



Strengthening Sustainable Land Administration and Management through GI in AP region

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Diversity in AP region

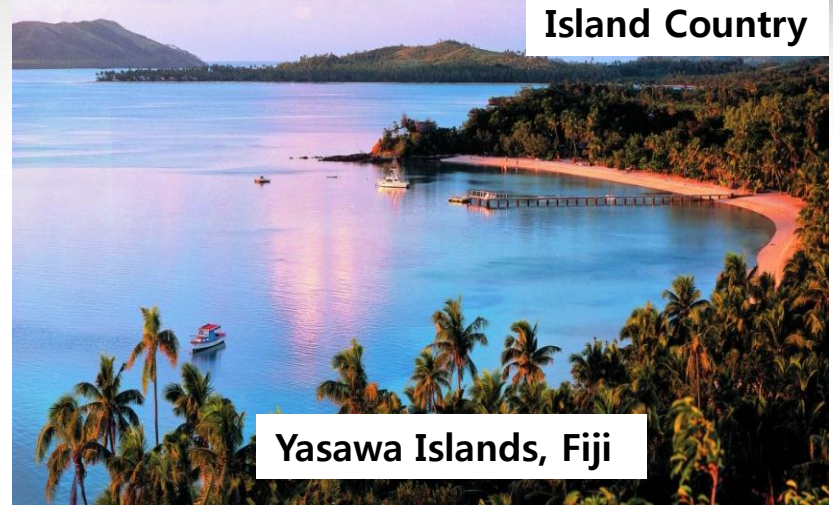


Land-Locked Country



Ulaanbaatar, Mongolia

Island Country



Yasawa Islands, Fiji

Respect differences, Embrace

Rural Area



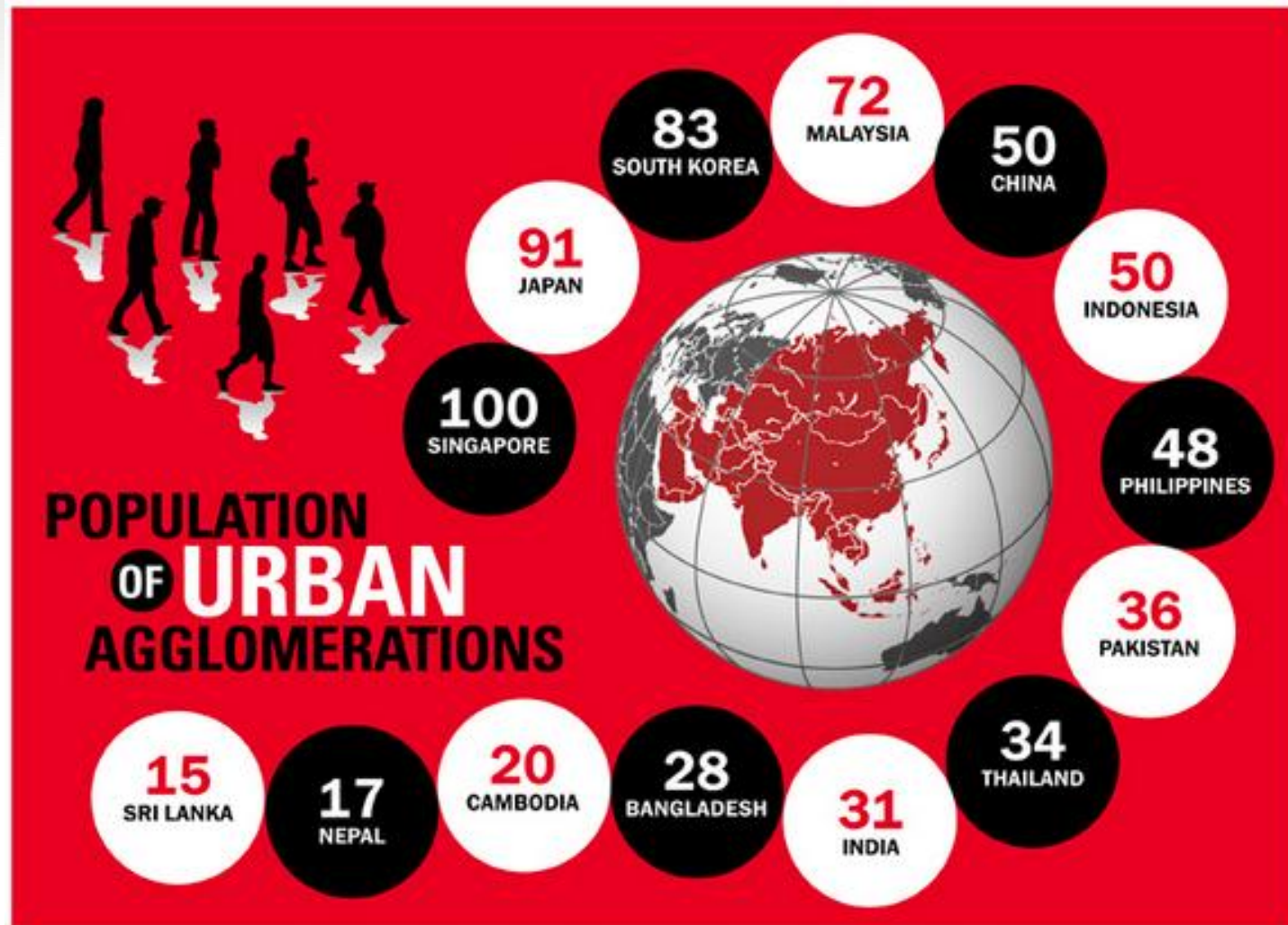
Ho Chi Min region, Vietnam

Urban Area



Seoul, Korea

Urbanization in AP region

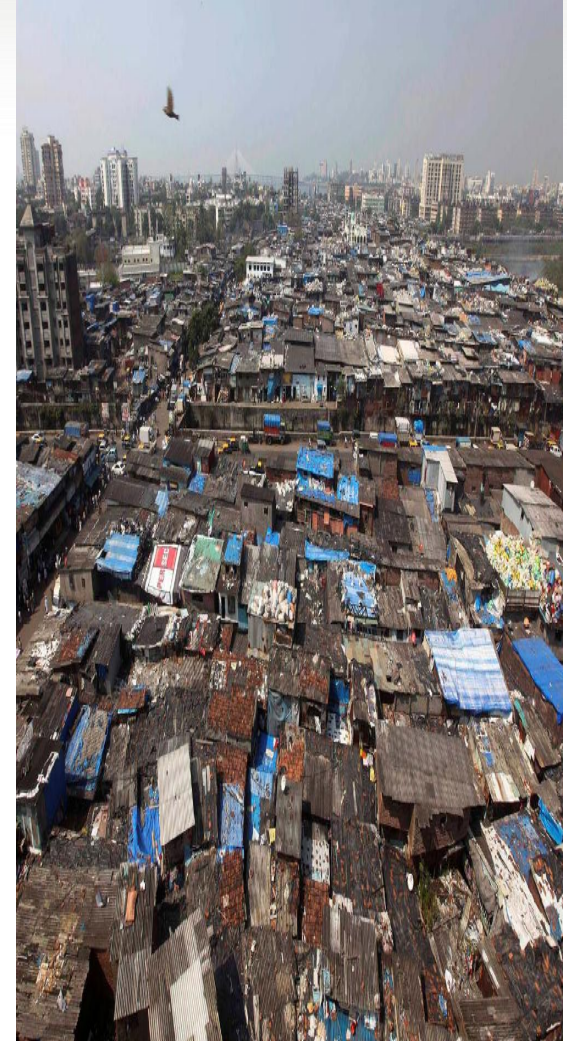


(SOURCE: UN, WORLD URBANIZATION PROSPECTS REPORT, 2011)

Physical Growth → Immigration → Land Issues

Challenges

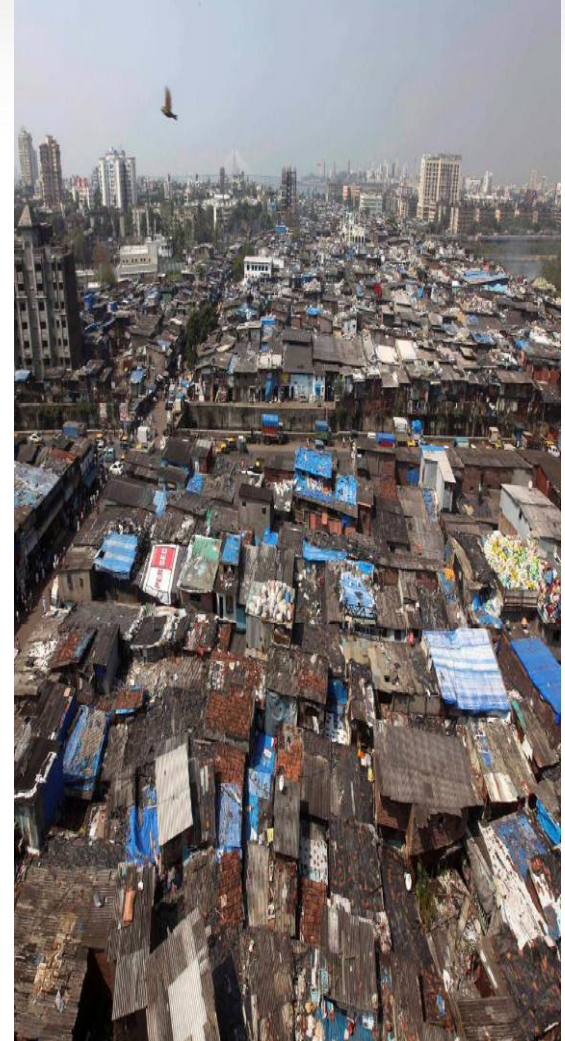
- **Urban Growth and Tenure**
- **Rural Land Fragmentation**
- **Climate Change**
- **Disaster Risk and Resilience**
- **Women's Access to Land**
- **Indigenous People Tenure Security**
- **Islamic Principles**
- **Land-base Financing**
- **Land Policy and Legislation**



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 ?



Records of
People-to-Land
Relationships with Place

?

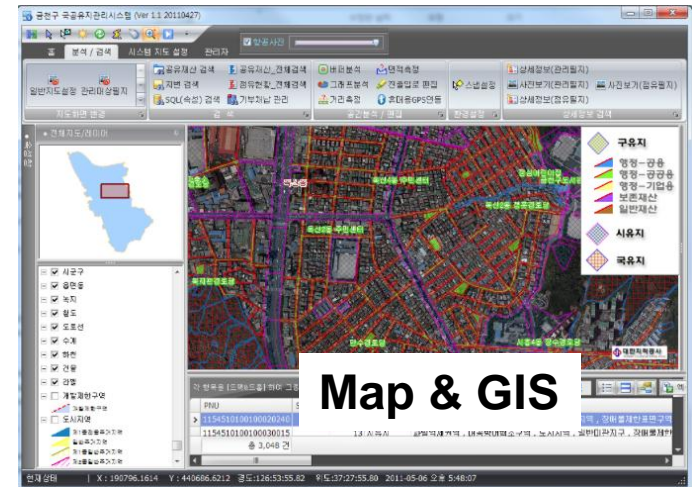


Land at Real World



GLOBAL
LAND
TOOL
NETWORK

The Social Tenure
Domain Model
A Pro-Poor Land Tool



Map & GIS

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

Increase % of Cadastral Map in a Practical Way

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

Year	Event/Organisations	Action/Decision
1997	8th Regional Cartographic Conference for Asia-Pacific	Creation of an advisory panel on cadastral surveying and mapping
1980	9th Regional Cartographic Conference for Asia-Pacific	Resolutions on capacity development for cadastral mapping, cadastral survey systems and national LIS
Oct 1989	Bathurst Workshop on Land Administration	<i>The Bathurst Declaration</i>

20th UNRCC-AP
First Day, Joint Workshop
on Land Administration and Management
Today, Session on Cadastre and Land Management

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

Resolutions



UN-GGIM |

United Nations Initiative on
Global Geospatial Information Management

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;

Resolutions



Regional Committee of United Nations Global Geospatial Information Management for Asia and the Pacific (UN-GGIM-AP)

Established by a United Nations Resolution



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.

Resolutions

Executive Board Meeting
Gorkhi Terelj, Mongolia, 10th June 2015



UN-GGIM-AP
REGIONAL COMMITTEE OF
UNITED NATIONS
GLOBAL GEOSPATIAL
INFORMATION MANAGEMENT
FOR ASIA & THE PACIFIC



ГАЗРЫН ХАРИЛЦАА,
ГЕОДЕЗИ, ЗУРАГ ЗҮЙН
ГАЗАР

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 mageries), 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



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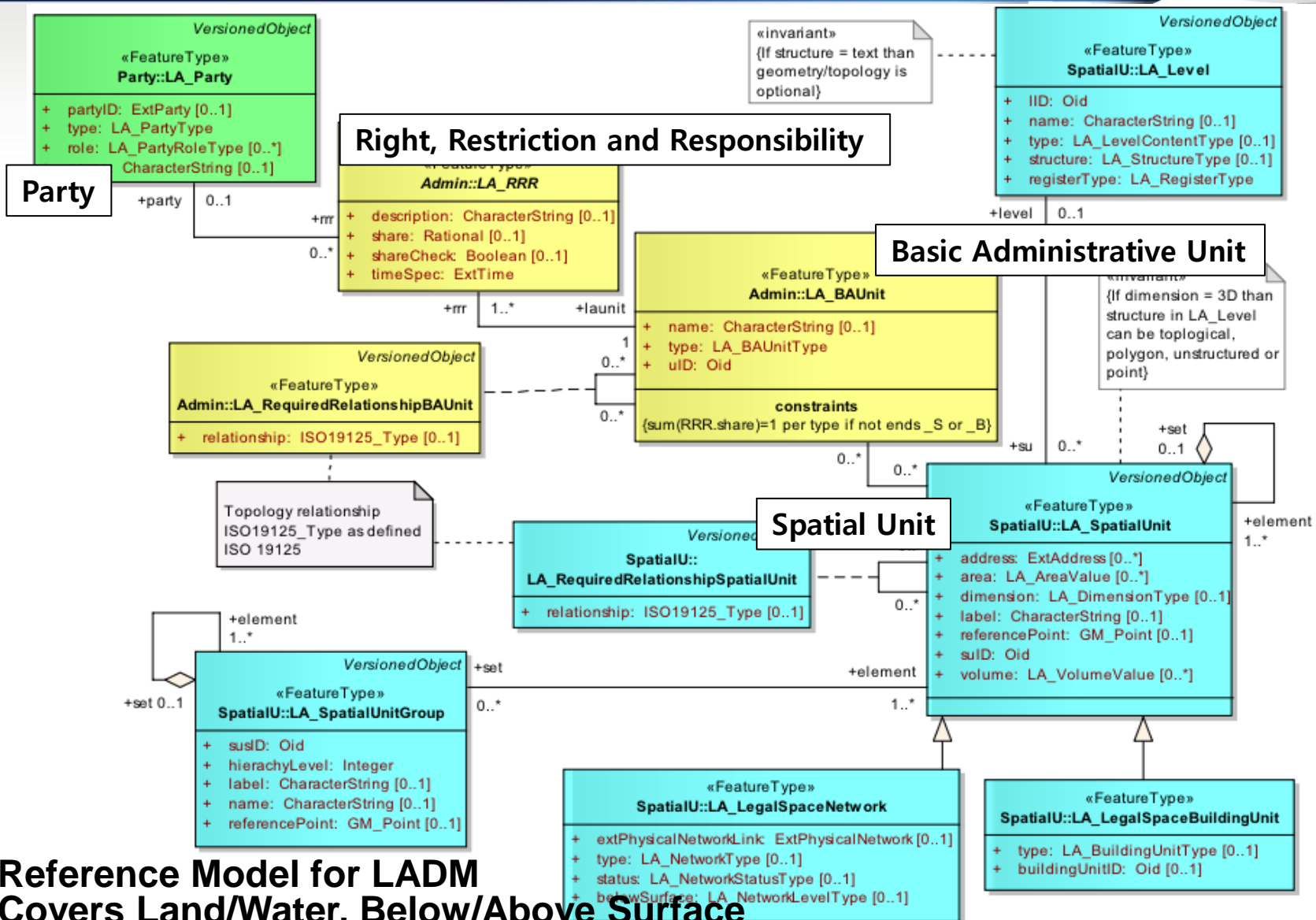


UN HABITAT
FOR A BETTER URBAN FUTURE



GLTN
GLOBAL LAND TOOL NETWORK

ISO Standard Land Administration Domain Model

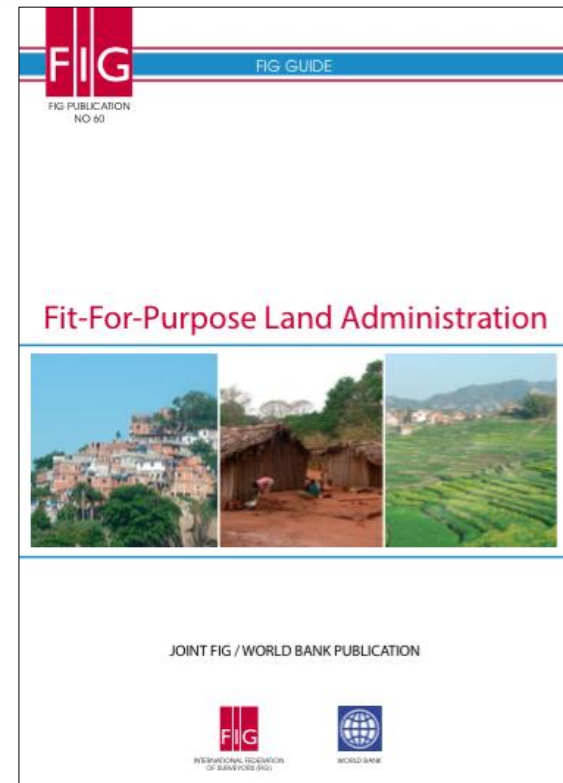


- Reference Model for LADM
- Covers Land/Water, Below/Above Surface
- Provide national & regional profiles(application schema) (ISO/FDIS 19152)

Fit-for-Purpose Land Administration

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



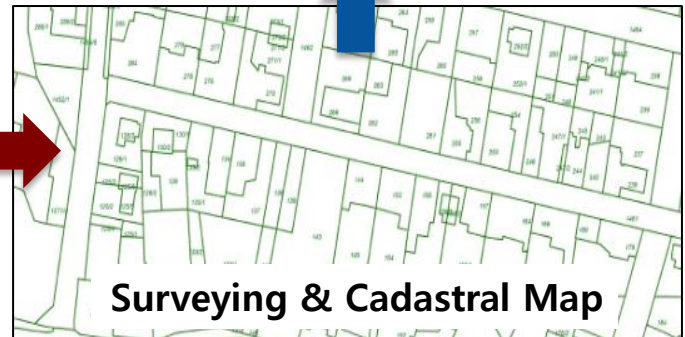
Ownership & Tenure Document



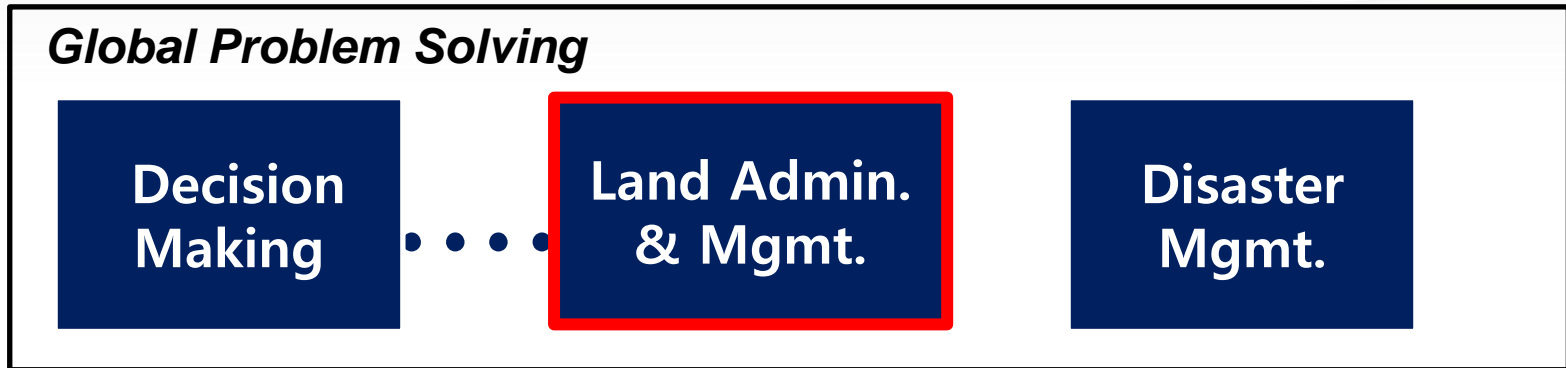
Link & Integration



Surveying & Cadastral Map



SDI Approach



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
- Std(DB); ISO19152(LADM)
- Std(IS); OGC WMS, WFS

Land Registry

- Method: KLIS
- Std(DB); ISO19152(LADM)
- Std(IS); GLTN

Land Monitoring

- Method: KLIS
- Std(DB); ISO19152(LADM)
- Std(IS); OGC WFS, CSW

Land Use Planning

- Method: KOPSS, LURIS
- Std(IS); OGC CSW, WMTS

Level II. Framework for Land admin. & Valuation

Level II. Framework for urban plan & development

Sustainable Urban Development

- Method: UPIS, AIS
- Std(IS); OGC CSW, WMTS

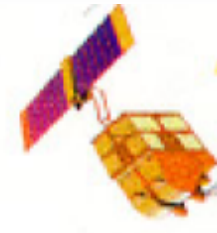
One of Goals at WGs

Lv1,2,3 Framework

Best-Practices
(K-NSDI, KLIS, KOPSS, LURIS, UPS, AIS)

Technology Adoption & Sustainability

Data Acquisition



Airship

01

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



Aircraft

02

A non-pilot remotely controlled airborne Vehicle

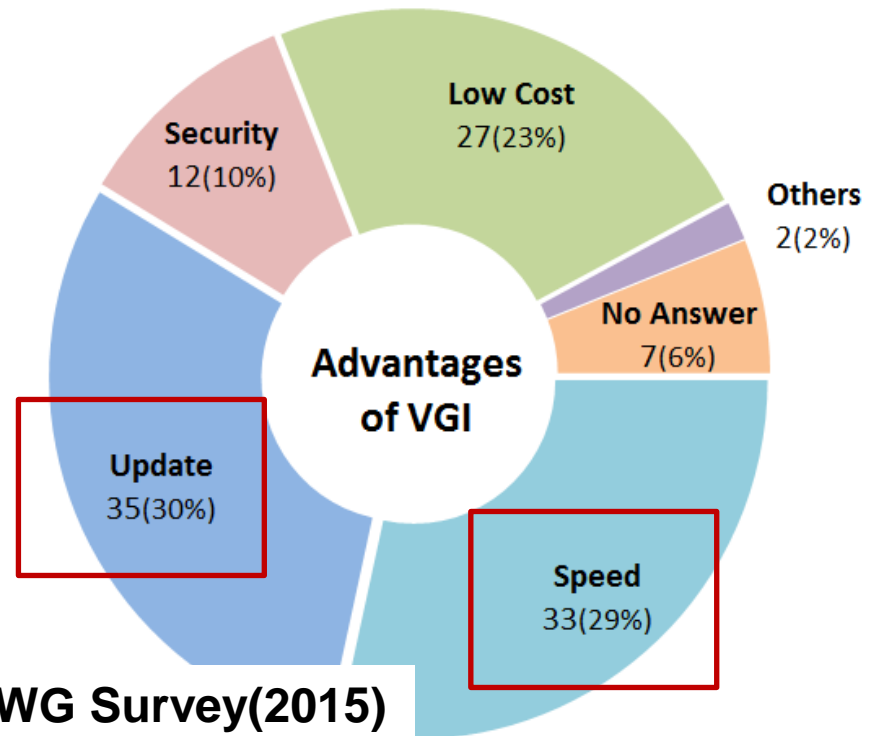
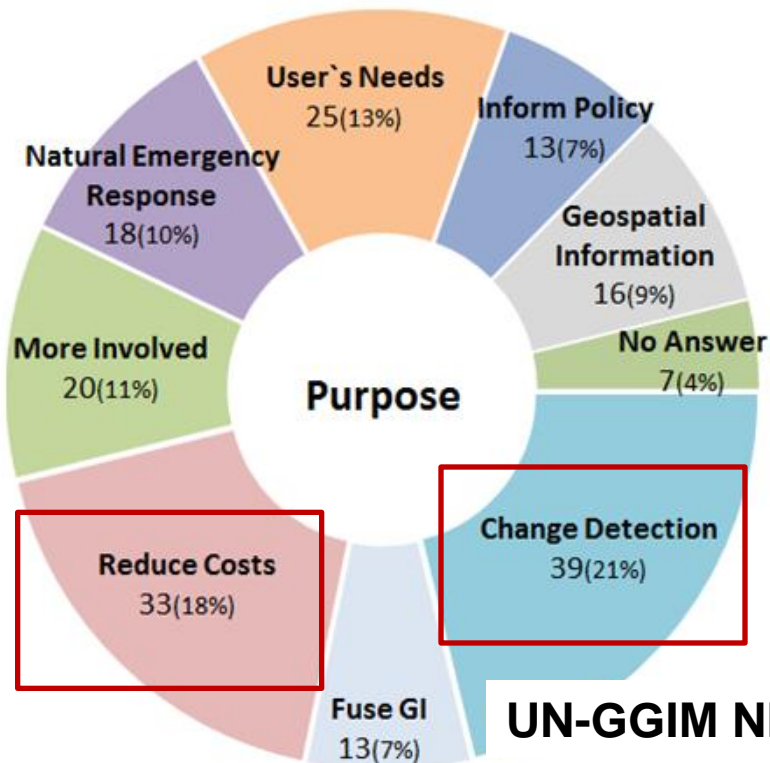


Participation & Capacity building

CrowdSourcing



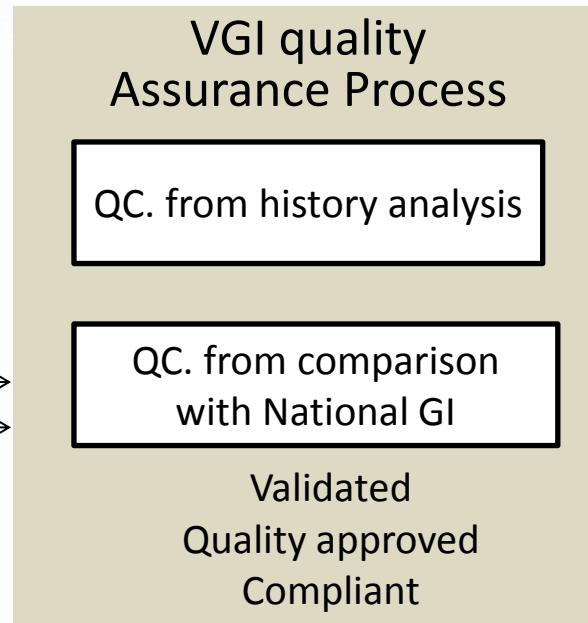
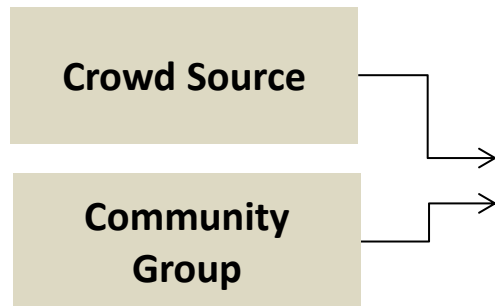
**High Velocity, but
Quality Concerns,
Need to Support !**



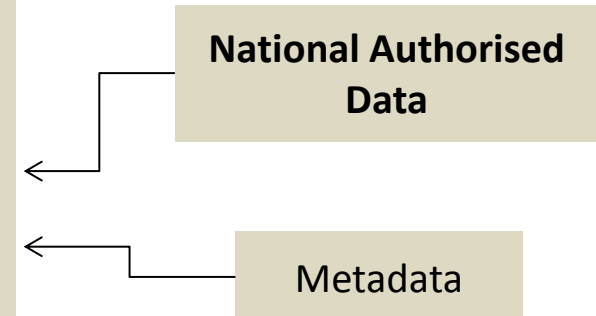
UN-GGIM NIA WG Survey(2015)

Participation & Capacity Development

Social Sensors Stakeholder, Governance



Physical Sensors SDI, GNSS, RS



- 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



LAND TENURE IN ASIA
AND THE PACIFIC

**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)



Strengthening Sustainable Land Administration and Management through GI in AP region

**THANK YOU
FOR LISTENING!**