Session #6 “Towards nationally integrated geospatial management”

Capacity development and education to deliver the data ecosystem for sustainable development

Dequing International Seminar on United Nations Global Geospatial Information Management
21 – 22 October 2019
Set up of the session

2:00 - 2:05
Presenting of the topic of the session and introduction of the panelists.

2:05 - 2:20
Scene-setting presentation from moderator

2:20 - 3:00
Opening statement from 4 panelists

3:00 - 3:20
Open discussion

3:20 - 3:25
Concluding statements

3:25 - 3:30
Closure of the session
Our panelists

**Ms. Jie Jiang**  
Professor Beijing University of Civil Engineering and Architecture, China  
President, Technical Commission on Remote Sensing, ISPRS

**Mr. Mohammad Muniruzzaman**  
Survey of Bangladesh - Surveyor General

**Ms. Myagmarjargal Mendbayar**  
Agency for Land Administration and Management, Geodesy and Cartography, Mongolia  
Specialist Geospatial Information and Technology Department

**Mr. Jean Claude Ntirenganya**  
Rwanda Land Management and Use Authority/Ministry of Environment.  
Spatial Data Infrastructure Specialist
Capacity development and education to sustain the data ecosystem for sustainable development

Session #6 “Towards nationally integrated geospatial management”

ECLAC Statistics Division
Why education and capacity building is important to deliver the data ecosystem for sustainable development?

To raise awareness and develop and strengthen the skills, instincts, abilities, processes and resources that organizations and communities require to utilize the data ecosystem for decision-making and service delivery.

To improve government capacity to facilitate capturing, sharing and integrating data from this ecosystem and their components.
What is intended to achieve?

Increased number of **primary and secondary school children** with knowledge and skills in geography

Increased in number of **graduating professionals** in geospatial and related information

**Innovative solutions** that contribute to economic growth

**Awareness and capabilities** in spatial technologies
What actions could be implemented?
Develop a Capacity Development and Education Strategy

**STRATEGIC DIRECTION AND COORDINATION**

- **IGIF SP 9**

- **Capacity Needs Assessment**
- **Alignment with national priorities, strategies, laws and policies**
- **Target groups**
- **Vision, mission and goal statements**
- **Activities that will address gaps – Road map**
- **Outcomes and impact**
- **Monitoring and evaluating**
Appoint a Capacity and Education Subcommittee

Ref: IGIF Draft Implementation Guide SP8
### Identify Target Groups for Engagement

<table>
<thead>
<tr>
<th>Category</th>
<th>Target Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership Transformation</td>
<td>• Senior sector policy makers, legislative (Parliamentary Committees) and industry leaders.</td>
</tr>
<tr>
<td>Government ICT Capacity</td>
<td>• Experts in thematic application areas, management and professional staff, ICT sector professionals, technical support staff.</td>
</tr>
<tr>
<td>Research and Business Development</td>
<td>• Academics, technicians and earth scientists, researchers from a broad cross-section of knowledge domains; entrepreneurs and businesses.</td>
</tr>
<tr>
<td>Integrated Planning Capability</td>
<td>• Planners, policy makers, mid-level development managers and technical support staff.</td>
</tr>
<tr>
<td>Citizen Transformation</td>
<td>• Professional Associations, Trade Associations, Providers of location-based services, and Volunteer Geographic Information Providers, and general community.</td>
</tr>
</tbody>
</table>
Conduct a Capacity Needs Assessment

INCREMENTAL APPROACH

Where we are now: our existing capacities and the relevant factors that enable us to contribute towards achieving our mandate.

What capacity would enable us to move forward and increase the level/quality of our outputs in the direction of our development goal?

GAP ANALYSIS APPROACH

Ideal situation: the system (individual, organisational and institutional) functioning at full capacity.

The gap to be filled between the ideal situation and where we are now.

Where we are now: What can’t be done? What is missing in terms of the ideal situation?

Ref: IGIF Draft Implementation Guide SP8
Produce an Inventory of Knowledge, Skills and Resources

An inventory establishes a baseline (current situation) of a nation’s current knowledge and skills.

**IGIF SP 4**

<table>
<thead>
<tr>
<th>Skills/Knowledge</th>
<th>Resources</th>
<th>PERSON 1 Team Leader</th>
<th>PERSONS 2-6 Subject Matter Experts</th>
<th>PERSON 7-8 ITC Expert</th>
<th>PERSON 9-12 Research and Development Expert</th>
<th>PERSON 13-14 GIS Analyst</th>
<th>PERSON 15 Support Staff</th>
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<tbody>
<tr>
<td>General GIS Concepts</td>
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<td>✓</td>
<td>✓</td>
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<td>Cartography and Graphic Design</td>
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<tr>
<td>Metadata creation and editing</td>
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<tr>
<td>4D Modelling</td>
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</tr>
<tr>
<td>Basic understanding of programming</td>
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<td>✓</td>
<td>✓</td>
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</table>

Ref: IGIF Draft Implementation Guide SP8
Review Existing Education Programs

✓ Does the curriculum appropriately cover the geospatial sciences?

✓ What are the strengths and weaknesses of the academic program?

✓ Are there elements that should be modified in order to better achieve goals?

✓ Are the learning outcomes appropriate?

✓ Have there been changes that require academic program improvements?

✓ Have specific initiatives been undertaken to retain talented student?

✓ Are the methods of teaching appropriate to the course and of high quality?

✓ What steps have been taken to provide students with enriched learning experiences?

✓ What is done to offer students exposure to global dimensions of the discipline?
Develop a Capacity Development Implementation Plan

✓ **Linkages with previous or existing initiatives** for potentially scaling up

✓ **Recognition of existing capacities** and how to use them as a basis

✓ **An understanding of what is happening in related-sectors** and how geospatial information capacity building initiatives may support/build capacity in these sectors.

✓ **Priorities - Solving urgent problems first and achieving quick wins** is critical to engaging support for long-term activities.

✓ **Identifying the resources that need to be in place** before capacity development and education programs can get underway.

✓ **Determine when the target groups can realistically take on capacity development** – given that organisations often have overly busy periods.
Build a Community of Practice

The key to a **successful knowledge sharing Community of Practice** is to develop solutions that:

- Identify **specific topics** or **thematic issues** around which to center knowledge sharing. This could be something or leveraging data for achieving progress towards SGDs;
- **Use existing platforms** for communication mechanisms;
- Use a country-led knowledge hub infrastructure for successful development results;
- **Optimize existing funding activities** and **new financial resources** – including from the private sector, foundations and cooperation partners.
Innovation hubs and Outreach Programs

Innovation hubs

Social community work spaces or research centers that provide an environment for knowledge sharing and discussion on complex business challenges between researchers, business experts, industry, government and academics.

Outreach programs

Provide capacity building to those who might not otherwise have access to education services.

A key element of outreach programs is that the learning is delivered at the location where those in need are.
What is happening in our countries?
Thank you!!

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ECLAC Statistics Division
Let’s discuss !!

1) What of the actions included in this scene setting presentation would you prioritize in your country, and why?
Let’s discuss !!

2) In what areas of the data ecosystem for sustainable development does your country have the major gaps in terms of professional skills: Earth Observation processing, geospatial data analysis, integration of statistical and geospatial information. What would be the priorities, facing the Agenda 2030 implementation requirements?
Let’s discuss!!

3) How is your country facing the transition from cartographically-driven production methods to data-driven generated content methods in terms of capacity development?