



Report on
3rd Land Administration Forum
Re-Engineering The Cadastre to support e-Government

24-26 May 2009-Tehran, Iran

PCGIAP-Working Group 3 (Spatially Enabled Government)

The UN sponsored Permanent Committee on GIS Infrastructure (PCGIAP) together with Islamic Republic of Iran's Deeds and Properties Registration Organization, the International Federation of Surveyors (FIG), the Global Spatial Data Infrastructure Association (GSDI) and the Centre for Spatial Data Infrastructures and Land Administration, University of Melbourne, are organizing a three days Forum as part of the PCGIAP-Working Group 3 activities in Tehran to discuss land administration issues and the role of cadastre to support e-government in the Asia and Pacific region. The Seminar was Chaired by Prof Ian Williamson and co-chaired by Associate Professor Abbas Rajabifard.

Over 410 people from 15 countries and 4 international organisations attended the forum. The objectives of the forum in Tehran were:

- To discuss the role of cadastre to support e-Government strategies
- To share land administration experiences in the Asia and Pacific region with a focus on re-engineering cadastre to support e-government
- To discuss wide ranging land administration issues including access to land and security of tenure, the role of land administration in supporting sustainable development, the promotion of effective land markets, poverty reduction, protection of vulnerable groups, e-land administration, land registration, cadastral surveying and mapping etc.
- To continue discussion on the need for an ongoing land administration forum in the Asia and the Pacific region that was commenced at the Mongolian and Malaysian forums with a view to preparing a proposal and resolution to be put before the UN Cartographic Conference for Asia and the Pacific in Bangkok 26-29 October, 2009.

This initiative was the result of a Resolution passed by the 14th PCGIAP meeting in Malaysia in 2008 and a desire by many countries in the Asia and the Pacific region to have a forum to discuss and share land administration issues, best practice and experiences, in a similar manner to the Working Party on Land Administration (WPLA) for European countries, organized by the UN Economic Commission for Europe (UNECE).

The focus of the forum was developed both by the PCGIAP and the 2nd Land Administration Forum for Asia and the Pacific hosted by the Malaysian Government in 2008. It was also influenced by the first Land Administration Forum organized by the Mongolian Government in 2007 that was also supported by UNDP, UNECE (WPLA), GSDI Association, FIG, the Asian Development Bank, German Technical Assistance (GTZ), Eurogeographics and the National Land Survey of Sweden.

As part of the program (Attachment 1), there were more than 20 presentations including invited presentations from FIG, GSDI and Eurogeographic, Europe and also selected countries from Asia-Pacific that presented. The forum was conducted in seven sessions including an opening session (4 presentations), five invited speaker sessions (20 presentations) and each session and presentation was followed with a discussion. The countries presented were Australia, Bahrain, Brunei, China, Denmark, India, Iran, Laos, Malaysia, Mongolia, Pakistan, Singapore, Switzerland, The Netherlands, UAE.

The speakers were selected based on their expertise on land administration and cadastre as well as understanding of the issues and trends relating to Land Administration in their jurisdiction. They were asked to address the key role of their cadastre in their e-government program or any progress in that regard. Also to address challenges or issues facing the development of their cadastre or land administration system.

FORUM OUTCOMES

The final session of the forum was used to discuss and finalise forum outcomes, resolutions and the report to the PCGIAP. In summary, the following is feedback from the Forum.

The 3rd Land Administration Forum acknowledges the warm welcome from the Head of the Judiciary Honorable Ayatollah Hashemi Shahrodi and noted his message to the Forum to consider issues and strategies that may be useful to Asia-Pacific member nations to improve their cadastre, land registration and related land administration and SDI activities. In response to this message the Forum has developed and endorsed the **Tehran Declaration** on Land Administration to Support Sustainable Land Markets and e-Government, and hopes that the declaration will be useful to improving the land administration systems in the region and contributing to a better quality of life for society.

Day 1: 24 May 2009

Session 1 – Opening Ceremony

Ayatollah Hashemi Rafsanjani, Chairman of the Assembly of Experts of the Leadership, provided an excellent and inspiring opening address to the Forum. He focused his talk around three words: land; cadastre; and e-governance. The Ayatollah pointed to the guidance in the Qoran on land as a place for location that is a gift from God and it is our obligation to harness and exploit land in a responsible manner. The Ayatollah noted his role as President of the Islamic Republic of Iran in fostering the cadastre. He observed that his speech was on the 20th anniversary of the liberation of Khorumshar. It became clear in the reconstruction of

Khorumshar that better cadastral records were needed in Iran and this experience was a key impetus in the increased emphasis on developing the cadastre in the past decades. The Ayatollah reminded us that God had all knowledge and it was our responsibility to develop IT and e-governance as these systems enabled us to efficiently gather information and make better decisions.

Session 2 – Forum Plenary

Prof. Ian Williamson outlined the Forum structure and objectives. He provided background to the land administration Forum under UN-PCGIAP – the first Forum in Mongolia in 2007 and the second last year in Malaysia. Professor Williamson noted that key stakeholders in the region pointed to other organizations such as the UNECE Working Party for Land Administration in Europe and felt that there was the need for such an organization in Asia and the Pacific. Professor Williamson announced that he and Professor Abbas Rajabifard would be standing down after more than 10 years involvement with UN-PCGIAP at the UN RCC-AP meeting in Bangkok in October 2009 when their current terms as Chair and Vice Chair of Working Group 3 end. Professor Williamson announced that the current Chair of UN-PCGIAP, Mr Greg Scott, who is responsible for all spatial activities in the Australian government, had announced recently that when he stepped down later this year he would be available to take on the vacant position of Chair of Working Group 3 to represent Australia.

Professor Williamson also announced that Mr Ahmed Fauzi from Malaysia was available for the position of Vice Chair of Working Group 3 responsible for Spatially-Enabled Government and that Judge Amiri from the Islamic Republic of Iran was available for the other Vice Chair of Working Group 3 responsible for Land Administration. These changes were to be confirmed in the UN RCC-AP meeting in Bangkok in October 2009.

Prof. Abbas Rajabifard then provided a summary of the achievements of Working Group 3 in the past 8 years. The Working Group had participated in 4 major projects: support in Asia and the Pacific for the FIG-sponsored cadastral template; investigations into the marine cadastre; study into data integration; and development of concepts related to spatially enabled government. In addition the Working Group had organized 5 workshops, established a dedicated website and developed and implemented a publication strategy. Future action for the Working Group concentrated on continuation of work on spatially enabled government and land as part of e-governance.

Prof. Ian Williamson then presented on the issues related to re-engineering the cadastre to support sustainable development. He highlighted in particular that each day there was an additional 120,000 new residents in cities in Asia and noted the serious implications of this increasing urban population for governments in ensuring that these new residents had access to adequate housing and land for livelihoods. A key point made by Professor Williamson was that the needs of national governments for land information was not well understood and that land records would have to become national assets rather than the operational records in land sector agencies.

Prof. Stig Enemark then presented an invited paper on land administration and cadastral systems in support of sustainable land governance. He noted that land governance was a new

term that was not well understood, but was becoming increasingly important with increased pressure on land resources and global commitments to reduce poverty through the Millennium Development Goals. Professor Enemark pointed out that systems to record rights and restrictions would have increased importance and that the key aspects in systems to record restrictions will be decentralization, comprehensive planning and public participation. Professor Enemark emphasized that there is no one ideal land administration system that will suit all situations. He finally emphasized the key role of the cadastre in building spatially enabled societies.

Session 3 – Invited Speakers

Mr. Tony Burns (Australia) described indicators of an effective LAS derived from a comparative study of 17 countries and stressed the need to interpret indicators from a countries perspective. The indicators from this study provide a framework to assess efficiency, undertake benchmarking and provides parameters for land administration reform.

Prof. Bas Kok (Netherlands) stressed the importance of the cooperation between PCGIAP and GSDI and gave another short overview of their common workshop in Seoul in June 2007 and presented the main conclusions. This cooperation provides a model for collaboration in the further development of spatially enabled governments using successful SDI/e-government implementations in Europe and elsewhere as a model. Prof. Kok in the second part of his presentation detailed various successful projects in Europe. He discussed high level achievements from Finland, Sweden and the Netherlands in building up their geodata sector. Spain has achieved close cooperation with academia and emphasized education and capacity building.

Mr. Pengiran ABD Wahab Pengiran Hassan (Brunei-Darussalam) reported on the re-conceptualization of land as Brunei moves from a feudal to a modern system and the development of a strategic action plan to recast its technical and legal frameworks so that land can be released to enter the market. A key issue is the provision of a legal framework for handling restrictions on land in a rapidly developing country with large industrial projects.

Mr. Jahangard (Iran) reported on a high level of digitization of records, strong cooperation with other agencies, especially the municipality of Tehran and the development of an SDI vision and architecture. A key issue for Iran is building bridges amongst key agencies to achieve an SDI framework.

Day 2: 25 May 2009

Session 1 – Invited Speakers

Mr. Peter Holland (Australia) made a presentation on e-government in Asia and the Pacific and the implications for the cadastre. He referred to the newly published UN report on e-Government Survey 2008. He emphasized that modern ICT provides an enabling environment for the processes of transformation and, on the other hand, the requirements for e-government raises questions on the effectiveness of spatial data infrastructures. He pointed to the cadastre as a strategic governmental and societal asset.



Mr. Hasan bin Jamil (Malaysia) presented the cadastral reform in Malaysia to support spatial enabled government. He pointed out that the Malaysian SDI includes framework data, meta data standards, feature codes, unique parcel identifiers, and street addresses. He emphasized the recent e-cadastre project facilitating land acquisition for purposes such as road construction. The current system of qualified titles (not surveyed) and final titles (surveyed) is now increasingly moving towards a fully surveyed title system.

Mr. Richard Ho (Singapore) presented the Singapore land administration system in an electronic age. The system represents a world best practice in terms of e-government. It includes conversion of former common law deeds system into a modern Torrens title system. The road ahead is about introducing electronic signatures and intelligent maps. The development of the advanced Singapore model has, however, not been cheap and has been a long journey. The private sector has played a key role in this implementation in partnership with government.

Ms. Bayarmaa Byambaa (Mongolia) presented on the cadastral developments and good governance initiatives in Mongolia. She mentioned the recently developed National Land Information System (NLIS) that includes cadastral procedures, land registration, land fee and tax collection, the use of cadastral data for multi-purpose and services to the public. She emphasized a range of obstacles for sustaining the system in terms of quality improvements, completion and on-line access.

Session 2 – Invited Speakers

Ms. Jude Wallace (Australia) highlighted that cadastral data themselves may not be well understood by the people. But if the cadastres learn from the Google maps phenomenon, and spatially enable their data, the benefits can be enormous. Address data will play a key role in this.

Prof. Bas Kok (Netherlands) presented the huge benefits that the Dutch cadastre has by having the cadastre, the land registry and the topographic mapping function in the same organization. The creation of one-stop-shops and web-based services allows the provision of manifold e-Government services. The pragmatic approach and definition of key registers including address data and some 80 public restrictions increases the use and thus value of cadastral data. The cadastre has been assigned to be the distribution for cable and pipeline data and the Dutch topographic large scale basic map.

Dr. Nasir Javed (Pakistan) illustrated the shortcomings that the Punjabi land administration system is confronted with. The present system is based on a 100 year old deeds system, which itself is based on a 450 year old system. He shows that in order to revise a system, it is not sufficient to only revise single parts, the whole system has to be revised as a whole, in analogy to a car. The missing links are business process re-engineering and change management, both of which are lacking from current initiatives for land administration reform in Punjab.

Mr. Chantaviphone Inthavong (Laos) provided an overview of land administration reform initiatives in Laos which is one of the poorest countries in Asia and where about half the population still using slash and burn cultivation. The Government with donor assistance had been successful in building a policy and legal framework, issuing about 500,000 land use

certificates in urban areas and in building capacity. The challenges now faced by the National Land Management Agency are bedding down a new institutional structure and developing policy and procedures to undertake planning and formalize rights in rural areas. A key issue that was highlighted was the difficulty in aligning government and donor priorities.

Session 3 – Invited Speakers

Dr. Daniel Steudler (Switzerland) gave a presentation about Switzerland and its Cadastre. The key principles for land ownership are (i) no ownership without registration, (ii) no registration without survey, (iii) no survey without boundary definition. The key elements for providing the basis for an SDI is a unified geodetic foundation, standardized data modeling respecting a layer approach with the layers connected only through coordinates. This enables a simpler data model and facilitates the addition or removal of layers. The federal structure forms a challenge in building a national SDI. A key lesson has been to develop a core federal data model that the cantons must respect as a minimum in developing their own systems.

Mr. Ali Ghameni (Tehran Municipality) showed the progress of the Municipality of Teheran in its ambition for an electronic city. The municipality maintains a land-use planning system which will be integrated in data bases. Updating problems are being solved. They are working on an integrated topic and locations data base with 2.5 million parcels. Legislation for surveying exists. Recent and historical aerial photographs are available on-line. The municipality has made a strategic alliance between the municipality and the cadastral office to provide high quality, real-time and on-line information through an in-house Intranet.

Ms. Seema Ahmed Al-Langawi (Abu Dhabi) presented on land administration reform in Bahrain, Dubai and Abu Dhabi. In Bahrain, the land registry has traditionally been under the jurisdiction of the courts with no linkage to the cadastre. In 2003 a single land administration agency was created in Bahrain. In Dubai, there has been rapid real estate development and changes in policy to stabilize the market. The department and municipalities have struggled to develop their systems to service the demands resulting from this development. Abu Dhabi is trying to be more pro-active in developing a municipal land registration system that meets the needs of the market. The key lesson is in an environment of booming economic development, there is an increased need to integrate land administration systems.

Dr. Shahidah Mohd. Ariff and Ms. Adibah Awang (Malaysia) presented a good case study of difficulties in integrating a strong customary land tenure system into a formal land registration system. A statute in 1911 froze customary alienation and this has implications today in recording succession and maintaining economically viable land holdings. The government is still struggling to develop land policies to address these issues.

Day 3: 26 May 2009

Session 1 – Invited Speakers

Prof. Abbas Rajabifard (Australia) presented on SDI, cadastre and socially enabled societies. Spatial enablement can contribute to societal benefits, but we need a vision and a roadmap to achieve this outcome. Every country will travel a different road to achieve the vision. An



important requirement is governance of the people, policy and resources involved. We will need collective action. One of the pathways is spatial enablement to support e-government. A key point made by Prof. Rajabifard was the importance of SDI, land administration and spatial enablement in achieving the vision of a spatially enabled society.

Mr. Bal Krishna (India) presented on the modernization program for land records in India. Decision-making in India takes time in order to reach a consensus. This particular project is nationally important and also expensive. It aims to transform India's land records from paper to electronic form in order to increase tenure security and the efficiency and effectiveness in decision-making in relation to land. However, if not done correctly, it will have an adverse effect on citizens. The key message from this presentation was that the government's decision to implement a Torrens title system may have adverse impacts.

Dr. Zhang Yonghong (China) presented on the national land use change program of China. Land-use management is very complex in China. The presentation focused on China's use of technology to improve this complex situation. Rapid urbanization is causing great changes to land use. The change from cultivated to constructed land is being monitored by GPS, GIS and remote sensing, and the innovative use of unmanned aerial vehicles (UAV). Imagery is processed in an automated way to detect changes in land. The results are validated in the field. This approach over the last 10 years has provided an independent source of information to the central government on land use change. The central government has recently allocated USD 2 billion to develop a land use management system.

Dr. Mohsen Kalantari (Australia) presented on e-land administration for better governance. He began with a comparison of the development of governance arrangements in relation to land administration between Eastern and Western countries. An important point from this analysis was that by re-engineering the land administration system there are opportunities for wealth generation. He then demonstrated the innovative use of technology in Victoria, Australia where ICT is being used by citizens to readily access information about their own properties, to assess information about rights and restriction in a particular location and geocoded information from the cadastre is being used as a means of integrating government web services.

Mr. Hamid Berenjkari (Iran) presented on modernization of the land registry and the development of a cadastre in Iran. Special registers of land have existed in Iran for centuries and have been an important means of assessing taxation. The land registration system came into effect in the 1920's, and the present cadastral system came into effect in the 1980's. Iran has a deeds registration system and this system is being reformed in three stages: planning, design and implementation. Each land parcel ID has a geocode. This is a huge reform process as there are 140,000 registry books to be converted. The presentation concluded with comments on progress Iran is making towards meeting the goals of the six Cadastre 2014 statements. At the end, he provided an on-line demonstration of e-land government in Iran.

Resolutions



Resolutions to be taken to PCGIAP to support a resolution to the United Nations Cartographic Conference for Asia and the Pacific, October, 2009.

The 3rd Land Administration Forum in Tehran 24-26 May 2009 resolved

- to support the resolution of the 14th PCGIAP to have an annual forum to discuss land administration issues, best practise and experiences in the Asia and the Pacific region.
- to propose that process re-engineering as part of an ICT strategy directed at land administration, cadastre and SDI and spatial enabled government and society be included in any strategies to improve land administration systems and also in the future workplan of PCGIAP-WG3 and land administration forums.

Also, the Forum Expressed of Gratitude to the Host Government

Expresses its sincere gratitude to the Government of Islamic Republic of Iran, the Deeds and Properties Registration Organisation, Tehran Municipality for the kind hospitality and gracious support extended to all participants at the 3rd Land Administration Forum, held in Tehran.

Further information about the Forum (background documents, aims and objectives, forum outcomes, etc.) and other related materials can be found at the dedicated forum website: <http://www.csdila.unimelb.edu.au/projects/tehran/index.html> or through the PCGIAP-WG3 web page (www.pcgiap.org).

Attachment 1

Forum Program

Day 1 - 24 May 2009	
8:00 – 8:30	Registration
8.30 – 10:00	<p>Opening Ceremony</p> <ul style="list-style-type: none"> • Opening and Welcome Speech, Head of Host Organisation, Iran's Deeds and Properties Organisation and Deputy of Judiciary (Mr Judge Amiri) • Welcome Speech, Chair Land Administration Forum (Prof. Ian Williamson) • Speech by Honorably Ayatollah Hashemi Rafsanjani, Chairman of the Assembly of Experts of the Leadership and Chairman of the Expediency Discernment Council of I.R. of Iran
10:00 – 10:30	Tea Break
10:30 – 12:30	<p>Forum Plenary</p> <ul style="list-style-type: none"> • Welcome Message from the Head of the Judiciary, Honorable Ayatollah Hashemi Shahrodi • Welcome Message from PCGIAP-President, Mr. Greg Scott • Forum Structure and Objectives, Chair (Ian Williamson) • PCGIAP Working Group 3 Status and Report, Vice-Chair, (Abbas Rajabifard) • Position Paper-Re-Engineering the Cadastre to Support E-Government (Ian Williamson) • Land Administration and Cadastral Systems in support of Sustainable Land Governance (Stig Enemark ; FIG President)
12:30 – 14:00	Lunch Break
14:00 – 15:30	<p>Invited Speakers</p> <ul style="list-style-type: none"> • Land Administration Reform (Tony Burns, Australia) • Cooperation GSDI and PCGIAP on Spatial Enabled Government (Bas Kok, GSDI President) • Conceptualization of land in Brunei (Pengiran ABD Wahab Pengiran Hassan, Brunei Darussalam) • Iranian Cadastre System (Nasrollah Jahangard, Iran) <p>Discussion</p>
15:30 – 16:00	Tea Break
16:00 – 18:30	Milad Tower Visit
19:30	Welcome Dinner

Day 2 – 25 May 2009	
9.00 – 10:30	<p>Invited Speakers</p> <ul style="list-style-type: none"> • E-government in Asia and the Pacific: implications for the cadastre (Peter Holland, Australia) • Cadastral Reform in Malaysia to support Spatially Enabled Government (Hassan bin Jamil, Malaysia) • Singapore's Land Administration in Electronic Age (Richard Ho, Singapore) • Cadastre Development and Good Governance in Mongolia (Bayarmaa Byambaa, Mongolia) <p>Discussion</p>
10:30 - 11:00	Tea Break
11:00 - 12:30	<p>Invited Speakers</p> <ul style="list-style-type: none"> • Using Cadastre to Spatial Enable Government (Jude Wallace, Australia) • The Dutch cadastre and E-Government in The Netherlands (Bas Kok, The Netherlands) • Land Administration and E-Government in Punjab (Javed Nasir, Pakistan) • Laos' Experiences with Cadastre and Land Administration (Inthavong Chanthaviphone, Laos) <p>Discussion</p>
12:30 – 14:00	Lunch Break
14:00 - 15:30	<p>Invited Speakers</p> <ul style="list-style-type: none"> • Cadastral Activities in Europe (Daniel Steudler, Switzerland) • Tehran Municipality Land and Spatial data and services Activities (Ghaemi, Iran) • Bahrain and UAE Experiences with Cadastre and Land Administration (Seema, Ahmed Al-Langawi, UAE) • Adapt Land Laws in Malaysia (Awang Adibah and Mohd Ariff Shahidah, Malaysia) <p>Discussion</p>
16:00 - 18:00	Technical Visit

Day 3 - 26 May 2009	
9.00 – 11:00	<p>Invited Speakers</p> <ul style="list-style-type: none"> • SDI, Cadastre and Spatially Enabling Society (Abbas Rajabifard, Australia) • Indian Experiences with Cadastre and Land Administration (Bal Krishna, Coordinates Magazine, India) • China Land Use Visualization and Analysis Tool (Wang Rongbin; China) • Modern Land Administration; Characteristics for e-Governments (Mohsen Kalantari, University of Melbourne) • Land Registration and Cadastre-Iran (Brenjkar, Iran) <p>Discussion</p>
11:00 - 11:30	Tea Break
11:30 - 12:30	<p>Forum Results and Outcomes</p> <ul style="list-style-type: none"> • Forum Summary • Tehran Declaration • Final Remark and Future Direction <p>Closing Ceremony</p>
12:30	Lunch