

BUILDING SAFETY AND RESILIENCE
IN THE PACIFIC PROJECT

COMPLETION REPORT VOLUME 1: NARRATIVE REPORT



Building Safety and Resilience in the Pacific Project

COMPLETION REPORT

VOLUME 1: NARRATIVE REPORT

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Prepared by the Building Safety and Resilience in the Pacific Project Management Unit,
Geoscience, Energy and Maritime (GEM) Division of the Pacific Community



Pacific
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du Pacifique

Pacific Community (SPC) 2020

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FOREWORD

Greetings from the Pacific Community.

This completion report is a celebration of the completion of the Building Safety and Resilience in the Pacific (BSRP) project, which was first designed back in 2011/12.

On behalf of everyone in the region who has benefited from the project, I wish to sincerely thank our donors - the Intra-African, Caribbean and Pacific (Intra ACP) Secretariat, and the European Union (EU) for their support throughout, and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) whose investment in 2016 translated it into a multi-donor action.



This Completion Report is much more than an exercise in being accountable to our donors and members. I encourage my colleagues across the region and the world to read some of the great examples it provides of good disaster risk management (DRM) practice, as well as lessons learnt in implementing large-scale regional projects in Small Island Developing States.

On reading this report, I was struck by just how many people and organisations played a part in implementing the BSRP project, as one of the largest projects ever implemented by SPC. From the SPC staff inside the Project Management Unit (PMU) who lived and breathed BSRP to the expertise that BSRP drew in from right across our organisation, I wish to thank you all. Special appreciation is reserved for the Project Manager, Taito Nakalevu, and the Deputy Project Manager, Kat Paton, whose dedication and professionalism kept everyone focused until the end.

In participating countries, the National Disaster Management Offices (NDMOs) were the focal points and worked tirelessly in that role, however, implementation also involved a wide range of other implementing partners, donors, service providers and suppliers from construction companies and legal consultants, to the local village women's group providing catering to a community-based disaster risk reduction workshop. Each played an important role in delivering the results outlined in this report.

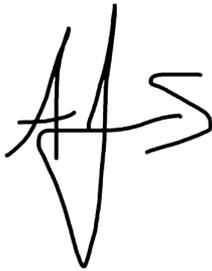
While SPC's rigorous adherence to procurement rules is often cited as the greatest challenge that our in-country partners faced in implementing BSRP, this provided a sound foundation on which all who participated can proudly stand.

As the Pacific region is recognised as one of the most vulnerable or disaster-prone regions in the world, it is unsurprising that during the BSRP implementation period participating countries encountered a range of natural disasters. Over the six years of implementation, governments also changed and agencies were restructured. This constant change required SPC to adopt a somewhat flexible approach to implementation, which means that BSRP has grown and adapted with SPC's members. BSRP embraced a strategic approach focusing effort where it could affect the greatest change, including inspiring a broader movement towards reducing vulnerability and the social, economic and environmental costs of disasters caused by natural hazards.

Between 2013-2016, the BSRP project was a key contributor to the consultations and development of the region's Framework for Resilient Development in the Pacific: An Integrated Approach to Address Climate Change and Disaster Risk Management (FRDP) 2017–2030. This was a global first, where the Pacific set a strategic vision that promotes an integrated approach to coping with and managing climate change and disaster risks, supporting low carbon development and improve disaster response and

reconstruction. Separate governance arrangements, the Pacific Resilience Partnership, are now in place to support and facilitate effective implementation of the FRDP.

Similarly, it was with BSRP support that the (now independently funded) Pacific Island Emergency Management Alliance (PIEMA) was formed to help strengthen the coordination of emergency services when preparing for, responding to and recovering from disasters. In 2019, the final year of implementation, the BSRP project worked with PIEMA to deliver a train-the-trainer programme involving all participating countries. As well as offering a Training for Instructors course, the programme focused on two courses that had been accredited by the Educational Quality and Assessment Program (EQAP) in 2018: Working in an Emergency Operations Centre, and an Introduction to Disaster Risk Management. Already, some countries have progressed to roll out this training domestically amongst their DRM and emergency personnel. These skills will enable PICs to respond faster and more effectively to the ever-increasing number of disaster events the region faces.

A handwritten signature in black ink, appearing to read 'AJS', with a stylized flourish extending to the right.

Dr Andrew Jones

Director Geoscience, Energy
and Maritime Division

ACRONYMS

ACRONYM	DESCRIPTION
(Intra) ACP	(Intra) African, Caribbean and Pacific Group of States
ACT	Australian Capital Territory
AFAC	Australasian Fire and Emergency Service Authorities Council
BCP	Business Continuity Plan
BMKG	National Directorate of Meteorology and Geophysics in Indonesia
BNP	Badan Nasional Penanggulangan Bencana in Indonesia
BSRP	ACP-EU Building Safety and Resilience in the Pacific Project
CBDRR/M	Community-Based Disaster Risk Reduction/Management
CBR	community-based rehabilitation
CC/A	Climate Change/ Adaptation
CDDR	Department of Community Development and Religion
CDR	University of PNG Centre for Disaster Reduction
CFA	Country Fire Authority
CHARM	Comprehensive Hazard and Risk Management
CK	Cook Islands
COP	Conference of the Parties to the UNFCCC
CROP	Council of Regional Organisations of the Pacific
CSO	Civil Society Organisation
D+3	date plus three
DAC	Evaluation Criteria of the Development Assistance Committee of the Organisation for Economic Cooperation and Development
DM	Disaster Management
DMPGM	Department of Mineral Policy & Geohazards Management (PNG)
DPO	national disabled people's organisation
DRR/M	Disaster Risk Reduction/Management
ECS	Emergency Communications Systems
EDF	European Development Fund
EMCI	Emergency Management Cook Islands
ENSO	El Niño Southern Oscillation
EOC	Emergency Operations Centre
EQAP	Educational Quality and Assessment Program (at SPC)
ESA	Emergency Services Authority - ACT
EU	European Union
EUR	Euro
EWS	Early Warning System
FJ	Fiji
FJD	Fijian Dollars
FM/FSM	Federated States of Micronesia
FNU	Fiji National University
FOREX	Foreign exchange
FRDP	Framework for Resilient Development in the Pacific: An Integrated Approach to Address Climate Change and Disaster Risk Management 2017–2030

GCCA	Global Climate Change Alliance
GEM	Geoscience, Energy and Maritime Division (SPC)
GIS	Geographic information system
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GPDRR	Global Platform for DRR
GPS	Global Positioning System
HFA	Hyogo Framework for Action 2005-2015
ICCAI	International Climate Change Adaptation Initiative
IDC	Island Disaster Committee
IDRM	Introduction to Disaster Risk Management (training)
IFRC	International Federation of Red Cross and Red Crescent Societies
IOC-UNESCO	Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organisation
IOM	International Organization for Migration
IPCC	Intergovernmental Panel on Climate Change
ISACC	Institutional Strengthening in Pacific Island Countries to Adapt to Climate Change project.
IVA	integrated community vulnerability assessment
JICA	Japan International Cooperation Agency
JNAP	Joint National Action Plan for Disaster Risk Management and Climate Change
KI	Kiribati
KfW	Kreditanstalt für Wiederaufbau
KRA	Key result area
LWL	Low Water Level
M&E	Monitoring and Evaluation
MAFFF	Ministry of Agriculture, Forestry, Food and Fisheries
MFAT	New Zealand Ministry of Foreign Affairs and Trade
MFB	Victorian Metropolitan Fire Brigade
MH/RMI	Republic of the Marshall Islands
MOA	Memorandum of Agreement
MORDI	Mainstreaming of Rural Development Innovation
MOU	Memorandum of Understanding
NDC	National Disaster Centre in PNG
NDMD	National Disaster Management Directorate in Timor Leste
NDMO	National Disaster Management Office
NEMO	National Emergency Management Office
NEOC	National Emergency Operations Centre
NES	Nauru Emergency Services
NGO	Non-governmental Organisation
NPRO	SPC North Pacific Regional Office
NR	Republic of Nauru
NSC	National Steering Committee
NU	Niue
PacTVET	European Union Pacific Technical and Vocational Educational and Training in Sustainable Energy and Climate Change Adaptation project
PALARIS	Palau Land and Resource Information System
PDNA	Post Disaster Needs Assessment

PEOC(s)	Provincial Emergency Operation Centre(s)
PG/PNG	Papua New Guinea
PGCDRM	Postgraduate Certificate in Disaster Risk Management – Fiji National University
PIC(T)s	Pacific Island Countries (and Territories)
PIEMA	Pacific Islands Emergency Management Alliance
PIFACC	Pacific Islands Framework for Action on Climate Change 2006-2015
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
PMGO	Port Moresby Geo-Physical Observatory
PMU	Project Management Unit
PREP	Pacific Resilience Program (World Bank funded)
PRP	Pacific Resilience Partnership
PW	Republic of Palau
PWD	Persons With Disabilities
QEFS	Queensland Fire and Emergency Services
RFA	Disaster risk reduction and disaster management: a framework for action 2005–2015 - An investment for sustainable development in the Pacific Island countries
RIMES	Regional Integrated Multi-Hazard Early Warning System
ROM	Results-Orientated Monitoring
RSC	Regional Steering Committee
SARS	Severe Acute Respiratory Syndrome
SB	Solomon Islands
SER	Social and Environmental Responsibility
SFESA	Samoa Fire and Emergency Services
SIDS	Small Island Developing States
SME	Small and medium-sized enterprises
SPC	Pacific Community
SPREP	Secretariat of the Pacific Regional Environment Programme
SREM	Strategic Roadmap for Emergency Management
TA	Technical assistance
TC	Tropical Cyclone
TFI	Training for Instructors Course
TL	Timor Leste
TO	Tonga
TOT	Training of Trainers
TV	Tuvalu
TVET	Technical and Vocational Education and Training
UN	United Nations
UNWomen	United Nations Entity for Gender Equality and the Empowerment of Women
UNDAC	United Nations Disaster Assessment and Coordination
UNDP	United Nations Development Programme
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
UPNG	University of Papua New Guinea
USP	University of the South Pacific
VU	Vanuatu
WASH	Water, Sanitation and Hygiene
WCDRR	World Conference on DRR
WEOC	Working as a Team in an Emergency Operations Centre (Training)
WFP	World Food Programme
WRI	World Risk Index
WS	Samoa

EXECUTIVE SUMMARY

The Building Safety and Resilience in the Pacific (BSRP) project has closed after 77 months and 23 days of implementation. BSRP was a EUR 19.567 million project supported by the European Union (EU) and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and implemented by the Pacific Community (SPC).

The BSRP project was designed to assist the participating Pacific Island Countries (PICs) reduce their vulnerability to disasters and changes in climate. Key stakeholders were the national governments of PICs, communities, civil society organisations (CSOs), utility companies and the private sector.

SPC was contracted to deliver activities under the following five Key Result Areas (KRA) that contributed to reducing the vulnerability and the social, economic and environmental costs of disasters caused by natural hazards, thereby achieving regional and national sustainable development and poverty reduction goals:

KRA 1 - Effective preparedness for response and recovery. This KRA responded to the need for national and regional response plans, end-to-end Early Warning Systems (EWS), emergency and evacuation centres, as well as access to safe drinking water to mitigate against drought.

KRA 2 - Strengthened institutional requirements for DRM and CCA. This KRA responded to the need for Joint National Action Plans (JNAPs) as well as to the integration of DRM and CCA into national and sector strategies, planning and budgetary processes.

KRA 3: Improved knowledge, information, public awareness, training and education. This KRA put emphasis on building awareness of risks, risk exposure through the provision of hazard and risk information through regional and local databases, strengthening human and technical capacity in a range of priority areas, production of knowledge products and related awareness

KRA 4: Improved understanding of natural hazards and the reduction of the underlying risks. This KRA addressed gaps in baseline scientific, technical, social and economic understanding of hazard impacts and addressed underlying risks created by changing social, economic, environmental conditions and resources.

KRA 5: Enhanced partnerships for DRM and climate change. This KRA responded to the need for an integrated regional strategy for DRM and climate change, hazard risk management and facilitation of financing and integration of DRR into the work programmes of CROP agencies (Council of Regional Organisations of the Pacific).

This is the final report for this phase of the BSRP project, and provides not only an overview of activities delivered against each KRA (section 3), but also high level reflections on how this has impacted resilience within the region and lessons learnt in the implementation of the project by SPC and its many partners (section 2).

By the end of the completion period EUR 19,055,771 will have been spent (97% of the original budget) on 335 activities implemented regionally and within each of the 15 participating Pacific Island Countries (PICs): Cook Islands, Fiji, Federated States of Micronesia (FSM), Kiribati, Nauru, Niue, Palau, Papua New Guinea (PNG), Republic of Marshall Islands (RMI) Samoa, Solomon Islands, Timor Leste, Tonga, Tuvalu, Vanuatu. Full audited financial statements are available in Annex 1, a consolidated activity list in Annex 2, and logic framework reporting, an asset register and contracts listing in Annexes 3, 5 and 6 respectively.

While achievements varied by country, overall the BSRP project successfully took a multipronged approach to reducing vulnerability across the region. Regulatory improvements were accompanied by investments in people, infrastructure, equipment and systems focused on all aspects of the DRM cycle – from risk reduction (and CCA) to preparedness, response and even recovery within the context of ‘build back better’. These achievements are illustrated within feature stories and short stories throughout this report (see list on page iii). Videos and documentaries are also available on the BSRP website: <https://bsrp.gsd.spc.int/index.php/videos/>

It is recommended that this narrative report (Volume 1) be read with the detailed Annexes in Volume 2, which are supported by detailed annual reports and other publications available on the BSRP website - <https://bsrp.gsd.spc.int/index.php>.

1. INTRODUCING BSRP



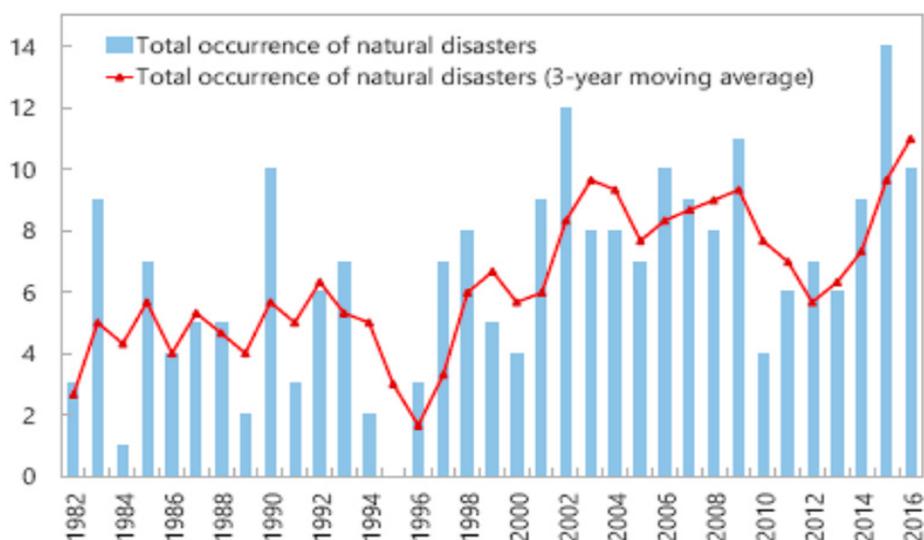
A. BACKGROUND

The Building Safety and Resilience in the Pacific (BSRP) project has closed after 73 months of implementation. BSRP is a EUR 19.567 million project supported by the European Union (EU) and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and implemented by the Pacific Community (SPC). This project directly responds to the African, Caribbean and Pacific (ACP) group of states and the European Union's (EU) priorities identified under the 2009 EU Strategy for Supporting Disaster Risk Reduction. On design, it also aligned closely with the Pacific Islands Framework for Action on Climate Change 2006-2015 (PIFACC) and the Pacific Disaster Risk Reduction and Disaster Management Framework for Action 2005-2015 (RFA). BSRP then contributed to achieving Goals 1 and 3 of the Framework for Resilient Development in the Pacific: An Integrated Approach to Address Climate Change and Disaster Risk Management 2017-2030 (FRDP).

The BSRP project was designed to assist Pacific Island Countries (PICs) reduce their vulnerability to disasters and changes in climate. PICs are known as some of the most vulnerable nations in the world. Out of the top 20 countries ranked globally for risk levels,¹ seven participated in BSRP: Vanuatu (1st), Tonga (3rd), Solomon Islands (4th), PNG (6th), Fiji (12th), Timor Leste (15th) and Kiribati (19th).

Due to location and topography, many PICs are highly exposed to environmental and natural hazards, as well as climate and weather extremes that are exacerbated by climate change (Figure 1 refers).

Figure 1: Natural disasters affecting PICs (1982-2016). Source: Cardno, 2019



While variable by country, natural hazards experienced across the region include earthquakes, volcanic eruptions, tsunamis, floods, droughts, tropical cyclones (TC), landslides, storm surges, sea-level rise and coastal erosion. Such events pose significant constraints on sustainable development. They have both immediate and long-term impacts, such as causing human loss and suffering, increasing food and water insecurity, interrupting education, destroying annual and perennial crops, damaging infrastructure, and diverting development funds into rebuilding. These impacts are more acute in many PIC communities where critical health and education infrastructure is not resilient (through factors such as non-compliance with building codes or being situated in a vulnerable location). Many PICs also have limited resources with narrowly-based and fragile economies. They encounter development challenges presented by remoteness, such as high transport, communication and transaction costs. While PICs are undergoing a modernisation and urbanisation process, traditional and subsistence living is still widely practiced – the connectedness that exists within these communities contributes to island resilience.

¹ World Risk Index 2019

B. PROJECT AT A GLANCE

i. 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			

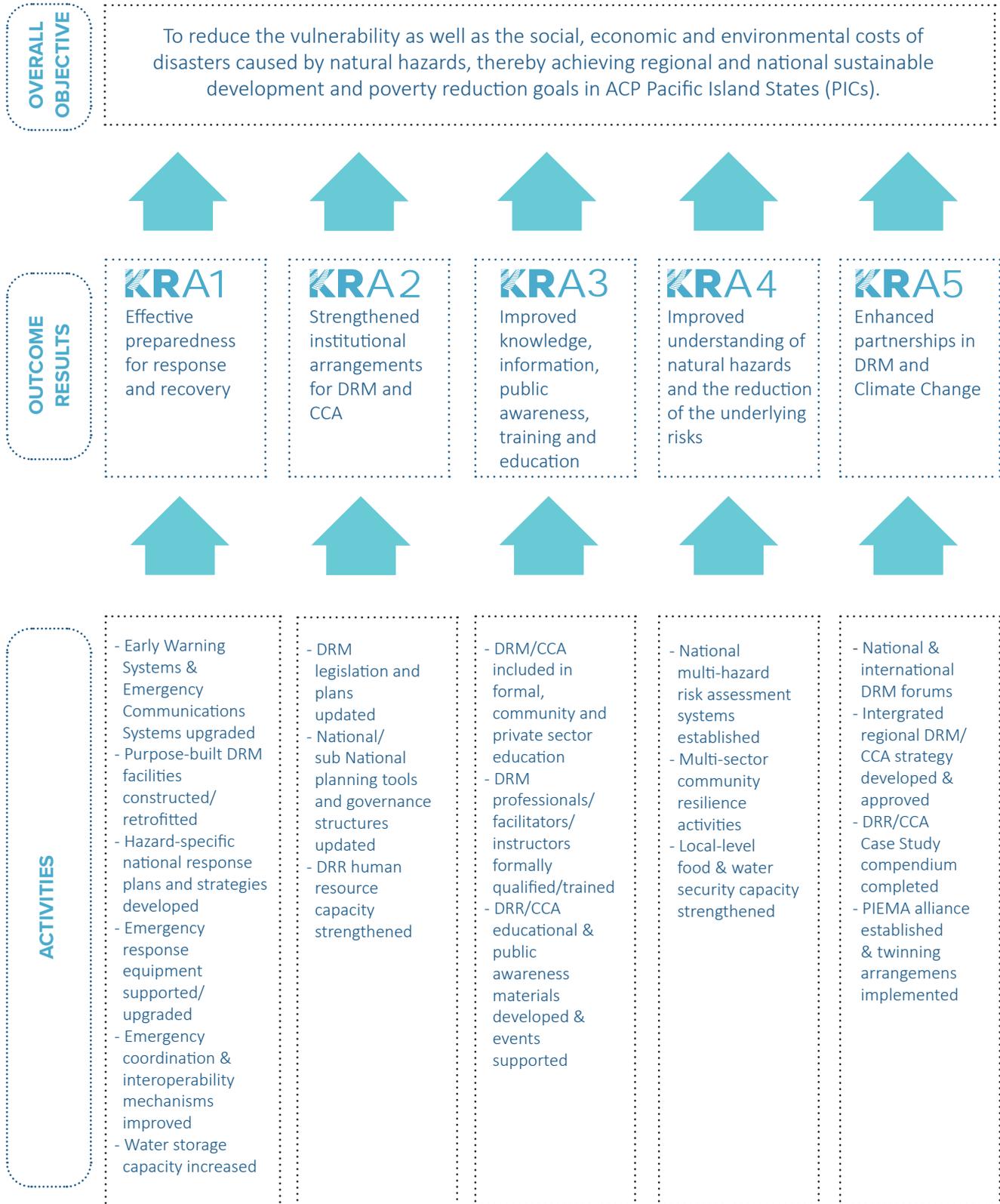


Source: <https://www.geographicguide.com/oceania-map.htm>

ii. Theory of Change

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)

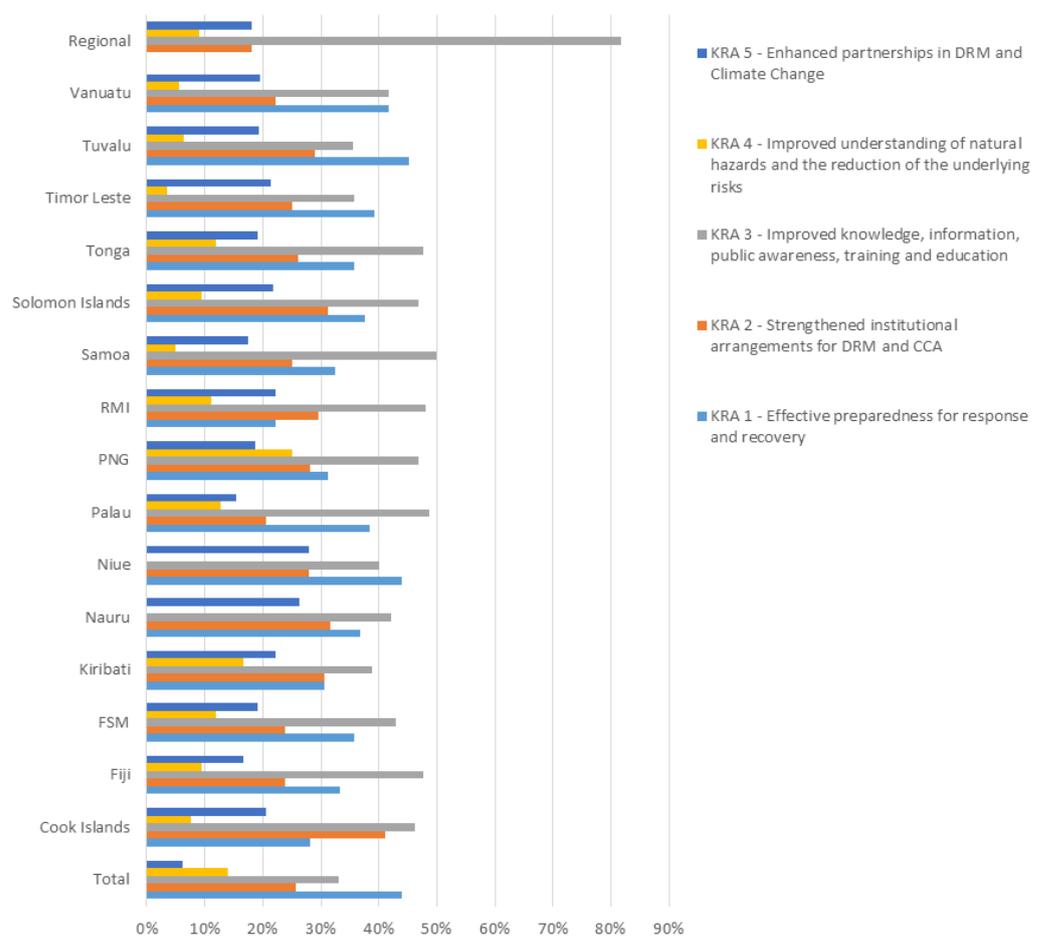


iii. KRA by country

Many of the nearly 400 activities that were implemented under BSRP contributed to more than one KRA.

While the activity profile varied by country, when analysed by number of activities contributing to each KRA (or multiple),² Figure 2 shows that overall there was a strong focus on KRAs 1 and 3 in the BSRP project indicating the priority given to effectiveness preparedness for response and recovery, as well as improving knowledge, information, public awareness, education and training for DRM/CCA. This is essentially a focus on the region’s people, assets and equipment to make them more resilient. This focus was underscored by a still significant focus on strengthening the institutional relationships and partnerships for DRM/CCA. Countries placed less priority under this project on improving understanding of natural hazards and the reduction of underlying risks.

Figure 2: Priority placed on each KRA by country (Number of activities)

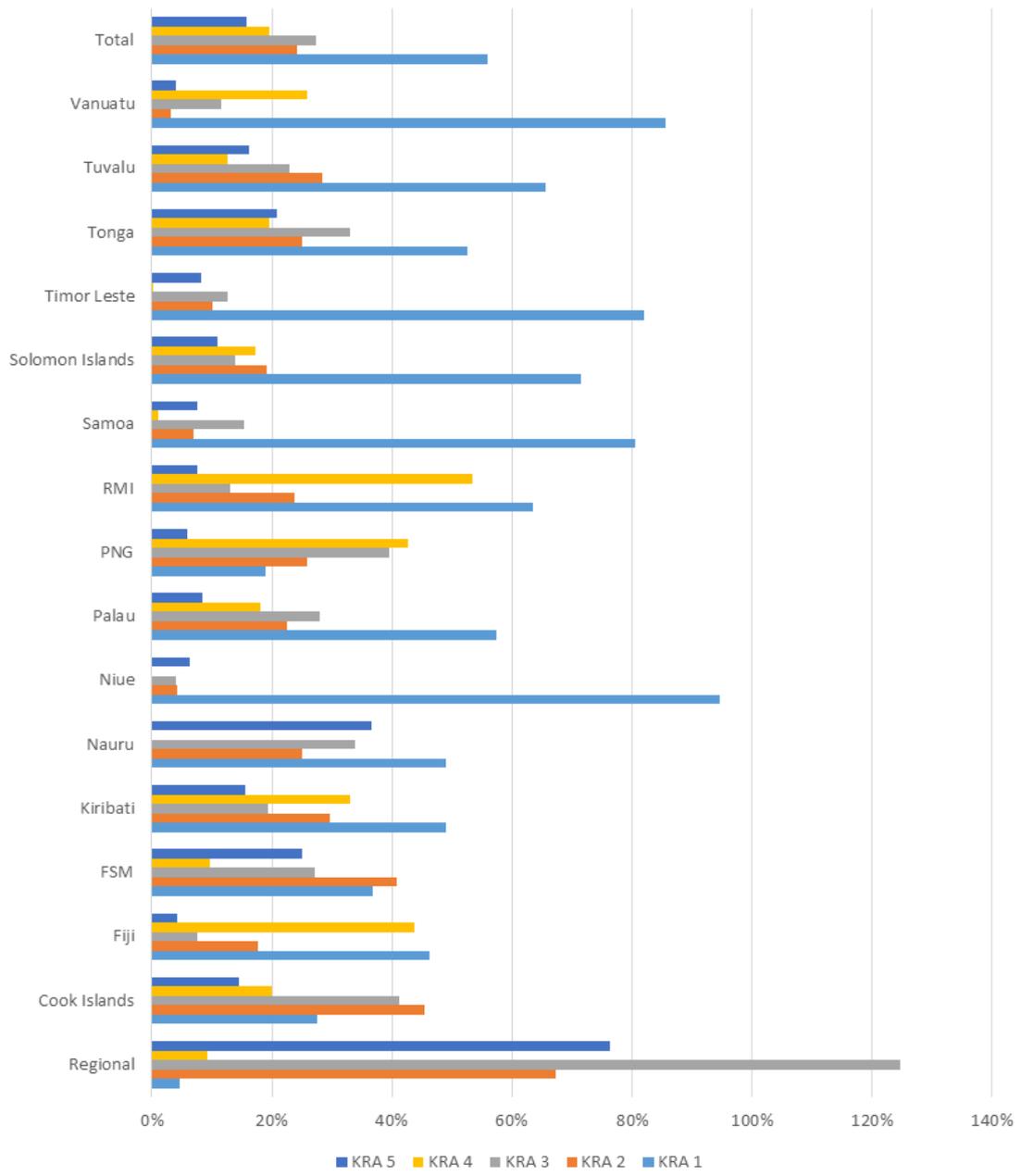


As activities vary in cost greatly, the number of activities does not reflect the spend per KRA. The percentage of the spend contributing to each KRA is shown below.³ Across the total implementation spend, this again reflects the priority given to KRAs 1 and 3, but also to KRA 2 – the strengthening of institutional arrangements for DRM and CCA. When examined in this way, however, there are a number of countries (Fiji, Kiribati, PNG, RMI, Vanuatu) for which KRA 4- the improved understanding of natural hazards and reduction of underlying risks (including through community based disaster risk reduction/management- CBDRR/DRM activities) – was a priority.

² Percentages total more than 100% as an activity may contribute to more than one KRA.

³ Total equals more than the implementation budget as spend on each activity may have contributed to more than one KRA. Moreover, the proportion of salaries from PMU staff dedicated to technical assistance is included within regional calculations.

Figure 3: Priority placed on each KRA by country (Percentage of spend)



iv. 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

v. Contribution and financing agreements

EUR 19.567 million over 77 months and 23 days

99%- Intra Africa, Caribbean and Pacific Group of States (Intra ACP) / European Union (EU)

1% Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)

SPC and the EU entered into a Contribution Agreement (CRIS Number: FED 2013/327-152) valued at EU 19,367 on 6 September 2013 to implement the BSRP project – a project linked to country priorities in line with the Hyogo Framework for Action (HFA) 2005-2015 developed under the umbrella of the United Nations International Strategy for Disaster Reduction (UNISDR).

This agreement included a “date plus three” (D+3) clause, meaning that all contracts implementing financing and delegation agreements had to be signed three years from the date the agreement came into force. When it became evident that it was unrealistic that all funds would be committed under contracts by the D+3 date, additional donor support was sought to ‘unlock’ the D+3 clause (as permitted under the Contribution Agreement). This came in the form of a EUR 0.2m grant from GIZ – this was recognised by the EU in the first addendum to Contribution Agreement in 2016 and successfully released BSRP from the D+3 clause.

A second addendum signed in 2017 granted an extension to BSRP, taking it from a 55-month to a 73-month project, with the implementation period ending 6 October 2019. This recognised that recent disaster events across the region had affected progress and that the D+3 clause had exerted pressure on SPC systems and resources also impacting implementation timeframes.

In 2018, a third addendum approved reallocations between budget lines. This recognised that the approved budget had never been realigned to reflect the countries’ priorities and plans, which were still being finalised at the time the Contribution Agreement was agreed. It also allowed Value-Added Tax to be an eligible cost, and formalised the agreement in relation to the logical framework finalised in 2017.

A final addendum granted an extension to the BSRP implementation period, taking it from 73 months to 77 months and 23 days with the implementation period ending 29 February 2020. This extension was as a result of a few planned activities not being fully completed on time due to circumstances outside SPC's control (e.g. extended shipping schedule delays due to weather events). The COVID19 pandemic also wreaked havoc globally during the initial closure period disrupting the ability of the PMU to close the project in a timely manner.

vi. Governance and Project Management structure

A diagram in Annex 4 depicts how project governance and management bodies inter-related. This is further described below.

A **Regional Steering Committee (RSC)** convened annually by SPC comprised National Disaster Management Office (NDMO) representatives from each of the fifteen participating countries. EU and SPC representatives also observed proceedings. The RSC was responsible for:

- providing overall guidance to the project
- reviewing project progress to date and 'lessons learnt'
- discussing preparations and results of the EU-funded Result Oriented Monitoring (ROM) missions; and
- sharing and discussing opportunities for collaboration with other similar projects/programmes to enhance the prospects of BSRP success and sustainability.

A **National Steering Committee (NSC)** was established in each country⁴ to provide overall policy guidance at the national level. Membership involved a range of stakeholders including representatives of the national government, civil society organisations and the private sector. The NSCs provided oversight and direction for the project; making decisions on priority activities, budgets and timelines based on government policies and their knowledge of local challenges that people living in the countries face. In addition, the NSCs met to discuss progress of implementation and counter measures and solutions where national implementation has stalled.

The BSRP **Project Management Unit (PMU)** operated from SPC's Geoscience, Energy and Maritime (GEM) Division based in Suva. It was responsible for providing oversight of the day-to-day running and implementation of the project. The team was initially made up of the Project Manager (a DRM/CCA expert), four DRM technical specialists and an administrator. Short-term communications expertise was initially contracted, and subsequently recruited (with design and further communications support services contracted). Two procurement and a finance staffer were recruited mid project. Until a Deputy Project Manager was recruited 2018-19 (with a background including the management/design of projects, systems, contracts, and finances), all staff reported directly to the Project Manager.

The NDMOs of each beneficiary state were the designated BSRP **country focal points** and in-charge of implementation of project activities at the national, sub-national and community levels. As appropriate, NDMOs appoint a line government agency, educational institution or non-government organisation to carry out the implementation of certain activities. The NDMOs had overall responsibility for the day-to-day running of the project in their country including:

- organising National Steering Committee (NSC) meetings
- compiling reports
- developing budgets and budget revisions where necessary
- overseeing financial expenditure.

vii. Financial management

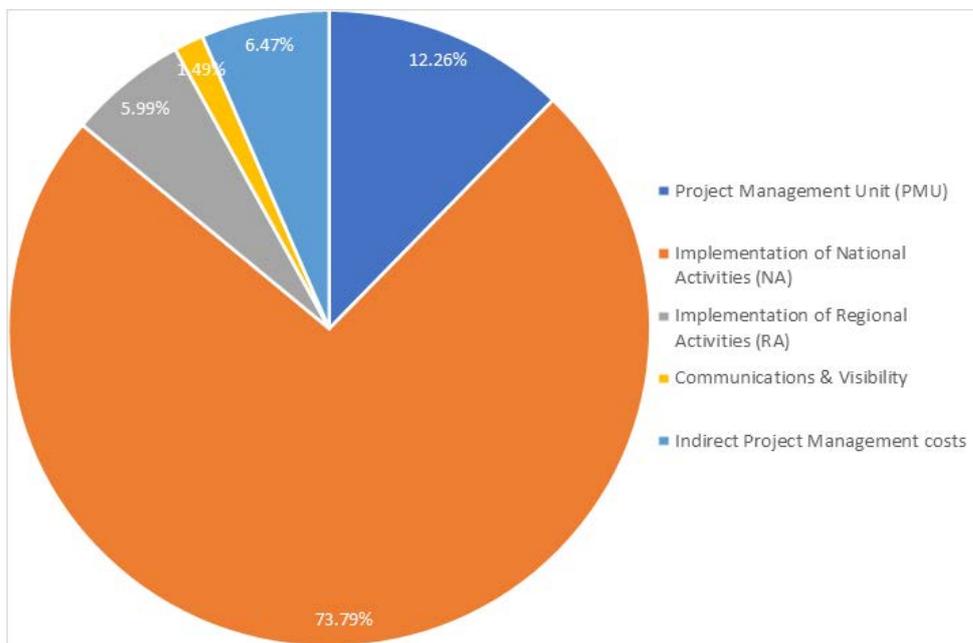
Annex 1 includes an audited financial report for the BSRP project. The main income and expenditure statement is reported according to the agreed budget lines. The project had a budget that was constrained across two main dimensions:

- national (with a country breakdown), regional, operational management and communication budget lines
- input type within the above categories.

⁴ Where an existing and appropriate DRM/CCA oversight group existed, they took on the BSRP NSC role

Figure 4 is divided by budget line as per the agreed budget, showing that: 73.79% of expenditure went towards national-level activity implementation; 5.99% was implemented at a regional level; 1.49% was invested in regional-level communication and visibility activities; and the remainder was spent on PMU and indirect project management costs (18.73%). However, as recorded in the budget, the majority of the technical assistance provided from the PMU staff is subsumed within the PMU expenditure rather than as an implementation cost. When costs are adjusted to more accurately reflect PMU staff time allocated to providing technical assistance as an implementation expense, Figure 5 shows that implementation spend at regional level increases to 10.61% and the combined PMU and indirect project management costs reduce to 14.11% of the total budget.

Figure 4: Distribution of spend by budget line category (as per financial statement)



As the budget was at an implementation level, the distribution of expense does not provide sufficient insight on the level at which benefit is primarily derived. The following graph (Figure 6) therefore analyses expenditure across four levels of benefit – regional, national, sub-national and community benefit (independent of the level at which expenditure was incurred and excluding project management costs). Given that the primary implementation partners were the national NDMOs in each country with most representatives on RSCs also representing their agencies at a national level, it is unsurprising that nearly half the spend was targeted at a national level priorities. This graph also shows that a quarter of the implementation expenditure benefited at a subnational level, reflecting the reality that many PICs have prioritised decentralisation and the strengthening of subnational DRM infrastructure and institutional arrangements. Given the cost of working at a community level in an island context and the limits of country budgets and NDMO capacity, activities delivering a primarily community-level benefit only made up 15.53% of the implementation budget. Efforts focused on delivering a regional benefit therefore made up less than 10% of the implementation budget.

Figure 5: Distribution of spend by budget line category, with technical assistance adjusted to be an implementation cost

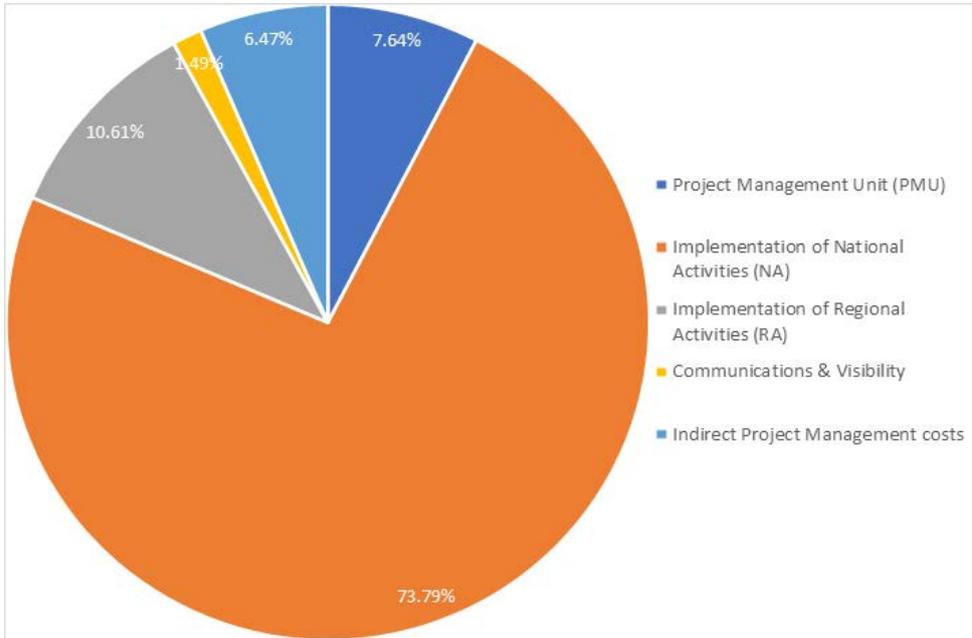
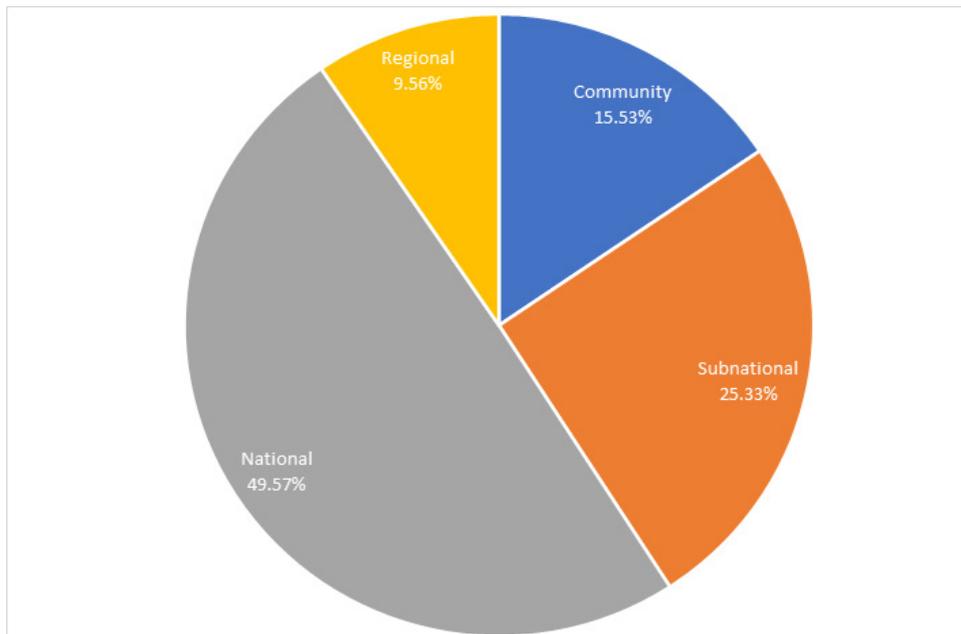
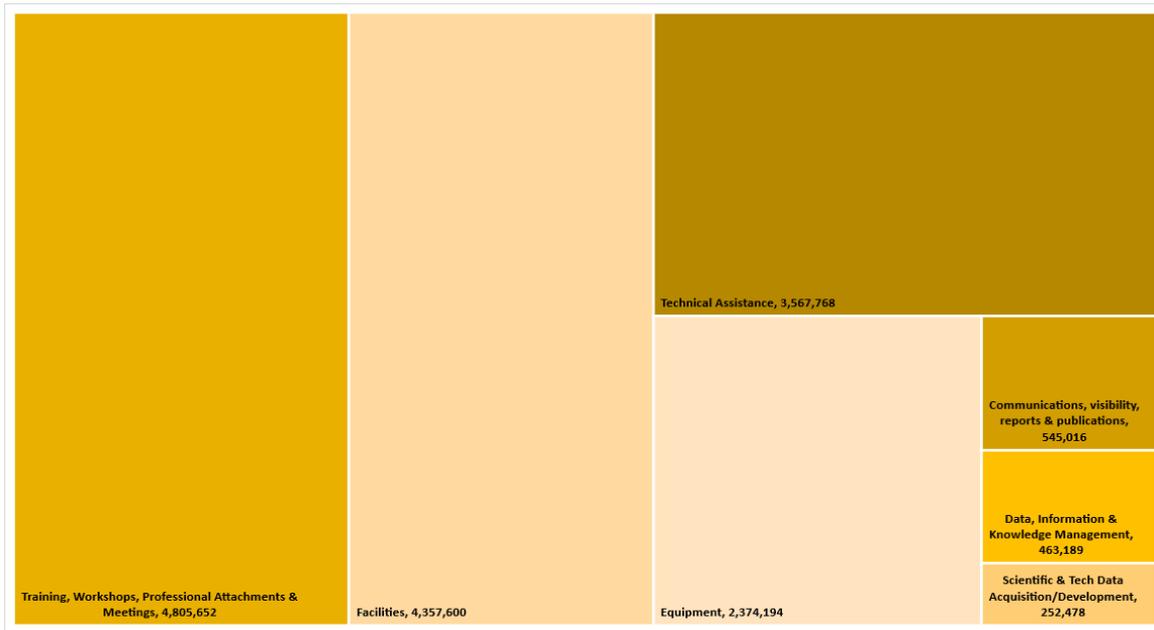


Figure 6: Distribution of implementation spend by primary beneficiary



When broken down by input type and consolidated across regional and national spend, the implementation costs are as shown in the tree-map diagram in Figure 7, with the bulk of expenditure being on training, workshops, professional attachments and meetings, as well as the construction and upgrade of facilities (in particular, EOCs, evacuation centres and meteorological weather stations). The diagram shows that a significant proportion of the expenditure also went towards the provision of technical assistance from SPC and other experts in the region (for example, to assist with the likes of legislative reviews, plans/strategies and technical reports), and the purchase of equipment to build local DRM capability (such as early warning systems and emergency communications equipment).

Figure 7: Implementation spend by input type

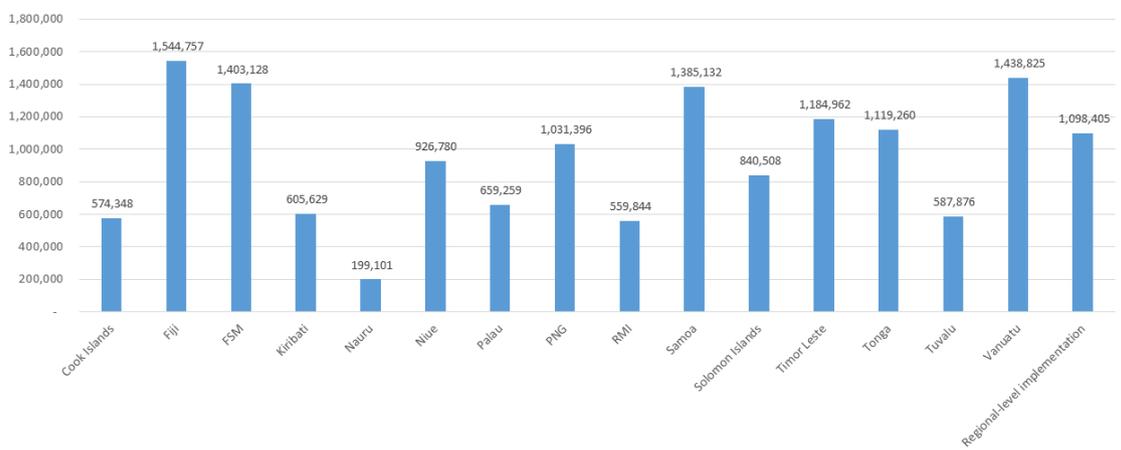


In addition to being constrained by budget line and input type, there was a financial cap on “travel” spending within the budget. This was revised to EUR 420,000 in the 2018 addendum, of which EUR 381,167 was spent (88.4%). Although travel expenditure was initially undefined causing reporting challenges, in 2018, an agreement was reached that for the purposes of project reporting, “travel” represented associated project staff travel costs including flights, boat travel and visas/departure tax (rather than the cost of participants to attend training and events).

As the project budget bore no correlation to the KRAs or activities, it had limited utility when reporting to participating countries and project evaluators/reviewers, nor did it assist the PMU to manage the project for better results. While subsequent analysis of the financial records has been undertaken in the completion phase of the project so that information on spend by KRA (section B(iii) refers) and by activity (Annex 2 refers) is available for scrutiny, this was an administratively burdensome exercise. SPC would thus advocate for a budget shaped by KRA for future projects.

As mentioned in section B(v), in 2018 the budget was redistributed to better reflect agreed workplans and an agreement at the 2018 RSC that any underspend in country-level budgets as at December 2018 would be redistributed to meet the costs of regional activities presented in concept notes at that RSC. While larger PICs had been given an initial allocation of EUR 1,350,000 and smaller PICs an allocation of EUR 600,000, final expenditure by country is shown in Figure 8.

Figure 8: Expenditure per country (EUR)



Some PICs experienced significant underspends, in particular, Nauru and the Solomon Islands where major infrastructure projects were unable to proceed (Case Study 12 refers) and there was insufficient time left in the implementation period to reprioritise the funds. In the case of Niue, there is a notable over-spend. This is due to government funds no longer being available at the end of a build, and BSRP funds being re-prioritised to cover the costs to complete the build. In the case of Fiji, the budget and expenditure are higher – this reflects the GIZ contribution (which made BSRP a multi-donor action) that was specifically granted for the Suva early warning system. Across all PICs, fluctuating foreign exchange rates affect final expenditure given most contract arrangements were in the local currencies.

The BSRP PMU reported to participating countries on expenditure annually at the RSC, and in the annual reports. Although the project implementation began in late 2013, BSRP reported expenditure in line with SPC’s financial year (the calendar year). Audited reports ran for the period of the audit, (which did not marry up with the calendar year). Under the Contribution Agreement, it was the SPC financial and procurement policies that applied for the purposes of implementing BSRP.

Tranches were released to SPC by the EU in five instalments upon SPC presenting:

- audited accounts showing 80% of previous tranches had been spent or committed
- a matching narrative report; and
- an annual workplan.

Financial audits were complemented by the EU reviewing a sample of transactions when tranche requests were made. SPC upgraded its financial management system twice during the implementation of BSRP, meaning that the electronic financial records for the project span three systems. In this process, SPC moved from managing its finances in Fijian dollars (FJD) to Euro (EUR). This reduced the foreign exchange (FOREX) impacts of tranche payments from the EU to SPC.⁵ Nevertheless, through its contracts and grant arrangements with implementing partners, SPC operated across ten currencies, which added an extra layer of complexity to the financial management of the project.



Over 21,000
financial transactions



Almost 200
contracts

⁵ Foreign exchange loss is an ineligible expense under the Contribution Agreement, and one that must be met by SPC.

viii. Modalities

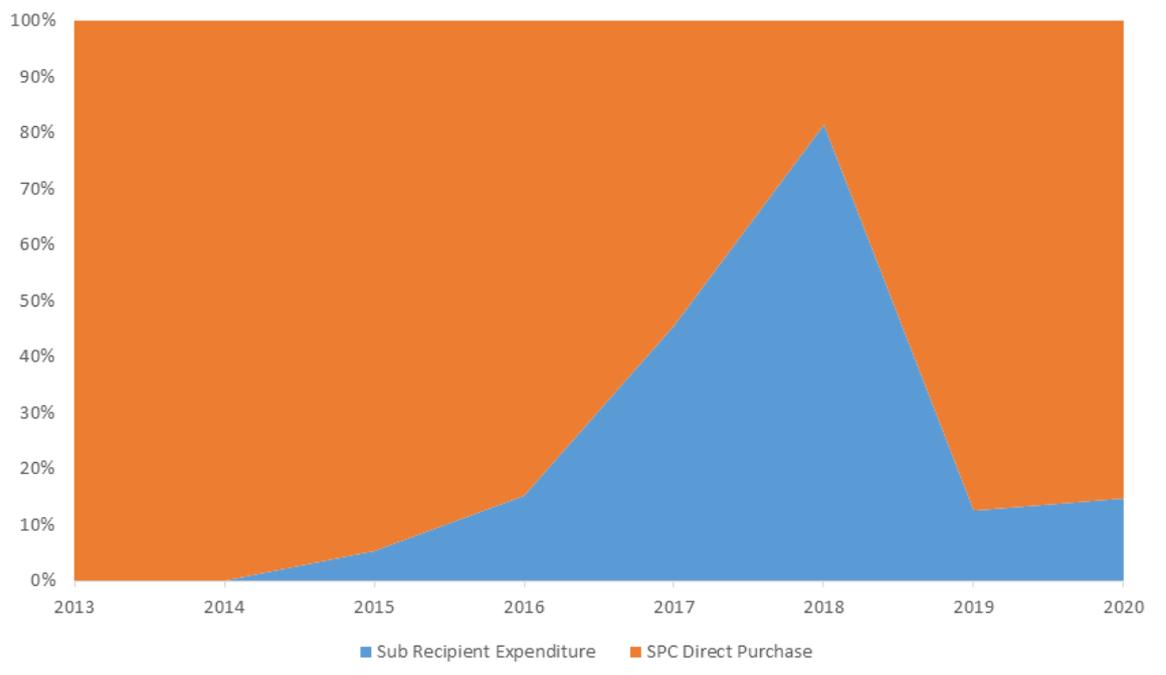
When implementation began, SPC was primarily implementing activities through providing technical assistance (TA), directly contracting services and supplies, and providing small activity-specific grants. When it became apparent that it would not be possible to commit all funds by the D+3 date (and a second donor was yet to be secured), country implementation plans were solidified and the majority of remaining funds were committed to subrecipients under Memorandum of Agreements (MOAs).

Although capacity assessments were undertaken of subrecipients’ systems and policies, under the MOAs they were required to use SPC financial and procurement policies (in line with the Contribution Agreement). As subrecipients were unfamiliar with SPC policies, SPC provided training at an RSC. The PMU also recruited two Procurement Officers who worked closely with sub-recipients to ensure that all spend was in line with policies and therefore eligible. This was particularly important given that this was the first time that SPC had in effect delegated out large procurements, including for infrastructure and equipment. As SPC policies did not always align with in-country procurement policies, it was a challenge for subrecipients to meet the requirements of both their own government and SPC.

The change of modality and need to negotiate MOAs midway through the project (2016) diverted significant human resources - the implementation rate slowed. It was only in 2018 that the rate of implementation again hit its stride. Although MOAs were extended, some sub-recipients still did not successfully implement all the intended activities in time. With BSRP becoming a multi-donor action in 2017, funds were able to be reprioritised to meet regional priorities that had been identified for implementation when the MOA commitments expired in December 2018.

Despite significant attention that was given to the use of the subrecipient modality, financial analysis shows that the majority of implementation spend for BSRP was in directly through SPC. Only 37% of the implementation budget (32% of the total budget) was spent by subrecipients. Figure 9 shows the split between direct SPC and subrecipient expenditure, showing a peak in 2018. While most MOAs ended on 31 December 2018, subrecipient expenditure continued to be posted to the BSRP general ledger through until February 2020 when final acquittals were received and accepted. Thus, the diagram shows the lag effect of this expenditure which made accurate and timely reporting of project expenditure throughout the project challenging.

Figure 9: Percentage split between SPC and subrecipient expenditure by year (including lag effect)



Direct contracting from SPC was perceived to be faster and more efficient for SPC, although it did not offer the indirect benefits associated with the grant modality – local ownership and building procurement capacity in implementing partners. Moreover, it was found that community-based activities on outer islands (often cash-based and transaction heavy) were best administered through sub-recipients.

ix. Changes introduced during implementation

As mentioned above, two key changes introduced during implementation related to the re-prioritisation of the budget in 2018, and the change of implementation modality in 2016. In addition, key changes are as follows.

- The project initially did not have in-country coordinators in place in many participating countries (although the PMU did have a staff member posted in SPC's North Pacific Regional Office (NPRO) for the period 2014-2017). Over time, it became evident that project representation (in the form of coordinators) was needed in most target countries to maintain momentum with project implementation. The in-country coordinators were funded from the country national budget allocation and were also recruited to also provide additional technical expertise in DRR/CCA.
- Initially the PMU only had one administrator/finance person, and no monitoring and evaluation expertise. Given the size and complexity of the project, this proved inadequate. The first EU Results-Orientated Monitoring review recommended the recruitment of additional finance and procurement staff into the PMU. In 2018, the PMU also recruited a Deputy Project Manager with a background including the management/design of projects, systems, contracts, and finances. This additional project management capacity rapidly increased the implementation rate for the project and strengthened the financial and records management, as well as the monitoring and evaluation functions of the PMU.
- Although Country Implementation Plans were agreed in the first year of implementation, considerable flexibility was allowed with regards to reallocating funds to existing and emerging priorities within country budgets (where they aligned with the project KRAs). This flexibility had the effect of assisting countries (particularly those that had encountered disaster events) to address immediate challenges. Being responsive to country requests helped strengthen relationships and trust between the SPC and the countries. This adaptability also meant that SPC/the countries were able to ride through the issues confronted by D+3 and keep countries in the driver's seat rather than closing the project early. Nevertheless, the changing work plans made financial planning challenging for SPC (and time and human resource capacity were lost). This led to some delay in implementation, subrecipient acquittals and closure.

Case Study 1: Vital coordination infrastructure in Vanuatu



In a Post Disaster Needs Assessment (PDNA) undertaken in 2015 following Tropical Cyclone Pam, the Vanuatu NDMO found communication and information flow between the national response coordination agencies problematic and in need of significant improvement – that problem was said to have 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 from being predominantly based in Port Vila to having centres in the provinces. BSRP assisted the NDMO in its efforts by funding the construction and outfitting of three Provincial Emergency Operations Centres (PEOCs) in Sanma, Ambae and Malampa, Vanuatu. Each centre was built to house three National Disaster Management Officers that would normally be in the capital, Port Vila. The centres were also outfitted with radio communication equipment to send and receive real time disaster information. As said by the Prime Minister Prime Minister Hon. Charlot Tabimasmal during the official opening of the Malampa PEOC, “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.”

Following its opening in 2018, the Sanma PEOC was quickly put into use after an active volcano on Ambae Island, Monaro Voui, sent plumes of thick smoke and ash into the air for 12 months, forcing the evacuation of 9,000 people from Ambae to Santo. The centre became much more than just a point of coordination amongst emergency responders. Functions ranged from registration of evacuees, coordination of goods and services, and storage of relief supplies. Residents returned a month later when volcanic activity settled but the authorities ordered another mandatory evacuation when monitoring revealed high chance of eruption. When evaluated in September 2019, around 50% of the population remained on Santo and the government continues to provide assistance through the PEOC in Sanma.

Although the PEOC in Ambae was constructed, the volcano interrupted the process of completing the full fit out. It has since been agreed that this facility will be used to house volcanic monitoring equipment until such time that full relocation back onto Ambae is possible. At that time, the Government of Vanuatu will complete the build for it to be a functioning EOC. By adopting a level of flexibility in this case, a functional use for the facility has been identified and development benefits will continue to be derived despite plans to establish the EOC were thwarted by the volcano. Finally, the Malampa PEOC has also proven its utility. When a major earthquake struck in January 2019 causing major landslides and other damage on Ambrym Island, this PEOC went into operation to coordinate the disaster relief and relocation of affected communities on the island.

Despite only being completed, the centres have proved to be vital infrastructure to coordinate response and recovery essentially providing solutions to critical faults that were exposed following Tropical Cyclone Pam in 2015.

x. Monitoring, Evaluation and Audits

The BSRP project did not have a clear monitoring and evaluation budget until funds were re-prioritised at the end of 2018. There was also no dedicated Monitoring and Evaluation (M&E) Officer. That meant that monitoring was primarily undertaken by: the Project Manager, Country Officers, Communications Officer and in-country coordinators. This function was later supported by the Deputy Project Manager and a shared divisional M&E resource.

In 2019, unspent funds were re-prioritised to contract in an external evaluation of the project covering all fifteen countries. This evaluation was targeted around themes from which SPC felt key lessons could be learnt. Evaluation findings have been used to inform this report and will be used to inform the design of the next round of EDF11 funding for ACP.

While the Contribution Agreement had a draft logframe, the logframe was not finalised until 2017 (and incorporated into the Contribution Agreement through an addendum in 2018). The finalised logframe had indicators that were mostly set at input and output level. Given its finalisation was late, the baseline data available for each indicator is of variable quality and indicator data was not captured in a standardised manner by implementing partners throughout the whole project (this included inconsistent collection of gender disaggregated data in the early years). These factors, unfortunately, did not promote systematic results-based management. Nevertheless, with SPC moving to strengthen its own M&E capability in recent years, a focus on outcome-based reporting became integrated into the BSRP project in the second half of the project (thus informing the case studies in this report). Indicator and progress data also began to be more systematically recorded, analysed and reported. This informs the logframe as reported in Annex 3, and the analysis throughout this report.

There was a cascade of progress reporting that occurred under BSRP – in-country implementing partners reported to the country focal point; the focal point reported to the PMU; and the PMU reported to the EU, RSC and SPC management. The primary reporting tool was the annual narrative and financial progress report prepared by the PMU. The PMU would also submit short quarterly reports to the EU and respond to ad hoc EU requests in the interim.

Within SPC, there was a six-monthly organisation-wide planning and reporting cycle that the BSRP project was required to report into, along with ad hoc reporting to meet management requests.

The project was subject to an external monitoring process by the EU (commonly referred to as Result-Oriented Monitoring (ROM)) and as well an EU-funded end-of-term evaluation that included four countries (Fiji, Solomon Islands, Tonga and Vanuatu) and was focused on the Evaluation Criteria of the Development Assistance Committee of the Organisation for Economic Cooperation and Development (DAC Criteria).

KPMG Suva completed project audits throughout the project prior to new tranche payments being requested from the EU. In addition, the BSRP project fell within the SPC organisational audits, and is subject to an EU audit process following the completion phase.

xi. Communications and Visibility

SPC agreed a Communications and Visibility Plan with the EU in 2016 to increase disaster resilience in the 15 participating PICs through targeted communications materials, whilst also supporting increased visibility of the BSRP project and partners. The Plan provided clarity on branding and expectations of project with donor partners. The PMU Communications team then worked with Focal Points to development communication and visibility plans for each country.

As outlined in Case Studies 13 and 23, the BSRP project moved to adopting a ‘communications for development’ approach in order to affect a change in behaviour within Pacific communities leading to increased disaster resilience and readiness. This approach also used channels of communication that ensured understanding of the work being achieved under BSRP and visibility for implementing and donor partners. Of particular note were the Get Ready Disasters Happen campaigns, the Private Sector Toolkit for Disaster Readiness, and the early childhood education DRM resource in Samoa.

While SPC hosted a project website and had regular press releases as required under the Plan, it was the Facebook posts through SPC’s Pacific Way and the EU social media pages, SPC Twitter feeds and the videos/documentaries produced that provided the greatest level of visibility for the project and partners. The PMU also worked with in-country partners to design, produce and distribute nearly 40 reports, plans or frameworks that had been developed with assistance from SPC technical advisors.



GET READY Disasters Happen Campaign

Consolidated list of all communication and visibility product (Annex 7)



2. OVERARCHING OBSERVATIONS

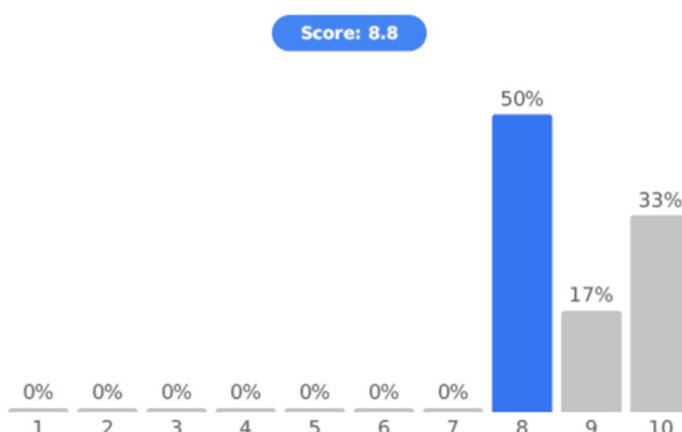


A. Achievements against overall objective

While achievements varied by country, overall the BSRP project was successfully able to take a multipronged approach to reducing vulnerability across the region. Regulatory improvements were accompanied by investments in people, infrastructure, equipment and systems focused of all aspects of the DRM cycle – from risk reduction (and CCA) to preparedness, response and even recovery within the context of ‘build back better’. The obvious exception to the successful multi-pronged approach was Nauru where most of the budget was allocated to a single project – the design and build of the National Emergency Service (NES) complex. While the design was completed, the tender process produced bids that far exceeded the quantity surveyor estimates meaning that building was not going to be possible within the combined BSRP/government budget available.

Overall, those that benefited from the BSRP project rated it highly. When Country Focal Points were asked to rate the project,⁶ it received an overall score of 8.8 out of 10.

Figure 10: How do you rate the BSRP project overall? (1 - poor, 5 - ok, 10 - excellent)



This positive score is a reflection of BSRP’s focus on nationally identified priorities, particularly as they aligned with regional and international priority actions. This is shown by the project having targeted (or partially targeted) FRDP priority actions for national and subnational governments and administrations, specifically, 14/20 (70%) of those for Goal 1 (Strengthened integrated adaptation and risk reduction to enhance resilience to climate change and disasters), and 15/18 (83%) of those for Goal 3 (Strengthened disaster preparedness, response and recovery).

Similarly, as noted in an EU-funded evaluation of BSRP (Cardno, 2019), BSRP at least partially addressed 51 of the 90 regional and national priority actions included in the Sendai Framework (57%), particularly in relation to strengthening disaster risk governance and enhancing disaster preparedness for effective responses.

Table 1: Priorities of the Sendai Framework addressed by BSRP

Priority Action Groups under the Sendai Framework	No. priorities addressed by BSRP
1) Understanding Disaster Risk	14/26 priorities (54%)
2) Strengthening Disaster Risk Governance to Manage Disaster Risk	15/18 priorities (83%)
3) Investing in Disaster Risk Reduction for Resilience	8/26 priorities (31%)
4) Enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction	14/20 priorities (70%)

While there is a clear sense from in-country stakeholders that BSRP focused on priorities, measuring and reporting on BSRP contributions against the project’s overall high-level objective was challenging.

⁶ BSRP RSC 2019 Slido survey

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).

The BSRP project sought to measure change against this objective using the World Risk Index (WRI) scores (log-frame in Annex 3 refers), although in retrospect, the link between the project and this high-level index is weak and it is difficult to attribute any change to the project. Although BSRP has a sizeable overall budget, when divided across 15 PICs over six years, it is clear that any BSRP contribution to changes in the WRI score would only be minor for each country given:

- at any one time, there are multiple government and non-government initiatives that effect resilience in each participating PIC.
- the effects of climate change are being felt much faster than previously predicted (for example, ocean warming causing sea level rise and extreme cyclones)⁷ thus hazard exposure scores (which are outside the control of the project) have increased.
- the BSRP project did not target many of the broad factors used as indicators to inform the WRI scores, thus there is a poor cause and effect relationship between the actions taken and scores.⁸

The other limitation of using the WRI is that it only includes the eight PICs where there is sufficient data to score the country. This means all PICs in the North Pacific, as well as most of the micro-states and many PICs that faced the effects of TCs and droughts are not represented in the available data.

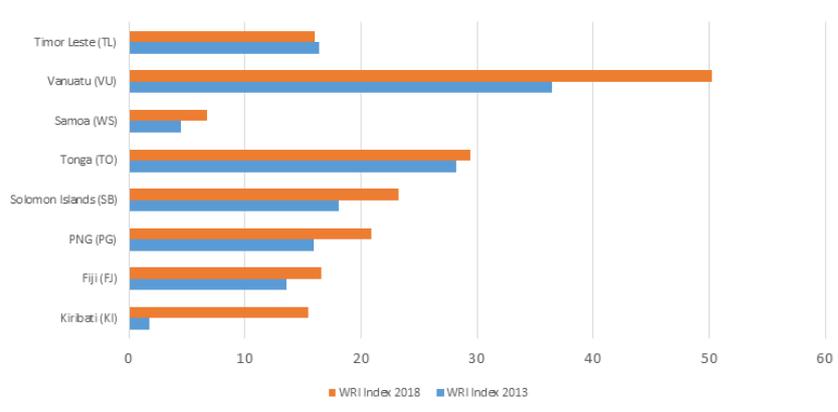
Although not a good method to measure BSRP results, as this was originally selected as an indicator of the overall objective, the overall trends from the WRI are included below and in the graphs overleaf. Overall, in 7/8 PICs, the WRI scores increased between 2013 and 2018 (rather than decreased as is desirable), but when broken down into the categories that make up the WRI score progress was mixed:

- in all reported PICs, *exposure scores* (an external factor) increased between 2013 to 2018.
- in all instances, *vulnerability scores* only slightly changed. Small reductions in vulnerability were recorded in Fiji, Samoa and Timor Leste. Small increases were recorded in PNG, Solomon Islands, Tonga and Vanuatu – all of which responded to disaster events over the project period.
- *susceptibility scores* decreased in 4/8 PICs (Timor Leste, Samoa, Fiji and Kiribati).
- in 4/8 PICs, there was no significant change in *coping capacity score*. In 3 PICs, coping capacity scores improved more significantly (Solomon Islands, Samoa, and Timor Leste) in 1 PIC the coping capacity score was significantly reduced (Vanuatu).
- in 4/8 PICs, there was a decrease in the *adaptive capacity score*, while in the other 50% there was an increase in adaptive capacity.

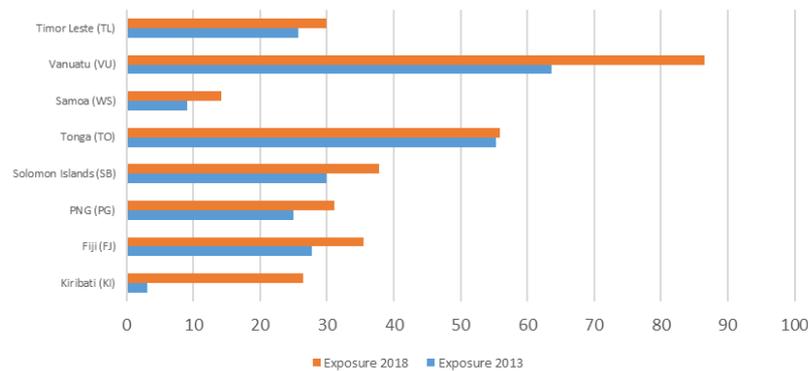
⁷ Cheng, L., Abraham, J., Hausfather, Z., Trenberth, K. (2019) How fast are the oceans warming? Science, 11 Jan 2019, pp.128-129

⁸ For example: susceptibility scores include sanitation, housing, nutrition, poverty and economic indicators; coping capacity includes medical capacity, corruption, failed state, social networks and insurance indicators; adaptive capacity includes literacy, schooling, life expectancy indicators, etc.

Overall WRI Index

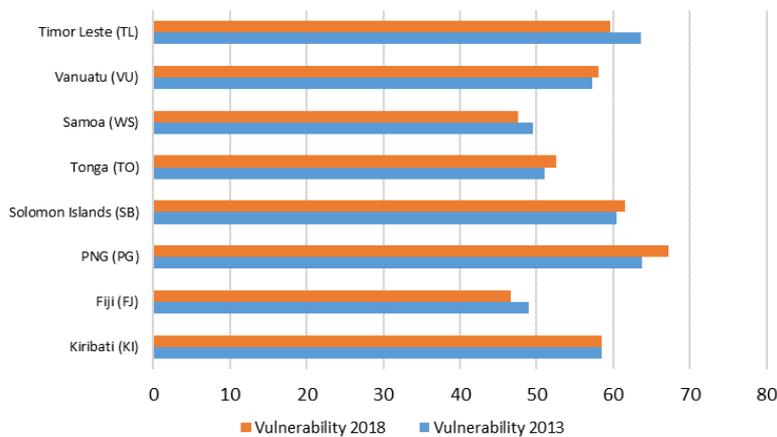


Exposure



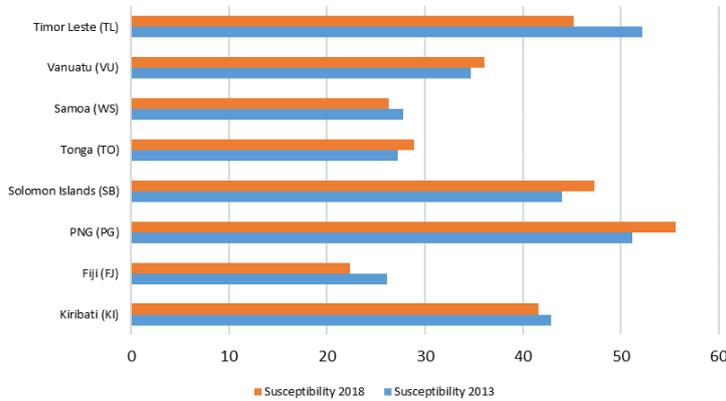
Exposure means that a certain good-population, buildings, infrastructure components, environmental areas- is exposed to the impacts of one or more natural hazards (earthquakes, cyclones, droughts and floods).

Vulnerability



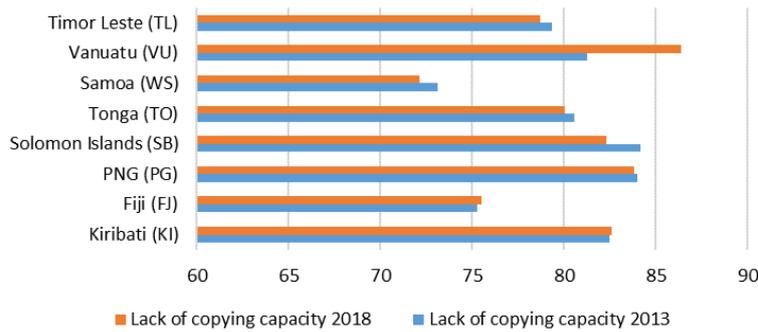
Vulnerability relates to: social, physical, economic and environment-related factors that make people or systems susceptible to the impacts of natural hazards and the negative effects of climate change; factors comprising the abilities and capacities of people or systems to cope with and adapt to the negative impacts of natural hazards; and the components of susceptibility, coping capacities and adaptive capacities.

Susceptibility



Susceptibility is the probability of sustaining harm should a natural hazard occur. It describes a society's structural characteristics and framework conditions.

(Lack of) coping capacity



Coping refers to various abilities of societies to minimize the negative impacts of natural hazards and climate change via direct action and the resources at their disposal. Coping capacities comprise measures and abilities that are immediately available to minimize harm when a disaster strikes. For the WRI calculation, the opposite value (lack of coping capacities) is applied.

Given the Hyogo Framework for Action (HFA) country reviews provided baseline for the BSRP project, a brief analysis of progress against the challenges and recommendations identified in the Regional Synthesis Progress Report for the implementation of the HFA and *Disaster risk reduction and disaster management: a framework for action 2005–2015 An investment for sustainable development in the Pacific Island countries* (RFA) for the period ending 2013 is set out table 2. It shows that the project made some significant progress in responding to some of the challenges that the region faced back in 2013.

Table 2: Challenges and recommendations from HFA/RFA review addressed by BSRP

Challenge/recommendation	BSRP contribution to response
Governance and institutional arrangements – more required to provide institutional basis for DRM, especially as it integrates with CCA.	As outlined in section 3(B), under KRA 2, the BSRP project contributed significantly to strengthening institutional arrangements for DRM across the region. For example, in FSM the Disaster Preparedness and Response Plan was prepared following a consultative process that spanned government and community stakeholders across four states. Stakeholder feedback during a 2019 evaluation “Before, we (Department of Environment, Climate Change and Emergency Management) hardly had any good engagement with state level... This (national) plan brings together the people who need to work together.”
Links between DRM and development – difficulties remain enforcing regulations that integrate DRM/CCA into planning.	The BSRP project supported both Niue and the Cook Islands to review their Building Codes through a participatory process. In the Cook Islands, a guide to the Building Code was also produced. In Samoa, support was given to guidelines for mainstreaming DRR across 14 sectors (Case Study 18 refers). Enforcement, however, still remains a challenge.
Limited data – lack of systematic data collection limits ability to understand baselines/trends. Limited data across a range of areas limits DRM/CCA planning.	BSRP contributed to filling data gaps across a range of countries, including PNG, the Cook Islands, FSM, Palau, Fiji, RMI and Samoa. In the Cook Islands, an internet based, centralised geoportal database was developed to include up-to-date information on households that can inform DRM work. The database includes information from previous surveys and new information. The evaluator in 2019 noted that “Previously spatial information was scattered and buried in government agencies and access to data was difficult due to the different formats. Now the more coordinated data gathering has established a good foundation for future database development and given good starting points for different Geographical Information System (GIS) analysis for the benefit of DRM and CCA work.”
Inherent capacity limitations – donors should address priority gaps and recognise capacity gaps and high staff turnover	The BSRP project has been widely recognised by stakeholders as having strongly focused on national priorities as identified by PICs themselves. In many countries, the project funded the likes of coordinators, engineers and information management personnel. Additional expertise was contracted in or facilitated through establishing partnerships and/or twinning arrangements under Pacific Islands Emergency Management Alliance (PIEMA) (Case Study 32 refers)
Support needed for community-based approaches to DRM and CC -	<p>Given communities across the region are widely dispersed and challenging to access following an emergency, the BSRP project supported PICs to either pilot or roll out community-based approaches. (Case Study 20 refers).</p> <p>In Tonga, this involved the NDMO working closely with a local non-governmental organisation (Mainstreaming of Rural Development Innovation) and the Ministry of Internal Affairs to integrate DRM into community planning across 126 communities. Moreover, five District Emergency Management Committees were established, trained and disaster management plans put in place. Further training at community level included post-disaster needs assessment, first aid, KoBoToolbox,⁹ evacuations and DRM. The 2019 evaluator observed.</p> <p>“The integration of DRR and CCA in the community management plans has improved the resilience in terms of skills to react and getting prepared for disasters...it can be concluded that a difference was made in the communities’ response capacity...In the past, the information and training given in the communities were given verbally and very little written material existed...Now plans are laminated on the community hall walls, which is a big difference. This also encourages people to act, and not only rely on government aid, and inspires them to act towards a more resilient community. Moreover, documented plans provide basic baseline information for any future projects, which can build on the existing plans and knowledge”</p>
Build on existing mechanisms, past successes and lessons learnt, including encouraging efforts to maintain traditional knowledge and coping mechanisms.	<p>As well as piloting new approaches that could be expanded, the BSRP also built on previous successes. For example, the design of the Provincial Emergency Operations Centres built in Vanuatu was based on a World Bank design already trialed, but was adapted to integrate lessons from that trial.</p> <p>The BSRP project supported lessons learnt exercises following disasters, and integrated those lessons into activities being implemented (Case Study 9 refers). In the Cook Islands as well as PNG, research was undertaken to begin documenting traditional knowledge and coping mechanisms. In the Cook Islands, this has been captured in a documentary which is broadcast on television prior to cyclone season.</p>

The project ultimately found that the best way to demonstrate impact in a project with such a wide variety of activities was through story. Thus achievements are encapsulated within feature stories and short stories throughout this report – each of these case studies often contributed to more than one KRA (for example, Case Study 2 on enhancing quarantine services in Kiribati as a first line of defence. Videos and documentaries are also available on the BSRP website: <https://bsrp.gsd.spc.int/index.php/videos/>

⁹ An opensource suite of tools for field data collection for use in challenging environments.

Case Study 2: Quarantine as a first line of defence

KRA2 KRA3 KRA4
EUR 27,627 + TA

The increased movement of goods shipped and people travelling more frequently around the world raises the health and bio-security risks to countries like Kiribati.

Having come into effect on 1 December 1926 while Kiribati was still considered a colony of Britain and then legalised when Kiribati gained self-governance in 1977, Kiribati's National Health Quarantine Ordinance 1977 is significantly outdated and unable to meet modern day needs. The primary purpose of the Ordinance is to prevent the spread of diseases through movement of vessels, aircrafts, persons, goods and pests at the ports of entry.

The Kiribati Joint Implementation Plan for Disaster Risk Management and Climate Change (2014 – 2023) prioritises the review of the Ordinance given the provisions dealt primarily with shipping, and did little to address the aviation-related threats. As aircrafts are a favoured means of travel given their speed and convenience, travellers pose great risk of spreading diseases across boundaries if monitoring is not vigilant.

The recent increase in transboundary communicable diseases such as malaria, Severe Acute Respiratory Syndrome (SARS), Zika, Ebola and other global health hazards, warrants the strengthening of the Ordinance to ensure such diseases do not threaten the local population, particularly, the most vulnerable.

The BSRP project supported the government in the review process. A local consultant with many years experience in health quarantine led the review. During drafting, the consultant took into consideration the World Health Organisation's International Health Regulations provisions and consulted with key stakeholders (in particular, the Disaster Risk Management Unit of the President's Office, Kiribati Customs Administration and Enforcement, the Agriculture and Livestock Division, Marine Division, and Environmental Health Unit).

The draft Bill was provided to the Office of the Attorney General for its scrutiny and to ensure compatibility with other laws before it was submitted to Parliament.

According to the Disaster Risk Management Officer in the President's Office, Takena Redfern, "we are happy to report the revised Health Quarantine Ordinance has been endorsed by Cabinet."

"Once ratified by Parliament, the Ordinance would empower Quarantine Officers at the ports of entry to board ships and aircrafts, and scrutinise the state of health of all passengers and goods. It will also demarcate mooring grounds at the harbour and airports for ships and aircrafts suspected of carrying infected persons and goods that can be harmful to the local population."

The BSRP project also supported the Government to construct a Biosecurity Mini Laboratory located at the Betio port to carry out assessments of goods that may be deemed harmful to the people and biodiversity of Kiribati. This complemented earlier work undertaken by SPC specialists under BSRP to build the capacity of Ministry of Environment, Land and Agriculture Development officials to undertake field surveys involving animal blood sampling and processing, crop pests and diseases specimen collection, as well sorting and processing and shipment to New Zealand Plant Health Entomology Laboratories, CABI (UK) and SPC (Fiji).

Case Study 3: Reducing vulnerability created by isolation in Tuvalu

KRA1 KRA2 KRA3
KRA4 KRA5 EUR 27,627 + TA

With support from the BSRP project, Tuvalu adopted a multi-pronged approach to reduce the vulnerability created by the isolation of its outer islands in line with the Tuvalu National Strategic Action Plan for Climate Change and Disaster Risk Management 2012 – 2016.

Tuvalu is a small island nation with five atoll islands and four coral islands spread across 579 kilometres of ocean. All Tuvalu’s islands are low lying, with the highest elevation being four metres on the island of Niulakita. As such, Tuvalu is prone to natural disasters such as droughts, sea level rise, King Tides, cyclones and storm surges. The isolation of the outer islands increases their vulnerability to these disaster threats as it delays any response from the capital.

To ensure quality and sustainable forecasting from the northern island group, a replacement Meteorological Centre for Nanumea island in the far north was constructed to house observation equipment and the Meteorological Officer. The Meteorological Office in the capital Funafuti now receives quality weather readings and disseminates up-to-date weather information from the station.

To assist with the localisation of DRM responsibilities and improved coordination, BSRP supported a consultation process in the outer islands to operationalise the Tuvalu Disaster Act (approved by Cabinet in 2020). The Act recognises the island disaster committees (IDC), and aims to strengthen disaster coordination and planning between the Disaster Management Office in Funafuti and Island Disaster Committees.

Disaster committees on all outer islands also received training and support to identify their island’s preparedness and response priorities following Tropical Cyclone Pam. BSRP then equipped the disaster committees with, and trained them on the use of VHF radios. Other DRM equipment priorities were procured in line with the planning undertaken.

To aid with preparedness, the Tuvalu Red Cross collaborated with the NDMO to construct three Disaster Preparedness Depots on two coral islands- Niutao, Nanumaga – and one atoll- Nukufetau. These Depots contain pre-positioned supplies. Standard core items stored include tarpaulins, blankets, water containers, buckets, mosquito nets, kitchen sets, hygiene kits, shelter tool kits, and solar lamps to be distributed to people in the event of an emergency.

Finally, to ensure that future response and recovery actions are well informed, a survey was conducted to capture all property information within a Property Registration System, which is now maintained by the Tuvalu Survival Fund and is used to determine payouts from the Fund. The system will also allow for better disaster risk decision making for policy makers and will inform disaster compensation decisions



B. Sustainability, exit and transition planning

Sustainability of the activities undertaken was actively pursued throughout the project, although not always as successfully as hoped. An independent evaluator (FDC ANZDEC, 2019) found that sustainability was most effectively achieved where:

- project coordinators were embedded into the focal point agency
- the targeted, practical assets and DRM guidelines were controlled by the focal point
- there was a transition from external provision of training to embedding trainers in-country
- activities were able to access existing national budget allocations
- physical investments were well sited and
- multi-faceted capacity building strategies were employed.

Challenges to sustainability arose including in circumstances when:

- countries had poor-performing or disconnected NSCs
- activity design and planning remained within one government line ministry (primarily NDMOs)
- large infrastructure projects depended on match-funding from governments and other donors
- parts supply line agreements were not in place at the time assets were acquired/donated
- there was insufficient planning for ongoing training support and
- beneficiaries were passive recipients of training and assets.

That said, the PMU took specific actions to help ensure sustainability throughout. This included, for example:

- encouraging PICs to have multi-stakeholder NSCs so that there was broad knowledge and ownership of the results of BSRP in their country.
- focusing on country priorities, so that it was in their interests to ensure sustainability.
- adopting a train-the-trainer model where appropriate and training sufficient trainers within each country to account for the high staff rotation that occurs in the region. This meant that the skills and knowledge gained under BSRP can continue to be replicated long after the project ends.
- adopting a 'communications for development' approach aimed at behavioural change, and working at all levels of society – from children/youth through to the executive government.
- supporting the development of plans, legislation and building codes through highly participatory processes, again to ensure local ownership and relevance. This includes the FRDP and PIEMA at a regional level – these initiatives have successfully attracted alternative funding to operate independently of the project.
- building inter-agency partnerships and twinning relationships that will endure and continue to provide benefit.
- monitoring activities implemented and following up with further activities where issues impacting sustainability or impact were identified (for example, additional training of borehole drill operators and parts for complex terrains was provided in Vanuatu to address gaps from the original purchase).
- funding the coordinator in Timor Leste for an extended period to ensure that asset transfers and maintenance followed the movement of the NDMO between ministries.
- arranging for the BSRP website to continue after the project ends so that the videos, documentaries and lessons learnt can continue to be of benefit to the region.
- protecting assets obtained (as far as possible given the climatic conditions on the islands). For example: building shelter for fire trucks donated; training local representatives to maintain water tanks; and signing agreements with recipients of emergency vehicles (prior to their procurement) under which they had to ensure vehicles had the necessary road worthiness, registration and insurance at all times, and would be responsible for their day-to-day maintenance.

On project completion, in line with SPC's Fixed Assets and Small Value Items Policy and clause 7.3 of the General Conditions in the Contribution Agreement, fixed assets were transferred to implementing partners/agencies. Under the transfer agreements, again recipients agreed to responsibilities that include the cost of maintenance and upkeep of the assets; and ensuring the assets are solely for the purposes approved in the approved workplan. A full Asset Register is contained in Annex 5.

Sustainability was discussed during the design and implementation of each activity, and was a key focus of the final RSC held in 2019 where one-on-one conversations were held with country focal points. Some countries provided excellent examples of sustainable business models, for example, in Vanuatu the government now hires out the borehole drilling rig for private well drilling contracts and uses profit made to fund maintenance and the drilling of wells for community and public benefit. This was unfortunately not the case in all PICs. At the final RSC, and during the evaluator's subsequent visits, it became evident that not all countries had sufficiently considered and planned for the budgetary impacts of maintaining the gains under BSRP once project funding ended (this includes the maintenance of data, equipment or early warning systems in specific countries). Personnel rotation throughout the project was only one factor that contributed to this. Discussions and planning thus continued with these countries throughout the completion phase. In retrospect, more deliberate inclusion of Ministries of Finance and Planning in these activities throughout may have assisted in ensuring recurrent budget was set aside.

Many staff hired in positions funded by BSRP have also gone onto continue contributing to DRM/CCA in the region, thus ensuring that their enhanced skill sets will still be of benefit. In FSM, the Chuuk State EOC Director and Yap State EOC Manager roles are now state funded having proven the utility of having somebody permanently in the role. Similarly, in Niue, the coordinator role began to be government funded earlier than scheduled and BSRP funds were re-prioritised to meet the National EOC costs. In Timor Leste, the BSRP Coordinator has been absorbed by the National Authorising Office for EU projects, and in Kiribati and Cook Islands the coordinators have taken on Disaster Officer and Policy Officer roles respectively. In other instances, the expertise of these personnel have not been lost as they have moved onto working in new resilience-related projects (including coordinators in Vanuatu, RMI and Tuvalu as well as the Cook Islands Geoportal Officer). In Fiji, the coordinator moved into a BSRP Country Officer role for the final year of the project, and coordinators from Tonga, PNG, UPNG CDR and Solomon Islands are all pursuing higher education.

Where possible, the BSRP project planned to exit and leave developments in the hands of beneficiaries (for example, the relocated village in Tukuraki is now the responsibility of the families, village leaders and district authorities). Given the continuing vulnerability in the region, however, it is evident that PICs will require ongoing support to mitigate the threats that climate change and disasters will continue to pose for the region on an ever-increasing scale. It is for this reason that as the project was closing, SPC began working with countries, the Intra ACP Secretariat and the EU to explore what the next phase of BSRP will look like.



Relocated Tukuraki Village

Case Study 4: Building and sustaining emergency response and DRR capability in the region

KRA3 KRA5
EUR 575,787 + TA

To maximise the utility of BSRP’s significant infrastructure investment and address the lack of interoperability between key emergency management agencies in the preparedness and response to disasters, a comprehensive and standardised capacity development programme was required. It needed to be sustainable and include a wide number of potential responders from national, district and village levels across the region. Having already trained over 500 participants at national and subnational levels in basic emergency operation centre management and disaster risk management, it was evident that more trainers were needed.

In 2019, 190 participants from fifteen Pacific Island countries (29% female) thus participated in two regional training programmes delivered in each of the subregions (Polynesian, Micronesian and Melanesian): Working as a Team in an Emergency Operations Centre Training of Trainers (WEOC ToT) and Introduction to Disaster Risk Management Training of Trainers (IDRM ToT).

The WEOC course had been revised by SPC in 2016 using course material provided by the New South Wales Government and adapted to the Pacific. It was accredited by Educational Quality and Assessment Program (EQAP) in 2018. This course had been identified and requested by many NDMOs as essential emergency management training recognising EOCs as the nerve centres of coordination efforts during responses, and the need to man them by well trained personnel.

The IDRM course, also accredited in 2018 by EQAP, introduced participants to the principles of DRR, building disaster resilience, reaching DRR decisions, and integrating DRR into your daily work. It built understanding of the multi-disciplinary nature of DRR, its crucial role in adapting to climate change, and the relationship between disasters and development.

In surveys, participants gave the course contents high average ratings (6.40-6.81/7). All participants indicated they gained new knowledge and skills – 81% of respondents had applied these skills within a few months of completing the course. A Samoan respondent reported they had been attached to an activated NEOC as part of their country’s response to the 2019 Measles outbreak, and found that “All skills and knowledge that I have learnt from the SPC Disaster Resilience Training am fully (sic) contributed to the NEOC team.”

Individuals that had completed the two courses but needed to sharpen their training skills then participated in a Training for Instructors Course (TFI). This also received high ratings, with a participant from Palau stating that the “TFI course has taught me what would be needed to put together IDRM and WEOC trainings in my own country.”

This BSRP regional training package has now set the stage for PIEMA to now support the implementation of the training at a national level alongside Pacific Islands Liaison Officer Network (PILON) trainers from Australia and New Zealand, where needed.



C. Integration of gender, human rights and environment

Under the Project Implementation Plan, the PMU, as part of its oversight role, endeavoured to incorporate cross-cutting issues into the design, implementation, monitoring and reporting elements of the project. These cross cutting issues included: consideration of gender and gender equality; human rights and protection; disability inclusivity; and environmental protection.

The process used included applying a ‘design lens’ to all project activities endorsed by the NSCs. In practice, this meant project officers discussing country-endorsed activities with the PMU and key experts on the cross-cutting issues and applying relevant tools where available. Expert advice was sourced from within SPC and from external partners (particularly, United Nations Entity for Gender Equality and the Empowerment of Women (UNWomen) with whom BSRP signed an MOU).

i. Gender

The BSRP-funded documentary *Kia vai tea'teama'mao te Iti Vaine* portrays women's experiences of disaster events in the Cook Islands. In the Cook Islands and across the Pacific, women in the Pacific Islands often take responsibility for looking after family homes, children and the vulnerable. Women have a key role in preparedness and risk reduction activities for families and communities. During disaster events, their workload increases as they become first responders keeping their families and community together, safe, hydrated and fed. With disasters, food and water security become a particular issue. Childcare becomes more challenging, and sanitation needs are often not met (including in evacuation centres).

Research¹⁰ shows that “climate change effects exacerbate existing gender inequalities, often resulting in more negative impacts for women”; and that during and after disasters, women are at greater risk of sexual and gender-based violence, including rape, sexual exploitation, and assault. This is a key issue in the Pacific where incidents of domestic violence are already high. This issue had a very real and profound impact on the BSRP project when midway through the project a PMU staff member passed away at the hands of her abuser. This also led to a change in SPC's own domestic violence policies.

As the number of women represented in local and national decision-making structures (particularly around disaster management) tends to be low in the region, many Pacific women in 2020 still do not feel their needs are taken into account in disaster-related decisions, nor are their roles as first responders (rather than simply beneficiaries) portrayed within policy documents.¹¹ SPC recognises that having women at the decision-making table is not only beneficial for women, but for all those in the region. This was also recognised by Pacific leaders when endorsing the FRDP in 2016 (the development of which was supported by BSRP), which “recognises the critical role of integrating gender considerations, and advocates for equitable participation of men and women in planning and implementation of resilience building activities”. Again, in the Pacific Platform for Action on Gender Equality 2018-2030, leaders recognised that “Promotion of gender equality concerns everybody.” They stated, “Women's full participation in climate change adaptation and disaster risk reduction is essential, given their knowledge and skills in natural resource management and energy use. However, their engagement in climate change discussions and the integration of a gender perspective in climate change policies and programmes remain marginal.”

The BSRP project included gender-specific activities, but also factored gender sensitivities and inclusivity within other activities.

Although most Pacific NDMO Directors over the implementation period were male, fifty seven percent (57%) of in-country positions filled by BSRP were female (including coordinators). As in-country coordinators also attended RSC meetings and influenced decisions, this helped ensure female voices were well integrated into the project. As organisational representation on NSCs changed throughout the project, data on gender representation in these committees is not available.

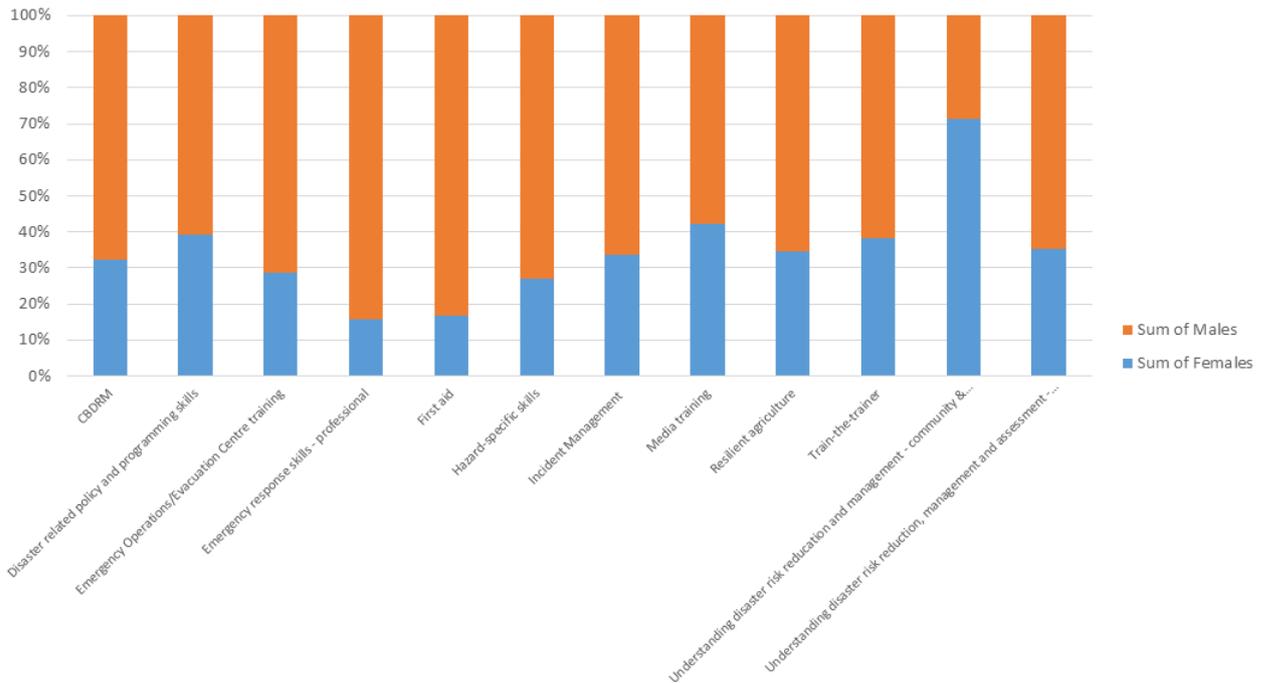
¹⁰ UNWomen (n.d.), Climate change, disasters and domestic violence in the Pacific. <https://www.unclearn.org/sites/default/files/inventory/unwomen701.pdf>

¹¹ Ravoji, C. (2020), Pacific women shut out of disaster management – advocate, Radio New Zealand, 26 February 2020, <https://www.rnz.co.nz/international/pacific-news/410390/pacific-women-shut-out-of-disaster-management-advocate>

Within the PMU, the ratio of women to men varied over the life of the project with women at times outnumbering men. At all times there was senior female involvement in the project able to have high-level influence. SPC’s encouragement of women in DRM decision-making is also reflected in women being appointed to the Deputy Director of the Disaster and Resilience Programme and the Disaster Risk Team Leader roles, and the 2018 launch of the mentoring pilot Women Supporting Women in Sustainable Development Programme (WiSP) in the Geoscience, Environment and Maritime Division in which the BSRP PMU operated from- this included a BSRP PMU staff member who has since gone on to work in a more senior role at UNWomen.

BSRP drew on both male and female experts in the region to deliver training, thus showing leadership in the field. The project was able to collect gender-disaggregated data for 74% of DRM/CCA training, media training and study tour events - gender disaggregated data was not always available from early trainings and some trainings conducted by contractors and sub-recipients. From the training events for which this data is available, an average of 32% participants were female. However, this average varied by type of training as shown in Figure 11 below.

Figure 11: Gender representation within training (by type)



Of particular note was the high representation of women within community and private sector training to better understand DRR/DRM (reflect the high community participation levels of Pacific women more generally), and 35% of participants in train-the-trainer events were female, thus setting up the region to have a strong cadre of both male and female trainers. Unfortunately, there was a significant under-representation of women in first aid and professional emergency response skills training, reflecting the fact that these trainings were directed at emergency response personnel and Cook Islands Puna (district councils) where female representation is lower.¹² Given that women are often the ones to be home with children and vulnerable family members, increasing women’s participation in first aid training in the future will be of utmost importance. In light of some of these statistics regarding women in emergency response, the now independently-funded PIEMA project has developed the *Responding Together: Strategy for Gender Equality in Disaster Management in the Pacific* (finalised March 2020).

¹² Gender data for Tongan first aid training was not available.

While professional development training will support the career development of participants, to progress within the public service in the Pacific, formal qualifications are often required. Three countries prioritised providing Post-Graduate training in DRM from Fiji National University (FNU) to NDMO staff. Unfortunately, female staff were not among those nominated by PICs to do this training. This is an indication of the gap that exists before the region is likely to see more women in senior DRM decision-making roles at national levels.

Women were a key focus of a number of activities implemented by BSRP. For example, Emergency Management Cook Islands developed a partnership to support the *Au Vaine Kumiti* (the women's committee) to conduct capacity development workshops and produce documentaries, supporting the role of women and documenting their challenges during times of disasters (Case Study 5 refers). Training developed in Fiji to build capacity on using integrated community vulnerability assessment (IVA) tools undertaken on Vanua Levu (carried out with the University of South Pacific, the PacTVET project and UNWomen) also specifically targeted women in the communities. In documenting traditional knowledge in the Manus community in PNG, a focus was placed on collecting and documenting traditional DRR/DRM knowledge from both men and women elders. When forming Island Disaster Committees and conducting on outer islands in Kiribati, women's participation was encouraged. In the evacuation centres constructed in Timor Leste, separate spaces are available for women, including to change and breastfeed. Lighting in women's washrooms was carefully located to provide maximum coverage of the space. Moreover, the centres have proper kitchen facilities and for sanitation during an event, places for washing.

DRM/DRR planning supported across the region recognised gender issues. For example, in the Melekoek State DRM Plan (Palau), the role of the State Emergency Committee in DRR not only requires the Committee to amplify the voice of women in DRR, but extends to including protections in emergency planning to prevent violence against women, including sexual and gender based violence.

As noted in a 2019 evaluation (Cardno, 2019),

"All activities that provided water (tanks and wells) benefited overwhelmingly women as they are often in charge to collect the water. This was particularly the case at the Tukuraki village where the construction of a water supply system dramatically reduced the time needed for them to collect water. The same is true for the wells, tanks and solar powered water tap provided in villages in Santo in Vanuatu that significantly lowered the cost of collecting water for 100 of women from households displaced from Ambrym and Ambae islands.

...In the village of Masidonia in San Cristobal island, Makira province in Solomon Islands women told the evaluation team that the EWS system installed there against flash flood as part of the BSRP CBDRM plan (sensors and warning alarm) helped them to sleep better.

... [Female] teachers in Tonga that participated in the Tsunami drills for schools acknowledged that the drills were a good development that helped them lower their stress level in the face of tsunami risks.

...In connection with the Tukuraki village relocation, a few livelihood initiatives were developed that are often managed by women (beekeeping and honey making, fish farming)."

There is a sense that the need to rapidly implement activities and the move to sub-recipient implementation in light of the D+3 clause both detracted from the PMU being able to sufficiently ensure that gender considerations were reflected within activities as much as was desired. The PMU thus acknowledges that gender issues could have been embedded more deeply within activities. Not only were women under-represented in training statistics overall (as mentioned above), but their needs were not always sufficiently accounted for. For example, while indoor bathroom facilities were provided for the homes in the relocated Tukuraki village in Fiji, by using the government's standard design, food preparation facilities were not included inside homes and areas outside the house had to be constructed to use firewood or kerosene stoves.

Case Study 5: Affirming and upskilling women's roles in local disaster management in the Cook Islands

KRA3 KRA5
EUR 10,064 + Travel

Emergency Management Cook Islands (EMCI) developed a partnership to support *Au Vaine Kumiti* (the women's committee) to conduct capacity development workshops to support women's traditional roles in preparedness, response and recovery roles in times of disasters, and their challenges, and how to strengthen their roles in DRM and CCA.

Under the activity, *Au Vaine Kumiti* facilitators conducted two visits to the Pa Enea (outer islands) and recorded the challenges that women face during disasters, as well as their response and recovery within their respective communities, and introduce new resilience ideas to the women. Over 100 women were reached.

The partnership also resulted in producing a documentary that was shown on national television where women were able to share their vulnerabilities and successful traditional preparedness and coping mechanisms with one another, and with the whole country.

In addition, supported by match-funding, the facilitators taught them additional skills of how to tie down houses in preparation for a cyclone, using cyclone-proof septic water tanks, and how to refurbish storm-damaged houses. Participating women were introduced to social media by using modern technologies of internet, website, smartphones, tablet training, to strengthen their capacity development through new technology. This capacity development training assisted women in the face of climate change, disaster preparedness and researching current environmental and social knowledge. The capability to use smart devices has been empowering to the community women, who informants reported as expressing feeling new control over their lives, being able to search information online, receive disaster-related updates and contact family and friends overseas, such as to report their safety (or needs) during disasters.

ii. Human rights

The principle that “nobody will be left behind” in a disaster is widely accepted. The UN Committee on Economic, Social and Cultural Rights General Comment 12 emphasises that States have “a core obligation to take the necessary action to mitigate and alleviate hunger [...] even in times of natural or other disasters.” The FRDP also calls on governments, civil society organisations and communities across the region to strengthen capacities through human rights-based approaches to ensure effective delivery of development initiatives as well as fast and effective humanitarian action, disaster response and recovery. Despite this high-level leadership, truly inclusive development can best be described as nascent in the Pacific overall.

Key human rights to consider in the BSRP context, are the rights necessary for quality of life, security and physical integrity, including rights to an adequate standard of living (including adequate shelter), education, food/water and health. Moreover, everyone is entitled to meaningful participation in public affairs, and that includes DRR and DRM planning and action.

It is widely understood that those who face discrimination are particularly vulnerable (including persons with disabilities and older persons), and those who are excluded from society whether it be due to institutional, economic, cultural, societal, political reasons or distance, are also most likely to be most negatively affected during a disaster or climate event/process. The PMU encouraged PICs to include a diverse membership of organisations on their NSCs – this included women's and disability organisations – to assist with ensuring the diverse needs of PIC populations were met within the project.

Recent cyclones in the region have left thousands of people displaced or insecurely housed and with crops and livelihoods damaged. Planning to meet their needs requires responders to collect quality data. As outlined in the feature story Case Study 9, a key lesson captured in BSRP-funded reflection exercise in Fiji following TC Winston was the need to ensure monitoring and reporting tools capture information covering the full diversity of the local community, including considering gender, people with disabilities, the aged, and the lesbian, gay and transgender community. The collection of societal data, including on those with disabilities and the elderly, was the focus of activities in PNG and the Cook Islands (feature story Case Study 7 refers). In addition, post disaster needs assessments featured within the workplans of FSM, Palau, RMI, Samoa and Solomon Islands. Data collected in preparedness and response phases helps to inform inclusive risk analysis, DRR and DRM planning and action. The Cook Islands went on to create a Disability Toolkit (translated into Cook Islands Māori for accessibility) to guide how to make DRM processes more inclusive. In Tuvalu, a property register across encompassing all islands in the country was also established and data collected to inform future responses.

Disaster events and processes can significantly disrupt the right to education. Two activities under BSRP sought to provide increased security of access to primary education against climate-related hazards – the building of the Awak school seawall (feature story, Case Study 6 refers) and the supply of water tanks to schools to address water shortages during periods of drought (short story, Case Study 17 refers).

As a lack of knowledge about hazard risks and what to do to minimise and respond to these risks can accentuate vulnerabilities, education activities across the region targeted people of all ages and abilities. This included an early childhood educational resource in Samoa through to: primary school DRM additions to curriculum in Kiribati and the Cook Islands; printing and socialising the Ministry of Education’s Education in Emergencies and DRM Policy with schools across PNG; to tsunami and fire drills in schools in Tonga, Kiribati and Tuvalu. Barriers to accessing tertiary education were also removed when BSRP funded NDMO employees to complete the Post-Graduate Certificate in DRM.

Moreover, awareness activities funded under BSRP were wide reaching and came in various formats and languages to cater for the different parts of the population, from low-tech (multi-lingual posters and pamphlets region wide) to high-tech (multi-lingual SMS, radio and television campaigns in Fiji). In the Cook Islands, DRM-related documentaries were filmed and televised, and the PMU created numerous videos that were circulated through social media, which are still available on the website and YouTube. In the Solomon Islands, BSRP funded a multi-stakeholder workshop to improve early warning messages broadcasts on the radio to the public, providing accessible information and instructions to complement technical information from the meteorological services. In retrospect, it is acknowledged that websites created (e.g. the Get Ready Disasters Happen websites) could be made more accessible to those with impairments.

While disability disaggregated data was not generally collected for trainings and workshops, an independent evaluator (FDC ANZDEC, 2019) found pilot training for the Palau CBDRR toolkit (which includes recommendations to assess and map people with disabilities for emergency assistance) included the President of the national disabled people’s organisation (DPO), which provided an opportunity for the DPO to voice concerns about disaster risk in the country for those with disabilities. As a result of the CBDRR framework, the DPO is planning to develop its own CBDRM toolkit for vulnerable people.

CBDRM activities in a range of countries meant that remote communities received the information and tools necessary to help them better prepare for disasters. NDMO access to these communities was also assisted through the purchase of boats and mobile EOCs.

At the heart of the BSRP project were partnerships and many opportunities for the citizens of PICs to engage in planning and consultative projects. While M&E activities identified instances where consultation could have been more inclusive, examples such as consultation for the FSM Disaster Preparedness and Response Plan included communities across the four states across all sectors – government agencies, businesses, church leaders, women, youth groups, disabled people, traditional leaders and non-government organisations (NGOs). Consultations for the FRDP were also far reaching (feature story, Case Study 33 refers).

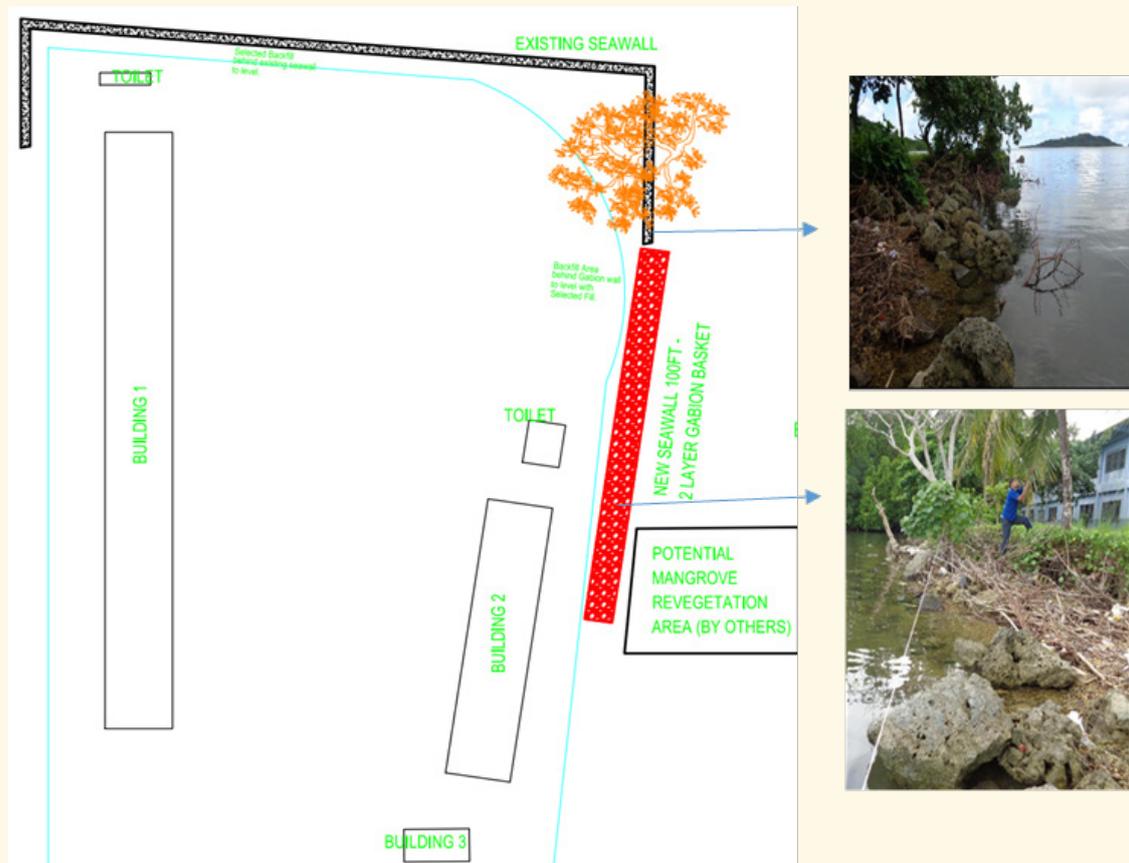
In Niue and the Cook Islands, Building Codes were revised to ensure that housing is adequate to mitigate the natural hazards faced in their respective countries, and included provisions relating to disability access. In Fiji, a community that had been displaced due to a landslide in the highlands (Tukuraki) was assisted with the process of re-establishing their village and houses in a safe location closer to water supplies/tanks, the local school and health care centre, so the children and families can have their basic needs better met (feature story, Case Study 30 refers). Traditional negotiation processes were followed to ensure the existing landowners at the site of the new village had their right not to be arbitrarily deprived of property fulfilled.

Accessibility was an important consideration in all BSRP building construction, including evacuation centres and EOCs. Walkways and lighting specifically designed for the EOCs were installed to ensure that people with disabilities are able to access the building with minimal problem. The project also supported the installation of early warning sirens. While these are not accessible to those with severe hearing impairments, in the case of Suva, they were installed as part of a broader notification system that was already in place, particularly, the use of radio and SMS text messaging. A technical assessment of the specifications and distribution required for the siren system considered factors such as: attenuation of siren volume between the source and receiver; siren frequency; and other environmental factors that would impact the audibility of the alarm. Importantly, the assessment factored in those who suffer from different levels of hearing loss to maximise who would benefit from the sirens.

SPC supports findings from an independent evaluation (FDC ANZDEC) that recommended further work be undertaken to deepen the understanding of what “inclusive” means within the Pacific context, and redefine this in the context of each activity early in the design process to improve inclusiveness.



Majuro, Marshall Islands



Case Study 6: Protecting essential infrastructure at Awak Elementary School

KRA1 KRA4
EUR 98,531

Protecting the right to education involves ensuring that essential schooling infrastructure is resilient and can withstand hazardous events and processes such as coastal erosion, which is a very real risk faced by many small island countries.

Awak Elementary School on the island of Pohnpei in FSM provides education for six villages- Awak Powe, Awak Pah, Kepin Awak, Pohn Awak, Awak, and Tipwen Kehpei. The villages have a total population of around 1,100 people, many of whom undertake sakau (kava) farming and fishing for livelihood and subsistence purposes.

The school's three concrete classroom buildings are built on reclaimed land. When the BSRP project was approached to assist, one double storey classroom building was less than two metres from an existing wall that had been rapidly washing away. The risk of further erosion was high.

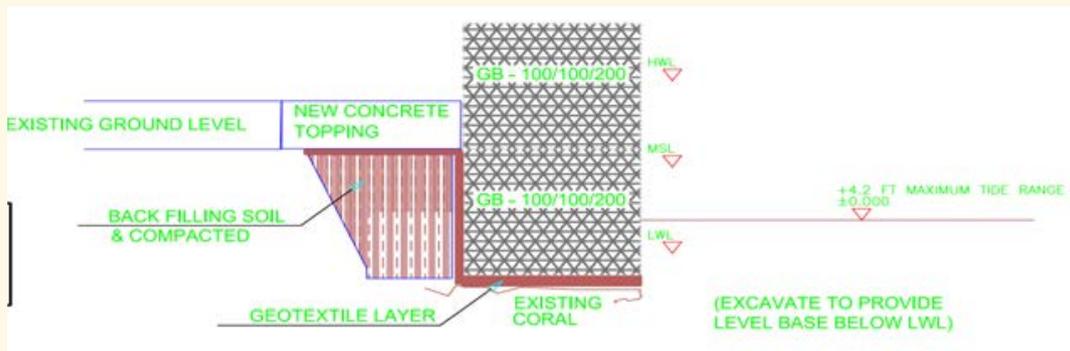
Through a participatory vulnerability assessment led by the Pohnpei Climate Change Outreach Committee, 96 community members including cultural, church youth leaders and members, teachers, school principal, fishermen and farmers, prioritised the construction of a sea wall to protect the classroom building from being washed away.

With the BSRP project financing the seawall construction and engaging technical expertise from SPC's Ocean and Coastal Geoscience team to vet the design, the International Organization for Migration (IOM) used its technical expertise to supervise the construction and the Conservation Society of Pohnpei (CSP), through the Pohnpei Climate Change Outreach Committee, was responsible for the community mobilisation.

The 300 foot seawall design used gabion baskets filled with stones and extended an existing reinforced concrete retaining wall. It was designed to absorb the majority of the wave energy, thus limiting the negative impact on the surrounding coastline. In its application for a Construction Permit under Environmental Protection Act, IOM noted that the tidal range in Pohnpei of 4.2 foot maximum required a structure of at least six foot height above Low Water Level (LWL) to ensure wave protection. The option of extending the concrete wall was discounted as it was considered likely to result in significantly more environmental risk to the marine environment than a gabion option. Vegetative options were also considered, but the time frame for establishment compared with the immediate need for preventing further erosion mitigated against this option.

Construction of the gabion seawall began in 2015. It took five-months before it was ready to handed over to the school management in January 2016. Throughout its construction, the parents and teachers of Awak Elementary school actively supported the contractors, including being hired as day labourers to gain experience. The community is also planting pandanus seedlings and other coastal protection shrubs on the backfilled area to provide a further natural protection barrier.

Although best efforts were made to ensure that the sea wall was completed to a high standard, a monitoring inspection in 2018, found there was some rusting. New basket material was sourced to replace the tops and sides that had rusted. The school and community is now responsible for the maintenance of the wall, and have seen the importance of ongoing monitoring, however, they are yet to see whether the replacement wire will withstand the salt water.



After the completion the seawall, further erosion was prevented and additional benefits were realised, such as well extra spaces for students' to have lunch and leisure.

Isabella Costica, a student at the school, said “before it was built, rocks fall into the water and it wasn’t that safe for us students to walk over there. It was scary because if we walked on the rocks, we were afraid it might fall in the water, and we might fall in the water. It’s much more safer [sic], if we want to play games and if our balls (or something) that we play with go over there, we can run and get it instead of being scared to go there.”



Completed gabion seawall



Case Study 7: Data to inform disaster management so nobody is left behind

KRA3 KRA4
EUR 28,521

An underlying principle of disaster response is that nobody gets left behind. For DRM practitioners this means understanding who in the population is vulnerable and planning how to meet their needs if a disaster occurs. This includes those with persons with disabilities (PWDs) and the elderly.

According to the UN Convention on the Rights of Persons with Disabilities, “persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others.” On average, PWDs make up 15% of any population (World Health Organisation).

For two countries – PNG and the Cook Islands - action that began addressing the needs of PWDs was prioritised for implementation under the BSRP project.

As one of the world’s largest island nations with a diverse geography, PNG’s challenges lay in collecting and making accessible quality data on PWDs and the elderly in the country. Such data assists the PNG National Disaster Centre (NDC) to identify and locate people living with disabilities in times of disaster for purposes of managing evacuations and providing supplies and services. Quality data was also needed to assist with providing appropriate and accessible disaster information to people affected in a disaster.

With support from the BSRP project, PNG’s Department of Community Development and Religion (DCDR) contracted the design of a disability survey for standardised data to be collected at provincial and district levels. In 2016, for the first time in a village level setting, provincial, district, and local level stakeholders (including civil society organisations, disabled persons organisations and PWD) partnered to participate in a PWD Data Survey training of trainers.

The Secretary for DCDR said the “PWD data survey collection is essential, and working in partnership with line agencies to provide essential services is critical. Ensuring PWDs are meaningfully included in all programs, including disaster preparedness and response to ensure more lives are protected during these crisis situations. It will assist the government to budget well and concentrate on areas or locations PWDs will be affected.”

In 2019, training was provided on inputting disability data into a database hosted by the DCDR office that was built by SPC technical specialists as part of the project and handed over to DCDR. The database system has the capability to pull disability and elderly-related data from national and regional systems such as PopGIS. This enhances the data collected at community level.

To ensure sustainability and affordability of the system, the infrastructure and associated tool-sets have been cloud-deployed on reserved instances of Amazon Web Services, Sydney Data Centre. All components were based on open source systems to ensure zero ongoing software licencing costs.

While the collection and upload of disability data from across PNG communities is an ongoing endeavour that will persist well beyond the BSRP project, the building blocks are now in place.

The main end users of the database will include, but not be limited to: the National Disaster Committee, the National Advisory Committee on Disability, DCDR, Department of National Planning and Monitoring and its Provincial and District offices, the National Statistics Office, Department of Finance National Department of Health, disabled persons organisations, and the United Nations. The long-term aim is for the data to inform all plans and budgets at different levels of Government for disaster preparedness, mitigation and community-based rehabilitation (CBR) programmes. The data will also have utility beyond DRM and contribute to CCA and other development activities to aid in the delivery of inclusive services to PWDs and the elderly as well as their meaningful participation.

Disability data was also a key focus in the Cook Islands under the BSRP project. The Cook Islands National Disability Council in partnership with the Emergency Management Cook Islands (EMCI) to develop a Disability Toolkit. Working with the Girl Guides Cook Islands Association, they undertook a survey of PWDs on Rarotonga and the Pa Enua to gather data on individuals with disabilities and the elderly with special needs (data from the outer islands is still to be collected). This data is captured in a PWD database for the Cook Islands National Disability Council and used to produce individual Evacuation Plans during disasters. The data is also being used within the EMCI geoportal to inform DRM planning and action.

People with disabilities were advisors throughout the survey and toolkit development processes, and also participated themselves in carrying out the data collection. This ensured relevance of content, and also was an active and public demonstration of their abilities.

By combining the results of the survey with secondary research and consultations, EMCI also put together a toolkit manual for better inclusion of people with disabilities in DRM. People with disabilities, their families and friends are benefitting from the toolkit which provides guidelines on how to make DRM processes more inclusive. Its content was also translated into Cook Islands Māori giving it wide accessibility.



iii. Environment

In the Pacific, the environment has exerted great influence over culture, tradition, livelihoods and diet. It was the concept of further strengthening PIC's resilience to the natural climatic and geological hazard processes and events (including as affected by human activity) that was central to the BSRP project.

Part of the goal of the BSRP Project was "To reduce the environmental costs of disasters". One way this goal was pursued was through supporting Tonga to increase its availability of coastal protection plants and encouraging agro-forestry approaches (short story, Case Study 8 refers). Similarly, in Kiribati, resilient agriculture training and materials were provided. Pest management database training and bio-security facilities were built, thus assisting to conserve biodiversity from outside pests. An Oil Spill Plan for Kiribati was drafted, but due to responsibility for the plan changing Ministries, it still awaits final endorsement by the Government. The mapping of sewer lines in FSM will also help minimise environmental damage in a disaster that ruptures one of those lines.

SPC has a Social and Environmental Responsibility Policy (SER Policy) which promotes "environmental responsibility" to ensure a rational use and management of natural resources and ecosystems, to prevent or, where not possible, to minimise damage to the environment and address climate change, so as to ensure these resources will be available for future generations. Through supporting the development of the FRDP, the project aided in setting a framework for "low carbon development" in the region. For a number of countries (Tuvalu, FSM, Tonga), it also funded national participation in the United Nations Framework Convention on Climate Change (UNFCCC) Conference of the Parties (COP) negotiations with the aim of lowering global emissions.

In Niue and the Cook Islands, the project supported the consultation and drafting of building codes the provisions of which address drainage, fireplace flues, and avoiding damage from dust, vibrations, noise, water, fire, smoke and fumes during demolition. Where buildings were constructed or renovated, relevant building standards were used. This included working with the government when applying for consents and undertaking environmental impact assessments/ minimising environmental impacts where necessary (for example, for the Awak School seawall, Tukuraki relocation and Timor Leste evacuation centres). In FSM, an environmental assessment was undertaken for an emergency oil reserve storage capacity activity as part of identifying safe locations and applying for the necessary consents.

While the Vanuatu government does not require Environmental Impact Assessment (EIA) for water supply bore drilling, drilling complied with the Government's Department of Water Resources own requirements as well as those in the Minimum Construction Requirements for Water Bores in Australia, 2003. This included: consulting with land owners and considering the location of existing springs and bores to minimise impact on these source/infrastructure; undertaking pumping/airlift tests to determine long-term pumping rates; and collecting water quality samples to determine the suitability of the water for the purposes intended.

SPC's SER Policy aims to reduce the ecological footprint of SPC. By minimising flights and using teleconferencing and Skype with participating countries where possible, the project reduced the environmental impacts associated with flying (an inevitable part of a multi-country initiative).

The PMU acknowledge there were missed opportunities to more purposefully: take a "low carbon development" approach as advocated in the FRDP; reduce the footprint of the project; and apply environmental protection and climate resilient practices. For example, it could have: metered water use in the nurseries and boreholes constructed to optimise water conservation; promoted the use of renewable energy in buildings designed and constructed/ refurbished; committed to carbon offsets for flights). As a stronger approach to environmental protection would come at an additional short-term cost, it would need to be factored in and budgeted for within the design of any future project. It would need to have participating country endorsement given that there would be an opportunity cost in allocating these funds to such measures over pursuing other priorities.

Case Study 8: Coastal protection and resilient agriculture in Tonga

KRA3 KRA4
EUR 100,807 + TA

Tonga's susceptibility to the impacts of climate change and disasters is due to its geographical, geological and socio-economic characteristics. According to the World Risk Index classifications, Tonga has the second highest risk globally based on exposure and high level in societal vulnerability.

In line with Tonga's Joint Action National Plan and Forestry Corporate Plan, the Ministry of Agriculture, Forestry, Food and Fisheries (MAFFF) worked with BSRP to implement adaptation activities to reduce the effects of climate change.

A report was commissioned to assess existing replanting schemes (including coconut replanting) and the state of indigenous and introduced hard wood. It identified areas that need replanting to minimise sea spray and reduce coastal erosion and reviewed existing nurseries' operations management in Tonga. Recommendations were to a range of stakeholders, and included MAFFF:

- carrying out an awareness and education campaign on coastal and coconut reforestation.
- constructing or upgrading large nurseries to produce adequate number of seedlings to meet local peoples' demand
- increasing the share of coastal and coconut seedlings.

In late 2015, agroforestry training was carried out with 72 MAFFF staff, farmers, and participants from women's and youth groups on Tongatapu and Ha'apai islands, 35% of which were female. The training included: outlining linkages of agroforestry to food security, human health, climate change and income security; the role of trees on the reduction of risks from natural disasters; as well as nursery design and management, plant propagation techniques, agro crop and tree species selection, livestock, aquaculture and apiculture.

A multipurpose nursery was then constructed in Tongatapu with funding from the BSRP project. As 80% of existing nurseries had been damaged by TC Gita in early 2018 and seedling production had dropped, three nurseries were also upgraded (new salon sheds, strong poles and wire loop) in order to increase overall capacity. A powered shed was constructed for seedling preparation. The nurseries include a variety of species including timber, fruit trees, ornamental, cultural and coastal species, including coconut and mangroves which are planted to protect from coastal erosion.

Mr Heimuli Likiafu, Head of Forestry, MAFFF, said that "the BSRP project has been a great asset to the Tonga Forestry Division." In observing the change since the nursery expansion was completed in 2019, he noted "the establishment of the soil shed has improved soil preparation in any type of weather condition, for consistency of potting of nurseries plants, in particular, the coastal species."

"About 30,000 coconut seedlings have been raised and 2,800 seedlings distributed to about 20 farmers. Satisfying progress to achieving forestry milestones of the coconut replanting scheme."

An evaluation in 2019 found that the nursery hit their production targets in growing coconut tree seedlings three times faster than anticipated due to the training and new management styles adopted. This is welcome relief in Tonga given that in TC Gita about 60% of coconut trees were destroyed, and there is a significant need to make coastline more resilient through the planting of coconut trees.

A two-tonne truck was also purchased for nursery operations and seedling distribution to farmers. Mr Likiafu said that "the main challenge for farmers in collecting coconut seedlings from the nurseries has been lack of transport. The distribution of coconuts has doubled with the provision of the vehicle, with an increased number of farmers registering for more coconut distribution."

Despite the success, all parties involved noted that staff turnover and management changes within MAFFF resulted in considerable implementation delays and not all desired results were achieved. The project flourished under new stable management within MAFFF as BSRP was coming to a close.

D. Successes, challenges and adaptive solutions

The most voted ‘take away’ from the project for Country Focal Points at the 2019 RSC was “partnership”. This was followed by “resilience”, “performance”, “sustainability”, “coordination” and “country-driven / alignment with national priorities”.¹³ FDC ANZDEC (2019) found in their evaluation that “SPC has demonstrated itself to be an effective partner and mediator to both the EU and the in-country partners...SPC shows strength in its ability to identify and engage subject-matter experts to support country partners’ activities.”

Despite partnership featuring so highly in Country Focal Points feedback, there were still calls for greater sharing between countries. Other high-level improvements sought by NDMO Directors were more in-country presence, assistance with procurement and greater funding.

Given there were nearly 400 individual activities identified under the BSRP project (with 335 implemented – Annex 2 refers), responses from stakeholders as to what constitutes the greatest successes varied greatly and depended largely on which aspect of the project they were involved in. From a strategic perspective, it can be summarised that the greatest success came from:

- an ability to leverage other resources in the region, for example, New Zealand Ministry of Foreign Affairs and Trade (MFAT) contributions to the Niue NEOC engineering costs and private sector toolkit translation led by BSRP.
- creating platforms/initiatives aimed at improving interoperability across the region’s emergency responders (PIEMA) and resilient development (FRDP) that have gone on to be independently funded.
- funding pilots that are now being replicated through other initiatives. For example, CBDRM activities in Palau and the Solomon Islands.
- having a focus in a number of PICs on EOCs (national and sub-national) – ensuring the facilities are fit-for-purpose, the personnel are trained and understand their roles, systems are in place to coordinate action and the emergency responders have the ability to communicate and reach remote communities over land/ sea in an emergency.

DRM knowledge and best practice was consolidated, developed, applied and shared through: providing technical assistance and training; supporting participatory consultation processes and simulation exercises; and facilitating opportunities for PICs to participate in regional and global forums (as outlined in Case Study 34). The BSRP project aided in ensuring SPC had sufficient CCA/DRM expertise for NDMOs to reach out for technical inputs and guidance when needed to enhance public policy, regulatory frameworks, operational guidelines and practice, including supporting innovation and uptake of technologies to enhance hazard assessment and preparedness. An evaluation of training led by SPC (non-BSRP implementation staff) in 2019, also found the project demonstrated that SPC is well placed to design and deliver trainings to its members. Similarly, Cardno (2019) recognised that BSRP had considerable success in building the DRM knowledge of government officials, civil society, communities, the private sector and volunteers through sharing experiences, lessons learnt, good practice and DRM training and education. In doing so, the project promoted a disaster resilience culture and greater collaboration from community through to national and regional levels, and across different sectors (community, private and government sectors).

The SPC-led evaluation found that during its seven years of implementation, BSRP investments in infrastructure and equipment were crucial in providing national disaster and response agencies across the region with the physical tools to carry out disaster and emergency preparedness and response. Infrastructure constructed by the project has become a critical part of the DRM landscape in many PICs. In Niue, for example, the newly built EOC enables multiple agencies to have a dedicated space to meet, plan and work on DRM and emergency management issues – something that was difficult to do before BSRP support. In Vanuatu, the three provincial EOCs constructed were part of the devolution of government services to the provincial government. They have allowed DRM services to be decentralised and subsequently quicker to respond to emergencies affecting outer islands. In Fiji, the relocation of an at-risk community away from a disaster-prone zone adopted a collaborative model that has since been used to inform the process for further relocations. Moreover, in Timor Leste, a tsunami early warning system in Dili has been installed and connected to the Indonesian tsunami detection system.

¹³ RSC 2019 Slido survey

The success and sustainability of initiatives is evidenced by the level of local ownership, as well as willingness of the governments to build on BSRP with their own funds after BSRP ceased. It is also reflected in the positive score from the EU “end of project” evaluators (Cardno) of 80%.

Although the PMU, support services and implementing partners faced significant pressures (in particular, during periods of understaffing, resolving D+3 issues and during the loss of a PMU staff member to domestic violence), much was achieved by a small PMU and coordination team. The PMU reached across the wider SPC for technical assistance and support when needed. The team often found creative and innovative solutions to overcome challenges and engaged directly with external stakeholders ensuring all 15 PICs continued to fully engage through until the end.

The project was nearly fully expended. By the end of the closure period, 97% of the budget will have been spent. This is significant given the size of the project and the uncertainties and changes throughout. Factors that made this possible include:

- having BSRP representation in-country and networks linking stakeholders. At different stages this included in-country coordinators/responsible personnel, stationing a country officer in the Northern Pacific Regional Office, and PMU in-country visits.
- the level of flexibility and adaptation shown by the PMU to help the countries achieve their goals.
- analysing financial and project data available to inform greater strategic planning, identification of risks and reallocations; and
- having a passionate team committed to benefitting the Pacific region.

As one of the largest and most procurement-heavy projects implemented by SPC (including within grant arrangements), BSRP tested and informed the application of SPC processes and systems on the ground, and developed SPC’s understanding of EU D+3 and other procurement requirements. It has (and will continue) to inform the designs of new projects. Implementing the BSRP project better positions SPC to be able to take on projects of this size and complexity. Staff within the PMU and wider agency have also further developed their own skills through participating in BSRP implementation (although no staff development budget was included within the project).

Over the life of the project, there was a gradual shift towards focusing on outcomes/impacts (rather than inputs/outputs), and capturing these outcomes/impacts in reports, videos, articles and at the 2019 Regional Steering Committee where they were shared and lessons exchanged between countries. This mirrored a move within SPC and wider development community towards using theories of change to underpin development work. While lack of detailed baseline at the outset limits how far BSRP can go in measuring outcomes/impacts, this shift forms a good foundation for the next phase.

BSRP achieved a high-level of visibility for SPC, Intra ACP and the EU, in particular, in the latter years when the project adopted a purposeful approach to visibility and “communications for development”. As noted within the Cardno (2019) evaluation, this strengthened how media was used to support national measures for successful disaster risk communication.

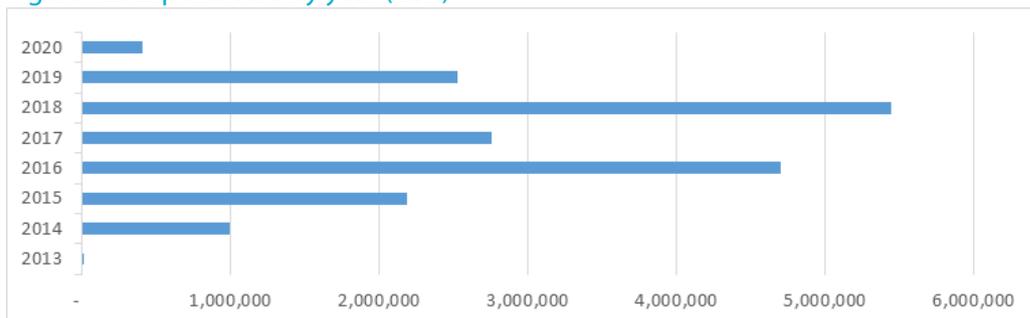
Two external factors that greatly impacted on delivery were political changes within countries and disaster events. In many instances, the project was only able to respond to events as they arose and at times reached crisis point. For example, where there was political uncertainty in member countries, the PMU tended to “roll with the punches”, respecting sovereignty and government protocols. By ensuring there was a good champion for BSRP in-country (and/or by travelling to the country soon after change), BSRP was able to maintain momentum and workplans were not too affected by such changes.

When disaster events occurred, there was some flexibility to provide technical and some financial support to lessons learnt processes in the aftermath, and in the case of Fiji, funds were able to be allocated as part of the TC Winston response for the Tukuraki village relocation as it coincided with revision of the Fiji work programme.

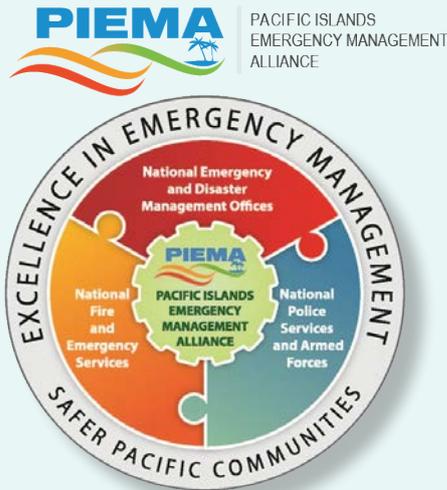
The greatest operational management challenges identified were:

- inadequate resourcing and late recruitment in the PMU and of in-country coordinators from the start. This stretched staff considerably and had consequences for their health and safety. It also forced the project manager to take on country officer functions, thus tying him down in the project detail. At times, this pulled the project manager away from providing the strategic oversight, planning and direction needed. A contributing factor for this under-resourcing was that the project was originally designed when the now “GEM Division” was the Pacific Islands Applied Geoscience Commission (SOPAC) with different support service arrangements. PMU resourcing requirements were not fully reviewed with the subsequent merger with SPC.
- while the project had considerable DRM expertise, for a project of this nature and size, it had insufficient core project management skill sets at the outset (including financial management, procurement, contract management, and information systems management, monitoring and evaluation, reporting). Once the necessary skill sets were brought on-board midway through the project, significant time was invested in rectifying financial, procurement and project challenges. The flow on effect of not having this structure earlier, was that for much of the project, the project manager did not have the information and analysis needed to make timely strategic decisions.
- the late understanding within SPC of the D+3 clause in the Contribution Agreement led to a rapid change in modality midway through the project from mostly direct purchase to a grant modality with subrecipients, thus committing the remainder of the implementation budget, transferring responsibilities to the countries, and losing significant control of the budget. The time pressure led to grants rapidly being captured in MoAs that were not fully fit-for-purpose. Implementation then temporarily slowed in 2017 (Figure 12 refers) as sub-recipients adopted SPC procurement processes required under the MOA alongside (and often clashing with) their own government processes. It again accelerated in 2018 as the PMU supported them to implement before the MOAs ended.
- The requirement for subrecipients to submit full acquittal documentation for SPC to assess and accept before posting to the BSRP general ledger was a significant administrative and technological burden (especially when scanning and sending documents was met with equipment and internet failures) that detracted from implementation at times.

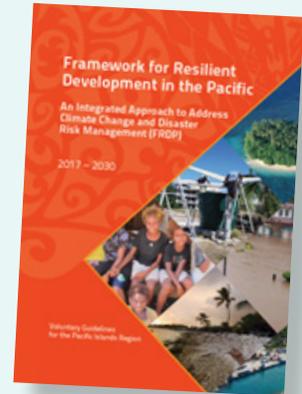
Figure 12: Expenditure by year (EUR)



400 Activities
 200 Contracts
 15 Countries
 7 Years
 1 BSRP

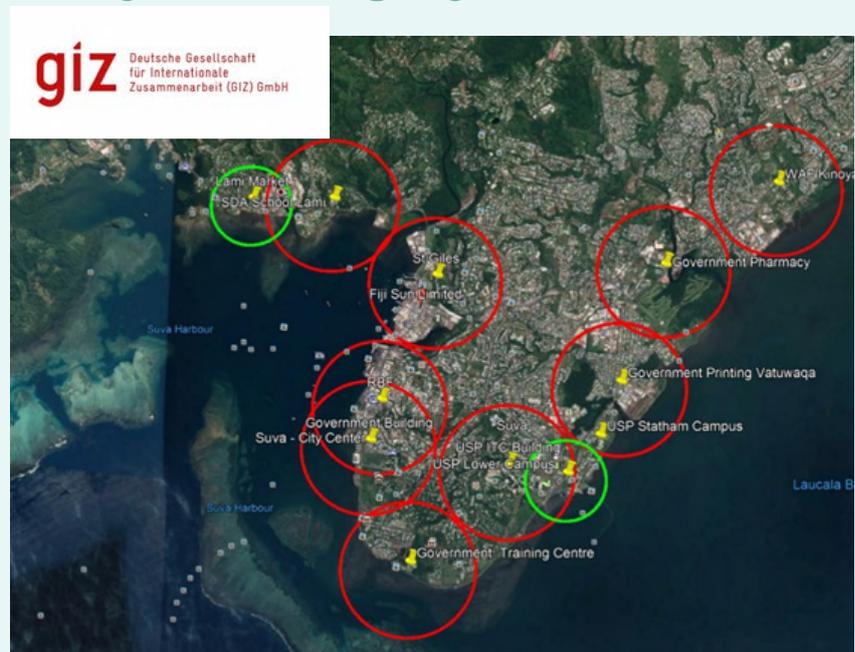


FRDP



EOCs SOPs

Early Warning Systems



KRA1

KRA2

KRA3

KRA4

KRA5



Case Study 9: Learning From Disaster

KRA1 KRA2
EUR 109,416

The Pacific region has experienced some of the worst natural disasters in recorded history the past few years. PICs have been able to rise and learn from these disaster events, and are more resilient as a consequence.

In February 2016, Tropical Cyclone (TC) Winston affected an estimated number of 188,000 people in Fiji, more than 80% of the population. The winds were in excess of 300 kilometres per hour. This marked the first time a Category 5 cyclone made landfall in Fiji, while the high winds were the strongest ever recorded in the Southern Hemisphere. TC Winston killed 44 people, damaged or destroyed 40,000 homes and ravaged public buildings and infrastructure, including 229 schools. The cost of damages in Fiji was around USD1.4 billion (FJD2.98b).

Just one year earlier, Vanuatu and Tuvalu were among the PICs that felt the effects of TC Pam also Category 5. In Vanuatu, 75,000 people were left homeless and 90% of crops were destroyed, but there was no loss of life. In the low-lying nation of Tuvalu, the cyclone coincided with high tides causing damage to health clinics, wharfs, homes and taro pits.

In the wake of these recent cyclones, the Governments of Fiji, Vanuatu and Tuvalu established management procedures to coordinate response and early recovery. As responses drew to a close, it was timely to review these systems and processes to take the lessons forward into future responses. Post-disaster lessons learnt workshops involving national, sectoral, provincial government, district and community responders presented that opportunity.

At a time when those hit by the disaster are still in recovery mode, a lessons learnt process can be a lot to organise. It needs funding, and manpower to deal with the preparation, facilitation and writing of reports. This is where the BSRP project was able to assist, providing financial and logistics support.

These processes elicited many learnings – what went well, and what did not.

Looking on the positive side across the lesson learnt exercises for different disasters and countries, it was found that cluster groups that are active in ‘peace time’ were able to respond swiftly and coordinate well with ministries as result of the strong existing networks. Coordination across organisations for relief provision also proved to be successful. Stakeholders felt that overall the logistics operations in the TC Winston response were a success as a large amount of stock and personnel were moved around Fiji, including to remote island areas.

Businesses contributed to food ration distributions, addressed logistics and supply chain issues, and made significant financial contributions to relief efforts. The private sector also stepped up to support or lead the repair and reestablishment of essential services such as water, electricity and telecommunications.

Nevertheless, the telecommunications network that was relied upon heavily before the TC Winston was inaccessible post cyclone in many of the worst affected areas. It was recognised that contingency plans were needed to support this. The radio network (HF and VHF system) could also be affected by windy conditions, so there was demand for more exploration on a multi-communications services to back each other up in the event one of the modes of communication is severed.

The lack of awareness and the inability to decode the weather messages and warnings was a major learning in Fiji. Reliable and official source of information was unknown for many stakeholders. The business sector was often unsure where to get information, and the public and other organisations used social media to obtain information which in many cases was not from line ministries. Recommendations included strengthening weather early warnings across a range of platforms to provide more accurate information on cyclone movements to the public; and installing warning sirens with different sounds and lighting effects for hearing impaired persons. In Tuvalu, it was found that better meteorological equipment was required for early hazard detection to enable timely dissemination of warnings. Tuvaluans also noted a need to include subjects on sea-level rise, emergencies and disaster drills into the school curriculum.

The DRM mantra ‘build back better’ came into play in Tuvalu where there were reflections on the need to improve seawall constructions and housing design/construction on the islands, strengthen agroforestry, and relocate health centres close to the coast.

Feedback was received in Fiji on the need to ensure monitoring and reporting tools capture information covering the full diversity of the local community, including considering gender, people with disabilities, the aged, and the lesbian, gay and transgender community. Stakeholders felt it was important to also revive and promote traditional knowledge, including coping strategies recognising that communities, especially young people, would benefit from learning about traditional warning signs and traditional modes of disaster preparedness.

Lessons were learnt on skills gaps amongst those involved in responses, and the need for a range of training directed at officials, district and advisory councils, partner agencies and volunteers (as appropriate) including on:

- protection and risks
- mental health of responders
- the roles and responsibilities of different agencies
- how to prepare and respond effectively, inclusively and appropriately, including good practice relating to food and disaster assistance distribution
- cluster mechanism and cluster coordination
- assessments and information management.

BSRP Project Manager, Mr. Taito Nakalevu, said “It was important for the project to incorporate the lessons learnt from disaster responses, and even allow project budgets to be re-prioritised in some instances. For example, the observed skills gaps during responses were key in contributing to the decision for BSRP to roll out regional emergency operations centre train-the-trainer training in 2019.”

Operationally speaking, there were lessons from Fiji on the need to declare a national disaster to allow ample time for resource mobilisation, and to ensure Standard Operating Procedures (SOPs) reflect the need to switch contingency planning should different hazards occur during response.

Keeping people safe and ensuring the quality of the response was on the minds of those participating in lessons learnt workshops in Vanuatu. Many responders felt there was a need to establish an accreditation process and registration for international emergency workers/agencies to enable identification of those authorised to engage in emergency response. Similarly, participants highlighted the need to identify appropriate organisations/personnel to deal with unsolicited items and support them to work with biosecurity, customs and quarantine officials.

To encourage interoperability, in Fiji, recommendations were made on developing standard approaches and tools for common functions across clusters, as well as establishing and maintaining a centralised national database (NDMO) and compatible decentralised databases to guide planning and response at district/divisional level (similar to a lesson captured in Vanuatu to about standardising assessment forms across provinces).

Lessons learnt from national responses fed into a review of the global humanitarian system at the regional consultations for the 2016 World Humanitarian Summit where Vanuatu called for United Nations coordination and funding mechanisms to adapt to the national operational context and be in support of Government-led coordination efforts.



Case Study 10: Building Drought Resilience In Vanuatu

KRA1 KRA3 KRA4
EUR 383,306 + TA

Groundwater offers great potential to provide an alternate source of freshwater in many locations in Vanuatu during droughts and cyclones. In 2015, when Vanuatu was recovering from Tropical Cyclone Pam, the Government decided to investigate this potential due to long-standing and ongoing freshwater supply issues in parts of the country.

While the Government's Department of Water Resources (DoWR) drilling team were experienced in drilling of coastal and shallow aquifer systems, they had limited experience in drilling in challenging geological settings, such as volcanic environments where many of the impacted communities are located. An SPC team supported by the German development bank- Kreditanstalt für Wiederaufbau (KfW), (TC Pam recovery) used an electrical geophysical technique of resistivity to identify potential fresh groundwater at depths of up to 80 metres and the identified targets for drilling water supply bores.

In March 2017, SPC (under the BSRP and KfW projects) then assisted the DoWR to purchase a Dando Watertec 4000 drilling rig. Throughout 2017 – 2019, the truck-mounted drilling rig successfully drilled boreholes in locations in the Torres, Santo, Efate and Malekula provinces, including for schools.

When monitoring the performance of the drill, a number of additional items of equipment that would allow for drilling in more complex terrains and undertaking pumping tests were identified. Recognising these items would improve the efficiency and impact of the DoWR drilling team, the BSRP supported their purchase in 2019. The DoWR are now equipped to construct new groundwater boreholes in previously inaccessible groundwater resources for communities which are impacted by droughts and ongoing issues from inadequate existing water sources.

In the third quarter of 2019, BSRP also supported a team of DoWR drilling technicians to undertake a six-week drilling mission on the island of Tanna, not only seeking to construct new boreholes but to also provide training to build the capacity of local drillers, allowing them to construct and complete bores in challenging terrains.

Similar geological settings are found in other Pacific volcanic islands requiring advanced drilling techniques that many national government drillers across the Pacific are less familiar with. By inviting drillers from Fiji, Samoa, and Solomon Islands to join the advanced training in Tanna, the BSRP project was able to offer a cost effective approach to providing specialised drillers training and promoting the exchange of skills and experience between Pacific Island government water bore drillers.

The trainers from TDW Consultants reported that “the team formed a strong bond and were there to help each other out where possible and share their knowledge.”

The North Tanna and Middle Bush Tanna areas were the two target areas for the mission. While North Tanna encountered challenges which prevented the team from completing their work, Middle Bush was a success. All five sites that were drilled produced water.

Mr Erie Sami, Hydrogeologist with the Department of Water Resources Vanuatu, said “The drilling of five new water supply bores in Middlebush has great potential to really help the community with their access to freshwater for drinking, cooking, and washing.

“Now that we have found useful fresh groundwater supplies in Middlebush, we first need to consult with the communities on what is needed and the best options to make the water accessible to people in need”.

Mr Sami said “we will look at existing piping systems and also consider standalone systems which would pump to tanks and distribute to strategically located standpipes, to make the best and efficient use of the fresh groundwater source.

“We will work with the community to undertake pumping tests on the bores, to ensure the bores are pumped sustainably, and determine a long-term yield, and then discuss options on the distribution of the groundwater for community needs.”

The Government of Vanuatu uses the Drinking Water Safety and Water Security planning approach to implement new village water supply systems. This approach helps to coordinate efforts with the concerned communities, provincial government and donors to ensure that the water supply systems are sustainable, can be managed locally long-term, and can build resilience to those communities in need during times of drought and cyclones.





Case Study 11: Timor Leste Preparing For Tsunami Worst Case Scenario - A Partnership To Improve Preparedness And Response

KRA1 KRA3 KRA5

EUR 352,098 + TA

The Timor Leste National Disaster Management Directorate (NDMD) has been supported by BSRP to build a lasting partnership with Indonesia's National Directorate of Meteorology and Geophysics (BMKG), giving early warnings to the people of Dili of incoming tsunamis.

Located close to the Pacific Ring of Fire, Timor Leste is prone to the impacts of earthquakes, tsunami and flooding. The country is located in an extremely active seismic zone, capable of generating large earthquakes and major tsunamis that can travel great distances.

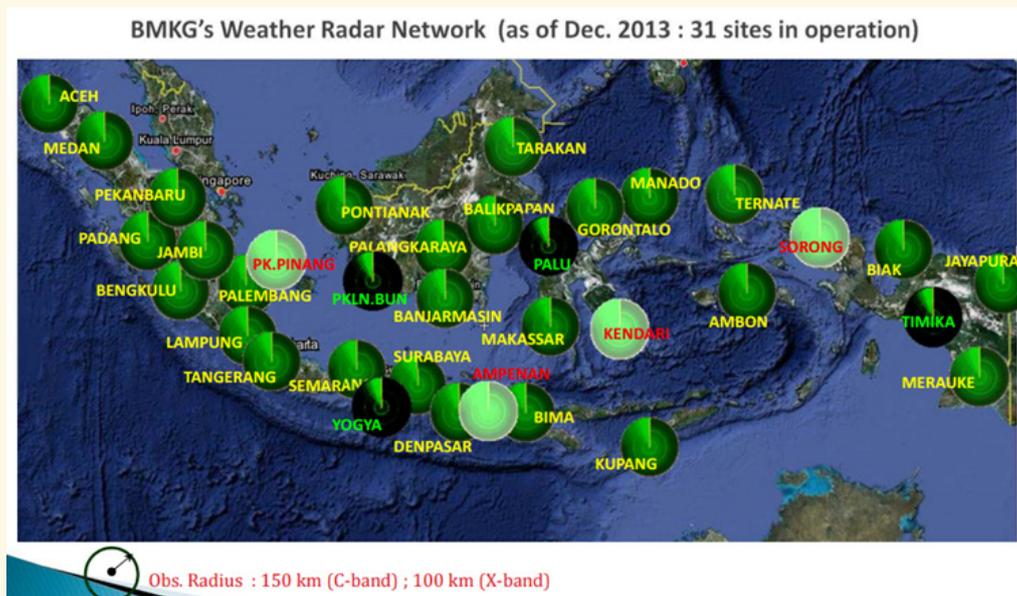
In 1995, a magnitude 6.9 earthquake generated a large tsunami killing 11 people, injuring 19 and destroying several homes in the main Dili area. Timor Leste borders the Indonesian Islands- in 2004, the Sumatra Tsunami affecting several Indian Ocean countries forcibly brought back memories of Timor Leste's continuous vulnerability to earthquakes and tsunamis.

Under the BSRP project, the Government of Timor Leste prioritised installing an Early Warning System for the greater Dili area- the capital of Timor Leste and where most of the businesses and hotels are located.

Without any seismology instrumentation nor sea level gauges of their own, the Government looked to the Indonesian islands close to Timor Leste. A plan was put in place by the NDMD and the BSRP PMU to visit Jakarta, Indonesia, and seek a partnership agreement allowing the Timor Leste NDMD to access Indonesia's seismology and sea-level data for the purpose of issuing their own tsunami warnings.

Prior to the planned meeting, a trip was undertaken to Denpasar, Bali, Indonesia to review their tsunami warning system, run by the Badan Nasional Penanggulangan Bencana (BNP) Indonesia (the Indonesian Disaster Management Organisation). The visit included examining best practice in provincial tsunami, volcano and flood early warning systems, visiting their regional operations centre (covering Sanur, Bali and Denpasar), and learning how disaster preparations are done throughout the school system, businesses and the public in general. The visit provided a good framework for Timor Leste to upgrade its own operational systems with support of the BSRP Project.

In 2016, the team visited to Jakarta and was welcomed by the BMKG Director, Dr Mohamad Riyadi. Dr Riyadi explained the Indonesia’s overall Early Warning System, including how all hazard risks are monitored, data processing, access and analysis using the JISVIEW system, and warning dissemination including sirens and SMS texts. BMKG’s monitoring stations are in the islands near Timor and in West Timor (Indonesia). Ten years earlier, BMKG had also assumed regional centre status from Australia meaning it provides weather and forecasting support to smaller countries like Timor Leste. Following discussions, Indonesia offered BMKG’s JISVIEW software free of charge to Timor Leste, allowing Timor Leste to access BMKG Indonesia’s seismology and sea-level monitoring stations and run their own analysis on an ongoing basis. This offer helped Timor Leste overcome a significant financial hurdle to installing an effective EWS in Dili as the Indonesian monitoring stations were already in place and functioning. Indonesia also offered technical expertise to provide capacity building support to Timor Leste in meteorology, earthquake monitoring, data analysis or flooding. This chartered a new dimension in building partnership and cooperation across borders between Timor and Indonesia that had not materialised after Timor Leste’s independence from Indonesia.



Over the year, BSRP supported BMKG to visit Timor Leste to assess capacity and infrastructure, as well as install, train and launch JISVIEW Timor Leste. In the period through until early 2019, BSRP also worked directly with the Timor Leste NDMD to install the necessary hardware for JISVIEW, improve its internet connection, install two early warning sirens in Dili and sign a Memorandum of Agreement with Telecom relating to the cellular phone network to be used in disseminating early disaster warnings. NDMD is now carrying out their own analysis of earthquake, tsunami or storm surges.

E. Key lessons learnt

The lessons from the BSRP project reinforced many of the principles of good practice that are already well documented, including:

- where activities align with a country's priorities and are represented in strategic planning documents, it is easier to get stakeholder buy in, participation and commitment.
- actions that are informed by risk analysis and wide stakeholder engagement have greater impact and are likely to be more sustainable. While there is often pressure to provide results quickly, a well planned and targeted initiative will ultimately be more cost effective.
- countries that were most efficient with the delivery of activities were those who focussed on fewer, but larger activities; engaged a fulltime in-country project coordinator who was competent and well-integrated into the primary in-country partner (usually the NDMO); and deeply engaged the most senior decision-makers in government and civil service in project supervision.
- a monitoring and evaluation plan should be developed during design and specifically resourced from the outset (including collection of baseline during the inception phase and mid-term/end-of-project reviews), otherwise robust M&E is difficult to maintain when implementation is at its peak.
- project staffing, expertise and structure should be designed after work plans are agreed (and re-designed if there are substantial workplan and/or modality changes).

Some lessons that are more specific to this region and the DRR/CCA sectors include:

- it is essential to adopt a flexible approach in the region, particularly, given the impact of the frequent disaster events which will inevitably impact a project of this geographical size during its implementation. Too much flexibility can, however, lead to paralysis in delivery if country priorities regularly change.
- where governments undertake comprehensive lessons learnt exercises following a disaster event and then revise national and local priorities/actions according, they can build momentum amongst stakeholders that they may not otherwise have gained due to the heightened awareness of risk.
- a purposeful approach to mainstreaming CCA and DRR across all sectors can lead to practical differences in the implementation of broader development activities, such as risk assessment being considered in the construction of new health and education facilities.
- in the drafting and review of legislation, it is important that all the appropriate legal authorities are consulted at inception noting that the passing of a Bill may take longer than the lifetime of the project.
- infrastructure and equipment investments should sit alongside training and within a wider context of institutional change (backed by budgetary shifts) to have the most impact and provide the best chance for regular maintenance to occur after the project ends.
- technological solutions can offer low cost but effective solutions to PICs, but they need to be able to be easily maintained, and should sit alongside and enhance traditional DRM approaches and knowledge.
- a project like BSRP with relatively small individual country budgets is better placed to deliver smaller infrastructure activities rather than take on large construction projects. If larger projects are contemplated (particularly where other options are not available to countries), careful consideration needs to be given to whether/how co-financing arrangements are established, costs are divided, and financing partner funds need to be safeguarded at the point of commitment. Having an understanding of the civil works requirements of in-country and funding partners beforehand is essential.
- it should not be assumed that early discussions and agreements on equipment/infrastructure maintenance and sustainability concerns will be followed through. There needs to be regular and follow up (which includes Ministries of Finance and Planning who maintain national asset registries and maintenance plans) to ensure that when hand over occurs, the resources and capability exists to maintain them.

- implementing activities at community and subnational level leads to a much broader awareness of the need for CCA and DRR, and helps families and communities understand what they themselves can do to become more resilient. Follow up can, however, be costly given travel costs in the island states. Without follow up the benefits may not be sustained. Therefore, careful consideration should be given to delivering such initiatives in partnership with community and faith-based organisations that have an enduring presence in these communities.
- as there is a high level of staff rotation within the region, strategies to maintain the necessary skills in the sector must be employed. This includes offer training at regular intervals (including offering train-the-trainer courses so that training can be replicated within countries) and ensuring that those who are committed to the sector are given the capacity building opportunities.
- post-training support is crucial to ensure that the benefits from training are recognised and cultivated in countries and relevant organisations. This support actually starts at the pre-training stage from the proper identification of training needs, and continues all the way through to delivery and post-support.
- in order to have more robust and meaningful monitoring and evaluation of training, strong systems need to be built-in from the beginning. Tracking the progress of trainings and participants can help identify corrective actions in SPC/implementing partner workplans but also ultimately help link the project's interventions and investments to outcomes.
- comprehensive planning combined with good stakeholder communications can open up opportunities for regional or sub-regional delivery of certain activities to achieve better economies of scale whilst addressing individual PIC priorities. Political realities can, however, make delivering multi-country initiatives challenging, leading to significant delays.
- standardisation of EOCs and DRM facilities/equipment greatly assists with interoperability.
- it is more cost effective to take a 'communication for development' approach rather than focus on communications for visibility.
- the translation and distribution of DRM/CCA messages in all languages used within a country can greatly increase the impact of such communications activities. This is therefore an effective allocation of budget.
- using standing committees for development, DRM and/CC (with representatives of sufficient seniority and preferably including sub-national representatives) as the national steering committee helps to ensure there is coherence with other projects/programmes of delivery. Moreover, meetings are likely to be more regular with better attendance.
- having a constant in-country presence for the project (e.g. through a local coordinator) helps to maintain momentum.
- where a sub-recipient modality is used, it is important to ensure that there is sufficient local financial and administrative capacity dedicated to the project.
- the application of Article 2(5) of the Contribution Agreement (D+3) constrained the agility of the project at a critical time and was inadequate for a project that involves significant sub-contracting for small procurement and technical assistance.



Case Study 12: Lessons learnt on cost sharing of large construction projects

KRA1 KRA5
EUR 1,429,873

The BSRP Project provided the opportunity for participating countries to design and construct fit-for-purpose and building-code-compliant NEOCs within a centralised NDMO. Due to the scale and functionality of these buildings, the complex designs often exceeded the allocated budgets of the national projects.

Additional resourcing was the prerogative of the NDMOs and their respective Ministries, with the support of the technical advisors in the BSRP PMU. The NDMO Directors were pro-active in requesting and negotiating additional resourcing from Government and partners supporting disaster and climate resilience efforts to meet the balance of funds needed.

In most of the civil works projects, the BSRP project contracted firms to design and develop the works bid packages for the projects. The bid packages had to meet SPC procurement requirements and that of the financing partner (where additional financing had been approved). At the time these buildings were designed, SPC did not have a resident civil engineering or safeguards experts to guide the PMU (but contracted in engineering support). Checks to ensure buildings were designed within available budgets proved to be insufficient, including given distance to the market able to deliver large construction projects in micro-states. Specific safeguards for the new buildings were also not uniformly applied in each country. It was then often left to the PMU to manage Government expectations and ensure the requirements of SPC and the funding partner were met.

During the project, fit-for-purpose new NEOCs were successfully designed in the Cook Islands, Nauru, Niue, Samoa, Solomon Islands and Tonga (in Kiribati, the design was provided by the Government). For the Cook Islands, this design will inform a bid for future funding.

For other countries, the next step was to go to market. Unfortunately, there were delays with confirming building designs and bid packages, ensuring safeguard requirements were being met at the building site, and clearing lands (and unexploded ordnance in the case of Solomon Islands). These delays gave an opportunity for the market conditions to change. It was not surprising, therefore, that when going to market, the costs in bids for construction far exceeded the budgets secured.

In Kiribati, the only way to complete the project on budget and on time was for the Ministry of Works to manage the builders/labourers directly. An earlier funding commitment from the Solomon Islands' Government was unable to be secured in full before the project ended given competing priorities (recognising the country's recent budget deficits and disaster events). In Nauru, bids dwarfed costs provided in the bill of quantities stalling progress. In Niue, the New Zealand government met its commitments, but the funds committed by the Government were re-prioritised during the construction period, leaving the BSRP project to meet the shortfall in construction costs so that the building could be completed. In Samoa and Tonga, the requirements of the World Bank civil works procurement proved to be challenging for the design firms. Additional support was provided by the World Bank in Samoa, and the building design and service requirements were pared back to be in line with budget. While late, Samoa was able to break ground for the NEOC in 2019 and the inauguration is scheduled for May 2020. Tonga is still in the process of revising the building design package. Given the delays in Samoa and Tonga, funds set aside by the BSRP project to fund the engineering supervision of construction were re-prioritised.

The construction of fit-for-purpose buildings will continue to be a priority for Pacific Island countries. Many NDMOs and National Meteorological and Hydrological Services continue to operate out of buildings that often do not comply with building regulations or are not designed for effective services and operations, particularly during disaster events. Lessons for such projects can be drawn from the BSRP experience. An evaluation of BSRP undertaken in 2019, suggested that a project like BSRP with relatively small individual country budgets may not be well placed to deliver on the large construction projects (versus the smaller renovations and construction activities that were completed successfully). If they are contemplated (particularly where other options are not available to countries), careful consideration needs to be given to whether/how co-financing arrangements are established, costs are divided, and financing partner funds need to be safeguarded at the point of commitment. Having an understanding of the civil works requirements of in-country and funding partners beforehand is essential. It is also important to have internal personnel with the requisite capability within SPC to oversee and manage these contracts consistently, as well as ensure works are properly costed and in-country expectations are managed during building design.



Design of Tonga Meteorology Department and National Emergency Management Office Headquarters

F. Recommendations for the future

The following recommendations have been divided into those for the ACP Secretariat/EU, SPC and PICs.

It is recommended that the **ACP Secretariat/EU**:

- » fund a new phase of the BSRP project that builds on the results of BSRP, but is more targeted and results-focused.
- » strengthen the approach to contracting and partnering for outcome and impact-level results. This includes moving away from contracting based on input-focused budgets towards outcome/output-based budgeting.
- » consciously consider the desired balance between activities for community, sub-regional, national and regional benefit in terms of a budget allocations, and set flexible targets to be managed by the PMU (rather than locked in budgets which prevent flexibility when funds need to be moved).
- » resource the PMU with sufficient capacity to support project data analysis throughout the project to inform strategic decision-making. Technical expertise within the PMU should focus on technical delivery (not project coordination) and be recognised as an implementation cost (not PMU cost).
- » to provide a clear signal to grant recipients, consider adding a premium to project grants where the grantee is able to demonstrate that a strong approach to minimising environmental impacts has been adopted, in particular, measures to reduce the carbon footprint of the project. Without an environmental premium, there is a risk that such measures are seen by PICs as an opportunity cost to pursuing other DRM/CCA priorities.

It is recommended that **SPC**:

- » ensure design consultations and implementation strategies include not only the NDMOs, but other in-country, community and regional DRM/CCA stakeholders- government (especially Finance/Planning ministries), Non Government Organisations (NGOs), private sector, educational stakeholders- in a programmatic approach so outcomes are more transformational.
- » limit the number of activities per country to between 5-7 comprehensive activities. This includes:
 - prioritising activities/theory of change that align with the national priorities in all/many countries
 - prioritising activities where benefits of SPC being a regional agency can be realised for impact, effectiveness and efficiency gains
 - rather than providing a fixed budget per country, dividing funding based on prioritised activities (with SPC assisting in bringing together stakeholders in countries to prioritise activities if necessary). If agreed activities come in below budget and/or are cancelled, funds should be returned to the regional pot for redistribution (not remain with a country by default) thus discouraging unnecessary reprioritisation in country.
- » design project staffing, expertise and structure after work plans are agreed. In particular:
 - technical expertise within the project needs to match workplan requirements- this may include not only DRM expertise, but as appropriate, experts in engineering, water, agriculture, health, policy/legislation, economics, communications for development, community engagement, gender and human rights, and graphic design. On a case-by-case basis, it should be considered whether expertise should be: on a cost recovery basis from elsewhere within SPC; as a contractor; or recruited specifically for the project.
 - there needs to be a senior project staffer with a strong background in project management systems, financial, contract and staff management.
 - projects with a large volume of activities, transactions and a significant level of procurement may need their own finance, procurement and M&E staff (rather than utilising shared divisional resource). If there are a larger number of significant tenders, funding a temporary role within SPC corporate services may be required to minimise delays.
- » consider differentiating the lead agency in each country based on the priorities in that country's workplan and the capacity of the agency. Also carefully consider which partner is best positioned to deliver each type of activity.

- » have an active and structured strategy to focus on outcomes and sustainability from the outset, with less process discussions and visibility considered a secondary result. This includes undertaking a thorough baseline analysis during the inception phase of the project.
- » limit equipment and infrastructure investments to those that are part of a broader DRM or CCA strategy.
- » make learning and sharing best practice regionally a specific deliverable for the PMU. Learning should be structured, systematic, consistent and well documented.
- » enhance community resilience through targeted resourcing for Community Based Disaster Risk Management (CBDRM) and strengthening/protecting essential community services (e.g. schools and medical facilities) from the impacts of climate change and disaster events.
- » introduce a comprehensive multi-pronged approach to training that does not stop with a participant returning home, but rather it is a step in a chain of linked process where regional trainers are on hand to help grow country and organisation capacity from different starting points. With varying levels of training capacity needs between Pacific Island Countries and Territories (PICTs), targeted support is needed to ensure that the correct training needs and personnel are identified, with progress on capacity building tracked and followed up on.
- » build on Pacific Competencies Model across disaster and emergency planning and response trainings. The model is a process that connects workforce skill development needs to appropriate accredited and non-accredited Technical and Vocational Education and Training (TVET). The framework ensures that needs of an agency as per its mandate is matched with the training that are available and further ensure that the correct personnel receive the training. The application of the Pacific Competencies Model will inform the development of demand driven training for countries by regional training providers, whether accredited or non-accredited.
- » explore peer-to-peer support models, as countries further along the training programme development can offer guidance and lessons learnt to colleagues in other countries. Ensure there is an-country presence for the project as early as possible – this may include not only coordination staff, but staff with technical and financial expertise as appropriate.
- » if utilising a grant modality with subrecipients in the future, refine the modality to: ensure the MOA is fit-for-purpose; and where appropriate, recognise sub-recipient procurement policies; streamline acquittal processes.
- » look to leverage other expertise and projects within SPC focussed on DRM/CCA when designing the EDF11 project post BSRP, and attach technical expertise to the programme that can be cost recovered from the project, thus reducing project-related staff turn-over.

It is recommended that **PICs**:

- » select a few targeted activities to implement and ensure that they are risk informed.
- » actively engage and involve the national planning and budget departments where there is investment in infrastructure or equipment to assist with planning to meet maintenance and sustainability obligations.
- » carefully consider the risk of placing such large infrastructure investments under more than one funding mechanism as different funding entities have different funding criteria and processes that it may compromise the completion of the entire project.
- » give greater emphasis to considering and embedding gender and social inclusion in the design and implementation of project activities.



Case Study 13: Taking a communications for development approach - building communications and media capacity for DRM

KRA3
EUR 283,887

Communications within the BSRP project was not just about visibility, but sought to help achieve social transformation. Effective communications approaches seek to achieve desired outcomes or a change in behaviour whilst also using channels of communication that ensure understanding of the work being achieved and visibility for implementing and donor partners. This approach was core to the communications for development model implemented as part of the BSRP project. It balanced the need for communications and visibility actions with the desired outcome for increased education and understanding around key areas such as improved disaster messaging and understanding from communities or private sector on what to do before, during and after disaster strikes.

In May 2017, the BSRP project collaborated with a team of regional development agency partners to arrange regional media training. The purpose was to give journalists and communications professionals across the region a better understanding of the regional dimensions to sustainable and resilient development and equip them with tools to improve coverage of these issues.

Sixty mainstream media, communications professionals and project staff from 13 countries in the Pacific region participated in the workshop. The training included daily panel sessions of experts across a range of broad topics. These panelists interacted with the participants to cover areas including climate change, DRM, social and environmental development, the role of regional organisations in the Pacific, and programmes being run regionally.

The meeting was opened by the Minister of Fisheries and Ocean Champion for Fiji, Hon Minister Semi Koroilavesau and he highlighted the importance of media in developing regional frameworks to encourage participants look at the linkages between different countries and not just within their own countries.

“Everything that happens around us is totally dictated by what the media is doing. It is so powerful that we need to be very careful of words we utter, how we act and how we behave.”

The project also partnered to coordinate media disaster emergency trainings in Palau and Marshall Islands. In Palau participants learnt how to develop a plan to allow them continue broadcasting to local communities during a disaster event.

Ms Rolynda Jonathan, lead reporter for Oceania Television Network and Palau workshop participant said, “This workshop not only provides us with the opportunity to educate ourselves about the role of our National Emergency Management Office (NEMO) and the National Emergency Committee, but it also gives us the opportunity and means to develop a stronger relationship with these agencies to effectively inform the public.”

In addition to building capacity within the media, the BSRP project sought to support NDMOs to adopt a communications for development approach. This included designing a communications and visibility template to help with effective communications in each country in line with project activities.

This communications and visibility template showed how effective communications can help achieve overall project objectives by engaging effectively with stakeholders and ensuring stakeholders understand what BSRP does. Most importantly, it demonstrated how behaviour can be changed through advocating for DRM best practices.

In a longer term sustainable manner the project also worked with partners United Nations Children’s Fund (UNICEF) and the Pacific Islands Private Sector Organisation (PIPSO) to develop specific tools and campaigns focused on key audiences namely communities at risk of disaster and businesses across the Pacific. Two tools were developed. Firstly, the Get Ready Disasters Happen Campaign which included a research phase and testing of the messaging to ensure communities understood the expected behaviour desired from the campaign strategy. This campaign was a preparedness package of materials to be used before, during and after a disaster with clear guidelines on when and how to disseminate the simple and engaging messaging. The tool is now independently being implemented by Fiji NDMO and was requested by other countries as a result of its success in Fiji.

The second tool developed in this evidence based manner was the Private Sector Toolkit for Disaster Readiness (www.pipso.org/stayopen). This strategy included a desk research phase pulling evidence of disaster cost and impact in the Pacific from previous reports such as Post-Disaster Needs Assessments. It also included an exploratory phase with four large focus group sessions held with more than 100 private sector representatives to understand what information they needed to best prepare for future disaster. The toolkit was informed by this research and its development was guided by a working group made up of private sector representatives, umbrella private sector agencies (Fiji Business Disaster and Resilience Council & PIPSO), SPC and United Nations partners. The tools were then tested after their development with private sector partners to determine if the messaging was relevant and useful. The feedback from private sector was overwhelmingly positive and as a result of the toolkit, more than 300 businesses across the Pacific have been trained in Business Continuity Planning with the use of the tool. It has also been translated into six Pacific languages with six infographic videos and six factsheets to support increased understanding and preparedness of private sector. The tool has also been requested by Haiti private sector and private sector agencies in the Caribbean as a useful, concise and global model for small and medium size businesses.

Team Leader, Strategic Communications and Knowledge Management Geoscience, Energy and Maritime Division (GEM), Lisa Kingberry, who was previously the BSRP Communications Officer explained the need to take a more dynamic approach to communications to ensure it supports the delivery of outcomes rather than just showcasing outcomes and visibility.

“Communications in the development sector usually operates on a very small budget, so finding ways to deliver outcome-focused communications that helps shift understanding or behaviour in key areas such as disaster risk is critical for the delivery of large-scale development projects like BSRP. We took a unique approach, but ensured what we did was evidence-based, relevant and useful. This is a testament to why the strategies and visibility of BSRP was so far reaching and well received by both countries, our donor partner and private sector agencies”, she said.

3. KEY RESULT AREA ACHIEVEMENTS



A. KRA 1 Effective preparedness, response and recovery

i. Introduction

Under the Contribution Agreement, KRA 1 responded to the need for national and regional response plans, end-to-end Early Warning Systems (EWS), emergency and evacuation centres, access to safe drinking water to mitigate against drought. It was to build on the 9th European Development Fund (EDF) B-Envelope – Support to Disaster Risk Reduction in Eight Pacific ACP States (RFA Theme 4).

Value of activities contributing to KRA 1:
EUR 8,597,226

In total, close to EUR 8.6 million worth of activities contributed to achieving KRA 1,¹⁴ with Vanuatu, Samoa, Niue and Timor Leste being the biggest recipients of funding under this KRA (Figure 13 refers). The majority of spend under KRA 1 benefitted at national and subnational levels (47% and 37% respectively – Figure 14 refers).

Figure 13: KRA 1 expenditure by country (percentage of total spend)

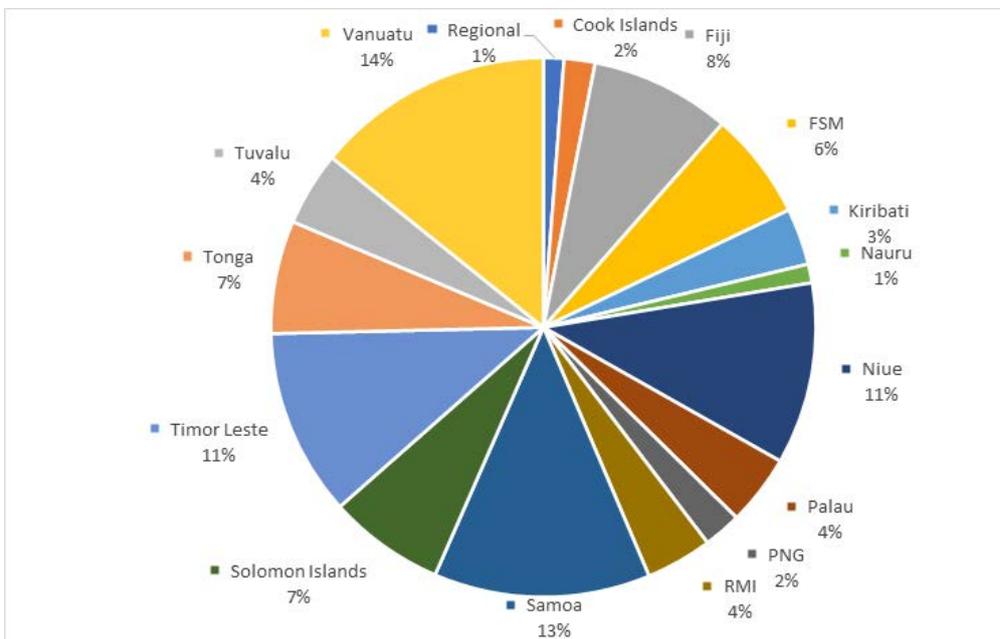
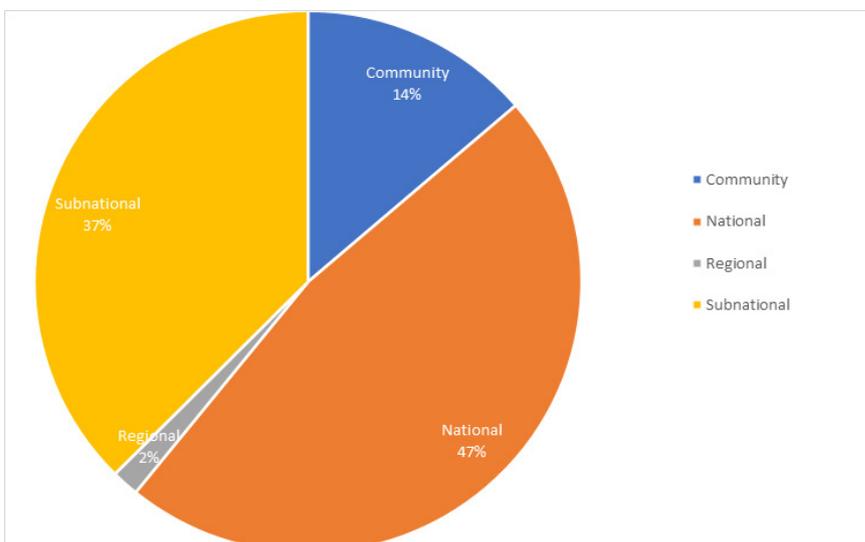


Figure 14: KRA 1 expenditure by benefit level (percentage of total spend)



¹⁴ As stated previously, many activities contributed to more than one KRA.

ii. Achievements

KRA 1 encompassed a broad range of activities to strengthen preparedness, response and recovery capability within PICs. A strong focus was put on the coordination and interoperability of emergency agencies, in particular, NDMOs, Fire and Police. At a regional level, the Pacific Islands Emergency Management Alliance (PIEMA) was born (see Case Study 33) and emphasis was placed on twinning relationships between PIC emergency management agencies and those in Australia and New Zealand (Case Study 32 and Figure 27). At national level, the process of developing Strategic Roadmaps for Emergency Management (SREMs) provided an opportunity for interagency dialogue and collective visioning to take place. Niue was first out of the blocks with their SREM. As described in Case Study 14, in addition to bringing the key stakeholders together, the Niue SREM provided direction for NDMO planning, decision-making and funding. Roadmaps are an acknowledgement that “the best laid plans and intentions are ineffective, unless they are backed up by commitment, ownership and a practical pathway to success” (Whitelum Group, 2019).

The BSRP project also supported (either financially or through technical assistance) four lessons learnt processes following disaster events that brought different stakeholders together to ultimately improve future responses (Case Study 9 refers).

Improving interoperability during peace time leads to more effective disaster responses. To further strengthen responses at both national and subnational levels, the BSRP project supported the construction or upgrade of 31 national and/or subnational emergency operations centres (EOCs) in 12 PICs, with a further two national EOCs being designed and land identified for one further NEOC. As outlined in Case Study 15, a network of standardised district and provincial EOCs in Fiji have been upgraded to provide a dynamic working environment for EOC officials who are required to work long hours in the office during operations, and who received training under BSRP on their roles when working in an EOC. Many of these facilities have already been activated as part of emergency responses and stakeholders have observed how they are already enhancing emergency and disaster operations. In Vanuatu, where three provincial EOCs were constructed, the NDMO has noted how these facilities assist in coordinating agencies involved in the emergency response.¹⁵

Sub-national EOCs are also an essential part of the emergency communications network. Local needs can be assessed and communicated to the national response apparatus. To aid in enhancing this two-way communication, emergency communications systems were strengthened in eight PICs. This varied from: relocating the National Communication Corporation tower in Palau and equipping outer islands in Tuvalu with (and training them on the use of) VHF radios (Case Study 3 refers); to providing PNG Provincial Disaster Centres with information and communication equipment and training to enable them to capture and transmit data back in a timely manner to Port Moresby.

Emergency communications were also strengthened through tailoring emergency messaging to meet the needs of the public in the Solomon Islands and providing 15 communities in the Isabel and Makira provinces with low cost, easy to maintain flood warning systems that complement their traditional warning systems (see Case Study 31). Women in the local communities have reported that these systems have helped them to sleep better.

In Suva, following a technical analysis of existing tsunami warning systems, the project invested in a siren network alongside the New Zealand MFAT. 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.

Case Study 11 highlights the importance of international partnerships and data sharing to inform early warning decisions – in this case, a partnership has been built between the Timor Leste government and Indonesia’s National Directorate of Meteorology and Geophysics (BMKG) so that Timor Leste can receive timely data from Indonesia’s detection devices on incoming tsunamis, so warnings can be communicated to the people of Dili. While the new siren system still requires a manual activation, it is a significant step forward for the city.

¹⁵ <https://youtu.be/-DfLQ9UZBa8>

Tsunami signage and simulation exercises provided alongside the early warning systems have also aided with public awareness and increased response capability, although there are differences of opinion across the region on whether frequent testing of sirens alongside simulations desensitises the public or whether it in fact enhances their own preparedness (a study to evaluate changes in awareness and preparedness in these communities has not been undertaken).

Other risk-informed infrastructure prioritised by PICs within BSRP included evacuation centres and pre-positioned supply storage facilities. A total of six evacuation centres were built or upgraded across three countries (Cook Islands, Fiji and Timor Leste). The centres have become critical points to address DRM at community level. In Timor-Leste, BSRP supported a participatory planning and construction of evacuation centres. Issues around disaster risk were considered in particular during decisions on evacuation centre placement and construction. The centres come under the management of a government agency and are used daily for community group activities, valued as an important asset by those communities, and therefore, well maintained. In the Cook Islands, the upgraded subnational EOCs are dual purpose and also house evacuation facilities for their district. In Vanuatu, the Santo Provincial EOC has also been activated to address the needs of relocated populations from the volcano on Ambae (see Case Study 1).

Supply chains can be significantly disrupted during a disaster event, and this is felt particularly acutely in outer islands. For this reason, in Tuvalu, the BSRP project worked with the Red Cross and three outer island communities to build three pre-positioned supply storage facilities (Case Study 3). In Palau, the National Emergency Management Office increased its storage capacity for supplies, and in FSM, it was the fuel storage tanks that were refurbished to ensure sufficient fuel is available during times of an emergency. With the installation of 512 water tanks in communities within Palau, RMI and Fiji an additional 2.5 megalitres of water storage has been provided (see Case Study 17). This sits alongside a dam/reservoir in FSM and borehole drill in Vanuatu that is bringing water to remote communities (as described in Case Study 10).

In addition to the fixed infrastructure, NDMOs sought support to ensure that they could reach remote communities for risk reduction, preparedness, response and recovery activities. As is exemplified in Case Study 16, this involved investing in boats, mobile EOCs, distribution trucks and fire trucks.¹⁶

Further achievements under KRA 1 are detailed in the logframe (Annex 3 refers).

¹⁶ Both purchased by the project, and donated from Australian twinning partners with transport costs met by the project. A 2017 video demonstrating the impact of the fire trucks and training in Vanuatu is available at: https://youtu.be/Qfs_6hoEbjs

Case Study 14: Niue's Strategic Roadmap for Emergency Management – the first in the region

KRA1 KRA5

EUR 30,839 + TA

Niue's Strategic Roadmap for Emergency Management (SREM) 2015 – 2019 was developed and adopted as part of the BSRP project and with the assistance of New Zealand's Ministry of Civil Defence and Emergency Management and the New Zealand Fire Service. It was informed by a process of stakeholder consultation, including a workshop to look at contemporary best practice within the Australasian region with the view to reform the emergency management arrangements in Niue. For the first time, the SREM process allowed the government agencies involved in emergency response to sit down as group and discuss the issues that collectively face them as a sector rather than as individual agencies.

The SREM aims to strengthen emergency services preparedness and response and contributes to the Niue Ke Monuina – a prosperous Niue 2014-2019 (the national strategic plan). It also aligns with regional commitments including the Framework for Resilient Development in the Pacific (FRDP) and the Boe Declaration on Regional Security.

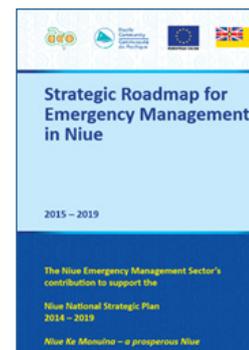
Niue's SREM was the first to be developed in the region and was evaluated in 2019 by the Whitelum Group as contracted by the PIEMA, (now funded by New Zealand and Australia) so that lessons learnt can be applied by other Pacific Island countries looking to also develop a SREM.

The evaluation found that Niue has made significant progress in implementing the SREM Strategies and progressing towards the outcomes, however progress is not uniform, and further work is needed. The SREM has provided direction for NDMO planning, decision-making and funding. Niue has made progress in strengthening the emergency management sector in various ways. Individuals, and agencies have been trained and their skills developed; the NDMO has been established, and ongoing planning and regulatory reform is creating a stronger foundation for the sector. The ongoing community awareness and engagement in emergency management is also considered a strength, and there is evidence of greater and practical collaboration with the private sector, and productive relationships with external partners.

The SREM strategies and priorities for action remain highly relevant. Beyond the NDMO, however, there is only a moderate level of awareness of the SREM across other emergency management stakeholders, and little if any awareness of the SREM across other government stakeholders. Picking up from where BSRP has left off, PIEMA will now work with the Niuean Government to improve awareness and implementation of the SREM and maintain.

The Whitelum Group (2019) identified a range of lessons from the Niue SREM, including the importance of:

- demand for, and ownership of, the Roadmap at both the national and regional levels
- dialogue – the Roadmap processes can be valuable in supporting emergency management agencies to come together regularly, share information, discuss priorities and coordinate activities as a matter of practice. This should involve reaching out beyond the three agencies (NDMO, Police and Fire) to include Finance and Foreign Affairs, and Planning Ministries.
- starting with small, practical and feasible actions to demonstrate success, even though Roadmaps are ambitious in their long-term visions.
- understanding baselines and using simple indicators of progress – these can be powerful, especially where aligned with overarching, or broader reporting obligations.
- by including fit-for-purpose monitoring and reporting arrangements that support the Roadmaps
- recognising that cross-agency planning and activity delivery can be difficult, but that the rewards can be high. Thus, Roadmaps should take a realistic and supportive approach to enhancing collaboration.
- coordinating and aligning with Development Partners, and leveraging those relationships to advance priorities established in the Roadmap, while also using the Roadmaps as donor support coordination instrument.





Case Study 15: Strengthening Fiji's EOC network

KRA1 KRA5

EUR 288,696 + TA

Given its geographic location and geophysical characteristics, Fiji regularly experiences geological and hydro-meteorological hazards. In the past 37 years, Fiji reported a total of 124 disasters triggered by natural hazards, affecting almost all parts of the country. Tropical cyclones accounted for 50% of the events, followed by floods (33%) and earthquakes (8%). These disasters have had a considerable impact on the lives and livelihoods of the people of Fiji. The total direct cost associated with disaster events in Fiji between 1970 and 2007 was an estimated US\$532 million. With climate change, it is anticipated that hydro-meteorological hazards will become more severe over time and will continue to seriously impact on communities- a major issue that has been discussed at the international level for two decades now. In 2013, the Pacific region agreed that climate change and disasters are complex cross-cutting issues with multidimensional development impacts. Responses at a national programme level should therefore be multidisciplinary and cross sectoral. The FRDP was born to reflect this.

Fiji views the strengthening of its Emergency Operation Centres at the provincial and district level as fundamental to its push for cross-sectoral integration in dealing with disasters. Key government officials with DRM skills have been stationed in the four administration divisions of the country (Central, Northern, Western and Eastern) to specifically coordinate disaster preparedness, response and recovery actions at the divisional level with other government departments. Given the investment in human capital, the government also prioritised the improvement of the Emergency Operation Centre infrastructure to better support disaster events that occur at the provincial or district levels. Specifically, nine EOCs were refurbished under the BSRP project at national, divisional and district levels to improve their overall systems and operations.

During the project, according to Ms Litiana Bainimarama, the then Acting Director NDMO, “the refurbished EOCs provide a dynamic working environment for EOC officials who are required to work long hours in the office during operations”. She said that the refurbished EOCs are already enhancing emergency and disaster operations with many having been activated in the 2019/20 cyclone season. This has quickened the response and recovery actions for the affected communities. In normal times, the EOCs are being used for training, workshops and DRM stakeholder meetings.

The Acting Director NDMO also appreciated the upskilling of her staff through trainings carried out by the BSRP project on Working as a Team in an Emergency Operation Centre (WEOC) during an event. The training was conducted across the four Divisions: Northern, Eastern, Western and Central and included more than 300 participants from agencies involved in disaster response. NDMO staff also participated in a regional train-the-trainer programme, and are now conducting WEOC training in other parts of Fiji and have included it as part of their Annual Training Programme.

Case Study 16: Reaching those in need - emergency transportation in Vanuatu

KRA1
EUR 162,850

Reaching those in need in an island environment is a challenge of its own. Especially when public transportation or utilities are limited or non-existent. The BSRP project supported Vanuatu to enhance its land and sea emergency transportation capability, an investment that is already paying dividends.

In the case of fire, the Government of Vanuatu had very limited capability to contain a fire if it broke out- a 4x4 truck with a 500-litre water tank. In 2016, the BSRP project thus met the costs of shipping two fire trucks, each with more than 3,000 litre capacity from Australia to Vanuatu. The trucks were donated by the Australian Capital Territory (ACT) Emergency Services Authority, which has a twinning relationship under PIEMA with the emergency services in Vanuatu. Driver and intermediate firefighting technique training was provided, as was training on specialist equipment also donated, such as the pumper appliance, and learning breathing apparatus.

Ten days after the handover, one of the trucks was used to respond to a major fire that occurred in the four storey Air Vanuatu offices, starting from an electrical fault in an air conditioning unit and quickly spreading to a document storage room. The Vanuatu Fire Service quickly dispatched their newly received Isuzu 4WD tanker and Scania urban pumper, and quickly doused the fire completely.

Like the Fire Services, the Vanuatu government had limited capacity to reach local rural communities for disaster preparedness and response activities where roading, telecommunication and basic amenities are restricted. The BSRP project procured two four-wheel drive vehicles to the NDMO to be utilised in Tanna and Santo and a flat-bed truck was provided to the Vanuatu Military Force in Vila to support cartage of equipment, people, food and water to communities during disasters. In 2019, a State of Emergency was declared in the north-west coast of Efate island because of Rhinoceros beetle outbreak. The coconut rhinoceros beetle has the potential to devastate the country's coconut industry, as well as the livelihoods of the tens of thousands of people who depend upon it. The truck was heavily involved in moving people and equipment to help government contain the outbreak.

Inter-island mobility services in Vanuatu is through ferries. In the absence of a quasi-bridge or reliable pontoon in some islands, inter-island ferries cannot anchor close to the shore. In these cases, they drop their anchors out in the open sea. During high-energy wave events, access to these harder-to-reach island villages is even greater, thus increasing their vulnerability. Transporting people in need of emergency care also becomes more difficult and risky. The BSRP project assisted Vanuatu by providing three boats for emergency transportation for the Ambae, Lakatoro Malekula and Torres outer islands in the Penama, Malampa and Torba provinces respectively. The Ambae boat has already been used extensively during the island's recent volcanic eruptions to allow officials from other islands to access Ambae as part of the disaster response.



Previous Fire Truck with a 500litre



Previous Fire Truck with a 500litre

Case Study 17: Keeping essential services running in Palau

KRA1 **KRA4**
EUR 24,187

The El Niño phenomenon affects most countries including Palau. The effect of El Niño differs in each country depending on their geographic location (latitude/longitude). Palau usually experiences drought during an El Niño, which means below average rainfall, while some countries may experience rain during this period. In 2014, when the BSRP project commenced, drought was felt in most of Palau and it threatened the consistent supply of portable water to schools. This resulted in schools being closed during periods of drought.

The Palau Public Utility Corporation was forced to ration water from June to December 2014. Their rationing strategy resulted in schools going without water for most of the day. In an effort to mitigate the problem, the Ministry of Education assessed and identified schools (with a total of 2,284 students and 369 staff, 52% female) that did not have water tanks and could not meet their water needs when the main distribution pipes were shut down.

With assistance from the BSRP project, water engineers assessed the amount of water needed for a school to function normally as well as the type of water tanks and volume that need to be made available. High quality stainless-steel tanks mounted on solid concrete bases were recommended due to their durability.

Through the BSRP project, Ministry of Education were able to install 13 tanks: nine tanks in the Palau Community College, Mindszenty High School, Ngardmau Elementary School and Maris Stella Kindergarten. These schools also serve as shelters when a typhoon hits. A further four tanks were also provided to the Special Education Office and Ministry of Education Office. The Japanese Government funded tanks to a further three schools as well as electric pumps to fill the tanks from the mains supply. An opportunity exists to connect them to the rainwater catchment.

KRA1



11/12 logframe indicators exceeded, 1/12 logframe indicators met.



11 twinning partnerships finalised



EWS systems in Timor Leste, Fiji and the Solomon Islands benefitted populations of at least 320,000.



Over 2,300 participants in workshops and simulation exercises



Emergency Operation and Evacuation Centres constructed or upgraded to benefit at least 3.5 million people.



An additional 2.5 megalitres of water storage provided



5 x tsunami plans; 1 x fire reduction strategy; 1 x oil spill plan

B. KRA 2 Strengthened institutional arrangements for DRM and CCA

i. Introduction

Value of activities contributing to KRA 2: **EUR 4,377,282**

Under the Contribution Agreement, KRA 2 responded to the need for Joint National Action Plans as well as to the integration of DRM and CCA into national and sector strategies, planning and budgetary processes. It built on work directly on the DRM work carried out under the 9th EDF Intra-ACP EU Natural Disaster Facility (RFA for Theme 1).

In total, close to EUR 4.4 million worth of activities contributed to achieving KRA 2¹⁷, with regional activities, along with FSM, Fiji, Tonga and Cook Islands being the biggest recipients of funding under this KRA (Figure 15 refers). The majority of spend under KRA 2 benefitted at national level (64%) with the regional benefit also being 18% – Figure 16 refers).

Figure 15: KRA 2 expenditure by country (percentage of total spend)

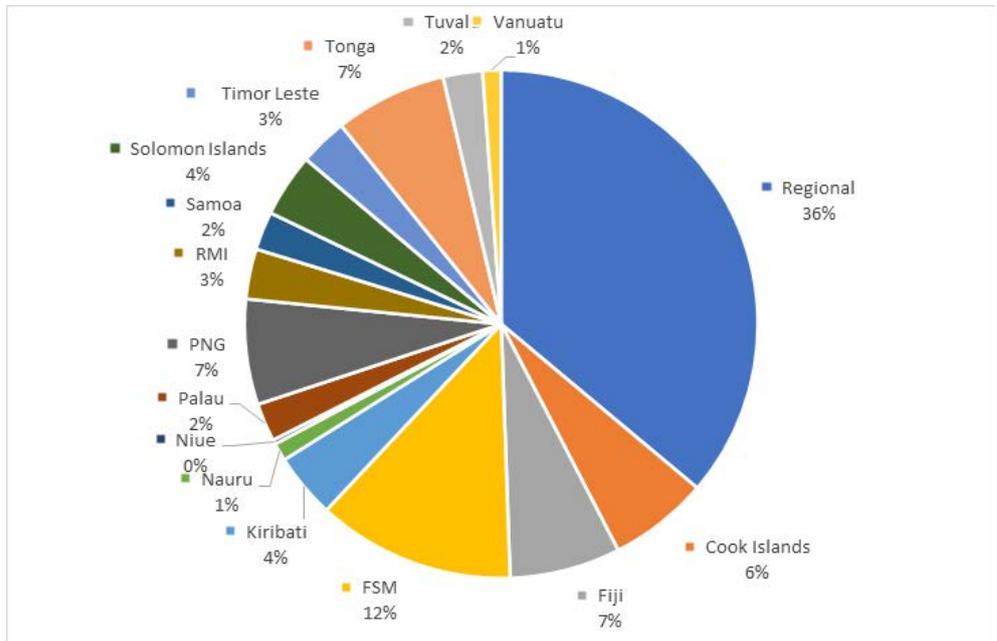
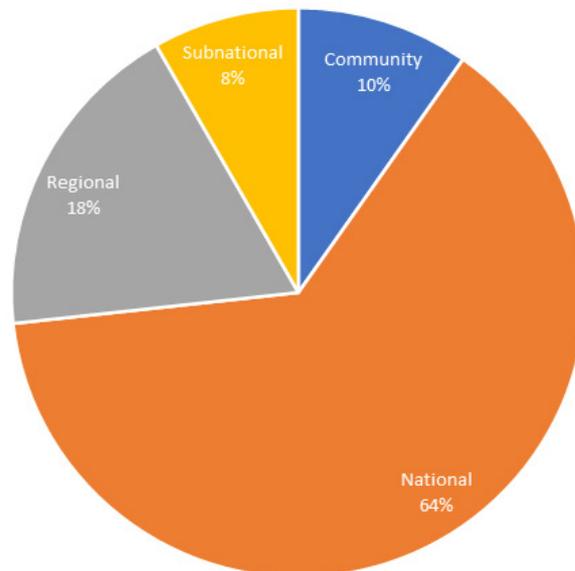


Figure 16: KRA 2 expenditure by benefit level (percentage of total spend)



¹⁷ As stated previously, many activities contributed to more than one KRA.

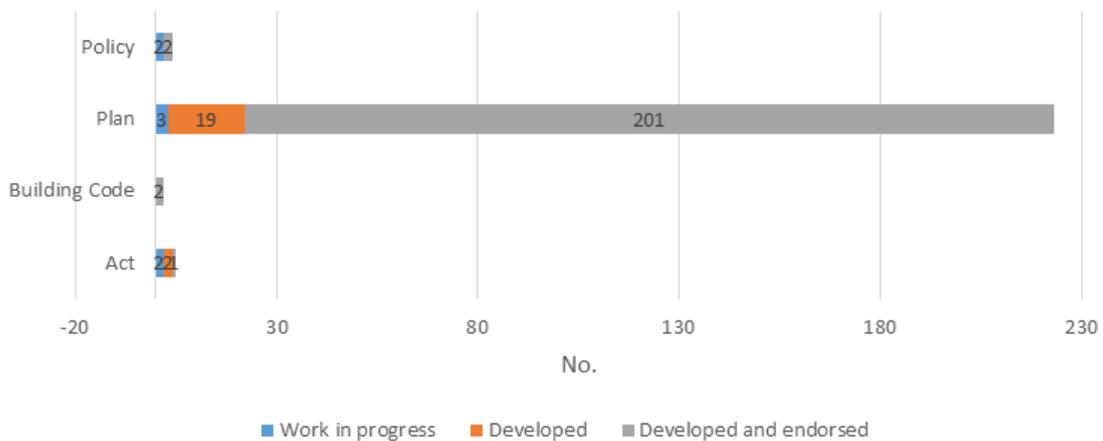
ii. Achievements

In the HFA and RFA review (2013, Table 2) that provided the baseline for this project, it was stated that more was needed in many PICs “to provide the institutional basis for progress in DRM, particularly in relation to integration with CCA.” Annex 2 lists a wide range of activities that contributed to building this institutional basis under KRA 2. An independent evaluation found that “BSRP’s facilitation of the development of national and sub-national DRM arrangements was one of the most significant contributions of the project to long-term DRM capacity in the Pacific by creating greater DRM coordination efficiency in partnered countries”. (FDC ANZDEC, 2019)

As shown in Figures 17 and 18, the BSRP project lended support to draft five Bills to be considered by Parliament (DRM, fire and quarantine related), four policies (CBDRM, fire and oil spill), 223 plans (78% of which were at a subnational level) and two Building Codes. In addition, toolkits and guidelines have been developed to guide future practice – a CBDRR Toolkit in Palau (Case Study 20 refers), risk mainstreaming guidelines specific to 14 sectors in Samoa (Case Study 18), a Disaster Impact Assesment Guide in the Solomon Islands, a Disability Toolkit in the Cook Islands (Case Study 7) and an Island Disaster Committee Toolkit in Kiribati (Case Study 21).

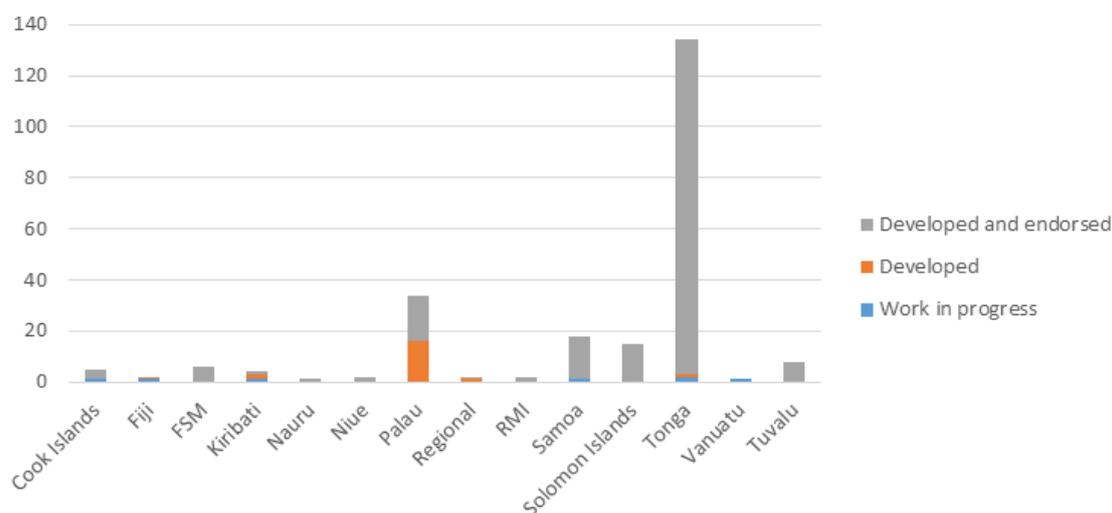
Nearly all these documents were finalised through to the “developed” stage, with some still awaiting endorsement from the appropriate authority (e.g. Parliament, Cabinet, etc) and others still a work in progress. Assistance varied from supporting the entire process (technical assistance, consultation costs, etc), to only providing technical assistance into a process led by others. Case Study 18 shows how the project was able to support the Government of Samoa to ensure that the legal, policy and planning framework was mainstreamed across government and set a robust foundation and structure for effective DRR/DRM. In Nauru, a review of the DRM legislation resulted in greater resource allocation and significantly increased coordination and links between the response agencies, with clear understanding of who is the incident controller in an event (Case Study 19).

Figure 17: Number of Acts, Building Codes, Plans¹⁸ and Policies developed and endorsed with support from BSRP



¹⁸ Excluding school evacuation plans

Figure 18: Acts, Building Codes, Plans and Policies developed with support from BSRP (by country)



The participatory processes used in developing the Acts, plans, standards, frameworks and policies contributed greatly to interagency/stakeholder dialogue, understanding and awareness of issues related to DRM and CCA. The revisions incorporated locally-adapted best practice to create an enabling environment for DRM and CCA. A 2019 evaluation (FDC ANZDEC) found that content of national and state plans, frameworks and Acts was generally very well-informed by research and consultation – the involvement of BSRP in the process aided in promoting cross-country lesson learning for developing new national DRM arrangements. Moreover, plans and frameworks for action under BSRP were consistently found to be the most consultative activities undertaken by country partners.

Implementation takes time and resources. Plans are already proving to be instrumental in attracting or directing grants, the full impact of Acts, plans, standards, frameworks and policies was not possible to observe during the BSRP implementation period.

“Right after they were done, the donor partners, like Japan, Australia and China and others, they would come and ask us if we had any plans for DM and CCA. Before we had nothing. Just different ministries’ reports, but no plan. No aspirations. So that was the first time we had something like that to share with them.” (FSM evaluation participant reflecting on state-level joint action plans for climate adaptation and disaster preparedness)

Unfortunately, although consultations processes were generally adequate during the formulation of DRM and CCA-related legislation and arrangements, early evidence suggests that momentum did not continue to the same extent after the documents were completed – plans and frameworks have had more success at achieving ongoing engagement (FDC ANZDEC, 2019).

Given that many PICs are made up of islands dispersed over large areas, many countries have prioritised strengthening DRM institutions at a subnational level given that they can mobilise their communities for risk reduction and preparedness activities in ways that national agencies cannot. They are also on the ground as first responders following a disaster event. In Kiribati this involved supporting the formation and training of 22 island disaster committees and is paving the way for increased coordination and capacity building with outer islands (Case Study 21). Eight island committees were supported with training on the new DRM legislation as well as post-cyclone DRR planning and implementation in Tuvalu. In Tonga, guided by a CBDRM and partnerships gap analysis, five District Emergency Management committees were formed and trained, district emergency management plans developed in line with existing legislation, and the project

worked with Mainstreaming of Rural Development Innovation Tonga Trust (MORDI) and the Ministry of Internal Affairs to integrate DRM into their community plans. CBDRM activities were rolled out in 15 communities within Solomon Islands and 1 CBDRR pilot was undertaken in Palau as part of training for trainers after the CBDRR framework toolkit was launched in 2017.

As with national level activity, sub-national results will become fully visible over time, however, there are already anecdotal examples reported of island committees being active and communicating more with NDMOs. In Kiribati, a Red Cross representative reported that it is now faster and cheaper to assess and respond to localised emergencies – “if we are to help an outer island, community members now can conduct an assessment themselves and send it through. In the past, someone would have to take a boat out to do an assessment, come back, and then take another trip to distribute items.” Similarly, in Palau it was observed that NEMO, Red Cross and the weather service have the same constituents. What was done has united partners in disasters and gathering our resources. Not just NEMO going out and then Red Cross going out. It has improved integration.”

Sustainability of results is a key challenge for CBDRM work- given the cost of work on geographically dispersed islands, regular follow up and support from NDMOs is an ongoing challenge to making the most of this subnational structure. The EU-funded Cardno evaluation suggested that CBDRM work through NGOs already present in outer island communities may prove to be more cost effective in the future and allow for increased follow up.

Capacity supplementation was also required in some PICs under KRA 2. This included engineers to oversee major construction works (Nauru, Timor Leste, Vanuatu); and information technology, data collection and data management expertise (Cook Islands, Tuvalu, Vanuatu). Implementation of a project of this magnitude would not have been possible without the work of the local Coordinators operating alongside NDMO colleagues. In addition to providing technical DRM/CCA expertise these roles were key to: maintaining momentum, engaging with stakeholders, dealing with procurement, contracting and financial issues; and local monitoring of activities. The more integrated these roles were into the local partner offices (and the more respected those agencies were within the wider government), the more effective were these roles. As detailed in section 2(B), many staff hired in positions funded by BSRP have gone onto continue contributing to DRM/CCA in the region.

Further achievements under KRA 2 are detailed in the logframe (Annex 3 refers).



Case Study 18: Building a robust policy framework that takes a whole of government approach in Samoa

KRA2
EUR 27,524 + TA

A strong and comprehensive legal, policy and planning framework sets a robust foundation and structure for effective DRM. In Samoa, the BSRP project was able to support the government to ensure that this framework was fit-for-purpose and that DRR/DRM was mainstreamed across government.

Prior to the start of the BSRP project, a Hyogo Framework for Action review in Samoa found that there was insufficient awareness and knowledge of the existing National Disaster Management Plan. Further reflection led to the Samoan National Disaster Management Plan 2017-2020 being developed and designed with support from the BSRP project. It focused on increasing DRM and DRR into all 14 government sectors across the country – this includes the following sectors: agriculture; communication; community; education; energy; environment; finance, health; law and justice; public administration; trade, commerce and manufacturing; tourism; transport and water.

The review involved wide reaching consultations with each sector of government, non-government agencies, the private sector, communities, and development partners to ensure the plan was robust and supportive of increased disaster preparedness across the country.

The new Plan, which aligns with the Samoa National Development Strategy, became the key framework for disaster preparedness and response in Samoa. Its implementation led into a review of Samoa's Disaster Management Act 1995. Recommendations for amendments to the Act and recommendations for implementation to all 14 sectors were presented to the Disaster Advisory Council in 2017 and endorsed.

The Sendai Framework for Disaster Risk Reduction's guiding principles recognise that disaster risk management is everyone's business. This can only be realised when there is strong coordination mechanisms within and across sectors at all levels. In working to achieve this strong coordination, the Government of Samoa decided to develop 14 sector-based DRR mainstreaming guidelines.

The guidelines were developed to bring about consistency. Challenges had been experienced in the past when only a few officers were trained in DRR, and there were no concrete steps and processes available to be shared with others. That resulted in ad hoc approaches being adopted and exposed other sectors initiatives to the hazards that frequented Samoa.

The guidelines detailed the steps and processes that had to be adhered to by each sector so that the initiatives undertaken can sustain the impacts with the least damage sustained. For example, rainfall is projected to be high in coming years particular as the climate changes. Recent flooding in Upolu left roads severely damaged due to poor storm water drainage. Good storm water drainage is now an essential consideration for new roadworks.

In the Health and Education sectors, risk assessment is now an important component when considering new sites for constructing new facilities so that this critical infrastructure is not exposed to hazards that can impact their operations, particularly storm surges, tsunami, landslides and floods.

Lameko Simanu, Assistant CEO Samoa DMO, said, "Now is the time to act, climate change is here and consequently disasters, and all sectors have to take heed and prepare to ensure the least amount of impact is felt."

It is envisaged that after the full implementation of the revised Act, Plan and guidelines, development in Samoa will be much more resilient and result in minimal losses.

Case Study 19: Empowering responders through reviewing the Nauru DRM Act

KRA2
EUR 16,152 + TA

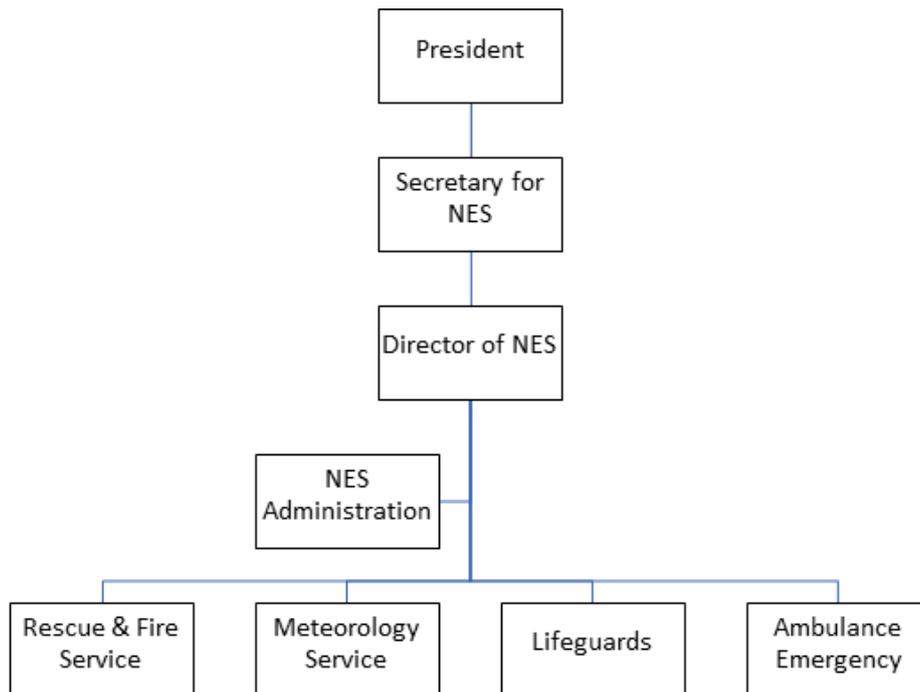
The Nauru 2008 DRM Act was reviewed under the BSRP project to align with Nauru’s disaster management structures put in place between 2010 and 2015, and clarify the command structure and responsibilities.

The review drew on the technical expertise of SPC, the Nauruan judiciary and lawmakers. Consultation was broad – it included government ministries, churches, the national disabled people’s organisation, the national airline, community councils and the private sector. The subsequent passing of the bill into legislation in 2016 saw the establishment of the Nauru Emergency Services (NES) spanning the rescue and fire, meteorology, lifeguard and ambulance services (diagram refers).

Changes included transferring (and elevating) powers to coordinate key emergency services and ensure coordinated national efforts for disaster preparedness, response and recovery from the Chief of Police (as in the 2008 DRM Act) to the NES Secretary. Specifically stated in the new Act is the need for the NES to mitigate the potential adverse effects of an event, prepare for managing the effects of an event and to assist Nauru effectively respond to, and recover from a disaster.

Weather forecasts had been previously provided from the Regional Meteorological Services Centre in Nadi, Fiji. While this had served Nauru well for a number of years, critical information needed for aviation purposes (such as surface temperature, wind speed and wind direction) was not easily simulated from Fiji. The Act therefore established the Meteorology Department as a new agency under the NES to provide weather information to the Nauru population.

The roles of critical response agencies (including the Disaster Office, Fire, Ambulance, Life Guard, Commerce, Industry and Environment, Transport, Health and Ports Authority) are specified in the Act, as are the responsibilities of leaders, communities, schools and individuals. As a result, there is evidence of significantly increased coordination and links between the response agencies, with clear understanding of who is the incident controller in an event. This has led to greater resource allocation. There are also regular weather updates being provided to the people of Nauru. A 2019 evaluation found, however, that more awareness of the Act outside of the NES and updates to the DRM Plan were required to aid in its operationalisation.





Case Study 20: Community Based Disaster Risk Reduction Toolkit in Palau

KRA2 KRA3 KRA4
 EUR 93,747 + TA

Past experience has demonstrated that in order to reduce the long-term vulnerability of a community and build individual and community resilience, decision-makers at all levels – government, business, community and families – must accept, mitigate, reduce, or transfer risks from threats or hazards.

Effective disaster risk management begins with a comprehensive understanding of the interaction between hazards, vulnerable elements and local capacity available in a given time. With an ultimate goal of sustainability and resilience, reducing risks requires a process of continuous learning, adapting to change, managing risk, and monitoring and evaluating progress. Understanding the risks makes it possible to develop strategies and plans to manage them.

In Palau, national staff were supported by the BSRP project to participate in train-the-trainer course held for North Pacific countries in 2016 focused on Community-based Disaster Risk Management in a changing climate. The training was conducted in collaboration with NDMOs from RMI and FSM, and the Asia Disaster Preparedness Center.

Rather than bring in external experts to carry out Community-Based Disaster Risk Reduction (CBDRR) with communities, a decision was made to develop a locally relevant CBDRR Toolkit to build local expertise and guide community-based disaster risk assessment processes across the country. The Toolkit is also touted as an implementation tool - a plan of action that involves beneficiaries in the identification and design, and development agencies and partners in the implementation of actions identified during each assessment.

According to the President of Palau, President Thomas Remengesau, “As a developing nation, Palau must improve its economic base, provide safety and security to her citizens, and protect cultural and traditional assets. A disaster can sometimes destroy or damage the efforts Palau puts towards its economic development. Therefore, the ultimate responsibility is to prepare for and mitigate against all types of disasters or emergencies, falls on the whole government and the whole country.”

The concept of CBDRR is new to most countries in the Pacific. This Toolkit is driven by risk, rather than the occurrence of incidents. By fostering comprehensive risk considerations, the toolkit encourages the whole community to adopt a culture of resilience through development of activities that will reduce the likelihood of exposure and vulnerability of communities. The CBDRR toolkit emphasises: training of community leaders, members and organisations to identify the hazards; assessing the vulnerability of the community; and developing DRR action plans to reduce the risks posed by disasters and climate change. The process recognises that local communities possess a wealth of locally-based DRM knowledge and experience. It is therefore critical that such local knowledge and experience is harnessed to enrich DRR strategies developed at the state and village levels.

The Toolkit also aids communities to establish their own emergency response plans and arrangements within their capabilities and available resources. As part of the process, communities develop disaster management plans that assist with addressing timely early warning, evacuation and shelter needs, and providing basic emergency services. Through the application of this Toolkit, communities are anticipated to strengthen, refine and support the DRM process.

Training on the use of the seven-step process outlined in the Tool was then conducted with state-level trainers across the 16 states by the NDMO and local Red Cross. It was practical training that worked with a pilot hamlet to apply the Tool – a process that could then be replicated by the state-level trainers in other hamlets. Of the 227 participants in the pilot, 79 were female (35%). This model of decentralising the CBDRR expertise through providing state-level training has the effect of deepening and broadening the adoption of CBDRR approaches in Palau. It also means that state-level trainers have more access to communities to do the follow up necessary.

At the national level, the Palau National Disaster Risk Management Framework for Disaster Management and Disaster Risk Reduction 2010 was reviewed with support from the BSRP project and finalised in 2015. Lessons learnt from Typhoons Bopha and Haiyan informed the review process. The revised DRM Framework continues to provide the basic structure for how the nation responds to disasters and emergencies, in particular, the processes and procedures to ensure effective leadership and coordination by the Palau Government when international assistance is requested. The revised Framework was also informed by the Sendai Framework, a global assessment and guide on national disaster risk management initiatives.



Case Study 21: Strengthening local DRM leadership in Kiribati

KRA2 **KRA4**
EUR 112,076

In Kiribati, island communities situated far from the capital have been empowered in their role as first responders through the creation of a sub-national/local governance structure to complement the national level DRM apparatus. The Republic of Kiribati is a low-lying nation made up of 33 scattered atoll islands, dispersed over 3.5 million square kilometres across the central Pacific Ocean. Climate variability, driven by the natural phenomena El Niño Southern Oscillation (ENSO), intermittently causes extreme weather events such as storm surges, droughts or salt-water inundation of underground water lenses. Kiribati is outside the cyclone belt but is susceptible to tsunamis or long distance high-energy waves.

Preparedness for, and response to disaster events begins in the community, particularly given the remoteness of communities from the base of central government in Tarawa. Nevertheless, DRM was historically facilitated at national rather than local level- the NDMO has implemented DRM activities with minimal participation by the Island Council members and the local communities. The arrangement has not worked well, and has proven unsustainable, ineffective and inefficient given that the beneficiaries are not directly participating in the planning and implementation. Over the years, they have mainly been silent receivers of programmes and activities designed at the national level.

The National Disaster Council was aware of the issue and prioritised establishing Island Disaster Committees (IDC) as an activity under the BSRP project. The NDMO reported that “the Government feels strongly that community level efforts in DRM are essential to enable meaningful community resilience building activities. It acknowledges that central Government cannot effectively manage DRM if communities are not organised and support DRM at the national level.” The Kiribati NDMO, Kiribati Red Cross Society, Ministry of Internal Affairs and Kiribati Meteorology Services jointly supported the establishment of 22 IDC. This involved travelling to the 22 islands and meeting the Island Councils to sensitise and solicit their support. Once support was obtained and IDC members identified, the team facilitate a three-day training which covered DRR/DRM, common local natural hazards, IDC formation/operation, community and household assessments and first aid.

The IDC are formed as island disaster task force or emergency response teams – the members include the Island Mayor, Vice Mayor, Clerk, Officer of Command Station – Police Service, Medical Assistant, and other representations from villages or wards, youth groups and women’s groups. Without funding to support sitting allowances, the teams working voluntarily with disaster sub-committees from Island Councils.

In a 2019 evaluation, a Red Cross respondent reported that it is now faster and cheaper to assess and respond to localised emergencies: “if we are to help, outer island community members can now conduct an assessment themselves and send it through. In the past, someone would have to take a boat out to do an assessment, come back, and then take another trip to distribute items.”

Of those trained, six IDCs have begun actively preparing and sending reports. While other IDCs will need further follow up in the future, they now have elevated awareness of what disasters they may encounter, and know what they must do before, during and especially immediately after a hazard has passed. This includes chains of communication for reporting a hazard, seeking guidance or assistance, and conducting and reporting post-hazards assessments.



KRA2



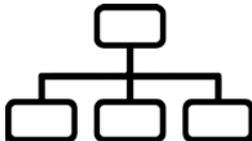
5/5 logframe indicators exceeded.



5 toolkits developed



55 subnational institutions strengthened



21 positions funded in PICs (12 female; 9 male)



5 legislative review processes supported

C. KRA 3 Improved knowledge, information, public awareness, training and education

i. Introduction

KRA 3 put emphasis on building awareness of risks, risk exposure through the provision of hazard and risk information through regional and local databases, strengthening human and technical capacity in a range of priority areas, production of knowledge products and related awareness (RFA Theme 2).

Value of activities contributing to KRA 3: **EUR 4,488,502**

In total, close to EUR 4.5 million worth of activities contributed to achieving KRA 3,¹⁹ with regional activities, along with PNG, FSM and Tonga being the biggest recipients of funding under this KRA (Figure 17 refers). Under KRA 3, 58% of the benefit was targeted primarily at a national level, with a significant proportion of benefit also being targeted at regional (24%) and community (13%) levels (Figure 20 refers).

Figure 19: KRA 3 expenditure by country (percentage of total spend)

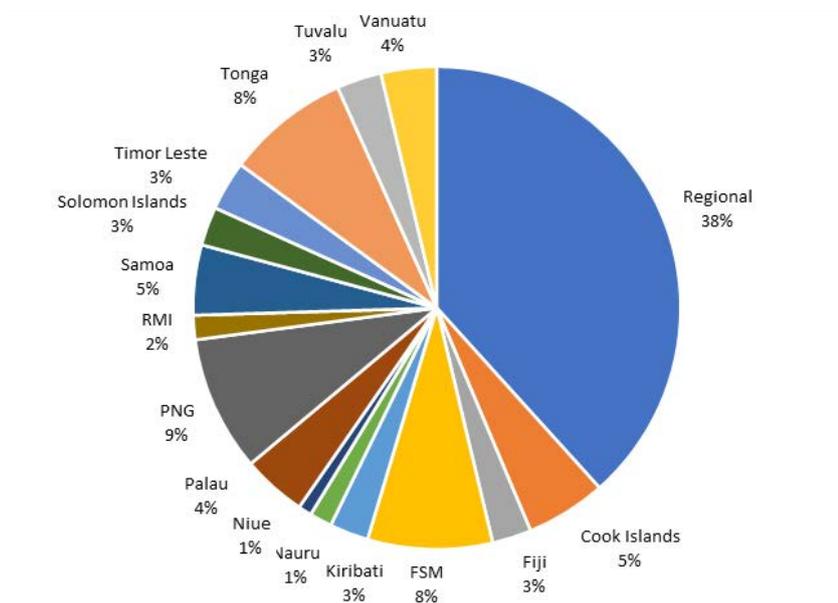
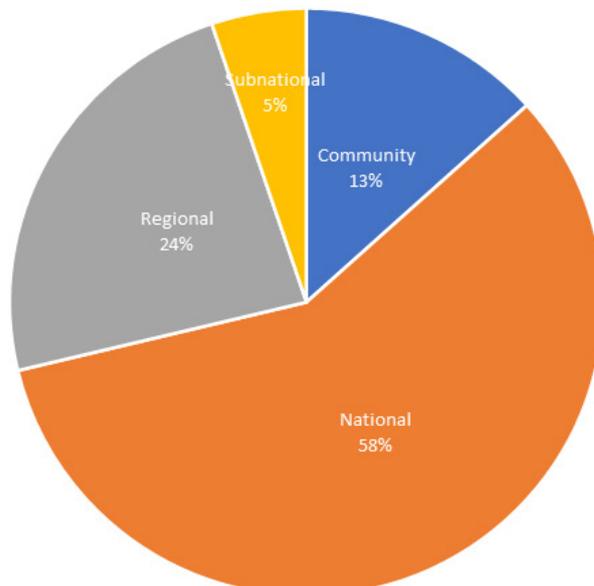


Figure 20: KRA 3 expenditure by benefit level (percentage of total spend)



¹⁹ As stated previously, many activities contributed to more than one KRA.

ii. Achievements

A 2019 project evaluation by Cardno found that “the diverse training activities that were delivered through the project have already been demonstrated to have achieved considerable benefits in the upgrading of DRM capacity in the region.”

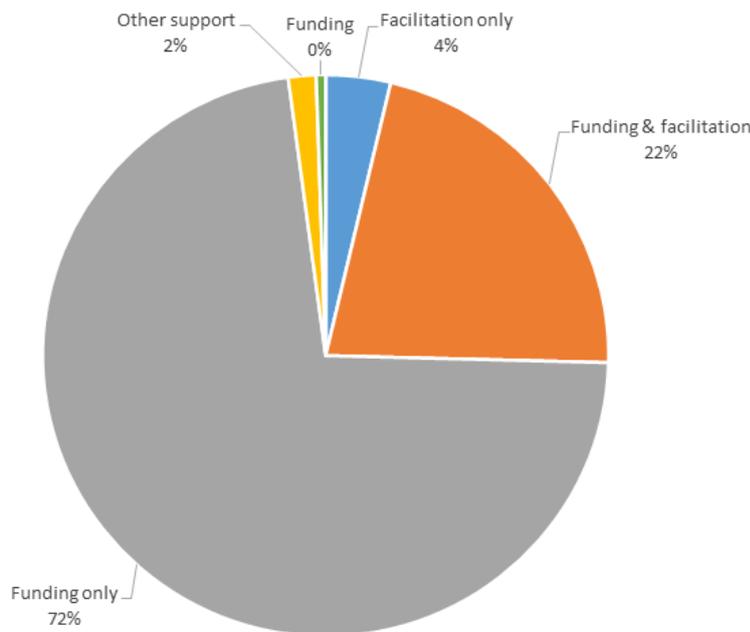
Not including formal qualifications (but including study tours), beneficiaries participated in one or more of the 180 training events that took place involving over 2,800 participants from a range of sectors: government, community/civil society, business (Case Study 4 refers) and media.²⁰ While gender disaggregated data is only available for 134 events, this indicates that on average, one third of participants were female (see discussion on gender in section 2(c)).

Figure 21 classifies the training into twelve themes across implementation years. It shows that there was a growing focus on CBDRM training from 2016, emphasizing the “all stakeholder” approach to DRM that is being adopted across the region. Moreover, the multi-agency emergency operations and/or evacuation centre training, professional emergency response skills development, and introductory courses to disaster risk management (IDRM) featured strongly throughout the project. Training offered on initial damage assessment and post disaster needs assessment methodologies at national and local levels was reported to have been a catalyst for countries to face the diverse and often incompatible assessment forms used by various government and NGO agencies after a hazard (FDC ANZDEC, 2019).

To increase the number of trainers in the region and maximise the value of the investment, training for instructor events also proved to be important and were held sub-regionally in 2014 and 2017, and then regionally in 2019 following EOC and IDRM training targeted at those trainers (Case Study 4, section 2(b) refers).

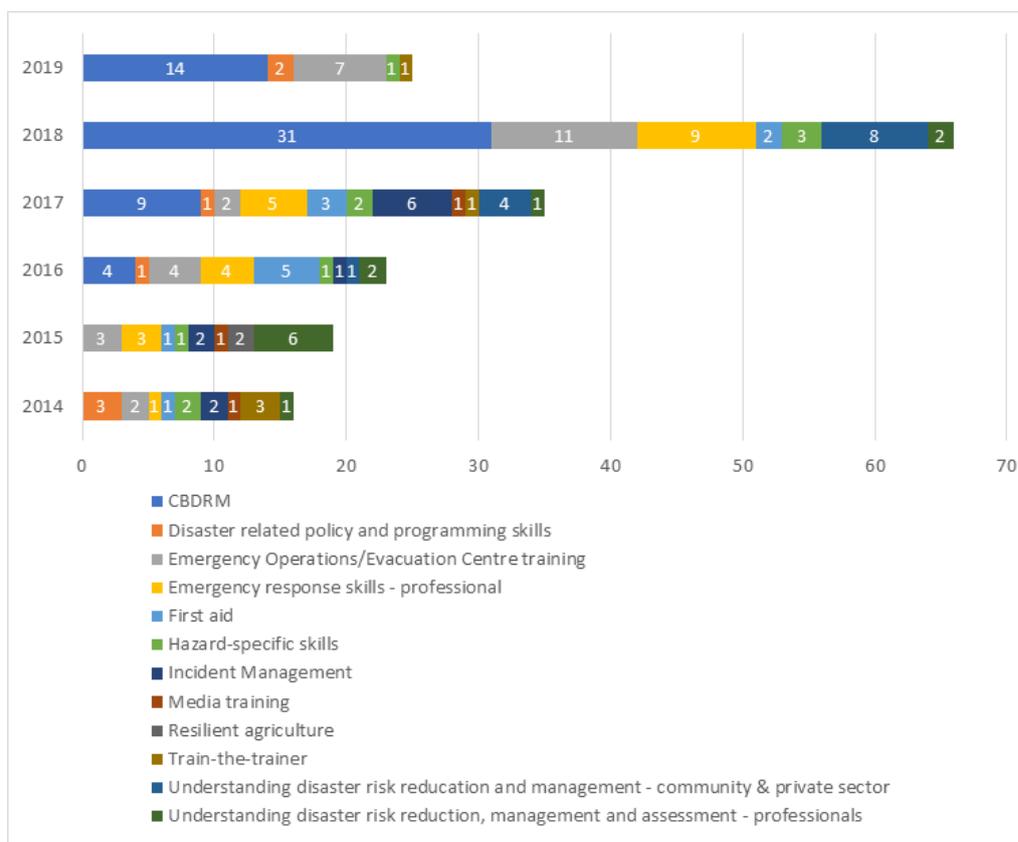
The BSRP project only fully funded and facilitated 23% of the training events (Figure 21 refers). In 71% of cases, BSRP part or full funded the training event but external trainers delivered the training. For example, Queensland Fire and Emergency Services – the PNG twinning partner under PIEMA- delivered the incident management training in PNG that was funded by BSRP.

Figure 21: Support provided to training (by type of support)



²⁰ This is an under-estimate as records from some CBDRM training events on outer island are unclear in terms of participation numbers.

Figure 22: Number of training events by year and theme



In 4% of cases, the training was funded by another partner, but the BSRP project contributed technical expertise in the form of facilitation. Similarly, BSRP supported DRM and emergency management personnel in regional to attend relevant trainings and events on offer. Case Study 25 describes the impact of BSRP supporting the Assistant Commissioner of Samoa Fire and Emergency Services Authority (SFESA) to participate in a twelve-week Fire Investigator Course with the Melbourne Fire Brigade (MFB) Fire Investigation Analysis team. The Solomon Islands NDMO Director was supported to attend an Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization (IOC-UNESCO) meeting in Hawaii, which provided training on “Method of Splitting Tsunami – MOST” software. This has been instrumental in building the NDMO’s understanding of how to strengthen national capacity for tsunami preparedness and response.

As noted within the lessons learnt section 2E, training events were not consistently evaluated throughout the project, although in the latter years, BSRP sought to be more systematic about evaluating training it delivered. As exemplified in Case Study 4 on the regional EOC Management and IDRM training held in 2019 that was comprehensively evaluated section 2B, training was well targeted in terms of content, style and audience meaning that within months, 81% of trainee respondents reported having applied the skills within their work.

In addition to these training events, BSRP supported 14 staff from NDMOs to gain formal post-graduate qualifications in DRM from the Fiji National University. BSRP similarly assisted two NDMO staff to complete project management qualifications who were able to utilise these skills within the BSRP project and wider work. As Case Study 24 shows, formal qualifications have opened up opportunities for their career development and greatly strengthened DRM capacity in the region.

KRA 3 also featured awareness raising activities, some of which are detailed under section 1(B)(xi) and Case Study 23. An effective example of the awareness raising activities that took place is Fiji’s Get Ready Disasters Happen campaign

(later adapted for Nauru, Samoa and Vanuatu). This activity was co-led alongside UNICEF and the Fijian Ministry of Health and had content being visible in over two million advertisements across multiple media platforms (including social media, radio, television and print media) in multiple languages (iTaukei (Fijian), Hindi and English) to maximise the audience reached (see Case Study 23).

In PNG, the Department of Mineral Policy and Geohazards Management (DMPGM) worked with the community and with schools along the Highlands Highway to not only monitor and map critical and active landslides (Case Study 26), but to also raise awareness of other geological hazards. Field investigations 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 activity highlighted the importance of technical and community-based awareness activities being implemented simultaneously.

Further achievements under KRA 3 are detailed in the logframe (Annex 3 refers).

Case Study 22: Launch of the Disaster Ready toolkit for business in seven languages

KRA3 KRA5
EUR 35,683 + TA

The second phase of the roll out of the Disaster Ready toolkit for business was launched in November 2019. The recently completed toolkit is now available in seven languages – English, Marshallese, Samoan, Bislama, Hindi, iTaukei and Tok Pijine. This was made possible through partnerships with Pacific Islands Private Sector Organisation (PIPSO) and the Fiji Business Disaster Resilience Council to increase resilience for businesses in the Pacific region.

Speaking at the handover, GEM Division Director, Dr Andrew Jones, welcomed the presence of the EU, country representatives, and staff. “We would like to sincerely thank our donor partners the European Union, ACP Group of States, and New Zealand through its Ministry of Foreign Affairs and Trade (MFAT) for making this tool accessible to people across five Pacific Island countries – Cook Islands, Fiji, RMI, Samoa and Solomon Islands.

“The three things that I particularly like about this toolkit are that: it is very practical and can actually help people. Secondly, it is specific and relevant to the Pacific’s large number of small and medium-sized enterprises (SMEs) as it is designed specifically for the people that work in the communities and is also produced in their languages”.

“Lastly, we are handing over. As a development agency, our role is to try and work ourselves out of a job, if we haven’t got close to working ourselves out of a job by the time we’ve finished, than we haven’t done the job. So, the fact that we creating ideas and producing things that we can hand over to communities and for the private sector to take it forward and drive it from there”, he said.

PIPSO Communications officer, Ms Kristyne Lobendahn said, “Our PIPSO members were the initial audience for the toolkit. Upon its application, we have since received different feedbacks, adjusted and responded accordingly. The 12-step Business Continuity Plan (BCP) template is a generic one and can be tailored according to the business type, size and needs. It also serves as a way for businesses to take stock of themselves, their vendors and suppliers and fill gaps or have alternative back ups in place. The translation of the material that has just been completed will be used for more community outreach, particularly with agribusiness communities and those in the rural-based informal sector.”



“BCP work and advocacy on business disaster preparedness and recovery remains a core component to PIPSO work, and we will continue to support the private sector in the Pacific in this space. We recognise a lot of focus has been on post-disaster efforts and in many instances these areas of support are humanitarian in nature. While we understand and recognise the importance of humanitarian aid, it often comes at the expense of mobilising and supporting business rehabilitation.

“One way we hope to bridge the gap is to reduce the risks to the private sector especially our SMEs through business preparedness, such as the BCP. A basic BCP template can be so small, but have so much impact. Going forward, we see this work linked to broader risk management and of course resilience building.”

“PIPSO has been using the accompanying videos as an advocacy tool and has taken every opportunity and platform to showcase the videos and promote the BCP toolkit. The toolkit has been requested and shared as far as the Barbados Chamber of Commerce and the Caribbean private sector and most recently the Australian Women in Emergencies Network in Brisbane,” she added.

The Disaster Ready Toolkit was led by the BSRP project with additional support being provided by the New Zealand Ministry of Foreign Affairs and Trade. It has led to the development of targeted training for private sector on how to use and develop their own business continuity plans.

Case Study 23: Get Ready Disasters Happen Campaign - phase 2

KRA3 **KRA5**
EUR 35,668

As Fiji goes through the 2020 cyclone season, the daily updates on the need to prepare for the disaster season are visible everywhere you look, helping people know what to do during disasters.

In 2017, the BSRP project co-led the development of Fiji's Get Ready Disasters Happen campaign alongside UNICEF and the Fijian Ministry of Health, a first for Fiji. The campaign was re-run at the end of 2018.

Like in 2017, the 2018/19 cyclone season campaign was very successful with the content being visible in over two million advertisements across multiple media platforms (including social media, radio, television and print media) in multiple languages (iTaukei (Fijian), Hindi and English) to maximise the audience reached. Facebook was clearly the most popular placement.

A measure of success for this campaign was the number of times the videos were viewed – 79,000 and 86,000 for Get Prepared and Recovery videos respectively.

Fiji's NDMO Director, Vasiti Soko, believes these materials have changed the course of preparations for ordinary Fijians, especially as they prepare for any event of natural disaster.

"We are grateful for this collaboration. We have received positive feedback not only from social media but from village headmen and community leaders who have been using it to prepare themselves" said Ms Soko.

Trend Media Pacific, Media Manager, Zabeena Buksh helped publish the SMS campaign and observed that engagement from the public was great. She felt it is never too early to start the awareness work.

"I believe this was an effective campaign. There are members of the public that are still not aware of how to act and react before, during and after a disaster. Pushing the Get Ready Campaign SMS campaign with informative landing pages helps the general public have better awareness of how to prepare and respond during a disaster.

Feedback received from those reviewing the messaging and landing pages was positive. Ms Buksh said "many came back to say that they had learnt a lot from the infographics and that they will share these with their relatives in the outer islands."

"For the campaign, ideally it would have been best practice to have the campaigns start a few months before the cyclone period, or run the campaign in bits for the whole year", she said, identifying lessons that can be applied to future campaigns.

In 2019, BSRP worked with UNICEF and the governments of Samoa and Nauru to undertake the first phase of the regionalisation of the Get Ready Disasters Happen campaign – translating the landing pages and website. UNICEF will continue to work with these governments.

Case Study 24: Formal qualifications paving the way for further professional development

KRA3
EUR 23,001

For Pacific Island countries and the region as a whole, failure to invest in the development of the region's DRM professionals leads to a lot of untapped potential to elevate DRM practice and aid in achieving national and regional DRM goals. On an individual level, aspirations of DRM professionals to progress academically are hindered by a lack of resources, and the absence of formal qualifications stalls career progression. Individuals compete for the limited available scholarships and some find themselves retiring before their dreams to pursue further studies are filled.

BSRP support assisted 11 officials from Fiji (4), Solomon Island (6) and Vanuatu (1) to complete the Fiji National University's Postgraduate Certificate in Disaster Risk Management (PGCDRM) programme.

Without undergraduate qualifications, most of the students enrolled in the programme through the prior learning criteria given their DRM experience and past short courses/workshops attended. The completion of the PGCDRM has opened up new opportunities for the graduates. One has since completed a Masters in Emergency Management in Australia with three pursuing Masters programmes in New Zealand. The remaining officials have all been promoted and become reliable DRM practitioners in their respective countries. An independent evaluation in 2019 found that in the future, opportunities to complete the PGCDRM should be offered to a broader set of staff including line ministries.

Case Study 25: Qualified Fire Investigator in Samoa

KRA3
EUR 25,542

In April 2018, the Assistant Commissioner of Samoa Fire and Emergency Services Authority (SFESA), Aufa'i Petaia participated in a twelve-week Fire Investigator Course with the Melbourne Fire Brigade (MFB) Fire Investigation Analysis team. As part of the course, Asst. Commissioner Petaia was seconded to the Melbourne Metropolitan District and as such was required to attend to fire scenes. When giving his feedback on the course, he described it as following:

"The three-month training course with the M.F.B. has been such an amazing and immersive experience. I had the opportunity to visit more than twenty fire scenes and learnt from the forensic team about what factors to look out for in fire scenes that indicate how a fire starts. Returning to Samoa as a certified fire investigator gives me the opportunity to transfer what I learnt to our local officers."

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. The Samoa Fire Reduction Strategy, created by 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 facilitated fire investigator training with eight fire officers to strengthen SFESA capability in fire reduction. The trainings were conducted in partnership with MFB. The partnership between the SFESA and MFB was formalised by PIEMA through the signing of a Memorandum of Understanding in 2016.

In December 2018, Assistant Commissioner Petaia delivered a Samoa Fire Safety and Trend analysis training and workshop for 22 participants (5 were female – 22%) and was supported by representatives from the MFB and BSRP. This training further expanded the country's capacity to handle fire investigations and in turn ensures a better prepared fire service in Samoa to respond to emergencies, showing how BSRP's investment in improving the emergency response of Samoa ranged from funding a training and secondment, to concentrated assistance that continued to ensure the maximum transfer of skills and knowledge.

KRA3



4/7 logframe indicators exceeded, 3/7 logframe indicators met



13 NDMO staff graduated with formal DRM qualifications



81% of trainees in regional training (2019) have applied learnings to their work



Over 3,000 government, community, private sector and non-government participants in DRM-related training



2 university courses developed; 1 x DRM school curriculum developed; 1 x DRM early childhood education resource

D. KRA 4 Improved understanding of natural hazards and the reduction of the underlying risks

i. Introduction

Under the Contribution Agreement, KRA 4 addressed gaps in baseline scientific, technical, social and economic understanding of hazard impacts and addresses underlying risks created by changing social, economic, environmental conditions and resources (RFA Themes 3 and 6).

Value of activities contributing to KRA 4: **EUR 3,024,086**

In total, EUR 3 million worth of activities contributed to achieving KRA 4,²¹ with Fiji, PNG, Vanuatu and RMI being the biggest recipients of funding under this KRA (Figure 19 refers). KRA 4 was strongly targeted at proving community level benefit with CBDRM-related activities (59%) – significant benefit was also derived at a national and subnational level (17% and 15% respectively) (Figure 24 refers).

Figure 23: KRA 4 expenditure by country (percentage of total spend)

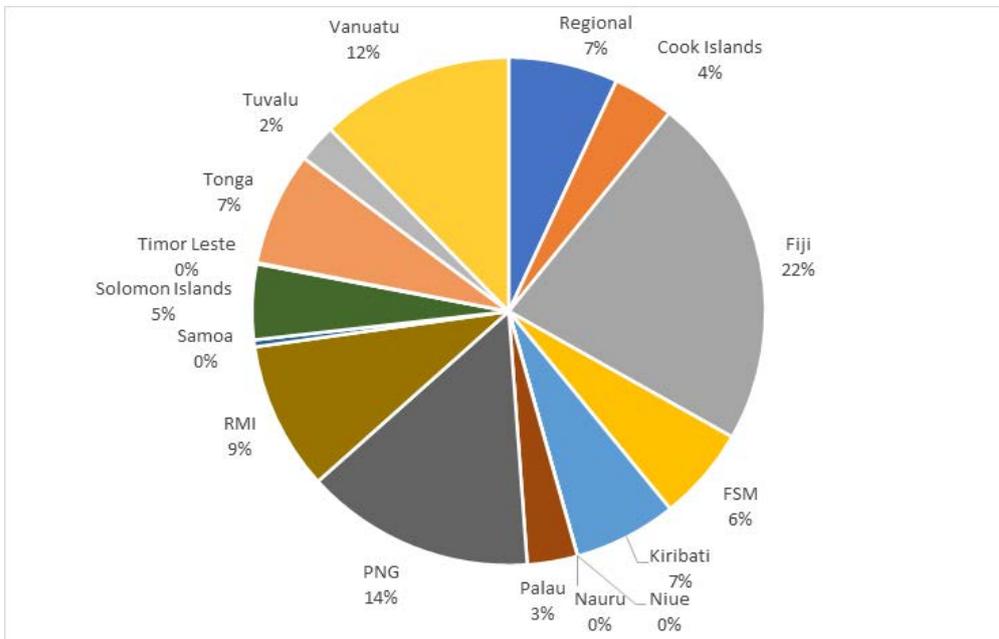
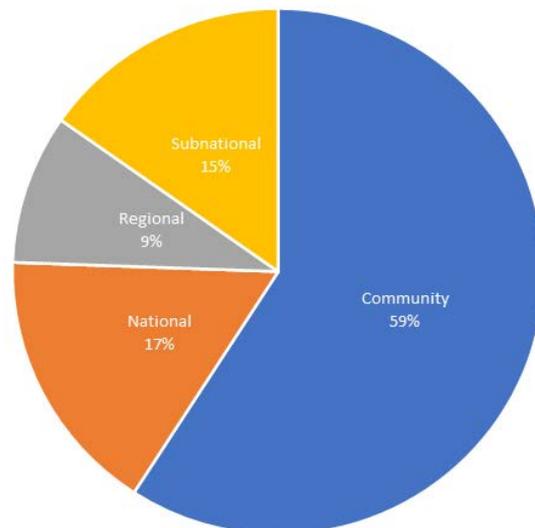


Figure 24: KRA 4 expenditure by benefit level (percentage of total spend)



²¹ As stated previously, many activities contributed to more than one KRA.

ii. Achievements

During the design phase of this project, the HFA/RFA review (2013, Tabel 2) identified that there was a lack of systematic data collection and limited data availability (for example, about past events and impacts, demographic data, weather and climate data). A range of activities listed in Annex 2 went some way to addressing some of these gaps.

The Pacific region is highly prone to geo-hazard risks – the BSRP project invested in building local geohazard capability and knowledge so that DRM action can be increasingly risk informed. Case studies 26, 27 and 28 provide an insight into the impact of such efforts in PNG, RMI and Palau, demonstrating how better understanding of geohazards, and appropriate dissemination of information can aid decision-makers (from Ministers down to families) to make informed decisions about their significant investments (e.g. housing and roading) and what key infrastructure needs to be protected during a disaster event. Timeliness and accuracy of data collected can be key – in PNG, rapid deployment units now allow for remote monitoring of earthquakes and volcanic disruptions. In the Solomon Islands, an EOC constructed by BSRP on Ambae, was instead used by the government to housing monitoring equipment after volcanic activity forced the displacement of the local community.

Significant weather events are also increasing in frequency and intensity in the region. Accurate meteorological information is key to alerting communities to prepare for such events. It is for this reason that the BSRP project support the construction or upgrade of meteorological stations that can withstand category 5 cyclones in Tuvalu, Kiribati and Tonga (refer to Case Study 29 for information on the upgrade of Fua'amotu Airport Meteorological Station).

An independent evaluation (FDC ANZDEC, 2019) found that the BSRP project provided striking increases to in-country capacity through the development of data collection and GIS database storage systems, and improving weather and geo-hazard early detection and interpretation. It was found that:

“Using modern technology to map geospatial information, store and analyse, is starting to make a major improvement to NDMOs’ ability to rapidly identify vulnerable and resilient communities and infrastructure, to plan mitigation and emergency response actions.... Having the surveys done with mobile digital data collection technology makes it very efficient to GPS-tag content and transfer the data quickly, cheaply and accurately to the database, reducing cost and data entry errors, increasing speed.”

While significant capacity was built, most PICs are only at the beginning of their journey to better inform DRM and CCA activities through hazard risk analysis. If risk-informed DRM is to be realised, further support is needed to address gaps across the region in: data collection and storage, data sharing arrangements, inter-agency collaboration at national/regional levels, analysis tools, analytical capability and stakeholder-targeted information products.

Where risks were known and understood, the BSRP project under KRA 4 supported actions to reduce the risks or the vulnerability of the community to those hazards. In Case Study 30, this required the relocation of a whole village in Fiji that had already suffered the effects of a landslide. In FSM, an additional dam and reservoir constructed provided an additional water source to the existing main reservoir in Pehleng, Pohnpei, recognising the propensity of the local communiites to face water shortages. For Vanuatu, the priority was to build the local capability to drill for water in the outer islands. The BSRP project co-funded a borehole drill rig with KfW so that the Government could drill for water for outer island communities. BSRP later provided complex drilling training, and as a result 45 new boreholes have already been drilled for communities of five islands helping to provide water security.

In the Solomon Islands, the NDMO worked with flood prone communities in the Isabel and Makira provinces to bring the phrase ‘making the last mile the first mile’ into fruition (Case Study 31 refers). Newly established community disaster committees have now mobilised their communities to, amongst other things, carry out planting of protective vegetation to control flooding. In Tonga, agro-forestry activities were progressed to address coastal protection and food security concerns. Whilst in Kiribati a youth-focussed activity promoted the use of resilient agricultural techniques.

The warmer temperatures anticipated with climate change are likely to lead to pest proliferation. In Kiribati, the project funded the establishment of a biosecurity laboratory building at the country’s main port to ensure early detection of exotic pests and diseases entering Kiribati. SPC specialists also worked with Kiribati’s Ministry of Agriculture to undertake a field study of emerging pests and diseases on Kiribati’s crops and livestock, upskilling local staff in the process.

Further achievements under KRA 4 are detailed in the logframe (Annex 3 refers).



Case Study 26: Strengthening geohazards management in PNG

KRA3 KRA4
EUR 382,691

In 2015, the Department of Mineral Policy and Geohazards Management (DMPGM) Secretary Shadrach Himata said “I’d like to make it clear that the area of geohazards management cannot be underestimated. It is an area that deserves recognition simply because PNG is prone to all geological risks and our infrastructure and people are all living around geohazards. We need to understand why and where these disasters occur so that we are aware. Once we are aware, we can plan and manage how we put our roads, schools, health services and so forth. We need a skillful manpower to be able to work with us and sustain what we’ve already established as a department and continue the area of research and development like in universities.”



With this vision in mind, the BSRP project set up working with DMPGM, the Port Moresby Geo-Physical Observatory (PMGO) and University of PNG (UPNG) to address pressing shortfalls in geohazards management in the country.

PMGO - the office mandated to monitor, assess and report on earthquakes and tsunamis in PNG - relies heavily on reliable seismic monitoring and data collection equipment, as well as its computer modelling capabilities to fulfil its mandate. Seismic equipment and accessories supplied under the BSRP Project have improved PMGO’s capability to monitor events and to conduct rapid assessments during earthquakes and other geo-hazard events; e.g. assisting in the monitoring of volcanic eruptions. In the case of Kadovar volcanic eruption in the East Sepik Province in 2018, critical scientific data obtained with the help of the rapid deployment units provided by the BSRP project. It was then transformed into information useful for public consumption and delivered promptly to at-risk communities and decision-makers.



Further observation and Information and Communication Technology (ICT) equipment has also aided PNG's work with Regional Integrated Multi-Hazard Early Warning System (RIMES) in Thailand to model tsunami hazards, undertake risk evaluation, be trained under another project on SeisComP3, and carry out seismic data processing analysis and interpretation. The equipment supplied will thus be essential for ongoing monitoring of geo-hazards events and generating crucial information on which the government, communities and families will base their decisions.



With support from the BSRP project, DMPGM's Engineering Geology Branch has been able to work alongside schools and communities to undertake soil assessment and analysis in the Simbu and Chimbu Provinces, including along the Okuk highway - a lifeline to the densely populated Highlands Province. The area of study has high frequency of landslides and has led to unaccounted loss of lives.

DMPGM undertook further geotechnical investigation to establish the types of material, thickness of different layers and their strength within the moving unstable zone in comparison to its surrounding stable areas. This included in-situ testing, bulk soil and undisturbed soil sampling for laboratory testing. The report is being used to advise the general public where it is safe to build homes and food gardens, and is informing work by the Works Department to ensure highway is constructed in a safer zone. A further component of the BSRP project was supporting the UPNG to recruit a Coordinator to coordinate and implement the UPNG Comprehensive Hazard and Risk Management (CHARM) Diploma and develop and teach modules in CHARM.



The CHARM programme at UPNG had initial courses set aside for a Diploma program, this

was accelerated when the CHARM Coordinator was recruited. The CHARM modules were refined and work has been done to expand the CHARM Diploma into a CHARM Degree at UPNG. The UPNG Senate has endorsed the final refinement to the programme and the CHARM Degree programme fully established.

DMPGM also had identified a need to increase the numbers of people in PNG who are knowledgeable about geo-hazard risk reduction and management in order to help contribute to PNG's overall safety and resilience to disasters. A Graduate Diploma in Geo-hazards Risk Reduction and Management would build on an existing course, Geology and Risk Reduction which has been provided by the Centre for Disaster Reduction (CDR), UPNG for ten years. Course writers were engaged under the BSRP project to develop course materials for four modules towards the Post Graduate Diploma in Geo-hazards and DRM. The UPNG Council Senate has also approved these new course materials and the first module began in Lahara 1, November 2019.



Throughout the project, an Assistant Coordinator for the CDR was hired to assist in teaching the programme on Graduate Diploma in Geo-hazards Risk Reduction and Management.



Case Study 27: Risk-informed action in the Republic of Marshall Islands

KRA1 **KRA4**
EUR 282,891

On 3 February 2016, the President of the Republic of Marshall Islands, H.E. Hilda Heine declared a State of Emergency and later a State of Disaster as a result of the severe and prolonged drought in the northern islands. The RMI Secretary for Foreign Affairs wrote to SPC and requested technical assistance to assist the Government to address the disaster. An SPC team was assigned to scope out potential assistance in key areas, including water.

The extended period of low rainfall had dried up wells and other rainwater catchments, and the high salinity levels of remaining well water were assessed as being unfit for human consumption.

The initial International Federation of Red Cross and Red Crescent Societies (IFRC) Emergency Appeal and repair of community and individual water catchments did not meet the need. The communal water catchments were also not conducive to water conservation since each family had no direct control over the catchment and the usage of others. The provision of a water catchment to each household was favoured so each family could control its use and maintenance.



The National Disaster Committee requested the BSRP project to provide support to households in the northern islands as part of the overall effort of the Marshall Islands government to install a water tank in every household, thus mitigating the negative impacts of drought that is prevalent in low lying atoll islands. The shallowness of the underground water lens makes it impossible to draw fresh water since they are always brackish or have high salinity. The only safe source of fresh water is from the rain that needs to be captured in a clean and durable material that can be used by families.

The water catchment requirements on each island were assessed through a Water, Sanitation and Hygiene (WASH) survey. The NDMO proposed that 217 polythene tanks, each with 1,000 gallon (3,785 litre) capacity, be installed across 14 islands to benefit 6,060 people.

The specifications of the tanks were ratified at the Marshall Island 2015 Women's platform since women are responsible for the management of any available water to the family during a drought.

To ensure the wholesomeness and cleanliness of the rain water captured in the water tanks, insect screens at the inlet and a first flush diverter for each tank were included. When this device is attached to the downpipe, at every downpour, the first drops of rain on the roof will washout dust and bird droppings from the roof so only clean water enters the tank.

The tanks were manufactured in Majuro, then delivered to the outer islands. The supplier was also responsible for training a core group in each community on how to install the guttering system. A team from the Ministry of Public Works accompanied the water tanks and supervised the construction of the concrete basement, and installation of guttering and downpipes.

A 2019 evaluation found that most tanks met an immediate need for households, demonstrated by how most recipients were very hands-on in preparing the land and installing the tanks themselves.



The BSRP project also responded to a request to provide water tanks in Arno, which was impacted by the 2012 sea water inundation when sea swells coincided with an already high tide. The inundation took with it many of the communities' water tanks, which left them vulnerable when drought hit three years later.

Following an assessment in 2015 that found significant water scarcity, 22 polythene tanks (each 1,000 gallon) were installed in Arno to directly benefit around 200 people who no longer needed to undertake the task of collecting rainwater in small containers.

The islanders of Arno face a constant crisis with fresh clean drinking water. With climate change causing more extreme weather events, they face rising sea water levels and declining fresh water supplies.

When drought next affected the outer islands, water scarcity was less of an issue. Families were better able to maintain their supply of drinking water in the tanks throughout the dry spell, while their cooking and washing water needs were met by desalinated water in their communal catchments.

There is, however, still some way to go until families take independent responsibility of maintaining their tanks. The evaluation found that despite moving away from a reliance on communal water catchments as a way to encourage families to take greater responsibility for water consumption and maintenance, in 2017 the NDMO found that although training had been provided in the community many of the tanks, guttering and roofing needed repair.

Case Study 28: Understanding risk in Palau enhances responses and alleviates suffering

KRA4
EUR 17,270 + TA

Historically, Palau has been poorly prepared for reducing hazard risk and coping with disasters, partly due to previous reliance on the United States for disaster response and humanitarian support. At the outset of the BSRP project, awareness of the need to invest in preparedness and risk reduction was growing at political and operational levels. Technological disasters had also improved awareness of the linkages between poorly planned development and hazard risk.

Within this context, the Palau Land and Resource Information System (PALARIS) team used funding from BSRP to digitally map water and sewer lines across the country, in addition to supporting to PALARIS staff to attend a GIS training with the Asia Disaster Preparedness Centre.

Landslides and earthquakes put water and sewer infrastructure at risk, creating secondary risks such as disease outbreaks. Proactive measures can be taken to prevent potential outbreaks if the location of this essential infrastructure is clearly documented. Digital mapping of water and sewer lines enables sharing with stakeholders, in particular, those involved in planning disaster risk reduction and response activities.

In Palau, the mapping of the water and sewer lines had been long overdue, limiting the ability of officials to know which mains to switch off when landslides occur. The active participation of the PALARIS team in completing this mapping exercise built the team’s capacity to engage with maps and determine what measures to carry out if a landslide occurs. As an interviewee for an independent evaluation in 2019 stated, “where there are vulnerabilities, we can plan much better” now that Palau has the maps.



Case Study 29: Upgrading the Fua'amotu Airport Meteorological Station

KRA4
EUR 84,629

The century-old Tonga Meteorological Service was given a new lease of life under a renovation project funded by the BSRP project.

The Meteorological Service was first established in Nuku'alofa in 1919 to relay morse code messages from ships. In 1948, the Fua'amotu Airport Weather Station was established only to be closed three years later. In 1951, it opened again as the Nuku'alofa weather office. It became the Tonga Meteorological Service when the government took control in 1970.

Through the BSRP project, the premises at the Fua'amotu Meteorological Service have now been renovated to withstand a category 5 cyclone. There is a new office layout, structural retrofit, roof retrofit, weather proofing, finishes, electrical and cabling layout.

The newly renovated office now houses sophisticated equipment for weather forecasting and monitoring and disseminating accurate weather information. Meteorologists and weather forecasters have adequate office space where they can better relay accurate and reliable weather news and warnings to the people of Tonga 24/7, thus helping people to prepare and respond to natural disasters.

When Tropical Cyclone Gita hit in early 2018, the renovated premises stood strong and work tracking the cyclone and conveying messages continued despite surrounding structures encountering significant damage. This demonstrates the importance of resilient infrastructure for disaster respon



Case Study 30: Relocating the Tukuraki village

KRA4 KRA5

EUR 385,334

It is two years since the people of Tukuraki village in Fiji's highlands settled into their new village and are enjoying the comfort of homes built through the support of the BSRP project.

The village of Tukuraki on the main island of Viti Levu was destroyed in 2012 by a large landslide. Tragically, the lives of a young family were lost. The community, despite having occupied the area for many generations, was forced to relocate to temporary homes as the land was deemed unstable and at risk of further landslides. Disasters continued to impact the community, they were hit by TC Evan a Category 4 Cyclone at the end of 2012 and again in early 2016 by TC Winston the most severe cyclone ever to impact Fiji's shores.



The permanent village relocation required complex negotiations and collaboration between many government ministries - the NDMO, iTaukei Affairs, Ministry of Rural Housing, Rural Water, Ministry of Agriculture and Fisheries, Ministry of Rural Development, and Ministry of Public Health – land owners, and SPC.

Under the BSRP project, an access road, eleven houses and an evacuation centre with ablution blocks were built.

After many years of living apart, in early 2017, the villagers were again able to move into their new homes. Livai Kididromo, a village spokesman, said “we are really excited and happy to be living together as a village again. For such a long time we were lost.”

Nowadays, the evacuation centre is also used as a place for the community to gather and talk about village development, and to use as a church on Sundays. It has been declared a “Smoke Free” zone - a health initiative to protect the community from diseases. The new community is also now closer to the local school and health care centre, so the children and families can have their basic needs better met.

A village elder, Kini Botitu, said “we have a good home, restroom and bathroom, and it is situated inside the house. We really appreciate this and are very thankful during bad weather. There was light provided, water for drinking and we really appreciate what we have.

The Government, through its various department livelihood programmes, introduced income-generation activities in Tukuraki that are now in operation which include the selling of chickens, honey and freshwater fish (tilapia).

According to Christoph Wagner, Head of Cooperation for the European Union, “With the effects of climate change and rising tides threatening coastal communities all over the Pacific, Tukuraki stands as a great example of how effective partnerships can sustain development.”

Pacific Community Deputy Director-General Dr Audrey Aumua said: “This community knows and understands disaster, but what makes this relocation remarkable is the partnership led by Fiji government with SPC and the European Union to achieve real, measureable disaster resilience at the community level.”

During an independent evaluation in 2019, NDMO and Rural Development informants noted that, although two other village relocations have also taken place in recent years, the Tukuraki experience is the one that has created a model for future relocations.



Case Study 31: Making the last mile the first mile in Solomon Islands

KRA1 **KRA4**
EUR 130,431

The use of the phrase ‘Making the last mile the first’ was introduced into the disaster management circle in early 2000 under the umbrella of early warning systems and disaster relief logistics and supply chains. Given the level of mortality and damage that occurred in Asia with the Indian Ocean Tsunami in 2004, the concept gained significant traction and was recognised by experts as having the greatest potential at the preparedness stage of the disaster management cycle.

The idea is not without its challenges given the need for access to early warning systems that function and a power supply to keep the system operational. Further, there is the need to train local community members on the use of the system and to demonstrate how it is used so that maximum benefit can be realised. Maintenance is also key, thus it is important the system is simple and works without the need for significant upkeep.

That is the challenge that the Solomon Islands NDMO has been grappling with, particularly given that the country is made up of six main islands and 900 smaller islands spanning over 28,400 square kilometres. The NDMO has remained resolute that they would like to find a solution that is workable for their remote communities.

In 2018, through funding from the BSRP project and technical support from the Japan International Cooperation Agency (JICA), a flood warning system was developed using a PVC pipe, electric wirings and a motor. The system was simple to assemble and most of the raw materials are sold in shops in Honiara and other centres in the provinces. It can be monitored and maintained very easily, and uses solar power to recharge the batteries.

Makira and Isabel Provinces were selected to pilot the system due to their communities being remote but still accessible by air and boat. This meant they could be consulted every step of the way, including ongoing monitoring after installation. If successful, the NDMO planned to later up scaled-up its rollout.

Several communities in Makira and Isabel province were prioritised as they had rivers beside their villages. Flood risks to these communities were very real as flooding had caused death and destruction to the villages.

The NDMO adopted a different approach to which they had previously employed in order to complete the work at the community level. They conducted a Community Based Disaster Risk Management (CBDRM) training as well as a community-based risk assessment and risk mapping with community representatives. This involved the NDMO capturing

drone images, overlaying past rainfall data and identifying safe buffer zones and houses at risk while communities mapped their livelihoods, hazards, and undertook risk assessments. Information collected from the assessments was analysed. It gave a good understanding of the risks faced by the villages and the solutions proposed by the communities.

Out of the 8,000 villages in the Solomon Islands, the BSRP project was able to assist 15 villages and established community disaster committees that are now actively working to support their respective communities in disaster awareness and preparedness activities. The committees have also mobilised communities to carry out planting of protective vegetation to control flooding, and in applying food preservation techniques using wild taro/sago since crops are frequently lost in cyclones or flooding events – ideas that came from the CBDRM training.

A 2019 evaluation found that “Using automated early warning systems, means remote communities can now activate and monitor their hazards by themselves based on the varying levels of threat. This is a bonus for the NDMO, for which one of the major challenges is the quick dissemination of messages and information without radio coverage and phone coverage.”

KRA4



3/4 logframe indicators exceeded; 1/4 logframe indicators met



1 at-risk school protected by a sea wall



16 activities involving data collection, research and/or hazard assessment



5 storage facilities for pre-positioned supplies or fuel



7 PICs with improved equipment, systems and/or facilities for hazard risk assessment



45 boreholes drilled for water security across 5 islands in Vanuatu

E. KRA 5 Enhanced partnerships in DRM and Climate Change

i. Introduction

Under the Contribution Agreement, KRA 5 responded to the need for an integrated regional strategy for DRM and climate change, hazard risk management and facilitation of financing and integration of DRR into the work programmes of CROP agencies (Council of Regional Organisations of the Pacific) – RFA Theme 1.

Value of activities contributing to KRA 5: EUR 3,292,392

In total, at least EUR 3.3 million worth of activities (outlined in Annex 2) contributed to achieving KRA 5. Regional activities, along with FSM and Tonga were the biggest recipients of funding under this KRA (Figure 21 refers). Under KRA 5, the greatest benefit was derived primarily at regional and national levels (58% and 38% respectively) (Figure 26 refers).

Figure 25: KRA 5 expenditure by country (percentage of total spend)

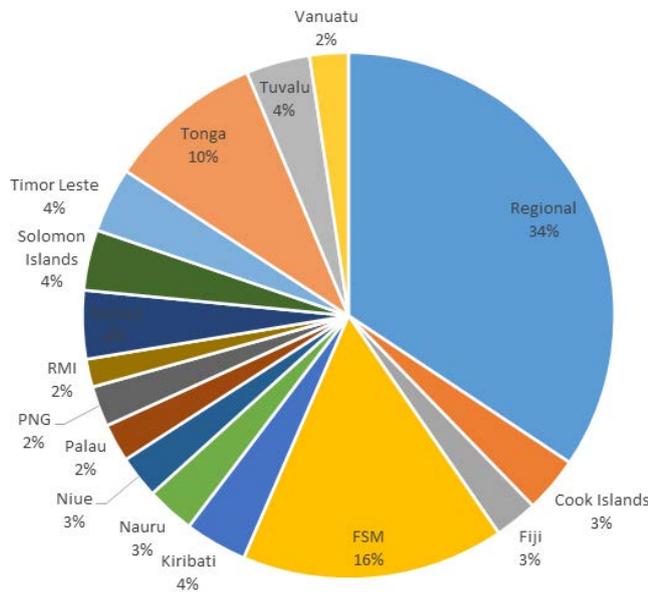
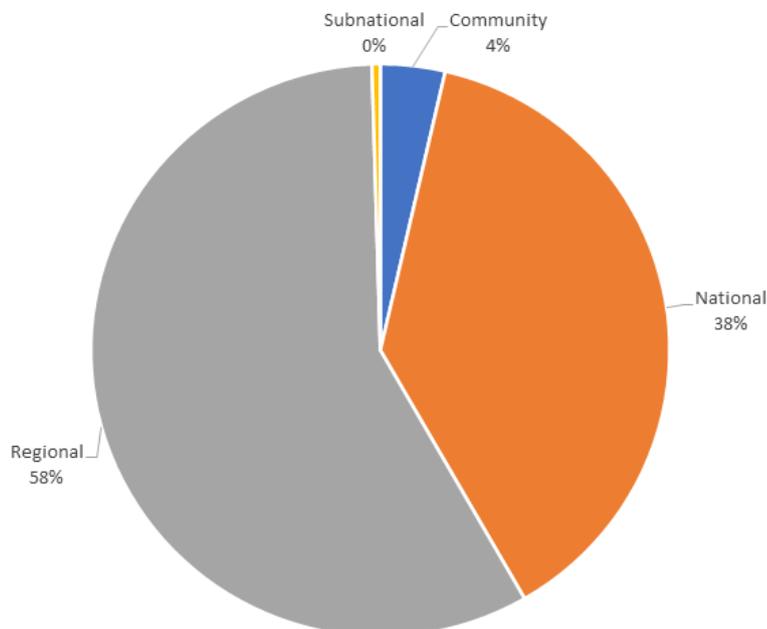


Figure 26: KRA 5 expenditure by benefit level (percentage of total spend)



ii. Achievements

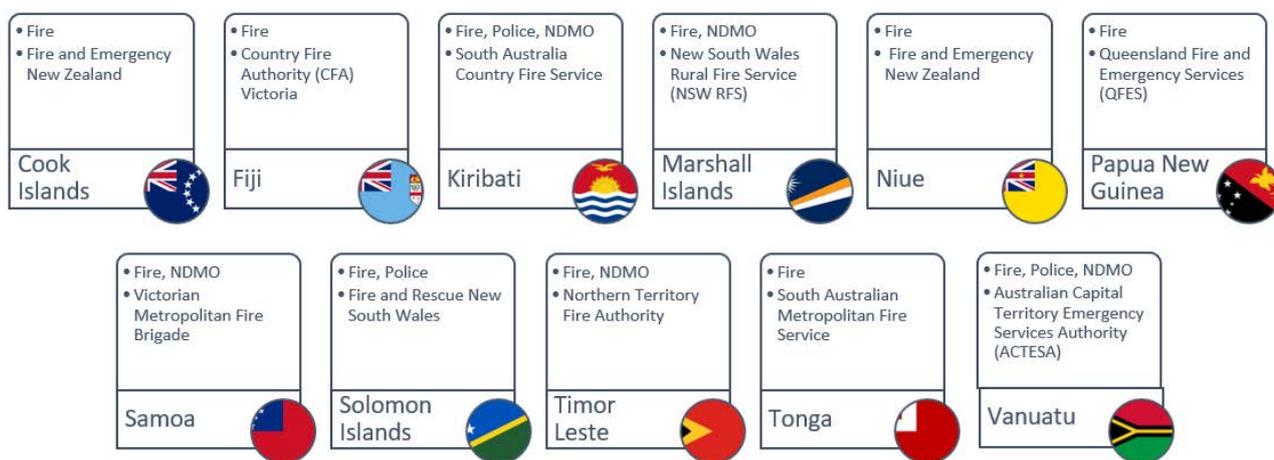
The HFA/RFA review (2013, Table 2) recommended that regional agencies continue “to encourage and support an inclusive approach to national DRM and CCA decision making bodies, with genuine participation from key governmental ministries, local government representatives, NGOs, civil society and the private sector.” BSRP responded by including close to 300 government agencies, development partners, sub-national authorities, NGOs, CSOs and contractors in implementing the project.

While partnership and collaboration came with its challenges (and at times led to delays), a partnership approach was integrated into every level of the BSRP project paving the way for organisational relationships that are likely to endure beyond the project.

Partnerships were both formal and less formal collaborations that involved sharing of ideas, resources, networks and risks across agencies, sectors and countries. Through partnerships being adopted and facilitated under BSRP, there has been:

- Increased DRM and CCA technical knowledge transfer (for example, through PIEMA twinning relationships – Case Study 32 and Figure 27 refer)
- Increased interlinking of sectors, evidence of an “all-stakeholder” approach and stakeholder buy in and commitment to DRR/CCA (for example, the endorsement of FRDP by Pacific leaders as discussed in case study 35). This has given many activities initiated, a life and ability to be sustained beyond BSRP.
- Reduced duplication and increased harmonisation of DRR/CCA awareness messaging (for example, in the development of the Disaster Ready Business Toolkit by BSRP, PIPSO and the Fiji Business Disaster and Resilience Council – Case Study 22; and joint CBDRM activities between the Tongan NEMO, MORDI and the Ministry of Internal Affairs)
- Greater cost efficiency due to pooling of resources/expertise to enable large scale and ambitious activities to progress (for example, the design and build of the National EOC building in Samoa (Case Study 12 refers)
- Meaningful working relationships established that will serve the region well in times of disaster (for example, when the BSRP technical staff contributed alongside the RMI NDMO, United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), Food and Agriculture Organization of the United Nations (FAO and UNWomen to undertake a PDNA for the El Niño drought in 2016).

Figure 27: PIEMA twinning partnerships formed and funded by BSRP (2014-2017)



The independent evaluation of BSRP (FDC ANZDEC, 2019) found that partnerships established at a regional level with PIEMA, Pacific Islands Fire and Emergency Services Association (PIFESA) and the Australasian Fire and Emergency Service Authorities Council (AFAC) (as described in Case Study 32) were effective and enduring. At a national level, partnerships were found to generally be more focused on achieving the agreed result for the activity at hand. A clear exception to this were the National Steering Committees and national platforms (Cook Islands, Fiji, FSM and Kiribati) that were aimed at knowledge exchange, coordination and partnership amongst DRM stakeholders. This also occurred at a regional level during the four regional platforms that were supported. The annual BSRP Regional Steering Committee (RSC) also offered an opportunity to bring NDMOs together, not only to consider project governance issues, but to discuss implementation hurdles and achievements across the wide range of activities on their work plans (Case Study 35 refers). During the project evaluation (FDC ANZDEC, 2019), multi-stakeholder collaborations were consistently reported to be effective vehicles for joint planning or learning.

As described in Case Study 34, BSRP supported PICs to participate in global fora including the Conference of the Parties (COP 21) in 2015 and in the high level and technical dialogues that resulted in the the Sendai Framework for Disaster Risk Reduction (2015-2030). These fora provided an opportunity for lessons to be shared, knowledge to be gained, global priorities and strategies to be shaped, and new global partnerships to be formed.

The FDC ANZDEC evaluation found that successful partnering collaborations had the following characteristics.

- Where the collaboration helped partners meet existing responsibilities, and had predetermined means to maintain outcomes after project closure.
- Where the change had been sought by the partner, rather than offered by SPC or the in-country NDMO partner.
- Where long-term formalised networks were agreed upon by all parties.
- Where action followed extensive and patient consultation and participatory planning.
- Finite, targeted learning collaborations.

On the otherhand, the evaluation found that partnerships resulted in weaker outcomes when they were typified by:

- Insufficient planning for ongoing benefit.
- Insufficient participatory planning. In some instances, the core country partner co-opted other agencies into cooperating on project activities with little or no consultation and joint planning. This often resulted in complacency by the passive partner.
- Poor selection of training or conference participant. In some instances, it was noted that the results of trainings or conferences were ineffective when the wrong candidates were selected to attend overseas collaborations under the project.
- The primary in-country partner had a lower reputation/profile amongst other stakeholders.
- Insufficient internal management capacity within the implementing partners.

Further achievements under KRA 5 are detailed in the logframe (Annex 3 refers).

Case Study 32: The ripple effect of a twinning partnership

KRA3 **KRA5**
EUR 57,153

In 2014, a twinning relationship between the Timor Leste Government and the Government of the Northern Territory (Australia) was formed, committing both parties to work towards the preservation of life, property and the environment by adopting an all risk, all hazard, all agencies approach to prevention, preparedness, response and recovery.

The Northern Territory Fire and Emergency Services (NTFES) and the emergency and disaster management in Timor Leste agreed to cooperate in developing and implementing a long-term and sustainable relationship to strengthen emergency management on both sides of the Timor Sea. This involved sharing information, equipment and skills, with a particular focus on influencing officials bound for higher management roles.

‘The idea to develop a twinning partnership between Timor Leste and the Northern Territories stemmed from a specific PIEMA programme embedded in the BSRP project on ‘Partnerships’, and a history of Australasian Fire and Emergency Services Council (AFAC) and the Pacific Islands Fire and Emergency Services Association (PIFESA) in the Pacific Region. The proximity of Timor Leste to Australia meant there was potential for flexible exchange programs, including placement of NTFES in specific programme support roles.

The relationship has been characterised by frequent communication, and is described by the former BSRP in-country coordinator in Timor Leste as “harmonious and respectful”. The NTFES provided fire equipment to the Bombeiros (such as uniforms and breathing apparatuses), and supported five firemen to undertake fire services management train-the-trainer training during two visits to Darwin (funded by the BSRP project), including on fire rescue, hazardous materials (hazmat), compressor maintenance, as well as hose repair and maintenance.

On their return, the participants became the first trainers within the Timor Leste Bombeiros. In November 2018, with support from the BSRP project, the trainers rolled out training domestically to 50 firemen. Participants had scored an average of 30% in pre-training testing, but when re-tested on the last day of training were able to average 85%, providing a clear demonstration of the value of the twinning partnership to the Bombeiros.

The Bombeiro trainers have also been busy in the community providing training for students to help control fires at home, and for market leaders to train others in the market place. Thus, the ripple effect of the partnership with the Northern Territories is evident.

By the time PIEMA came out from under the BSRP umbrella to be independently funded, 11 such twinning partnerships were in place across the region. These partnership arrangements involve assistance with strategic planning, specialist training, mentoring of officers, executives and board members, the general transfer of technical assistance and sourcing and selling or donating used or surplus equipment. Australian and New Zealand partners cover their staff costs, and BSRP continued to assist with meeting participating country costs related to the partnerships such as travel, accommodation and per diems through until 2018.

These twinning partnerships have resulted in rapid development and growth of many fire and emergency services that have become strong institutions with strengthened funding sources, thus providing a wider range of emergency services to their countries. It has also provided excellent personal and professional development opportunities for AFAC partners.

While twinning relationships existed in the region prior to PIEMA (through AFAC and PIFESA), they were predominantly limited to fire and emergency services; however, under BSRP and PIEMA, existing partnerships were extended include NDMOs in each country and territory in line with the trend towards an ‘all risks, all hazards, all agencies’ approach.

Case Study 33: Planting the seeds of regional coordination and collaboration

KRA1 **KRA5**
EUR 307,627

BSRP has aided in planting the seeds of improved coordination and collaboration in the region, particularly, the Framework for Resilient Development in the Pacific: An Integrated Approach to Address Climate Change and Disaster Risk Management (FRDP) and the Pacific Islands Emergency Management Alliance (PIEMA).

In 2012, Pacific Island Forum Leaders supported the development of a single integrated regional framework on climate change and DRM recognising that climate change exacerbates the magnitude and impacts of climate variability and some natural hazards, and that climate change mitigation and adaptation measures often also reduce disaster risk. At the time, the Pacific challenged the global status quo with this single cohesive document.

Between 2013 and 2016, BSRP thus co-funded regional consultations to develop the FRDP. It was then endorsed by Pacific Leaders and officially launched in 2016. The consultations involved 58 face-to-face presentations/consultations at national, regional and international levels as well as online consultations resulting in 1,529 individual comments and 56 full submissions that were analysed to inform the FRDP and next steps. Other supporters for this extensive process were the Global Climate Change Alliance (GCCA), the International Climate Change Initiative (ICCAI), the Secretariat of the Pacific Regional Environment Programme (SPREP) and the Institutional Strengthening in Pacific Island Countries to Adapt to Climate Change (ISACC) project.

This framework was supported by a Steering Committee that met 17 times during the development and initial operationalisation period. It comprised representatives from PICTs, civil society and the private sector who met five times during the FRDP development. The day-to-day development was led by a Technical Working Group with representatives from SPC, SPREP, the Pacific Island Forum Secretariat (PIFS), United Nations Office of Disaster Risk Reduction (UNISDR), United Nations Development Programme (UNDP), and the University of the South Pacific (USP).

The FRDP was one of the first and most exhaustive frameworks to be created and endorsed that addresses country needs at a regional level. In 2017, the Pacific Island Leaders then endorsed a set of governance arrangements for what is now known as the Pacific Resilience Partnership (PRP) to support and facilitate effective operationalisation of the FRDP. The PRP is funded by various partners and from multiple sources.

As with the resilience agenda, the disaster management sector had much to gain from better coordination. Since the nineties, the Pacific region had received technical advice, support and investment to strengthen national disaster and emergency preparedness and response capacity. While these efforts resulted in significant progress with the establishment of NDMOs, construction of fit-for-purpose EOCs and requisite capacity development of personnel, the collaboration of key response agencies during disaster operations remained ad hoc.

In 2013, the BSRP project supported the inaugural meeting of the Pacific Islands Emergency Management Alliance (PIEMA) that brought together the Chiefs of Police and Fire and the Directors of NDMOs to agree that there was merit in collaboration and more so in strategically working together to enhance emergency management in the region. The PIEMA Strategic Agenda 2020 was endorsed by PICs and catalysed the development of national emergency management roadmaps as well as a regional roadmap for emergency management.

With support from BSRP, through PIEMA, fire and emergency services from eleven countries established twinning relationships with a member of the Australasian Fire and Emergency Service Authorities Council. Through these arrangements, PIEMA agencies have received emergency response equipment, vehicles and training aimed at standardising emergency management procedures and operations.

PIEMA grew beyond BSRP, and now has its own dedicated funding from Australia and New Zealand as further effort is needed to foster better working relationships and standardisation between NDMOs, Police and Fire and Emergency Service.

Case Study 34: Taking the Pacific to the World

KRA3 KRA5
EUR 636,067

A key message PICs take to all global forums is that the Pacific is already facing effects of climate change and more extreme weather events – it is now the number one security issue facing the region. As such, all countries need to work together to reduce global emissions of greenhouse gases now, not just in the future. PICs and other Small Island Developing States (SIDs) encourage the global community to commit to deeper cuts in global emissions to maintain global temperature increase to 1.5 degrees Celsius given that, according to the Intergovernmental Panel on Climate Change (IPCC), a lower temperature increase limit could reduce the number of people globally exposed to climate risks from 457 million to 62 million.

The increasing visibility and voice of SIDs in global climate change and disaster risk management dialogues has brought out how their particular characteristics make it difficult to realise sustainable development. The global community meets regularly to review their sustainable development progress, poverty eradication goals, climate change, disaster mitigation and adaptation efforts. The Samoa SIDS Conference in 2014 provided a platform for the Pacific to raise and progress climate change and disaster management related concerns. The Paris Conference of the Parties (COP 21) in 2015 was then attended by Pacific organisations in large numbers. In Sendai Japan, the Sendai Framework for Disaster Risk Reduction (2015-2030) was agreed as a guiding document for all parties. For each of these events and others, BSRP was there to assist with PIC participation where needed, thus helping to ensure the Pacific voice was heard.

One of such meetings was held in Cancun, Mexico (22-26 May 2017) by the United Nations Office for Disaster Risk Reduction. The BSRP project funded five Pacific national disaster management officials to participate in the meeting alongside those supported by Australia and New Zealand to attend. At the Cancun meeting, the BSRP work on building resilience at a community level was showcased - in particular, the Tukuraki relocation Case Study was featured. This Case Study recognised how the recurring disasters that hit the village caused severe damage to housing infrastructure and the community livelihoods, ecosystems and economic production systems, all which are key pillars of growth and development. It is evident that such loss becomes a driver of further vulnerability and exposure. Thus, disaster risk weakens resilience resulting in the people moving away and squatting in areas that are not legally theirs. With intervention from the BSRP project and the Fiji Government, this community has been given land from traditional owners and are now living in houses they can call their own, supported by various government departments to develop and sustain a livelihood programme for the village.

The Tukuraki relocation also featured strongly in a 2019 meeting in Alaska where over 60 representatives of Indigenous and First Peoples communities from around Alaska and the Pacific met in Girdwood, Alaska, to share their experiences and knowledge about the ways the climate crisis is threatening their communities. These representatives are seeking the recognition of the international community to respect their rights as people displaced from climate-related disasters, and are able to draw on the experiences of the Pacific.

As PICs participate in global dialogues, workshops and training events on offer (such as with the Asian Disaster Preparedness Centre (ADPC)), there is opportunity for lessons to be shared, knowledge to be gained, global priorities and strategies to be shaped, and new partnerships to be formed.



Case Study 35: Collaborating, sharing and learning together

KRA3 KRA5

EUR 249,200 +TA

The Framework for Resilient Development in the Pacific 2017- 2030 (FRDP), developed with support from the BSRP project and endorsed by Pacific leaders in 2016, calls for a coordinated regional approach to addressing national DRM/CCA priorities, underpinned by partnership and collaboration, including the sharing of lessons learnt. In that spirit, BSRP sought to provide opportunities for participating countries to connect and share challenges, solutions and best practices.

The annual BSRP Regional Steering Committee (RSC) offered an opportunity to bring NDMOs together, not only to consider project governance issues, but to discuss implementation hurdles and achievements across the wide range of activities on their work plans. The PMU experimented with different formats for the RSC to promote conversation and knowledge sharing. The 2019 approach proved to be a successful formula.

The 2019 Regional Steering Committee used an interactive format to showcase case studies against each of the KRAs in the format of presentations, panels, stations and roundtables – the innovative, the successful and the moments that did not go to plan. On polling, it was the ‘stations’ that were clear favourites and gave the most opportunity for interaction, asking questions and considering how those lessons applied in their own countries.

For the first time, BSRP employed the use of the online SLIDO platform to poll the audience on matters throughout the meeting. From this, participants identified the biggest takeaway as “knowledge”, and the top three key words selected to describe the 2019 RSC were: ‘informative’, ‘dynamic’ and ‘awesome’.

The RSCs were not the only means through which BSRP promoted working together and drawing from the expertise and best practice that exists within the region. SPC technical advisors working across countries shared lessons across jurisdictions, the development of a compendium case studies on climate and disaster resilient development in the Pacific was produced, and national-level DRR/CCA platforms were sponsored. Over EUR 0.5 million was spent facilitating the attendance of disaster and emergency management personnel from participating countries at regional and international forums aimed at supporting collaboration and knowledge sharing. This included Pacific Resilience Weeks, Pacific Island Emergency Management Alliance (PIEMA) forums, Australasian Fire and Emergency Service Authorities Council (AFAC) Conferences, Pacific Islands Fire and Emergency Services Association (PIFESA) meetings, Conferences of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC), World Conference on DRR (WCDRR), Global Platform on DRR (GPDRR), and International Tsunami Symposiums.

Given the fiscal and environmental cost of travelling from island states to such forums, the opportunities to bring the regions DRR/CCA specialists together were often leveraged by SPC to progress broader DRR/CCA matters under BSRP and other projects and programmes.

While the impact of this investment is immeasurable, anecdotal evidence suggests that it has contributed to the increased voice of the Pacific Island states on the global DRR/CCA stage. There are also examples of countries looking to adopt solutions utilised elsewhere in the region. For example, Tonga piloted the Capacity Building for Disaster Risk Management (CBDRM) training and development of CBDRM Action Plans. Palau followed suit and now all the States have undergone CBDRM training and development of their action plans.

KRA5



2/5 logframe indicators exceeded; 3/5 logframe indicators met



Close to 300 government agencies, development partners, sub-national authorities, NGOs, CSOs and contractors involved in implementing BSRP



4 Pacific Platforms supported



Wide FRDP consultations: 1 x Technical Working Group; 11 national and regional consultation workshops at stakeholders; 14 stakeholder interviews; online consultations with 1,529 individual comments + 59 full submissions



FRDP integrating climate change adaptation and DRM endorsed by Pacific Leaders



PIEMA Strategic Agenda 2020 endorsed



ANNEXES

See Volume II for the following Annexes:

- Annex 1. Financial statement:
- Annex 2. Activities implemented by country
- Annex 3. Reporting against logframe
- Annex 4. Project governance and management structures
- Annex 5. Asset register
- Annex 6. Contracts listing
- Annex 7. Communication and visibility products listing

An electronic version of this report and Volume 2: Annexes are available at <https://bsrp.gsd.spc.int/>.





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