CITY PLANNING LABS

URBAN DATA FORUM
Summary Note

Venue: Hotel Aryaduta, Jakarta
Date: 30th August 2016

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01 BACKGROUND

Urban Data Forum

The Urban Data Forum (UDF) held in Jakarta on August 30th, 2016, brought together attendees from 25 local governments and a total of 150 participants from national and local governments, civil society, academia, development partners, the private sector and international experts in the field of spatial data to engage and collaborate on the topic of developing spatial data infrastructure.

The UDF was conceptualized with several aims:

- Promote international knowledge sharing by inviting global experts from Singapore, Australia, Finland and Mexico who have extensive experience of working in middle and higher income countries.
- Provide a space for collaborative engagement across cities with aspirations for Municipal Spatial Data Infrastructure (MSDI) development.
- Create a platform for collaboration among Indonesian cities to promote a data-driven, integrated approach to urban planning and implementation.

The event also marked the initiation of a three-year phase of World Bank technical assistance to Indonesia under City Planning Labs (CPL), focused on building the geospatial and technological capacity of its partner cities as well as creating open source platforms for data sharing which will eventually link to national-level systems.

City Planning Labs

CPL was initiated as a technical assistance project of the World Bank, which piloted the support for urban planning and development of Spatial Data Infrastructure (SDI) in two Indonesian cities, namely, Kota Semarang and Kota Denpasar. Based on the successes and lessons learnt in these cities, the World Bank is looking forward to scaling up the CPL program to support additional cities. CPL has received multi-year support from the Indonesia Sustainable Urbanization (IDSUN) Multi-Donor Trust Fund (MDTF) that aims to support the country in order to realize the benefits of urbanization by sharing international experiences, providing technical assistance and financing solutions to meet the challenges of urbanization.

CPL is also well-aligned with the vision of Indonesia's National Urban Development Policy 2015-2045 (NUDP). It aims to address gaps in the availability of reliable urban planning data, its management, utilization and inter-agency coordination in multiple Indonesian cities. Additionally, the NUDP is geared towards building the technical and institutional capacity of municipal governments to manage and enhance geospatial data for planning.

Over the next three years (2016-2019), CPL will work closely with national and local governments to scale up the development of a Municipal Spatial Data Infrastructure (MSDI) model for Indonesian cities. This will enable an evidence-based approach to urban planning to enable the development of smart, inclusive, and sustainable cities.

02 AGENDA

Morning Session

8:30am onwards	Registration
9:00am-9:15am	**Opening Remarks** Mr. Taimur Samad, Program Leader, World Bank
9:15am-9:30am	**CPL Introduction** Dr. Gayatri Singh, CPL Team Leader, World Bank
9:30am-10:30am	**Keynote Addresses** Dr. Ir. Arifin Rudiyanto, Deputy of Regional Development, BAPPENAS Dr. Ing. Khafid, Head of Geospatial Information Management and Dissemination Center, BIG Mr. Siau Yong, Director, GeoSpatial and Data Division, SLA, Singapore
10:30am-10:45am	Tea Break
10:45am-12:45pm	**Panel Discussion One: International & National Perspectives on Spatial Planning and Investment Prioritization** Mr. Ir. Dwityo Akoro Soeranto, Directorate of Integration on Settlements Infrastructure, Ministry of Public Works and Housing Dr. Ir. Doni J. Widiantono, Directorate General of Spatial Planning, Ministry of Agraria and Spatial Planning Dr. Lesley Arnold, Director, Geospatial Frameworks, Perth, Western Australia Dr. Ricardo Ochoa, Capital Sustenable, Mexico Moderated by Dr. Iwan Gunawan, World Bank
12:45pm-1:45pm	Lunch Break

Afternoon Session: Enhancing the Capacity of Local Governments for Data Production and Utilization in Urban Planning: Challenges and Opportunities

1:45pm-2:45pm	**Panel Discussion Two: Experiences from Indonesian Cities** Mr. Purnomo Dwi Sasongko, BAPPEDA Semarang Ms. Rini Ambarwati, BAPPEDA Denpasar Moderated by Ms. Thalyta E. Yuwono, World Bank
2:45pm-3:45pm	**Group Discussion:** Challenges and Opportunities for Evidence - Driven Urban Planning
3:45pm-4:00pm	Tea Break
4:00pm-5:00pm	**Country Cases** **The Case of Jawa Barat:** Mr. Andi Purwoko, Head of Data Centre and Development Analysis **The Case of South Sumatra:** Ms. Regina Aryanti, Head of Spatial Planning, South Sumatra **The Case of Finland:** Ms. Milla Lötjönen, Head of Department, ICT Solutions, Sito Oy and Ms. Aino Ikäheimo, Deputy Department Manager, IT and Services, Sito Oy
5:00pm-5:30pm	**Next Steps and Concluding Remarks** Mr. Marcus Lee, Urban Sector Coordinator, World Bank Mr. Saiful Ely, National Program Officer, SECO

Evening

5:30pm onwards	Early Dinner and Informal Conversations

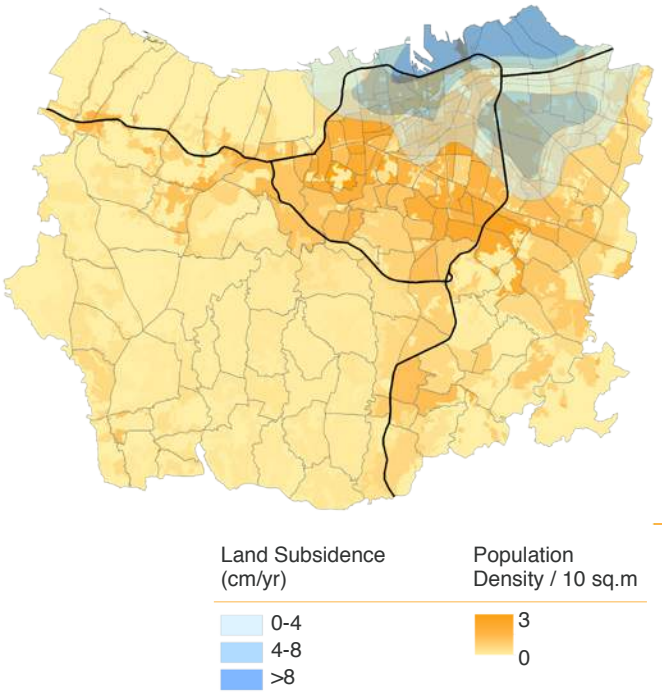
03 OPENING REMARKS AND INTRODUCTION TO CITY PLANNING LABS

Opening Remarks and Introduction to City Planning Labs

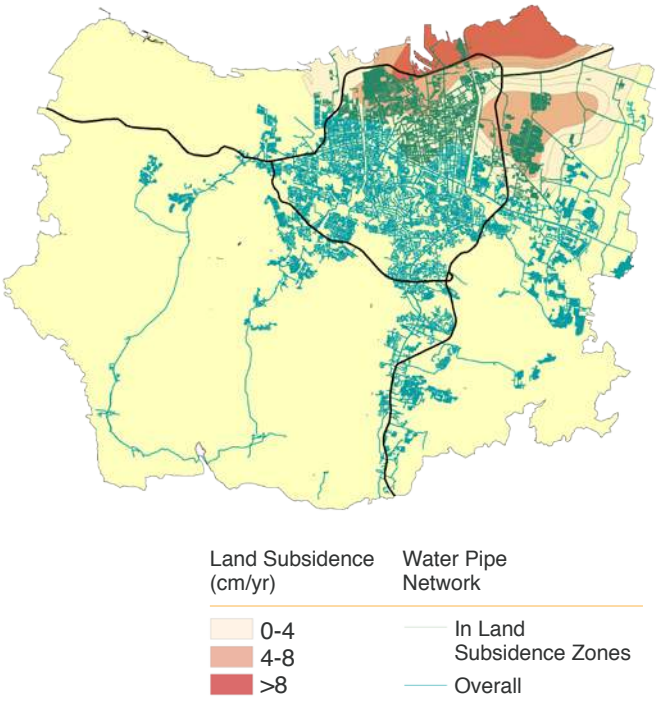
The need for integrated, evidence-based urban planning, supported by comprehensive analysis and application of spatial data, was emphasized throughout the morning's proceedings. Opening the session, Dr. Taimur Samad (Program Leader, World Bank) spoke to the increasing pace of urbanization in Indonesia, and the role that data-driven spatial planning must play in addressing the large structural shift that accompanies rural-urban migration. With the urban poor expected to outnumber the rural poor in Indonesia by 2030, ensuring that cities can keep up with the pace of growth and provide adequate access to basic services will continue to be essential. Infrastructure and land-use planning will have to leverage technological advances to ensure that rapid urban growth is accommodated, and will require close, concerted collaboration across government agencies.

Describing the background, current status and future plans of the CPL program, Dr. Gayatri Singh (Task Team Leader, World Bank), also emphasized the role that data-driven spatial planning can play in addressing the challenges of urban growth in Indonesia. Many of the issues and priorities facing Indonesian cities today including unequal service delivery, ensuring better resilience to disaster risk, prioritizing infrastructure spending require good data for analysis and planning. The example of Kota Semarang (one of two cities where CPL is currently being piloted), was used to demonstrate how different spatial data layers can be overlaid to identify gaps in service provision. For example, by analyzing information on poverty rates, land subsidence, existing mobility networks and water supply pipes in relation to one another, a clear picture of where infrastructure interventions are needed can emerge.

In the short-term, CPL aims to provide just-in-time analytical data to inform the needs of the cities, while also working towards the medium-term goal of developing a robust Municipal Spatial Data Infrastructure (MSDI) for partner cities and enhancing capabilities to making data-informed urban planning decisions. Ultimately, the long-term goal of CPL is for MSDI to be mainstreamed and managed independently by local governments.



Population Density and Land Subsidence Zones in Semarang



Water Pipeline Network and Land Subsidence Zones in Semarang

UDF Attendees

04 KEYNOTE ADDRESSES AND PANEL DISCUSSION ONE

Keynote Addresses

The opening keynote speaker, Dr. Ir. Arifin Rudiyanto (Deputy of Regional Development, BAPPENAS), began his speech by highlighting the essence of the National Urban Development Policy 2015-2045 (NUDP) and the need to envision and plan for sustainable and competitive Indonesian cities in the decades to come. He spoke about the challenges of achieving this vision, given agencies are currently working in silos and lauded CPL as an essential initiative that could address this by providing a common platform for data sharing towards the goal of effective and efficient public service delivery. He also emphasized the need for coordination across various levels of the government (local, provincial and national) and the role of CPL as an enabler in this.

The challenges outlined by Dr. Rudiyanto were also echoed by Dr. Ing. Khafid, the Head of BIG's Geospatial Information Management and Dissemination Center. While BIG is envisioned as the country's "Super Data Bank", the consolidation of data held by different agencies remains a challenge to realize this vision. Individual agencies each hold a wealth of data and information, but this is not widely shared, and standards for data measurement and collection remain varied. An additional challenge is the high turnover rate of technical staff with data management and analysis expertise – often, trained staff move on to other roles within a relatively short period of time, without transferring their skills to other colleagues.

Mr. Siau Yong (Director, GeoSpatial and Data Division, Singapore Land Authority) described the "6 M's" needed for implementation of Geospatial Information Science and Technology (GIST) – Mandate, Money, Material, Method, Medium and Manpower. Sharing the experience of implementing GIST in Singapore, Mr. Yong touched on the need for strong leadership and a highly collaborative culture. While Singapore government agencies are now more aligned than before in the use of GIST, this was not always the case. Strong governmental support was required to enable individual agencies to update their systems and develop technical capabilities in GIST. For example, government funding was made available to agencies to upgrade their data management systems, allowing geo-tagging of data to make it more easily available and accessible for planning.

On the issue of data sensitivity and classification, Mr. Yong shared that two separate data sharing platforms have been developed in Singapore – one for information that can be fully accessed by the public, and another with more detailed data for public officers to carry out analysis on. On the manpower front, to ensure that the demand for greater technical know-how in the field of GIST is met, new degree and diploma courses in local tertiary institutions have recently been developed by the government.

Keynote speaker - Dr. Ir. Arifin Rudiyanto

Panel Discussion One: International & National Perspectives on Spatial Planning and Investment Prioritization

The key themes raised during the keynote addresses, namely the:

+ Need for evidence-based urban planning
+ Challenges in collecting and maintaining data
+ Role of strong leadership

also featured prominently during the panel discussion.

"We cannot manage what we don't measure," said Dr. Ir. Doni J. Widiantono from the Ministry of Agrarian and Spatial Planning, describing the state and pace of urbanization in Indonesia and the need for evidence-based planning to solve and anticipate urban challenges. Given the multi-sectoral nature of urban issues – spanning physical infrastructure as well as social, political and economic concerns – a robust spatial data system has to be developed. Dr. Doni cited the example of the Jakarta metropolitan area, which includes not only the city of Jakarta, but 25 new town developments that are growing around the city. Poor, uncoordinated planning of the metropolitan area will strain not only the new towns, but Jakarta as well, which already faces considerable urban pressures of its own. Under the government's Spatial Improvement Program, support is now being provided to local governments to improve their spatial planning processes, with a goal of improving regional and spatial planning, governance, master planning, sustainability and resilience.

In her presentation, Dr. Lesley Arnold (Director, Geospatial Frameworks, Perth, Western Australia) focused on the barriers encountered in moving to a knowledge sharing platform, noting that the current challenges in Indonesia are ones that many other countries would be able to relate to. Agencies collect and manage their own spatial data, and often have little or no incentive to share it with others. Even when data sharing is required, data sources may not be compatible, making potentially useful overlays less feasible.

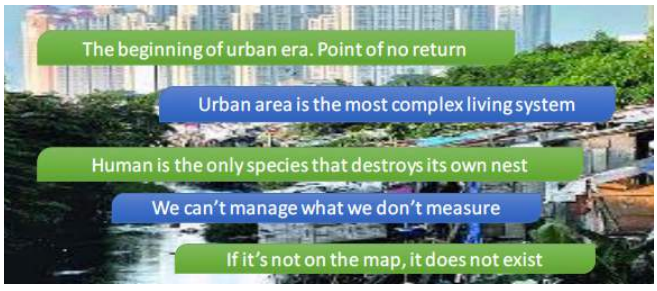
Dr. Arnold identified four main barriers to change in this area:

- Lack of understanding of the need for data sharing, leading to a lack of buy-in
- Reluctance to share data because of different ownership and access policies
- Difficulties in integrating different data sources
- Fear of current technology becoming obsolete, thereby negating data collection and analysis efforts.

Obtaining leadership buy-in by focusing on why data sharing is important and establishing a common vision across agencies can help in overcoming these barriers. This is to be followed by the creation of policies and guidelines for custodianship, data management and data release. These documents focus on the 'how' and assist data producers to understand their roles and responsibilities in the broader spatial data framework. Thus, putting in place the 'why and how' enables a clear pathway to delivering the 'what' which focuses on the implementation of the geoportal and the organization of data.

Moving from data collection to the application of spatial data, Dr. Ricardo Ochoa (Capital Sustenable, Mexico) shared examples from Mexico that illustrated how innovative planning tools were used to solve challenges posed by local and federal governments. Such tools are more dynamic and responsive in addressing urban issues than regular planning reports, which require considerably more time to identify problems, collect and analyze data, discuss findings and review them before dissemination. However, to be effective, planning tools also require well-defined, consistent data sets. Dr. Ochoa gave an example of a planning tool that was developed to identify urban improvement opportunities across multiple municipalities, with the challenge of a limited budget. The tool relied on data to generate different land use scenarios and the environmental, economic and social impacts of each, allowing government officials to identify and prioritize urban improvement interventions.

Though difficulties in obtaining data were encountered such as not all information being available in a geospatial format, and not all municipalities being able to submit the full set of data required, the tool illustrates the potential of using data to make informed, cost-effective urban planning and development decisions.



Slide from Dr. Ir. Doni J. Widiantono's presentation reflecting on urbanization in Indonesia

05 PANEL DISCUSSION TWO

Panel Discussion Two: Enhancing the Capacity of Local Governments for Data Production and Utilization in Urban Planning – Challenges and Opportunities

Mr. Purnomo Dwi Sasongko and Ms. Rini Ambarwati from BAPPEDA Semarang and BAPPEDA Denpasar respectively, shared their experiences in developing Spatial Data Infrastructure and urban planning systems in their cities which are the CPL programs. Mr. Purnomo spoke of the need for good data to inform strategy formulation, particularly in distinguishing between wants and needs of the population and to address inequality, an issue that Ms. Rini also identified as a key challenge for Denpasar. Good data can complement information obtained through other methods of participatory and consultative planning approaches, such as surveys and focus group discussions with communities.

While data is currently available in both cities, it is segregated rather than integrated. The launch of national initiatives such as the 100-0-100 program, which aims to achieve 100% access to drinking water, 0 slums and 100% access to sanitation, was identified as important in aligning agencies towards a common goal, helping to create an impetus for better sharing of information and data. A recently-launched smart city initiative in Denpasar aims not only to promote the collection and use of data, but to use this to tackle other issues of growing concern such as better mobility, which can help to raise the standard of living in the city.

Through the CPL initiative, both cities have geoportals which are a repository for shared geospatial data. The challenges faced in implementing the geoportals echoed those shared by other speakers, in both the national and international contexts. Different data formats, a lack of willingness to share and integrate available data, and the absence of a common vision continue to prevent the full development of local geoportals. However, both Mr. Purnomo and Ms. Rini acknowledged that the process will take time, and that the CPL program has better enabled the cities to take steps in the right direction.

Panel Discussion: (from left to right) Ms. Rini Ambarwati (BAPPEDA Denpasar), Mr. Purnomo Dwi Sasongko (BAPPEDA Semarang) and Ms. Thalyta E. Yuwono (World Bank)

06 GROUP DISCUSSION

Group Discussion: Challenges and Opportunities for Evidence Driven Urban Planning

Attendees were divided into three groups to discuss different aspects of building SDI.

Technical Aspects

Common barriers and challenges were shared by representatives from four institutions – DTKP Kota Semarang, BAPPEDA Kota Bekasi, BAPPEDA DKI Jakarta and dan Pusdalisbang Prov. Jawa Barat. These included a lack of availability of data, poor infrastructure and standards for data collection, lack of technical expertise and high turnover of trained staff, as well as a need for strong leadership to drive the building of SDI. The group suggested several possible solutions to address these issues:

+ Making use of existing processes to boost data collection efforts. When processing building permit licenses, for example, information on building footprints and uses can be captured and shared.

+ Improving coordination between agencies, such as BIG and LAPAN, both in terms of data standards and for capacity-building and training.

+ Bringing Mayors on board with a vision and funding support for data collection can add to the ways in which data is obtained and shared. For example, in the case of the city map of Bekasi, aerial photography is used to make frequent updates.

+ BIG can increase its engagement with cities for socializing the JIGN/ Presidential Decree 27/2014 and developing a standard platform for data sharing.

Institutional Aspects

The group shared that regulations have played a key role in driving data sharing, including Peraturan Gubernur, Peraturan Walikota and Peraturan Bupati, as well as SK Bupati and SK Walikota. BAPPEDA, as the agency tasked with providing spatial data information, did not encounter significant challenges in securing and allocating budgetary support for spatial information provision. It was also noted that horizontal data flows between SKPDs proceed with more ease than vertical data flows, i.e. between SKPDs and central government agencies such as BPN and BIG. The issue of a lack of technical capacity for data processing, analysis and sharing was also highlighted as an institutional hurdle to building up SDI. Better cross-sectoral coordination among agencies, as well as improved governance systems with clarity on the licensing and ownership of spatial data are also required. While BAPPEDA performs its role as the agency overseeing data provision well, the discussion group raised the issue of potential effects regulation changes from the central government may have on its ability to continue coordinating the spatial data. Any changes in organizational structure (SOTK) mandated by Permendagri would alter the roles and responsibilities of different agencies, which may in-turn impact SDI efforts.

Vision and Future Actions

To address the challenges faced in building SDI, the Vision and Future Actions group identified several actions that should be taken:

+ Build awareness regarding the importance of data sharing among leadership.

+ Develop a data management institution at the city level to ensure the utilization of data in planning, and clearly distinguish the roles of city and province-level agencies.

+ Secure adequate budget provision for spatial data management.

+ Create a process management system that can capture the necessary processes involved in data collection and sharing, so as to tackle the issue of high turnover of trained staff.

+ Create processes for regular updating of data.

+ Build strong technical capacity among staff.

07 COUNTRY CASES

The final presentations for the day included two case studies from Indonesia and one from Finland. Speaking about data gathering and analysis efforts in West Java, Mr. Andi Purwoko, Head of Data Centre and Development Analysis, Jawa Barat, shared examples of innovative ways in which information is being gathered by the public. “Fasumsos Go”, a new mobile phone app modelled after Pokemon Go, allows users to capture and upload photos and information about social services and facilities, creating a map of such services that the general public can refer to.

Ms. Regina Ariyanti from BAPPEDA South Sumatra described the creation of Rumah Data (Data House), a repository for the storage of numerical and spatial data. The process took five years and required strong leadership and financial support, which BAPPEDA had from the central government, LAPAN and BIG. However, a major challenge was also to build capacity of local staff to operate and maintain the spatial data infrastructure. Tracking and analysis of data has been particularly useful in South Sumatra with regard to the seasonal burning of peat land and the subsequent restoration of land required. Rumah Data has also enabled the city to make more informed policy decisions, for example, by using different layers of data to measure impacts of land use change on greenhouse gas emissions. Ms. Regina shared her key takeaways from the process of establishing Rumah Data – that partnerships with different stakeholders are important and take time to build, and that spatial data infrastructure must also consider ways in which to utilize the data collected.

The session ended with a presentation by Ms. Milla Lötjönen and Ms. Aino Ikäheimo of Sito Oy, who shared the case of open information infrastructure in Finland, as well as examples of tools developed by Sito to enable data sharing and analysis. Finland has had a long tradition of open data sharing, as well as a history of technical education and a strong technology sector. In addition, the launch of the European Union’s INSPIRE directive in 2007 has also been instrumental in pushing further development of the open information and data sharing movement. Currently, one of the Government Program’s key themes is to create favorable conditions for new business ideas through open data and better use of information resources. Yet, one of the challenges encountered is that of revenue generation; opening up of data has been slow in some municipalities, as charging for use of certain types of data had become a revenue stream. Charging asset owners for maps used in planning, for example, would no longer be possible with fully open data sharing.

Sito has developed tools to further enable accessibility and use of available data. Oskari, for example, is an open source package developed by the National Land Survey of Finland and the Oskari network. It is a web-based GIS platform that enables easy combination of data from different IT systems and data sources.

Louhi, a commercial product developed with some open source components, is an everyday tool for managing official processes in municipalities and large infrastructure projects. It collects municipalities’, stakeholders’ and the central government’s IT systems and information in one, centralized map-based information management solution. Louhi is also used to accelerate coordination among public agencies and private companies involved in construction management. By having all parties share their information and data on upcoming works, planning and building costs of construction as well as disruption to the public could be kept at a minimum. For example, repeated road works to access underground cables are not needed when electricity, telecom and sewage works are coordinated and carried out in the same timeframe.

Slide from Mr. Andi Purwoko’s presentation

08 NEXT STEPS AND CLOSING REMARKS

Summarizing the day's events, Mr. Marcus Lee (Urban Sector Coordinator, World Bank) noted that many of the challenges faced in developing SDI were universal, and that they could be overcome. The World Bank, through support from the Indonesia Sustainable Urbanization (IDSUN) Multi-Donor Trust Fund (MDTF), looked forward to continuing to work with cities on addressing the challenges of urbanization and ap into the potential of sound data analysis to help make evidence-based planning and policy decisions.

Mr. Saiful Ely, National Program Officer, SECO further encouraged attendees to keep learning from the experiences of other cities, and to work towards enhancing the capacity of local planners. He also reiterated that SECO remains committed to providing support to further efforts in spatial planning, and to prioritize investments in urban development.

Group discussions at the UDF where knowledge-exchange was encourage among participating cities

09 ANNEX- SPEAKER BIOS

Session: Keynote Addresses

Dr. Ir. Arifin Rudiyanto

Dr. Arifin is the Deputy of Regional Development in the National Planning Agency (BAPPENAS). Previously he held positions as the Director of Regional Development and as an expert in development distribution and spatial planning.

He holds a Ph.D in Maritime Policy from the University of Wollongong, Australia and an MSc degree in Marine Science and Coastal Management from the University of Newcastle upon Tyne, UK.

Dr. Ing Khafid

Dr. Khafid is currently the Head of Geospatial Information Management and Dissemination at the Indonesia National Geospatial Information Agency (BIG). He holds a doctoral degree from the Technical University Munich in Germany. His undergraduate and graduate degrees are from the Technical University in Delft, Holland.

Mr. Siau Yong

Ng Siau Yong is the Director of GeoSpatial and Data Division at the Singapore Land Authority (SLA). He is responsible for driving and establishing a collaborative geospatial environment in Singapore. He oversees the formulation, design and management of the policy and program for geospatial information governance, infrastructure and technology development, capacity building, and the use of geospatial systems in data analytics.

Under his stewardship, various important geospatial initiatives have been implemented. Among them, OneMap (www.onemap.sg), the Singapore Government's geospatial information and services portal, has won many international accolades. GeoSpace, an online geospatial community, has been set up as an essential platform to cater to the geospatial data needs and operations within the government system. The annual Singapore GeoSpatial Challenge has now become a critical geospatial learning and competition event for students. Siau Yong initiated the setting up of the Singapore GeoSpatial Scholarship to strengthen the building of geospatial manpower. He is currently driving the set-up of Virtual Singapore, the multi-agency-based 3D geospatial data, operating, analytic and research platform, together with the National Research Foundation and the Infocomm Development Authority, under the Singapore's Smart Nation Programme.

Trained as an urban planner, Siau Yong started his career with the Singapore Urban Redevelopment Authority. He later served the Ministry of National Development as Deputy Director, Strategic Planning and the Ministry of Law as Deputy Director, Land Policy.

Upon joining SLA, he first assumed the position of Director, Strategic Planning and Policy and later Director, Land Asset Management Services, prior to taking on the current portfolio.

Apart from his professional work, Siau Yong has been actively involved in tertiary education for more than 17 years. Until recently, he taught Urban Development, Urban Planning and Urban Policy in undergraduate and postgraduate programmes as Adjunct Associate Professor with the Department of Real Estate of the School of Design & Environment, National University of Singapore (NUS).

Panel Discussion One: International & National Perspectives on Spatial Planning & Investment Prioritization

Dr. Ir. Doni J. Widiantono

Dr. Doni holds a Masters degree in Transport Engineering from UNSW, Sydney, Australia and holds doctoral degree in Engineering Transport Planning and the Environment from the same university. He is currently the Directorate General of Spatial Planning, Ministry of Agrarian and Spatial Planning. In the ministry he has initiated several innovations in the thematic spatial planning of cities.

Dr. Lesley Arnold

Lesley Arnold is recognized internationally for her work in developing national strategies/ policy for spatial information reform and innovation within Australia/ Asia.

Her recent works include 'Cadastre 2034: Powering Land and Real Property' for the Australian Government (2014); 'Spatial Data Infrastructure Strategy 2020' for the Sri Lankan Government (2014); 'Cadastral and Positioning Infrastructure: Moving to a New Future' for the Queensland Government (2015); and 'Can Tho SDI Strategy' for the Vietnamese Government (2016). Lesley is currently Vice Chair of the Surveying and Spatial Science Institute, Western Australia and was previously an Executive Member on the Intergovernmental Committee for Surveying and Mapping, Australia.

She also chaired the Permanent Committee on Topographic Mapping, and the National Points of Interest Working Group. Lesley is currently Research Fellow at Curtin University, Western Australia pursuing next generation spatial data supply chains. She supervises four PhD students.

Lesley is also Director Geospatial Frameworks Pty Ltd and was previously Director of Location Knowledge Services at Landgate responsible for Western Australia's geographic, aerial photography and satellite remote sensing programs.

Dr. Ricardo Ochoa Sosa

Ricardo has a background in built environment and energy simulation. He holds a Masters degree in Science in Renewable Energy and is a Doctor of Engineering candidate in Bioclimatic Building Design. Ricardo's main area of expertise is energy efficiency, climate change adaptation and mitigation strategies in urban environments.

His current work is mainly focused on developing tools to compare land use and urban policy alternatives across a range of indicators, including energy, carbon emissions, and private and public costs. He has led several urban planning scenario projects, which have had a direct impact on national public policy. For example, the Mexican National Housing Commission is currently updating its housing subsidy program based on the "Density and Equity" tool. The Ministry of Agricultural, Territorial and Urban Development is currently presenting the results of the "Metropolitan Profile" in a nation-wide forum in order to create consensus regarding national urban reform.

In addition, the results of the "RapidFire Model" are being used by local authorities in Mexico City to implement best practices in urban form and transportation policy.

Panel Discussion Two: Enhancing the Capacity of Local Governments for Data Production and Utilization in Urban Planning: Challenges and Opportunities

Mr. Purnomo Dwi Sasongko

With a graduate degree in Urban and Regional Planning, Mr. Purnomo works as an Urban Planner in the Development and Planning Board (BAPPEDA) of Semarang City.

He was appointed as the Secretary of the Development and Planning Board (BAPPEDA), Semarang City, in 2014. Prior to this promotion, he had worked for and acted as the head of different divisions of local government agencies for over 15 years. These different roles and responsibilities have equipped him with extensive knowledge and experiences in issues pertaining to housing and settlement, spatial planning and urban planning.

He is also the Coordinator of Semarang Climate Change Working Group in the ACCCRN Program, and is the City Resilience Officer for Semarang City under the 100 Resilient Cities initiative.

Ms. Rini Ambarwati

Rini Ambarwati has more than 20 years of experience working in the government of Denpasar. She is one of the key leaders providing vision and guidance for the City Planning Labs initiative supported by World Bank in Denpasar.

Currently, she is the head of the infrastructure division BAPPEDA Denpasar. She holds a graduate degree in economics and previously received her undergraduate degree in the Civil Faculty.

Country Cases

Mr. Andi Purwoko

Mr. Andi Purwoko holds a Masters degree in Computer Science and is currently the Head of Data and Analysis in the Data Center of the BAPPEDA Province of West Java. Previously, he was part of the Communication and Information Agency in the province. His responsibilities included developing of software for application of the one data system, coordination and the development of performance indicators.

He is a recipient of the Public Service Innovation award from the Ministry, is a nominee of the top 5 Indonesians to be shortlisted for an International Award for Public Service and is an awardee of Best Spatial Data Management from the National Geospatial Information Agency (BIG).

Ms. Regina Aryanti

Previously the Head of BAPPEDA Kabupaten Musi Banyuasin, Ms. Regina is now leading the technical unit as the head of Spatial Planning for the Province of South Sumatra. The mandate of the unit is to manage the province's geoportal and drive for institutionalization of spatial data including issuing a governor's regulation to enable data sharing and maintenance across agencies (SKPDs).

She is a planner from the Institut Teknologi Bandung (ITB) and is currently pursuing her Masters degree in planning from the University of Sriwijaya.

Ms. Milla Lötjönen

Milla Lötjönen is currently the Head of the Department responsible for SITO's ICT business, with specific focus on establishing relationships with governmental organizations. She brings more than 15 years of experience to spatial data consulting and her expertise is project management, sales and business development. As a specialist GIS consultant, she has worked with several Finnish governmental organizations, municipalities and companies including in the energy and telecom sectors. Her academic background includes a degree from the University of Helsinki, Finland and she has also studied at the Helsinki University of Technology.

Ms. Aino Ikäheimo

Aino Ikäheimo is currently Deputy Department Manager in-charge of SITO's GIS data services. She has more than 15 years of experience in GIS data refinement, GIS consulting and project management. Prior to joining SITO in 2012, she worked for the Blom group which specializes in surveying and data processing and worked on projects, for example, in Indonesia and Norway. Her specific area of expertise includes planning and setting up processes for data utilization for both public and private sector clients. She has a degree in geography from the University of Helsinki.


EXIT


EXIT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