The use of space-based information for development and disaster management: Policies and practices

Shirish Ravan, Head, UN-SPIDER Beijing Office

UNITED NATIONS/CHINA/APSCO WORKSHOP ON SPACE LAW
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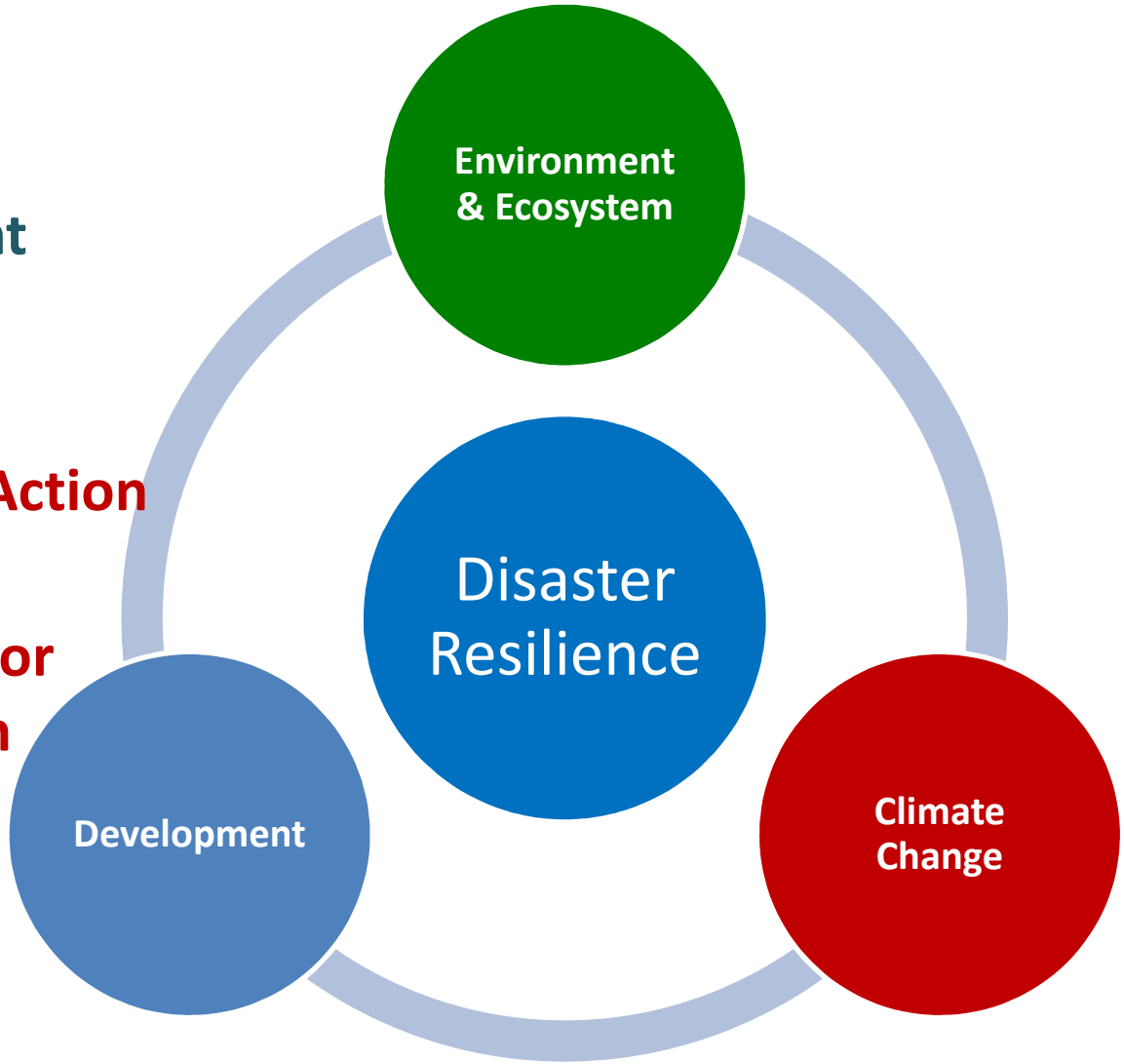
MDGs

Post-2015 Development Agenda

Hyogo Framework for Action (HFA)

Post 2015 Framework for Disaster Risk Reduction



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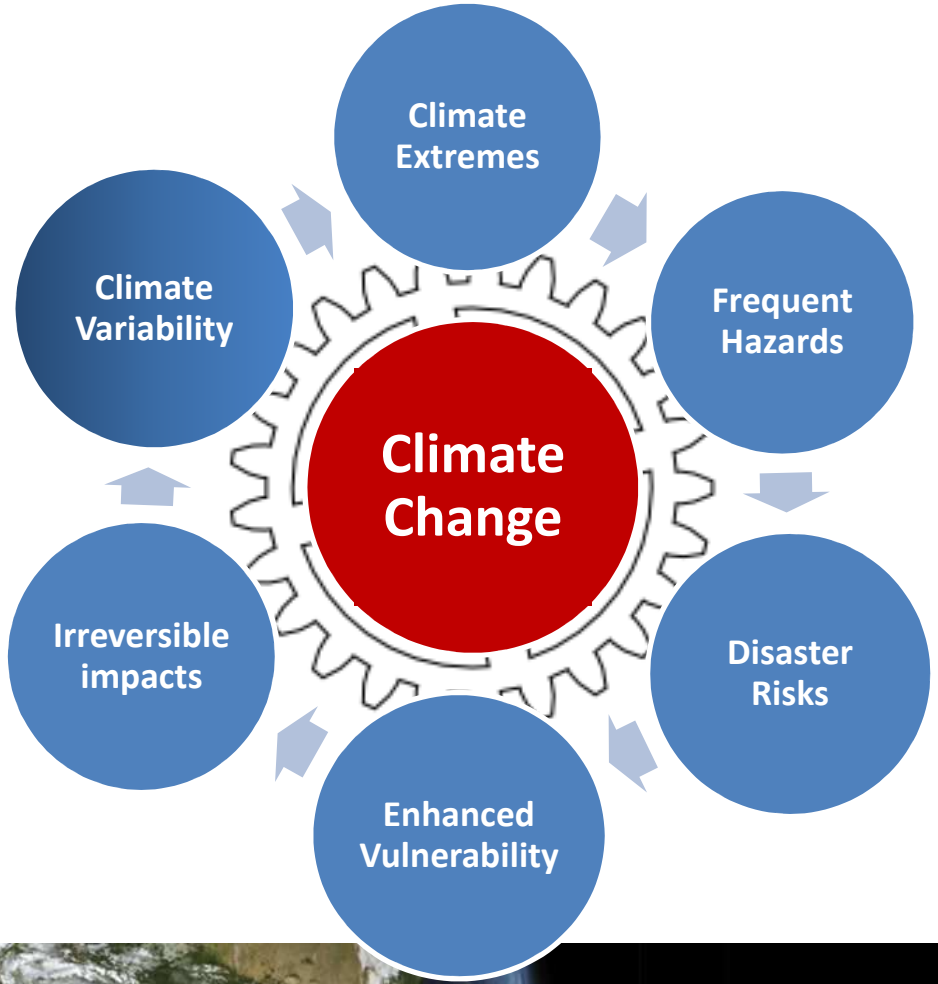
Climate change extremes and disasters



Himalaya receding glaciers
(Photo UNEP)

Credit: © byheaven / Fotolia

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Development & Disasters

Regional/Global Issue

Trans-boundary Rivers

- Rapid development
- Flood plain management
- Land & water management

Shared Coastline

- Coastal management
- Storms/tsunami
- Threats due to Sea level rise

Shared Eco-systems

- Integrated ecosystem management
- Sustained bioresource utilization

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Building disaster resilience in **developmental process** is a **key factor** to achieve **sustainable development**

A single disaster can undo years of hard-earned development

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Geospatial resources

Space based information, especially **earth observation data**, provides critical information needed for

- Developmental planning
- Coping with climate change
- Identifying risks
- Mitigating impact of disasters

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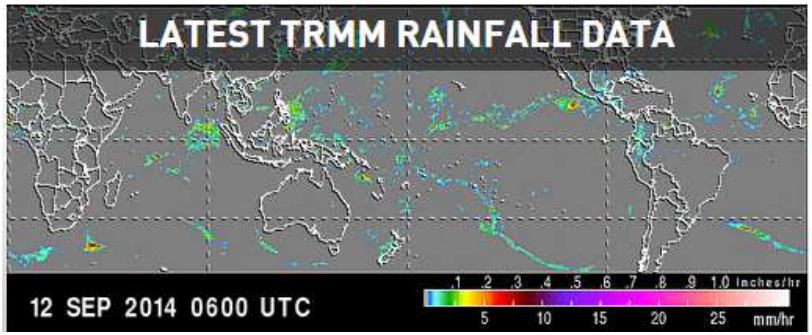
Advanced Earth observation

- **MODIS-** Frequent observation
- **Worldview-3** from DigitalGlobe (Very High resolution images)
- **Sentinel satellites** (radar and multi-spectral imaging instruments for land, ocean and atmospheric monitoring)
- **TanDEM-X** (TerraSAR-X add-on for Digital Elevation Measurement)
- **ICEsat-1 & 2** (pioneered the use of laser altimeters in space – to measure ice sheet elevation change)
- **Landscan** (Global population data)
- **GPM** (new standard for precipitation measurements based on success of TRMM)



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UN-SPIDER Technical Advisory Missions

Vietnam

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Policy and legal framework - Perspective

Lack of 'data policy' in general**, and 'geospatial policy'** in particular in several developing countries affects-

- timely acquisition of space based information
- effective utilization
- proper sharing of satellite data and derived products.

Potential of space based information and products remain underutilized.

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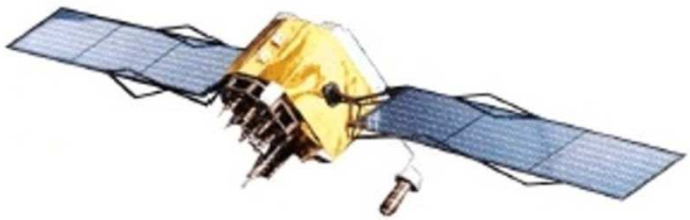
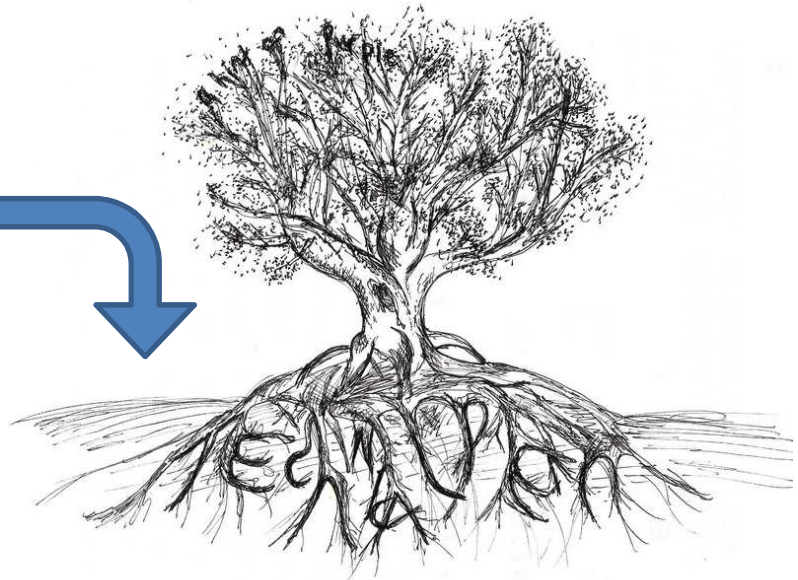
Policy and legal framework - Perspective



Legal Framework

Policy & Strategy

Action Plan



Nourishing roots for better harvest

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Policy and legal framework - Perspective

A model for **acquisition, utilization and sharing** of space based information is **unique** in each country & is governed by

- Institutional arrangements
- Policies related to data/information

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Spatial Data Infrastructure

Data interoperability

Data sharing

Meta data

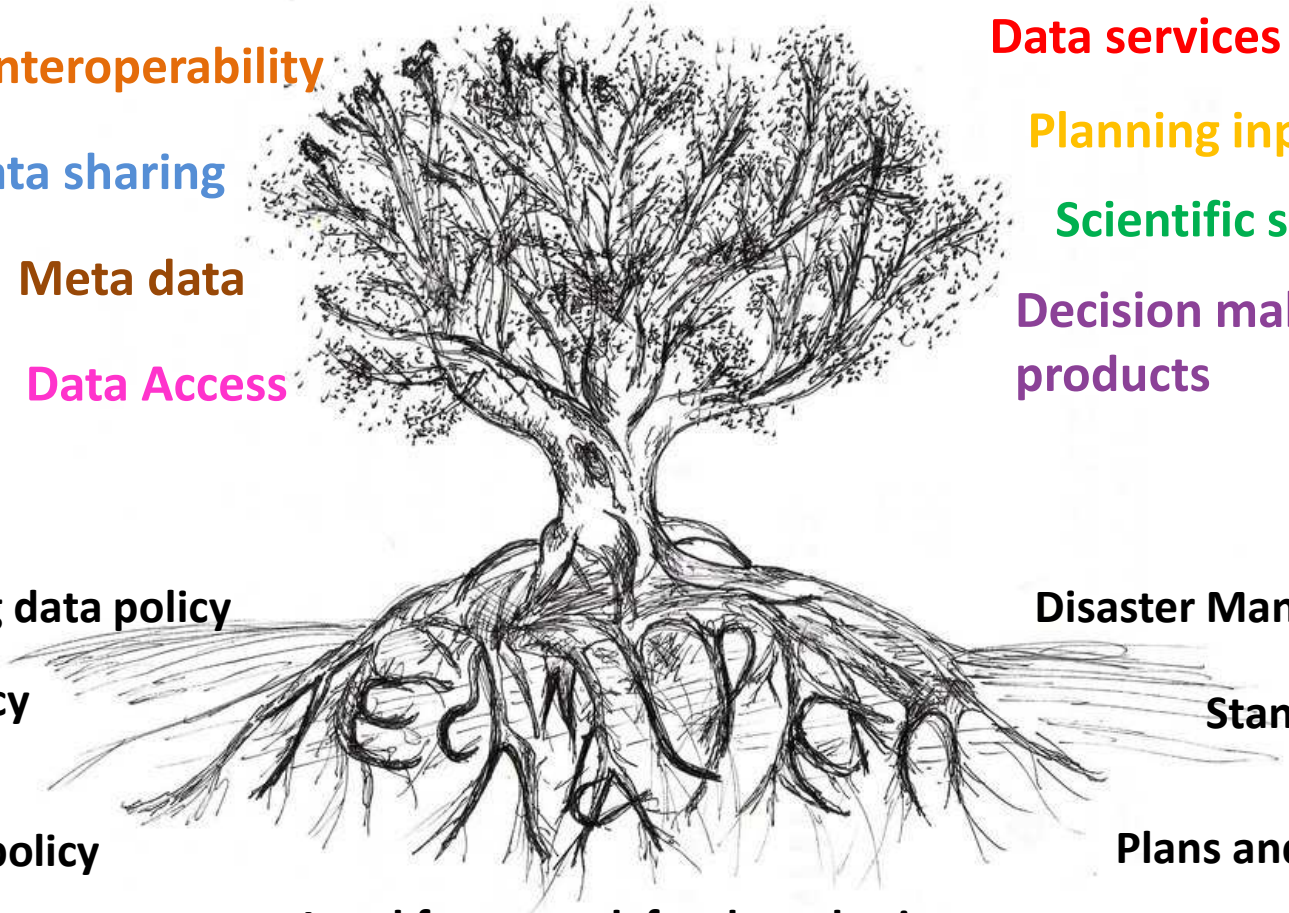
Data Access

Data services

Planning inputs

Scientific solutions

Decision making products



Remote sensing data policy

One map policy

Geospatial policy

Disaster Management Law

Standing orders

Plans and strategies

Legal framework for data sharing

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Success story – Sri Lanka

- 2011 – UN-SPIDER Technical Advisory Mission strongly recommended NSDI
- 2012 & 2013 – Follow up and capacity building activities
- 2013 – Sri Lanka Spatial Data Infrastructure (SL SDI) approved by the Cabinet of Ministers
- 2014 – SL SDI Road map prepared
- NSDI components – Data, Data supply, Data Access & Applications, Governance, Legal and Policy

UN-SPIDER Technical Advisory Mission, Sri Lanka

17 – 21 October 2011

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Best practices – Few examples

General

USA- Federal Geographic Data Committee (FGDC)

Indonesia - One map policy

India - Remote Sensing Data Policy

Bhutan – Implementation of DrukRef – common reference system

Disaster specific

Bangladesh, Vietnam, Bhutan - Disaster Management Law or Act

China – More than 30 laws and regulations concerning disaster prevention, mitigation and reduction

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Concluding thoughts

- **Strong legal framework** is critical for providing benefits of space based information to the society
- Legal frameworks/laws related to **space based information** should not isolate **geospatial data**
- **'Space' should find a place in other policy, law and strategy** documents related to development and disaster management
- Both players, **user community and technology providers**, need to work together to formulate right legal framework
- **Voluntary commitments and efforts** are of utmost importance

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Regulatory and institutional frameworks should aim at –

Benefitting the weakest section of the society

shirish.ravan@unoosa.org