Land Information System in Multi-level Environment

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TS70 – SDI for Land Management, FIG Working Week 2007, Hong Kong

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Introduction

- More than 900 million people live in slums and informal settlement worldwide, and among them are 570 millions that live in the Asia-Pacific region;
- Poor people, women, indigenous people and disabled people are not able to defend their rights on land;
- No safe and secure land/housing; mostly evicted from their lands without compensations;
- Many live in health- and life- threatening environments on marginal land, vulnerable to flooding, landslides and other environmental hazards.
- UN Millennium Development Goals (MDGs): Target 11 of Goal – Actions for slum upgrading
  - Urban poor as active actor;
  - Improved governance;
  - Local pro-policies;
  - Mobilizing resources and investments;
  - Empowering local action

Introduction

- Ineffective management
  - Variety of tenure forms (formal and informal) hardly considered;
  - Land has three inter-dependent elements (Right, Use, Value);
  - Yet they are treated as fragmented activities at central and local levels;
  - In market driven economies, these activities have to operate within integrated policy framework
- Centralized systems
  - Inefficient and difficulties in maintaining integrity of Land information;
  - Data duplication is too frequent and sharing is impossible;
  - Poor archiving;
  - Access to Land Information is very difficult;
  - Security and privacy of information are often violated;
  - Does not support good governance

Land Information System - Characteristics

- Land Information System (LIS) in Multi-level Environment
  - local LIS as a vehicle to easy access to land information by the poor and civil society;
    - Affordable and easy for local offices
    - Accommodate variety of tenure forms depending on local situation, norms and value - new paradigm on land policy incorporating a variety of land tenure forms with Continuum of land rights with associated spatial units;
    - Local participation and resolving land conflicts locally empowering locals - Community-based system
    - Services oriented system with low cost
  - link to National Land Information System at central level as a vehicle for effective use of information for data sharing and supply via SDI;

Elements of Land Information Systems (LIS) in multi-level environment

- Requirement of LIS at the central and local governments;
- Service Oriented System Architecture and management;
- Modeling and specifications of transparent LIS Processes for Innovative land administration
- Integration and collaboration of LIS within National and Local offices;
- Visualization and Dissemination of Land Information
- Setting standards (compliances with ISO and OGC)

Minimum Datasets in LIS

- Descriptive components
  - Agreement/evidences
  - Tenure rights and rights holders – customary groups, family, individuals
  - Land use
  - Land value
- Spatial components
  - Identification of the spatial objects – tenure units, customary areas, family parcels, individual parcel
  - Cadastral maps
  - Geodetic reference system
  - Unique identifiers
- Work processes

Challenges

- Local levels
  - Model has to adopt different tenure types with associate spatial units at local levels – Social tenure domain model (STDM);
  - Policy regarding transactions may differ from place to place as per norm and values, sometime religious belief;
  - Customers as directive role – empowering locals;
  - New tasks for the organizations as service oriented;
  - Open system and exchange of data;
  - Most probably local system will be flexible and manual based on paper records

Challenges

- Central level
  - Common Data Model and What services to the users do we need? Need assessment is needed.
  - Communication with local LISs – collaboration among local offices;
  - Services on Data preparation, Data conversion and maintenance, and data dissemination;
  - System based on latest Geo-ICT technology - Service oriented architecture,
  - Etc.

Critical Success Factors

- Institutional support (including political supports)
- Legal and finance
- Organisation (structure, coordination and cooperation)
- Management(resource allocation, market orientation, information requirements)
- Technical issues (system development, installation, infrastructure and standards)
- Quality management

Conclusions

- LIS in Multi-level environment is required to fulfils new demands such as MDGs and good governance;
- LIS in Multi-level is possible to implement if stepwise approach is followed;
- Latest technology is required.

Thank you for your attentions