

**MEMORANDUM OF UNDERSTANDING
BETWEEN THE
GOVERNMENT OF AUSTRALIA
AND THE
GOVERNMENT OF PAPUA NEW GUINEA
RELATING TO TSUNAMI WARNING SYSTEMS & CLIMATE MONITORING
NETWORKS**

1 GENERAL

THIS MEMORANDUM expresses the understandings of the Government of Australia (GOA) and the Government of Papua New Guinea (GOP) (the Parties) concerning the arrangements between the Parties with regard to Australian sponsored tsunami warning systems and climate monitoring networks, in particular the Australian Tsunami Warning System (ATWS) and the South Pacific Sea Level and Climate Monitoring Network (SPSLCMN). Details of the ATWS and SPSLCMN are set out in Annex 1 and Annex 2 respectively of this Memorandum.

GOA will engage with individual Pacific Island Governments through similar Memorandums to formalise arrangements with those governments with regard to their involvement in and support of the ATWS and SPSLCMN. Bilateral links between GOA and Pacific Island Governments will remain a key to responding to country specific issues and advice regarding the ATWS and SPSLCMN and their components.

2 EXECUTING AUTHORITIES

The Executing Authorities for the ATWS Project will be:

For GOA: Department of Foreign Affairs and Trade

For GOP: Department of Foreign Affairs, Trade and Immigration

The Implementing Agencies for the ATWS Project will be:

For GOA: Geoscience Australia and the Australian Bureau of Meteorology

For GOP: National Disaster Management Office, National Weather Service
and National Geophysical Observatory

The Executing Authorities for the SPSLCMN Project will be:

For GOA: Australian Agency for International Development (AusAID)

For GOP: Department of Foreign Affairs, Trade and Immigration

The Implementing Agencies for the SPSLCMN Project will be:

For GOA: Geoscience Australia and the Australian Bureau of Meteorology

For GOP: National Disaster Management Office, National Weather Service
and National Geophysical Observatory

3 DEFINITIONS

For the purposes of this Memorandum:

- a) “Activity” means the establishment, operation and maintenance of scientific and communication equipment in Papua New Guinea, as part of the ATWS or SPSLCMN, as set out in paragraph 2.2 of Annex 1 and paragraph 2.2 of Annex 2 respectively;
- b) “Activity Task” means any work carried out cooperatively with GOP in relation to the Activities;
- c) “Australian Activity personnel” means:
 - (i) Australian nationals or permanent residents;
 - (ii) Nationals or permanent residents of Papua New Guinea; and,
 - (iii) All other personnel who are neither nationals nor permanent residents of Australia or Papua New Guinea;who are working on an Activity Task under this Memorandum and whose salary or other costs are wholly funded from the contribution of GOA to the Activities;
- d) “Australian Activity supplies” means equipment, material and other goods supplied for the conducting of the Activities, the costs of which are wholly funded from the contribution of GOA to the Activities; and,
- e) “Intellectual Property” will have the meaning provided for in Article 2 of the *Convention Establishing the World Intellectual Property Organization*, of 14 July 1967, as amended on 28 September 1979.

4 MANAGEMENT

Effective partner and stakeholder involvement in the Activities remains an important element in ensuring the overall success of the ATWS and SPSLCMN. GOA Executing Authorities (listed in clause 2 of this Memorandum) will engage with Pacific Island Countries on the basis that they are not only beneficiaries but partners in the Activities.

While GOA and Pacific Island Governments will remain partners in the delivery and support of the Activities, responsibility for the oversight of the Activities will be vested in GOA. GOA will convene forums at regular intervals during the Activities to maximise the opportunity for GOP and other Regional partners and stakeholders to receive and provide feedback on the Activities and associated tsunami and climate issues. The structure and format of these forums will be developed in consultation with GOP and other Regional stakeholders as part of the ATWS and SPSLCMN Communications Strategies and Plans.

In addition to these forums, GOA will advise GOP on progress of Activities on a regular basis, and any changes in the Activities' components and future direction of the ATWS and SPSLCMN.

5 CONTRIBUTIONS

GOA's primary responsibility will include providing funding and technical support for the Activities, while the key responsibilities of GOP are securing access to land, providing logistical and infrastructure support, and providing first response to local issues affecting the Activities.

The contributions of GOA to the Activities are as follows:

- (a) GOA will fund the total cost of establishing and maintaining any seismic, sea level and/or Continuous Global Positioning System (CGPS) monitoring station(s) in Papua New Guinea that form part of the ATWS and/or SPSLCMN;
- (b) GOA will endeavour to make available to GOP all data collected by the seismic, sea level and CGPS monitoring station(s) deployed in Papua New Guinea in near real time wherever reasonably practicable. GOA will also make such data available to members of the Pacific Tsunami Warning System (PTWS), the

Pacific Tsunami Warning Centre (PTWC) and other Pacific Island Countries and Regional bodies that wish to receive them; and,

- (c) GOA will make the tsunami warnings and alerts issued for Australia through the ATWS available to the members of the international community that wish to receive them. This will be done using the methods agreed by the PTWS.
- (d) As soon as apparent to them, GOA will provide prompt advice of any technical malfunctions to the GOP, to expedite on-site checks.

The contributions of GOP to the Activities are as follows:

- (e) GOP will assist GOA to locate a suitable site(s) for the establishment of seismic, sea level and CGPS monitoring station(s) and will provide GOA with access to appropriate officials to negotiate an agreement for occupying the site(s);
- (f) GOP will facilitate in approving any necessary construction permits for the monitoring station(s), customs clearances of Australian Activity supplies including ensuring its tax-free or duty-free status, immigration clearances and visa issuance where required, and any other necessary approvals and authorities for carrying out Activity Tasks;
- (g) GOP will provide any personnel and facilities considered by the Parties to be necessary to enable Australian Activity personnel to efficiently and economically carry out Activity Tasks, including, but not limited to, the following:
 - (i) access to National Disaster Management Office, National Weather Service and National Geophysical Observatory personnel who will act as key counterparts for the Activity and will facilitate interaction with other local agencies;
 - (ii) authority to continue to utilise the site(s) selected for the installation of seismic, sea level and CGPS monitoring station(s) and survey benchmarks and associated equipment without interruption;
 - (iii) the installation and commissioning of a telephone connection and the necessary communication connections to the sites and the continuing provision of access to the telecommunications network for the transmission of data and the programming of monitoring station equipment; and,

- (iv) the installation and commissioning of electrical power to the sites and the continuing provision of access to electrical power for the monitoring station equipment;
- (h) As soon as aware, GOP will provide prompt advice of any:
 - (i) malfunction of the seismic, sea level or CGPS monitoring station, or of the telecommunications system, or of the electrical power system supporting the sites which are likely to interrupt the operation of the monitoring station equipment at the site; and,
 - (ii) damage or unforeseen disturbance to the monitoring station equipment, or to its supporting structure, or to the survey benchmarks;
- (i) If planned disturbance of the monitoring station equipment or survey benchmark equipment is necessary, GOP will provide notice of such requirements at least one year in advance of the planned date of any such disturbance; and,
- (j) Once the monitoring station(s) is established, GOP will carry out the agreed maintenance work, the scope and financial arrangements of which are to be separately determined.

6 EVALUATION

An evaluation of the status of the Activities may be made at times arranged between, and mutually convenient to, the Parties. Such an evaluation will be carried out by a joint investigation team appointed by the Parties, and independent of staff involved in the Activities.

7 SUPPLIES

- (a) GOP will exempt all Australian Activity supplies from import duties and other taxes (or pay such duties thereon).
- (b) GOP will facilitate movement of Australian Activity supplies by providing appropriate customs and wharfage facilities including any necessary storage costs in the first port of discharge, and will provide expeditious transport of such

supplies from the first port of call of the particular aircraft or vessel in Papua New Guinea to the Activity site.

- (c) Australian Activity supplies will be available for the unrestricted use of the Activity and will not be withdrawn from such use without the full consent of GOA. Australian Activity supplies remain the property of GOA. Australian Activity personnel will exercise administrative control over such supplies for the duration of the Activity or such other time as mutually arranged between the Parties.
- (d) Notwithstanding the provision of paragraph 7(a), no concessions of any kind will be available to Activity Tasks with respect to taxes and duties which normally form part of the purchase price of goods and services purchased from or located within Papua New Guinea.

8 WARRANTIES

GOA will bear all risks associated with the installation, operation and maintenance of the equipment associated with the Activities pursuant to this Memorandum, until otherwise arranged between the Parties.

9 INTELLECTUAL PROPERTY

- (a) All Intellectual Property rights attached to the Activities and which are vested in GOA, will be retained by GOA.
- (b) GOA hereby grants to GOP a non-exclusive, royalty-free licence in respect of the Intellectual Property rights owned by GOA and subsisting in the Activities, for the sole purpose of facilitating the Activities' goal and purpose as defined in Annex 1 and Annex 2 to this Memorandum. Such a licence will continue until otherwise arranged between the Parties.
- (c) In accordance with the cooperative nature of the Activities, any Intellectual Property rights developed through Activity Tasks will be jointly owned by the Parties.
 - (i) Where such Intellectual Property is likely to be of substantial commercial value, both Parties will enter into a further arrangement providing for the

equitable apportionment of profits, royalties or licence fees relating to such Intellectual Property.

- (ii) Such an apportionment will be made taking into account the following factors:
 - (1) the intellectual contributions of each Party;
 - (2) the contribution of intellectual property, materials, research effort and preparatory work of each Party;
 - (3) the facilities provided by each Party; and,
 - (4) such other relevant considerations as may be mutually determined by the Parties.

10 CLAIMS RELATING TO PROJECT ACTIVITIES IN PAPUA NEW GUINEA

- (a) GOP will release GOA and its Australian Activity personnel from all actions, suits, proceedings, claims and demands whatsoever which GOP may have now or in the future against them or any of them in relation to loss or damage resulting from or consequent upon the Activity Tasks.
- (b) GOP will indemnify and will at all times hereafter keep indemnified GOA and its Australian Activity personnel against:
 - (i) all actions, suits, proceedings, claims and demands whatsoever which any other party may have now or in the future against them or any of them in relation to loss or damages resulting from or consequent upon Activity Tasks; and
 - (ii) any claim for contributions which any party may have now or in the future against any of them in respect of any such actions, suits, proceedings, claims and demands.
- (c) The release and indemnity referred to in paragraphs 10(a) and 10(b) will not apply where it has been mutually decided by the Parties that a claim arises from gross negligence or wilful misconduct.

11 SETTLEMENT OF DIFFERENCES

Both Parties will consult to amicably resolve without unreasonable delay any differences arising under or in relation to this Memorandum.

12 AMENDMENTS

Amendments to this Memorandum may be made at any time by an arrangement in writing between the Parties.

13 COMMENCEMENT AND DURATION

This Memorandum will take effect from the date of mutual signature and the Activities will be deemed to have commenced from that date.

GOA and GOP contributions to the Activities and all commitments given herein will continue until such date as may be subsequently arranged between the Parties. GOA and GOP will review this Memorandum every five years from the commencement date, or at any other time by an arrangement in writing between the Parties.

ANNEXURES to this Memorandum form an integral part of it.

SIGNED at Port Moresby, in duplicate, this twenty-third day of April, two thousand and eight.

For the Government of Australia

For the Government of Papua New Guinea

[Signed]

[Signed]

.....
Hon Stephen Smith MP
Minister for Foreign Affairs

.....
Hon Sam Abal MP
Minister for Foreign Affairs, Trade and
Immigration

ANNEX 1

1. ATWS BACKGROUND

The ATWS developed as an Australian response to the devastating Indian Ocean earthquake and tsunami of 26 December 2004. Tsunamis pose a disaster threat to Australia and the countries of the Indian Ocean and the South West Pacific. Their impact can be mitigated through a comprehensive early warning system. The ATWS aims to prevent substantial loss of life in the event of a tsunami affecting the Australian coast and to mitigate risks for operations at sea and in coastal waters by:

- providing a comprehensive tsunami warning system for Australia;
- supporting the Indian Ocean Tsunami Warning and Mitigation System (IOTWS); and,
- contributing to the facilitation of tsunami warnings for the South West Pacific region.

The ATWS will provide around-the-clock tsunami monitoring and analysis capacity for Australia by establishing a comprehensive and sustainable network of reliable, real time seismic and sea level monitoring stations in Australia and the surrounding region. The data from these stations will be used to identify potentially tsunamigenic events for the purposes of issuing tsunami warnings for Australia.

Australia shall also make every endeavour to make available its tsunami advisory information and its tsunami warnings to other Pacific and Indian Ocean countries in a timely manner, if a country so desires.

2. ATWS GOAL AND COMPONENTS

2.1 Goal and Purpose

A component of the ATWS will require the deployment and operation of monitoring equipment in Pacific Island Countries. The goal of the ATWS is to provide a sustainable network of accurate, real time seismic and sea level monitoring stations, the data from which will be used to issue tsunami warnings for Australia and to help in the provision of tsunami-relevant data and advisories to interested members of the Pacific Tsunami Warning System (PTWS) and IOTWS.

2.2 Component Summary Description

Component 1

Reliable seismic monitoring station(s) that will provide real time data to the ATWS and/or;

Component 2

Reliable sea level monitoring station(s) that will provide real time data to the ATWS.

ANNEX 2

1. SPSLCMN BACKGROUND

The South Pacific Sea Level and Climate Monitoring Network (SPSLCMN) originated from an Australian Government response to concerns raised in the late 1980s, in particular by Pacific Island atoll countries, about the potential impacts of human-induced global warming on climate and sea levels in the South Pacific. A project was commissioned by the then Australian International Development and Assistance Bureau (AIDAB, now AusAID) in 1991 with the primary goal “to generate an accurate record of variance in long-term sea level for the South Pacific and to establish methods to make [these] data readily available and usable by Pacific Island Countries”.

Over the last 14 years, the Project has established a network of 12 high-resolution sea level monitoring (“SEAFRAME”) stations throughout the Pacific. Processed and analysed data from the SPSLCMN have been made available to the international community, and information products and targeted training delivered to the Pacific Island Countries. These achievements were delivered over three phases of project implementation and successfully addressed the acquisition of an accurate, continuous long-term record of sea level in the Pacific Region. Phase IV of the Project, which commenced in January 2006 and will run for five years to December 2010, will see the SPSLCMN integrated within the operations of the Australian Bureau of Meteorology (BoMET) and managed by BoMET in partnership with the Australian Agency for International Development (AusAID), Geoscience Australia (GA), the South Pacific Applied Geoscience Commission (SOPAC) and National Meteorological Services (NMSs) and other appropriate agencies within the Pacific Island Countries.

High quality sea level and surveying information gathered through the SPSLCMN is an important input into national policy development in responding to changes in sea level under climate change, the planning and development of coastal resources, and management of fresh water resources, agriculture, fisheries, tourism and infrastructure in all Pacific Island Countries. Australia and Pacific Island Countries mutually benefit from the SPSLCMN through building regional partnerships and the ongoing acquisition of a high quality sea level database. NMSs and other regional partners and stakeholders also benefit through enhanced skills and knowledge.

2. SPSLCMN GOAL AND COMPONENTS

2.1 Goal and Purpose

The primary goal and purpose of the SPSCM is to ensure continuation of the core process of collecting, analysing, storing and disseminating high quality sea level data from the network of high-resolution SEAFRAME and Continuous Global Positioning System (CGPS) monitoring stations across the Region.

The SPSCM is succeeding in its goal to provide an accurate continuous long-term record of sea level in the Pacific region for partner countries and the international scientific community that enables them to respond to and manage related impacts. This is being achieved by the continued operation and maintenance of the existing network of SEAFRAME and CGPS monitoring stations that form the SPSCM.

2.2 Component Summary Description

The SPSCM requires the deployment and ongoing operation and maintenance of SEAFRAME and CGPS monitoring equipment in Pacific Island Countries.

Component 1

Reliable SEAFRAME monitoring station(s) that will provide near real time sea level data to the SPSCM and;

Component 2

Reliable CGPS monitoring station(s) that will provide near real time geodetic data to the SPSCM.

2.3 Contribution of GOA

Financial contribution

The contribution of the GOA to the Activity will provide for Australian Activity personnel to manage the following:

- (a) design, siteworks, installation and commissioning activities for the development of the sensor network;
- (b) assembly, calibration and maintenance of equipment;
- (c) collection, analysis and dissemination of data;
- (d) establishment of procedures for implementation, planning and monitoring of the Activity;
- (e) assistance with necessary immigration clearances and visa provision;
- (f) provision of Australian key counterpart agency points of contact both regionally and in Australia;
- (g) provision of tailored information products developed in consultation with GOP and other stakeholders as part of the Communications Strategies and Plan for this Activity;
- (h) equipment and resources required to facilitate GOP participation in all data exchange, field program and management activities; and
- (i) The cost of connection of utilities to Activity sites including ongoing communication and electricity usage costs.

Procurement

The contribution of the GOA to the Activity will provide for all necessary sensors and monitoring equipment, calibration equipment, infrastructure and hardware requirements of GOA's key counterpart agency.

2.4 Contribution of the GOP

The contributions of GOP to the Activity are as follows:

- (a) When requested by the GOA-specified key counterpart agency GOP will assist GOA to locate a suitable site(s) for the establishment of sea level and CGPS monitoring station(s) and will provide GOA with access to appropriate officials to negotiate an arrangement for occupying the site(s);
- (b) GOP will facilitate in approving any necessary construction permits for the monitoring station(s), customs clearances of Australian Activity supplies including ensuring its tax-free or duty-free status, immigration clearances and visa issuance where required, and any other necessary approvals and authorities for carrying out Activity Tasks;
- (c) GOP will provide any personnel and facilities to enable Australian Activity personnel to efficiently and economically carry out Activity Tasks which includes, but is not limited to, the following:

- i) access to National Meteorological Service personnel who will act as key counterparts for the Activity and will facilitate interaction with other local agencies;
- ii) all necessary approvals and authorities for carrying out Activities;
- iii) authority to continue to utilise the site(s) selected for the installation of sea level and CGPS monitoring station(s) and survey benchmarks and associated equipment without interruption;
- iv) if disturbance of the sensors or benchmarks is necessary for unforeseen reasons, GOP will provide notice of such requirements at least two years in advance of the planned date of any such disturbance;
- v) the installation and commissioning of the necessary communication services to the sites where required to establish new sites and the continuing provision of access to the telecommunications network for the transmission of data and the programming of monitoring station equipment; and,
- vi) the installation and commissioning of electrical power services to the sites where required to establish new sites, and the continuing provision of access to electrical power for the monitoring station equipment;
- vii) notification within 48 hours of discovery of any malfunction of the equipment or of the telecommunications system or of the electrical power system supporting the equipment which are likely to interrupt the operation of the equipment; and
- viii) notification within 48 hours of discovery of any damage to the equipment or to its supporting structure or to the survey benchmarks.