FIG Pacific Small Island Developing States Symposium
Policies and Practices for Responsible Governance
Fiji 18–20 September 2013
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Reference Frame in Practice Workshop 1A

SUMMARY of the Status of Geodetic Infrastructure in the Pacific Region

Rob Sarib - FIG Commission 5 Vice Chair of Administration

FIG Commission 5 Position and Measurement

United Nations Global Geospatial Information Management – Asia Pacific

UN-GGIM-AP

Welcome ! Bula !

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Work Shop 1A Objective

To provide an overview of the state of of geodetic / survey infrastructure and development issues of each country in the Pacific Small Islands region.

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PRESENTATIONS FROM

- Fiji – Mr. Asakaia Tabua
- Tonga – Mr. Viliami Folau
- Cook Islands – Mr. Vaipo Mataora
- Solomon Islands – Mr Jimmy Ikina
- Kiribati – Mr Romano Reo
- Samoa - Mr Safuta Toelau Iulio
- Vanuatu – Mr Martin Sokomanu
- Papua New Guinea – Mr. Richard Stanaway

Consider the following questions during the workshop

- Existing geodetic infrastructure and what it consists of – horizontal and vertical survey control ground marks, GNSS base stations, tide gauges ?
- What is your geodetic datum? Is it an ITRF or APREF based geodetic datum.
- Status of you surveying capacity, that is level of knowledge, resources, experience, equipment, software etc. ?
- What land information datasets are linked to your geodetic datum?
- What geodetic or positioning services are you providing or would like to provide?
- What are your issues or impediments to developing geodetic or positioning infrastructure?
- How can these issues be solved and what do you need?

Summary

- Geodetic networks compromising primarily of passive infrastructure – a traditional geodetic framework based on terrestrial observations to survey control and tide gauges

- Active infrastructure such as GNSS CORS are present but there are associated IT / communication reliability problems.

- Numerous "Geodetic datums" and primary datasets are 'generally' working towards ITRF based but need to be transformed or redefined and mathematically linked to a common ITRF / APREF epoch.

- There is a need for each nation to develop an operational national adjustment to facilitate propagation of datum and transformation parameters

- The need for a better understanding of the relationship between GNSS heights, geoids and local heights systems (MSL and tide gauges), including local deformation (tectonic / seismic etc)

Summary

- Some Pacific nations consist of numerous islands that need the geodetic datum to be established or integrated / densified.

- GNSS CORS based positioning services (single base or network RTK) and applications are limited

- Limited high level geodetic surveying capacity; qualified technical / operational people that need to maintain competency / knowledge / capacity

- Lack of qualified "local" surveyors now and in the future

- Lack of educational institutions in the region

- Historically the Region has relied on survey "consultancies", that is existing ITFR based geodetic datums were developed via foreign assistance but now require maintenance/ upgrade

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Summary

- Present equipment / hardware / firmware / software need maintenance or upgrading.

- Limited financial resources to sustain / improve geodetic infrastructure due to lack of support / understanding from decision makers.

- Land information datasets need better "linkaging" to the geodetic datum, needs to be spatial accuracy upgrade, needs to migrate to a digital environment.

- Datasets – cadastre (land and maritime tenure / administration), mapping, land and geographic information systems, imagery, aviation, road networks, water, utilities, geological, environmental, mining

Summary

- A lack of "business cases or drivers" or policy ? to justify allocation of scarce resources to upgrade / modernise geodetic infrastructure - the WHY, WHAT, WHERE and HOW – Costs / Benefits!

- A lack of strategic, operational and implementation plans to action geodetic modernisation…. the need for a 'sustainable' geodetic strategy

- A lack of practical cohesion, collaboration, partnerships between local agencies and regional organisations – need a national / regional focus to unify resources and avoid duplication!

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What FIG and UN GGIM-AP can do!

- Encourage survey community, and FIG / UN GGIM - AP members to identify and disseminate technical information to the surveyors in the region ... the "operational people" – the doers!

- Facilitate interaction and building / establishment of "networks" / "relationships" amongst the nations / groups (SOPAC)

- Support the building of geodetic capacity for present surveyors but also foster the development of the Young Surveyors – via a Regional survey education program ?

- Be active on the international scene to promote, monitor and follow the activities / changes.

FIG / UN GGIM-AP can also contribute via ….

- FIG Commissions and UN GGIM- AP working groups (and IAG) provide expert technical information for Workshops / Seminars

- FIG / UN GGIM – AP / IAG provide access to publications such as the Reference Frame in Practice Manual, Cost Effective GNSS Techniques

- Organise and schedule FIG events and UN GGIM-AP meetings in the Region

- FIG / UN GGIM-AP sponsor or support applications for surveyors to attend relevant technical Seminars or Workshops.

- FIG / UN GGIM – AP endorse Regional activities / policies – support a Regional body to represent the needs?

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