How Disruptive Technology Will Impact Financing of Land Administration Projects

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“Building Sustainable Communities”
Factors of Production

Engine for Economic Growth

Land

Labor

Capital
Importance of Property Rights for the Economy

- Secure Property Rights
- Agriculture
- Financial Sector
- Housing
- Urban Development
- Private Sector Development
- Environment
Security of Property Rights and Well Functioning Land/Property Registration System

- Laws and regulations that deal with property rights are clear, coherent and enforced
- Land Administration Institutions have adequate capacity and financing
- Judicial system is transparent and effective to protect property rights
- Government implements programs (to complete registration of rights and automate services)
- Complementary programs are needed to ensure full protection of rights (i.e. forest boundaries, shore lines,.. etc.)
- Government enacts laws to protect the right of vulnerable groups (indigenous people, women, displaced people ..etc.)

Total Funding: USD 3.5 Billion
History of Engagement

Three generations of land engagements supported by the World Bank

First Generation (1980s – 1990s): Land Titling

Second Generation (2000s-2010): Land Titling, Governance and Computerization

Third Generation (2010 – Now): Land Titling, Governance, Computerization; Policy and NSDI
First Generation (1980s-1990s)

- Started with the Thailand land titling project focused on issuing titles with the goal to improve agriculture productivity
- Support also provided for drafting laws and regulations
- Similar projects were implemented in Indonesia, Laos, Cambodia, Vietnam, and many of the Eastern Europe countries
- Economic impact assessments have shown land titles have increased agriculture productivity, increased access to credit using land as a collateral and reduced cost of borrowing
Second Generation (2000s-2010)

- In addition to issuance of land titles/cadastre, increased focus on building sustainable institutions and computerization of land registries in addition to some work on property valuation
- Many of the Europe projects fit with this, e.g., Russia, Turkey, Macedonia, Croatia, Bosnia, etc.
Third Generation (2010-now)

- In addition to areas covered under the first and second generation, third generation of projects focused on NSDI issues, computerization and data conversion, and data sharing
- Most new generations projects fit this combination
Global Challenges in Land Administration That will Shape Fourth Generation

• Only around 30% of the Global Population have documentary property rights

• In order to make progress by 2030, the 30% need to increase substantially

• There are four ways to do it:
  - Fit for Purpose Approach
  - Innovations and Technology
  - Partnership with private sector
  - Integration of Cadastre Data with overall Geospatial Information Management/E-government programs
Fit for Purpose Land Administration

- Satellite/Aerial/Drone imagery rather than ground surveys
- Accuracy should relate to purpose rather than technical standards
- Update accuracy over time
- Use non-documentary evidence for land rights
Innovations and Technology

- Already utilized in many areas – specially in cadaster mapping
- Need more work on utilization technology in establishing rights by linking tax record, digital-ID, address system, building permit and utilizing AI and machine learning in searching deeds documents
- Artificial Intelligence in digitizing deed documents
- Blockchain in registration
- 3-D Cadastre
Partnering with Private Sector

- Private Sector could provide its expertise and financing in case it can build a profitable business model

- Land Registries are revenue generating entities.. Thus easy to construct such a profitable model

- PPP arrangements for property registration is already in place in several countries (Canada, Australian, India, the Philippines, ..etc)

- **BUT**, there are many requirements to build a profitable business model.. And it includes many risks..
  - Risks to Citizens
  - Risks to Government
  - Risks to Private Sector
Taxonomy of Private Sector Role in Land Administration

**Government role**

- **Full responsibility**
  - No Role At all

- **Service Contracts**
  - Legal and cadastral services
  - Notary services and other certifications

- **Partial Concession**
  - ITC systems
  - Front Office Function

- **Full Concession**
  - All Functions

**Examples**

- Private Sector Functions
  - Netherlands
  - Thailand
  - New Zealand
  - Indonesia
  - Dubai DLD
  - Switzerland
  - Philippines
  - Canada
The World Bank seeks to fill knowledge gaps on PPP in Land Administration through

- Development of **an Analytical Framework**
  - Identify opportunities, risks and minimum requirements

- Development of **an Operational Framework** for evaluating a country’s readiness to implement PPP instruments

- Preparation of three-four country specific pre-feasibility assessment to test the application of the operational framework

- Four Global Consultations
  - Dubai – October 2018
  - Singapore
  - Europe
  - Washington DC
But, There Are Also Significant Risks

Benefits

- Improve services
- Reduce time to register transaction
- Reduce corruption

- Increase financing of land administration
- Accelerate modernization programs
- Increase customer satisfaction
- Access to digital land data

- Market expansion and sustainability
- Long term business models
- New revenue streams

Risk Analysis

Citizens

- Risk identification
- Mitigation

Government

- Risk identification
- Mitigation

Private Sector

- Risk identification
- Mitigation

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Initial Findings from the First Consultation

- Automation Function is the most attractive for both Governments and Private Sector

- Automation includes software development and hardware; operation, maintenance and update; internet; data conversion and storage; training and support; etc.

- Payment to private sector will be based on transactions

- Digital Data should be fully owned by government but private sector will have access to develop additional services

- For private sector, need three key skills/pillars: business skills in cadastre/land registration; IT and Financing

- First registration is not attractive for private sector, unless it is linked to a stream of annual revenues (property tax)
Integrated Geospatial Information Framework

A New Global Framework for Building Geospatial Information Infrastructure (G2I) at the National and Local Levels

Developed Jointly by the World Bank and the UN under the umbrella of UN-GGIM
WHY IGIF is Needed

- Economies are changing….
  - E-government
  - E-service
  - E-commerce
  - Smart cities, self driving cars, Amazon, Uber, ..etc.
- Many of these functions/applications are based on location based databases (Geospatial)
- There is big divide between developing and developed countries
- Governments play an enabling role for the development of Geospatial Infra at the National and Local levels
Objectives of the IGIF

- Provide reference for country-level action plans, including investment plans and socio-economic justification, to operationalize and ensure the sustainability of national geospatial information infrastructure.

- Aimed specifically at low and medium income countries, but with broader relevance.

- Can apply to national and local levels.
Cadastre Data is one of the Key Fundamental Data Layers of the Geospatial Information Management

- Property rights protection
- Taxation
- Mortgages
- Land use planning
- Utility information management.
- ….
Concluding

- Need to accelerate land registration in low and middle income countries
- Keep reforming land administration in developed countries
- Technology is advancing rapidly and government alone can’t catch up
- Government will need to partner with Private Sector in financing and managing some aspects of land administration
- Land information data are key to many government and commercial functions; need to integrate into overall Geospatial Information Management/e-government initiatives at national and local levels
- Cadastre surveying as we know it will change. 3-D cadastre/imaging will replace it and the profession will be disrupted.
THANK YOU

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