GIM INTERNATIONAL INTERVIEWS ABBAS RAJABIFARD

Driving Global Collaboration

The Global Spatial Data Infrastructure Association (GSDI) promotes international cooperation and collaboration in support of local, national and international spatial data infrastructure (SDI) developments that will allow nations to better address social, economic and environmental issues of pressing importance. Current president of the GSDI is Associate Professor Abbas Rajabifard, director of the Centre for SDIs and Land Administration at the Department of Infrastructure Engineering at the University of Melbourne. His research interests include planning, management and implementation of spatial data infrastructures (including marine and seamless SDI), spatially-enabled government and society, SDI and concepts of virtual jurisdictions, SDI and enabling platforms, and SDI capacity building. GIM International spoke to him about the trends and challenges in SDI.

How did you get into the field of spatial data infrastructure and land administration?
I'm a surveyor by training and I started working with the national mapping agency and also practicing in this field in the private sector. I was vice-chair of Working Group 3 of the United Nations-supported Permanent Committee on GIS Infrastructure for Asia and the Pacific (PCGIAP), an Executive Board member and national representative to the PCGIAP from 1994 to 1998, a member of International Steering Committee for Global Mapping Project from 1997 to 2001, and a member of the UN-ESCAP Group of Experts developing Guidelines on GIS Standardisation for Asia-Pacific in 1995.

In 1999, I started my PhD studies in Australia. The topic I selected for investigation was regional SDI development, and Asia Pacific was one of my case-studies. A colleague from Australia encouraged me to investigate this topic because I had five years' experience on the PCGIAP committee and had worked with 56 countries in Asia Pacific. My case-study on the integration of national boundary datasets in the region involved nine countries. It caused a lot of tension between the countries when we tried to showcase issues and difficulties associated with multi-source datasets. We developed a platform for checking and testing different datasets, and an international specification and tools to assess and measure these kinds of issues. We provided a roadmap that was accepted by the UN. When I finished my PhD, we established a research centre for SDI and Land Administration at Melbourne University, and we've now reached our tenth anniversary.

How do you see the future for SDI? Does it still have its own role, or do you think it's going to become part of a more general information infrastructure domain?
SDI is an initiative to facilitate data discovery, data access, data usage and other types of resources. It's a platform that is helping decision-makers to leverage their existing investments by integrating different sources and enabling new opportunities. How can countries or jurisdictions afford not to have SDI? It's a tool to help decision-makers, countries and jurisdictions at local, state, regional and global level to discover and access, integrate and use information.

Some countries have started talking about spatial enablement and perhaps managing information spatially, rather than just talking about spatial-data management and only talking about the spatial-data sharing side. We can see more value in and also more need for this kind of data to be actually shared and used, particularly in response to society needs, in response to the many challenges that our society has faced over recent years: floods, earthquakes, the economic collapse, and many things which are located to the location. This is why I think SDI is going, in various shapes, forms and ways, to remain with us and continue to help; it is still, in my eyes, at an early stage of development, because we haven't seen many successful SDIs yet. Many countries are in this early stage of development, so there's still a long way to go. But the value of this kind of platform and data information usage in decision making is unquestionable.

When it comes to data collection, are there other domains that the GI world can learn from?
Absolutely. We're talking about adding a spatial component to other types of information, to other disciplines. SDI is a public-type infrastructure that facilitates the establishment of other types of hard infrastructure, like road networks, electricity or ICT, and so on. There are many lessons we can learn from other disciplines. SDI is not a purely technical exercise. It is a socio-technical and socio-economic exercise. It's a long-term process, and we need long-term support to be successful and deliver value to our societies. We need to start with a short-term goal to show its value and to increase participation. We're talking about creating a spatially-enabled society.

How do you see the role of volunteered geographic information (VGI) within SDI/GI?

VGI harnesses tools to create, assemble and disseminate geographic data provided voluntarily by people. We're talking about individuals as the producers of information: people acting as sensors, collecting a lot of valuable information which they are willing to share, particularly in emergency situations. There is great value in VGI, and every government should make sure they take that into account when they're developing infrastructure, as people have a great contribution to make. This is most obvious in the development of street maps, to which people are contributing voluntarily.

Do you think there's a future for national mapping agencies, or do you see them ultimately being absorbed by Google and the voluntary sector?
I believe they each have a key role to play. The role of government is really important and cannot be ignored. However, the way that governments deal with other agencies needs to change. They will have to better engage with new possibilities. Because SDI or any type of a spatial-data platform is a long-term project, lots of resources are needed and this kind of collaboration will only make it easier to achieve.

What challenges lie ahead in the field of SDI?
We need to develop tools to better measure and communicate data. Data sharing is a critical issue. At the same time, we need to accommodate all different types of data sharing. We need to show room for everyone to play here. We need to make sure that we properly map and monitor this situation to be able to better proceed with these initiatives. Integration and interoperability are among the most important issues. Technical governance is another factor. Governance manages the behaviours of systems and subsystems, the relationship between different components. What lies ahead is the integration of technical and non-technical issues at different levels and in different contexts.

What role will the GSDI play into the future?
GSDI is an association established to collaborate, to share, to help develop the platform for SDI. It helps countries, regions and communities build their own regional, national or other level of platform and to facilitate the processes. A lot of effort is going into this, and contributions are being made by all the members and participants in the organisation's activities. The conferences we run bring people together to share their views and discuss new initiatives and activities.

The latest strategy we are focusing on is spatial enablement. Spatial information and technology can contribute to dealing with the challenges we face as a society. Spatial enablement contributes to the expansion of consultative and participative government services to society, such as e-government, policy and administration ,through cost reduction; public safety through more efficient emergency services, improved utilities infrastructure, better management of health services, and environmental sustainability.

GSDI is open to collaboration and to acting as the drawing-board for GI; incorporating people from different international organisations such as ourselves: FIG, ICA and ISPRNS. We have had many European countries participating in our conferences, and Europe is well represented at these events and on our board. One issue is that the number of events held around the world each year is making it difficult to choose which to attend. We had 65 countries at our last conference in Singapore, for example. Before that, at the GSDI 11 in Rotterdam, we had 1,200 participants, perhaps because of the proximity to other European countries.