



FIG WORKING WEEK 2023

28 May - 1 June 2023 Orlando Florida USA

Protecting
Our World,
Conquering
New Frontiers

FIG Regional and Sub-Regional Capacity Development

Asia Pacific Perspective

Network Chair Rob Sarib



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FIG WORKING WEEK 2023

28 May - 1 June 2023 Orlando Florida USA

Protecting Our World, Conquering New Frontiers

Background to Small Island Developing States (SIDS) and Regional Capacity Development Networks (CDNs)

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International Fédération of Surveyors
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Background - SIDS

- At the FIG Congress in Sydney, Australia (April 2010) a workshop / seminar on *Small Island Developing States and the Millennium Development Goals* produced the *publication and declaration* –

Sydney Agenda for Action – Small Island Developing States and the Millennium Development Goals: Building the Capacity

Reference – <https://www.fig.net/resources/publications/figpub/pub53/figpub53.pdf>

Sydney Declaration XXIV FIG Congress, Sydney, Australia, 11–16 April 2010

Reference – https://www.fig.net/resources/publications/figpub/sydney_decl/sydney_declaration.pdf

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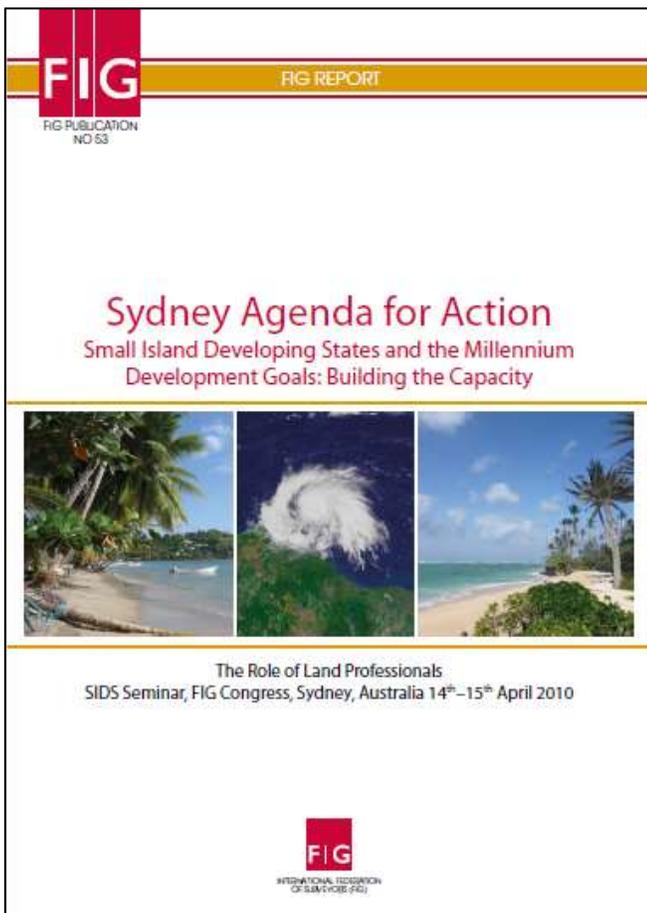


FIG FIG REPORT
FIG PUBLICATION NO 53

Sydney Agenda for Action
Small Island Developing States and the Millennium Development Goals: Building the Capacity

The Role of Land Professionals
SIDS Seminar, FIG Congress, Sydney, Australia 14th-15th April 2010

FIG
INTERNATIONAL FEDERATION OF SURVEYORS

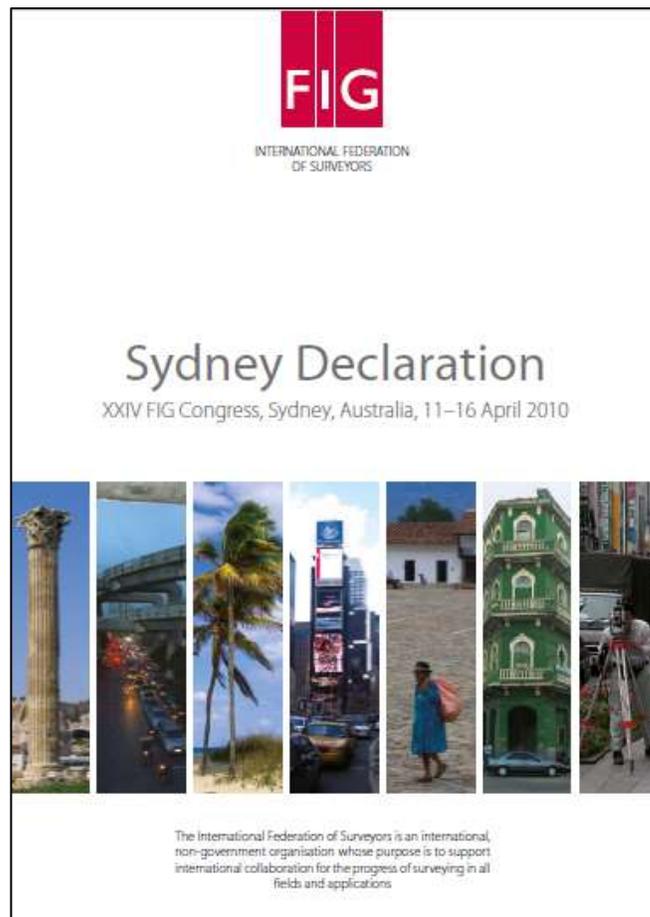


FIG
INTERNATIONAL FEDERATION OF SURVEYORS

Sydney Declaration
XXIV FIG Congress, Sydney, Australia, 11-16 April 2010

The International Federation of Surveyors is an international, non-government organisation whose purpose is to support international collaboration for the progress of surveying in all fields and applications

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Background - SIDS

- These FIG publications
 - *Identified the geospatial / survey challenges* that the SIDS were facing and with an emphasis / focus on the Pacific Region
 - *Conceptualised the role of FIG and land professionals*, recommended *partnerships* with UN agencies, and engagement with members associations and regional bodies
 - *Affirmed commitment* to capacity building, education and training, and professional development and ethics
- It also included an action agenda which became *a guide to building capacity and capability*; especially in SIDs and developing countries or emerging economies

SYDNEY AGENDA FOR ACTION

Building Capacity in Small Island Developing States

The meeting resolves that land professionals in Small Island Developing States (SIDS) build their capacity to address the agenda stated in MDG 8, Target 14 in line with the principles set out in the Paris Declaration and the Accra Agenda for Action, and optimizing social and economic development by:

1 Flying high with feet on the ground

- 1.1 Becoming informed, multi skilled, ethical, practitioners and professionals and change agents
- 1.2 Engaging, understanding and learning from communities to be more effective as change agents
- 1.3 Increasing dialogue and forums for interaction with senior policy makers in governments to develop political will for responsible land management and informed reaction to needs and situations
- 1.4 Establishing strategic alliances and promoting the practice by sitting on boards, accessing decision makers and developing relationships with stakeholders
- 1.5 Identifying appropriate technology for given situations to achieve appropriate and functional solutions
- 1.6 Ensuring a gender equal approach in the design of land policy and the activities to implement these policies
- 1.7 Insisting that implementing agencies with assistance of consultants build sustainable systems that require minimal continuing external support and monitoring to ensure this happens

2 Developing vehicles for building land professional capacity

For education and training:

- 2.1 Gathering government funding and donor support for institutional activities and ensuring that this support is best applied
- 2.2 Inventing new ways of training, including training the trainers, remote education systems, new tools and off-campus learning arrangements or open universities that facilitate two-way interaction and build the capacity of local SIDS institutions
- 2.3 Developing alumni capacity for knowledge transfer among peers and into the student groups
- 2.4 Working towards a multi-skilled approach in university programs
- 2.5 Building continuous professional improvement and training programs
- 2.6 Encouraging the engagement of interdisciplinary experts in training, change management training, and risk management

- 2.7 Encouraging young people and women into the education institutions
- 2.8 Encouraging and supporting early education awareness and interest in areas relevant to the land sector

For land professionals:

- 2.9 Developing social responsibilities and ethical standards through active membership of professional organisations
- 2.10 Encouraging mentoring and being proactive in attracting new entrants, both male and female, into the professions and retaining them
- 2.11 Developing work experience training eg. attachment programs, and on the job training, deployment and mentoring of graduates on land projects, within and external to the region work experience

For professional organisations:

- 2.12 Using Web based communication systems and support mechanisms for knowledge transfer and training
- 2.13 Improving the capacity of land practitioners to understand the risk and manage the relationships with regard to:
 - Person to person relationship management
 - People to land relationships
 - Customary and state land in situations of development transition
 - Climate change
 - Vulnerability to natural disasters and community resilience
- 2.14 Aligning professional programs with other important initiatives (for example, developing informed responses to the Pacific Urban Agenda and regional action plans, and other strategic initiatives)
- 2.15 Instituting education and professional processes that ensure public trust, transparent processes and regulation of professional activities
- 2.16 Encouraging a broader perspective of land practitioners to develop diverse skill levels appropriate for small nation states with limited resources

For regional networks and organisations:

- 2.17 Building sustainable regional organisations, such as PILPA, PIPA, so that that the region shares knowledge and experience to build optimal capacity
- 2.18 Gaining recognition for PILPA as the legitimate organization representing land practitioners
- 2.19 Producing regional guidance notes and information papers on technical issues for member associations
- 2.20 Building long-term, sustainable relationships between:
 - Practitioners and politicians
 - Member organisations such as SSSI, NZIS and other local land practitioners
 - Global organisations such as CASLE and FIG
 - Funding agencies
 - All SIDS regions
 to ensure they identify and prioritise the capacity needs of individual countries

3 Building roles and responsibilities for land professionals

Achieving knowledge transfer from land practitioners to others by:

- 3.1 Ensuring consultants leave a legacy such as trained locals
- 3.2 Building appreciation and recognition of non-professionals for basic land tools including survey infrastructure and mapping
- 3.3 Increasing dialogue and forums for interaction with senior policy makers in governments to develop political will for responsible land management and informed reaction to needs and situations
- 3.4 Sharing information and experiences on recent responses to natural disasters and climate change that facilitate the management of and resources

Identifying the capacities of land practitioners in Island States that are needed NOW, including:

- 3.5 Multi-disciplinary professional capacities
- 3.6 Capacity to develop land policy frameworks
- 3.7 Capacity to identify the best practices for delivering security of tenure in island states
- 3.8 Capacity to analyse and research attitudes to land
- 3.9 Capacity to manage pressures on land use, and understanding of future roles of land
- 3.10 Capacity to communicate with stakeholders (clients, public and government policy makers, NGOs) in changes to land relationships and land uses
- 3.11 Capacity to map vulnerabilities and resilience of island states

4 Acting responsibly

Maintain and improve the livelihoods of people and environmental sustainability by:

- 4.1 Maintaining highest professional standards
- 4.2 Eradicating corruption
- 4.3 Facilitating the agenda of social and economic development

5 Driving the agenda for the Pacific

In particular, in the region this is an agenda to build action plans and it is expected that the following organizations will take this forward:

- 5.1 PILPA (Pacific Islands Land Professionals Association) – to take ownership of this Agenda for Action and provide the momentum and the platform for developing action plans at the national and regional levels
- 5.2 Country – develop national action plans that feed into the regional action plan
- 5.3 Development Partners – work to build relationships with national governments, development partners, and policy makers to assist in funding the resources to needed to implement the action plans
- 5.4 Strategic Alliances – work to build partnerships forums to progress PILPA action plans with FIG, CASLE, and regional organizations SSSI, NZIS

Background – Capacity Development Network

- In 2015 the *FIG Council work plan* established the concept of the Regional Capacity Development Network (CDN); stating that they were integral to *Ensuring the Rapid Response to Change Ensuring the Surveyors of Tomorrow*

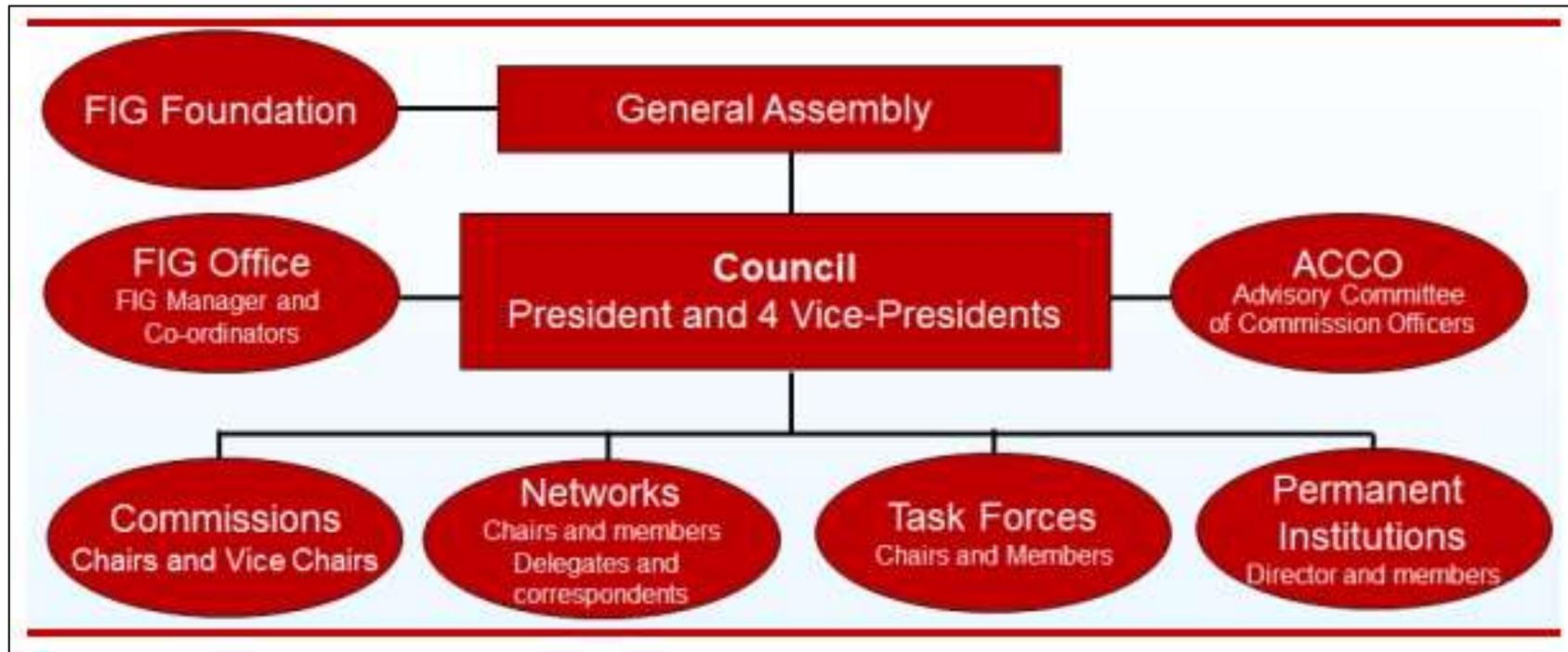
Reference – https://www.fig.net/organisation/general_assembly/agendas_and_minutes/2015/agenda/app_12_council_work-plan.pdf

- As a consequence, CDNs were mandated to –
 - *develop workshops to build the capacity of land professionals to enable them to effectively embrace current global trends in their respective region*

Background – Capacity Development Network

- CDNs should also be
 - *identifiable and an engaging entity;*
 - *deliver a high profile activity that contributes to the FIG corporate brand;*
 - *maintain meaningful links into strategic donor partner's work activities; and*
 - *increase the presence and involvement of the Young Surveyors Network*
- The Africa Regional Network (ARN) was established in 2015 at FIG WW held in Sofia, Bulgaria.
- In 2016 the Asia Pacific Regional Network was established after the FIG WW in Christchurch, New Zealand.

FIG Structure



*Engine
room*

Global/Regional/Sub-regional/National

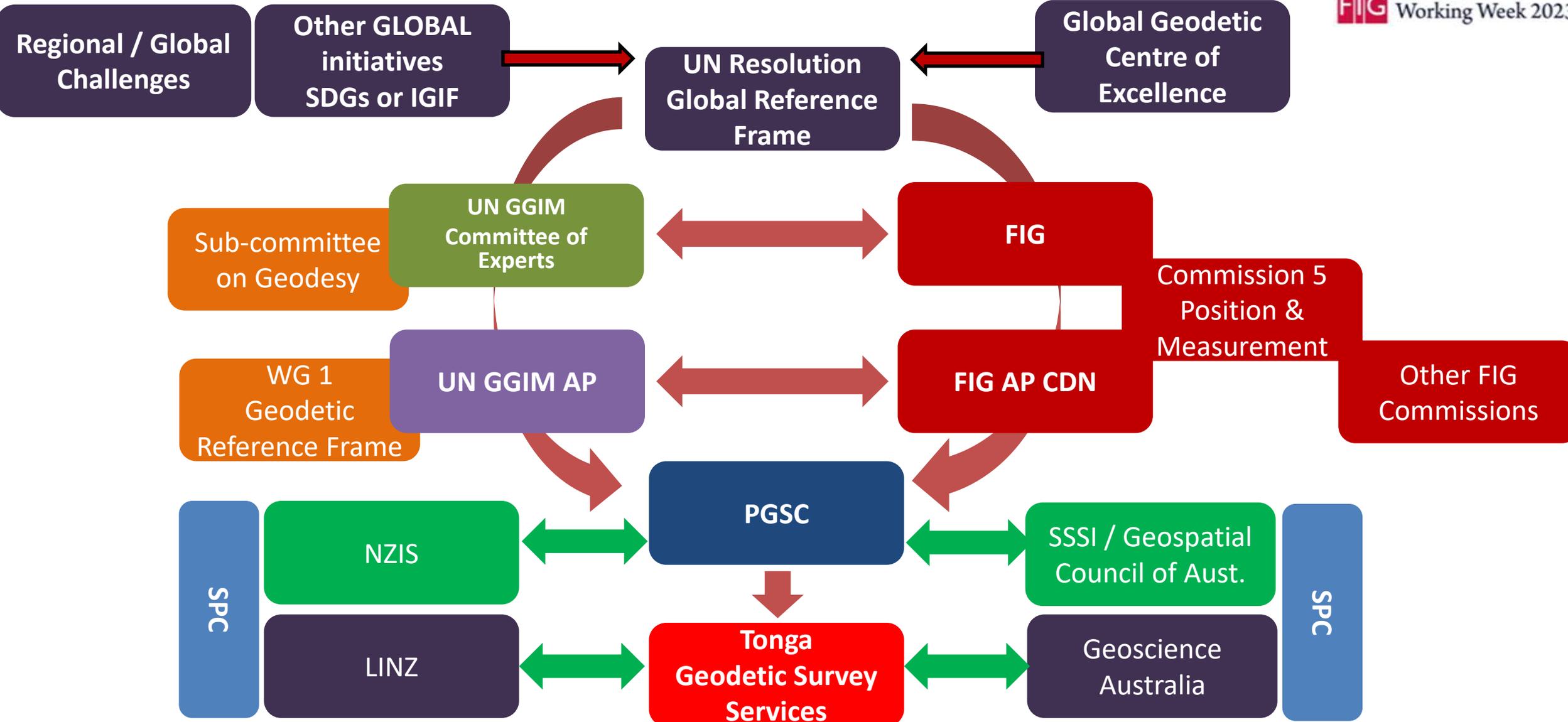




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Asia Pacific Capacity Development Journey

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Asia CDN Journey - 2013

- CDN activity and CC development via *RFIP Seminar Manilla, Philippines* (June); held in conjunction with SEASC 2013, as well as involvement with the FIG Young Surveyors Network

Noting - Reference Frame in Practice (RFIP)



Asia CDN Journey - 2013

- The Manilla event delivered technical information on the regional reference frame APREF; it provided insight into the way forward for building involvement in APREF; and it revealed the *primary issues that are hindering participation of countries*, which were lack of
 - resources (funding),
 - fundamental **geospatial survey infrastructure (GSI)** knowledge and experience
 - support from decision makers and
 - prohibitive data exchange or sharing policies
- This event also provided surveyors the opportunity from the Pacific to attend and extend their network.

Pacific CDN Journey - 2013



- Workshops identified the status and requirements of GSI capacity and capability (CC) development
- Meetings recognised the need for regional co-ordination & collaboration
- *Suva Statement on Spatially Responsible Governance*





We, the participants of the **Fédération Internationale des Géomètres (FIG) Pacific Small Island Developing States Symposium** with the theme "Policies and Practices for Responsible Governance" held at the Novotel Lami Bay Conference Centre, Suva, Fiji on 18th – 20th September 2013, having met in the context to share knowledge, promote understanding and to enhance cooperation for the responsible governance of tenure of land, fisheries and forest, of geospatial infrastructure and information, hereby issue this

Suva Statement on Spatially Responsible Governance

Recognizing Small Island Developing States in the Pacific are unique in their situation and with particular vulnerabilities, remain a special case for sustainable development.

Recognize that Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests outline the principles and practices that governments can refer to when making laws and administering land, fisheries and forest rights, particularly in the administration of tenure and specifically in areas such as the recording of tenure rights, valuation, taxation, spatial planning as well as issues and responses that is required in the recognition and protection of access and rights;

Recognize that the United Nations initiative on Global Geospatial Information Management provides an inter-governmental consultative mechanism on place, locality and geography and plays a leading role in setting the agenda for the development of global geospatial information, infrastructure and its management;

Recognize that key partners of the Global Land Tool Network supported by the Secretariat in UN-Habitat are actively developing pro-poor gender sensitive and scalable land tools in support of the Continuum of Land Rights and alternative forms of secure tenure that include the administering of customary rights;

Recognize that all activities have a geographical and temporal context, and where communities and governments make decisions and organize their affairs through the effective and efficient use of geospatial data, information and services.

Agree that information on geography, custodianship and ownership is foundational for informed decision-making, resilience and sustainability. It is therefore essential that such foundational data and information has authority, currency and is comprehensive, freely available, accessible and usable;

Agree that weak governance hinders sustainable use of the environment, hinders economic growth, can condemn people to hunger and poverty and the loss of lives through violent conflicts;

Agree that responsible governance of tenure systems, of geospatial infrastructure and information management, of human resources and capacities can help reduce undernourishment and hunger, poverty and create opportunities to support social and economic development;

Agree that rights to land as lying on a continuum where tenure can take a variety of forms and may overlap with one another, and the more appropriate form depends on the particular situation and where customary rights, for example, may be preferred in certain situations.

Resolve to fully support the implementation of the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests; the initiative of the United Nations to implement global mechanisms to foster geospatial information management and the development of pro-poor gender sensitive scalable land tools in support of the Continuum of Land Rights and alternative forms of secure tenure including customary tenures.

Confirm the role of national professional organizations, individual professionals and the importance for continuing professional development for responsible inputs and contributions towards the preparedness of the surveying profession to respond and address the challenges in the region including coastal zones management, marine and climate related issues;

Confirm the importance of and the need for strengthening and modernizing the geodetic reference framework, and national spatial information infrastructure for the sharing and delivery of reliable geospatial information towards improved geospatial information management for social, environmental and economic development;

Confirm the importance of legislation, institutions, common standards and frameworks to improve coordination and ensure interoperability, improved governance of tenure of land, fisheries and forests as well as secure tenure rights for all;

Confirm the need for partnership, to share and collaborate to reduce duplication in these efforts; and

Confirm the need for capacity and professional development including the strengthening of teaching and training institutions.

- Aligned with *SIDS Sydney Action Agenda*
- Formalised CC development pathways, and commitment from participants

Reference -

https://www.fig.net/organisation/general_assembly/agendas_and_minutes/2014/agenda/app_08_suva_statement.pdf

Asia and Pacific CDN Journey - 2014 to 2016

- CDN activity and CC development via
 - **Special Forum on New Generation Positioning Infrastructure**, and technical sessions at the FIG Congress, KL Malaysia (2014)
 - Technical sessions at the FIG WW Sofia, Bulgaria (2015)
 - **RFIP in Singapore (2015) on Vertical Reference Frames** in conjunction with CDN partners and Singapore and Authority
 - FIG WW Christchurch, New Zealand (2016) via **RFIP on Reference Frames, Datum Unification and Kinematics**, technical sessions, and a **SIDS Workshop**

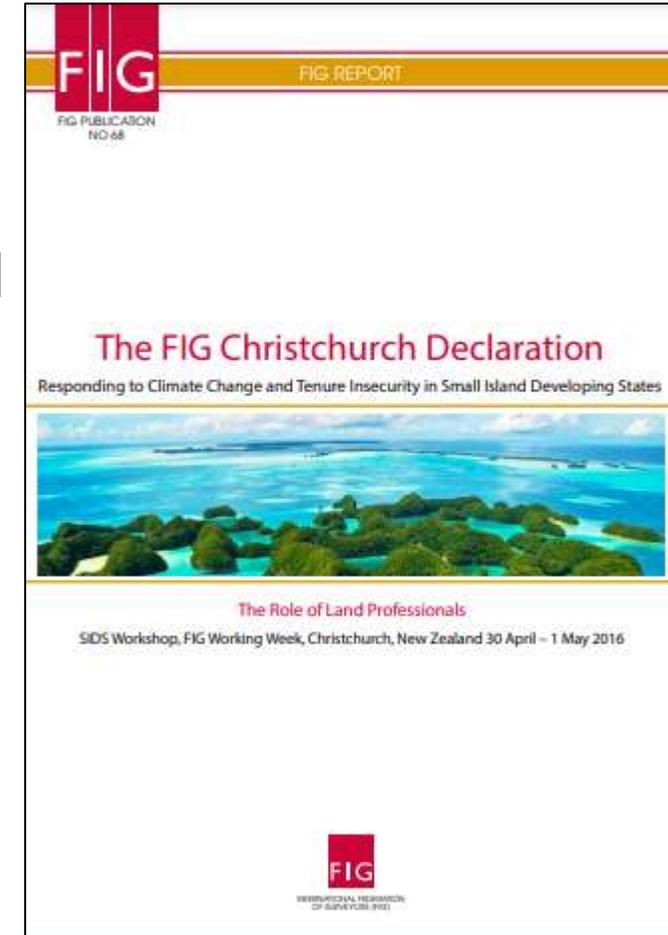


Asia and Pacific CDN Journey - 2016

- *SIDS Workshop* – examined vulnerabilities for SIDS; challenges faced by SIDS in the land sector; climate change, the risk of natural disasters; urbanisation; and challenges for improved land governance.
- *FIG Christchurch Declaration on Responding to Climate Change and Tenure Insecurity in Small Island Developing States – The Role of Land Professionals*

Reference -

https://www.fig.net/resources/proceedings/fig_proceedings/fig2016/ppt/sids/christchurch_declaration_sids.pdf



Pacific CDN Journey - 2014



- Participatory workshops – *13 countries* evaluating the status GSIs, CC needs, a SWOT analysis of a regional unified approach, and entity.
- Outcome – formation of an interim group, the **Pacific Geospatial and Surveying Council (PGSC)**, to finalise a Charter.



Pacific CDN Journey - 2015



- *PGSC finalised the Charter!*
- Workshop to develop a regional strategic plan consisting of vision, goals, actions, KPIs, etc – addressing regional GSI and CC challenges
- Like 2014, CC development in the region through presentations and activities at the *PICTS - Geographic Information Systems (GIS) and Remote Sensing (RS) User Conference*, held at University of the South Pacific

PACIFIC GEOSPATIAL AND SURVEYING COUNCIL
CHARTER

Revised 25th August 2020

1. Summary of the Council

Name	Pacific Geospatial and Surveying Council (PGSC)
Vision	Sustainable development in the Pacific enabled by world class geospatial information and surveying services.
Mission	The PGSC will provide a regional network and forum for the geospatial information and survey authorities of Pacific Island Countries and Territories (PICTs) to address regional challenges, such as building the capacity of surveyors, improving and standardising geospatial information gathering and dissemination, maximising economic growth, alleviating poverty, improving natural resource management, disaster risk management and climate change adaptation. This will be achieved by coordinating, communicating, and collaborating activities, sharing resources and applications of location information through regional and global partnerships.
Members	Core members are national geospatial and surveying authorities of Pacific Island Countries and Territories (PICTs). Other members may comprise of observers, expert contributors or organisations from both the surveying and geospatial private sector, non PICT government agencies, academic institutions, commercial survey manufacturers, non-governmental organisations of professional surveyors with mandates and work programs relevant to geospatial information management and or spatial data infrastructure as well as development partners operating in the Pacific region
Secretariat	The Pacific Community (SPC) shall provide secretariat and technical support for the Council through the Pacific Geospatial and Surveying Partnership Desk (PGSPD)

2. Preface

The Council was formed to share knowledge, promote understanding and to enhance cooperation in the context of geospatial infrastructure and information management as defined in the "Suva Statement on Spatially Responsible Governance" (see Annex).



- By Dec 2015, *11 countries* endorsed the *PGSC Charter*
- The Charter formalised an agreement between participating members to –
 - coordinate, co-operate and communicate geospatial and survey activities;
 - share resources, knowledge, data, and applications of technical and location based information; and
 - undertake the above through regional and global partnerships.

Reference - https://pgsc.gem.spc.int/wp-content/uploads/2020/09/Pacific-Geospatial-Surveying-Council-Charter_revised-25.08.20.pdf

Asia CDN Journey - 2016

- The CDN, in conjunction with UN GGIM AP and JUPEM, convened the workshop *Geospatial and GNSS CORS Infrastructure and Systems* in KL, Malaysia (Oct 2016)
- Presentations – status of regional GSIs; drivers for GSI; Link to SGDs; reference frames and GNSS CORS theory; modernisation of GSI; role of organisations and sectors



Asia CDN Journey - 2016

- The KL workshop *identified challenges* (and solutions) in relation to GSIs such as –
 - standards / practices
 - access and sharing information
 - institutional arrangements
 - legal / policy requirements
 - technology, communications
 - data management
 - capacity / capability development
 - people and partnerships



Asia CDN Journey - 2016

- CDN contributed to the *KL Geodetic Resolution* that recognised the events significance and was adopted at the – *5th Plenary Meeting of the Regional Committee of GGIM for Asia and the Pacific (UN-GGIM-AP)*.
- The KL resolution also included multiple statements about CC development in GSI and other survey and geospatial disciplines as well.

Reference – <https://www.un-ggim-ap.org/sites/default/files/media/meetings/Plenary05/201607/W020161101544701372777.pdf>

The Fifth Plenary Meeting of
The Regional Committee of Global Geospatial Information Management
for Asia and the Pacific (UN-GGIM-AP)

16-20 October 2016, Kuala Lumpur, Malaysia

Resolutions

1. Geodetic Reference Frame

The Meeting,

Reaffirming that the Global Geodetic Reference Frame 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 the General Assembly Resolution (A/RES/69/266) on the Global Geodetic Reference Frame for Sustainable Development;

Recognizing also the importance of data sharing to enable global and regional products and services to be related to individual countries to support decision makers to address social and environmental issues such as rapid urbanisation, sustainable development, disaster management, and complex crustal dynamics;

Noting the challenges of building technical capacity in the Asia Pacific region to modernise national geospatial and geodetic infrastructure, in particular GNSS CORS densification, geodetic datum determination, unification of height systems, and integration and interoperability of fundamental datasets;

Noting further the challenges of sustaining geospatial and geodetic infrastructure with respect to accessing reliable communications, obtaining and justifying resources, and modernising relevant legislation, policies, and practices particularly in the context of the administering geospatial and geodetic data;

Noting further the lack of awareness of the value and importance of geospatial and geodetic infrastructure amongst some sectors of government, industry and the wider community;

Noting further the present limited availability of qualified young geodetic surveyors in the region;

Recommends that UN-GGIM-AP

Pacific CDN Journey - 2016

- CDN activities and CC development at Suva, Fiji (Nov) via
 - *Pacific Height Seminar* - an interactive workshop on height datums and practical height survey issues or problems
 - annual *PICTS – GIS & RS User Conference*



Pacific CDN Journey - 2016

- CDN advice to finalise draft *PGSC Strategy* at workshops, forums (in Suva – Nov and FIG WW Christchurch); and on-line meetings.



Asia CDN Journey - 2017

- In conjunction with CDN partners UN GGIM AP, IAG and Geospatial Information Authority of Japan two RFIPS were held in Japan.
- *Kobe (July 2017) – RFIP* on fundamental geodetic reference frame theory and concepts; examination of the associated data; practical implementation and applications – with respect to earth dynamics and deformation.



Asia CDN Journey - 2017

- *Kumamoto (Oct 2017)* CDN facilitated the *RFIP* to workshop -
 - Benefits / opportunities of sharing data and their policies;
 - Licencing agreements (such as UN-GGIM Compendium on Licensing Geospatial Information);
 - Geodetic data types and formats;
 - Data sharing challenges and solutions / pathways
 - Drafting of resolutions



Asia CDN Journey - 2017

- CDN contributed to Kumamoto decisions and pathways forward via a formal resolution



Reference – <https://www.un-ggim-ap.org/sites/default/files/media/meetings/Plenary06/201707/W020171105036017474658.pdf>

The Sixth Plenary Meeting of
The Regional Committee of Global Geospatial Information Management
for Asia and the Pacific (UN-GGIM-AP)

16-19 October 2017, Kumamoto, Japan

Resolutions

1. Geodetic Reference Frame

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;

Asia CDN Journey - 2017

- CDN activity via seminar *Aligning Competencies Towards Sustainable Good Land Governance – Manilla, Philippines (Dec 2017)*
- Sessions on GSI development, and land administration, management, and development. CDN was involved in ASEAN Flag Council meeting on regional collaboration.



Pacific CDN Journey - 2017 / 2018



- CC development through RFIP seminar *Operational Aspects of GNSS CORS Infrastructure* Suva, Fiji

Pacific CDN Journey - 2017 / 2018

- CC development through RFIP seminar *Operational Aspects of GNSS CORS Infrastructure*.
Comprising of -
 - Examined the “what, why and how” to build a sustainable and modernised geodetic reference frame and datum;
 - Challenges faced in the Pacific in relation to geospatial information management and data sharing;
 - Legal, policy, standards, and codes of practice ; and
 - The issues pertaining to developing the capacity of surveyors in the discipline of geodetic surveying
- Resolution on *Operational Aspects of GNSS CORS – Reference Frame in Practice Seminar*.
Reference - https://www.fig.net/news/archive/news_2018/09_rfip_fiji/resolution.pdf

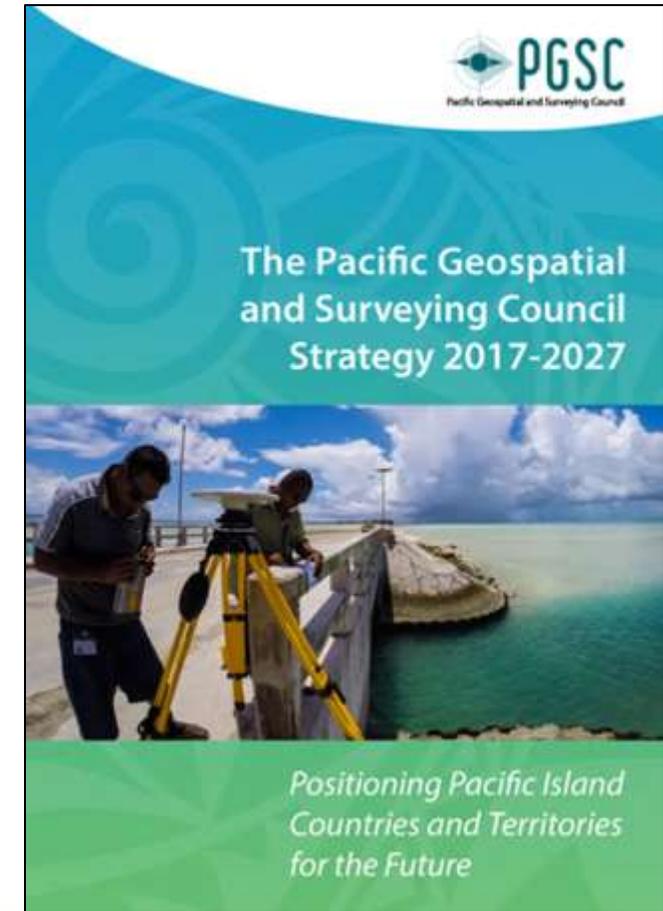
Pacific CDN Journey – 2017 / 2018



- CC development through *International Workshop on Legal and Policy Frameworks for Geospatial Information Management - Licensing of Geospatial Information* - Nuku'alofa, Kingdom of Tonga
- Reference –
https://ggim.un.org/meetings/2018-International_Workshop_Tonga/documents/Nukualofa_Summary_Statement.pdf

Asia and Pacific CDN Journey - 2017 / 2018

- CC development at FIG WW Helsinki, Finland (2017) & Congress Istanbul, Turkey (2018) - meetings, technical sessions, and RFIP event
- Endorsement of the *PGSC 2017-2027 Strategy - Positioning the PICTs for the Future* by FIG Council. Reference - https://pgsc.gem.spc.int/wp-content/uploads/2018/04/PGSC-Strategy-2017-2027_low-res.pdf



Asia and Pacific CDN Journey - 2018

- CDN attended the *United Nations World Geospatial Information Congress (UN WGIC)* held in Deqing, Zhejiang Province, China 19-21 November 2018.
- It was evident the target audience for the WGIC were Ministers, senior officials, decision makers and leaders of the geospatial and surveying industry representing government, the commercial sector, professional organisations and academia.
- CDN members participate in UN GGIM AP CC development sessions and working group meetings, in particular those relating to Integrated Geospatial Information Framework (IGIF), as well as the education, training and capacity building meetings organised by the UN Sub-Committee on Geodesy.

Asia and Pacific CDN Journey - 2018

- The event was also a great opportunity for PGSC – Kingdom of Tonga to be recognised for their GSI efforts and progress with the IGIF.



UNITED NATIONS
WORLD GEOSPATIAL
INFORMATION CONGRESS



Deqing, Zhejiang Province, China
19-21 November 2018

Pacific CDN Journey - 2019

- CDN activities / CC development via *Applications of GNSS* workshop held in Suva, Fiji on –
 - GNSS based applications
 - Status, trends and updates on GNSS and RNSS
 - Technical matters in relation PPP, GNSS measurement techniques
 - Why, how and what of organisational planning for the development of GSI capability and geodetic datum modernisation.



Asia and Pacific CDN Journey - 2019

- CDN activities / CC development via meetings, technical sessions, and RFIP seminar at the FIG WW in Hanoi, Vietnam
- Participation by CDN members at SEASC 2019 Darwin, Australia. CDN recognition at SEASC 2019 Darwin Declaration – *Collaboration, Communication and Capacity Building*.

Reference -

https://www.fig.net/organisation/networks/capacity_development/asia_pacific/report/SEASC2019_DARWIN_Declaration.pdf



Asia and Pacific CDN Journey - 2019

- CDN members attended the UN GGIAM AP Plenary Meeting Canberra, Australia (Nov 2019)
- Active participation in sessions related to IGF, CC development with respect to organisational planning, challenges / opportunities, and role of surveyors for *Disaster Risk Reduction and Resilience*.
- Input into UN GGIM AP Regional Committee resolution statement re CC development

Reference -

https://un-ggim-ap.org/sites/default/files/media/meetings/Plenary08/Resolutions_8th%20Plenary%20Meeting_UN-GGIM-AP_05112019_Final.pdf

Asia and Pacific CDN Journey - 2020 to 2022

- CDN members attended FIG events PGSC, UN GGIM AP, UN SCoG and GGCE meetings (mostly virtual)
- Overall network activity during this period was limited; delivery of objectives stagnated
- Highlighted several challenges for the CDN
 - Dependence on and importance of face to face meetings /events to achieve results.
 - The lack of ability to identify more flexible and agile methods of engagement.
 - Consideration of better online / remote learning / digital tools for capacity and capability development
 - Increased reliance on reliable digital communications and IT
 - Working with a considerably reduce budget, access to resources and changing priorities
 - In ability to deal with uncertainty



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Suggestions and Lessons Learnt

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Suggestion and Lessons Learnt

Thoroughly analyse

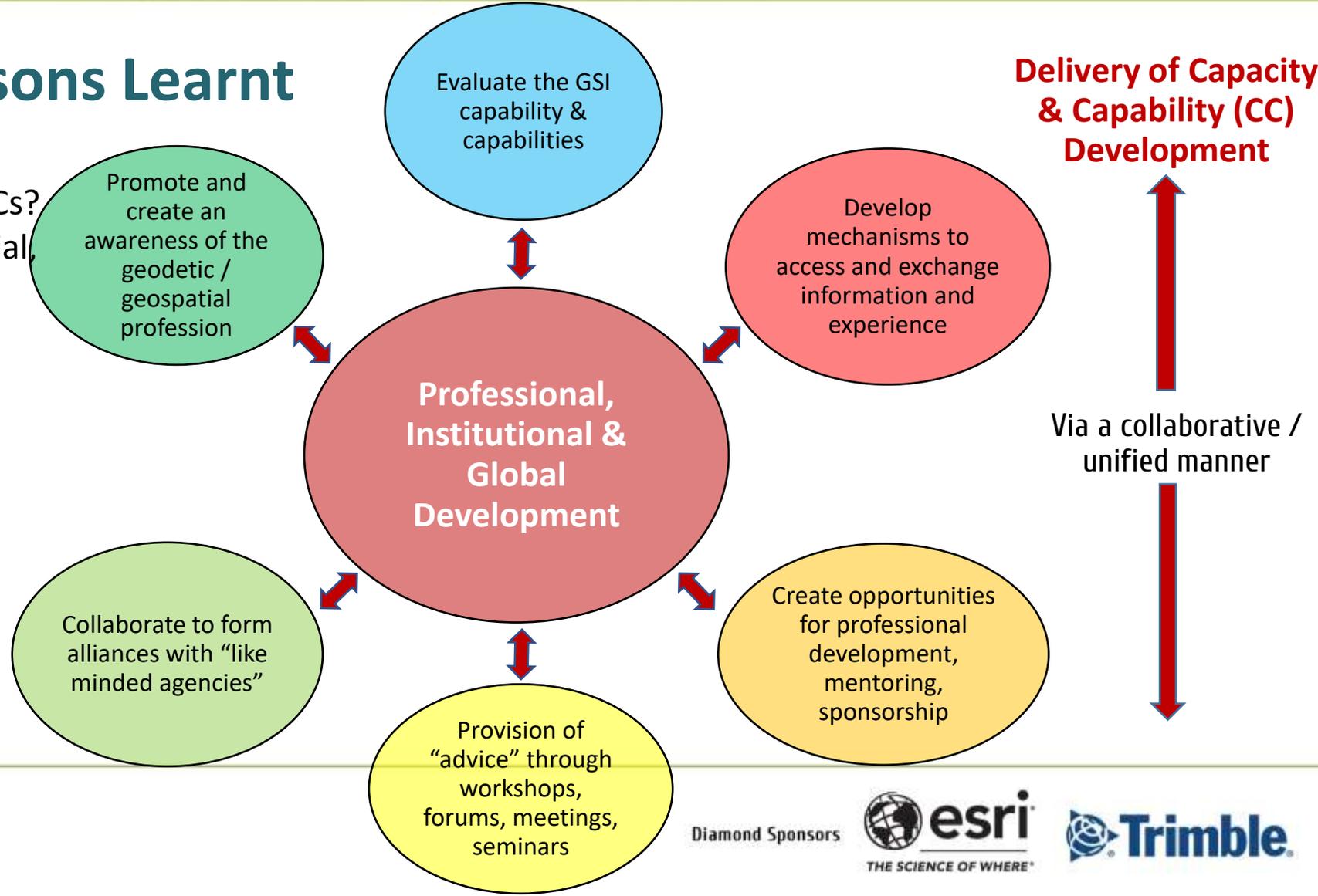
WHY do we need to develop our GSI CCs? What will be its purpose? Drivers – social, economic, political?

WHOSE

CCs need to be developed? Which groups or individuals need to be empowered? Local / Regional?

WHAT KINDS

of CCs need to be developed to achieve the broader development objectives? Technical & Non-technical?



Suggestions and Lessons Learnt

- Consider adopting the **United Nations Development Programme (UNDP)** approach to capacity and capability development.
- Spend the time and effort to **listen, evaluate CC development expectations and needs**
- **Collaborate with a diverse stakeholder group including decision makers, other agencies, countries, UN agencies, corporate sector, academic institutions, professional / scientific partners, donor or funding organisations**
- Focus GSI CC development on a national or regional vision (and mission) to overcome a significant global issue or challenge. Example drivers - building disaster resilience (before during and after), responding to climate change (sea level rise), managing rapid urbanisation, measuring / monitoring SDGs, and realising digitalisation of GSI

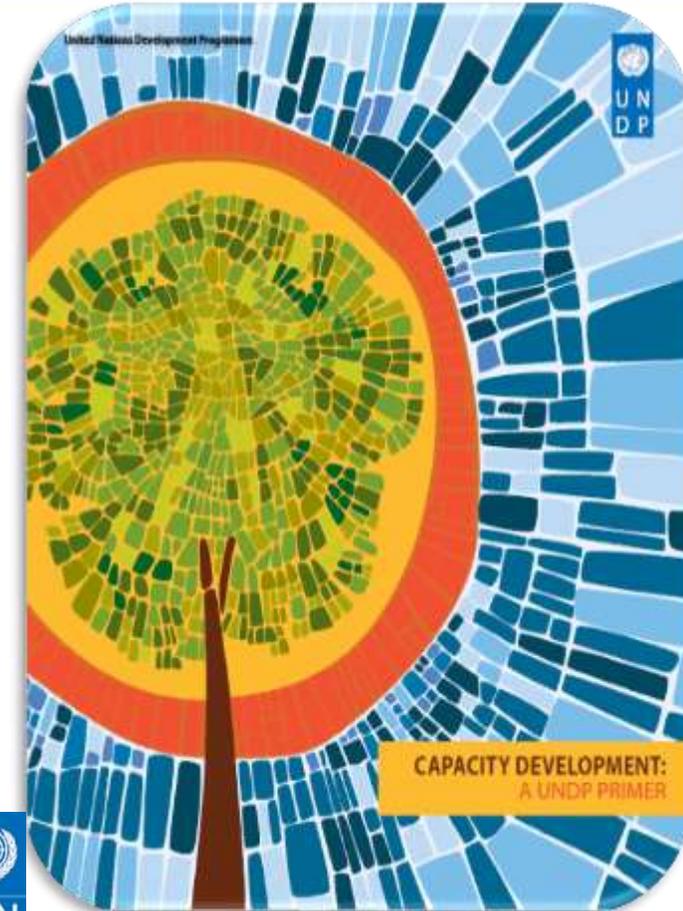
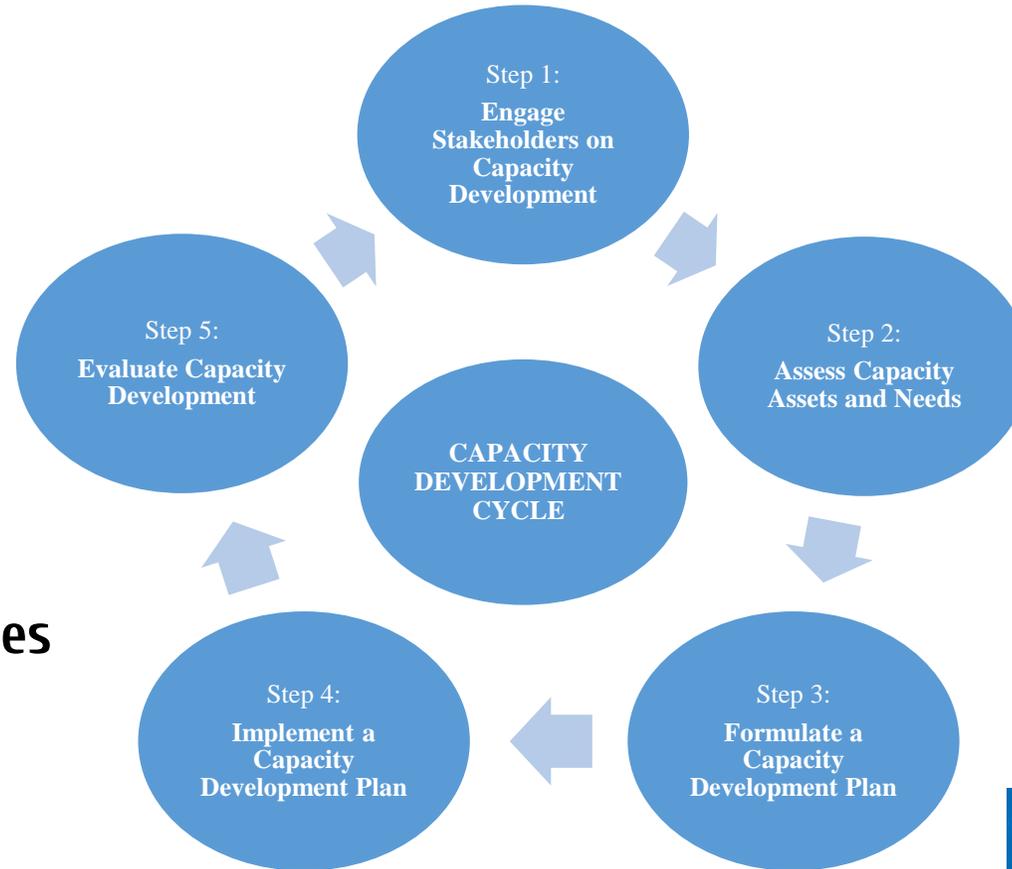
Suggestions and Lessons Learnt

- Develop a CC develop strategic plan that set realistic goals, actions and timeframes
- Devise collaborative agreements and CC development plans with other countries for committment and to share resources, avoid duplication, and exchange information
- Political will is a key to success therefore the CDN must understand what influences the decision makers and find what will motivate their interest
- Ensure decision makers and champions of the CC development are on board for a long term journey, and conversant of subject matter.
- Leverage global geospatial information initiaives such as the IGIF, SGDs, GLTN, DRR and centres of excellence.

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Source : Capacity Development - UNDP

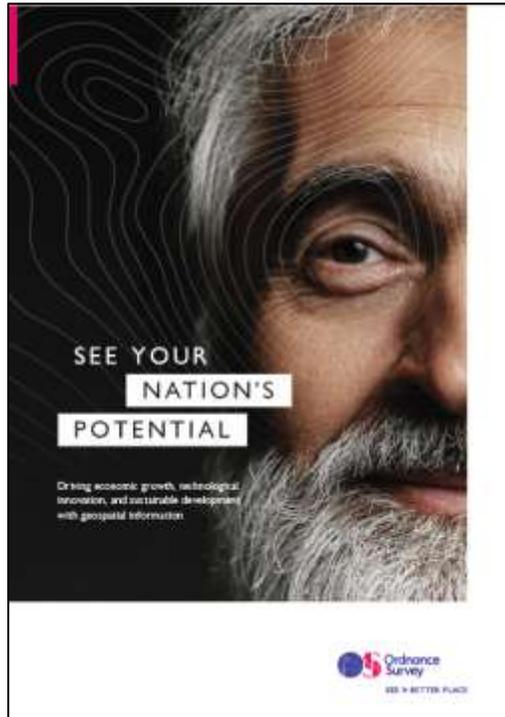
Classify challenges / opportunities in terms of components that influence "sustainable" CC development (CD)

Suggestions and Lessons Learnt

- Understand and accept that **challenges and issues are the same in countries and regions**, but at different levels, and *may require different approaches to solutions*.
- Develop a *core competences* matrix for CC development – do not forget the value of "soft skills" development!
- Leverage and utilise conferences, events, and meetings to provide and work on CC activities and discuss strategies / pathways
- **Ratify** discussions, decisions and pathways to move forward, as well as solidify commitment, **via formal via resolutions**
- Utilise existing **AP CDN seminar / presentation formats and course content** to shape CDN activities and CC development.

Suggestions and Lessons Learnt

- Be cognisant of the GSI and CC trends, future challenges and opportunities



Suggestions and Lessons Learnt

- Be cognisant of the GSI and CC trends, future challenges and opportunities, such as -
 - Application of digital technologies (artificial intelligence, machine learning, and the Internet of Things) to transform work process; to be more effective / efficient and enhance value
 - Reliance on geospatial information and data analytics for evidence based decision making
 - Recognition of soft skills development – leadership, communicating with influence
 - Greater collaboration / unification amongst organisations or countries, as well as a more diverse and inclusive workforce, to underpin sustainability of GSI
 - Increasing dependence on on-line or remote learning activities
- Celebrate and promote achievements; reflect on how things can be done



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Thanks for listening !

And have a CHAT with -

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