UNITED NATIONS
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Space for Development Profile
and
Space Solutions Compendium:
a new approach to capacity building

United Nations Office for Outer Space Affairs
United Nations Office at Vienna
www.unoosa.org

Nepal
2015 earthquake
9,000 deaths and
22,000 injured persons

Nepal
2017 floods

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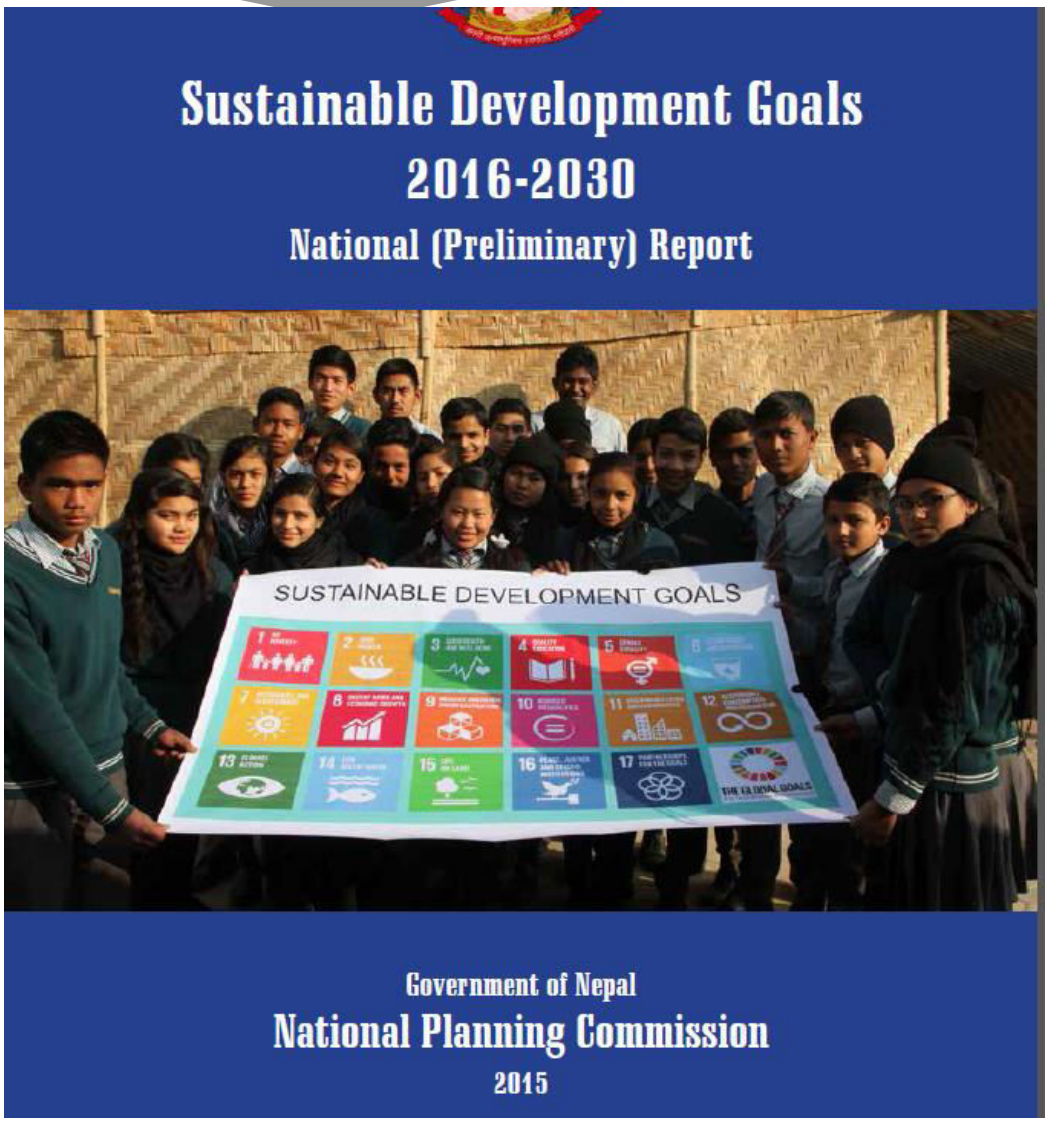

UN-SPIDER Technical Advisory Mission to Nepal
31 July to 4 August 2017

Nepal and SDGs

edited extracts from national report (1/2)

- Twenty of Nepal's 5,358 lakes are considered as dangerous glacial lakes with potential for **glacial lake outburst floods**, and thus need special protection. (p. 25, SDG 15)
- **National Adaptation Programme of Action** (NAPA) for adapting to extreme climate events and climate variability through an extensive country-driven consultative process (MoEn, 2010). **Local adaptation plans for actions** (LAPA) for implementing adaptation actions, and integrating climate change into **local development planning and implementation** (GoN, 2011c). (p. 27, 3.2)
- Existing strong community organizations such as forestry, water resource, and local infrastructure users groups, are important institutions to **implement the SDGs at the community level**. (p.29, 3.2)
- Nepal's forest cover is threatened by human activities and disasters like floods, landslides and forest fires. Illegal logging and the smuggling of timber along with the extraction of firewood for livelihoods also pose a threat to the existing **29 percent forest cover when the national target is to reach 40 percent**. Encouraging natural regeneration is equally effective for expanding forests alongside large increases in tree planting. (p.33, 4.3)
- Nepal is prone to earthquakes, floods, landslides, avalanches, fires and disease outbreaks. The achievement of the **SDGs with better human development implies that adequate disaster risk reduction interventions are identified during the SDG needs assessment and financing strategy**. (p.36, 4.6)

Nepal and SDGs

edited extracts from national report (2/2)

- Income and employment from agriculture, prioritized resource allocation, the improvement of rural infrastructure, and the **use of science, technology and innovation in agriculture** will help achieve several other goals alongside SDG 2. (p.40, SDG 2)
- **Urban communities should prepare and implement disaster risk management plans** enforce the National Building Code and carry out risk sensitive land use planning. (p.44, SDG 11)
- There is a need to take urgent steps to **improve the quality, coverage and availability of disaggregated data** to ensure that no one is left behind. (p. 47, SDG 3)
- **International support** is needed for planning and land development interventions for the production of serviced land in all municipalities. (p.50, SDG 11)
- While doing this, **strong international and especially regional support is needed for developing mitigation and adaptation strategies, for the technology transfer** needed to implement them, and for financing climate change related programmes. (p. 51, SDG 13)

Nepal and SDGs

edited extracts from national report (1/2)

Targets with proposed indicators, current status and future projections						
Targets and Indicators	**2014**	**2017**	**2020**	**2022**	**2025**	**2030**
Target 15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and dry lands, in line with obligations under international agreements						
15.1a Total land area covered by dense forest (%)	29[a]	35[c]	35[c]	35[c]	35[c]	35.5[c]
15.1b Total land area covered by bushes (%)	10.6[a]	5[c]	5[c]	5[c]	5[c]	4.5[c]
15.1c Forests under community-based management (as % of total dense forest areas)	39[a]	40.5	42	43[c]	45[c]	45[c]
15.1d Conservation areas (including forests) (in proportion to total land area)	23.23[a]	24.12	25	25	25	25
15.1e Conservation of lakes, wetlands, and ponds (number)	1727[a]	2341	2954	3364	3977	5000

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UN-SPIDER Technical Advisory Mission to Nepal
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Programme

- NEOC, Ministry of Home Affairs
- Armed Police Force
- Department of Survey
- Department of Water Induced Disaster Management
- Nepal Army
- Nepal Police
- Department of Hydrology and Meteorology
- Department of Geology and Mines
- Kathmandu Living Lab
- Nepal Red Cross
- United Nations Offices in Kathmandu
- ICIMOD
- Nepal GIS Society

- One day workshop
- Debriefing to MoHA

Technical Advisory Mission to Nepal

- The total cost is USD 14,611
- In-kind contribution:
  - ICIMOD value of 2K USD;
  - Travel costs from DigitalGlobe, OCHA, Delta State University

Sincere thanks to the team members

Mission team:

- **Shirish Ravan, UNOOSA/UN-SPIDER**
- **Stefan Kienberger, UNOOSA/UN-SPIDER, Austria**
- **Tang Tong, UNOOSA/UN-SPIDER, China**
- **Deo Raj, ICIMOD, Nepal**
- **P.K. Champati Ray, ISRO/CSSTEAP, India**
- **John Marinos, UN OCHA, Bangkok**
- **Talbot Brooks, Delta State University, USA**
- **Hengxing LAN, Chinese Academy of Sciences, China**
- **Abhineet Jain, DigitalGlobe, Singapore**
- **Nimesh Mishra, MoHA, Nepal**
- **Arun, UNDP, Nepal**

Mission's focus

- Current Policy and Gaps
- Availability and applications of geospatial Information
- Current use of space-based information
- Data sharing practices
- Challenges and constraints
- Existing capacity and needs
- Institutional linkages and coordination

Policy - Recommendation

- Integrate space-based and geospatial information **part of** *DM Act, National Strategy for Disaster Risk Management (NSDRM), 2009 and National Disaster Response Framework (NDRF), 2013;*
- Create a **national data policy** that includes data standards (including geospatial data), which points to a clear need for National Spatial Data Infrastructure (**NSDI**);
- Develop **guidelines for a disaster inventory database** and define who will provide services, who will use them, and for what purpose;
- To ensure the efficient use of resources in support of DRR, **there should be a department or entity that is entirely dedicated to coordination**;
- …

Data availability and sharing - Recommendations

- "One Nation-One Map" policy to promote the preparation of **base line thematic layers including hazard and risk maps** at highest possible resolution and scale by respective agencies in a time bound manner;
- Policy document and related actions to convince key ministries **to invest in Earth observation and geospatial information**, which leads to faster economic growth
- **Data access should be explicitly addressed in high level policy or strategy** so that technology can easily be put in place to facilitate data access;
- Organisations like DWIDM, DHM, DMG needs clear mandate and strategic guidance from MoHA to **undertake hazard/risk mapping**;
- A **portal for discovering national data** assets is needed, regardless of whether or not data may be shared freely, for cost, or not at all. This will reduce duplication of effort;
- **Overarching plan to generate spatial data** is needed (land use, soil, hydro-geomorphology, water resources, socio-economic etc.);
- …

Capacity Building and Institutional Strengthening - Recommendations

- Capacity building should be guided by a strategy that **addresses long-term capacity building needs**;
- Use of in-house institutions;
- Develop technological capacity or set up a **dedicated centre**;
- **Incentive** for trained staff to remain in their positions;
- **Capacity existing in other institutions** such as ICIMOD can be used as a valuable resource to maintain capacity within the government;
- Explore opportunities for **Public-Private Partnership**;
- …

Also defines steps for:

Strengthening Disaster Risk Reduction
Strengthening emergency response
Strengthening early warning and preparedness

Way forward

Actions

1. Re-start planning to develop an **NSDI** including strengthen DRR
2. Define approaches in capacity building for **mainstreaming Space technologies in DRR and DR**
3. Enhance existing partnerships to **maximize the use** of space technologies
4. Suggest mechanisms for using space technology to **identify and address vulnerability**
5. UN-SPIDER to share our observations on capacity of the different agencies of the GoN.
6. Support awareness raising activities at the **very senior government level** on the benefits of GIS and remote sensing in DRR (and beyond)
7. Establish an **executive and technical committee** under the leadership of NEOC.
8. Executive committee to look at **policy and mandate issues**
9. **Technical committee** to coordinate data collection activities, identify data sources, and establish data standards and guidance.

Space for Development Profile

Key Purpose

- Supports the identification of targeted activities at country level by identifying gaps/opportunities in space and its application domains; it identifies changes over time;
- On a global level it can provide an aggregated view of general gaps and can be used as a reporting tool at global/UNOOSA level;
- Decision Support Tool for Member States and UNOOSA;
- It is connected to SDGs.

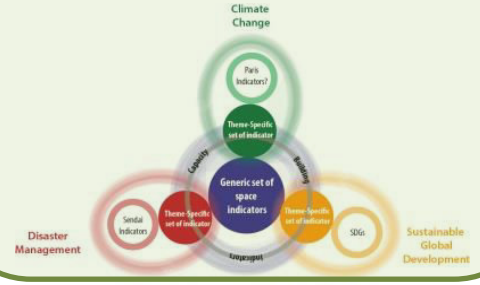
Space Solutions Compendium

Key Purpose

- Solutions that can be linked to indicators.
- MODULAR: any partner can propose solutions. Solutions need to be linked to an indicator (actually solutions could also propose a way of measuring the impact. If this solution is applied, this needs to be measured)

Tools for Result Based Management

Space for Development Profile
Identifying Space Capabilities in a Country



Monitor

Act

RESULTS

Space Solutions Compendium
Giving Solution to Needs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