WORLD BANK INITIATIVES IN SPATIAL ENABLEMENT: SUPPORT FOR SUSTAINABLE LAND REFORM

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1. The World Bank – organizational overview
2. Demand for Spatial Enablement
3. Land Sector
4. New WB initiatives in spatial enablement
5. Key Challenges and Conclusions
The core business of the World Bank is overcoming poverty & boosting economic growth in developing countries.

- The World Bank Group – IBRD, IDA, IFC, MIGA
- 187 member countries
- 9,000 staff (approx) from 166 countries
- 120 offices – 38% of staff are based in regional offices
- In 2010, the World Bank (IBRD/IDA) provided approx. US$58.7 billion for 354 projects – excludes IFC & MIGA
- Administrative budget for FY2010 > US$2 billion
IBRD (International Bank for Reconstruction & Development)
- Established 1944 | 187 Member Countries
- Lends to governments of middle-income and creditworthy low-income countries.
- Cumulative lending: $523.6 billion
- Fiscal 2010 lending: $44.2 billion for 164 new operations in 46 countries

IDA (International Development Association)
- Provides interest-free, long-term loans—called credits—and grants to governments of the world’s 79 poorest countries which have little or no capacity to borrow on market terms
- Established 1960 | 170 Member Countries
- Cumulative commitments: $221.9 billion
- Fiscal 2010 commitments: $14.5 billion for 190 new operations in 66 countries

IFC (International Finance Corporation)
- Established 1956 | 182 Members
- Committed portfolio: $32.2 billion (includes $7.5 billion in syndicated loans)
- Fiscal 2009 commitments: $12.7 billion for 447 projects in 103 countries

MIGA (Multilateral Investment Guarantee Agency)
- Established 1988 | 174 Members
- Cumulative guarantees issued: $20.9 billion
- Fiscal 2009 guarantees issued: $1.5 billion for 26 countries

Millennium Development Goals – Target 2015

- **Goal 1**: Eradicate extreme poverty and hunger
- **Goal 2**: Achieve universal primary education
- **Goal 3**: Promote gender equality and empower women
- **Goal 4**: Reduce child mortality
- **Goal 5**: Improve maternal health
- **Goal 6**: Combat HIV/AIDS, malaria, and other diseases
- **Goal 7**: Ensure environmental sustainability
- **Goal 8**: Develop a global partnership for development
Democratizing Development is about:
New Approaches to Results

Scorecard
Results Measurement
Geo-Mapping: Results in real time
New Instruments

Setting a Trend...

KENYA openData
Launched July 8th
eTransform
Mapathon
Development and Poverty – why spatial is important

- Fundamental to the achievement of the MDG is poverty alleviation.

- However, for a long time, especially for developing countries, there has existed inadequate & unreliable poverty mapping data for both rural & urban environments, i.e. basic data about the location of the poor, has either not been available.

- Need to answer basic questions about the spatial distribution of the poor especially in terms of rural poverty in relation to agriculture & markets, urban populations & slums, distribution and access to basic services, employment, hazardous marginal lands prone to disasters & so on.
World Development Report (2007) is the first WDR to make explicit mention of geospatial information.

WDR 2010 stresses the importance of accurate & timely data, especially from remote sensing and other geographic information, & application of ICT:

“One reason that policy makers have found it so difficult to curb the overexploitation of land and water and their related ecosystems is that neither the managers nor the users of the resources have accurate and timely information. ………

….Research and development will be necessary to take full advantage of these new information technologies” …..

More reliable information can empower communities and change the governance of natural resources”. 
Trends Across East Asia and Globally

- GIS Market annual growth of 14% for 2010-2014 Geospatial World 8/2011
- NSDI Policy and in some cases legislation, and lead agency status
- Geoportals being established and they may be led by agencies other than land or mapping
- Traditional land and mapping agency silos are being challenged
- Growing ICT investment and capacity
- New approaches to service delivery including PPP
- Better procurement of mapping and imagery
- Banking/lending sector pressures
- Natural Disasters
- Land Governance
- FDI in land
Increasing Pressures on Land & Natural Resources

Increasing competition for land in the 21st century, driven by

- Population increase, urbanization, change in diets, biofuels, climate change.
- Global “land rush” – large-scale land acquisitions by foreign & domestic investors.

Concerns

- Protecting the land rights of smallholder farmers, including women & local communities for food security & poverty reduction.
- Ensuring an equitable, environmentally sustainable & economically efficient use of land resources.
- Increasing urbanization and loss of productive rural lands.

Hottest Underpinning Issue

- Good Land Governance which is dependent on many factors including the rule of law, civil service, etc etc..... & reliable spatial data - “AAA” – accurate, authoritative, assured.  (AAA – Williamson, 2011)
Why is the Land Governance Important?

Land Governance Issues:

- Insecure tenure leaves people marginalized & vulnerable to eviction from their land
- Inappropriate tenure policies lead to over-exploitation & over-grazing
- Many problems with access to land & other natural resources arise because of weak governance
- Attempts to address tenure problems are affected by the quality of governance
- Land speculation & inappropriate urban development
- Inappropriate land concession decisions & returns
Importance of Land Governance – Deforestation
Importance of Land Governance – FDI and Agri-Forestry
Importance of Land Governance - Conflict & Post-Conflict
Importance of Land Governance - Disasters
Importance of Land Governance—Tenure Security & Land Evictions
• The World Bank has been directly engaged in supporting the land sub-sector for more than 30 years:
  (i) policy development, analytical studies, technical assistance;
  (ii) investment lending for development & reconstruction.

• Currently the World Bank is supporting land administration projects $US $1.5 billion (global) and $US 180 million (East Asia).

• These projects have had varying emphases on institutional & policy reform, capacity building, tenure security, land management, governance, social equity, economic development, & service delivery - and more recently SDI.
Some Key Considerations for Land Sector

- Very strong statements from World Bank, including President and Managing Directors on importance of land sector.
- World Development Reports, since 2007 have consistently emphasized a need to scale-up land sector support.
- WDRs since 2007 have increasingly stressed the importance of utilization of geospatial data – & far more broadly than land sector.
- Land sector reforms are complex and cross-sectoral - requiring broadly based development strategy that addresses the wider social, economic, natural resources & environmental agenda.
- Land sector reform requires long-term engagement.
- Land sector reforms closely aligned to achieving the Millenium Development Goals (MDG).
- **Land governance** underpins land sector reform.
Key ICT Investments in Land Administration - WB support

- Computerization of databases and land registries
- Mapping and GIS
- GPS, CORS
- Online public access
- Service delivery – internal and external
- NSDI
- Computerized valuation and land tax

Modalities of Investment: Government and also PPP
Spatial Enablement - 3 Significant Trends Have Emerged of Particular Relevance to WB

- **Emergence of neo-geography and the geospatial web** is leading to many more bottom-up approaches to adoption & application of geospatial technology
  - Crowd-sourced and other user generated maps
  - Editable public maps, online map versioning, user feedback (statistics, ratings, tags, comments)
  - More informal bottom up SDI

- **Mobile geospatial applications & the growth in location based services**, incorporating citizen based data inputs from mobile phones & social media.

- **Highly Operational Earth Observation (EO) Services**:
  (i) standard satellite sensors;
  (ii) constellations of satellites for regular delivery of products;
  (iii) creation of large institutional markets for these products to drive down costs
New WB Initiatives in Spatial Enablement

1. Crowd Sourced Mapping
   - Community Driven Development
   - Disaster Preparedness and Response

2. Global Facility for Disaster Risk Reduction (GFDRR)

   - Joint initiative of the European Commission & ESA - aims at achieving autonomous & operational EO
   - Pull together all info from environ satellites, air & ground stations to provide a comprehensive picture of the "health" of Earth.
   - The World Bank has a cooperative agreement with the European Space Agency to pilot services built around GMES.
4. The Forest Carbon Partnership Facility (FCPF)

- WB program to assist developing countries in their efforts to reduce emissions from deforestation & land degradation (REDD).

- Designing & implementing accurate measurements, monitoring & verification systems to enable countries to report on emissions from deforestation & forest degradation.

- Satellite imagery & other geospatial information are essential for monitoring of REDD.
What is OpenStreetMap?

A web project to create a free and open map of the entire world, built entirely from volunteers surveying with GPS, digitizing aerial imagery, and collecting and liberating existing public sources of geographic data.
OSM and Crisis Response in Haiti

Before

28 Days Later
Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI)

- A joint initiative by the World Bank, the Asian Development Bank, and Pacific Islands Applied Geoscience Commission (SOPAC)

- Co-funded by the Japan Policy and Human Resources Development Fund and the Global Facility for Disaster Reduction and Recovery (GFDRR – secretariat at WB)

- With technical assistance from other institutes including Geoscience Australia
Pacific Catastrophe Risk Assessment and Financing Initiative

- Pacific disaster risk assessment
  - Probabilistic assessment of major perils: earthquakes (and tsunami), tropical cyclone (wind, storm surge and precipitation)
  - Framework to direct resources of countries and development partners based on actual risk
- Pacific disaster risk financing solutions
  - Fiscal risk exposure
  - Financial disaster risk management
  - Regional risk pooling
Developing country-specific and regional catastrophe risk models for the first time in the Pacific
Major effort in assembling, processing & organizing the largest collection of geo-referenced datasets in the region

- Satellite imagery
- Administrative Boundaries
- Population Census Data
- Agricultural Census Data
- Surface Geology Maps
- Topographic maps
- Surface soil maps
- Bathymetry maps
- Infrastructure maps (e.g., roads, bridges, Utilities, etc.)
- Geodetic & Fault Data
- Hundreds of references
Some Key Challenges

- Spatially enablement versus spatially dependence
- Development investment is demand driven - social, economic, environment etc. reforms not technology driven or supply driven
- Calibration of geospatial investments to meet specific country requirements, including capacity & sustainability
- Data quality – “AAA” versus non-official
- “Templating” solutions from elsewhere without due regard to local conditions, laws etc.
- Understanding local capacity, laws, governance etc
- Spatial lobbyists, vendors, consultants – different agendas, independence of expert advice
Conclusions

• **Investment** in land administration systems should explicitly see the development of the NSDI & spatial enablement of the government as part of overall reform, which facilitates an expanded agenda that includes land governance, social development, sustainable management of natural resources and the environment, disaster prevention, climate change, carbon monitoring.

• Land-related issues will continue to be high priority areas of engagement by the WB - food security, climate change, disaster mitigation and response, poverty alleviation, growing urbanization, carbon, conflict, human rights.

• **The importance of the cadastre**, in its broadest sense, and its governance, remains paramount in almost all development interventions.

• **Spatial data will increasingly be sourced from non-official sources**

• **Investments need to be calibrated** for the specific country requirements, including capacity & sustainability.
THANK YOU!