Strengthening Sustainable Land Administration and Management through GI in AP region

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Respect differences, Embrace
Urbanization in AP region

Physical Growth ➔ Immigration ➔ Land Issues
Challenges

• Urban Growth and Tenure
• Rural Land Fragmentation
• Climate Change
• Disaster Risk and Resilience
• Women’s Access to Land
• Indigenous People Tenure Security
• Islamic Principles
• Land-base Financing
• Land Policy and Legislation
## Major Issues

- Governance & Policy framework
- Institutional process and Cooperation
- Data management, Reference framework and Standard
- Participation and Capacity building
- Technology adoption and Sustainability

*supported by Geospatial Information*
How to do?

Land at Real World

Records of People-to-Land Relationships with Place

Link

Map & GIS

- Mediator
- Value-added GI
- Collaboration e.g. GI for DM

Increase % of Cadastral Map in a Practical Way

The Social Tenure Domain Model
A Pro-Poor Land Tool
Define Keywords

Land Administration
“processes of determining, recording and disseminating information about the tenure, value and use of land when implementing land management policies”

Land Management
“the process of managing the use and development of land resources and the process by which a country’s resources are put to good effect”

UNECE, 1996
## Call for Actions

<table>
<thead>
<tr>
<th>Year</th>
<th>Event/Organisations</th>
<th>Action/Decision</th>
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<tbody>
<tr>
<td>1997</td>
<td>8th Regional Cartographic Conference for Asia-Pacific</td>
<td>Creation of an advisory panel on cadastral surveying and mapping</td>
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<tr>
<td>1980</td>
<td>9th Regional Cartographic Conference for Asia-Pacific</td>
<td>Resolutions on capacity development for cadastral mapping, cadastral survey systems and national LIS</td>
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<td>Oct 1989</td>
<td>Bathurst Workshop on Land Tenure and Cadastre</td>
<td><em>The Bathurst Declaration</em></td>
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### 20th UNRCC-AP
First Day, Joint Workshop on Land Administration and Management
Today, Session on Cadastre and Land Management

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<td>Dec 2012</td>
<td>International Organization for Standardization</td>
<td>The Land Administration Domain Model (LADM) as a standard was published (ISO 19152:2012)</td>
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<td>Mar 2014</td>
<td>International Federation of Surveyors and World Bank</td>
<td><em>Fit-For-Purpose</em> Land Administration</td>
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<tr>
<td>Oct 2014</td>
<td>Third High Level Forum on United Nations Global Geospatial Information Management</td>
<td><em>The Beijing Declaration on Sustainable Development with Geospatial Information</em></td>
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Resolutions

Beijing Declaration
Sustainable Development with Geospatial Information

Agreeing further that there is an urgent need for sustainable actions that address global humanitarian, environmental and economic challenges with innovative, affordable and fit-for-purpose solutions that are based on knowledgeable choices derived from current, comprehensive and credible information and data that are geospatially enabled;

Resolved

to affirm the importance of good land administration and management to address the challenges for the post-2015 development agenda, specifically supporting the development of fit-for-purpose land administration and geospatial information approaches in developing countries; as well as
to support and leverage the global framework and collaboration mechanisms which are being established under the auspices of UN-GGIM, in order for countries to address and solve the common global challenges of sustainable urban planning and land management issues, mitigating and adapting to climate change and managing disaster risk by leveraging science, technology and innovation;
Recognizing further that land is a valuable and scarce resource involving a wide range of rights and responsibilities, when poorly administered leads to conflict, degradation and other problems, becomes a binding constraint for sustainable growth and development, Affirming that geospatial information that are current, comprehensive and credible is essential for knowledge-based and better governance, management and administration of land and underpins effective land information, administration and management systems,

**Resolves to**

- encourage National Geospatial Information Agencies to engage and contribute towards effective national land information, administration and management systems with their fundamental data leading towards better governance, management and administration of land;
- invites UN-Habitat/Global Land Tool Network to collaborate with UN-GGIM-AP towards addressing Land Tenure Challenges in Asia-Pacific, to contribute and participate in UN-GGIM-AP’s activities and to provide regular liaison report;
- support the development of the Cadastral Template 2.0, the successor to the PCGIAP supported Cadastral Template and encourage Member States to contribute information to the Cadastral Template 2.0 towards promoting better knowledge dissemination and sharing and promoting better practices.
Suggested area of focus for the proposed UNGGIM-AP Working Group on Land Administration, Management and Cadastre –

• Promote, share and exchange knowledge, experiences and good practices, encourage active participation in Cadastral Template 2.0 (endorsed by UNGGIM-AP)

• Address data and information deficit, consider appropriate data requirement and access to spatial data (particularly maps and imageries), acquisition processes and technologies, to better identify and record people-to-land relationship and promote security of tenure for all

• Collaborate in applicable land tool development (e.g. modernizing land based agencies budgetary approach) and the land tenure initiative for Asia and the Pacific
• Reference Model for LADM
• Covers Land/Water, Below/Above Surface
• Provide national & regional profiles (application schema)
Four Key Principles

• General boundaries rather than fixed boundaries
• Aerial imageries rather than field surveys
• Accuracy relates to the purpose rather than technical standards
• Opportunities for updating, upgrading and improvement
Information Approach

Real World

Ownership & Tenure Document

Link & Integration

Surveying & Cadastral Map
SDI Approach

Global Problem Solving

- Decision Making
- Land Admin. & Mgmt.
- Disaster Mgmt.

Minimizing Information Gap

Providing sustainable geospatial data
Synergy through Information Integration

SDI (Spatial Data Infrastructure)

GGRF (Global Geodetic Reference Framework)
Procedure for Land Management

Level I. Framework for Land management

- Planning Survey/DB/IS
  - Method: K-NSDI, KLIS
  - Standard: GLTN

- Establishing Survey/DB/IS
  - Method: K-NSDI
  - Standard: ISO19152 (LADM)

- Land Registry
  - Method: KLIS
  - Standard (DB): ISO19152 (LADM)
  - Standard (IS): GLTN

Level II. Framework for Land admin. & Valuation

- Land Monitoring
  - Method: KLIS
  - Standard (DB): ISO19152 (LADM)
  - Standard (IS): OGC WMS, WFS

- Land Use Planning
  - Method: KLIS
  - Standard (DB): ISO19152 (LADM)
  - Standard (IS): OGC WFS, CSW

- Sustainable Urban Development
  - Method: KOPSS, LURIS
  - Standard (IS): OGC CSW, WMTS

Level II. Framework for urban plan & development

One of Goals at WGs

Lv1,2,3 Framework

Best-Practices (K-NSDI, KLIS, KOPSS, LURIS, UPS, AIS)
Technology Adoption & Sustainability

Data Acquisition

Airship
A balloon which is filled with Helium gas inside to lift it up on air

Aircraft
A non-pilot remotely controlled airborne Vehicle
Participation & Capacity building

CrowdSourcing

High Velocity, but Quality Concerns, Need to Support!

UN-GGIM NIA WG Survey (2015)
• Stimulate stakeholders’ participation in societal decisions
• Provide a transparent link between citizens and the decision-making process for Land Management
Monday Workshop

Joint Organized by

- UN-GGIM-AP, UN-ESCAP, UN-HABITAT/GLTN

Speakers & Participants, more than 9 Countries
- Mongolia, Fiji, Viet Nam, Malaysia, Japan, Nepal, Kyrgyzstan, Uzbekistan, Korea …… Much Diversity
Monday Summary

- **CAUSE Issues and Challenges** for land administration and management from recent rapid economic growth

  Resilience cities, Land-lock/Island country Aspect, Cooperation with others, Before/after disasters, Adoption of new technology, open-source/open-data, Sustainable data/system

- **IDENTIFY Importance, Roles and Gaps of GI** needed for land sector’s challenges

- **ASSURE** that Strong LA & LM with GI can be effective entry point to achieve sustainable developments
Partnerships and Programs

- Learning Events (peer-to-peer learning, training)
- Regional Workshops
- Annual sessions at UNGGIM-AP Plenary Meetings

Transforming our World: The 2030 Agenda for Sustainable Development
Call for Work Together with UN-GGIM-AP WG4

Now, Korea, Malaysia, Mongolia, Singapore, …

(Supported by UN-HABITAT/GLTN and others)
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THANK YOU FOR LISTENING!