ACP-EU BUILDING SAFETY AND RESILIENCE IN THE PACIFIC PROJECT

Activity Report 2018

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Prepared by the BSRP team, Geoscience Division of the Pacific Community

Disclaimer

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Acknowledgements

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Regional Steering Committee, 2018

FOREWORD

Dr Andrew Jones
Director Geoscience, Energy and Maritime Division

Greetings from the Pacific Community.

Implementation was the focus of the Building Safety and Resilience in the Pacific project in 2018. By the end of the year, overall project execution went from moderate levels to having completed 80% of planned activities. That is a significant achievement and I must congratulate all that are involved at the country level, our regional partners and the SPC team. Through your commitment and hard work, we have managed to make great strides towards the realizing the project objectives that we set out to achieve.

Significant resilient actions that were completed and inaugurated in 2018 included the completion of two Provincial Emergency Operation Centres in Vanuatu which are now in full operation acting as a central point of planning and logistical support for the Ambae volcanic eruption. An Evacuation Centre in Covalima, Timor Leste was also inaugurated. The Kiritimati Meteorology Service building was also completed and is now in full operation providing weather bulletins and forecasts for the people of Christmas Island and the airlines operating in and out of Cassidy Airport . Many more examples are described in this report.

In February 2018, a Result Oriented Monitoring (ROM) review was carried out for the project. A lot of positive feedback and recommendations for improvement were raised in terms of project governance and implementation progress. I am happy to recall that the recommended budget reallocation was approved and completed and funds have been set aside fora sensible and strategic project closure strategy.

Another highlight was work with the private sector in collaboration with UNICEF and the Fiji Ministry of Health, rolling out disaster awareness messages using an established internet and phone provider (Digicel). It was so successful in Fiji that plans are now in place to roll out the programme in Samoa, Nauru and Vanuatu in 2019.

The BSRP Regional Steering Committee (RSC) was successfully conducted on the 13th of August 2018. Several key decisions were made in that meeting, including an agreement to utilise unspent funds under country-level Memorandums of Agreement (MOA) in 2019 to implement a range of concept notes presented at the meeting. Six concept papers were endorsed for funding that included; Training for Trainers on Emergency Management, Training for Trainers on Introduction to Disaster Management, Project Sustainability and Monitoring and Evaluation, and BSRP 2 Project Design.

I look forward to working closely with you again in 2019, our last year of project implementation, to ensure the sustainability of the project interventions we have established.

ACRONYMS

ACP	African, Caribbean and Pacific
ACTESA	Australian Capital Territory Emergency Services Authority
AFAC	Australasian Fire and Emergency Service Authorities Council
AIIMS	Australasian Inter-service Incident Management System
ASEAN	Association of Southeast Asia Nations
BCP	Business continuity planning
BMKG	Indonesia's Meteorological, Climatological, and Geophysical Agency
CBDRR/M	Community-based disaster risk reduction/management
CCA	Climate change adaptation
CDR	University of PNG Centre for Disaster Reduction
CFA	Country Fire Authority Victoria
CHARM	Comprehensive Hazard and Risk Management
CIP	Country Implementation Plans
CNMI	Commonwealth of Northern Mariana Islands
COP23	Conference of the Parties to the UNFCCC
CROP	Council of Regional Organisations of the Pacific
CSO	Civil society organisation
CUG	Closed User Group
DFAT	Australian Department of Foreign Affairs and Trade
DMPGM	Department of Mineral Policy & Geohazards Management (PNG)
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
ECS	Emergency Communications Systems
EiE	Education in Emergencies
EMCI	Emergency Management Cook Islands
ENSO	El Niño Southern Oscillation
EOC	Emergency Operations Centre
ERN	Emergency Relief Network
EXMAN	Exercise Management
FIA	Fire Industry Association
FNU	Fijian National University
FRDP	Framework for Resilient Development in the Pacific
GDP	Gross Domestic Product
GEM	Geoscience, Energy and Maritime Division (SPC)
GIS	Geographic information system
HFA	Hyogo Framework For Action 2005-2015
ICI	Infrastructure Cook Islands
ICS	Incident Command Systems
IDC	Island Disaster Committee
IEC	Integrated Education and Communication
IMS	Incident Management Systems
IP	Implementing partner
IVA	Integrated Vulnerability Assessment
JEOC	Joint Emergency Operation Centre
KRA	Key result area
LOA	Letter of Agreement
LPO	Purchase Order
MCDEM	New Zealand Ministry of Civil Defence and Emergency Management
MFAT	New Zealand Ministry of Foreign Affairs and Trade
MFB	Victorian Metropolitan Fire Brigade (Melbourne)
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MRCS	Micronesian Red Cross Society
NDOC	National Disaster Operations Centre
NDMO	National Disaster Management Office
NDRMP	National DRM Plan
NEMO	National Emergency Management Office
NEOC	National Emergency Operations Centre

NFA	National Fire Authority
NGO	Non-governmental Organisation
NSC	National Steering Committee
NTFES	Northern Territory Fire and Emergency Services
NTFRS	Northern Territory Fire Rescue Services
OB	Kiribati Office of the President
PACSAR	Pacific Search and Rescue Meeting
PCCSP	Pacific Climate Change Science Program
PDS	Performance Development System
PICTs	Pacific Island Countries and Territories
PMU	Project Management Unit
PEOCs	Provincial Emergency Operation Centres
PICP	Pacific Islands Chiefs of Police
PIEMA	Pacific Island Emergency Management Alliance
PIFESA	Pacific Islands Fire and Emergency Services Association
PIFS	Pacific Islands Forum Secretariat
PILON	Pacific Island Liaison Officers' Network
PIPSO	Pacific Islands Private Sector Organisation
PNG	Papua New Guinea
POLARIS	Office of Palau Automated Land and Resources InformationSystems
PREP	Pacific Resilience Program (World Bank funded)
QEFS	Queensland Fire and Emergency Services
RDMM	Regional Disaster Managers Meeting
RESPAC	Disaster Resilience for Pacific Small Island Developing States (UNDP project)
ROM	Results-orientated monitoring
RSC	Regional Steering Committee
SACFS	South Australia Country Fire Service
SAR	Search and Rescue
SME	Small and medium-sized enterprises
SOPAC	Former South Pacific Applied **Geoscience** Commission
SPC	The Pacific Commission
SPREP	Secretariat of the Pacific Regional Environment Programme
SREM	Strategic Roadmap for Emergency Management
TA	Technical assistance
TAF	The Asia Foundation
TAT	Turn-around time
TC	Tropical Cyclone
UNDAC	United Nations Disaster Assessment and Coordination
UNDP	United Nations Development Programme
UNESCO/IOC	Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organisation
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations Children's Fund
UNISDR	United Nations International Strategy for Disaster Reduction, also refers to the United Nations Office for DRR
UNOCHA	United Nations Office of Humanitarian Affairs
UPNG CDR	University of Papua New Guinea's Centre for Disaster Reduction
WFP	World Food Programme

INTRODUCING THE BUILDING SAFETY AND RESILIENCE IN THE PACIFIC PROJECT (BSRP)

Rock Island, Palau

BACKGROUND

INTRODUCTION

The Building Safety and Resilience in the Pacific (BSRP) project is a EUR 19,567 million project supported by the European Union (EU) and the African, Caribbean and Pacific (ACP) Secretariat, implemented by the Pacific Community (SPC). Supplementary funding was also received from Deutsche Gesellschaft fur Internationale Zusammenarbeit (GIZ) over 2017/2018. It is focused on reducing disaster risk and supporting climate change adaptation whilst also strengthening the capacity of disaster agencies across the region to better prepare for, respond to and recover from hazard events in the Pacific region.

This project directly responds to ACP group of states' and EU priorities identified under the 2009 European Union Strategy for Supporting Disaster Risk Reduction, and in line with the GIZ Coping with Climate Change in the Pacific project. It has, however, been designed and is being implemented in line with country-based priorities to help create a safer, more resilient Pacific region.

The BSRP project has completed its fifth year and will finalise implementation in 2019.

Majuro, Republic of the Marshall Islands

PACIFIC VULNERABILITY TO DISASTER

The Pacific region is at risk of being struck by disaster events in part due to the region's high geographical exposure to hazards[1] such as cyclones, droughts, landslides, floods, earthquakes, tsunamis and volcanic eruptions. In addition, the region's capacity to manage disaster risk is undermined by the fact that many Pacific Island nations participating in BSRP are also developing countries. The reality is that these countries rely on small economies and subsistence farming. Many island nations have numerous islands spanning vast distances and face access issues. Many communities across the region live in poverty. These challenges make preparing for, responding to, and recovering from disasters more difficult for both individual countries and the region as a whole.

These events show the immense vulnerability and ongoing risk to the region. This vulnerability will continue to impact upon the achievement of the Sustainable Development Goals within Pacific Island countries, however, as we come into the final year of BSRP, this report will show how participating countries are demonstrating increased resilience to disasters in a range of ways. We anticipate even more results over the final year.

[1]*UNU-EHS (2016) World Risk Report, Platz der Vereinten Nationen 1, Bonn*

THE PROJECT AT A GLANCE

PURPOSE

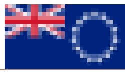
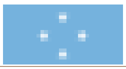
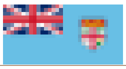
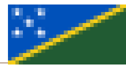
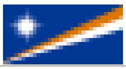
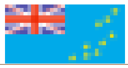
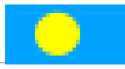
To strengthen the capacity of PICs to address existing and emerging challenges with regard to the risks posed by natural hazards and related disasters, while maximising synergies between Disaster Risk Reduction (DRR) strategies and Climate Change Adaptation (CCA).

OVERALL OBJECTIVE

To reduce the vulnerability as well as the social, economic and environmental costs of disasters caused by natural hazards, thereby achieving regional and national sustainable development and poverty reduction goals in ACP Pacific Island States (PICs).

OUTCOME RESULTS	Effective preparedness for response and recovery	Strengthened institutional arrangements for DRM and CCA	Improved knowledge, information, public awareness, training and education	Improved understanding of natural hazards and the reduction of the underlying risks	Enhanced partnerships in DRM and Climate Change
ACTIVITIES	- Early Warning Systems & Emergency Communications Systems upgraded - Purpose-built DRM facilities constructed/ retrofitted - Hazard-specific national response plans and strategies developed - Emergency response equipment supported/ upgraded - Emergency coordination & interoperability mechanisms improved - Water storage capacity increased	- DRM legislation and plans updated - National/ sub National planning tools and governance structures updated - DRR human resource capacity strengthened	- DRM/CCA included in formal, community and private sector education - DRM professionals/ facilitators/ instructors formally qualified/trained - DRR/CCA educational & public awareness materials developed & events supported	- National multi-hazard risk assessment systems established - Multi-sector community resilience activities - Local-level food & water security capacity strengthened	- National & international DRM forums - Intergrated regional DRM/ CCA strategy developed & approved - DRR/CCA case study compendium completed - PIEMA alliance established & twinning arrangemens implemented

Participating countries

Cook Islands		Papua New Guinea	
Federated States of Micronesia		Samoa	
Fiji Islands		Solomon Islands	
Kiribati		Timor-Leste	
Republic of the Marshall Islands		Tonga	
Nauru		Tuvalu	
Niue		Vanuatu	
Palau			

KEY STAKEHOLDERS

- **National governments** are key partners in the BSRP project, with the team working alongside national disaster management offices (NDMOs) to help strengthen response planning, early warning systems and decision-making tools as well as train personnel so they can better coordinate disaster response and preparedness and reduce the long-term cost of disaster.

- **Communities** are also key beneficiaries, with activities designed to help people better understand disaster risks and hazards, empowering them to reduce the impact of disasters on their lives and protect themselves and their families better. Resilience strengthening at community level, including schools, is paramount in this project to ensure communities can engage with early warning systems and understand the risk of disaster in real time, helping prevent the loss of life.

- **Civil society organisations (CSOs)** are critical for communicating information to many communities across the Pacific region, and as such are effective partners in the BSRP project. The involvement of CSOs varies based on the needs of communities and their capacity to respond to disasters, but they are critical for community awareness and outreach.

- **Utility companies** and the private sector are responsible for much of essential infrastructure needed before, during and after disaster strikes, and they often have skills and capabilities that governments do not possess. A strong partnership with such groups brings additional national capacity to bear, and more importantly, provides technical capability in finding and maintaining solutions into the future.

OVERARCHING OBSERVATIONS OF PROGRESS IN 2018

The BSRP project has achieved significant results in 2018. Implementation progress reached 80% in December which signalled the high amount of activities and transaction carried out during the year.

Acknowledgement is due to the In-Country Coordinators of the BSRP project who worked tirelessly with their stakeholders at the national level which included government departments, Non-Government Organizations, Civil Societies, Statuary Bodies and grassroots communities. All of the Coordinators have ended their contractual obligations to the project but many are still assisting the BSRP Project Management Unit pursue acquittals with stakeholders at the country level.

A number of project activities were completed and inaugurated which included; 2 Provincial Emergency Operation Centres in Vanuatu, 1 Evacuation Centre in Timor Leste and the Cassidy Airport, Kiritimati Meteorology Service building. Refurbishments of four Emergency Operation Centres were completed for Fiji (Nadi, Lautoka, Tavua and Nabouwalu). The review of the Cook Islands National Building Code underwent final consultations and was completed.

To ensure sustainability, trainings were also carried out on the workings of an EOC. This is to ensure that those who will work in the EOCs during a disaster understand their roles and functions of the different areas within the EOC, EOC training and simulation was delivered to 150 men and 60 women.

Opening of Covalima Evacuation Centre, Timor Leste

Four modules for the Post-Graduate Diploma in Geological Hazards and Risk Management were developed and approved by the DMPGM and UPNG University Senate. The four modules are: 1) Mass movement and landslide hazard; 2) Volcanoes and Volcanic hazard; 3) Earthquake and Tsunami Hazards; 4) Flood and Flooding Hazards. These course would assist PNG develop their human resource capacity in the area of geology and mines. A significant contribution to long term capacity building for the country.

A successful Regional Steering Committee (RSC) for the project was also conducted and a clear process was agreed to by all parties for the projects last year of implementation. If funds were not fully utilized by countries, by February 2019, funds will be used to finance the (six) concept papers already endorsed by the meeting that included; Training for Trainers on Emergency Management, Training for Trainers on Introduction to Disaster Management, Project Sustainability and Monitoring and Evaluation and BSRP 2 Project Design.

In the 2018 RSC, the PMU also submitted a process paper for all to agree. The paper outlines the MOAs ending dates for each country and the process to be followed when an MOA comes to an end. Further, the PMU submitted a budget reallocation to the EU which was approved.

Looking forward to 2019, the PMU is planning to undertake a project audit that would cover the 2017 and 2018 period. It is also putting in place measures to address the slow reduction of staffs in the MOU as the projects move towards closure. Further it is preparing an exit strategy for the project partners.

REGIONAL UPDATES

Newly relocated Tukuraki village, Fiji

DISASTER RISK COMMUNICATIONS

INTRODUCTION

Under BSRP the Disaster Risk Communications work stream aims to increase disaster resilience within the 15 participating Pacific Island countries through targeted communications materials, whilst supporting increased visibility of the project and partners themselves.

Key achievements
- *Coordinated and delivered events for SPC implemented projects in Nadi, Fiji and all PICTs were represented. It also included a high-level meeting with NDMO Directors.*
- *Designed and developed an early Childhood Education (ECE) pack to help 3-5-year olds know what to do in the event of a disaster for Samoa. The disaster-based resource materials include a flip chart guide, 3x3m inter-active snakes and ladders game and a teacher's manual to be launched in March 2019.*

DETAILED OUTCOMES

R2 - Strengthened institutional arrangements for DRM and CCA
- The final 12 BSRP and DRM communications and visibility plans for PICTs were completed in 2018 in line with the BSRP Visibility Plan and Communications Agreement with the EU.

R3 - Improved knowledge, information, public awareness, training and education
- In Kiribati, two locally-adapted Get Ready Disasters Happen posters were developed in conjunction with BSRP, printed and distributed.
- Exploratory/training workshops to deliver localised Disaster Ready private sector toolkits were carried out in the Cook Islands and RMI involving a total of 36 participants (42% female) from the government and private sectors. Translation and delivery of the finalised toolkits is now underway and expected to be completed by March 2019.
- Four documentaries and videos outlining key lessons and successes were developed and have been published by BSRP (see http://bsrp.gsd.spc.int/index.php/videos/) featuring:
- Water activities for the islanders of Arno in RMI that faced a constant crisis accessing fresh clean drinking water.
- Improvements in communication and information flows between national response coordination agencies supported by the building of three provincial EOCs.
- The roll out of EOC training in Fiji, training officers in EOC operational procedures, their roles and responsibilities before, during and after a disaster.
- The outcomes of a PIEMA twinning partnership between Kiribati Fire Service and South Australia Country Fire Services.
- An additional documentary was led in-country by the Cook Islands (supported by BSRP) that looked at the role of women in disaster response.

FIJI GET READY DISASTERS HAPPEN CAMPAIGN

The above campaign in partnership with the government and UNICEF will continue to roll out its second phase in 2019 for Fiji during our cyclone season in the months of February, March and April.

The campaign co-funded with UNICEF, with FJD 20,000 committed by SPC under BSRP, will be rolled out in Samoa, Vanuatu and Nauru in 2019. This will see a similar concept with key disaster messages specific to they country.

These nine ad campaigns were pushed across our media partner TrendMedia's Facebook, and Instagram page. The campaign are in the English, i-Taukei, and Hindi languages.

The objective of the campaign was to create awareness for the general public on how to safely prepare for a disaster. The target audience for this campaign was set for people living in Fiji, who have access to a smart or basic phone from ages 18 to 65.

- The BSRP Communications team developed and tested ECE disaster based toolkit with the Holy Trinity Anglican Kindergarten, adjustments were made, messages were than made simpler and translated into the Samoa vernacular.
- A few national policies were designed for the member countries and are listed below:
  - Chuuk Joint State Action Plan for DRM and Climate Change
  - Republic of the Marshall Islands National DRM Arrangements
  - Palau Community Based Disaster Risk Reduction Toolkit
  - A quick guide to the Niue National Emergency Management Plan
  - Niue Disaster Risk Reduction Booklet
  - 14 Samoa Sector files designed (Agriculture, Communication, Community, Education, Energy, Environment, Finance, Health, Law Justice, Public Service, Tourism, Commerce Manufacturing, Infrastructure and Water sectors)
- Infographic designed and developed, stats provided by Trend Media our media partner for our Get Ready campaign. The infographic shows the number of how many females/males per handhels received the messages, location reach and how many hits on the landing page.
- Opening/Commissioning of new early warning sirens and system for Tsunami in Fiji
- Rebuilding of Cassidy Airport Meteorological Station in Kiritimati Island
- Upgrade of the Bua district , Nabouwalu, and Lautoka emergency operation centres.
- Opening of the Covalima emergency evacuation centres in Timor Leste and also the opening of Sanma and Malampa emergency provincial operation centres in Vanuatu.
- In 2018, there were 2 independent media articles, 7 press releases and 3 documentaries outlining the success of the BSRP project with evidence-based stories. Communications and visibility guidelines were designed and distributed to all member countries during the regional steering committee in Nadi.

LOOKING AHEAD 2019

R3 - Improved knowledge, information, public awareness, training and education

- To develop a disaster awareness handbook for Niue for distribution to the entire population.
- To develop a range of documentaries and videos outlining key lessons and success, and distribute through online and social media networks.
- To build on the success of the earlier behaviour-change Fijian Get Ready Disasters Happen Campaign co-funded with UNICEF, and translate/roll out a social media dissemination campaign to four countries.
- Launching of ECE disaster based toolkit and official opening of the Urban Search and Rescue facility in Samoa
- To finalise the translation and delivery of localised Disaster Ready private sector toolkits in a further four countries (Vanuatu, Samoa, RMI and Solomon Islands).

LIFE SAVING TOOLS FOR STUDENTS LAUNCHED

Launching of Early Childhood Education disaster -based materials, Samoa

An Early Childhood Education (ECE) package was launched Friday 29th March 2019 to help preschoolers and young children understand what to do in the event of a natural disaster.

The package includes a flip chart guide, snake and ladders game where students can learn what to do when a disaster strikes, and a training manual for teachers, in English and Samoan.

The package was funded by the European Union under the ACP-EU Building Safety and Resilience in the Pacific (BSRP) project.

It was carried out by the Samoa Disaster Management Office and the Pacific Community (SPC).

Two pre-schools were present at the launch; Sogi Pre School and Moata'a pre-school.

Principal of Sogi pre-school, Orita Pagaiali'i, said the tools are a great help for students as well as teachers.

"This is such a huge help to the children in order for them to learn the importance of their safety and what to do to keep them safe when a disaster happens, just in case they are not with their parents," she said.

"All teachers should teach their students the exact thing to do during a natural disaster instead of panicking, they need to make sure they learn it because it's important."

Ms Jenny Brown, of the EU delegation for the Pacific, highlighted the important role of communicating survival knowledge, during and after a disaster. She said this is critical to ensure the reduction of the loss of life and impact disasters cause.

Parent of Suatipitipi Faasau, a pre-schooler from Moata'a who was present, thanked DMO and SPC for the initiative.

"This is so useful," Epi said. "Instead of being given books to read or being read something that doesn't effectively make a child learn, this is something that they can do for fun and learn from at the same time.

"This makes the work easier for us as well, in case something happens, and they know exactly what to do without us, in order to be safe."

PACIFIC ISLANDS EMERGENCY MANAGEMENT ALLIANCE (PIEMA)

INTRODUCTION

PIEMA is a coordinating mechanism that engages directly with Pacific countries to improve resilience and create 'excellence in emergency management for safer Pacific communities'.

PIEMA represents a partnership with key umbrella agencies and emergency management agents - the Regional Disaster Managers Meeting (RDMM); the Pacific Islands Chiefs of Police (PICP); and the Pacific Islands Fire and Emergency Services Association (PIFESA). SPC provides secretariat and coordination services. PIEMA also receives support from partners such as Australasian Fire and Emergency Service Authorities Council (AFAC) and the New Zealand Ministry of Civil Defence and Emergency Management (MCDEM). PIEMA acts as the coordination, support and capacity building mechanism to support twinning relationships.

PIEMA meets biennially, and from this platform, outcomes and discussions flow through and influence the direction taken by individual sectors (for instance, disaster management, police, fire and emergency services) through their regionally-mandated meetings (such as PICP annual meetings). This is then implemented nationally through Strategic Roadmaps for Emergency Management (SREMs).

SPC has taken on the PIEMA Secretariat role since 2013. In 2016, SPC also took over PIFESA secretariat duties from AFAC (this is consistent with SPC's existing role as RDMM secretariat). Over 2018, PIEMA has been transitioning to a standalone project funded by the New Zealand and Australian aid programmes. However, as outlined below, BSRP has continued to support a number of PIEMA-related activities initiated under the BSRP project.

DETAILED BSRP-SUPPORTED OUTCOMES

R1 - Effective preparedness, response and recovery

- A Mobile Emergency Operations Centre vehicle was handed over in Fiji NDMO.
- Two firefighting appliances were delivered to Kiribati, and BSRP supported trainers from the South Australian Country Fire Service to provide related training to 25 local fire/police staff (12% female) as part of beginning a three-year plan of engagement to improve fire services.

R2 - Strengthened institutional arrangements for DRM and CCA

- The Cook Island SREM was finalised and launched in December 2018. This provides a map for stakeholders involved in national emergency and disaster response to reform the Cook Islands emergency management arrangements and maximise use of the limited resources available.

PIEMA SNAPSHOT 2018

BSRP-supported key achievements

- *Increased capability for Samoa Fire and Emergency Services (SFESA) to carry out fire investigation through the training of a personal from the SFESA senior level cadre.*

- The drafting of the Kiribati SREM was finalised and awaits Cabinet approval.
- Vanuatu's Fire Service Bill was not progressed in 2018 as the NDMO focused all its resources and manpower in dealing with the Manaro volcanic eruption in the island of Ambae. Given BSRP is ending in 2019, the Bill will now be progressed outside of BSRP.

R3 - Improved knowledge, information, public awareness, training and education

- The Samoa Fire and Emergency Services Authority (SFESA) Assistant Commissioner completed a 12 weeks Fire Investigator course with the Melbourne Fire Brigade (MFB). Mr Petaia will be the first officially to be certified fire investigator for Samoa. In December 2018, a Fire Safety and Trend Analysis training and workshop was then conducted for 22 participants in Samoa (23% female).
- Water pump training for flood responses was provided to 30 participants in Tonga.

LOOKING AHEAD 2019

R3 - Improved knowledge, information, public awareness, training and education

- To roll out regional train-the-trainer workshops in both Introduction to Disaster Risk Management (DRM) and Emergency Operation Centre (EOC) operations in order to increase the number of trainers in the Pacific within the NDMOs and emergency services. PIEMA (funded by New Zealand/Australia) will then support PICTs in their in-country delivery of this training.
- To work with PIEMA to produce a video on Pacific women within fire departments.

Female firefighters, Walu Bay Fire Station, Fiji

SAMOA STRENGTHENS EMERGENCY MANAGEMENT CAPABILITY WITH QUALIFIED FIRE INVESTIGATORS

Samoa Fire and Emergency Services Authority (SFESA), Assistant Commissioner, Aufa'i Petaia returned from Melbourne after completing a twelve-week Fire Investigator course with the Melbourne Fire Brigade (MFB) Fire Investigation Analysis team. Assistant Commissioner Petaia's training costs were covered by BSRP as part of its overall work to implement the Samoa Fire Reduction Strategy launched in 2017.

This commendable achievement marked the beginning of a new learning endeavour for Samoa Fire Fighters. By increasing the capacity of local officers, we can ensure a safer Samoa for everyone, and that is ultimately the goal.

The Samoa Fire Reduction Strategy, created by the SFESA in collaboration with BSRP, aims to reduce household fires in Samoa, whilst also increasing awareness around fire safety. One of the main ways in which the Fire Strategy does this is through strengthening fire investigation capability within SFESA. Having the capacity to investigate how fires start gives the Authority correct information on how to create awareness to prevent further fire risks.

Assistant Commissioner Petaia is the first official fire investigator for Samoa. Upon his return, SFESA is planning to facilitate fire investigator training with eight fire officers to strengthen SFESA capability in fire reduction. The trainings will be facilitated in partnership with MFB, who have partnered with SFESA for over twenty years. The partnership between the SFESA and MFB was formalised by the Pacific Island Emergency Management Alliance (PIEMA) through the signing of a Memorandum of Understanding in 2016. Like all twinning arrangements facilitated under PIEMA, this is an opportunity for Samoan emergency services to gain knowledge and skills from their overseas-based partners.

In December 2018, Asst Commissioner Petaia delivered a Samoa Fire Safety and Trend Analysis training and workshop for 22 participants (23% female).and was supported by a representative each of the MFB and SPC.

REGIONAL PLANNING, MONITORING & EVALUATION

INTRODUCTION

Under the Contribution Agreement between the EU and SPC, implementation of all activities is to be completed by 6 October 2019. A project closure period then follows, including auditing and completion reporting.

BSRP is therefore entering a period of completing activities, consolidating results, maximising impact and capturing lessons that can be applied by SPC, countries and other organisations in the region when implementing future activities. This requires careful planning and budgeting, as well as a period of reflection on the impacts and challenges experienced under BSRP.

SPC has begun working with PICTs to ensure the exit from BSRP funding is as smooth as possible, and the region utilises opportunities to transition to new funding mechanisms that build on the successes of BSRP where possible.

Working in an EOC Training of Trainers course Nadi, Fiji

SNAPSHOT 2018

BSRP-supported key achievements

- *The BSRP Regional Steering Committee (RSC) was successfully conducted on the 13th of August 2018. Several key decisions were made in that meeting (Annex 1 refers), including an agreement to utilise unspent funds under country-level Memorandums of Agreement (MOA) at the regional level in 2019 to implement a range of concept notes presented to the committee.*
- *A reallocation proposal endorsed by the RSC was presented to, and approved by the EU in 2018. This better reflected the country plans that were being implemented, but took into account forecast under-spends under country budgets.*
- *In 2018, BSRP worked with PICs to strengthen the collection, collation and analysis of project indicator data. While this is still a work in progress, this has enabled more accurate reporting and monitoring of results achieved, and encourages results-focused decision-making.*

LOOKING AHEAD 2019

- To develop an exit/transition strategy for BSRP.
- To undertake focused evaluation and lessons learned activities for BSRP activities implemented over the 2013-2019 period to inform completion reporting as well as future resilience-related proposals and activities for PICTs, SPC and other regional organisations.
- To participate in an EU-led end-term review of BSRP activities.
- To monitor country-led activities, and follow through on any actions recommended that will improve the sustainability and/or impact of previously implemented BSRP activities.
- To work with participating countries and Council of Regional Organisations of the Pacific (CROP) agencies to prepare concept and design bids for consideration under the Intra-ACP Cooperation 11th European Development Fund (EDF 11) Resilience building programme.

COUNTRY UPDATES

Tmor Leste

COOK ISLANDS

INTRODUCTION

The Cook Islands comprises 15 islands, and an exclusive economic zone of 1.8 million km^2. The country has a population of just over 17,000 people (2016 census), but has experienced significant population decline since 1996, with large numbers of Cook Islanders migrating to New Zealand, Australia and other countries in search of education and employment opportunities. The Cook Islands are self-governing, in an associated state relationship with New Zealand.

Despite limited natural resources, remoteness from major trade and industrial centres, and a diminishing labour force, the Cook Islands is among the best performing Pacific economies with a Gross Domestic Product (GDP) of around NZD480 million (2017), and GDP per capita of NZD28,613. Tourism is the primary driver of the economy, with over 150,000 visitors per annum. Pearl farming, agriculture, fishing, financial services and the registration of ships are other important productive sectors.

The Cook Islands is located south of the equator in an area known for the frequent occurrence of tropical cyclones, and is affected by an average of 16 tropical storms each year. The country has been affected by devastating cyclones multiple times in the last few decades. For example, in 1997, Tropical Cyclones Martin and Pam caused 22 fatalities, 19 of which were on Manihiki Atoll, where wind and storm surge destroyed nearly every building on the island, incurring about USD48 million in losses and crippling the local economy. More recently, in 2010, Tropical Cyclone Pat wrought widespread damage on the island of Aitutaki. The cost of the recovery and reconstruction came to NZD9.5 million.

PROJECT SNAPSHOT

Cook Islands expenditure 2013-2018

Total spend EUR 0.57m

Key achievements

- *The Cook Islands SREM and Building Code were launched.*
- *Three village council emergency shelters/EOCs were upgraded.*
- *The GeoPortal database can now be updated live from a purpose-built application to inform disaster preparedness and response.*

Additional natural hazards faced by the Cook Islands include flooding, drought, fish poisoning and sea surge, as well as the effects of global warming such as sea-level rise, ocean acidification and coral bleaching; health and natural-resource based hazards such as pandemics and invasive alien species; and technological hazards such as aircraft crash, industrial fire and hazardous material spills. According to a 2011 study, there is a 40% chance that in the next 50 years (100-year mean return period) one or more events in a calendar year will cause casualties exceeding 145 people in the Cook Islands.[2]

Climate change and DRM are firmly embedded in the Cook Islands Sustainable Development Plan 2016–2020. One of the goals is to"strengthen resilience to combat the impacts of climate change and natural disasters". DRM is governed by the Disaster Risk Management Act (2007) and the Disaster Risk Management Arrangements (2009).

The Joint National Action Plan for DRR and CCA (JNAP) is increasingly seen by sector stakeholders as the main planning document for DRM and CCA in the Cook Islands, and serves as an important coordination mechanism for programme and funding alignment. A JNAP Programme Management Unit facilitates joint planning and coordination of the many CCA and DRM programmes happening in the Cook Islands.

DETAILED OUTCOMES

R1 - Effective preparedness, response and recovery

- Three village council (Punas) emergency shelters/EOCs (Titikaveka, Pokoinu, Tupapa) have been upgraded. The EOC spaces are being used in non-disaster times for DRM planning, education and communications. The villages found the new roofing and water tanks useful during dry spells particularly for collection and rainwater capture.
- The NEOC design and costings have been finalised and land has been identified for building. Future funding sources for the construction are yet to be identified by the government.

[2]*Pacific Catastrophe Risk Assessment and Financing Initiative, 2011. ADB/World Bank.*

R2 - Strengthened institutional arrangements for DRM and CCA

- The Cook Island SREM was finalised and launched in December 2018. This provides a map for stakeholders involved in national emergency and disaster response to reform the Cook Islands emergency management arrangements and maximise use of the limited resources available in support of the JNAP.
- The review of the Cook Islands National Building Code underwent final consultations and was completed. It now reflects the most up-to-date international standards. The new Code was launched in 2018 and will go to Parliament for final approval in early 2019. A manual was developed, printed and launched alongside the Code in December to assist stakeholders in its implementation.
- Funding for the Coordinator role came to an end in December 2018. The Government has continued to support the Coordinator in absence of BSRP funding. The Coordination role was vital in ensuring activities were implemented at country level.

R3 - Improved knowledge, information, public awareness, training and education

- A local Emergency Management Cook Islands staff member received Q-GIS & Trimble Mapping training to assist with geospatial mapping as part of disaster preparedness and response.
- Participants from all the twelve Punas received their first aid training certificates.
- Awareness and training sessions were held for 47 school teachers (68% female) across five schools in the Aitu and Aitutaki Island Groups on the Teachers Resource kit which had been developed earlier in the BSRP project. These sessions were aimed at increasing knowledge and build capacity of teachers and students at an educational level for disaster preparedness and response.
- *Au Vaine Kumiti* were supported through EMCI to conduct training with women and youth on building safety and resilience within their families and communities. The training focused on using new technologies (tablets) to access DRM information (including tracking cyclone data, understanding the DRM cycle and preparing homes for any disasters), stay in touch with families and communicate for help when required (*Roti Para* training).

Copies of the Cook Islands Strategic Roadmap for Emergency Management (SREM) report

- Emergency Management Cook Islands (EMCI) launched an Au Vaine Disaster Risk Management (DRM) – *Kia vai Teateamamao te iti Vaine* documentary[3] that showcases women's perspectives on disasters in the Cook Islands, along with a documentary on people with disabilities and disaster management. These documentaries, along with an earlier documentary on traditional DRM knowledge and cyclone awareness (*Traditional signs of the Cook Islands for Cyclones*) were broadcast on Cook Islands National Television at the start of the cyclone season.
- Disaster Proof your Business Training with the 20 private sector participants was undertaken in Rarotonga in April. It was funded by the United Nations Development Programme with BSRP providing technical support. This led to the development of a country-led Action Plan for private sector engagement in Cook Islands.

R4 - Improved understanding of natural hazards and the reduction of the underlying risks

- A mobile application for household data collection was developed and has been used to collect GIS-based outer-island data from households to inform disaster preparedness and response. Previously, data collected from outer islands went through a lengthy input and analysis process. From August 2018, it is able to be automatically updated by using the Collector for ArcGIS application to the GeoPortal built in 2017 via an online database.

R5 - Enhanced partnerships in DRM and climate change

- A DRM Platform meeting was held in September with national stakeholders. It covered topics such as early warning systems, climate change, the Green Climate Fund, waste management, renewable energy, Marae Moana, PA Enua-Water Security, EMCI and BSRP.

LOOKING AHEAD 2019

Sub-recipient agreements under BSRP with EMCI came to an end in December 2018. The BSRP Project Management Unit (PMU) will however directly fund the final roll out of the training to outer island Teachers Resource Kit to ensure results from this activity are maximised and sustainable. The Cook Islands will continue to participate in regional activities throughout 2019.Roll out of the SREM Action Matrix and implementation of priority activities identified through the SREM will continue with support from PIEMA.

https://www.youtube.com/watch?v=vW8mVeQ9FQ4&feature=youtube

COOK ISLANDS BUILDING CODE AND STRATEGIC ROADMAP FOR EMERGENCY MANAGEMENT

The revised Building Code for the Cook Islands and the newly-developed Strategic Roadmap for Emergency Management (SREM) were both launched on Tuesday, 18 December, 2018, by the Minister for Internal Affairs Sports, Police and Office of the Ombudsman, Hon Vaine Makiroa.

These two Cook Islands projects were made possible under the €19.57 million ACP-EU Building Safety and Resilience in the Pacific project (BSRP) being implemented by the Pacific Community (SPC) and Emergency Management Cook Islands.

Mr Louis Teiti, the Building Controller, Infrastructure Cook Islands said the potential for an increase in the intensity of cyclones in the Cook Islands prompted the need to review the building code and ensure that building infrastructure is up to standard.

Emergency Management Cook Islands Director Charles Carlson said reviewing the Building Code is a positive move in the right direction, and one of the crucial components will be its implementation.

He observed the very high damage to housing in the Cook Islands during cyclones has been due to poor and sub-standard housing. The Building Code, he added, would ensure reduced structural damage in times of disasters.

The second achievement, the Strategic Roadmap, provides a map for stakeholders involved in national response to emergencies and disasters to reform the Cook Islands emergency management arrangements.

Mr. Carlson said the roadmap was timely and resulted in the maximising of limited resources to get maximum outcome. He said it would act as a guide and support the Cook Islands Joint National Action Plan (JNAP) for Disaster Risk Management and Climate Change Adaptation.

“With this SREM, we are also hoping to address gap areas within the Cook Islands Emergency Management Sector; the coordination of local emergencies that do not require declaration and the need for establishment of a National Fire Service.”

“We very much appreciate the assistance from the European Union and the Pacific Community for the funding support for the SREM and the Building Code,” he said.

The Team Leader for Natural Resources and Governance at the Delegation of the European Union for the Pacific, Ms. Ingrid Swinnen said: “The EU is proud to be involved in this initiative to identify, adopt and implement the best practice for disaster risk management to strengthen disaster resilience in the Cooks Islands, allowing for a more focused response.”

Typhoon Maysak devastation, Federated States of Micronesia

FEDERATED STATES OF MICRONESIA

INTRODUCTION

Situated in the western Pacific Ocean, the Federated States of Micronesia (FSM) consists of 607 islands and 2.6 million km^2 of ocean. The country comprises the four separate states of Yap, Chuuk, Pohnpei and Kosrae, with a total population of 106,104 (2013 estimate).

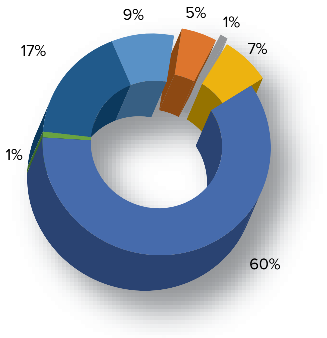
Formerly a part of the US Trust Territory of the Pacific Islands, FSM entered into a compact of free association with the US when it became independent in 1986. The compact provides for defence and economic assistance from the US as well as for assistance following disasters. The US Agency for International Development (USAID) is the US agency responsible for DRM support to FSM; it implements programmes through the International Organisation for Migration, which has a regional office in Pohnpei.

FSM is prone to natural and man-made hazards including: coastal erosion, rising sea level, storm surges and tsunamis; dam failure; drought; earthquakes; epidemics; floods; rain-induced landslides; tropical cyclones/typhoons; wildfires; and man-made hazards (hazardous material incidents and terrorism).The location of FSM makes the impact of typhoons (tropical cyclones) a prevalent issue. In early 2015 Super Typhoon Maysak struck the country, and many communities are still recovering from the devastation. The typhoon caused four deaths and 10 injuries, and many lost their access to food and water. Yap and

PROJECT SNAPSHOT

FSM - Expenditure 2013-2018

Total: EUR 1.33m



- Equipment
- Facilities
- Scientific & Technical data acquisition /development
- Data, information & knowledge management
- Training, workshops, professional attachments, & meetings
- Reports & publications
- Technical assistance

Key achievements

- *The construction of the walkway between the EOC and Governor's office in Kosrae got underway and has progressed satisfactorily.*

Chuuk were most directly affected, and there was extensive impact on agriculture with 90% of the banana, breadfruit and taro crops destroyed. The damage bill was estimated at USD8.5 million.

In 2013, FSM adopted the Nationwide Integrated CRM and Climate Change Policy and the Climate Change Act which mandated the development of the Joint State Action Plans, as well as mainstreaming of disaster risk and climate change threats into planning at national and state levels. All four states have since developed their Joint State Action Plans for DRM and Climate Change, which detail activities designed to build resilient communities. The adoption of the National Disaster Response Plan in 2016 is strengthening the coordination mechanism during response to disasters and ultimately enhancing safety.

DETAILED OUTCOMES

R1 - Effective preparedness, response and recovery

- Eighty seven (87) tsunami safe area signs have been installed around the main island of Pohnpei to indicate to the general public areas to evacuate to when a tsunami warning is issued.
- The construction of the walkway between the EOC and Governor's office in Kosrae got underway and has progressed satisfactorily. It will be completed in early 2019. This will allow the EOC team members to have direct access to the State Disaster Committee chair and members for briefings and updates (rather than going out to the main road as currently practised). This should improve communication and efficiency, in particular, during disaster events.

R2 - Strengthened institutional arrangements for DRM and CCA

- Chuuk State was the first to transition its In-Country Coordinator to government core funding and he became the EOC Director. The Yap State Government is still pursuing the BSRP supported EOC Manager position to also be core-funded. This will enable the government to continue delivering on the Joint State Action Plans in DRM and CCA going forward.
- The FSM National Disaster Response Plan is now being rolled out. This led to the review of all State Disaster Plans along with simulation exercises being conducted in 2018.

R3 - Improved knowledge, information, public awareness, training and education

- FSM transitioned to use state government funding for International Day for Disaster Reduction celebrations in 2018. Prior to that, it was always funded by the BSRP project.

R4 - Improved understanding of natural hazards and the reduction of the underlying risks

- Consultation on the Spatial Data Strategy (policy framework) was completed across each of the four states and endorsed by Cabinet in 2018. The government had invested heavily in the collection of geospatial information, but had been finding it difficult to use the data to its full potential due to lack of coordination and standardisation in its collection. This Strategy works towards organisations across all tiers of society collaborating on the collection, management and use of geospatial data, so that a common base of geospatial data can be used for better disaster risk reduction, disaster management, climate change adaptation and national development more broadly.

R5 - Enhanced partnerships in DRM and climate change

- FSM transitioned to use state and national government funding on the convening of the Joint Climate Change/DRM Summit in 2018 (previously BSRP funded) and will continue to be convened every two years.

LOOKING AHEAD 2019

FSM sub-recipient agreements under BSRP have come to an end. FSM will, however, continue to participate in regional activities throughout 2019.

Church destroyed by Typhoon Maysak, Federated States of Micronesia

Kosrae Governor Honorable Carson Sigrah with State Disaster Coordination Officer, Mr Nena William

KOSRAE STAIRWAY, REDUCING GREENHOUSE GAS EMISSION

The new completed stairway for the Kosrae Emergency Operations Centre (EOC) was officially commissioned by the Governor for Kosrae, the Honorable Carson K. Sigrah.

The Governor explained how things have come together with the new connection of the stairway from the Administration Building to the EOC which sits on a hill. The Community Health Center (CHC) was utilising the EOC as their main office for the past 2 years and will be moving to their new location in 2019. The EOC will then be occupied by the State DCO and possibly partners in Disaster Risk Management, the Micronesia Red Cross-Kosrae Chapter and the International Organization for Micronesia-Kosrae Office so about 4 staff will be utilizing the DCO office.

The Governor expressed gratitude for the donations of the European Union (EU) through the Building Safety Resilience Project (BSRP) which now closes out with the stairway as the last project for Kosrae, and also recognized the efforts of the State Disaster Coordination Officer, the Department of Transportation &Infrastructure, and contractor Raymond Construction Company who did the construction of the stairway.

“Taking care and maintaining these will be our way of showing our gratitude and appreciation,” he said.

The Kosrae State Disaster Coordination Officer, Mr Nena William said the new stairway has made it very easy and convenient for everybody to run papers back and forth between the main administrations building and the 3 offices on the hill, namely the State EOC, Police Station and the Office of the Attorney General during peace time. As intended, this stairway will allow direct access from the EOC to the Governor’s office for briefings during an emergency or whenever the EOC is activated.

“Sure beats driving around like we used to do,” he added and definitely contributes to reducing our greenhouse gas emission.

Another form of transportation in the highlands – Tukuraki, Fiji

FIJI ISLANDS

INTRODUCTION

A total of 333 islands make up the archipelago of the Fiji Islands, with a land area of 18,270 km^2 spread over 1,281,122 km^2 of exclusion economic zone. The country has a population of 884,887 (2017census), 69% of which are under 40 years. Fiji has one of the most developed economies in the Pacific, with diverse forestry, fishing and agriculture sectors, and significant contributions from mining and tourism. The country's GDP per capita in 2017 is USD 5,589 and it is seeing growing urbanisation (494,252 deemed urban in 2017 compared to 424,846 in 2007[4]).

Fiji is exposed to both hydro-meteorological and geotechnical hazards. The country is in the cyclone region, averaging three events every two years with a severe event (category 3–4 cyclone) every three to four years. Indications to 2050 are for an increase in the severity of cyclone systems, though the number per year may not vary. Rising sea levels, extreme precipitation, storm surges and thunderstorms have caused devastating flood damage in recent years. About every five years, an El Niño Southern Oscillation (ENSO) event occurs and can result in severe droughts; an ENSO state was declared in the region in 2015.

Climate change impacts and disasters are being felt nationwide, from the interior of the high islands to the maritime islands fringing the main islands. Heavy erosion, landslides and sediment transportation from the hills appear as damaging sedimentation in the coastal waters and reefs. Subsistence and cash crop farmers are being increasingly affected by floods and soil losses, while coastal dwellers are being affected by coastal erosion and losses in biodiversity.

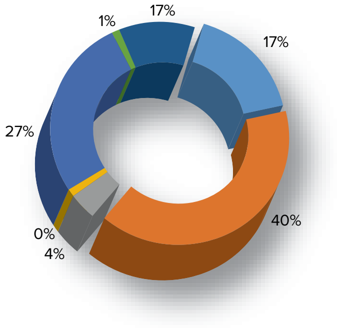
Around 28% of the national population was classified as living under the poverty line in 2013[5], down from 35% in 2002/03. While poverty in urban areas dropped dramatically

[4] *Fiji Government. 2017. Fiji Bureau of Statistics, retired January 2018 URL: http://www.statsfiji.gov.fj/census/infographics*
[5] *www.adb.org/countries/fiji/poverty*

PROJECT SNAPSHOT 2018

Fiji - Expenditure 2013-2018

Total: EUR 1.44m



- Equipment
- Facilities
- Scientific & Technical data acquisition /development
- Data, information & knowledge management
- Training, workshops, professional attachments, & meetings
- Reports & publications
- Technical assistance

Key achievements

- *Tsunami preparedness in the capital city of Suva had greatly enhanced with installation of the 4 tsunami sirens by BSRP/GIZ support, installations of 65 tsunami safety signs and conduct of 3 simulation exercises. More simulation exercise is planned for 2019 so that all residents and workers are made aware of the evacuation routes and safe areas.*

from 28% to 18% over this period (a 34% reduction), poverty in rural areas increased by 6% from 40% to 43% of the population. Moreover, children are disproportionally affected by poverty - half of all families with two or more children live in poverty.

DRM is governed by the 1998 Natural Disaster Act which articulates the institutional arrangements from national, divisional and district level. Adoption of international and regional guidance instruments such as the World Humanitarian Summit outcomes, Sendai Framework for DRR and FRDP has led to an ongoing review of the Act.

DETAILED OUTCOMES

R1 - Effective preparedness, response and recovery

- The Tukuraki village relocation continued to receive significant interest, with village headman being asked to share their experiences in Girdwood, Alaska with participants of the Climate Convention on First People organised by the Unitarian Universal Service Committee which was from 1st - 4th November.
- 5 District EOCs (Nabouwalu, Korovou, Nausori, Vunidawa and Lautoka District) have been refurbished and standardised. Each refurbishment includes the provision of an operation, planning and communication rooms which are key functional areas required for effective response coordination. This is accompanied by capacity building activities (see R3 below).
- The National Emergency Operation Centre is currently refurbished at the Ministry of Infrastructure and Transport the new home of the National Disaster Management Office.
- A mobile emergency operations (MEOC) vehicle was handed over to Fiji in March 2018. NDMO had installed additional features such as Radio so that the MEOC can main communication whilst deployed to the districts.

- BSRP supported the delivery to Fiji of emergency medical equipment donated by the Queensland Ambulance Service through PIEMA. It is to be used be the Fijian NDMO, Health and Fire services.
- Building on the 2017 report on tsunami early warning systems in Fiji funded by GIZ complementary funding, BSRP/GIZ supported the Fijian NDMO to install four tsunami siren systems and 65 tsunami signs in Suva. The New Zealand Aid Programme funded an additional five sirens (refer to Success Story for more details). The system has since been tested and used in simulation exercises, increasing public awareness of what to do and where to go in case of a tsunami risk.

R2 - Strengthened institutional arrangements for DRM and CCA

- The BSRP-funded review of the DRM Act and Plan commenced. It is being led by the Fijian Red Cross and is overseen by a working group comprising IFRC, Fiji Red Cross, NDMO, SPC and UNISDR. Thus far, the first stage of consultations with municipalities, ministries and other stakeholders have informed the development of the Options Paper for circulation to stakeholders.
- Support for BSRP Country Coordinator based at the NDMO continued through until December 2018. This role proved to be effective in increasing the speed of delivery, overcoming procurement and finance challenges, and providing training capacity and increased technical expertise.

R3 - Improved knowledge, information, public awareness, training and education

- To build on the infrastructure investment and ensure that those who will work in the EOCs during a disaster understand their roles and functions of the different areas within the EOC, EOC training and simulation was delivered to 210 participants of which 150 were men and 60 women (Levuka 36, Vunisea 29, Nabouwalu 25, Labasa 24, Nadi 24, Lautoka 23, Tavua 23, Nausori 26).
- The Fijian Get Ready Disasters Happen campaign, which was launched in December 2017 was finalised and handed over with full mainstream media distribution in February 2018. This is now being translated into vernacular. The campaign cost the BSRP project FJD 20,000 and cost funded by other partners which included UNICEF amounted to FJD 100,000.
- The rural carpentry course was not carried out due to government's decision to shift rural housing to the Ministry of Local Government and Housing.

LOOKING AHEAD 2019

R1 - Effective preparedness, response and recovery

- Work on the National Emergency Operation Centre to be carried out in the first and second quarter.

R2 - Strengthened institutional arrangements for DRM and CCA

- SPC to directly fund the consultation costs on the Options Paper and the subsequent draft National Disaster Management Plan that will take place in early 2019. Development and consultations on the draft Disaster Management Bill are slated for mid-2019.

R3 - Improved knowledge, information, public awareness, training and education

- To produce a follow up video on Tukuraki to look into the success of the village one year after the relocation was completed.

Tsunami evacuation drill, Fiji

ENHANCING TSUNAMI PREPAREDNESS IN SUVA

The effective partnering between the BSRP, GIZ and MFAT had realised the installations of nine (9) tsunami early warning siren systems within the Suva peninsula. The Fiji NDMO successfully negotiated strategic locations for the sirens to allow overlapping of the sound and provide a good coverage for all. The 9 sirens are in addition to the 2 earlier installed in 2012 by the University of the South Pacific. They procured another 2 sirens for the Lower Statham Campus. That brings to 13 the total number of tsunami early warning system within the Suva peninsula.

The 13 sirens have a central activation system situated at the Seismology Unit of the Mineral Resources Department. The Unit is in the geo-hazards warning centre and they monitor all the seismic activity in the country. They work closely with the Pacific Tsunami Warning Centre during an event to analyse and where the threat is imminent, they can activate the sirens. The control device also has audio support whereby the officers on duty can provide further instructions to reinforce the siren warning.

Safe locations for evacuation had been identified and signs installed so that the general public are made aware. Safe locations are located 20 meters above sea level and are all away from the coastline. They are either schools or public open grounds which have water, electricity and toilets provided in case the evacuees are required to remain there for long. Safe route signs to the safe locations had been installed to all road junctions leading to the safe locations to guide the community away from the tsunami high risk areas.

Three live tsunami evacuation simulation exercise had been organised where the sirens were activated. Over 2,000 people participated and followed the tsunami route signs to designated safe zones. More simulation exercises will be organised by the Fiji National Disaster Management Office to ensure the city of Suva is tsunami ready.

Firefighters in Kiribati trying out their hazmat suits

KIRIBATI

INTRODUCTION

Kiribati is made up of 33 islands, divided among three island groups, with a total population of 110,136 (2015census). South Tarawa and neighbouring Betio house 51% of the population within a 16km^2 area.35% of the population is in employment. While available data is somewhat outdated, in 2006 Household Income and Expenditure Survey found that 66% of i-Kiribati are poor or vulnerable to falling into poverty.

Worldwide, Kiribati is well known for its vocal stance against climate change. A sea-level rise of more than 7.5cm since 1990 is slowly affecting the country's landmass. The government has already purchased land in Fiji for residents who may be forced to leave due to the impacts of climate change.

Many of the risks to which Kiribati is exposed are related to climate change, including coastal erosion, inundation, increased salinisation, inadequate water supplies and waste disposal. The social and economic ramifications of these and many other hazards are multiplied when overlaid with the high levels of vulnerability of people due to the lack of infrastructure, low human development indicators, and high population growth rate.

Early in 2015, storm surges caused by Tropical Cyclone Pam reached and impacted parts of the low lying atolls. A damage assessment done by the Kiribati Government found the southernmost islands of the Gilbert group (Tamana and Arorae) to be the most affected by the storm suges.

BSRP worked with the Kiribati Agriculture Department to undertake assessments of damage caused to the agriculture sector and to provide disaster relief for the agriculture sector on the most affected islands.

PROJECT SNAPSHOT 2018

Kiribati - Expenditure 2013-2018

Total: EUR 0.53m

Key achievements

- *Establishment of 21 island disaster committees*
- *Delivery of 2 fire trucks to the Fire unit of the Kiribati Police Force*
- *Opening of the Cassidy airport, Kiritimati Island meteorology office*

DETAILED OUTCOMES

R1 - Effective preparedness, response and recovery

- Two fire trucks from PIEMA twinning partner South Australia Country Fire Service (SACFS) were shipped using BSRP funds and handed over to the Government of Kiribati in June 2018.
- A more cost-effective option for the location of the NEOC was identified. The NEOC was then designed and constructed alongside the Police Headquarters to have a shed extension to protect one of the new fire trucks. The new NEOC will allow Kiribati to better coordinate responses to emergencies and disasters.
- The Kiribati SREM and three-year implementation plan has been developed and going through finalisation which will pave the way for future implementation by the Government of Kiribati, PIEMA and the SACFS.
- Responsibility for the National Oil Spill Plan shifted from Ministry of Environment to the Ministry of Transport. While the National Plan has been drafted under BSRP, Kiribati awaits the ratification of the Pacific Island Regional Marine Oil Spill Contingency Plan so it can be reflected in the National Plan.

R2 - Strengthened institutional arrangements for DRM and CCA

- The Kiribati BSRP Coordinator's contract came to an end in December 2018. This two-year contract enabled the NDMO to focus on project delivery and implementation. The incumbent had been promoted to a permanent position within the NDMO. Total salary for the BSRP Coordinator came to AUD 34,000.
- Together with the Kiribati Meteorological Services, Red Cross, Ministry of Internal Affairs, Local Government Association, and Island Councils, the NDMO has established 21 Island Development Committees (IDCs) (out of 23 inhabited Kiribati Islands). The IDCs comprise the Island Mayor, Vice Mayor, Clerk, Officer of Command Station (Police), Medical Assistant, and other representatives from villages/wards, youth and women's groups. IDCs have basic disaster response and preparedness plans; are trained on the IDC toolkit (including community/household assessments) and first aid; and have undertaken disaster scenario exercises and community preparedness activities.
- The Joint National Platform for DRM and Climate Change Adaptation was conducted in June with all Kiribati Island Council mayors present.

- The revised Health Quarantine Ordinance has been endorsed by Cabinet and is undergoing legal review by the Office of Attorney General and consultations with Members of Parliament before the next Parliament session in early 2019.

R3 - Improved knowledge, information, public awareness, training and education
- In partnership with PIEMA, training was provided to 28 officers (7% female) on the use of the donated fire trucks.
- Tsunami warning system training was delivered to 15 officials (40% female) from the Kiribati Government by UNESCO/IOC in collaboration with BSRP and the International Tsunami Information Centre.
- Drought tolerant seeds and farming tools have been disseminated to five Outer Islands, groups in South Tarawa (e.g. women's group) and the Agriculture and Livestock Division. Basic horticulture training has primarily targeted youth in Tarawa, and women in Tabiteuea South where compost houses were also constructed. Static Hydroponic farming is underway at the Agriculture Nursery in Tanaea using water spinach as a trial vegetable. A youth vegetable farming competition is being used to inspire youth involvement in farming.
- BSRP worked with the Kiribati NDMO to produce two locally-adapted Get Ready Disasters Happen posters which are being distributed through IDCs and for national disaster awareness.

R4 - Improved understanding of natural hazards and the reduction of underlying risks
- The Cassidy Airport, Kiritimati Meteorology Service building was completed and officially opened in March 2018 (see Success Story for more details). [AUD 90,000]
- The Biosecurity mini laboratory design was completed while the construction will be carried out in 2019. The laboratory will allow the Biosecurity Unit to undertake early diagnosis of diseased and symptomatic imported plant and animal products, ensuring that pest and biosecurity risks entering the country from ships are contained at the main port, reducing chances of spreading.
- In collaboration with the Ministry of Infrastructure and Sustainable Energy (MISE), equipment for effective and accurate seawall assessments was procured and now used by the Ministry in preparing detail drawings for proposed seawall to prevent further erosion of the coastlines.

R5 - Enhanced partnerships in DRM and Climate Change
- The twinning arrangements between Kiribati and the South Australia CFS under PIEMA was finalised.

LOOKING AHEAD 2019

R1 - Effective preparedness, response and recovery
- R1 - Effective preparedness, response and recovery
- Completion of the National Emergency Operation Centre and procurement of appropriate equipment and furniture so that it can be fully functional.

R2 - Strengthened institutional arrangements for DRM and CCA
- The Kiribati Health Quarantine Act is envisaged to be tabled in Parliament in 2019

R4 - Improved understanding of natural hazards and the reduction of underlying risks
- Construction of the Biosecurity mini laboratory at the Betio port and procurement of appropriate furniture and equipment so that it can be fully functional.

The Cassidy Airport Meteorological Station in Kiritimati Island was officially opened in March 2018 by His Excellency the Honourable President Taneti Maamau, alongside BSRP Project Manager Mr Taito Nakalevu.

CASSIDY AIRPORT METEOROLOGICAL STATION UPGRADE SUPPORTS NATIONAL DISASTER PREPAREDNESS AND RESPONSE

The rebuilding of the Meteorological Station was identified by the BSRP Project and the Kiribati Government as a key activity to support as it will strengthen operational support for Cassidy airport, following its recognition as an international airport.

The new Meteorological Station is a standalone building that houses five Meteorological Officers who work round the clock to provide clear weather forecasting to support air traffic movements.The Meteorological Station was supplied with Meteorological equipment (an anemometer, barometer, and thermometers) by the Finnish-Pacific (FINPAC) Project with the support of Secretariat of the Pacific Regional Environment Programme (SPREP). A technical assistant from the New Zealand National Institute of Water and Atmospheric Research (NIWA) installed the equipment and provided training to technical staff.

The information gathered by the Meteorological Station will also be used to guide those living in the outer islands to determine whether it is safe to venture out to open sea. It will support the National Disaster Office in preparing for on-coming disasters such as tropical depressions, storm surges and droughts.

Speaking at the opening HE President of Kiribati Taneti Maamau, said, ‘We are grateful and proud of the work supported by the European Union through Pacific Community implemented BSRP Project in Kiribati. Through our long-standing partnership throughout the years, we have been able to foster a healthy working relationship that allows for sustainable development across the country and our region. This newly extended and refurbished MET Station further reinforces the fact that Kiribati is preparing for the future. We as i-Kiribati are taking steps towards ensuring that our nation won’t be wiped out by disaster or climate change’.

The Minister for Line and Phoenix Islands Development, Hon. Mikarite Temari, further stated, ‘The Cassidy Meteorological Station will ensure that Kiribati meets its international aviation obligations.’

BSRP Project Manager, Mr Nakalevu observed that ‘The BSRP Project takes a national approach to disaster resilience, the work we do focuses on strengthening the foundation of a nations approach to disaster as well as improving the operational systems to withstand the impact of future disasters. This Meteorological Station will play a fundamental role in disaster preparedness which ultimately contributes to increasing Kiribati disaster resilience.’

Drought in RMI slowly taking its toll on the vegetation

REPUBLIC OF THE MARSHALL ISLANDS (RMI)

INTRODUCTION

The Republic of the Marshall Islands (RMI) is in the northern Pacific and consists of 29 low-lying coral atolls with 1,156 individual islands and islets. RMI became a republic in 1986. The country has a population of approximately 56,000 people. Over two thirds of the population live in the capital, Majuro and a second urban centre, Ebeye, on Kwajalein Atoll.

RMI's hazards and vulnerabilities are linked to both physical and social characteristics of its islands and people, in addition to ongoing unsustainable development practices. Key drivers of the country's vulnerability include rapid population growth and over-population in urban centres; environmental degradation and unsustainable development; localised pollution including contamination of water supply and waste management issues; climate change impacts including sea-level rise; limited resources (food, water and fuel); and limited economic potential due to its size and location.

The country's national strategic development framework, Vision 2018 (produced by the RMI Government in 2001), provides an overarching framework for sustainable development. Containing ten sustainable development goals, Vision 2018 contains strong links to DRM and climate change.

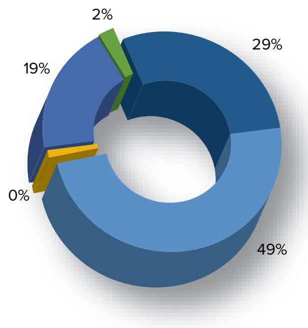
The country's JNAP 2014–2018 links in with existing strategies, both national and donor led, as well as linking strongly with the National Climate Change Policy, which was endorsed in 2011. In 2018, the National Disaster Risk Management Arrangements were also revised.

In recent years the impact of drought has been severe for RMI with extremely low precipitation occurring between 2015and 2016 due to an intense ENSO resulting in severe drought. In May 2016, 21,000 people in RMI were affected from 1,257 households on the outer islands and 5,195 households in urban areas.[6] The estimated impact of this disaster was USD 4.9 million with

PROJECT SNAPSHOT 2018

RMI- Expenditure 2013-2018

Total: EUR 0.60m



- Equipment
- Facilities
- Scientific & Technical data acquisition /development
- Data, information & knowledge management
- Training, workshops, professional attachments, & meetings
- Reports & publications
- Technical assistance

Key achievements

- *Review of the DRM Plan completed*
- *Transition of the BSRP Coordinator position to DRM Officer within the civil service*

USD4million accounting for national production flows, USD 882,400 in high production costs and USD9,100 being impact to livestock. This accounts for 3.4% of RMI's GDP for the 2015 financial year.[7]

DETAILED OUTCOMES

R2 - Strengthened institutional arrangements for DRM and CCA

- ICT infrastructure in the Office of Chief Secretary and NDMO has been enhanced. This will ensure that the National Emergency Operation Centre (NEOC) within the NDMO have full internet access. Internet access is crucial for collection and dissemination of vital information to better support disaster victims.
- The review of the DRM Plan was completed and endorsed by the National Disaster Council and Cabinet.

R3 - Improved knowledge, information, public awareness, training and education

- In partnership with UNISDR and the RMI NDMO, a Private Sector Disaster Ready Workshop was held and attended by 16 participants (44% female) in May 2018. The workshop aimed to help businesses better assess and reduce their vulnerability to hazards such as drought, typhoon, storm surge, inundation and utilities failures. Practical solutions to increase partnerships between the private sector and NDMO were also developed. This workshop resulted in confirmation and commitment by the NDMO to having private sector represented on all clusters.
- A documentary showcasing the reality faced due to drought and low-lying atolls causing risk of inundation was completed. This has been shared with the Pacific Way to be aired across the Pacific.

LOOKING AHEAD 2019

Sub-recipient agreements under BSRP with EMCI have come to an end. The Marshall Islands will, however, continue to participate in regional activities throughout 2019.

[6]*Republic of the Marshall Islands. 2017. Post Disaster Needs Assessment of the 2015-2016 Drought.*

[7]*Refer n.10.*

Majuro, Republic of the Marshall Islands

RMI DRM PLAN REVIEW COMPLETE

The successful completion of the review of the DRM Plan by the National Disaster Management Office within the Chief Secretary Office is a significant milestone in strengthening the institutional arrangements. Recent response efforts to droughts and sea inundation had highlighted the challenges encountered with the current plan.

The review had incorporated the recently ratified global and regional DRM guidelines such as the Sendai Framework for DRR 2015 – 2030 and the UN Inter Agency Standing Committee (IASC) Guideline on Cluster Coordination at Country Level 2015 and the regional Framework for Resilient Development in the Pacific (FRDP).

The articulation of these global best practices ensures that when external assistance arrives into the country during a response there are locally led mechanisms which international partners can align themselves to seamlessly. This is the Marshall Islands effort to implement the 2017 World Humanitarian Summit outcome that had strongly advocate for local leadership in any DRM effort to ensure sustainability and relevancy.

The DRM Plan now encompasses both Disaster Management and Disaster Risk Reduction and encouraging in all country effort to reduce impacts of disasters. The establishment of a Risk Advisory Group is fitting with the NDMO and the Office of Environment Planning, Protection and Coordination (OEPPC) as chair and deputy chair respectively. This will ensure that discussion on disaster and climate change mitigation and adaptation interventions can be thoroughly discussed and coordinated by a central group. Both NDMO and OEPPC are under the Chief Secretary's Office but there was no formal mechanism where they can be discussed. The inclusion of the private sector and non-government organisations in the National Disaster Council (NDC) is a huge shift. Previous arrangements only have government department representatives as members of the NDC and the voices of the other crucial members of the society were not formally captured.

Nauru © SPC

NAURU

INTRODUCTION

The coral island atoll of Nauru has an estimated population of 11,000 people and sits very close to the equator in the eastern Pacific Ocean. The country has a 20km² land area with an exclusive economic zone of 308,502km². Nauru's economy has been based primarily on phosphate mining, but the global economic crisis seriously impacted this industry in 2009. The country is now heavily dependent upon the sale of fishing licences and foreign aid from countries like Australia.

In terms of hazard risk, Nauru's position close to the equator means it is outside the area of frequent occurrence of cyclones. It is also within a very quiet area for seismic activity with a very small chance of earthquake impacts in the next 50 years. Nauru's country risk profile by the World Bank found that "Nauru is expected to incur, on average, less than 2 thousand USD per year in losses due to earthquakes and tropical cyclones. In the next 50 years, Nauru has a 50% chance of experiencing no economic losses and no casualties, and a 10% chance of experiencing a loss exceeding 0.2 million USD and no casualties."[8]

However, the impacts of climate variability, sea-level rise and warming, drought conditions during El Niño and out-of-season torrential rains during La Niña are increasing. Rising sea levels are causing costal erosion and salinity of groundwater. Long droughts are affecting fruit trees, coconut and breadfruit trees leading to low yields. Sedimentation and sea

Country Risk Profile. 2011. World Bank. http://documents.worldbank.org/curated/en/2015/05/24560951/nauru-country-risk-profile

SNAPSHOT 2018

Nauru- Expenditure 2013-2018

Total: EUR 0.14m

Key achievements

- *Construction supervisor recruited and provided valuable technical information on the development of the tender documents*
- *Tsunami support plan developed and finalised guiding the monitoring and evaluation of tsunami threats to the Republic*

warming are badly affecting the health of corals and leading to losses in biodiversity. Mining activities on 70% of the island severely restrict agricultural activities. Land tenure is also sensitive and contentious. The country is becoming heavily reliant on imported food to supply its population.

In recent years the Nauru Government enacted DRM legislation and drafted a national DRM plan. The DRM Act stipulates DRM to encompass natural, manmade and technological hazards.

DETAILED OUTCOMES

R1 - Effective preparedness, response and recovery

- Procured a building construction supervisor who was instrumental in the development of the Request for Proposal (RFP) documentation. RFP was published in the SPC and other prominent web sites but only attracted one bidder. Bidder was unsuccessful due to excessive quote.

R2 - Strengthened institutional arrangements for DRM and CCA

- Due to capacity constraints in Nauru, BSRP is operating under a direct procurement model from SPC.
- The Nauru tsunami plan drafted in 2017 is still go through the final Cabinet endorsement process.

R3 - Improved knowledge, information, public awareness, training and education

- Adaptation of the Get Ready Campaign has begun for Nauru.

LOOKING AHEAD 2019

- Finalisation of a way forward for the funding construction of the NES complex
- Get Ready Campaign translated into Nauruan and disseminated to the community to enhance awareness and preparedness.
- Nauru tsunami plan to be considered by Cabinet.

Niue, © SPC

NIUE

INTRODUCTION

The world's smallest independent nation, the raised atoll of Niue has a population of 1,190 people (2014 estimate[9]). Niue has approximately 259 km^2 of land and an EEZ of 390,000 km2. The capital is Alofi, which is located on the western side of the island. A total of 14 villages are scattered across the island, and a 64km circuit road passes through all the villages. Niue's coastline is rocky and rugged, with steep cliffs, caves, deep chasms and blowholes. Niue is also home to one of the world's largest coral reefs.

Niue is a self-governing state in free association with New Zealand. Being a coral atoll, Niue's soils are marginal, and intensive agriculture is difficult due to shallow soil, low nutrient content and poor soil structure. Taro, cassava, sweet potato and yams are commonly grown, while livestock such as chickens, pigs and a small number of cattle support subsistence livelihoods.

Niue is vulnerable to climate risks such as tropical cyclones and droughts; geological risks such as earthquakes and tsunamis; and human-induced risks such as disease outbreaks and contamination of the water supply. Niue's risk profile is inherently linked to its isolation. Traditional coping strategies have tended to make way for an increased reliance on external support, as New Zealand fulfils its obligations to provide support to Niue in times of disaster. Climate change is likely to exacerbate most of Niue's risks.

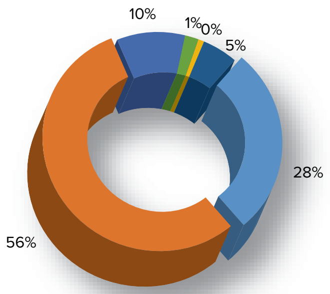
Niue has no surface water and relies upon groundwater resources and rain catchments. Groundwater is recharged via rainfall infiltration and rainfall currently exceeds the rate of extraction. However, Niue's porous soil means that the underground freshwater is vulnerable to contamination from both human causes (e.g. agricultural chemicals) and natural sources (e.g. seawater). Waste management is an additional source of risk of contamination.

Inadequate waste management in the livestock sector also poses a threat to water quality. Deforestation poses a risk to the stability of Niue's shallow soils.

[9]2014. Central Intelligence Agency. World Factbook.

PROJECT SNAPSHOT 2018

Niue- Expenditure 2013-2018 Total: EUR 0.54m



- Equipment
- Facilities
- Scientific & Technical data acquisition /development
- Data, information & knowledge management
- Training, workshops, professional attachments, & meetings
- Reports & publications
- Technical assistance

Key achievements

- *Emergency medical equipment was solicited from the Queensland Ambulance Service and BSRP shipped them to Niue for use by First Responders; the NDMO, Health and Fire services.*
- *Commencement of the construction of the NEOC late 2017 after the adoption of the plan and the construction modality. Funding was provided from the BSRP and complimented by the New Zealand Ministry of Foreign Affairs and Trade (MFAT) and the Niue government.*

DETAILED OUTCOMES

R1 - Effective preparedness, response and recovery

- Support was solicited from the Queensland Ambulance Service for emergency medical equipment which BSRP shipped to Niue for use by the NDMO, Health and Fire services.
- The construction of the Joint EOC is progressing smoothly, and will be completed in August 2019. This building is being funded jointly by BSRP [NZD MFAT 700,000], and the Government of Niue.
- The mid-term SREM implementation report to be compiled in 2018.

R2 - Strengthened institutional arrangements for DRM and CCA

- The Building Code initiated under EDF 9 has been finalised and will be printed in 2019.

R3 - Improved knowledge, information, public awareness, training and education

- In 2018 the National Disaster Awareness Week activities were taken over by the Government as was the Coordinator role, thus ensuring sustainability.
- DRR booklet developed and finalised.
- Quick Guide to the Niue Emergency Management Plan developed and finalised.

LOOKING AHEAD 2019

R1 - Effective preparedness, response and recovery

- Finalise construction of the Joint EOC.

R2 - Strengthened institutional arrangements for DRM and CCA

- Once approval from the Niue Cabinet obtained, undertake further printing of the Niue Building Code.

R3 - Improved knowledge, information, public awareness, training and education

- Print and public distribution of the DRR Booklet
- Print and public distribution of the Quick Guide to the Niue Emergency Management Plan

National Emergency Operation Centre, Niue

NIUE NEOC, TIMELY

The purpose built National Emergency Operation Centre was prioritised on the Action Reports (AAR) from previous disaster events such as Tropical Cyclone Heta. In the absence of such centre, coordination of responses will be a challenge since other priorities can overtake the operation. NDMO is housed within the Niue Police Department and the maintenance of law and order will always be the priority.

The building was split into the two elements connected by a covered veranda area. Although the building has two elements some aspect of each building that will be shared by both such as staff amenity (kitchen and bathrooms).

The larger element house the Niue Police and the common staff amenities such as male and female bathrooms. The area occupied by the Niue Police will house the reception, licensing, armoury, individual and open plan offices and store rooms. This portion of the building will be secure and accessible to the Niue Police only. A shared access for the staff amenity area is located towards the rear of the building. The staff amenity area contains male and female toilets; each have a locker and shower room that will have keyed access predominantly for the Niue Police but available during an event for EOC staff.

The second smaller element contains three offices, a large conference room for operations and future use as a seminar space, server and ops room and a kitchen that will be shared by the EOC and Niue Police. The kitchen will also contain a server to the conference room. The conference room has been designed with large sliding door to enable the space to be opened up when required.

The main intention with this building with the Niue Police sharing with the EOC is that the building will be used and occupied 7 days per week and therefore create shared efficiencies within the building such as kitchen, server room, bathrooms etc. This also means the investment in the building will be used consistently rather than periodically.

The covered walkway will act as a reception/waiting area for both activities. The space will be separated into the front of house and back of house area by a screen wall and gate. This means that access to the staff amenities is kept separate from the public.

Aerial view of devastation caused by Typhoon Bopha, Palau

PALAU

INTRODUCTION

The Republic of Palau is a small, independent island nation located in the northern Pacific, and is under a compact of free association with the United States. Palau's population is approximately 17,611 (2015census). The economic growth rate for 2017 is 1%. It is dominated by tourism, fishing, and subsistence agriculture. Government is a major employer of the work force relying on financial assistance from the US under the Compact of Free Association (Compact) with the US that took effect after the end of the UN trusteeship on 1 October 1994.

Hazards that have had the greatest impact on Palau in the past are typhoons (tropical cyclones) and storm surges. Storm surges and the resultant saltwater inundation of taro fields and water tables are a pressing concern and appear to be linked to climate change and sea-level rise. The majority of the population lives along the coast, which is also where most critical infrastructure is located. The main hospital is located very close to the sea, and the causeway connecting it to the mainland is vulnerable to storm surge and/or tsunami. Technological hazards, such as the bridge collapse in 1997 and the fire that gutted the main power plant in 2011, are additional concerns.

In late 2012, Typhoon Bopha struck Palau and affected hundreds of people, destroying 70 homes and displacing 131 people. Soon after in 2013, Super Typhoon Haiyan impacted the islands again, especially the northern-most state of Kayangel, destroying 39 homes and some parts of Babeldaob Island. The impact of these cyclones is still being felt by communities in Palau.

Palau has a national DRM framework developed in 2010 which promotes a multi-hazard approach to managing hazards and vulnerability. Palau consists of 16 states and each state has developed its own

PROJECT SNAPSHOT 2018

Palau- Expenditure 2013-2018 Total: EUR 0.62m

Key achievements

- *Successful completion of 16 CBDRR training sessions for each of the 16 states resulting in the development of Community Disaster Plans which have the Evacuation Plan and the Disaster Risk Reduction Action Plan.*

DRM plan. Many of the key agencies and sectors have emergency plans in place. Palau approved its first national climate change policy in 2015.

Palau has historically been poorly prepared for reducing hazard risk and coping with disasters, partly due to previous reliance on the US for disaster response and humanitarian support. Awareness of the need to invest in preparedness and risk reduction is, however, growing (particularly at political and operational levels). Recent technological disasters have also helped to improve awareness of the linkages between poorly planned development and hazard risk. Palau is heavily dependent on marine-based tourism and the need to protect this industry is understood.

DETAILED OUTCOMES

R1 - Effective preparedness, response and recovery

- The construction of the NEMO perimeter fence was completed protecting the NEMO complex and the warehouse.

R2 - Strengthened institutional arrangements for DRM and CCA

- The 2010 National DRM Plan was reviewed and endorsed by Cabinet and printed
- State Disaster Plans in line with the National DRM Framework for all 16 states developed and submitted to the states for adoption aimed at enhancing coordination and implementation.
- Community Disaster Plans for state hamlets (one per each of the 16 States) have been developed following the completion of CBDRR workshops across the country. The Plan includes the Community Disaster Risk Reduction Action Plan and Community Evacuation Procedures. The process of developing the plans has greatly improved community awareness of their vulnerabilities and level of risk to different hazards; as well as their roles in the disaster risk management cycle.

R3 - Improved knowledge, information, public awareness, training and education

- A documentary on water shortages and increased water storage in Palau under BSRP has been developed and published.

LOOKING AHEAD 2019

Palau has exhausted its country budget and will focus on finalizing acquittals and sending documents to SPC.

CBDRR Toolkit consultations, Palau

CBDRR SESSIONS CREATES ALOT OF COMMUNITY AWARENESS

The completion of the 16 Community DRR sessions in all the 16 states had created a lot of awareness and greater understanding of how the community can reduce their vulnerabilities

The empowerment of the community to carry out their own risk assessment is the most effective way in building resilience as advocated by the Sendai Framework for DRR 2015 – 2030. The process of CBDRR sessions was guided by the CBDRR Toolkit earlier endorsed by the National Emergency Committee. (NEC).

The CBDRR Toolkit was developed by a team of local practitioners who were trained by the Asia Disaster Preparedness Centre and SPC. After the CBDRR Toolkit were endorsed, the CBDRR sessions were delivered.

The outcome of the CBDRR sessions is the development of the Community Disaster Plans (CDP). The CDP incorporates the DRR Action Plan (DRRAP) and the Evacuation Plan. The DRRAP outline the activities to reduce the vulnerabilities. Participatory tools were used to enable the community members to do their own vulnerability assessment. Each of vulnerability issues were further diagnosed with the problem tree tool to identify the root cause. Once the root causes were identified, the objective tree tool was used to identify the strategies to solve the root cause.

Geo-Hazards monitoring and assessment, Papua New Guinea

PAPUA NEW GUINEA

INTRODUCTION

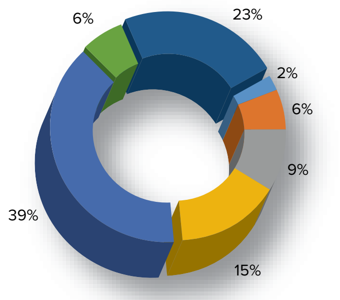
The most populous country in the Pacific region, Papua New Guinea (PNG) has an population of over 8 million people (2018 estimate), and a total of 600 islands with 462,840 km^2 of landmass. PNG has more than 820 different languages and is home to one of the most diverse cultures in the world and the strongest economy in the Pacific.

The Oceanic nation occupies the eastern half of the island of New Guinea and is located in the '*Pacific Ring of Fire*'. The country has high exposure to hazards such as volcanoes, earthquakes, landslides, tsunamis, tropical cyclones, flooding and coastal erosion. PNG ranks in the top six countries for the percentage of population exposed to earthquake hazard and has the highest percentage of population exposed to severe volcanic risk. Landslide hazard exposure is also particularly high in PNG.[10]

PNG suffered some of its worst natural disasters from 1990 to 2000, including the Rabaul volcanic eruptions in 1994, drought impacts of the El Niño in 1997–1998, and the Aitape tsunami in 1998. More recently, the country has had continued landslides in localised areas with a high risk area along the Oceans Highway with reports of landslides killing five people in February 2017 and devastating a marketplace in 2016. In early 2018, Kadovar volcano began emitting ash clouds with nearby communities temporary relocating to the mainland of East Sepik, and now considering permanent relocation options. Communities in the Hela, Southern Highlands and Western Provinces were then hit by a 7.5 magnitude earthquake in February 2018 followed by a number of significant aftershocks, killing 160 people and displacing over 11,000 households.

[10]*Global Facility for Disaster Risk Reduction and Recovery. PNG. (2016). https://www.gfdrr.org/sites/gfdrr/files/region/PG.pdf*

PROJECT SNAPSHOT 2017
PNG- Expenditure 2013-2018
Total: EUR 0.92m



Key achievements

- *The successful achievement by the PNG Department of Minerals Policy & Geohazards Management (DMPGM) with three major activities and a joint activity with University of Papua New Guinea (UPNG):*
  (i) Rabaul Volcano Observatory (RVO) - Supply & Installation of volcanic survey technologies to support data transmission from outer island station to RVO for early eruption detection
  (ii). PMGO - Supply & Installation of Geotechnical monitoring equipment to carry out Seismic data processing, analysis and interpretation
  (iii). Geohazards Landslide Monitoring completed in the Simbu & Chimbu Province along the OKUK highway, these regions are vulnerable and has a high frequency of landslide
  (iv). Development of Diploma Course at UPNG for technical staff capacity building
- *The GIS data collection through the use of BSRP supplied hand held GPS in Buka, the autonomous region of Bougainville input into tsunami modeling, November 2018.*
- *Also remarkable is the Deployment of two temporary seismic stations in the East Sepic province to monitor the eruption of Kadovar Volcano. This deployment complemented the work of Rabaul Volcano Observatory (RVO) in the monitoring of the eruption in the period February to June 2018.*
- *The DMPGM achievements in terms of institutional strengthening has led to the establishment of four (4) Disaster Reductions Modules at the University of PNG.*

In line with the wide range of risks facing the country, PNG has scaled up its DRM efforts in recent years. A Disaster Management Act was created in 1984 but was not implemented effectively. Renewed focus on this area has resulted in work being directed toward DRM, DRR and CCA. The country's 2050 National Plan aims at attaining sustainable development through DRM and CCA.[11]

DETAILED OUTCOMES

R1 - Effective preparedness, response and recovery

- Land has been identified for a future NEOC to house the National Disaster Centre, and is going through a final land allocation process.
- Upgraded communications equipment and training has been provided to Provincial Disaster Centres. 22 laptops purchased and out of which seven (&) have been distributed to seven province and training conducted. The remaining laptops will be distributed in 2019 via National Disaster Centre (NDC) own funding.

R2 - Strengthened institutional arrangements for DRM and CCA

- The BSRP Coordinator role was supported to December 2018.

R3 - Improved knowledge, information, public awareness, training and education

- Four modules for the Post-Graduate Diploma in Geological Hazards and Risk Management were developed- 1) Mass movement and landslide hazard; 2) Volcanoes and Volcanic

[11] *GFDRR. PNG. (2016). HTTPS://WWW.GFDRR.ORG/SITES/GFDRR/FILES/REGION/PG.PDF*

hazard; 3) Earthquake and Tsunami Hazards; 4) Flood and Flooding Hazards. These have been approved by the DMPGM and the UPNG board.

- The Department of Education delivered a series of Education in Emergencies (EiE) provincial workshops in Madang, Mt Hagan, West New Britain, East New Britain and Esepic focussed on awareness, distribution and sensitisation on the EiE and DRM Policy. There were over 250 participants from the education sector.

R4 - Improved understanding of natural hazards and the reduction of underlying risks

- The Department of Mineral Policy and Geohazards Management (DMPGM) undertook field visits to Simbu Province to collect soil and rock samples from the Kingstar and Guo landslides for lab testing as part of the landslide hazard monitoring. They also used a drone to capture images for further image manipulation using GIS.
- To assist with preparedness for landslide events in the Highlands Region, low tech rainfall gauges were installed for daily recording of rainfall data by local care takers. Unfortunately, despite the participatory approach taken to working with local communities and caretakers, these gauges have been abandoned and alternative weather station network options now need to be considered.
- Drones were used to capture images of the Kingstar and Guo landslide areas and surrounds. Together with field investigation (that included engaged local field assistants), surface profiling and soil testing, the images are being used to inform DRM planning related to the landslide risk.
- Workshops were carried out in four high-schools as part of a geological hazards school awareness programme.
- Geotechnical monitoring equipment for the Port Moresby Geo-observatory was procured. The seismic equipment and accessories procured have improved PMGO's capability to monitor events and to conduct rapid assessments during earthquake emergencies as well as at the times of other geohazards events; e.g in the case of the Kadavor volcanic eruption, critical scientific data obtained with the help of this equipment was transformed into information useful for public consumption and delivered promptly to at-risk communities and decision makers; the equipment is also essential for further work in Tsunami hazard and evacuation map generation, building on the success of the work reported for Sohano Island, in the Autonomous region of Bouganiville.
- The Comprehensive Hazard and Risk Management (CHARM) Diploma Coordinator has been confirmed and the appointed person began work in 2017. This activity has been extended to December 2018. UPNG reports that they have secured alternative funding sources to cover this position in the future. Three (3) students have gone through the Diploma CHARM program and will further pursue the Bachelor CHARM program which the Institution have developed and aiming to launch in 2019
- A database for data collected for People with Disabilities from around Central Province in 2016 is being developed and combined with other relevant disaster information.

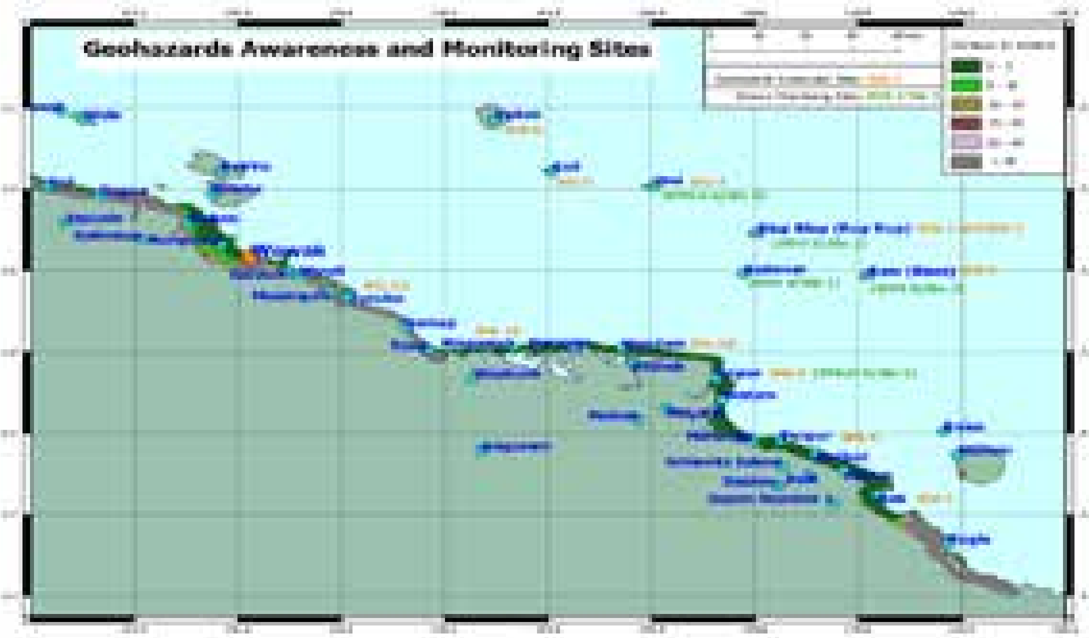
LOOKING AHEAD 2019

R1 - Effective preparedness, response and recovery

- R1 - Effective preparedness, response and recovery
- NEOC design to be finalized.

R3 - Improved knowledge, information, public awareness, training and education

- To support the coordination of the Graduate Course in Geohazards Management until September 2019 to give time for alternative funding sources (including considering cost recovery options) to be identified.



EQUIPMENT FOR MONITORING AND ASSESSMENT OF GEO-HAZARDS BY PORT MORESBY GEOPHYSICAL OBSERVATORY

Port Moresby Geophysical Observatory (PMGO) branch of the Department of Mineral Policy &Geohazards Management (DMPGM) recently conducted enhanced monitoring and assessment of a range of geological hazards in Papua New Guinea (PNG) with assistance from the BSRP Project. Seismic monitoring and data collection equipment and computers procured through funding assistance from the BSRP Project were used at various locations in PNG. Following are the main activities carried out by PMGO since the procurement of the new equipment:

- Deployment of two temporary seismic stations in the East Sepik Province to monitor the eruption of Kadovar Volcano. This deployment complemented the work of Rabaul Volcano Observatory (RVO) in the monitoring of the eruption in the period February to June 2018.
- Tsunami hazard modelling and risk evaluation at RIMES Headquarters in Thailand, and follow up work in PNG, using computers (laptops).
- GIS data collection through the use of hand-held GPS in Buka, the Autonomous Region of Bougainville, for input into tsunami modelling, November 2018.
- Utilization of the EU-EDF10-supplied computers in training on SeisComP3 conducted by GEMPA through funding assistance from Australian-DFAT, October 2018 at RVO, Rabaul, PNG.
- Seismic data processing analysis and interpretation.

Enhanced Monitoring of Kadovar Volcano

Two temporary seismic stations were deployed in the vicinity of the erupting Kadovar Volcano in the East Sepik Province from February to June 2018.

Frequency of occurrence and migration of such volcanic earthquakes over time helped in understanding the eruption of Kadovar, so at-risk communities and appropriate authorities were informed accordingly.

Graffiti art, Samoa © SPC

SAMOA

INTRODUCTION

Comprised of two large volcanic islands (Upolu and Savai'i) and several smaller islands with a total land area of approximately 2,935km^2, Samoa lies in the southwest Pacific with an EEZ of 120,000km . The population of Samoa is 195,979 (2016 census) with approximately 76% of the population living on Upolu island. The country's capital of Apia is a port city located on Upolu and has a population of 37,000 people. Samoa's main source of income is from agriculture and fisheries followed by tourism and remittances from families overseas. The GDP per capita is roughly USD 4,000.

Both islands are mountainous and 70% of the population live in low-lying coastal areas. The country is exposed to a number of natural and technological hazards. Some of these hazards are seasonal, such as tropical cyclones, floods and droughts. Others are ever-present threats such as earthquake, volcanic eruption, tsunami, epidemics, industrial hazards and exotic plant or animal diseases. Samoa's country risk profile developed as part of the Pacific Catastrophe Risk Assessment and Financing Initiative indicated that Samoa is expected to incur on average USD10 million per year in losses due to earthquakes and tropical cyclones in the next 50 years. There is a 50% chance that losses of USD130 million and casualties of more than 325 people will be experienced in the next 50 years.

PROJECT SNAPSHOT 2018

Samoa- Expenditure 2013-2018

Total: EUR 0.96m

Key achievements

- *Procurement of the Search and Rescue facility for Samoa completed, endorsed by the Samoa Tender Board, Cabinet and construction started*
- *First Fire Investigator for Samoa Fire and Emergency Services Authority (SFESA), Mr. Aufa'i Petaia successfully completed his Fire Investigation Course at the Metropolitan Fire Brigade, Melbourne.*
- *A Samoa Fire Safety and Trend Analysis training and workshop was conducted for 22 participants (23% female) and facilitated by Mr. Aufai and an expert from Melbourne Fire Brigade and SPC in December, 2018.*
- *World Bank gave a 'No Objection' to the NEOC design which means that construction can progress and World Bank through the PREP project would be funding the build.*

Recently, Samoa has been affected by tropical cyclones, flooding, fires, oil spills and a highly destructive tsunami which devastated the south coast of Upolu in 2009. The latter catastrophe affected more than 5,000 people with a death toll of 143 and the total cost of damage and losses, at USD124 million, was equivalent to more than 22% of Samoa's GDP. Eight people lost their lives during Cyclone Ofa (1990), with 195,000 people affected and the cost to the economy USD200 million. Thirteen people lost their lives during Cyclone Val (1991), 88,000 people were affected, and the cost was USD278 million. In 2012, Tropical Cyclone Evan made landfall resulting in the loss of 12 lives, the destruction of 700 houses and damage to almost 1,000. The total cost of damage and loss following Evan was estimated to be USD203.9 million. These tropical cyclones and the 2009 tsunami emphasise Samoa's vulnerability as a small island state with a concentration of settlements and infrastructure in the coastal zone.

Apart from the hazards mentioned above, Samoa is also dealing with climate change and sea-level rise, environmental degradation, pollution, coastal erosion, water quality and resource management. All are important environmental issues which if not managed properly will increase disaster risks in Samoa.

DETAILED OUTCOMES

R1 - Effective preparedness, response and recovery

- The firmware upgrade (repeaters) for the emergency radio network at the Upolo and Savai'i sites has been completed. All sites are now ready to link to the new hardware and equipment that is being procured in early 2019.
- The NEOC was re-designed to bring it within budget, and the design successfully

passed through the World Bank "No Objection" assessment as construction will now be funded by the World Bank's Pacific Resilience Programme. The final steps to be implemented under BSRP (tender and building consent process) have also been completed.

- The construction of the Search and Rescue Facility (SAR) facility for Samoa is progressing and is scheduled for completion in early 2019.

R2 - Strengthened institutional arrangements for DRM and CCA

- The SFESA Assistant Commissioner completed a twelve-week Fire Investigator course with the Metropolitan Fire Brigade Melbourne (MFB) Fire Investigation Analysis team. The Assistant Commissioner Aufa'i Petaia became the first officially certified fire investigator for Samoa.
- In December 2018, a Samoa Fire Safety and Trend Analysis training and workshop was then conducted for 22 participants (23% female).
- The Samoan Disaster Awareness flipchart and game for Early Childhood Education has been finalised and printed ready for launching and rollout in early 2019.
- The private sector Disaster Ready toolkit negotiation is under way with Samoa.
- Close collaboration between Samoa NDMO, SFESA, Metropolitan Fire Brigade Melbourne and SPC led to the building of capacity of the SFESA.

LOOKING AHEAD 2019

R1 - Effective preparedness, response and recovery

- To complete construction of the SAR facility.

R2 - Strengthened institutional arrangements for DRM and CCA

- To complete the design of the Mainstreaming DRM in to Sector Plans for fourteen sectors.

Search & Rescue (SAR) facility, Samoa

FIRST OFFICIALLY CERTIFIED FIRE INVESTIGATOR FOR SAMOA

The certification of Samoa's first fire investigator will result in better capacity to assess and provide accurate information on causes of fires in the country.

Samoa Fire and Emergency Services Authority (SFESA), Assistant Commissioner, Aufa'i Petaia completed a 12-week Fire Investigator course with the Melbourne Fire Brigade (MFB) Fire Investigation Analysis team.

Funded by the European Union through the EU-ACP Building Safety and Resilience in the Pacific (BSRP) Project as part of its overall work to implement the Samoa Fire Reduction Strategy launched in 2017, the training aims to reduce household fires in Samoa, whilst also increasing awareness around fire safety.

One of the main ways in which the Samoa Fire Reduction Strategy does this is through strengthening fire investigation capability within the Samoa Fire and Emergency Authority. Having the capacity to investigate how fires start gives the Authority correct information on how to create awareness to prevent further fire risks.

The Samoa Fire Reduction Strategy, created in collaboration with BSRP, aims to reduce household fires in Samoa, whilst also increasing awareness around fire safety. One of the main ways in which the Fire Strategy does this is through strengthening fire investigation capability within the Samoa Fire and Emergency Authority. Having the capacity to investigate how fires start gives the Authority correct information on how to create awareness to prevent further fire risks.

Assistant Commissioner Petaia said the three-month training course with the MFB had a made a big difference in his work.

"It was an amazing and engaging experience and I had the opportunity to visit more than 20 fire scenes and learnt from the forensic team about what factors to look out for in fire scenes that indicate how a fire starts," he said

Upon his return to Samoa, he helped train eight other officers in a partnership between the SFESA and MFB. Like all twinning arrangements facilitated under PIEMA, this is an opportunity for Samoan emergency services to gain knowledge and skills from their overseas-based partners.

"Returning to Samoa as a certified fire investigator gives me the opportunity to transfer what I learnt to our local officers. By equipping our staff with the right knowledge, tools and skills we will be able to provide Samoa with efficient fire and emergency service," said Assistant Commissioner Petaia, adding that follow-up trainings complimented the work they were doing.

Christoph Wagner, the Head of Cooperation at the EU Delegation for the Pacific said: "The European Union is proud to support Samoa's first-ever fire investigator. This is a commendable achievement for SFESA, and it marks the beginning of a new learning endeavour for Samoa Fire Fighters. By increasing the capacity of local officers, we can ensure a safer Samoa for everyone, and that is ultimately the goal."

Typhoon destruction, Solomon Islands

SOLOMON ISLANDS

INTRODUCTION

The archipelago of the Solomon Islands is made up of 992 islands of which approximately 300 are populated. The country's land mass is 28,000 km^2 with an estimated ocean area of more than 1.3 million km^2. The total population (2015 estimates) is 622,469 - it is predominantly Melanesian (94.5%) with around 3% Polynesians along with Micronesian and European/Chinese groups accounting for the remaining 2.5%.

Economically, the country has a low per capita GDP of around USD2,000 per annum. Solomon Islanders, however, enjoy a high degree of subsistence security, are generally not malnourished, and have a life expectancy of 63 years.[12]

The country is divided into nine provinces: Guadalcanal, Central, Western, Isabel, Malaita, Makira, Temotu, Choiseul and RenBel (Rennel and Bellona Islands). The capital city, Honiara (estimated population 73,000 in 2014), is located on the island of Guadalcanal.
In terms of risk, the Solomon Islands is exposed to a wide range of hazards due to being surrounded by ocean and also being located on the 'Pacific Ring of Fire.' Solomon Islands currently has eight active volcanoes, and is also directly at risk of tropical storms, saltwater intrusion, flood events, storm surges, sea-level rise, land erosion, tsunami and earthquakes. Over the past 30 years there have been seven major natural hazard events: two large earthquakes, two tsunamis (in 2007 and 2013) and four tropical cyclones, which have directly impacted well over 100,000 people and caused approximately 170 deaths. In addition, the period of civil unrest in 1998–2003 displaced an estimated 35,000 people, resulted in 200 deaths and had a cost of SBD 250million in humanitarian relief and property losses.

[12]*Gough K. V, Bayliss-Smith, T, Connell, J & Mertz, O (2010) "Small island sustainability in the Pacific: Introduction to the special issue." Singapore Journal of Tropical Geography, 31, pp 1–9.*

PROJECT SNAPSHOT 2018

Solomon Islands- Expenditure 2013-2018

Total: EUR 0.96m

Key achievements

- *Printing of the Damage Assessment Manual*
- *Installation of flood early warning system at Isabel province*
- *Design of the proposed NDMO/Joint Warning Centre completed.*

There are a number of issues to consider in terms of underlying factors that increase vulnerability. First and foremost is the inequality that exists between men and women in terms of natural resource management, decision-making and the freedom to make choices about their own lives. This inequality limits the extent to which women are consulted and subsequently involved in DRM activities and the extent to which their roles and responsibilities are considered in efforts to build resilience. This echoes with the lack of engagement of young people, a significant omission where a third of the population is under the age of 15 years. Rapid urbanisation and growing informal squatter settlements have led to a large, highly vulnerable population in Honiara. Informal settlements have limited access to basic services and receive little or no support to improve drainage systems which results in flooding and remains an ongoing challenge. As is the case in other Melanesian countries, the issues of land entitlement continue to pose large and very complicated challenges for Solomon Islands and result in most informal settlements being created in areas that are prone to natural hazards.

DETAILED OUTCOMES

R1 - Effective preparedness, response and recovery

- Design of the NEOC/Joint Warning Centre building at Vavaya Ridge has been completed.
- At risk communities in Makira and Isabel Provinces were consulted on a flood early warning system. Installation of the system was completed at Isabel but was delayed at Makira due to adverse weather events and flooding.
- Strengthened end-to-end early warning systems for last mile message dissemination and understanding. Updated early warning messages were reviewed by stakeholders and are to be finalised in 2018.
- An initial damage assessment tool – *Disaster Impact Assessment Guidance for the Solomon Islands* - has been finalised.

R3 - Improved knowledge, information, public awareness, training and education

- A community-based DRM (CBDRM) coordinator was recruited.
- CBDRM training completed for Makira and Isabel provinces
- A third NDMO staff member sponsored under BSRP has completed their Graduate Certificates in DRM from the Fiji National University (FNU).

R5 - Enhanced partnerships in DRM and climate change

- NDMO Director supported to attend the Pacific Tsunami Warning System committee at Noumea.

LOOKING AHEAD 2019

R1 - Effective preparedness, response and recovery
- Discussion on way forward for construction of the NEOC/Joint Warning Centre building from the remaining BSRP funds

R3 - Improved knowledge, information, public awareness, training and education
- Completion of flood early warning system at Makira

SUCCESS STORY

EARLY WARNING ALERT SYSTEM INSTALLED AT MAKIRA AND ISABEL PROVINCIAL DISASTER OFFICES

The installation of flood early warning system at Isabel follows the Community Based Disaster Risk Reduction (CBDRM) training activities aims to implement small scale infrastructure projects in line with priorities identified through community based risk assessments.

The consultation team are expected to spend 2 weeks from the 13th – 24th June 2016 to meet with Isabel Provincial Executives, informing them of National Government initiative with financial support from SPC and its benefits to their people. Also within these two weeks the Consultation team will go down to the selected communities to do awareness and consultation with Landowners of potential project sites.

Opening of Viqueque Evacuation Centre, Timor Leste

TIMOR-LESTE

INTRODUCTION

Timor-Leste is one of the most populated countries in the BSRP project, with a population of more than 1.2 million people. One of the newest countries in the world, Timor-Leste became independent from Indonesia in May 2002. Its land mass includes the eastern half of the island of Timor, the Oecussi (Ambeno) region on the northwest portion of the island of Timor, and the islands of Palau Atauro and Palau Jaco.

Timor-Leste has 13 administrative districts, namely Aileu, Ainaro, Baucau, Bobonaro, Covalima, Manufahi, Oecussi, Dili, Ermera, Lautem, Liquića, Manatuto and Viqueque. The country is further subdivided into 65 sub-districts, 442 sucos (villages), and 2,225 aldeias (hamlets).[13]

In terms of population distribution, the three most populated districts are Díli, Baucau and Ermera, which are home to about 43% of the population. Díli district alone has about 234,331 people (an increase of 33.3% since 2004). The three least populated districts are Manatuto, Aileu and Manufahi (with 13% of the population). The average household size is 5.8 people and the proportion of the population living in rural areas is about 70.4%.

Timor-Leste's topography is dominated by a massive central mountainous backbone that rises to 3,000 meters and is dissected by deep valleys. On the northern side, the mountains extend almost to the coast, but on the southern side, the mountains taper off some distance from the coast, providing areas of coastal plain. Up to 44% of the area has a slope of 40%.

Timor-Leste's climate is affected by the West Pacific monsoon, which is driven by large differences in temperature between the land and the ocean.

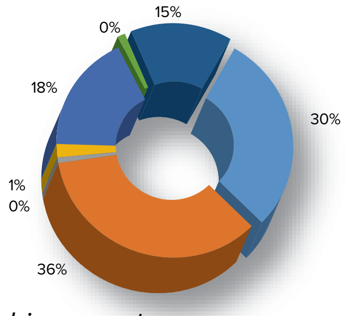
According to the Pacific Climate Change Science Program (PCCSP) report,[14] temperatures have warmed in Timor-Leste and will continue to warm with more very hot days in the future. Rainfall data for Díli Airport show a clear downward trend in annual and dry season rainfall since 1952, however, there are data gaps. Rainfall patterns are projected to change over this century – there will be more extreme rainfall days but little change in drought frequency. By the end of this century, projections suggest decreasing numbers of tropical cyclones. Sea level near Timor-Leste has risen and will continue to rise throughout this century. Ocean acidification has also been increasing in Timor-Leste's waters, and will continue to increase and threaten coral reef ecosystems.

[13]National Statistics Directorate and United Nations Population Fund, 2011. "Population and Housing Census of Timor Leste, 2010. Volume 2: Population distribution by administrative areas"

PROJECT SNAPSHOT 2018

Timor Leste- Expenditure 2013-2018

Total: EUR 0.96m



- Equipment
- Facilities
- Scientific & Technical data acquisition /development
- Data, information & knowledge management
- Training, workshops, professional attachments, & meetings
- Reports & publications
- Technical assistance

Key achievements

- *Completion of the first Municipality of Covalima Evacuation Centre*
- *Siren network systems and physical structures for Dili were procured and installation in progress.*
- *Bombeiros (Fire) Officers training carried out.*

As with many other countries in the region, Timor-Leste is prone to disasters triggered by natural hazards. The main hazards are hydro-meteorological. Heavy seasonal rain is normally marked by flash flooding and landslides that can destroy fragile road networks, isolate communities and disrupt economic activities. Storms with strong winds occur very frequently and are problematic for the flimsy constructions that characterise the houses of the rural communities. On the other hand, a long dry season can cause drought, provoking wildfires and food scarcity which have affected districts and villages in different parts of the country. However, these recurrent hazards are mostly localised and involve a relatively small number of families per event. Threats from geological hazards also exist, although these are rare events. Nevertheless, earthquakes and possibly tsunamis are challenges that need to be considered because of the potential they have to cause significant damage.

DETAILED OUTCOMES

R1 - Effective preparedness, response and recovery

- Siren network systems and physical structures for two sites in Dili were procured from the United States and shipped to Timor. Work in Timor on the installation of the Siren is now completed. There is a building structure and fences to safeguard the Siren that is under construction.
- Construction of the Covalima Evacuation Centre had been completed and the inauguration ceremony was carried out in early December.
- Viqueque Evacuation Centre is also complete and will be inaugurated in February 2019. The Covalima centre's capacity is around 150 and Viqueque is around 400 people.
- Uniforms and Personal Protection Equipment were purchased for the National Disaster Management Division.

R3 - Improved knowledge, information, public awareness, training and education

- Fire training was provided to 55 community leaders and youth (25% female).
- 50 Fire Officers (6% female) were trained to use the emergency equipment provided by the Northern Territory Fire and Emergency Services; a partnership attained under the BSRP-project supported twinning arrangement.
- Fire training was provided to 55 community leaders and youth (25% female).
- A simulation exercise was run by the Bombeiros (Fire Department) involving 56 school children (55% female).

[14]*Climate Change in the Pacific: Scientific Assessment and New Research. Ch. 2 Climate of Western Tropical Pacific and East Timor (2011). URL: http://www.pacificclimatechangescience.org/wp-content/uploads/2013/08/Ch.-2.-Climate-of-the-Western-Tropical-Pacific-and-East-Timor.pdf*

LOOKING AHEAD 2019

R1 - Effective preparedness, response and recovery
- Inauguration of the Viqueque Evacuation Centre
- Inauguration of the Dili Tsunami Siren

SUCCESS STORY

COVALIMA EVACUATION CENTRE

Covalima Evacuation centre

This week, Timor Leste's Secretary of State, Civil Protection, Mr. Alexandrino Xavier Araujo and Mr. Simon Le Grand, the Head of Cooperation of the European Union office in Timor officially opened the Evacuation Centre in Covalima. Also present were the General Director for the Ministry of Social Solidarity, Mr. Rui Manuel Exposto and the representative of the Director General, Pacific Community (SPC), Mr. Taito Nakalevu. The Evacuation Centre was funded by the European Union through the Building Safety and Resilience in the Pacific (BSRP) Project, with a total cost of Euro€163,840 or USD$187,798.

One of the challenges that Covalima faces is flooding and the difficulty of evacuating people to higher grounds. Located in Timor Leste's south-west corner and borders both Indonesia and the Timor Sea, majority of the Covalima population that is around 65,000 is located in the coastal flats and wide river valleys surrounded by rugged mountains that are very steep. In heavy rains, the water flow from the mountains to the foothills and flood plains are strong washing away houses and belongings. People find it difficult to escape, as the mountains are quite a distant away thus the people are very vulnerability to flooding.

In an effort to address this, the Timor National Disaster Management Directorate is working towards strengthening disaster preparedness at the municipality level and decentralizing disaster management capacity to the municipality level.

Speaking at the official opening of the Covalima Evacuation Centre, the Secretary of State stated that; "Our number one priority during a disaster is to ensure that everyone is safe, and the Evacuation Centres will significantly improve administrative and logistical arrangements and ease of communications between the national and municipality officials".

The EU representative said "We are happy that this Evacuation Centre has been put in place in close coordination with all partners concerned, under the aegis of the BSRP, managed by the SPC. We hope that the Centre will be used well and also kept in a very good condition, both the infrastructure as well as the human capacity and that when the time comes, it will prove its value".

The Evacuation Centre in Covalima is part of Serang Koteng Secondary School. The idea behind using the school is during 'peace time', the hall will be used by the school for training purposes and when there is a disaster that affects the Municipality, the building would be used as an evacuation centre.

In addition, the Pacific Community's (SPC) representative, Mr Taito Nakalevu pointed out that "the construction of the Covalima Evacuation Centre feeds into one of BSRP's project's key results areas, which is 'Effective Preparedness for Response and Recovery'. With these building, we believe that Timor's emergency/disaster preparedness and response capacity will definitely be strengthened".

Panoramic view of coastal vegetation in Tonga

TONGA

INTRODUCTION

The Kingdom of Tonga is made up of 176 islands with a population of 100,651 people (2016 census) on 36 inhabited islands. The Tonga archipelago has a combined land area of 747 km^2 and an EEZ of 649 km^2. Tonga has about 17,500 households, of which 77% are rural.

Tonga is exposed to both hydro-meteorological and geological hazards. It is in the cyclone region, averaging three events every two years with severe (category 3–4) cyclones every three to four years. In recent years,four cyclones have had impacts of varying degrees on many of the islands of Tonga: Cyclone Ian (2014), Cyclone Ula (2016), Cyclone Winston (2016) and Cyclone Gita (2018) which hit Tongatapu and had damage valued at over USD 164M.

Increasing sea-level rise, extreme precipitation, storm surges, whirlwinds and thunderstorms are causing record flood damage, landslides in the hilly terrains and coastal erosion. Tonga has active terrestrial volcanoes and a seabed region of high submarine volcanic activity. It was also hit recently by regional tsunamis.

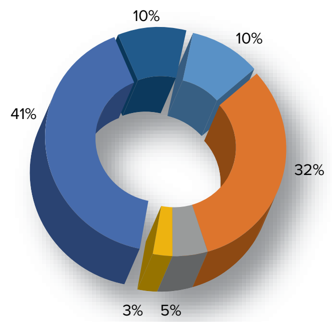
Tonga is a low-income country - 22% live below the national poverty line and remittances from overseas are important to many.

Tonga places great importance in integrating disaster risk consideration into sustainable development. The national DRM institutions and DRM capacity in the country need strengthening. There are weaknesses in the current NEMO staffing and organisational structure, resulting in critical shortcomings in NEMO's role to coordinate government and non-government DRM programmes and their implementation.

PROJECT SNAPSHOT 2018

Tonga- Expenditure 2013-2018

Total: EUR 0.96m



- Equipment
- Facilities
- Scientific & Technical data acquisition /development
- Data, information & knowledge management
- Training, workshops, professional attachments, & meetings
- Reports & publications
- Technical assistance

Key achievements

- *Completion of Tender documents for the construction of the Tonga MEIDECC building that will house NEMO and the Tonga Meteorological Services. This was in coordination with the World Bank who will fund the building construction.*
- *Two (2) staff from NEMO attended the EOPS software/PDC training in Boise.*
- *Procurement of ICT equipment for GIS mapping successfully completed (includes -1 high end Acer Desktop, 1 Laptop HP 11-y010nr, 2 Samsung galaxy tab 8).*
- *Mapping of Niuatoputapu (GIS and kobotool), introduction of cluster system, testing of communication tools, logistics survey and disaster drills completed successfully*
- *Two (2) NEMO staff attended the drone training in Thailand, which included aspects of data acquisition and processing for mapping and assessment in regard to Disaster Risk Reduction and Post Disaster Needs Assessment (PDNA).*
- *Evacuation centre training on building capacity for the district and town officers.*
- *Procurement of materials for the Nursery/ shade house for MAFFF.*
- *Conduct of Tsunami Drill for Liviela Government Primary School, Vava'u.*
- *Standard operating procedure developed for all government primary schools.*

DETAILED OUTCOMES

R1 - Effective preparedness, response and recovery

- The design of the new Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications (MEIDECC) building has been completed and passed through the World Bank's 'No Objection' process. After procurement, responsibility for construction will pass to the World Banks Pacific Resilience Programme to complete the construction.

R2 - Strengthened institutional arrangements for DRM and CCA

- By December 2018, five outer-island District Emergency Management Plans (with associated training) had been completed, with the final district plan in draft awaiting approval.
- In 2017, it was prematurely reported that the DRM legislation review and draft Strategic Framework for NEMO were finalised. In 2018, the BSRP In-country Coordinator has continued to work with the New Zealand Ministry of Civil Defence and Emergency Management-funded consultant on the legislative review. BSRP will fund a review of the regulations that sit under the legislation in early 2019 (including incorporating a cluster framework).
- The BSRP In-country Coordinator contract ended in December 2018. The Coordinator was heavily involved in supporting NEMO through the Tropical Cyclone Gita response in early 2018, and the subsequent recovery effort.

R3 - Improved knowledge, information, public awareness, training and education

- 23 teachers in Niuatoputapu participated in workshops to develop tsunami drill standard operating procedures for their schools. Over 430 of their students then in participated in tsunami drill simulations.
- BSRP investments in GIS mapping systems, drones and NEMO staff training, enabled NEMO to work with business, other government agencies and schools in Tongatapu to coordinate a large tsunami drill in Nuku'alofa with data recorded and analysed in real-time through Kobotool.
- Thirty two Town and District Officers (3% female) attended Post Disaster Needs Assessment (PDNA), immediate assessment, long-term assessment and evacuation centre management training run by the NEMO.

R4 - Improved understanding of natural hazards and the reduction of underlying risks

- Construction and repair of nursery shelters in Tongatapu and Ha'apai is progressing well – these will allow for seedling cultivation and eventual distribution increasing the distribution of plant species that improve coastal adaptation and reduce sea spray and erosion.

LOOKING AHEAD 2019

R1 - Effective preparedness, response and recovery

- Procurement of three (3) generators for Vavau, Hapaii.

SUCCESS STORY

CBDRM TRAINING - A SUCCESS

Tonga consists of five main island groups and four of these islands – 'Eua, Vava'u, Ha'apai and Niuatoputapu have established and implemented District Emergency Committee's, plans, awareness of hazards such as earthquakes, cyclones, conduct tsunami evacuation drills, logistics assessments using kobo tool and hazards mapping. These were all achieved through the well-executed planning of our BSRP officer and the support of funds from SPC. All these activities enhance local's preparedness and putting forth Tonga's capacity to increase resilience towards disaster.

In the beginning of 2017, four of our staff including the BSRP officer accompanied by a Red Cross officer headed out to the Ha'apai group. The second largest island group is comprised of sixty two scattered islands across a vast ocean. Twenty two communities have successfully established and implemented these activities. Disaster Risk Reduction was also integrated in these plans and this gave NEMO the advantage to pave the way to bringing closer relations with communities and supporting agencies such as Live & Learn, MORDI Tonga and the Ministry of Internal Affairs (Local Government). As a result these activities gave NEMO the capability to revise plans, monitor, evaluate the progress and development of emergency management. However, communities are well aware of this and are proactive to enhance its continuity.

Since the implementation of the CBDRM in 2018 it has been a continuous practice of NEMO during peace season to revisit islands such as Ha'apai to rekindle what worked and reviewed the setbacks enhancing community development to another stage of progress. The tsunami evacuation drills plays a major part of the activities as it is seen as way to bring towards the communities attention how the CDRM can be expended in many ways to ensure the stability of the people if any crisis may occur they are well preserved.

Tools used in the CBDRM such as kobo toolbox has enabled us to have a baseline in place acting as logistic support to communities plans in case of any event that may occur. Drones have helped us keep records of live events such as tsunami evacuation drills for school.

Challenges along the duration of the teams mission was more practical due to transportation and severe weather conditions.

To conclude, the CBDRM has been very successful in Tonga and NEMO has appreciatively seen it as a catalyst for community development integrating with the aims of DRR and DRM.

Net fishing in Tuvalu © SPC

TUVALU

INTRODUCTION

The Polynesian island nation of Tuvalu sits half way between Australia and Hawaii in the Pacific Ocean. Tuvalu's 10,837 people (2012 census) are spread across three islands and six atolls. The country has a total land area of 26 km^2, and the low-lying islands are highly vulnerable to cyclones and tsunamis. The area of Fogafale, on Funafuti, where nearly half of the country's population is concentrated, is on average less than 100 m wide, making it extremely susceptible to extreme conditions.

Tuvalu is one of the countries in the world most vulnerable to climate change and rising sea levels. Tuvalu's hazard risk became reality in 2015 when a storm surge hit the country, caused by one of the most intense cyclones in the southern Pacific region in recorded history. Tropical Cyclone Pam forced the declaration of a state of emergency in Tuvalu with 45% of the country's population being displaced.

Tuvalu's economy is small, fragmented and highly vulnerable to external economic influences. This has led to a heavy reliance on outside development assistance and a degree of complacency in fiscal and financial management. The economy is unusual in that a substantial amount of both government revenues and private incomes are generated from overseas. There are very little exports and semi-subsistence farming and fishing are the primary economic activities. Fewer than 1,000 tourists, on average, visit Tuvalu annually.

Tuvalu has developed a comprehensive strategic plan based upon the National Strategy for Sustainable Development 2016 - 2020, the Climate Change Policy 2012, the National Adaption Plan of Action and the National DRM Plan. These have formed the platform for the development of the Tuvalu National Strategic Plan for Climate Change and DRR 2012–2016.

DETAILED OUTCOMES

R1 - Effective preparedness, response and recovery

- 100 handheld radio sets have been sourced to assist with emergency communications throughout the country, and ICT and office equipment were procured for the Tuvalu National Coordination Centre.

PROJECT SNAPSHOT 2018

Tuvalu- Expenditure 2013-2018

Total: EUR 0.55m

Key achievements

- *Completion of construction of the Nanumea Meteorological Station.*
- *Procurement and delivery of all post TC Pam support equipment and distributed to Island Disaster Councils for use before, during and after disasters.*
- *Procurement and delivery of equipment for the newly renovated Tuvalu National Coordination centre completed.*
- *Completion of Property registration survey.*
- *BSRP In country coordinator successfully transitioned/absorbed by the Tuvalu Climate Change Policy and Disaster Coordination Unit, which means the knowledge from trainings workshops, meetings and conferences that the Coordinator attended will be retained within the CCPDCU.*
- *Training for the Police and Fire Services through a co arrangement with Australian fire services.*
- *Construction of the Carport for the mobile EOC.*
- *2018 NSC (National steering committee) successfully held on 04/11/18.*

- The Lofeagai community evacuation centre has been upgraded to have toilet and bathroom facilities.
- The Nukufetau Island relief supplies storage depot has been completed and opened in partnership with the Tuvalu Red Cross Society. It is now housing pre-positioned relief supplies for disaster preparedness.
- Outer Island consultations to improve the implementation of the National Disaster Management Act and Plan occurred, with island DRM equipment priorities being identified and subsequently procured.
- A memorandum of understanding between the Tuvaluan Police (Fire) Service and Fiji National Fire Authority was finalised under PIEMA.

R2 - Strengthened institutional arrangements for DRM and CCA

- The Tuvaluan BSRP Country Coordinator has been selected and contracted. Office equipment was procured to support the Coordinator’s role in national coordination of BSRP activities, and that of the Climate Change Policy and Disaster Coordination Unit of the Office of the Prime Minister. [AUD 35,000 budgeted].

R3 - Improved knowledge, information, public awareness, training and education

- Number/gender Island Disaster Committee members were trained on use of emergency communications equipment. This has also led to strengthened relationships between disaster management staff, IDCs and NGOs.
- BSRP and PIEMA ran a practical Pacific Civil Military Coordination workshop,and a tsunami early warning simulation exercise involving 213 participants (51% female) from 79 households.

R4 - Improved understanding of natural hazards and the reduction of underlying risks

- A replacement Meteorological Centre for Nanumea was constructed to house the observing station equipment and the Meteorological Officer.

LOOKING AHEAD 2019

R1 - Effective preparedness, response and recovery

- To complete the Nanumea MET monitoring station.
- To procurement equipment, etc., in line with outer island kaupule(council)prioritiesas determined by the current planning exercise.
- To support the formalisation of the twinning relationship between CFA and Tuvalu, and the associated emergency management support.
- Now that Australian-funded renovations to set up the National Coordination Centre and space for the national council to meet at the Police HQ are completed, BSRP will provide the office equipment, security and ICT fit-out.

SUCCESS STORY

HANDHELD'S TO ENSURE COMMUNICATION NATIONWIDE

BSRP funded handheld radio sets to ensure communication across the country, upgraded the TNCC with ICT and office equipment, the Lofeagai community evacuation centre with toilet and bathroom facilities and in partnership with Tuvalu Red Cross set up the Nukufetau Island relief supplies storage depot.

Facing the brunt of rising sea levels as one of the Pacific's low-lying nations, the people of Tuvalu know they are always in danger.

And they're ready for the worst-case scenario.

Beachhead erosion, coastal engineering, environmental mismanagement, overpopulation, deforestation, and deteriorating coral reefs acting together in conjunction with global warming have started to affect sea levels and cause damage to Tuvalu's underground water table.

The country's 30 km^2 land area of mostly coral atolls, the highest point at 4.6 metres above sea level on Niulakita was washed over by a storm surge brought on by Category 5 Tropical Cyclone Pam in 2015 made its people realise how vulnerable they are in the face of rising sea levels and intensifying tropical storms exacerbated by climate change.

About 400 people were evacuated as a result of Pam.

Prime Minister Enele Sosene Sopoaga has reiterated on the world stage that the threat of a potential disaster is always around, even on a nice day, and the need to safeguard his tiny nation and strengthen his people's resilience has never been greater.

His people are facing difficulties growing crops because of salination of the soil, steadily-growing spring and king tides have groundwater increasingly becoming undrinkable due to seawater intrusion. It is brackish and salty.

Mr Sopoaga said Tuvaluans don't want to be forced out of the atolls, continuously stressing to the world that "If you save Tuvalu, you can save the world".

As part of the Pacific Community's assistance for the country the Tuvalu National Coordination Centre (TNCC) was injected with resources to help Tuvalu's outlying communities to better prepare for natural disasters.

It received a new wave forecasting system to help predict tides and sea surges across its nine atolls.

The high-resolution modelling system and equipment will ensure the islanders are prepared in the event waves crash over the atolls again.

It also held consultations with outlying communities to improve implementation of the National Disaster Management Act and Plan and finalised a memorandum of understanding between the Tuvaluan Police (Fire) Service and Fiji National Fire Authority under PIEMA.

"Climate change alongside disaster preparedness and response is an area where we really need to strongly build our capacity as a society, to respond, when there is a lot of ongoing strong wind warnings and yeah, if there's going to be a cyclone or sea surge, we are ready.

Santo EOC used as warehouse for relief supplies

VANUATU

INTRODUCTION

Vanuatu has a population of 272,459 people (2017 census) spread across 80 inhabited islands with approximately 75% of the population based in rural settings. This broad spread of islands and population creates access difficulties particularly in response to disaster and delivery of relief and first aid to outer islands.

Vanuatu is exposed to a range of hazards due to both being surrounded by ocean and being located on the 'Pacific Ring of Fire'. In 2015, Vanuatu's disaster risk was made very clear as Tropical Cyclone Pam smashed into the country in 2015. This category 5 cyclone was the most intense to cross land in Vanuatu in recorded history and caused devastating damage. However, cyclones are only one of the hazards affecting the country. Others include floods, droughts, volcanoes, earthquakes, tsunamis and landslides. Most recently, the Ambae volcanic eruption has led to an evacuation of local communities. With climate change affecting the country, it is expected that the intensity of weather events is likely to increase in the future.

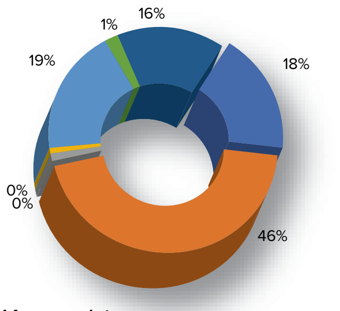
Historically, Vanuatu has demonstrated resilience to natural hazards and an ability to rebuild its subsistence economy and societies, using traditional knowledge and external disaster relief and other development assistance. However, the capacity of Vanuatu to effectively deal with the impacts of major disasters remains fragile, particularly as traditional knowledge is increasingly threatened. The possibility of achieving sustainable development, including the reduction of poverty, is recognised as being threatened due to the impact of hazards on vulnerable communities and economies.

Vanuatu was an early mover among its Pacific peers in establishing both a national action plan for DRR and disaster management, and a national adaptation programme for action on climate change. Since their instigation, recognition of the strong links between DRM and CCA has grown. This recognition has led to the creation of the Ministry of Climate Change which now includes the CCA, Meteorology, Geo-Hazards, Environment, Energy and Disaster Management. A National Advisory Board on DRR and CCA with a joint DRR and CCA national governance mandate was also established. Disaster response and preparedness arrangements continue to be led by the NDMO.

PROJECT SNAPSHOT 2018

Vanuatu Expenditure 2013-2018

Total: EUR 0.96m



- Equipment
- Facilities
- Scientific & Technical data acquisition /development
- Data, information & knowledge management
- Training, workshops, professional attachments, & meetings
- Reports & publications
- Technical assistance

Key achievements

- *Two Provincial Emergency Operation Centres for Malampa and Sanma Provinces fully completed*
- *Panama Province PEOC is 95% complete.*
- *Given the Ambae Volcanic disturbance in 2018, SPC received a formal communication from the Director General, Ministry of Climate Change, Mitigation, Ministry for Climate Change Adaptation, Meteorology, Geo-Hazards, Environment, Energy and Disaster Management that government would complete the Panama PEOC that is based in Ambae and redesignate the building as a volcanic equipment storage facility. If the Ambae Volcanic situation improves then it would be reverted to its original use as a PEOC.*

DETAILED OUTCOMES

R1 - Effective preparedness, response and recovery

- Two BSRP-funded Provincial Emergency Operations Centres (PEOC's) in Malekula (Malampa) and Santo (Sanma) together [EUR 700,000]. Each centre is built to facilitate three or more National Disaster Management Officers. They are fully equipped with the necessary technologies, standby generators, and an ability to send and receive real-time disaster information.
- The new PEOC building in Santo is now in operation as it is being used as a coordinating point for the Ambae volcanic evacuation, and for relief storage space and distribution. Over 60% of the evacuees have been relocated to Santo.
- The PEOC building that was being constructed for Ambae is 95% complete, including its main structures (roofing, walls, ceilings toilet and other fixtures including the doors and windows). It is without tiling, painting and furniture. The Vanuatu Cabinet, however, made a decision to move all government offices and services out of Ambae to the other two islands of the Penama Province due to the active volcano. They have informed SPC that they will instead be using this building as a storage facility to house the volcano and seismic monitoring systems on Ambae. In the event the situation normalises and the government directs the return of officials to Ambae, the Ministry will complete the build and operationalise the PEOC as originally intended.

R2 - Strengthened institutional arrangements for DRM and CCA

- The consultant working on the development of the Fire Act sadly passed away in early 2017. At that time, the Bill, associated regulations, monitoring and enforcement mechanisms and a draft Cabinet paper had all been finalised and reviewed ready for consideration by Cabinet. These documents had been handed over to the NDMO to be progressed. Since this time, however, there have been changes in the Director role at the NDMO. With the loss of the key instigators of this work, BSRP will support the government and the new NDMO Director in 2018 to make any required changes and have the Act and regulations endorsed by Cabinet.

R3 - Improved knowledge, information, public awareness, training and education

- The private sector Disaster Ready toolkit discussion held with NDMO Vanuatu and other key stakeholders such as Digicel.

LOOKING AHEAD 2019

R4 - Improved understanding of natural hazards and the reduction of underlying risks

- Since the new drill rig has been procured, 33 bore holes completed in 2017. A similar number would also be completed in 2018 although information is not forthcoming.

SUCCESS STORY

VANUATU PEOCS: LIFELINE IN THE FLIGHT FOR LIFE

The two new Provincial Emergency Operations Centres (PEOC) in Sanma and Malampa in Vanuatu have given people there a new lease of life in times of disaster.

After they were opened by Prime Minister Charlot Salway Tabimasmas in July 2017, they have been the lifeline for the displaced populace of Ambae who fled the volcanic eruptions that have covered the island in a blanket of ash in the past year and the earthquake that struck Ambrym Island

The two centres have been a flurry of activity as they dealt with the logistical and other needs of the fleeing islanders who were ordered to leave their homes and evacuated.

From organising their rescue from villages around Ambae Island to ensuring their safe transportation across the sea to their temporary shelters on Santo Island, the two centres have been kept fully engaged.

The Samna PEOC has been the focal point of operations for Ambae. where Monaro Voui, an active volcano, sent plumes of thick smoke and ash into the air over the past 12 months, prompting a full evacuation.

Residents returned a month later when the activity settled but the authorities ordered another mandatory evacuation when monitoring revealed the chance.

Since 2015 when Cyclone Pam ravaged the country, Vanuatu has been fluctuating between recovery and response and the timely opening of the two PEOCs by Vanuatu Prime Minister Charlot Tabimasmas brought relief on the country's fragile disaster response mechanism.

Funded by the EU through the Building Safety and Resilience in the Pacific (BSRP) Project, with a total cost of €700,000, each centre is built to facilitate three or more National Disaster Management Officers and is fully equipped with the necessary technologies and ability to send and receive real-time disaster information.

They provided solutions to problems in the NDMO machinery exposed by Tropical Cyclone Pam.

In its Post Disaster Needs Assessment (PDNA) after Pam, the NDMO found that communication and information flow between the national response coordination agencies needed significant improvement, which resulted in the misdirection of vital relief supplies for affected communities, delaying their recovery.

In its effort to address this, the Vanuatu government began to decentralise its disaster management capacity to bring it in line with its five-year plan to improve national disaster coordination.

Stressing this at the official opening of the Malampa emergency provincial operations centre, the Prime Minister stated: "Our number one priority during a disaster is to ensure that everyone is safe, and the Provincial Emergency Operations Centres (PEOCs) will improve communications lines between the national and provincial officers and assist our decision makers in determining how to best respond to emergencies. Establishing these PEOC's in targeted provinces like Malampa and Sanma will significantly support NDMO Officers in implementing provincial disaster plans within communities in each province."

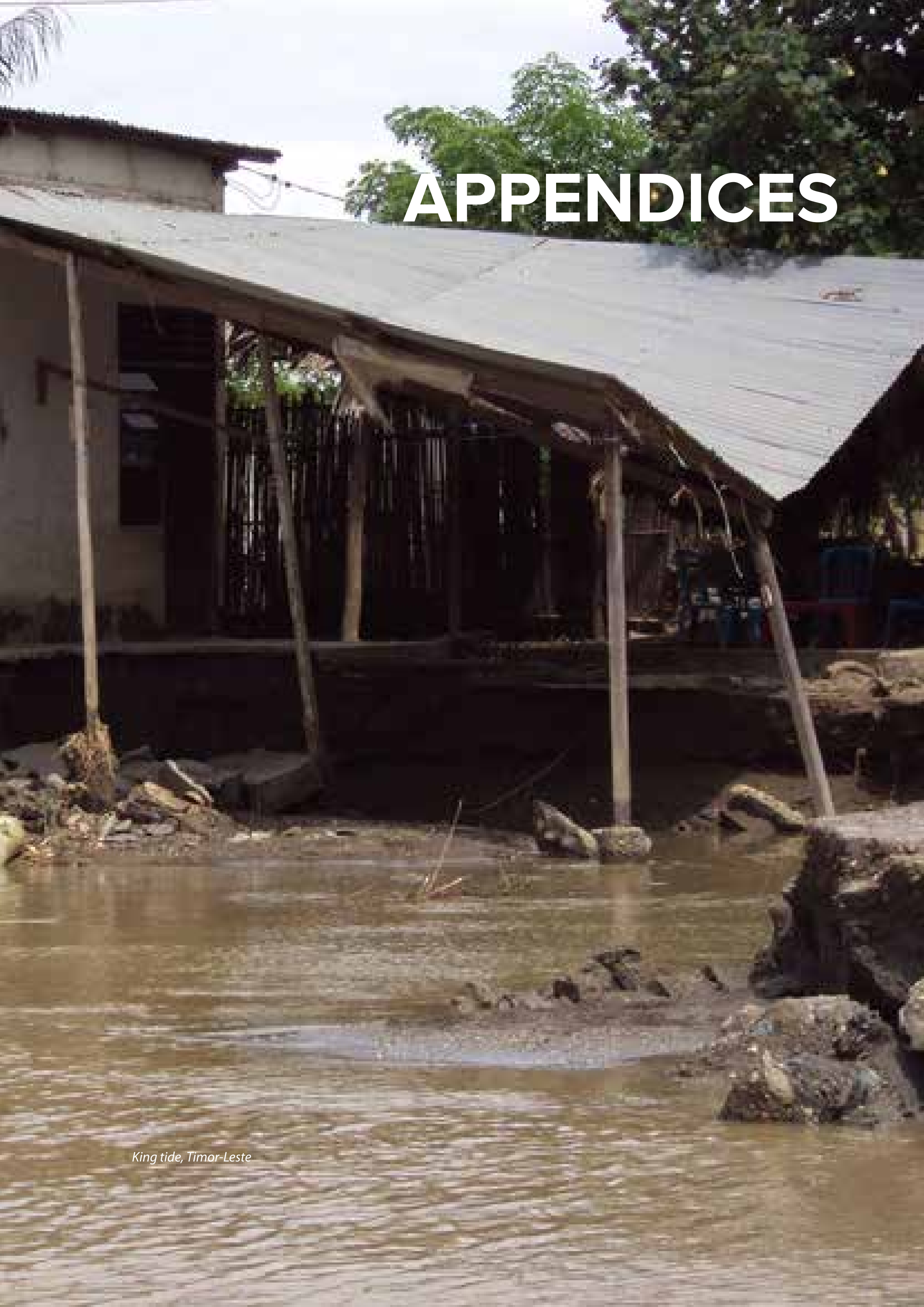
The two PEOCs lived true to that.

The Sanma PEOC coordinated the relocation of more than 9000 evacuees who were shipped to Santo and were looked after there.From registration of evacuees, coordination of goods and services, storage of relief supplies, the centre was on standby 24 hours.

Since December, residents of Ambae began trickling back after the state of emergency was lifted. About 50 per cent remain on Santo and the government continues to provide assistance through the PEOC in Sanma.When a major earthquake in January 2019 caused major landslides and other damage on Ambrym Island, the Malampa PEOC went into operation to coordinate the disaster relief and relocation of affected communities on the island.

Coordinating operations with the assistance of NDMO head office in Port Vila, they addressed the needs of the people and ensured their safety and ability to return their lives to normality.

APPENDICES



King tide, Timor-Leste

WE, the representatives of National Disaster Management Offices from the Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Nauru, Niue, Marshall Islands, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu and Timor Leste; alongside the Country Coordinators for BSRP, European Union, and the Pacific Community attended the EDF-10 ACP EU Building Safety and Resilience in the Pacific project 5th Annual Regional Steering Committee.

EXPRESSED appreciation for the ongoing support from the EU and GIZ in supporting resilience building in the Pacific

RECOGNISE the challenges encountered and achievements made across the beneficiary states and the efforts to establish sustainability plans for ongoing and completed activities, including absorption of BSRP contracted positions into Government positions and sustainability plans for maintenance of equipment of infrastructure.

RECOGNISE the importance of BSRP strategic **communications and project visibility** and the work done by the BSRP communications team in producing awareness and education materials, training tools and coordinating DRM campaigns as well as the key visibility activities and achievements in 2018.

ACKNOWLEDGE the **BSRP financial report** presented, and potential need for further reallocations once country underspend under the grant agreements is known in early 2019.

ENDORSE the interim reallocation and **contingency request** to be formally submitted to the EU.

ENDORSE the **alternative reallocation request** if a request to the EU for contingency is denied.

RECOGNISE the cumulative results achieved by the BSRP project across the region and the impact of the multi-pronged approach to resilience building that the BSRP has aimed to achieve from project implementation to date.

ENDORSE the process outlined on the **closure of the MOA** and post MOA plans, and **REQUEST** that SPC formally notify National Steering Committees of the agreed process.

ENDORSE SPC negotiating a **no-cost extension** with the EU (including reallocation of surplus funds to the PMU) if unforeseen circumstances require such an extension beyond 6 October 2019.

ACKNOWLEDGED the six (6) **concept notes** prepared by SPC for implementation of regional initiatives that will benefit all countries and for developing an exit strategy for the BSRP EDF 10 and early planning for the proposed EDF 11. This is in agreement with the 2017 RSC decision to utilise unspent funds at the regional level.

RECOMMEND that SPC have further out of session discussions with the NDMO Directors to finalise regional concepts by 15 October 2018 and aligned with anticipated available funding to provide a basis for utilising reallocated unspent funds.

COMMEND the efforts of the BSRP Project Management Unit and the commitment of the fifteen participating countries in achieving the results thus far;

ACKNOWLEDGE the excellent work of the chair, Mr Leveni ‘Aho in moderating the 5th BSRP Regional Steering Committee meeting.

STATEMENT OF EXPENDITURE AND COMMITMENTS BY COUNTRY

Budget Lines	T6'S	Actual Expenditure							
		Equipment	Facilities	Scientific & Technical data acquisition/ development	Data, information & knowledge management	Training, workshops, professional attachments & meetings	Reports & Publications	Technical assistance	Total
Operational Costs and Administration									
Cook Islands	GD-RT-14-01	15,578	149,098	1,742	13,289	222,368	26,243	141,437	569,755
RMI	GD-RT-14-02	294,354	22	-	3,543	112,036	12,189	176,259	598,403
Palau	GD-RT-14-03	60,920	158,815	6,192	-	271,239	10,825	114,455	622,446
Kiribati	GD-RT-14-04	106,250	108,001	9,197	11,869	215,134	14,434	66,499	531,384
Tuvalu	GD-RT-14-05	108,445	136,846	1,320	13,616	246,252	264	39,020	545,762
Niue	GD-RT-14-06	151,118	297,990	-	1,666	53,351	7,621	25,522	537,268
Nauru	GD-RT-14-07	563	54,389	359	-	59,270	9,093	13,258	136,931
Fiji	GD-RT-14-08	243,539	578,432	53,278	6,890	388,252	17,638	152,920	1,440,949
PNG	GD-RT-14-09	19,162	54,139	83,908	142,015	377,010	53,608	215,038	944,880
FSM	GD-RT-14-10	112,959	72,658	16,005	86,759	804,468	11,713	224,127	1,328,689
Solomon Islands	GD-RT-14-11	134,554	461,755	78,009	4,447	208,332	649	77,210	964,957
Tonga	GD-RT-14-12	90,616	282,278	41,194	29,559	359,049	516	81,231	884,442
Samoa	GD-RT-14-13	73,673	375,495	9,470	141,248	164,126	26,223	139,590	929,824
Vanuatu	GD-RT-14-14	231,320	602,984	2,737	5,555	246,503	8,275	216,327	1,313,701
Timor Leste	GD-RT-14-15	343,789	400,048	2,217	10,826	207,215	944	176,450	1,141,490
TOTAL		**1,986,838**	**3,732,948**	**305,629**	**471,282**	**3,934,605**	**200,233**	**1,859,345**	**12,490,880**

Budget notes

1. The financial report presented is in accordance with the books and records of SPC that have not been subjected to the auditing procedures. The financial report is to be used only for the sole purpose of this report. SPC will not take any responsibility arising if the data is relied upon for any other purposes.

2. Expenditure across the project implementation period has been reviewed to ensure country and EU budget line tags are consistent and appropriate. This has led to some re-tagging of previous expenditure to ensure consistency across country-level and budget-line reporting.

3. Some posting errors had been rectified from previous years, which are correctly reflected in the 2018 accounts.

4. The review of expenditure revealed some under accruals which have been manually adjusted to reflect in the 2018 accounts.

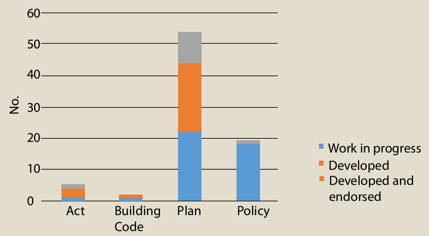
STATEMENT OF INCOME AND EXPENDITURE

INCOME	Budget	2013	2014	2015	2016	2017	2018	Total Income	% covered by actual expenditures	Balance Remaining
Opening Balance B/F		-	4,992,272	3,692,233	8,470,565	3,754,898	6,907,209			
Funds received - EU	19,367,000	4,892,725	-	6,966,934	-	5,748,860	-	17,608,519	360%	1,758,481
Funds received - GIZ	200,000	-	-	-	-	99,975	99,975	199,950	50%	50
Other income	-	-	21,601	8,738	13,299	4,931	-	48,568		
FOREX diff.	-	120,590	(321,951)	(7,165)	(12,431)	(5,876)	19,247	(207,585)		
Total income	19,567,000	5,013,315	4,691,922	10,660,740	8,471,432	9,602,788	7,026,431	17,649,452	90%	1,758,531
EXPENDITURES	Budget	2013	2014	2015	2016	2017	2018	Total Spend	% budget	Balance
Project Management Unit										
Senior Advisor/ Project Manager	520,785	-	60,318	82,128	89,220	89,715	97,464	418,845	80%	101,940
Advisor, Deputy Project Manager (B11)	315,027	-	56,325	64,298	54,519	42,452	48,359	265,954	84%	49,074
Advisor	442,741	-	84,103	85,205	84,798	66,827	61,584	382,517	86%	60,224
Advisor	270,007	-	47,403	57,950	60,774	61,739	16,072	243,938	90%	26,069
Advisor	323,105	-	44,202	54,200	55,663	60,600	54,540	269,204	83%	53,900
Admin Assist.	59,312	66	9,450	12,798	12,608	11,391	765	47,077	79%	12,235
Media & Comms Officer	160,651	-	3,164	23,406	52,733	51,141	22,207	152,651	95%	8,000
Finance officer	52,025	-	-	-	10,276	10,090	16,307	36,673	70%	15,351
Admin Assist.	17,184	-	-	-	-	17,476	(292)	17,184	100%	0
2 Short-term staffs	84,163	-	-	82	6,947	25,775	24,210	57,015	68%	27,148
	2,245,000	66	304,966	380,068	427,537	437,206	341,216	1,891,058	84%	353,942
Operational Costs and Administration										
Facilities	11,500	-	1,952	2,669	5,668	872	-	11,162	97%	338
Equipment	38,000	-	18,272	12,206	5,192	251	3,376	39,297	103%	(1,297)
Publications	10,000	171	2,660	843	3,256	463	1,313	8,707	87%	1,293
Consumables	4,000	7	1,165	42	849	456	744	3,262	82%	738
Stationery	12,000	-	1,585	2,073	898	3,489	1,793	9,837	82%	2,163
Miscellaneous	18,000	49	426	5,208	3,428	5,335	498	14,944	83%	3,056
	93,500	226	26,060	23,042	19,291	10,867	7,724	87,210	93%	6,290
Total PMU	**2,338,500**	**293**	**331,026**	**403,109**	**446,828**	**448,073**	**348,940**	**1,978,268**	**85%**	**360,232**
Implementation of National Activities (NA)										
Equipment	1,700,000	-	1,029	400,336	673,096	141,169	771,207	1,986,838	117%	(286,838)
Facilities	4,865,000	-	-	47,790	1,064,935	546,473	2,073,751	3,732,949	77%	1,132,051.24
Scientific/tech data acquisition/ development	400,000	-	6,465	33,717	165,823	1,320	98,303	305,629	76%	94,371
Data, information and knowledge mgmt	500,000	-	10	30,098	240,637	34,562	165,976	471,282	94%	28,718
Training, workshops, professional attachments & meetings	4,380,000	9,669	244,842	625,354	1,177,623	848,741	1,028,376	3,934,606	90%	445,394.48
Reports/publications	225,000	-	1,310	55,165	56,143	44,712	42,903	200,233	89%	24,767
Technical assistance	2,530,000	-	55,836	325,705	382,082	330,472	765,248	1,859,344	73%	670,655.83
	14,600,000	9,669	309,493	1,518,166	3,760,339	1,947,450	4,945,764	12,490,880	86%	2,109,120
Implementation of Regional Activities (RA)										
Data, Information and Knowledge mgmt	40,000	-	11,462	-	-	-	-	11,462	29%	28,538
Training, workshops, attachments/meetings	700,000	5,801	144,938	89,040	83,277	38,955	26,281	388,291	55%	311,709
Reports/publications	25,000	635	8,709	3,124	871	-	1,115	14,454	58%	10,546
Technical assistance	316,500	3,270	112,133	16,580	49,315	3,435	156	184,889	58%	131,611
	1,081,500	9,705	277,241	108,744	133,463	42,390	27,553	599,096	55%	482,404
*Project Travel	420,000	-	46,093	75,494	109,854	51,345	38,682	321,467	77%	98,533
	420,000	-	46,093	75,494	109,854	51,345	38,682	321,467	77%	98,533
Comms & Visibility	280,000	-	16,529	16,874	67,346	86,050	38,081	224,879	80%	55,121
	280,000	-	16,529	16,874	67,346	86,050	38,081	224,879	80%	55,121
Total Implementation Activities	15,961,500	19,374	603,263	1,643,783	3,961,148	2,075,890	5,011,398	13,314,856	83%	2,646,644
Subtotal I: Total Direct Costs	18,300,000	19,667	934,289	2,046,893	4,407,976	2,523,962	5,360,338	15,293,124	84%	3,006,876
Subtotal II: In-direct Costs (7% of Direct Costs)	1,267,000	1,376.67	65,400.23	143,282.48	308,558.29	171,616.82	366,483.78	1,056,718	83%	210,281.72
Total Expenditures	19,567,000	21,043	999,689	2,190,175	4,716,534	2,695,579	5,726,657	16,349,678	84%	3,217,322
Surplus of funds before commitments										

*These figures represent associated travel cost of the NA+RA. They illustrate Project Staff travel costs (flights, boat travel and visas/departure tax) within the NA and RA budgets.

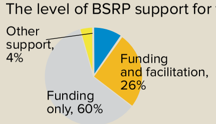
ANNEX 3 – LOGIC FRAMEWORK (AS AT 31 DECEMBER 2018)

KRA	Indicator	Baseline	Target	Cumulative Results to Dec 2018	Evidence of change as at Dec 2017
Overall objective	To reduce the vulnerability as well as the social, economic and environmental costs of disasters caused by natural hazards, thereby achieving regional and national sustainable development and national sustainable development and poverty reduction goals in ACP PICTs	2013 WRI Vulnerability scores: - Cook Islands – not available including Fiji, FSM, Nauru, Niue, Kiribati, Palau, PNG, RMI, Samoa, Solomon Islands, Tonga, Timor Leste, Tuvalu and Vanuatu Average score:	Overall lower consolidated vulnerability score for the 15 PICTS at the end of the Project	2013 WRI Vulnerability scores: - Cook Islands, Fiji, FSM, Nauru, Niue, Kiribati, Palau, PNG, RMI, Samoa, Solomon Islands, Tonga, Timor Leste, Tuvalu and Vanuatu	WRI data yet to be published for BSRP to measure progress for the 15 countries.
KRA 1: Effective preparedness for response and recovery	1.1 No. of PICs EWS and emergency communications systems (ECS) strengthened through upgraded equipment.	ECS/EWS equipment and maintenance required to ensure system has high resilience and coverage (including to outer islands and across emergency services) - Cook Islands, FSM, Kiribati, Niue, Palau, PNG, Samoa, Tonga, Tuvalu. Extensive investment in new EWS systems required in Fiji and Timor Leste.	1.1.1 **At least 3 countries have EWS/ECS strengthened** or expanded (Fiji, Tonga, PNG) Upgrades include, but are not limited to: improved power sources, VHF repeaters, and increased number of handsets for emergency responders. 1.1.2 **At least 1 county has a new system** design and installed (Timor Leste).	1.1.1 *Target exceeded* - emergency communications improved/improving in **10 countries:** - Completed: Cook Islands, FSM, Kiribati, Niue, Palau, PNG, Samoa, Tuvalu - Underway: Solomon Islands, Tonga) with strengthened EWS/ECS systems (including some outer islands). 1.1.2 *Target exceeded* - **2 countries** (Timor Leste and Fiji) have new systems installed in their capitals Dili and Suva.	ECS/EWS infrastructure and equipment were prioritised in BSRP. This is in line with priorities identified in the SIDs Accelerated Modalities of Action (SAMOA) Pathway. Technical training is being provided alongside the introduction of the systems.Tsunami signage and simulation exercises has also aided with public awareness where appropriate. Where EWS systems are designed, siren placement has taken into account the level of vulnerability of the local population, and needs of those with hearing impairment. The two new EWS systems in Timor Leste and Fiji together benefit populations of at least 316,411, as well as tourists and business patrons – they will expected to reduce loss of life and injury in a tsunami event.In Suva, there is anecdotal and observable evidence that with the installation of the sirens and the repeat drills the mindset of the Suva population is changing, with much greater awareness of the tsunami risks and what to do in such an event.
	1.2 No. of PICTs that have fit-for-purpose DRM facilities	Many PICTs do not have a purpose-built fit-for-purpose EOC – 11 have only meeting rooms and some EOCs are in a state of disrepair (e.g. Solomon Islands). EOCs in PICTs such as Palau lacked proper equipment. These factors negatively impacts the effectiveness and speed of responses. Equipped and flexible coordination facilities are required closer to the sites of disaster events. For example, in Fiji and Vanuatu, there is a need for new/refurbished EOCs at district/provincial level. For other PICTs, coordination can be improved through Mobile EOCs. For PICTs such as Timor Leste, remote and vulnerable communities have no access to suitable evacuation centres. In the Cook Islands, many schools, etc. used for evacuations not considered safe and fit for safety shelters; and use of schools delays them reopening.	1.2.1 **At least 4 PICTs have fit-for-purpose EOCs** through support for design, retrofit and/or construction (Fiji, PNG, Vanuatu, Samoa) 1.2.2 **Two (2) Evacuation Centres** renovated or constructed for cyclone (Timor Leste) 1.2.3 **At least 2 PICTs** benefit from improvements to **meteorological offices** (Tonga, Kiribati) *Gender and the needs of vulnerable groups to be considered in all designs.*	1.2.1 *Target exceeded* – work to construct/retrofit EOCs in **13 PICTs** underway. - Cook Islands (designed NEOC; retrofit 3 EOCs); Fiji (9 EOC refurbishment completed, 1 NEOC refurbishment underway); FSM (2 refurbishment completed, 1 underway); Kiribati (NEOC designed/construction underway); Nauru (designed); Niue (designed/construction underway); Palau (refurbishment completed); PNG (NEOC land secured; design tendering); Solomon Islands (NEOC designed);Timor Leste (refurbishment completed); Tonga (MEIDECC/NEOC designed); Tuvalu (fit out complete); Vanuatu (3 EOCs designed/constructed). 1.2.2 *Target exceeded* - **Two (2) evacuation centres** constructed for Timor-Leste, and **3 village/district level emergency shelters** retrofitted in Cook Islands. 1.2.3 *Target exceeded* – **MET Offices built/upgraded in 3 PICTs** (Kiribati, Tonga, Tuvalu). *In addition:* - **1 Fijian community relocated** due to severe disaster risk with rebuilding of community including disaster resilient evacuation centre to withstand category 5 cyclones. - **1 SAR building** designed/under construction (Samoa). - 3 **Pre-positioned supply storage facilities** constructed (Tuvalu).	EOCs and evacuation centres are established to serve a wide community. Those constructed, refurbished or upgraded as at December 2018 will benefit cumulative community populations of over **3.5 million people.** This risk-informed infrastructure - MET offices, EOCs (fixed and mobile), evacuation centres pre-positioned supply storage facilities –is already improving hazard monitoring and response coordination before, during and after disasters. For example, the Santo Provincial EOC has been activated to address the needs of relocated populations from the volcano on Ambae. Gender and the needs of vulnerable groups have been identified as key considerations in designs. For example, gendered bathrooms and sleeping quarters, and through wheelchair accessibility. Only in a post-disaster setting will it be possible to evaluate the impact of these design considerations. After identifying that additional support was required in EOC training and operations in the 2017 report, a regional train-the-trainer model for EOC operations has been planned for rolled out in 2019.
	1.3 No. of hazard specific national response plans and strategies	Fiji, Marshalls and Vanuatu have Tsunami Plans.	1.3.1 **At least 2 PICTs develop response plans** for hazards to which they are highly exposed (FSM, Palau).	1.3.1 *Target will be exceeded* **8 PICTs** have already, or are in the process of developing hazard-based plans. These include developing/updating a: - Fire Reduction Strategy – Samoa - Tsunami plan - Fiji, FSM, Nauru(awaiting formal Cabinet endorsement), Palau, RMI, plus tsunami evacuation standard operating procedures for 85 schools in Tonga - Oil spill plan – Kiribati(awaiting formal Cabinet endorsement) *In addition:* - Post-disaster lessons learned and plans have been developed at national level in 3 PICTs (Fiji, Solomon Islands, Tuvalu), and outer-islands (Tuvalu) - 5 District Response Plans have been developed for outer islands in Tonga, and BSRP contributed to the integration of response planning into 126 community-level plans.	The participatory nature of the plan and policy development has helped ensure local ownership of the processes/plans. BSRP is, however, providing capacity development alongside the plan development to ensure the local capacities exist to implement the plans.Tsunami drills and other actions taken provide evidence that these plans are now being implemented. Community level plans provided detail actions that people are putting into action e.g. drainage clearance, tree pruning etc.
	1.4 No. of PICTs that have improved preparedness and response systems as a result of equipment support/ upgrades and required goods and services.	All PICTs face logistical challenges in terms of providing support to people living in remote areas who are affected by hazards. Very few NDMOs and Emergency Services have access to appropriate resources to carry out preparedness and response throughout their areas of jurisdiction Health and Safety of first responders is not currently supported by access to appropriate equipment. For example, Kiribati and Tuvalu do not have firetrucks; and FSMs fuel terminals are exposed to the risk of storm surges and tsunamis that could disconnect the fuel supply.	1.4.1 **At least 3 PICTS** are supported to receive upgraded **fire trucks and safety equipment** (FSM, Timor Leste, Vanuatu). 1.4.2 **At least 10 vehicles** (boats/trucks/ heavy load vehicles) procured to support preparedness, response and emergency operations. 1.4.3 **At least 3 national workshops and/or simulation exercises** supported to improve response, coordination and conduct of post disaster needs assessment (Fiji, Solomon Islands, Vanuatu).	1.4.1 *Target exceeded* Increased emergency response in **8 PICTs** (Fiji, FSM, Kiribati, Nauru, Niue, Samoa, Tuvalu, Vanuatu) **with upgraded firetrucks and emergency management response equipment** (combined with training) 1.4.2 *Target exceeded* **23 vehicles** (boats/trucks/heavy load vehicles/Mobile EOCs) procured for **8 PICTs** (Fiji, FSM, Kiribati, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu) to strengthened coordination and emergency response. 1.4.3 *Target exceeded* **169 workshops and/or simulation exercises** held or supported across 15 countries at national, sub-national and community levels to improve response, coordination and conduct post-disaster needs assessment (Cook Islands, Fiji, FSM, Kiribati, Nauru, Niue, Palau, PNG, RMI, Samoa, Solomon Islands, Timor Leste, Tonga, Tuvalu, Vanuatu). Involved over 2,000 participants. This includes a number of tsunami simulation exercises.	PICTs report an improved ability to respond to fires and other emergencies due to access to equipment and practice from simulation exercises. A 2017 video demonstrating the impact of the fire trucks and training in Vanuatu is available at: https://youtu.be/Qfs_6hoEbjs. A 2018 video of the impact of the fire truck and training in Kiribati is available at: https://youtu.be/dvyPkHirWqY The purchase of vehicles and boats allows for NDMO personnel to increase access to more remote populations both during preparedness activities and in disaster events. Simulation exercise participants report increased confidence in undertaking their roles. These exercises have also allowed areas for improvement to be identified. Diverse stakeholder participation in workshops has increased the interoperability between agencies, and ensured that preparedness work takes into account the needs of more vulnerability populations. A video on the lessons learned from Tropical Cyclone Winston drawn from the workshop is available at:https://youtu.be/YqwjzxRDd6I

	1.5 No. of PICs with mechanisms in place for coordination and inter-operability of emergency services.	Arrangements between PICT emergency response agencies and AFAC twinning partners are only formalised in 1 PICT (PNG). In-country emergency responders are not well coordinated across agencies and systems are not mutually compatible in most PICTs.	1.5.1 **At least 10 PICTs have a MoU signed with Australia and New Zealand** Fire and Emergency Services on coordination, interoperability and provision of equipment and capacity building support. 1.5.2 **At least 3 PICTs** are **supported to review in-country arrangements** for emergency response agencies to work effectively together and develop plans/systems to improve this capacity.	1.5.1 *Target exceeded* **11 Twinning Partnerships** were finalised and activated (Cook Islands, Fiji, Kiribati, Niue, PNG, Samoa, Solomon Islands, Timor Leste, Tonga, Vanuatu) prior to PIEMA moving to be an independent project. 1.5.2 *Target met* **2 PICTs** (Niue, Cook Islands) have completed its Strategic Roadmap for Emergency Management (SREM) and Action Plan. **1 PICT** (Kiribati) finalised its SREM and Action Plan in 2018, but this awaits Cabinet endorsement.	The twinning relationships established have proven to be a useful conduit for technical advisory support as well as knowledge and equipment transfer (as evidenced under other indicators). The multi-agency approach is encouraging increased coordination and interoperability. The process of developing the SREMs and Action Plans has in itself seen increasing coordination between the emergency management agencies in the PICTs involved. The now independent PIEMA project will invest in developing the remainder of the SREMs for PICTs.
	1.6 National interventions to support access to safe drinking water in response to drought and during emergencies	Many households in drought prone areas do not have rainwater catchments making them particularly susceptible during periods of low rainfall such as those triggered by El Niño events. Four countries in particular, identified access to safe and clean drinking water during emergencies as an issue – Fiji, Palau, RMI and Vanuatu.	1.6.1 **At least 400 water tanks** to be procured, delivered and installed to store water for households affected by droughts	1.6.1 *Target will be exceeded* **512 water tanks**[16] installed in households and schools (Fiji, Palau, RMI). *In addition:* - **31 boreholes** drilled in Vanuatu in 2017 with new drill rig - **33 boreholes in 2018** (28 drill sites Santo island 2018; 5 drill sites Ambae island 2018)	Increased resilience to drought and access to safe and clean drinking water supported for four PICTs (Fiji, Palau, RMI and Vanuatu), with an increased water storage.
KRA 2: Strengthened institutional arrangements for DRM / CCA	2.1 No. of PICTs that have reviewed and updated National Acts and Plans to comprehensively manage risk.	Countries have DRM Acts and Plans however required urgent review to take on issues and developments realised in recent years relating to DRM/CCA integration. Only three countries have building codes that govern construction of new buildings.	2.1.1 **At least 5 PICTs'DRM Act and Plan** to be **reviewed** and updated. 2.1.2 **At least 1 PICT** to develop minimum **building standards**	2.1.1 *Target will be exceeded* With contributions from BSRP: - The DRM Act: in **1 PICT** (Nauru) has been developed and passed into legislation; in **1 PICT** has been developed (Samoa), and in **1 PICT** (Fiji) is under review. - **10 DRM or Joint Action Plans** at National or State level in **5 PICTs** (Cook Islands, FSM, Nauru, RMI, Samoa) have been developed and endorsed. **20 DRM or Joint Action Plans or Frameworks** at National, State or community level in **4 PICTs** (FSM, Palau, Solomon Islands, Tonga)have been developed, with **1 plan** in **1 PICT** (Fiji) under development. *In addition:* - **Health Quarantine Act** reviewed in **1 PICT** (Kiribati) - **Fire and Emergency Services Bill** developed in **1 PICT** (Vanuatu) - A **SREM Action Plan** has been developed and endorsed in 1 PICT (Niue), and is under development in **4 PICTs** (Cook Islands, Kiribati,Samoa, Vanuatu) - A **National Fire Reduction Strategy** has been developed and endorsed in **1 PICT** (Samoa) - A **Fire and Emergency Services Policy** has been initiated in **1 PICT** (Cook Islands) 2.1.2 *Target will be exceeded* **2 PICTs** (Cook Islands, Niue) have developed minimum **building standards** (endorsement pending).	 The participatory processes used in developing the Acts, Plans, Standards, Frameworks and Policies contribute greatly to interagency/stakeholder dialogue, understanding and awareness of issues related to DRM and CCA. The revised Acts, Plans, Standards, Frameworks and Policies incorporate locally-adapted best practice to create an enabling environment for DRM and CCA. Implementation takes time and resources – the full impact of these Acts, Plans, Standards, Frameworks and Policies is unlikely to be observed during the BSRP implementation period. Monitoring on implementation progress, however, will occur in 2018/19. The participatory process of developing the building standards also has an educational function. The standards in both countries will be approved Once the standards are improve, there will be insufficient time within the BSRP implementation period to observe the impact. However, monitoring on awareness of the standards will occur in 2019.
	2.2 No. of PICTs that have reviewed and updated their planning tools and governance structures at national and/or sub-national levels	All PICTs have identified through Hyogo Framework For Action (HFA) reviews and support for FRDP, the need to integrate DRM/CCA efforts and mainstream this integrated approach across sectors and require support to do this. All PICTs recognise the need to increase sub-national and community level DRM capacity.	2.2.1 **At least 5 PICTs** supported to develop **planning tools** that enable multi-sector, integrated DRR/CCA initiatives (JNAP, sector mainstreaming, updated plans/policies of 'other sectors' to include DRR/CCA).	2.2.1 *Target will be exceeded* A **CBDRR Toolkit** was developed/approved for **1 PICT** (Palau); a generic **Risk Mainstreaming Guideline** for 14 sectors was developed/approved for **1 PICT** (Samoa); and Guides to assist with **Communications and Visibility planning** have been developed for all **15 PICTs.** *In addition:* - **In 1 PICT** (Fiji) BSRP supported a **review of DRM courses** to identify relevant courses and determine how to best engage with existing resource personnel.	The CBDRR toolkit is being used to roll out a programme of CBDRR planning across Palau.

This is a significant under-estimation as data on number of participants was not always collected. Actual gender disaggregated numbers pending receipt and analysis of a number of detailed reports.

Note correction from 2017 report on number of water tanks, although capacity calculations in 'Evidence of change' column are correct.

	2.3 No. of PICTs supported with human resources for disaster risk reduction	All countries are burdened by limited human resources to oversee and implement at a large number of DRR/CCA activities	2.3.1 **Sub-national** (community/island/ provincial/district) **institutions** with key roles in managing risk are strengthened in at least **3 PICTs** through creation of dialogue and capacity building at these levels. 2.3.2 At least **2 PICTs supported to developed CBDRM frameworks** 2.3.3 **At least 10 positions** and salaries paid to support NDMO to implement the BSRP project at national and community levels and/or perform critical roles that will support more effective risk management	2.3.1 *Target will be exceeded* Sub-national institutions have been strengthened in **2 PICTs** (20 CBDRR committees in Solomon Islands; 5 outer-island DRM committees in Kiribati, with a further 8 to be established).CBDRM training and planning to be completed in **2 PICTs** (Tonga, Palau) will also strengthen sub-national institutions. 2.3.2 *Target will be exceeded* **3 PICTs** (Palau, Kiribati, Tonga) have been supported to developed CBDRM frameworks in different forms. 2.3.3*Target exceeded* **17 in-country positions** in paid to support implementation, including EOC Directors/Managers, coordinators, engineers/construction supervisors, a Data and Information Manager and Geoportal Officer. - **60% held by women.** - Spanned **11 PICTs** (Cook Islands, Fiji, FSM, Kiribati, PNG, RMI, Solomon Islands, Timor Leste, Tonga, Tuvalu, Vanuatu).	Training and capacity development has included embedding DRM into community disaster plans.Monitoring of implementationof those plans is planned for 2019. The CBDRR framework for Palau took the form of a toolkit launched in 2017, and being rolled out in 2018. In Kiribati, a sub-national DRM framework is paving the way for increased coordination and capacity building with outer islands. In Tonga, a CBDRM and partnerships gap analysis has guided CBDRM activities now being undertaken. While increases in disaster awareness and consistency/clarity on CBDRM processes and tools should be evident by 2019, community-level results areunlikely to be seen during the BSRP implementation period Implementation of a project of this magnitude would not have been possible without the work of the local Coordinators operating alongside NDMO colleagues. These roles were key to: maintaining momentum, engaging with stakeholders, dealing with procurement, contracting and financial issues; as well as local monitoring. The effectiveness of establishing the EOC Director/Manager roles in RMI, will see these roles (or similar) transition into a permanent government-funded roles in 2018.
KRA 3: Improved knowledge, information, public awareness, training and education	3.1 No. PICTs supported to include DRM and CCA in formal, community and private sector education	5 countries have integrated DRR in the national educational curriculum to date (Nauru, Palau, Samoa, Tonga, Vanuatu). Only 3 of these include DRR at a tertiary level. CBDRM is not reflective in the region.	3.1.1 **At least 1 additional PICT** integrated DRM into **school curriculum** (Kiribati). 3.1.2 **At least 1 PICT** developed a teacher's resource kit (Cook Islands). 3.1.3 **At least 1 additional PICT** supported to deliver **tertiary DRM courses** (PNG). 3.1.4 At least **3 PICTs** supported with logistics, per diems, printing, equipment, to carry out **CBDRR training** activities (Cook Islands, Palau, Solomon Islands, Tuvalu)	3.1.1 T*arget met* **1 PICTs** (Cook Islands) has integrated DRM into their school curriculum. *In addition:* - BSRP funded introductory workshops for the development of Provincial Education in Emergencies (EiE) policy and integration into schools across PNG in partnership with Ministry of Education. 3.1.2 *Target will be exceeded* **1 PICT** developed a **teacher's resource kit** (Cook Islands) and in 2018 will provide training on its use. **1 PICT** (Samoa) is also in the process of developing a Teachers' Resource Guide for the integration of DRM into early childhood education. 3.1.3 *Target will be met* **1 PICT** (PNG) is developing **2 tertiary courses** (Comprehensive Hazard and Risk Management (CHARM), DRM) for delivery by the University of PNG from 2019. *In addition:* - a disaster-ready toolkit has been developed with the private sector to increase resilience and leverage partnerships for businesses in the Pacific region. 3.1.4 *Target will be exceeded* CBDRR/M-type training and activities are being supported in **10 PICTS** (Cook Islands, FSM, Kiribati, Palau, PNG, RMI, Solomon Islands, Timor Leste, Tonga, Tuvalu) targeting a range of stakeholders including new Mayors, District Officers, councils, schools,private sector, women, youth, and those with disabilities.	Refer to *Communications* section for a case study on outcomes from the development of the disaster-ready toolkit for the private sector. In PNG, the Department of Mineral Policy and Geohazards Management is working with the community and with schools along the Highlands Highway to not only monitor and map critical and active landslides, but to raise awareness of other geological hazards. Field investigations have depended on the awareness and understanding of the communities in and around the active areas visited. Villages have also provided casual field assistants and security. This highlights the importance of technical and community-based activities being implemented simultaneously. Many of the activities to support DRM/CCA community and private sector education are still underway so it is too early to assess evidence of change. Analysis of evidence of change from these activities is planned for 2019.
	3.2 Number of DRM professionals/facilitators/ instructors supported to pursue relevant qualifications and number of PICT, government, NGO, private sector and community reps introduced to DRM/CCA capacity building	No NDMO staff, below Director Level, have formal DRM qualifications. Only 1-2 people in each of the 15 countries trained on various aspects of DRM and very little understanding of risk in other government sectors	3.2.1 At least **2 PICTs** supported to sponsor NDMO staff to achieve **formal DRM qualifications** (Fiji, Solomon Islands). 3.2.2 At least **200 government officials, community members, and non-government representatives** from a range of sectors and across the 15 countries **trained** on a range of topics such as post-disaster-needs-assessment, training for instructors, disaster management, emergency response, emergency operations centre, incident command systems, and community disaster risk reduction	3.2.1 NDMO staff from **2 countries** have been/are being supported to achieve **formal DRM qualifications** (Fiji, Solomon Islands). A total of **13 staff** (100% male) were sponsored, **9 completed**, 1 did not complete, and 3 are still studying. *In addition:* - **2 NDMO staff** (50% female) from **1 country** (Cook Islands) received partial sponsorship to complete formal **Project Management qualifications**. 3.2.2 There have been **67 CCA/DRM-related training events** (trainings or study tours) involving more than **1,221government, community, private sector and non-government participants**.[17] PICTS have participated in trainings to varying degrees: Cook Islands (11), Fiji (7), FSM (10), Nauru (1), Palau (9), PNG (7), RMI (3), Samoa (6), Solomon Islands (1), Timor Leste (5), Tonga (3), Tuvalu (2), Vanuatu (2). The level of BSRP support for these events varied as shown below.  These trainings spanned a range of disciplines, generally classified below: - Community-based DRM (2) - Disaster-related policy and programming skills (3) - Emergency Operations / Evacuation Centre training (8) - Emergency response skills – professional (12) - First aid (9) - Hazard-specific skills (5) - Training trainers (4) - Understanding DRR/DRM – community/private sector (4) - Understanding DRR/DRM/assessment – professionals (10) Of those trainings where gender statistics are available (n=48), **33% of participants were female**. This, however, varied by discipline. *In addition:* - BSRP found increased need for Finance and Procurement training following the change in implementation delivery modality. This informal training was provided during Regional Steering Committee meetings as well as direct coaching (in person/distance).	Analysis of evidence of change from qualification and training activitiesis planned for 2018/2019. Early observations include: - Participant feedback from all trainings that conducted immediate post-training surveys showed that expectations of participants were met. - The staff in the Cook Islands that completed the project management training were able to directly apply these skills into the implementation of BSRP and their wider work. - Informal training and coaching in SPC procurement and financial requirements provided to all countries saw increased compliance and ability to procure, contract and acquit for funds received by most countries. These skills will be transferable into other projects in the future.

	3.3 No of knowledge products developed to increase awareness and public information risk	In 2013, 3 countries had publicly available national disaster information systems. Awareness materials tend to be hazard focused and not tailored to the needs of different groups or easily available in remote parts of the countries	3.3.1 Supporting printing and logistics for DRR/CCA **educational awareness materials and events** to improve quality and reach of DRM information to specific groups and/or general public in at least **6 PICTs** through regional initiatives	3.3.1 *Target exceeded* **11 PICTs** have been supported with forms of **education awareness materials, education campaigns and events** such as Pacific Resilience Week or International Day for Disaster Reduction. This has included developing **2 behavior change disaster awareness campaigns** (Get Ready Disasters Happen and Disaster-Ready Toolkit)	Refer to *Communications* section for case study on the Get Ready Disasters Happen disaster awareness campaign.
	3.4 No. of PICTs supported to review and modify risk message content and provide training to media reps	In 2013, four countries provided preventative risk management public education campaigns for risk-prone communities (FJ, Nauru, Samoa, Tonga)	3.4.1 Financial and technical support provided to **at least 2 PICTs** through regional initiatives to **train media representatives** on improved messaging for DRM/CCA	3.4.1 *Target exceeded* **64 participants (47% female)** from **9 PICTs** have participated in 3 media trainings to increase disaster awareness and CCA resilience-based messaging supported through BSRP project.	To be assessed as part of 2018/2019 monitoring activities.
KRA 4: Improved understanding of natural hazards and the reduction of the underlying risks	4.1 Number of countries with expanded risk profiles and DRM applications through improved understanding of hazards and vulnerability	In 2013, 3 countries reported having a national multi-hazard risk assessment to inform planning and development decisions. Two of these included gender disaggregated data	4.1.1 Supported at least **3 PICTs to establish systems** to enable a better understanding of locations of communities exposed to hazards and that can overlay socio-economic information to determine level of vulnerability to those living in communities (Fiji, FSM, Tonga). 4.1.2 Supported **3 PICTs** to **collect, collate and analyse hazard data** to inform planning and decision making for high risk areas (PNG, Samoa, Timor Leste)	4.1.1 *Target exceeded* **6 PICT**s have been supported to **establish systems** that enable better understanding of locations of communities exposed to hazards to support reduction of vulnerability (Cook Islands, Fiji, Kiribati, Palau, PNG, Tonga). This has included establishing information, GIS, vulnerability and disability databases/systems, and technical systems and equipment to monitor and collect data. 4.1.2 *Target exceeded* **7 PICTs**have been or are being supportedto collect, **collate and analyse hazard data** to inform planning and decision making for high risk areas (Cook Islands, Fiji, Palau, PNG, Samoa, Timor Leste, Tonga). This has include both data from both scientific and traditional sources in relation to landslides, volcanoes, tsunamis, utilities and vulnerable communities.	Data collected forms a baseline that can be drawn on to inform more targeted responses following a disaster. The extent to which new data is being analysed to inform preparedness decisions within the government, community and private sectors will be examined in monitoring and evaluation activities in 2018/19.
	4.2 No. of activities that support community resilience	All countries recognise the importance of building resilience at community level	4.2.1 Support government departments in **at least 4 PICTs** to develop and implement **multi-sector actions to reduce risk in vulnerable communities**	4.2.1 *Target met* **4 PICTs** have benefited from multi-sector actions to reduce risk to vulnerable communities. - 3 storage facilities for pre-positioned supplies/emergency fuel provided (FSM, Palau, Tuvalu) - 1 seawall constructed (FSM – Awak School) - 1 village (110 people) relocated due to disaster risk (Fiji – Tukuraki village)	The cyclone-resilient storage facilities in Palau and Tuvalu allow for the pre-positioning of equipment and supplies and thus faster responses following disaster events. The upgrade of fuel storage infrastructure at higher elevations in FSM was part of the development of a model Facility Operating and Maintenance Agreement (FOMA) in FSM for replication with other utilities. A video demonstrating the impact of the Tukuraki village relocation is available at: http://bsrp.gsd.spc.int/index.php/videos/
	4.3 No. of countries supported to have improved food and water security	All PICs recognise the importance of strengthening food and water security in terms of taking an integrated approach to risk reduction. In the Pacific, household or community level food and water supplies are more threatened than national ones by climate change and hazards.	4.3.1 At least **3 PICTs** supported to build local level capacity to improve **food and/or water security** (Vanuatu, Kiribati, FSM)	4.3.1 *Target exceeded* **5 PICTs** have been/are being supported to build local level capacity to improve **food and/or water security** (FSM, Kiribati, RMI, Tonga and Vanuatu). This has included installing water tanks and providing a borehole drilling rig to carry out water exploration in in communities prone to water scarcity; working with youth to establish nurseries; and providing the means to distribute plants.	Vanuatu had used the borehole drilling rig to drill **31 boreholes across 5 islands** by the end of 2017, with a further 3 boreholes underway.
KRA 5: Enhanced partnerships in DRM and Climate Change	5.1 No. of forums convened with participation of international and national agencies including civil society and private sector	A regional DRM platform has been convened since 2005 to enable DRM managers and stakeholders from throughout the region to share information, network, and collectively formulate strategic regional plans	5.1.1 **2 Pacific Platforms** for NDMOs and Climate Change experts convened. 5.1.2 **Support** provided for the development of the **FRDP**	5.1.1 *Target exceeded* **4 Pacific Platforms** for DRM/CCA held with BSRP acting as lead organisers for these events with partners and CROP agencies since 2013. *In addition:* - Fiji, FSM, and the Cook Islands have all held national platforms (supported by BSRP) for NDMOs and climate change experts to look at local and sub-national integration. 5.1.2 *Target met* BSRP took a lead role in both funding and organising the 4 Pacific Platforms (Pacific Resilience Week) to bring together communities of practice and forge the development of the Framework for Resilient Development in the Pacific (FRDP).	Engagement in the development of the FRDP was high, with a Technical Working Group, 11 face-to-face consultation workshops at national and regional stakeholders, 14 selected stakeholder interviews, and online consultations resulting in 1,529 individual comments and 56 full submissions (primarily Pacific, but also global). This extensive engagement has meant that there is a broad ownership base of FRDP in the region, and motivation to see it implemented. In 2017, the focus shifted to the implementation of FRDP, which include many of the activities detailed in this report. In 2017, the Platform was focused on combining climate change and disaster risk areas to create a way forward together to continue integration at a regional level of CCA/DRR.
	5.2 Integrated regional strategy for DRM and Climate Change developed and approved by Leaders	Regional Framework for Action for DRR ending in 2015. No regionally endorsed integrated framework	5.2.1 An **integrated framework is regionally endorsed**	5.2.1 *Target met* **FRDP** completed and endorsed by Leaders in September 2016. The **Pacific Resilience Partnership Governance Structure** was then endorsed by Leaders in **September 2017** and will now be the coordinating mechanism to implement the FRDP and integrate DRR/CCA at regional and country levels over the coming years. *In addition:* - Compendium of case studies of DRM and climate change	FRDP now has high-level unanimous regional endorsement and is heavily supported by BSRP and partners. This is the first Framework in the world fully integrating DRR and CCA. It is influencing practice regionally, but also throughout the world.
	5.3 Strategic alliance between Pacific Islands Disaster, Fire and Emergency Services with AFAC members established and twinning arrangements implemented	All countries dealing with emergency response operate in silos. No SREMs and no formal Emergency Management-endorsed alliance for the Pacific exist.	5.3.1 Logistical support provided to enable **twinning partnerships** between AFAC partners and PIC emergency services agencies to be activated. 5.3.2 **Strategy 2020** developed and endorsed by BSRP RSC 5.3.3 **Two (2) national SREMS developed and approved** by the National BSRP steering committees	5.3.1 *Target met* Logistical support has enabled **10** Twinning Partnerships to be finalised and activated, with a further 5 underway. 5.3.2. *Target met* Strategy 2020 developed with countries, endorsed by NDMO directors in 2015. 5.3.3. *Target may be exceeded* **1 SREM** completed and **2 SREMS** expected to be completed during the BSRP implementation period. In total, SREMs are in various stages of development 5 PICTs (Cook Islands, Kiribati, Niue, Samoa, Vanuatu).	The twinning relationships have resulted in a wide range of resource and skills transfer by participating countries. The focus is now on implementing Strategy 2020 across the region. This has led to the leveraging of additional funding for emergency management to support PIEMA into the future (refer to case study in PIEMA section) The SREMs are proving to be a key mechanism to guide national action, stakeholder engagement and improve interoperability within countries.

[20] *Training reports for some training events are still pending, therefore this is an incomplete number.*

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