

# Land Administration in EAP – Issues and Experiences with ICT

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# Key ICT Issues for Land Administration Projects (1)

- **ICT is not a tool** – it is a suite of technologies including GIS, CAD, RDBMS, GPS, Satellite Imagery, Digital Orthophotography, Digital Mapping, Internet, Phone, etc
- **Technology convergence** - land administration projects benefit from convergence of these technologies
- **Technology is only the tip of the iceberg** – institutional reform, legal/regulatory reform, business process re-engineering, standards, training and HR, conversion to digital data provide the biggest challenges and require the greatest investment of resources and time
- ICT applications can **improve governance** through more equitable, transparent access to consistent information
- **Information** – it is estimated that approx. 80% of all government data is geospatially referenced, i.e. it is location specific
- **Legal/regulatory reform** lags behind technical innovation – digital signatures, digital legal records, e-conveyancing
- **Privacy and confidentiality** – Key social issues. Data integration, especially geospatial data from land ownership, tax, credit are invasive. Potential benefits and applications may need to often be scaled back to protect privacy
- **Roles of the public and private sector**

## Key ICT Issues for Land Administration Projects (2)

- **Government funding** – governments are increasingly treating the funding of land information and associated systems as capital works or infrastructure to ensure appropriate budget provision. (A benefit-cost study for the Australian Government identified benefits of 4-6 times the costs of investing in digital geospatial data capture, ANZLIC - PWC, 1995.)
- **Access to Power** – Many remote areas do not even have electricity supply
- **Access to Telecommunications**
- Land administration systems have **long implementation periods**, 10-25 years – key benefits are often not realized within the 3-5 year period of a Bank-funded project
- **Community Education and Public Awareness** - essential
- **Civil Service Awareness** – often a lack of awareness of ICT within government and existing investments
- **Civil Service Agencies** – **unwilling to share data**. Often enormous duplication of data collection and systems development
- **Need for political champion** – to ensure successful project implementation

# **Some Key Areas of ICT Investments in EAP Land Administration Projects**

- **Land Titling** – Use of GIS, CAD, GPS, satellite imagery, orthophotography in all projects
- **Records Management** – use of RDBMS and GIS in all projects, Data Warehousing in VN VLAP
- **Information Access** – Information Kiosk in ID LMPDP, Mobile Wireless to remote areas in ID LMPDP, SMS/TXT services for notary monitoring of land transfer processing ID LMPDP, One Stop Shops in PH LAMP I & II
- **Service Delivery** – use of web-based systems VN VLAP
- **National Spatial Data Infrastructure** – creation of fundamental data sets (geodetic, cadastral etc) for applications outside of land titling VN VLAP, LA LTPII
- **Public Awareness Raising** – Internet VN VLAP
- **GPS Base Stations** - LA LTPII, VN VLAP

## “Evolution” of EAP World Bank-Supported Land Projects

Generation	Period	Scope	Examples
1 <sup>st</sup>	1980-1995	<ol style="list-style-type: none"> <li>1. First registration</li> <li>2. Capacity bldg govt</li> <li>3. Limited reform</li> </ol>	Thai. - LTPI & II Indon. – LAP
2 <sup>nd</sup>	1995-2000	<ol style="list-style-type: none"> <li>1. First registration</li> <li>2. Streamlining laws</li> <li>3. Institutional reform</li> <li>4. Capacity bldg govt &amp; private</li> <li>5. Valuation and tax</li> <li>6. Service delivery</li> </ol>	Phil. – LAMP I Laos – LTP I
3 <sup>rd</sup>	2000 to present	<ol style="list-style-type: none"> <li>1. Expansion of 1<sup>st</sup> &amp; 2<sup>nd</sup> generation activities</li> <li>2. Wider policy reform</li> <li>3. State land mgt</li> <li>4. LUP and development</li> <li>5. Good governance and civil service reforms</li> </ol>	Camb. – LMAP Indon. – LMPDP Laos – LTP II Phil. – LAMP II
4 <sup>th</sup>	2005-present	<ol style="list-style-type: none"> <li>1. Implementation of some areas of 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> generation projects.</li> <li>2. NSDI</li> </ol>	Vietnam –VLAP Project (to commence mid 2008) Indon – RALAS (emergency response – current )

# World Bank Support to Land Administration Lending Projects

Region	Before FY 95	FY 95-00	FY 01-06	TOTAL	
	No. of projects	No. of projects	No. of projects	No. of projects	USD mil
<b>Africa</b>	16	15	28	59	94
<b>East Asia &amp; Pacific</b>	9	9	13	31	378
<b>Europe &amp; Central Asia</b>	3	10	16	29	615
<b>Latin America &amp; Caribbean</b>	13	9	8	30	845
<b>Middle East &amp; North Africa</b>	5	3	3	11	33
<b>South Asia</b>	5	3	6	14	6
<b>Total</b>	<b>51</b>	<b>49</b>	<b>74</b>	<b>174</b>	<b>1,971</b>

# Knowledge Sharing & Building Capacity

**WB's Land Thematic Group (LTG) is very pro-active in establishing external arrangements to share knowledge and build capacity:**

- **International Federation of Surveyors** – Regional Conferences, Expert Group Meetings etc. (WB has cooperative agreement)
- **International Land Coalition** – Networking of NGOs (WB has cooperative agreement)
- **UN Habitat** – Global Land Tool Network (GLTN). WB has cooperative agreement with UN Habitat
- **UN FAO** – expert support for RD projects, incl land. LTG also has a cooperative agreement with FAO Land Tenure Service
- **FLOSS** – Free/Libre Open Source Systems – cooperative development led by FAO with WB and University of Otago (NZ)

In addition, through EASRE:

**Permanent Committee on Geographic Information Infrastructure for the Asia Pacific Region (PCGIAP)** – 44 member countries including land projects EAP, SAR, ECA (some)

Video on ICT applications for land administration in Indonesia  
on w: drive

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# ARD Note 38: ICT in Land Administration Projects



## Information and Communications Technology in Land Administration Projects

BY EDWARD COOK, VICTORIA STANLEY, GAVIN ADLINGTON, KEITH BELL, AND MIKA TÖRHÖNEN

Application of Information and Communications Technology (ICT) to land related projects is now a widespread phenomenon, through both donor-supported interventions and autonomous development. Since the mid-1990s the World Bank has been increasingly involved in ICT land project implementations. The advantages have proven substantial in reducing the time required to complete transactions, improving access to information by the public, as well as other government agencies, reducing the costs of data acquisition, and contributing to standardization of system design. The successful application of ICT to land projects has increased since the 1990s, as lessons from the first tier of programs became clear and were subsequently applied. This note summarizes the demonstrated advantages of ICT application, as well as the key lessons learned.

### ADVANTAGES OF ICT APPLICATION TO LAND PROJECTS

**Data Acquisition** – Data acquisition is more feasible and costs less by applying ICT than often-used technology that are quite sophisticated. The use of high, but robust, technology for data acquisition (satellite imagery, digital orthophotos, CORS, GPS) provides more simplification, increased efficiency, less cost, and greater accuracy. In Cambodia, for example, 1 million properties have been registered in both graphical and

attribute terms starting from a situation with almost no data was available. The cost per property, applying orthophoto-interpretation and field adjudication, was about US\$8. These costs can typically run US\$20 or more in other settings. A similar approach is currently being piloted in Andhra Pradesh, India, whereby parcel boundaries are adjudicated in the field with digital orthophotos on laptop. Cost benchmarking of this approach has not been carried out, or at least is not yet available.

**System Standardization** – Introduction of automated systems brings with it a review of existing paper-based data classification and management procedures, including the formats in which data is submitted to the land registry and cadastre. Anomalies in system operation are found across regions within a country. Systems automation allows for a comprehensive review of these existing practices and their standardization on a national level, which in turn results in improved efficiencies in systems operation. ICT application can also spur a rationalization and simplification of the forms utilized in interactions, both internally as well as with the client.

**Data Access, Service Standards, Planning, and Governance** – Inherent in the application of ICT is improved data access. There is now a long list of project cases where customer service standards have benefited substantially as a result. The ready availability of digital land data facilitates government land use planning. It can also improve linkages with third parties, such as financial institutions involved in mortgage lending, and civil society organizations.

IT solutions can improve governance. Web based solutions have improved transparency and can improve the security of tenure. Accessible information on who-owns-what tangibly hinders grand corruption. Along with the standardization and streamlining land registration operations noted above, application of ICT can cut down on gate keeping and information capture, which are often sources of petty corruption.

