



GSI / FIG / UN-GGIM-AP

Meeting Report

“Regional Challenges, Benefits and Opportunities of Exchanging Geodetic Data” - Kumamoto, Japan

As a result of workshop discussions at the reference frame in practice seminar held in Kuala Lumpur, Malaysia - October 2016 a matrix of the regional geodetic (and geospatial) challenges, and strategies to mitigate problems was developed by the participating member states of Asia and the Pacific region. From this several specific issues in relation to geodetic data sharing were identified, in particular the absence of government policies to support such activity, a lack of understanding of data licencing and agreements, potential legal or national security impediments, and poor recognition of the benefits and opportunities of sharing geodetic data.

Consequently, to further enhance the capability of senior surveyors and decision makers on this topic the Geospatial Information Authority of Japan (GSI), UN Global Geospatial Information Management for Asia and the Pacific (UN GGIM-AP) Work Group (WG) 1 Geodetic Reference Frames, and the FIG Asia Pacific Capacity Development Network convened a meeting for Asia Pacific member states on “Regional Challenges, Benefits and Opportunities of Exchanging Geodetic Data”. This forum was held prior to the UN-GGIM-AP Plenary Meeting on the 16 October 2017 at the Kumamoto City International Centre, Kumamoto Prefecture, Japan. All member states of Asia and the Pacific were invited to participate, and in response there were 44 delegates from 14 countries.

Prior to the meeting delegates were asked to complete a questionnaire on accessing and sharing geodetic data. Delegates were also provided briefing papers to outline the purpose of the meeting which was to discover pathways to build geodetic and geospatial data sharing and infrastructure capability, not only from a physical perspective but also administrative. To start the meeting proceedings the delegates were welcomed by Dr. Hiroshi Murakami (President UN GGIM-AP), Dr. John Dawson (Chair UN-GGIM-AP WG1), and the host Mr. Basara Miyahara (GSI). Following this, there were 9 invited presentations to stimulate meeting discussions on the related themes –

- Social, technical, environmental and economic benefits and opportunities of accessing and sharing geodetic data
- Open data / sharing / accessing geodetic data policies
- Types of geodetic data that could be shared and accessible
- Data / licencing agreements:

- Status of geodetic data sharing in Asia Pacific and Europe regarding geodetic data accessing and sharing.
- Impediments / challenges to geodetic data sharing.

The following is a precis of the presentations delivered -

- **Mr. Graeme Blick** (New Zealand) - provided insights into why geodetic data exchanging / sharing is beneficial to various sectors from a technical, societal and scientific perspective. It was also mentioned that geodetic data assists disaster risk reduction; fulfils a broader “community” responsibility of information sharing and knowledge building; and that data sharing is a pathway for a modernised Global Geodetic Reference Frame (GGRF) and capacity development.
- **Mr. Rob Sarib** (Australia) – presented FIG insights into data sharing terminologies and policy development. It included examples of data policies, principles, rationale for data sharing and possible implementation strategies and structures of policies.
- **Dr. John Dawson** (Australia) – using Australia as an example this presentation explained the geodetic data types and formats that should be shared, and how it can be shared. In particular GNSS static data, GNSS real time data streams, sea level and tidal data, and gravity data.
- **Mr. Neil Ashcroft** (Singapore) - discussed the importance of standards to under write the ability to share geodetic data between organisations.
- **Mr. Peter Hedlund** (United Kingdom) – gave two examples of how open data standards and sharing of the Ordnance Survey Reference Network allowed agencies in the UK to benefit from using an “active” network as a definitive source of positional truth.
- **Mr. Teo CheeHai** (United Nations) – linked the importance of data sharing to the 2030 Agenda of Sustainable Development and Sendai Framework for Disaster Risk Management. The presentation also overviewed the UN-GGIM Compendium on Licensing Geospatial Information, and addressed the release of geospatial information (in this case geodetic data) under an “open” license.
- **Dr. John Dawson** (Australia) - reviewed the data sharing challenges as measured in the 2013 UN-GGIM GGRF Global Questionnaire
- **Mr. Basara Miyahara** (Japan) – summarised the UN GGIM AP responses from past and present questionnaires which then showed the current state of play of geodetic data sharing, and any trends or major obstacles in the region.
- **Mr. Mikael Lilje** (Sweden) – delivered a presentation on the various Nordic and global data sharing initiatives and agreements (including INSPIRE) that Sweden are involved in. It also highlighted a regional and formal approach to sharing spatial information between countries.

To view the presentations please refer to website - www.fig.net/resources/proceedings/2017/2017_10_Regional_Challenges_Benefits_and_Opportunities_of_Exchanging_Geodetic_Data.asp

After each presentation, there were brief question and answer opportunities however for the remainder of the day the attention of the delegates was directed and focused on

participating in group discussions and reflections; and then preparing a presentation on their main discussion points relating to the –

- Benefits and opportunities of geodetic data sharing
- Guiding “principles” for a policy on geodetic data sharing
- Impediments / challenges to geodetic data sharing and how will they be resolved; and
- Possible future capacity development programs for geodetic data sharing.

The geodetic data sharing meeting then concluded with a discussion amongst delegate attendees on the way forward and it was agreed to develop a resolution or declaration for the consideration by UN-GGIM-AP Plenary delegates, on the matter of geodetic data sharing.

A resolution was then prepared and workshopped the following day. It was subsequently adopted by the Member State representatives at the 6th Plenary Meeting of UN-GGIM-AP.

The Geodetic Reference Frame resolution is as follows -

The Meeting,

Reaffirming that the Global Geodetic Reference Frame (GGRF) underpins satellite positioning technology, provides the framework for all geospatial activity and is a key enabler of spatial data interoperability, disaster risk reduction, land management, and supports sustainable development;

Recognizing that improved geodetic data sharing to facilitate datum determination and modernisation, unification of height systems, measurement of Earth dynamics, and integration and interoperability of fundamental datasets will support the achievement of the Sustainable Development Goals;

Recognizing also the importance of geodetic data for global and regional products and services, which support the digital economy, addressing social and environmental challenges associated with rapid urbanisation and disasters;

Noting that UN-GGIM in its Decision 7/103 endorsed the formal establishment and composition of the Subcommittee on Geodesy, and agreed to its proposed terms of reference;

Noting further the challenges of geodesy in Asia and the Pacific region, in particular – the diversity of capability across the Member States, establishing and maintaining geodetic infrastructure and systems; accessing reliable communications; obtaining and justifying resources; treatment of data security, privacy and sensitivity; financing and commercialisation of infrastructure; data availability and accessibility; and modernising relevant legislation, policies, and practices in the context of sharing and exchanging geodetic data;

Noting further the lack of awareness of the value and importance of sharing geodetic data amongst some sectors of government, industry and the wider community,

including its use in sea level change, tsunami warning, earthquake hazard assessment, storm and flooding events, and volcano monitoring applications; and

Noting further the additional benefits of sharing geodetic data include more effective, responsive and accountable government, research outcomes, innovation, asset management, service delivery, and underpinning of fundamental datasets for digital economies and SMART cities;

Recommends that UN-GGIM-AP:

- a) Endorse the concept that geodetic data is digital information and should be made available with the technical and legal attributes necessary for who can use data and how;
- b) Adopt the principles of geodetic data to ensure it is available to share, current, authoritative, accessible, usable and interoperable;
- c) Encourage the implementation of geodetic data strategies and policies, and ensure alignment with the UN-GGIM Working Group on Legal and Policy Frameworks for Geospatial Information Management;
- d) Advocate the benefits and opportunities of geodetic data accessibility and availability to government, industry and the wider community;
- e) Promote and share geodetic data to support the International Terrestrial Reference Frame (ITRF), regional geodetic programmes such as the Asia-Pacific Regional Reference Frame (APREF) and the Asia Pacific Regional Geodetic Project (APRGP), and the unification of height systems;
- f) Consider sharing real-time GNSS observations to support disaster and emergency management, and risk reduction including tsunami and earthquake early warning systems;
- g) Support geodetic experts and decision makers to attend appropriate regional forums, capacity development workshops and meetings;
- h) Build geodetic capability through engagement with relevant international experts;
- i) Engage in multilateral collaboration to facilitate the exchange of information, knowledge and experiences so as to address the geodetic challenges;
- j) Encourage the nominated Member States to attend the inaugural UN-GGIM Sub-Committee on Geodesy; and
- k) Work closely with the International Federation of Surveyors (FIG), in particular the FIG Asia Pacific Capacity Development Network (AP-CDN), the Pacific Geospatial and Surveying Council (PGSC), the International Association of Geodesy (IAG), the UN-GGIM Sub-Committee on Geodesy, and other relevant organisations to invest in geodetic capability.

In addition, FIG participated at the 6th Plenary meeting of the UN-GGIM-AP which was held at the same venue on 17-18 October 2017. Both the FIG Vice President Mr. Mikael Lilje, and Chair of the Asia Pacific Capacity Development Network Mr. Rob Sarib attended the relevant sessions, including UN-GGIM-AP WG1 meetings. The general theme of the meeting related to geospatial information for disaster response, with an emphasis on the Kumamoto 2016

earthquake. To view very informative and interesting presentations please refer to website – <https://gsi-intl.github.io/ggim-ap-kumamoto/> and navigate to the “I – ii Special Session”

At the Plenary, FIG Vice President Mr. Lilje also delivered a presentation on “FIG and UN GGIM AP Collaboration”. This presentation was well received as it highlighted recent co-operation in the region and recommended other liaisons between FIG Commissions and UN GGIM AP Working Groups.

Potential future collaboration and co-operation with UN GGIM AP at upcoming events -

- Mexico City, Mexico - United Nations Global Geodetic Reference Frame (UN GGRF) subcommittee on Geodesy, 26-27 Nov 2017
- Mexico City, Mexico - United Nations Global Geodetic Reference Frame (UN GGRF) Education Training and Capacity Building meeting, late Nov 2017
- Kyoto, Japan - UN 12th International Committee on GNSS (ICG) Meeting, 2-7 Dec 2017
- Suva, Fiji (TBA) – Pacific Geospatial Surveying Council meeting late Mar 2018
- Manila, Philippines (TBA) - Geodetic Data and Infrastructure for Disaster or Emergency Response Management, and Environmental Geo-Hazards Monitoring, early to mid 2018
- Istanbul, Turkey - FIG 26th World Congress Istanbul, 6 - 11 May 2018
- Nadi (TBA), Fiji - UN ICG Applications of GNSS Workshop, mid to late 2018

Another interesting and highly relevant UN-GGIM action for FIG to note is the ongoing development and implementation of the UN Subcommittee on Geodesy. Briefly, in August 2016 the UN-GGIM Committee of Experts agreed to transition the existing GGRF Working Group into a permanent UN-GGIM Subcommittee. The membership to this subcommittee includes - 40 voting Member States, nominated by the regional UN-GGIM Executives that are geographically distributed; Associate Members (non-voting) including IAG, FIG and other Member States not included in the 40; and Observers (non-voting). From an Asia Pacific perspective the members are - Australia, China, Fiji, Islamic Republic of Iran, Japan, Kyrgyzstan, Malaysia, New Zealand, Philippines, and the Republic of Korea. Presently FIG is represented by Vice President Mr. Lilje, who is also the Swedish representative on this subcommittee and the UN-GGIM GGRF Education Training and Capacity Building committee. The Subcommittee on Geodesy are finalising the terms of reference and work plan; and will be meeting for the first time in Mexico City, 26-27 November 2017.

It also needs to be recognised that this event was sponsored by –



Geodetic Data Sharing Meeting Photo Gallery



For more pictures, please take a look at:

www.fig.net/images/conference/2017_10_Regional_Challenges_Benefits_and_Opportunities_of_Exchangeing_Geodetic_Data_photo.asp