Land Administration

GIS is the platform for land administration

Land administration is the process of determining, recording, and disseminating of information about ownership, value and use of land when implementing land management policies.

Source: UN/ECE Land Administration Guidelines 1996
Trends in Land Administration
Technology Enables Capabilities

- Implementing Cadastre is the basis of SDI
- Information infrastructure maturing
- Faster data updating
- Fully connected data workers
- Community driven cadastral mapping
- Sharing data
- Faster implementations
Trends - Cadastre 2.0
Applying Technology to Meet Current Challenges

- Multipurpose
- Transparent/Accountable
- 3D/4D Parcel management applications
- COTS – Commercial Off-the-Shelf
- Engaged citizens
- Fully connected data workers
- Cloud Computing
- Online Data
- Ongoing Data Quality Improvement
Platforms Evolve
A New Architecture

New platforms, new opportunities.....
2.0
Leveraging the new Platform....

Web 1.0
“the mostly read-only Web”

Web 2.0
“the wildly read-write Web”

46 million global users
1996

2.61 billion+ global users
2013 (April)

6 billion cell phones worldwide (20% smartphones)......
Web Services
Quick, but very important definition

WFS – Web Feature Service
WMS – Web Mapping Service
Geoprocessing Services

• are application components
• communicate using open protocols
• are self-contained and self-describing
• can be used by other applications

Sharing, Communicating, Publishing……
Continuum of Rights

Informal Land Rights

- Perceived tenure approaches
- Occupancy
- Adverse possession
- Group tenure
- Registered freehold
- Leases
- Anti-evictions
- Customary

Formal Land Rights
Continuum of Rights

Informal Land Rights
- Perceived tenure approaches
  - Customary
  - Anti-evictions
- Occupancy
- Adverse possession
- Group tenure
- Leases
- Registered freehold

Formal Land Rights

Actors
- Grassroots
- NGOs
- Surveyors
- Lawyers
- Valuers
Continuum of Rights

Informal Land Rights
- Perceived tenure approaches
  - Customary
  - Anti-evictions
  - Occupancy

Formal Land Rights
- Adverse possession
  - Leases
- Group tenure
  - Registered freehold

Documents
- None
- Memo
- Agreement
- Lease
- Survey
- Deed
- Title

Law-Policy
- Few respected laws
- Full legal compliance
Continuum of Rights
GIS Cloud is the Technology Enabler of the Continuum of Rights

Informal Land Rights
- Perceived tenure approaches
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Formal Land Rights

Technology
- Paper
- Sketch
- Feature phone
- Smart phone
- Electronic Sketch
- Desktop GIS
- Registry
- Cadastre
- Multipurpose LAS
GIS as a Platform
Connects and Leverages

Pervasive Apps

Enterprise
Desktop
Server

Cloud

Providing Webmaps and Tools...
This Platform Integrates All Types of Information

- Maps
- Spreadsheets
- Social Media
- Big Data
- Services
- Imagery
- DBMS
- Sensor Networks

Web Maps Normalize The Information . . .
. . . And Make It Accessible Widely
Web Maps are the New Medium
Providing Intelligent Maps to Everyone

Any Device
- Smartphones
- Tablets
- Desktops

Supporting Visualization, Query, Editing, and Analysis

Dynamic

Making Dynamic Geographic Information Available Anywhere
Global Basemaps and Data are Part of the Platform
Normalized Commercial and Government Sources

... Providing a Foundation for Cadastral Systems Worldwide
Data/Maps On/From Any Device
Apps - Changing the way we think about computing

- Viewing
- Editing
- Field Data Collection

Windows
iOS
Android
GIS

One Map

... Making Land Information Accessible Everywhere
GIS as a Platform
A Complete Cadastre Platform

Apps & Applications

Cloud/Server
Online
Server

Content & Services

Easy, Open and Cloud Enabled . . .
. . . Providing Transformational Opportunities
LADM in the Cloud
On your phone, on your desktop, on the web....

LADM WFS-- feature service
Editable worldwide
Publically available
LADM in the Cloud
Add information on tenure....

Any device
Works disconnected

Land claims: Nadege
First name
Nadege
Last name
Lesmithe
Cell number
999-555-1211
Date of birth
4/4/65, 11:00 PM
Gender
Female
Marital status
Widowed
Gov't ID
H121215

Open Maps and LADM attributes......
Authoritative and Contributed Content
Using all data available, appropriately.....
LADM in the Cloud

Brent Jones, PE, PLS