Information Management at the IFRC - through Go - will ensure an appropriate and smooth transition and phasing out of the SIMS activation and will continue to streamline data literacy across the IFRC through remote support to the IFRC Regions. Capacity building, advocacy and IM technical advisory role is a primary role of Go during "peacetime" as well as IM Inter Agency coordination, including the reinforcement of the "Go Network".

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How does Information Management position itself in the IFRC as a support service?

You	We
Know the field	Manage your data
Have a question	Help you find answers
Have the capacity to analyze information	Create information through data processing
Find the answer & decide	Disseminate information

You	We

1. Assess the situation
2. Have a question
3.
4.
5. Analyze information
6. Get an answer
7. Make a decision

Have information

Deliver information

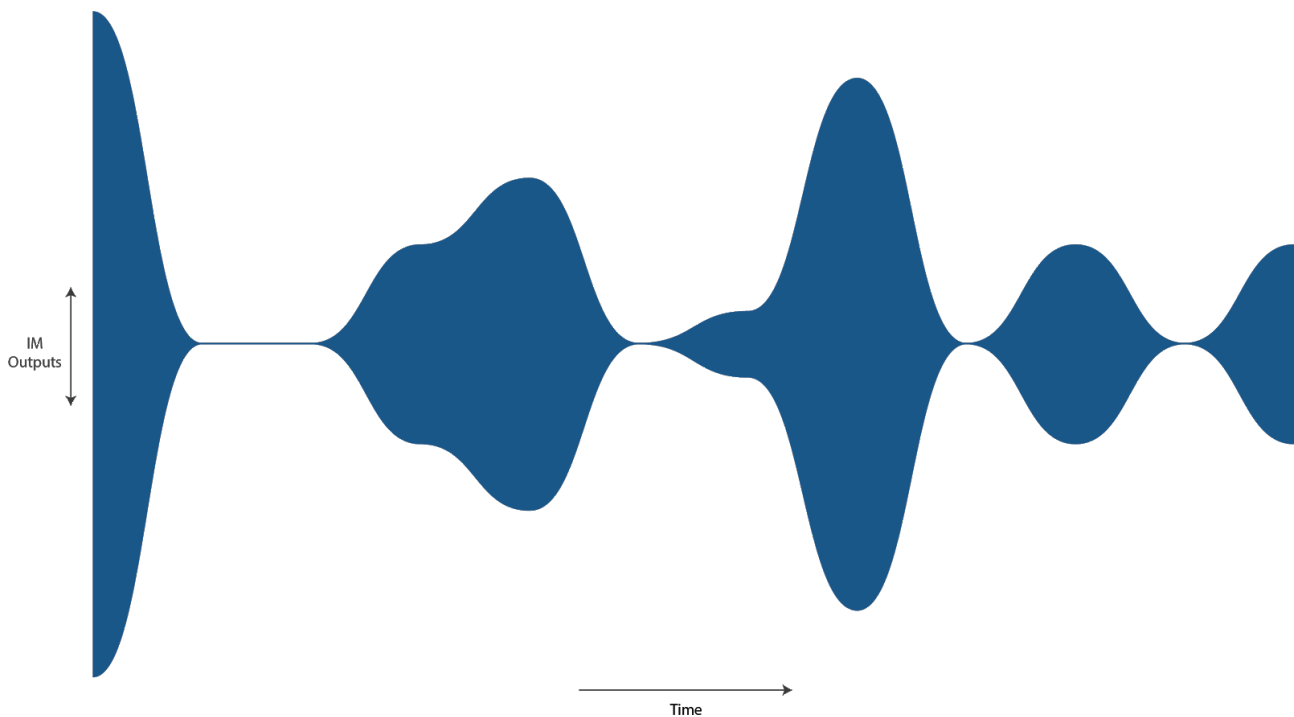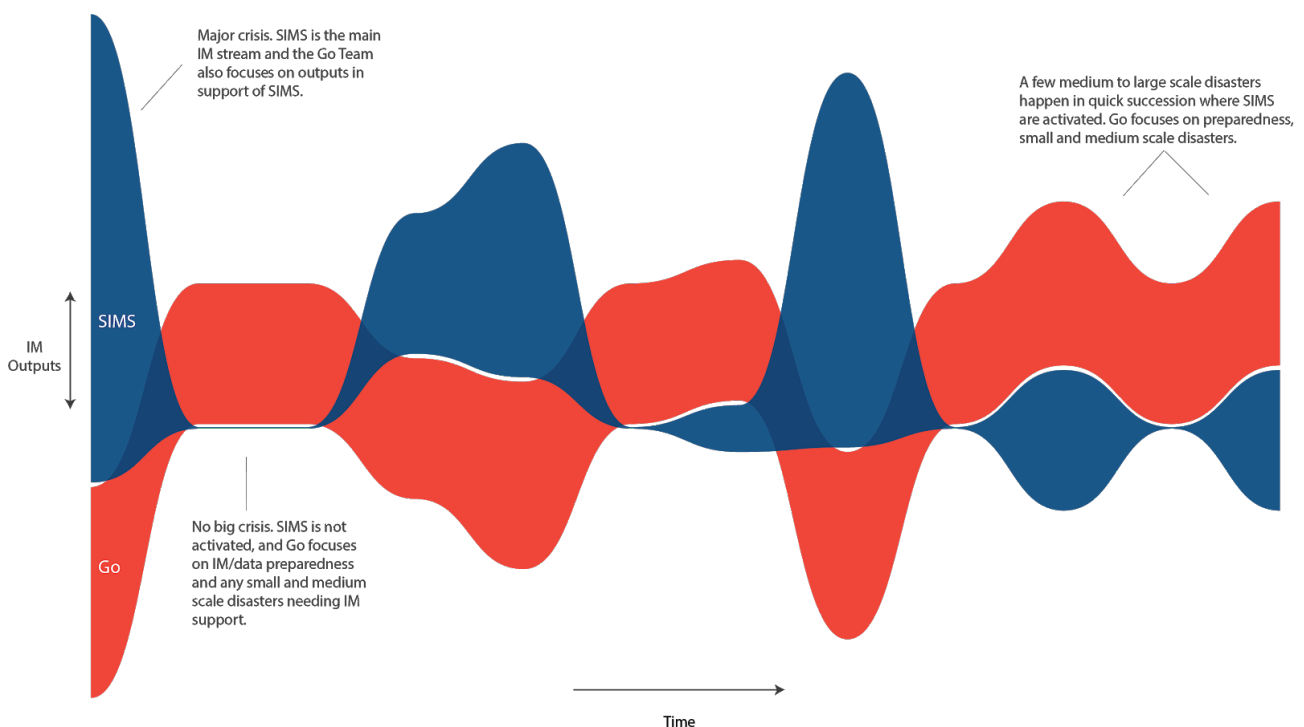| You	We
1 Assess the situation	
2 Have a question	
3 Design a strategy to create relevant information	
4 Gather data	Store data
5	Process data
6	Deliver information
7 Analyze information	
8 Get an answer	
9 Make a decision	
10	Ensure replicability

SURGE INFORMATION MANAGEMENT SUPPORT (SIMS)

The Surge Information Management Support (SIMS) project is a network of trained specialists who develop, coordinate and implement information management systems for global Red Cross and Red Crescent disaster response operations.

SIMS specialists—who include staff and volunteers from Red Cross national societies and the IFRC — help operations leverage the power of mapping, data management and visualization tools to support decision making and enhance reporting.

When a disaster occurs, SIMS is activated through the IFRC Disaster Crisis Management Surge Desk to provide either remote or field-based support to operations, according to disaster scale, complexity and impact of the event. In addition to direct operational support, SIMS also serves as a network for information management coordination and capacity building, helping improve information management standards, tools, and expertise across response operations.

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Time

The SIMS Network is only active during formal activations, while Go is a day-to-day resource for the IFRC, and is also centered around support for small and medium-scale emergencies. Below is an illustration of this concept. Between big disasters, Go is the most active Information Management work stream while SIMS will often take over during disasters.

Major crisis. SIMS is the main IM stream and the Go Team also focuses on outputs in support of SIMS.

A few medium to large scale disasters happen in quick succession where SIMS are activated. Go focuses on preparedness, small and medium scale disasters.

SIMS

IM Outputs

No big crisis. SIMS is not activated, and Go focuses on IM/data preparedness and any small and medium scale disasters needing IM support.

Go

Time

DISASTER & CRISIS 2017 IM PRIORITIES

In efforts to support evidence-based decision-making and data-driven programming, and with the Go platform as a centrepiece of the IM function of the IFRC, the 2017 priorities are:

- Establishment of the Go platform as the go-to for IFRC emergency operations data for decision-making.
- Development of software platform, web interfaces, apps and other tools to connect to the data.

- Establishment of an IM Officer network throughout IFRC and the National Societies.
- Technology and processes for EOC activation across the IFRC.
- Increased data literacy through trainings, workshops, advocacy efforts, and through IM surge deployments.

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