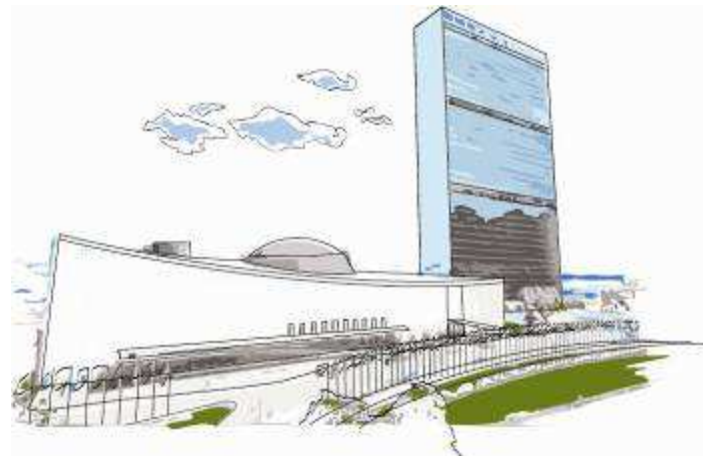# Geospatial Information and Services for Disasters

20th UNRCC-AP

7 October 2015

Kyoung-Soo Eom

Chief, Geospatial Information Section
Department of Field Support
United Nations

UN Geospatial Information Section

UNGIS provides geospatial information service support to the full range of United Nations operations

Principal duties include:

1. Provide accurate and timely geospatial information in support of the decision-making and operational needs of
   - . **UN Security Council**
   - . **UN Secretariat**
   - . **UN Peace Operations (DPKO, DPA, DFS)**
   - . **UN Operations & Crisis Centre (UNOCC)**
2. Programme management for **global UN field mission GIS operations**
3. Provide technical assistance on **International Boundary issues**
4. **Co-Secretariat (with SD/DESA) of UN Committee of Experts on Global Geospatial Information Management (UN-GGIM)**

Evidence-based Decision Making

… Communicating Complex Information.
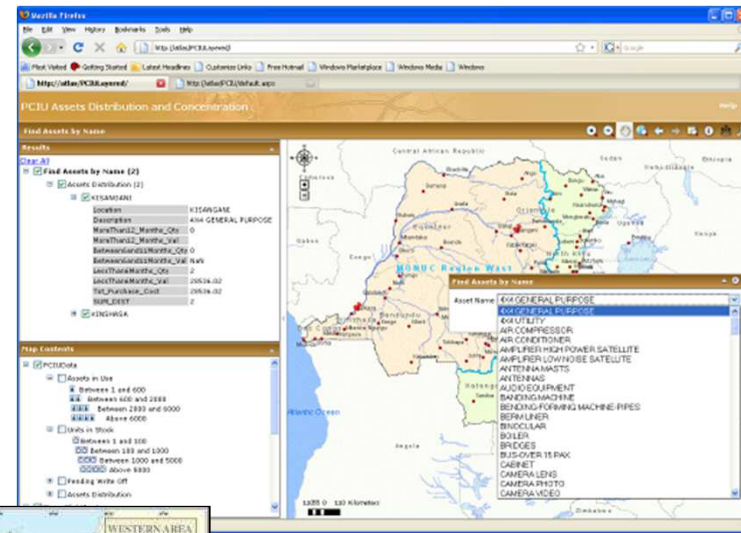
Mobile applications

Evidence-based Decision Making

Analyzing Relationships,
Patterns, Processes ...

. . . Helping
Understand Complex Situations
and Make Decisions
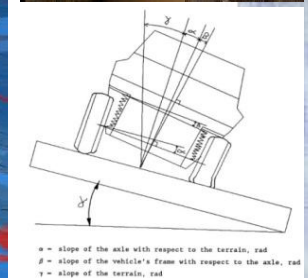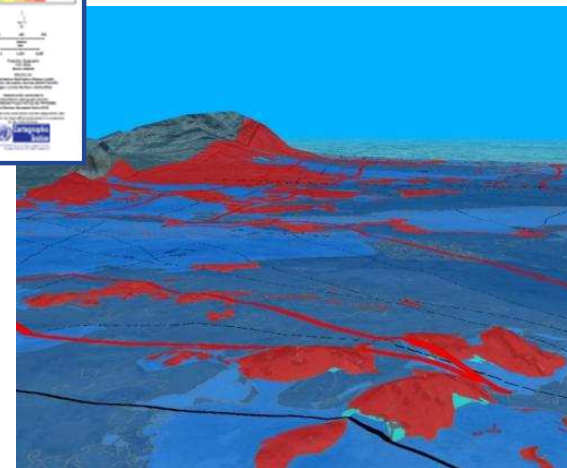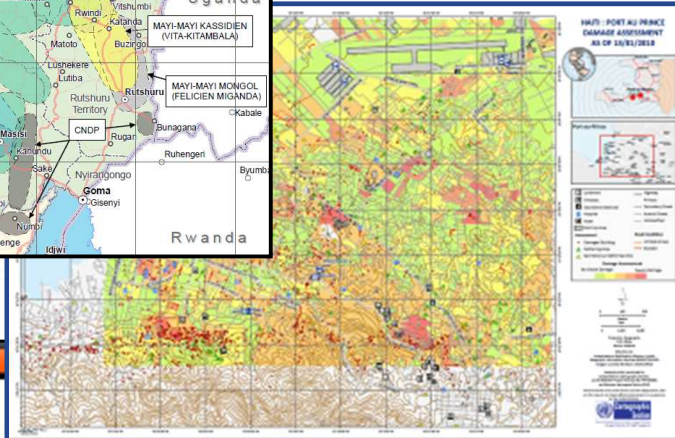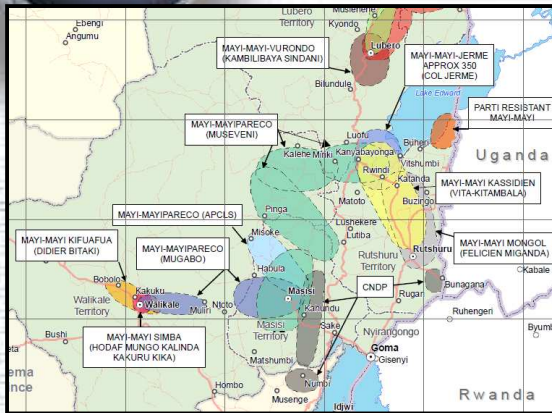
Trafficability and Mobility analysis

UN Security Council

- **Provide Geo-information during the daily Council's consultations**

- **Provide Geo-information & analysis to the Council's Panels of Experts**
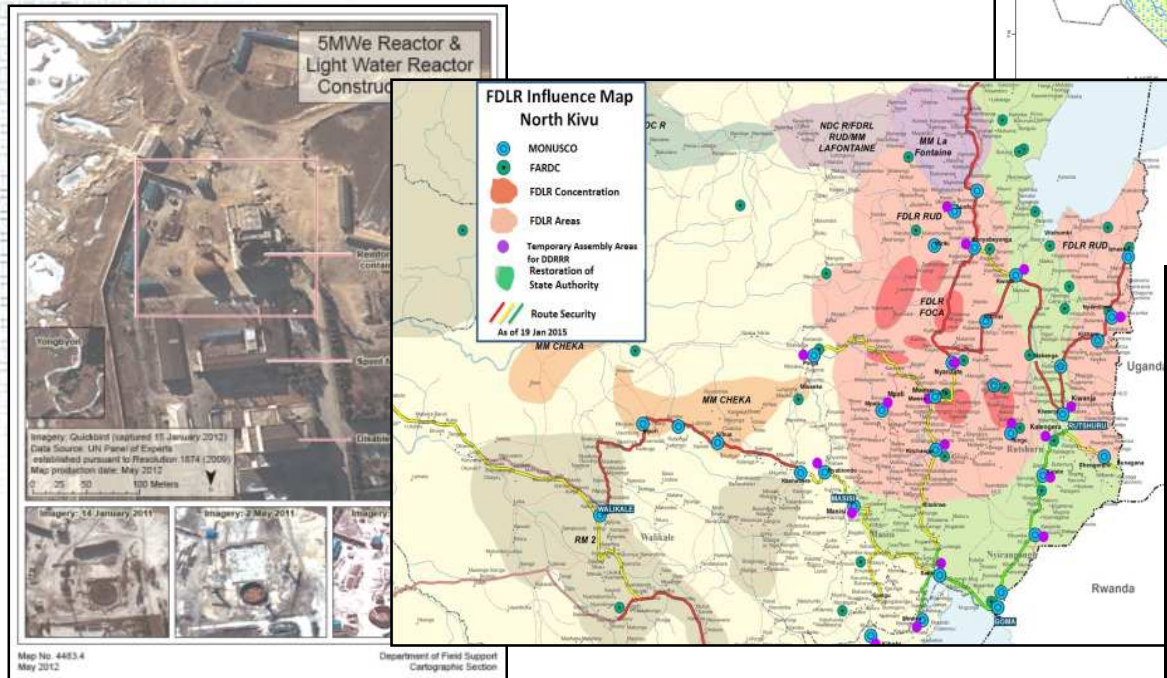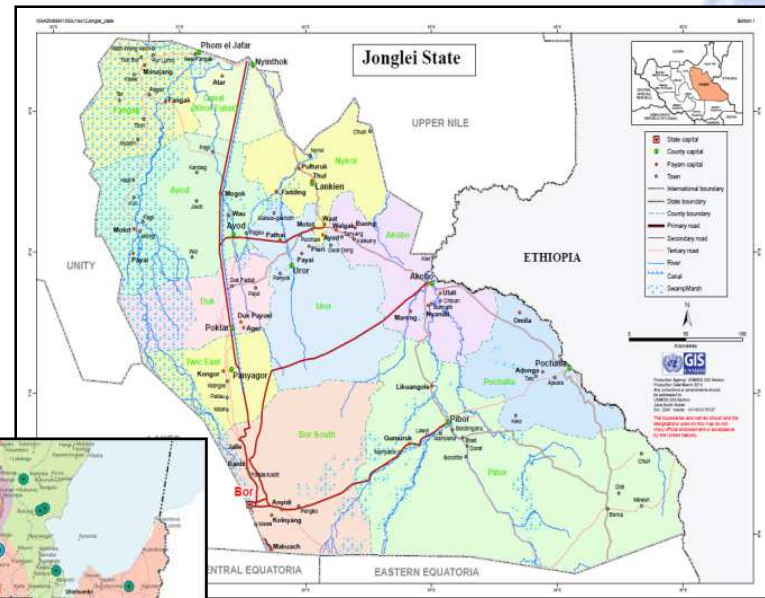
UN Peace Operations
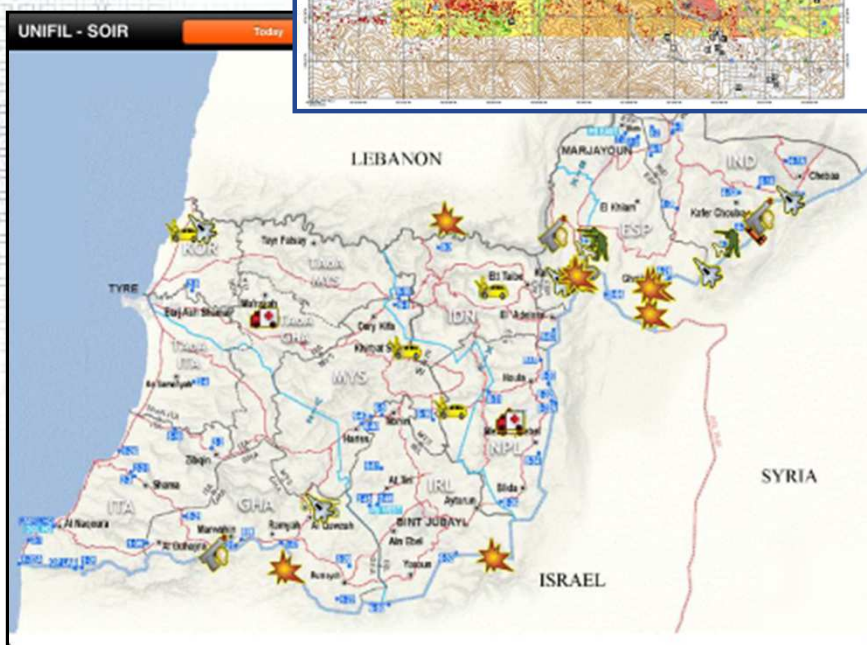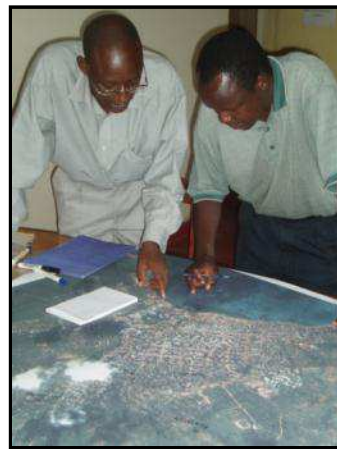
Geospatial Information and Services for Disasters

- **Fact finding analysis**
- **Proposed strategic framework & flowcharts**
- **5th session of UN-GGIM decision**
- **Update on Progress**
- **Desired Future Plan**

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Global Geospatial Information Management

ggim.un.org

What would you expect in Disaster?

- All the **geospatial information** necessary to support decision making for Disaster management are **available** from authoritative sources.

- All the stakeholders involved are using the same information to ensure a **common operational picture** of the situation during the response as well as the recovery and reconstruction phases.

What is happening in the reality?

The **mechanisms** and **resources** are generally **not in place before a crisis happens**. As a result, the **many actors** simultaneously engaged in the response are:

- Generating an important volume of **concurrent** and frequently **overlapping** geospatial information initiatives;
- **Adding to the burden** of the local institutions which already have to deal with limited resources and this because of their **competing priorities**, combined with a **lack of coordination and collaboration**

Survey: People involved in disasters

Main challenges in using products:

45% Duplicated products make information overwhelming

38% Duplicated products with conflicting information

Main challenges in accessing geospatial information:

65% Lack of data collection standards

51% Data placed on many different platforms

47% Data access not timely

Main challenges in using geospatial information:

63% Conflicting or contradicting datasets

55% Metadata is not available

51% Data of poor quality

Main challenges in sharing products:

57% Numerous platforms to share these products

30% Sharing of products not allowed

Major bottlenecks

- Standards 11%
- Products 2%
- Collaboration, coordination and communication 12%
- Advocacy and resources 12%
- Infrastructure 10%
- Data 53%

Success factors

- and protocols 6%
- Products 13%
- Data 27%
- Collaboration, coordination and communication 15%
- Advocacy and resources 18%
- Infrastructure 21%

Proposed actions

- Standards 14%
- Products 0%
- Collaboration, coordination and communication 20%
- Advocacy and resources 17%
- Infrastructure 20%
- Data 29%
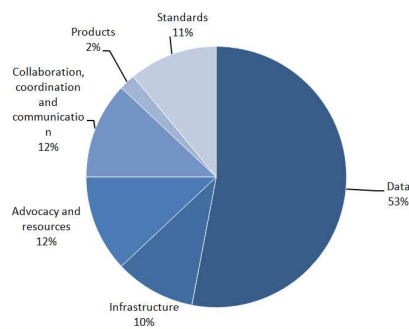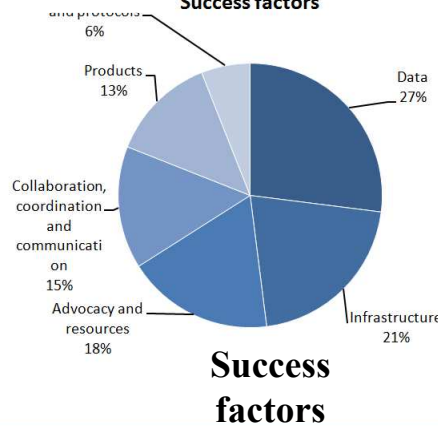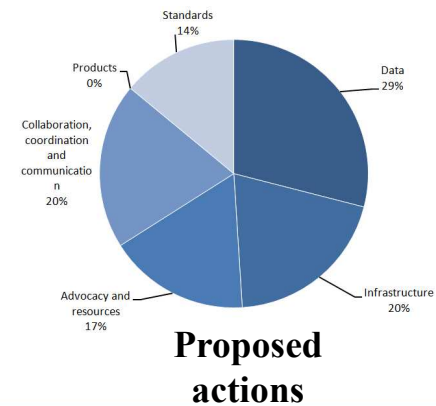
Survey: Government Agencies

23 of the 25 Governmental Agencies indicated **having custodianship** on at least one geospatial information layer

24 of these Governmental Agencies **have a GIS unit/team/data center** with a number of staff ranging from 1 to more than 12

A law, rules or regulations requesting for the Agency to provide geospatial information and/or service in support to the response to an emergency **exist in 10** of the 25 countries **but only 3** covers the international community.

44% of the Governmental Agencies **received some technical support** over the past 5 years but all of them indicated **needing more support** to be in position to deliver adequate geospatial information and geospatial information services

40% of the agencies think that the international community involved in the response **did not leverage enough** their existing geospatial information and/or technical capacities.

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Fact Finding Analysis

- **Existence of challenges** and **gaps** when it comes to:
  - **availability**, **quality** (completeness, timeliness, accuracy, authoritativeness, documentation) and **accessibility** of geospatial information;
  - **collaboration**, **coordination** and **communication**;

- **Existence** of **geospatial information** and technical **capacity** in countries but **need** to **strengthen** and better **leverage** them;

- **Limited** number of countries have **laws, rules** or **regulations** in place to facilitate the provision of data and services for cooperation with the international community in case of disaster.

Fact Finding Analysis

- Allowed identifying
  - **challenges** and **bottlenecks**, encountered by stakeholders and partners;
  - **major success factors** and **opportunities** to address them;
- These finding got crystallized into a **proposed strategic framework** which, if implemented, would allow for the necessary geospatial information and services to be **available** in a **coordinated way** to decision making and operations during disasters.

Improving Geospatial Information Policy, Processes and Services to support Emergency Responses

Fact Finding Analysis and Proposed Strategic Framework
Draft Report - Version 2.0

28 July 2015

Standards 11%
Products 2%
Collaboration, coordination and communication 12%
Advocacy and resources 12%
Data 53%

Main challenges in using geospatial information:

63% Conflicting or contradicting datasets

55% Metadata is not available

51% Data of poor quality

40% of the agencies think that the international community involved in the response **did not leverage enough** their existing geospatial information and/or technical capacities.
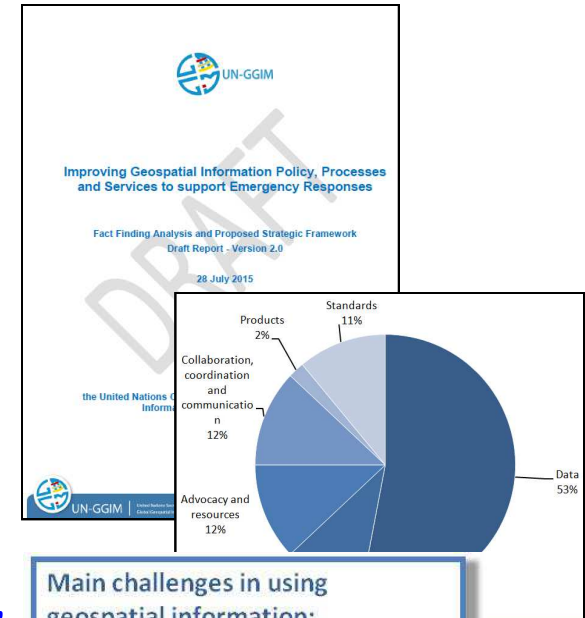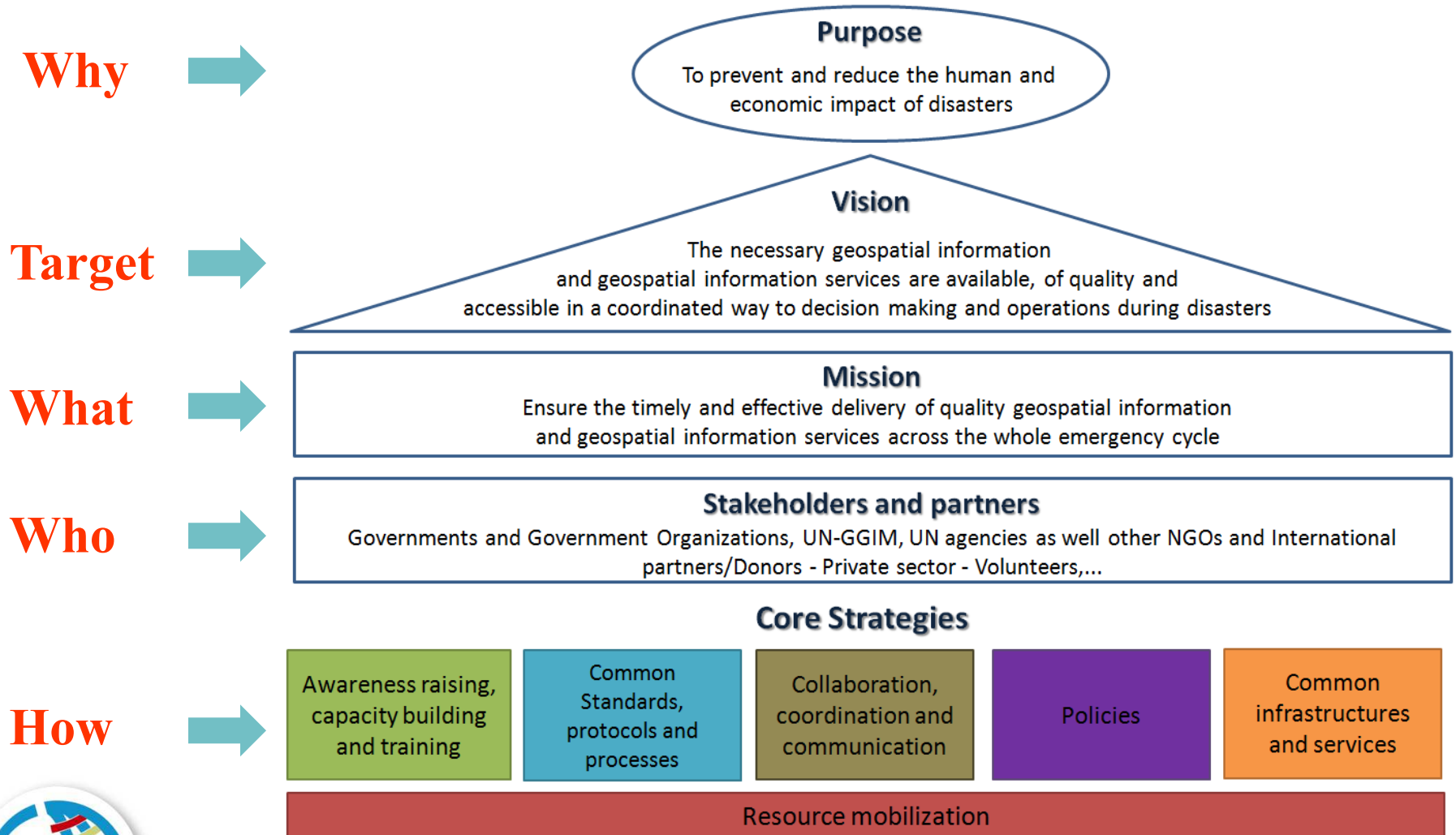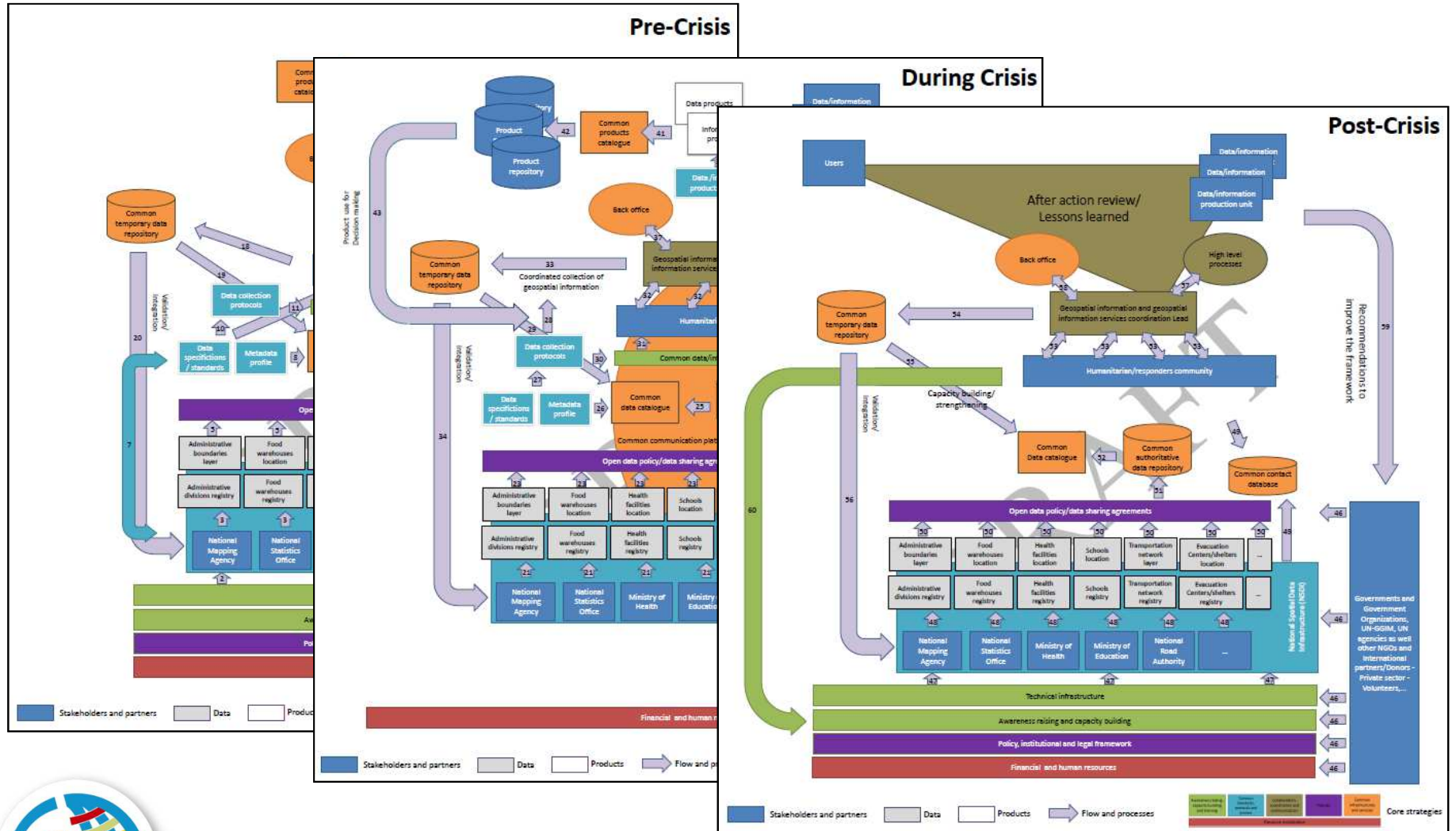
Proposed Strategic Framework

Why →

Purpose

To prevent and reduce the human and economic impact of disasters

Target →

Vision

The necessary geospatial information and geospatial information services are available, of quality and accessible in a coordinated way to decision making and operations during disasters

What →

Mission

Ensure the timely and effective delivery of quality geospatial information and geospatial information services across the whole emergency cycle

Who →

Stakeholders and partners

Governments and Government Organizations, UN-GGIM, UN agencies as well other NGOs and International partners/Donors - Private sector - Volunteers,...

Core Strategies

How →

| Awareness raising, capacity building and training | Common Standards, protocols and processes | Collaboration, coordination and communication | Policies | Common infrastructures and services |

Resource mobilization

Proposed Strategic Flowcharts

UN-GGIM Contribution

The **UN-GGIM**, **through its mandate**, is well placed to contribute to several of the core strategies included in the framework, and this starting with:

- **Raising the awareness of Member States** on the importance of data preparedness, National Spatial Data Infrastructure (NSDI) and open data policies;

- **Developing and promoting common standards, protocols and processes** aiming at improving data quality and data interoperability at the global level;

- **Developing and implementing policies** aiming at improving the availability, quality and accessibility of geospatial information and services.

5th Session of UN-GGIM: Side Event

- **55 participants;**
- **23 countries;**
- **4 presentations**

The discussions highlight the importance of:
- **Getting all the lead players** to agree on their respective roles and mandate regarding geospatial information and services during disasters;
- **Conducting drills** involving all the players prior to disasters;
- Looking at the **bigger picture** to ensure UN-GGIM does assist existing processes

5ᵗʰ Session of UN-GGIM: Decision

- Welcomed **the study** on **improving geospatial information policy, processes and services to support emergency response and disaster risk reduction;**
- Strongly **supported the proposal to establish a working group** to further develop and implement a strategic framework and gain the following guidance from the working group:

  - That it be focused in a **practical** manner;
  - **Aligned with** the outcome and follow-up to the **Sendai Framework** for disaster risk reduction and its implementation;
  - Take into consideration the special needs of **developing countries**, especially with respect to **capacity building** and **sharing knowledge**; and
  - Be **broadly representative** of different regions of the world and taking into account regional experiences;
  - Welcomed the many expressions of interest by the Member States and invited the working group to report back to the Committee at its next session in 2016

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What happens since then?

- Updated & circulated the **Fact finding and Framework Report**;

- Established **Working Group**:
  - 20 Members States,
  - 1 Non-Member States,
  - 5 UN agencies,
  - 1 International Organization,
  - 3 Professional Organizations,
  - 2 Private sector

- Circulated draft **Terms of Reference** (TOR);

- Nominated Co-chairs: **Philippines** and **Jamaica**

Draft Terms of Reference (TOR)

- **Vision**
  The necessary geospatial information and services are available, of quality and accessible in a coordinated way to decision making and operations during disasters
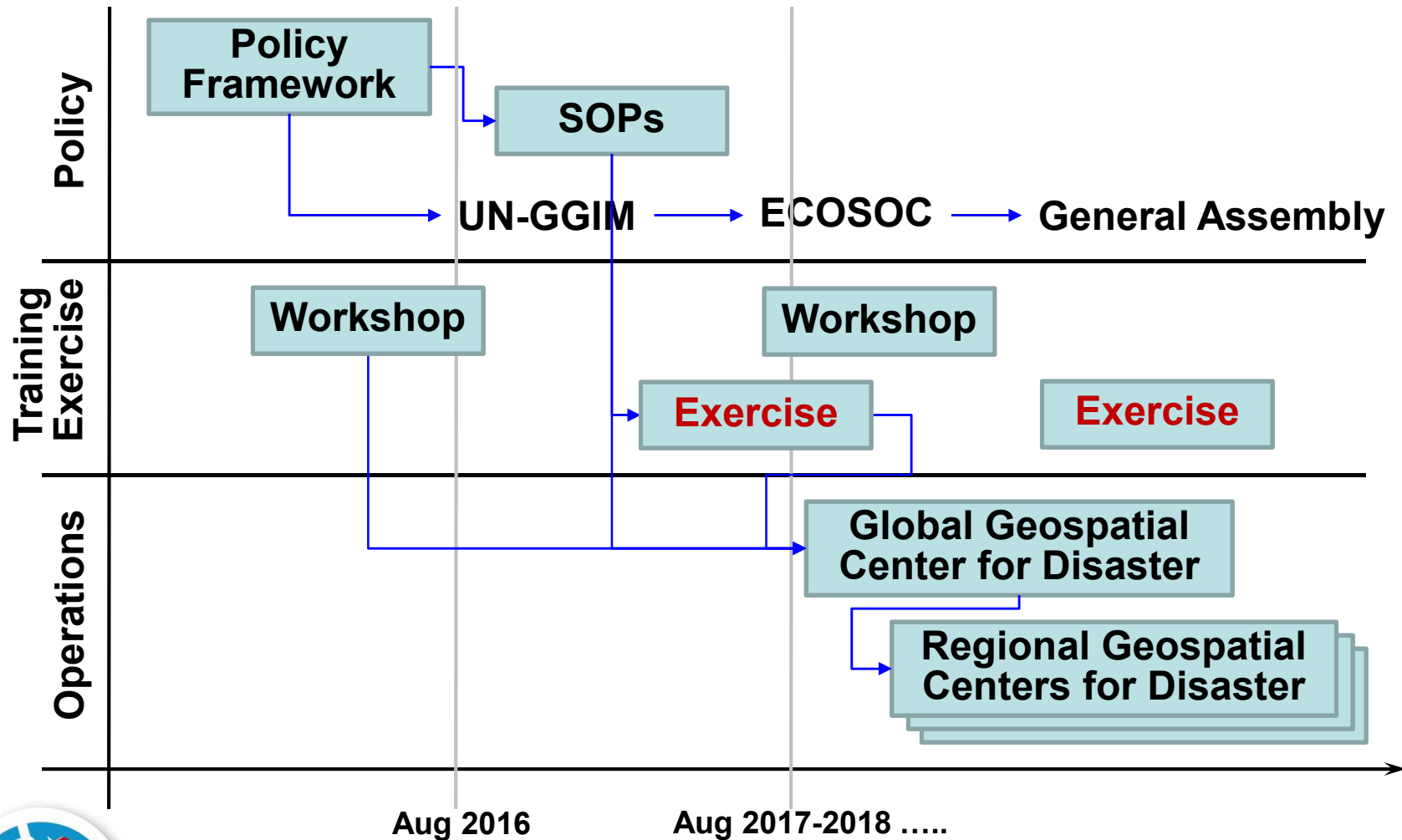
- **Scope**
  Develop a policy framework that brings all stakeholders and partners involved in Disaster Risk Reduction and/or Emergency Management

- **Goals**
  - Improve the draft framework and flowcharts
  - Review of laws, rules and regulations already existing
  - Develop draft policy framework

Desired Future Plan

Policy

Policy Framework

SOPs

UN-GGIM → ECOSOC → General Assembly

Training Exercise

Workshop

Workshop

Exercise

Exercise

Operations

Global Geospatial Center for Disaster

Regional Geospatial Centers for Disaster

Aug 2016   Aug 2017-2018 …..

Thank you for kind attention!