

**Research and Analysis on
Climate Change and Disaster Risk Reduction**

Working Paper 2

Current Donor and Development Programme Responses

Final

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Executive Summary

This report, commissioned by New Zealand's Ministry of Foreign Affairs and Trade provides an analysis of current responses to the various climate change and disaster risk management issues faced by Pacific island countries and territories, as identified in a companion study. Together, the results of that study and the findings presented here form a contextual review of regional issues and development partner responses related to enhancing the resilience of development outcomes at local through to regional levels in the Pacific. These findings will, in turn, provide the evidence base for identification of strategic opportunities for New Zealand to invest in the resilient development in Pacific island countries and territories.

The present report is based on information gathered from development partners, including policies, strategies, project documents and evaluations. It is also based on current efforts to map these partner responses. The findings are organised by development partner, and subsequently by the previously identified strategic issues. Assessments of the effectiveness of these responses are largely based on reviews of formal evaluation documents, as well as on interviews of key informants.

In addition to the regional-level assessment, the report also presents the results of more focussed analyses for Tuvalu and Kiribati. These country-specific findings were prepared using a similar methodology.

The development partners covered in the study included bilateral and multilateral country partnerships, relevant member agencies of the Council of Regional Organisation in the Pacific, multilateral development banks, United Nations agencies, and non-governmental and other relevant organisations.

The analysis showed that development partners are making major and, by and large, successful contributions to addressing the following:

- Risk-informed products, processes and partnerships;
- Increasing the effectiveness of humanitarian actions;
- Strengthening individual and institutional capacities;
- Increasing access to, and effective use of climate and disaster finance;
- Prioritising resilient development investment opportunities; and
- Strengthening knowledge creation, management and learning.

However, major gaps and opportunities exist in relation to localising adaptation and disaster risk management, addressing the underlying determinants of vulnerability, increasing the involvement of the private sector in resilient development, as well as supporting resilient development and a transformative approach to mainstreaming climate and disaster risk considerations. Moreover, needs related to increasing atoll and island habitability in the longer-term are not being addressed in a substantive way, although New Zealand, the European Union and Australia are undertaking activities that can be considered prototypes of relevant transformative change. New Zealand has the potential to show leadership in this regard.

A considerable amount of information is now available to inform decisions relating to climate change and disaster risk, but engaging with users in order to understand their needs remains weak, as does learning from previous adaptation and risk reduction initiatives. The in-depth user needs assessment and evaluation of monitoring and evaluation processes related to the Pacific Climate Change Portal are timely. It is to be

hoped that these studies will lead to more predictable, long-term funding for both that Portal and the Disaster Risk Reduction Projects Portal, as well as improved coordination and integration of their operations.

A high level assessment of the contributions made by development partners to addressing the needs and challenges identified several success factors. These included:

- Building on existing mechanisms and relationships;
- The importance of strong governance and institutional mechanisms, including local level governance mechanisms such as local governments, island councils and community governance structures;
- The importance of investing time and other resources to develop and sustain partnerships and coordination mechanisms;
- Engaging local non-governmental organisations as key partners, and invest in their capacity to support resilient development;
- Promoting gender and social inclusion as a core part of resilience;
- Underpinning prioritisation and decision-making processes with sound social, economic and environmental analysis, robust science and transparent and inclusive processes;
- Ensuring users understand their information and knowledge requirements and investing in information and knowledge management systems and accessibility;
- Linking the climate change finance, public financial management and aid effectiveness agendas, and ensuring these reform agendas reinforce each other;
- Including climate change and resilience considerations in policy and planning, as well as in aid coordination and tracking mechanisms;
- Integrating resilience principles throughout programming;
- Recognising that strengthening the evidence base to understand the implications of climate change for development requires long-term predictable funding for climate change science and observations;
- Using existing long-term partnerships as the basis for capacity building initiatives can help to reduce the time needed to establish trusted relationships and maximise the effectiveness of initiatives; and
- Engaging stakeholders beyond climate change and disaster risk management is crucial for ensuring development outcomes are resilient.

In terms of enhancing the resilience of development outcomes in the Pacific islands region it is also helpful to consider approaches used by other small island states. This includes those in the Caribbean region. In that region countries and communities are facing increasing threats, similar to those in the Pacific region.

Abbreviations

ACC	Australian Civilian Corp
ACSE	Adapting to Climate Change and Sustainable Energy
ADB	Asian Development Bank
ADRA	Adventist Development and Relief Agency
APAN	Asia Pacific Adaptation Network
AUD	Australian Dollar
AusAID	Australian Agency for International Development
BoM	Bureau of Meteorology
BRSP	Building Resilience and Safety in the Pacific
CBA	Cost Benefit Analysis
CCA	Climate Change Adaptation
CCAP	Coastal Community Adaptation Project
CCPIR	Climate Change in the Pacific Islands Region (project)
CEO	Chief Executive Officer
CePaCT	Centre for Pacific Crops and Trees
CHICCAP	Choiseul Integrated Climate Change Adaptation Programme
CIF	Climate Investment Fund
CLEWS	Climate Early Warning System
CLGF	Commonwealth Local Government Forum
CLTS	Community-led Total Sanitation
COSPac	Climate and Oceans Support Program in the Pacific (project)
CPDP	Climate Proofing Development in the Pacific
CROP	Council of Regional Organisations in the Pacific
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CSO	Civil Society Organisation
CWS	Christian World Service
DCCEE	Department of Climate Change and Energy Efficiency
DFAT	Department of Foreign Affairs and Trade (Australia)
DPCC	Development Partners for Climate Change
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
DVD	Digital Video Disc
ECHO	European Commission's Humanitarian Aid & Civil Protection Dept.
EDF	European Development Fund
EU	European Union
FAO	Food and Agriculture Organisation
FFA	Forum Fisheries Agency
FINPAC	Finnish Pacific (project)
FRANZ	France Australia New Zealand
FRDP	Framework for Resilient Development in the Pacific
FSM	Federated States of Micronesia
GCF	Green Climate Fund
GDP	Gross Domestic Product
GEF	Global Environment Facility
GFDRR	Global Facility for Disaster Risk and Recovery
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GCCA	Global Climate Change Alliance
GoK	Government of Kiribati
ICCAI	International Climate Change Adaptation Initiative
iCLIM	Pacific Climate Change Information Management
ICRC	International Committee of the Red Cross
ICT	Information and Communication Technologies

IDC	Island Disaster Committee
IFRC	International Federation of Red Cross and Red Crescent Societies
INDC	Intended Nationally Determined Contribution
INGO	International Non-Governmental Organisation
IPP	Independent Power Producer
ISACC	Institutional Strengthening for Adaptation to Climate Change
ISDR	International System for Disaster Reduction
IT	Information Technologies
IUCN	International Union for the Conservation of Nature
IVA	Integrated Vulnerability Assessment
IWRM	Integrated Water Resources Management
KAP	Kiribati Adaptation Plan
KFL	Kiribati Fish Limited
KILGA	Kiribati Local Government Association
KISIP	Kiribati Infrastructure and Investment Strategy
KIT	Kiribati Institute of Technology
KJIP	Kiribati Joint Implementation Plan
KNEG	Kiribati National Expert Group
KRCS	Kiribati Red Cross
KTC	Kiribati Teacher College
LDC	Least Developed Country
M	Million
MCA	Multi-criteria Analysis
MELAD	Ministry of Environment and Agricultural Development
MFAT	Ministry of Foreign Affairs and Trade (New Zealand)
MFED	Ministry of Finance and Economic Development
MFEP	Ministry of Finance and Economic Planning
MFMRD	Ministry of Fisheries and Marine Resources Development
MHMS	Ministry of Health and Medical Services
MIA	Ministry of Internal Affairs
MOE	Ministry of Education
MPU	Ministry of Public Utilities
MPWU	Ministry of Public Works and Utilities
MTC	Marine Training Centre
MWYSA	Ministry of Women, Youth and Social Affairs
NAB	National Advisory Board
NACC	National Advisory Committee for Climate Change
NAP	National Adaptation Plan
NAPA	National Adaptation Programme of Action
NASC	National Adaptation Steering Committee
NDC	Nationally Determined Contribution
NDMO	National Disaster Management Office
NDRF	NGO Disaster Relief Forum
NEPO	National Economic Planning Office
NGO	Non-governmental Organisation
NIWA	National Institute for Water and Atmosphere
NOAA	National Oceanic and Atmospheric Administration
NSAP	National Strategic Action Plan for Climate Change and DRM
NZ	New Zealand
OB	Office of Te Beretitenti (Office of the President)
OFDA	Office of Foreign Development Assistance (United States)
PAC	Pacific Access Category
PACCSAP	Pacific Australia Climate Change Science Adaptation Planning (project)
PACC	Pacific Adaptation to Climate Change (project)

PACE-SD	Pacific Centre for Environment and Sustainable Development
PACTAM	Pacific Technical Assistance Mechanism
PacTVET	Pacific Technical Vocational Education and Training in Sustainable Energy and Climate Change Adaptation (project)
PAFPNet	Pacific Agriculture and Forestry Policy Network
PASAP	Pacific Adaptation Strategy Assistance Programme
PASO	Pacific Aviation Safety Office
PCCFAF	Pacific Climate Change Financing Assessment Framework
PCCP	Pacific Climate Change Portal
PCCSP	Pacific Climate Change Support Programme
PCRAFI	Pacific Catastrophe Risk Assessment and Financing Initiative
PCRIP	Pacific Catastrophe Risk Insurance Pilot
PDNA	Post Disaster Needs Assessment
PIC	Pacific Island Country
PICT	Pacific Island Countries and Territories
PIDP	Pacific Islands Development Programme
PIFACC	Pacific Islands Framework for Action on Climate Change
PIFS	Pacific Islands Forum Secretariat
PIPSO	Pacific Islands Private Sector Organisation
PMC	Pacific Meteorological Council
PMU	Project Management Unit
PNG	Papua New Guinea
PFTAC	Pacific Financial Technical Assistance Centre
PPA	Pacific Power Association
PPCR	Pilot Programme for Climate Resilience
PREP	Pacific Resilience Programme
PRIF	Pacific Region Infrastructure Facility
PRM	Policy Reform Matrix
ProPa	Protection in the Pacific (network)
PRRP	Pacific Risk Resilience Programme
PRP	Pacific Resilience Partnership
PSE	Pacific Solutions Exchange
PSIS	Pacific Small Island State
PUB	Public Utilities Board
RERF	Revenue Equalization and Reserve Fund
RMI	Republic of the Marshall Islands
ROC	Republic of China (Taiwan)
RSE	Recognized Seasonal Employment
RTSM	Regional Technical Support Mechanism
SDG	Sustainable Development Goals
SEP	Strategic Energy Plan
SIDS	Small Island Developing State
SIWSAP	Solomon Island Water Sector Adaptation Project
SODIS	Solar Disinfection
SOE	State Owned Enterprise
SPC	Pacific Community
SPREP	Secretariat of the Pacific Regional Environment Programme
SPTO	South Pacific Tourism Organisation
SWoCK	Strongem Waka lo Community fo Kaikai
SWP	Seasonal Workers Programme
TAF	The Asia Foundation
TANGO	Tuvalu Association of Non-governmental Organisations
TC	Tropical Cyclone
TMTI	Tuvalu Maritime Training Institute

TNC	The Nature Conservancy
TSSP	TVET Sector Strengthening Project
TTFT	Tugeda Tude Fo Tumoro Program
TVET	Technical and Vocational Education and Training
UAE	United Arab Emirates
UN	United Nations
UNESCAP	United Nations Economic and Social Commission for Asia Pacific
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations Children’s Fund
UNISDR	United Nations Office for Disaster Risk Reduction
UNOCHA	United Nations Office of Coordination and Humanitarian Affairs
USAID	United States Agency for International Development
US	United States
USD	United States Dollar
USP	The University of the South Pacific
VCAN	Vanuatu Climate Adaptation Network
WHO	World Health Organisation
VHT	Vanuatu Humanitarian Team
WARD	Working Arm on Resilient Development
WASH	Water Sanitation and Hygiene
WB	World Bank
WSB	Wan Smol Bag
WWF	World Wide Fund for Nature

1. Background and Introduction

This report, commissioned by New Zealand's Ministry of Foreign Affairs and Trade (MFAT), provides an analysis of current responses to the various climate change and disaster risk management (DRM) issues identified in Working Paper 1 (Manley et al., 2016). The findings are important to: (i) understanding what support is already being provided in the region as well as the gaps in supporting resilient development; and (ii) identifying lessons learned while providing the support, including where and how greater development and resilience benefits may be achieved in the future.

The focus of this report is on responses by external partners. It is important to note that the main stakeholders involved in responding to climate change and DRM are Pacific Islanders and their communities, local and national governments, civil society organisations and private sector organisations. The emphasis on external responses is to provide MFAT, as an external agency supporting Pacific island countries and territories (PICTs), with information on initiatives taken by other partners, including lessons learned while delivering that assistance.

1.1 Information Sources and Methods

This report is based on information gathered from development partners, including policies, strategies, project documents and evaluations. It is also based on current efforts to map these partner responses. These are being undertaken by the Pacific Climate Change Portal¹ and the Disaster Risk Reduction Projects Portal².

This desk-based research was supplemented by interviews with practitioners working in areas that include development, climate change adaptation (CCA) and disaster risk reduction (DRR). These were conducted both in person and via Skype.

1.2 The Context and Scope

Climate and disaster risk programming and financing in the region are complicated. The complexities (a) in understanding the different sources of finance available currently and in the future, as well as (b) in meeting the requirements to access them, lead to understandable confusion, duplication of effort and coordination challenges. Various efforts exist to try to improve coordination between partners. These range from information sharing fora such as the Development Partners in Climate Change (DPCC), to formal partnership agreements (e.g. between NZ, Australia and France to coordinate humanitarian response efforts - FRANZ).

This report focuses on the current responses to climate change and DRM challenges of key bilateral development partners active in the region, of the multilateral funds (to which many of the bilateral donors also contribute), and the key implementing agencies, as identified in Tables 1, 2 and 3.

This mapping exercise was undertaken between August and October 2016 and is reflective of the situation at that time.

¹ <https://pacificclimatechange.net/projects>

² <http://www.drrprojects.net/drrp/>

Table 1
Bilateral Development Partners

Donors	Parts of government with aid management responsibilities	Government-supported implementation agencies
Government of Australia	DFAT, DCCEE,	CSIRO, BoM, Geoscience Australia
Government of New Zealand	MFAT	
European Union	EDF Intra ACP Bilateral	
United States	USAID, Embassy	NOAA
Japan	MoFA	JICA
Germany	BMZ, BMUB	GIZ, KfW
United Arab Emirates	MoFAIC	Masdar
China		
Taiwan		

Table 2
Multilateral Funds

Multilateral Funds	Main contributors ³	Implementation Agencies in the Pacific
Green Climate Fund	US (USD \$3bn), Japan (USD \$1.5bn), UK (USD \$1.2bn), Germany (USD \$1bn), France (USD \$1bn) Also Australia \$187m (10 th), New Zealand \$2.56m (27 th)	UNDP (Tuvalu), ADB (Fiji) Other agencies with a presence in the region CI, IUCN,FAO, GIZ, IFAD, SPREP, UNEP, WB, WFP, WMO
Adaptation Fund	Contributions from CDM credits	ADB, WB, IFAD, UN Habitat, UNDP, UNESCO, UNEP, WFP, WMO, SPREP, Cook Islands (MFEM), Micronesia Conservation Trust
Global Facility for Disaster Risk Reduction (GFDRR)	EU, Japan, UK, WB, US, Australia	WB
Climate Investment Fund	UK, Germany	WB (SPC), ADB (SPREP)
Pacific Region Infrastructure Facility	Australia, NZ, EU, EBRD, Japan	WB, ADB
Global Environment Facility	39 donors since inception. GEF-6 replenishment (2014-18) USD \$4.43bn	ADB, FAO, IFAD, UNDP, UNEP, WB, CI, IUCN, WWF

³ http://www.greenclimate.fund/documents/20182/24868/Status_of_Pledges.pdf/eef538d3-2987-4659-8c7c-5566ed6afd19

Table 3
Implementing Agencies

Implementation Agencies	Main funding source ⁴
CROP	
FFA	Australia, NZ, EU
PIFS	Australia, NZ
PPAAD	ADB, EU, NZ, US, World Bank
SPC	Australia, NZ, EU, France
SPREP	Australia, NZ, EU, Japan
SPTO	EU
USP	Australia, NZ, EU
Multilateral	
ADB	Multiple including Australia, NZ, EU member states, Japan, US, China
WB	Multiple including Australia, NZ, EU member states, Japan, US, China
International NGOs/Organizations	
Action AID	Australia
Care	Australia
Habitat for Humanity	Australia
Live and Learn Environmental Education	Australia
Oxfam	Australia, New Zealand
Red Cross and Red Crescent Society	Australia and NZ through the Australia and NZ Red Cross and Red Crescent Societies
Save the Children	Australia, NZ
Regional NGOs	
FSPI	
UN agencies	
FAO ⁵	Largest 25 donors include US, Japan, EU member states, China, Australia, Russia, Brazil, Korea, India
IFAD	Multiple
UNDP	GEF, GCF, Australia

⁴ http://www.greenclimate.fund/documents/20182/24868/Status_of_Pledges.pdf/eef538d3-2987-4659-8c7c-5566ed6afd19
<http://dfat.gov.au/geo/pacific/development-assistance/Pages/effective-governance-pacific-regional.aspx>

⁵ http://www.fao.org/fileadmin/user_upload/about-fao/docs/30_Sep_2016_AR202A-25_Major_Member_Nation_Contributors.pdf

UNWomen	Multiple
UNISDR	Multiple including EU and its member states, Japan, Korea, US, Australia, China
UNICEF	Multiple
UNOCHA	Multiple
UNESCAP	Multiple
UNESCO	Multiple
Other	
GIZ	Germany, EU
Masdar	UAE

2. Current Responses of Development Partners to the Identified Strategic Issues

This section describes recent (2000-2016) responses to strategic issues related to climate change, DRM and resilient development. This is in no way a comprehensive mapping of all partners. Given the time constraints the focus is on external partners with the largest interventions, especially in terms of financial volume. As noted above, the focus on external partners does not in any way diminish the more important contribution of Pacific Islanders themselves and their communities, local and national governments, civil society organisations and private sector organisations. In line with aid effectiveness principles, external responses should always seek to build on and strengthen the actions of local entities.

The findings are organised by development partner and subsequently by success factors (Section 3). Assessments of the effectiveness of these responses are largely based on reviews of formal evaluation documents, as well as on interviews of key stakeholders.

2.1 Governments

Government of Australia

The Government of Australia, through the Department of Foreign Affairs and Trade (DFAT), is one of the largest donors in the Pacific region. The funding support it provides for climate change and DRM, including fluctuations in that funding, has a significant impact on the ability of Pacific island countries and territories (PICTs) to manage climate and disaster risks effectively (Table 4). The overall framework for this support, “Engaging our Pacific Neighbours on Climate Change: Australia’s Approach” (Commonwealth of Australia, 2009), provides an overview of these programmes as well as of Australia’s strategic priorities.

Over the period 2008-13, as part of its fast start finance initiative, the Government of Australia, through its International Climate Change Adaptation Initiative (ICCAI), provided around AUD 164 million of support to meet high priority CCA needs in Pacific Island countries (PICs). A significant portion of this funding was directed at increasing the knowledge and evidence base around climate change scenarios and impacts, and at supporting key programmes in utilising the improved knowledge for better planning and implementation. This included using updated modelling results to better understand climate change scenarios and impacts on key sectors such as agriculture and fisheries. ICCAI provided AUD 47 million through bilateral programs to 15 PICs, AUD 15 million through multi-country programmes run by non-governmental organisations (NGOs), and AUD 94 million through regional programmes implemented by CROP agencies.

The termination of the ICCAI in 2013 resulted in a significant reduction in climate change funding for the Pacific. The reduction in funding was mainly due to a change in the Government of Australia’s investment priorities⁶ and the subsequent reduction in funding available for climate change science and adaptation, nationally and regionally.

⁶ <https://www.devex.com/news/no-softening-of-australia-s-harsh-climate-change-policy-84391>

Support for NGOs and community-based projects (AUD 15 million as part of the ICCAI 2008-13) was provided through dedicated community-based adaptation grant funding, as well as a contribution to the Global Environment Facility (GEF) Small Grants Programme, implemented by UNDP. This targeted small-scale community-based CCA in Small Island Developing States (SIDS).

The Future Climate Leaders Programme provided support for climate change curriculum development and scholarships at the University of the South Pacific (USP). Top ups were provided to the Pacific Adaptation to Climate Change (PACC) programme, and support was provided to the Secretariat of the Pacific Community (SPC) (AUD 9 million) and to the Secretariat of the Pacific Regional Environment Programme (SPREP) (AUD 3 million) for CCA and related activities. This was in addition to separate support from Australia for core budget and programme financing from its regular programme.

Recognising the need to move beyond improving the evidence base, the Pacific Adaptation Strategy Assistance Programme (PASAP) – AUD 12 million from 2008 to 2011 - and subsequently the Pacific-Australia Climate Change Science and Adaptation Planning (PACCSAP) programme – AUD 32 million from 2012 to 2014 - focussed on developing knowledge products and applying them to enhance adaptation planning and responses.

Several bilateral PACCSAP projects targeted water supply and sanitation services and/or enabled existing infrastructure programmes to incorporate climate risks (e.g. in Kiribati, Nauru, Republic of Marshall Islands (RMI), Samoa and Tuvalu) and economic infrastructure (e.g. roads in Solomon Islands and Vanuatu). Additional funds were also provided for the CCA components of existing infrastructure projects (e.g. Solomon Islands roads, sanitation in Kiribati).

The Climate and Oceans Support Program in the Pacific (COSPPac)⁷ – 2012 to 2017 - and its pre-cursor, the Pacific Islands Climate Prediction Project implemented through the Australian Bureau of Meteorology (BoM), have provided ongoing support to national meteorological offices. This includes sea-level monitoring and specialised seasonal forecasting products to help manage climate variability and tidal events. Products are tailored to governments, as well as to communities for assistance related to agriculture, water security and health.

As well as supporting the evidence base and planning for CCA in the region, Australia provides a significant volume of finance to PICs for humanitarian preparedness and response. In 2016-2017 Australia budgeted AUD 339.7 million for humanitarian preparedness and response across the globe - figures for the Pacific alone are not available.⁸ This funding supported, in part, the Australian Civilian Corp National Disaster Management Organisation programme (ACC NDMO). This programme has aimed to preposition advisers in the region before the start of the cyclone season and build relationships, capacity, and provide surge capacity, in the event of a disaster. This programme has undergone an annual review process and work is underway to clarify the intent and processes surrounding the ACC NDMO program.

Currently Australia is implementing several relatively discrete and relatively small (by Australian standards) climate change programmes in the region. These include the

⁷ <http://cosppac.bom.gov.au/>

⁸ <http://dfat.gov.au/aid/topics/investment-priorities/building-resilience/humanitarian-preparedness-and-response/Pages/humanitarian-preparedness-and-response.aspx>

Pacific Risk Resilience Programme (PRRP), the Pacific Climate Change Information Management (iCLIM) project and a Climate Finance Readiness project in partnership with the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). These are in addition to Australia's main bilateral development assistance programmes.

PRRP is working initially in four countries: Fiji, Solomon Islands, Tonga and Vanuatu. It promotes a shift in thinking around resilience building – recognising that at the heart of managing risk and change are people, institutions and decision-making processes, as shown in the following graphic. PRRP works across key sectors such as finance and planning, education and food security.

PRRP Transforming the development agenda - Key messages

Mainstreaming of disaster and climate change risk is an **ongoing** process rather than a one-off activity

Working **'from within'** development and putting people at the centre will help deal with the underlying causes of disaster and climate change risk

An all-stakeholder approach is required with effective leadership, deliberate engagement of new actors and behavioural change across the board

Risk Governance Building Blocks

People (the actors of development) – leadership, capacity and knowledge

Mechanisms (the underlying architecture for development) – institutional arrangements, partnerships, coordination networks, and the legal and policy framework

Processes (the procedures and products for development) – budgeting processes, planning processes, tools and products

UNDP (2016): Risk Governance. Building blocks for resilient development in the Pacific

In recognition of the importance of the climate finance agenda, Australia has provided AUD 1.5 million (2016-18) to GIZ to work in partnership with the Pacific Financial Technical Assistance Centre (PFTAC) and the Pacific Islands Forum Secretariat (PIFS). The aim is to enhance the links at the national level between the existing public financial management reform roadmaps and the efforts to enhance climate finance readiness. This programme is currently recruiting staff. An initial scoping mission to the Solomon Islands took place in September 2016 to plan a forthcoming climate finance assessment and risk governance assessment, as requested by the Government.

The Government of Australia has pledged AUD 200 million to the Green Climate Fund (GCF). Australia is an active member, and co-chair, of the GCF board. In October 2016 an Australian was appointed as the new Executive Director of the GCF Secretariat.

As a global fund, the GCF is accessible to all developing countries. However, the Government of Australia is endeavouring to ensure that PICs access a reasonable share of the funds. It therefore has a strong interest in ensuring that capacity is built for PICs to access this funding. Thus part of the rationale for the Climate Finance Readiness project is to support Pacific countries to prepare pipeline project proposals that could be submitted to the GCF.

Australia also contributes a significant amount of aid to the Asian Development Bank and the World Bank⁹. Both of these Banks are also active in supporting PICs to develop proposals for the GCF.

Australia is currently reviewing its climate change and resilience programme with a view to ensuring that its main bilateral and regional programmes are promoting resilience throughout the entire aid programme. The current support provided by Australia could therefore be deemed to be a “holding phase” while the review is conducted and a proposed “climate change facility / support unit” (potentially modelled on the Pacific Women facility – see Box A) is established. Establishment of such a facility implies a longer-term commitment by Australia to a climate change programme in the Pacific. This should help to address the fluctuating levels of support over the past few years, and provide longer-term consistency. Close collaboration between Australia’s DFAT and New Zealand’s MFAT – including joint research and programming – is recommended as a way to strengthen development partner coordination in this area.

Box A

Pacific Women¹⁰

Pacific Women is a 10 year Australian government programme targeting support to 14 Pacific countries to meet the commitments made in the 2012 Pacific Island Forum Leaders’ Gender Equality Declaration.¹¹ The facility works with Pacific governments, civil society organisations, the private sector and multilateral, regional and United Nations agencies to achieve its intended outcomes:

1. Women, and women’s interests, are increasingly and effectively represented and visible through leadership at all levels of decision-making.
2. Women have expanded opportunities to earn an income and accumulate economic assets.
3. Violence against women is reduced and survivors of violence have access to support services and to justice.
4. Women in the Pacific will have a stronger sense of their own agency, supported by a changing legal and social environment and through increased access to the services they need.

Based in the Pacific rather than Australia, the facility channels AUD\$320million of Australian support to women’s issues, principally at the country level. The facility works with countries to develop individual country plans to guide the funding and implementation of activities. Regional and multi- country activities are also funded to address common issues across the region and to complement and build on country activities. Since its launch in August 2012, approximately \$90 million has been expended on over 100 activities.

The management of Pacific Women is contracted to Cardno.

⁹ From 2005/6 – 2013/14 funding to the ADB and WB amounted to AUD \$4.5bn

¹⁰ Australian Government (2016), About Pacific Women. Available online at: <http://www.pacificwomen.org/about/about-pwspd/>.

¹¹ [http://www.forumsec.org/resources/uploads/attachments/documents/2012 Forum Communique, Rarotonga, Cook Islands 28-30 Aug1.pdf](http://www.forumsec.org/resources/uploads/attachments/documents/2012%20Forum%20Communique,%20Rarotonga,%20Cook%20Islands%2028-30%20Aug1.pdf)

As noted above, Australia contributes to regional programmes, including core and programme support to SPC, SPREP, The University of the South Pacific (USP), the Pacific Islands Forum Secretariat (PIFS) and other regional organisations. Australia was also part of a consortium of partners providing support to the Solomon Islands Government through the Choiseul Integrated Climate Change Adaptation Programme (CHICCAP).

Evaluation of responses

This section draws on formal evaluations, stakeholder interviews and other material to outline some key success factors as well as lessons learnt that are of relevance to MFAT.

The effectiveness of Government of Australia financed climate change and DRM programmes in the region has been negatively impacted by shifts in political support for climate change programmes. The conclusion of the ICCAI review (Walter et al., 2013) was that a lack of clear guidance from the Government of Australia about the level of resources available to continue to support some of these areas left a significant gap in resources for climate change science and adaptation in the region. Australia's investments in climate change and resilience haven't worked together as a portfolio. There is an increasing need for a coordinated and harmonised response to climate change in the region. As noted above, the Government of Australia is currently reviewing their climate change and resilience programme in the region.

i) Climate change

The following section describes lessons from key Australian Government supported regional projects, including the ICCAI, PACC+, COSPPac, Pacific iClim, and PRRP.

International Climate Change Adaptation Initiative (ICCAI)¹²

The ICCAI programme strengthened the evidence base for climate change decision makers in the region, through significant investment in climate change science.¹³ According to a review (Walter et al., 2013), a key output of the work was the latest climate change projections for countries in the region. The partnership between the Australian BoM, the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and national meteorological services in the region strengthened capacities nationally, and resulted in strong national ownership of the products developed.

Support provided to SPC through the ICCAI facilitated use of the results of the Pacific Climate Change Science Programme (PCCSP) to advance research on the impacts of climate change on fisheries, agriculture and water. This has expanded the knowledge base for planners on the likely impact of climate change and extreme events on these key sectors (SPC, 2011; SPC, 2015).

Pacific Australia Climate Change Science and Adaptation Planning (PACCSAP) programme

PACCSAP recognised the need to provide users with improved scientific- and evidence-based information on climate change impacts and disaster risk that could be used in planning processes. The entry point tended to be to identify key strategic priorities, from a development perspective, and subsequently identify the associated key climate

¹² A review of support provided through the ICCAI is available at <https://dfat.gov.au/about-us/publications/Documents/pacific-climate-change-review-aug2013.pdf>

¹³ pacificclimatechangescience.org

and disaster risks. According to Walter et al. (2013), a key weakness in the approach was that engagement with planners and ultimate users of the results of the various assessments conducted under PACCSAP was weak, leading to low levels of ownership of the programme's products. Overall management by the Department of Climate Change and Energy Efficiency (DCCEE), rather than the Australian Agency for International Development (AusAID) and then DFAT, meant that the programme was not well aligned to the overall development planning processes of national governments. As a result, it lacked overall coherence, and suffered from a lack of coordination (Walter et al., 2013). The emphasis tended to be on the use of sophisticated and often expensive tools, such as LiDAR, rather than on understanding the existing processes within which development planning decisions are taken, and subsequently determining which tools could help adjust those processes to take risk into account. An additional AUD 1 million has been made available to CSIRO to help expand the use of tools and products developed by the PACCSAP programme.

The 'fast start' nature of the ICCAI also impacted its efficiency and coherence. The requirement to programme funding within a given period created pressure to find projects, rather than plan a coherent programme (Walter et al., 2013). Existing relationships (e.g. between BoM, CSIRO and the national meteorological services) helped to ensure resources and activities could be developed and absorbed nationally, though the latter suffered significant limitations.

Although PACCSAP was an adaptation planning programme, the entry points were climate change focal points rather than central planners. Mainstreaming was expected to occur through the presence of national coordination bodies and processes, but these were often weak. A better approach may have been to use specific thematic entry points, and the pre-existing governance structures within those sectors, to develop and coordinate the project. These could include infrastructure development committees, agriculture policy units, and water resource management committees.

In the same way, the Terminal Evaluation of the PACC and PACC+ project (UNDP, 2015) noted that support provided by ICCAI to the SPREP-executed Pacific Adaptation to Climate Change (PACC) programme also failed to develop sufficient ownership of the project by stakeholders beyond traditional climate change partners. This often resulted in duplication of sector-level planning processes, rather than being integrated within them.

Within the then AusAID, internal training programmes were put in place to try and institutionalise climate change and DRM across all areas of development programming. This was delivered across relevant posts in the region, to build the capacity of key managers of AusAID's programmes to integrate climate change and DRM within their work programmes. But this effort has not been sustained, due to a reduction in available funding (Betzold, 2016).

Climate and Ocean Support Program in the Pacific (COSPPac)

The COSPPac programme is noteworthy in representing a long-term commitment by Australia to sea level and oceans monitoring in the region. The programme builds on and extends sea and ocean monitoring that commenced in 1991 under the Government of Australia South Pacific Sea Level and Climate Monitoring project. The result is a relatively long data time series that provides information that underpins climate change impact and adaptation assessments in the Pacific. This long-term funding support has created lasting institutional partnerships. It has improved collaboration and clarified mandates between SPC and SPREP, and their support to countries. During 2016 most

services provided through COSPPac will be fully devolved to partners, with SPC and SPREP to manage the programme from 2017 (COSSPac Newsletter, July 2016).

The **Pacific iCLIM** programme, implemented by Griffith University in partnership with SPREP, through a Government Partnership for Development programme, aims to enhance the information available to decision makers. The decision to partner with SPREP, and have climate change focal points as the main institutional partners, has resulted in similar challenges to those faced by DCCEE and SPREP in reaching key decision makers and planners (pers. comm. GIZ). Programme design and resourcing limit the flexibility with which national governments can be supported. Despite an iCLIM barriers report (Brown et al, 2015) identifying that the lack of qualified information managers was a constraint to better information management and sharing, the programme has not been able to address this capacity constraint by funding in-country positions.

Support provided to the Oxfam-led Vanuatu NGO consortium under ICCAI also recognised the need to strengthen networks, with links between government and NGOs, leadership and governance mechanisms being seen as vital components of strengthening resilience (Walter et al., 2013).

ii) Disaster risk reduction

Australia provides support to a number of partners working on DRR in the Pacific. These include national Australian agencies that serve the region, notably Geoscience Australia, BoM and CSIRO, as well as NGOs such as the Red Cross, Habitat for Humanity, Save the Children, Oxfam, and CARE, and various United Nations agencies including the United Nations Office for Disaster Risk Reduction (UNISDR) and the United Nations Development Programme (UNDP).

Australia also provides support to the World Bank, generally, as well as to the Bank's Global Facility for Disaster Reduction and Recovery (GFDRR). The World Bank Group is a significant development partner in the Pacific, supporting infrastructure development, institutional strengthening and providing post disaster support, all with a view to being risk resilient (see Section 2.3 for specific World Bank programmes).

Pacific Risk Resilience Programme (PRRP)

Building on lessons from these experiences, the PRRP represents a shift in programming strategy. PRRP uses risk governance and development planning process as its entry point for identifying, jointly with national stakeholders, adjustments in processes and key positions that are required to change behaviour. Efforts to improve links between national, sub-national and local level planning have led to strengthened partnerships with key actors, including NGOs and private sector actors (UNDP, 2016b). The use of an 'emergent design' approach – and the resulting lack of clarity about the programme objectives - has led to some confusion (pers. comm. SPREP).

While the PRRP appears to have built strong country ownership and champions for the approach, it has yet to fully demonstrate the changed processes resulting from this. At a recent meeting of the PRRP Board it was recognised that further work on sharing lessons from the approach, and working in partnership with other development programmes, would be necessary for strengthening and replicating the benefits of the approach (UNDP, 2016).

iii) Humanitarian assistance

From a disaster preparedness, response and recovery perspective, Australia's programming is guided by its Humanitarian Strategy¹⁴ and Humanitarian Policy. It is worth noting that expenditure on disaster response traditionally dwarfs investments in risk reduction and preparedness.

The Humanitarian Strategic Objectives are:

- Strengthen International Humanitarian Action to support reform and innovation within the international humanitarian system to ensure that it is fit for purpose, particularly in the Indo-Pacific;
- Reduce Disaster Risk, by promoting effective disaster risk reduction in the region, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030;
- Support Preparedness and Effective Response by providing effective humanitarian assistance and protection in response to rapid and slow onset crises, with a focus on the Indo-Pacific; and
- Enable Early Recovery by supporting the transition from humanitarian relief to longer-term recovery and development.

Within these frameworks the Government of Australia contributes to the GFDRR. This facility has led efforts to improve risk information to inform national governments of the extent of assets at risk from extreme events, and to support premium setting and advocacy for regional insurance schemes and national contingency finance. Australia also supports UNISDR in the Pacific, the United Nations Office of Coordination and Humanitarian Affairs (UNOCHA) and the United Nations Central Emergency Response Fund (AUD 10.7 million from 2015 to 2016).

Significant post-disaster support was provided by the Government of Australia in response to cyclone Pam (Vanuatu, 2015) and cyclone Winston in Fiji (AUD 35 million in 2016).

The Humanitarian Partnership Agreement is the primary mechanism for humanitarian funding for Australian NGOs. The Agreement brings together DFAT and six pre-selected Australian NGOs (Care, Caritas, Oxfam, Plan International, Save the Children and World Vision). Most recently the partnership was activated in response to Tropical Cyclone Winston in Fiji.

Australia is providing AUD 28.8 million in humanitarian funding over the next four years (2015-19), under a partnership with Australian Red Cross. This is complemented by additional development funding. The International Committee of the Red Cross (ICRC) provides backstopping support to the national Red Cross societies in the region. Australia provided AUD 25.27 million in core funding to the ICRC in 2015-16.

Key lessons for MFAT:

- Strengthening the evidence base to understand the implications of climate change for development requires long-term predictable funding for climate change science and observations.

¹⁴ <http://dfat.gov.au/about-us/publications/Documents/dfat-humanitarian-strategy.pdf>

- Uncertainty regarding future funding can undermine the effectiveness of initial investments in strengthening national capacity in data collection, storage and management
- Effectiveness, ownership and sustainability of programmes are linked to the strength of relationships between national partners and agencies with development and management responsibilities. Fluctuating funding levels can also undermine these partnerships and relationships, which take time to rebuild. It is likely to be more effective to commit modest, predictable funding for longer.
- Support should be framed with an understanding that traditional and local knowledge for managing climate change and disaster risks represent important sources of knowledge that should be supported. Traditional knowledge and modern science can be jointly used to enhance resilience.
- Using existing long-term partnerships as the basis for capacity building initiatives can help to reduce the time needed to establish trusted relationships and maximise the effectiveness of initiatives. Use of pre-existing relationships and partnerships at the national level, sector level and sub national level are recommended.
- Engaging stakeholders beyond climate change and DRM is crucial for supporting a transformation to resilient development outcomes. When seeking to support resilient development outcomes in a specific sector, stakeholder analyses of the existing actors, governance structures and decision-makers are crucial for identifying the most appropriate entry point as well as champions that can influence change.
- Understanding the current decision making mechanisms and processes are critical for identifying the most suitable entry points to support these decisions. Expensive technological solutions should also be resorted to when a clear identified information deficit is hampering decision making abilities and users identify a clear need for the information.

Table 4¹⁵

Summary of Government of Australia’s climate change and disaster risk management contributions 2008-2018

Development Agency	Main programmes relating to strengthening resilience	Implementing partners	Time-frame	Volume	Process to define priorities
Australia	PCCSP (ICCAI)	CSIRO, BoM, NMO	2009-11	AUD \$20M	
	PASAP (ICCAI)	DCCEE	2009-11	AUD \$12M	
	PACCSAP (ICCAI)	CSIRO, BoM, DCCEE	2011-14	AUD \$32M	
	Australia-NGO fund (ICCAI)	Oxfam, Care,	2009-14	AUD \$15M	
	COSPPac	BoM, SPC, SPREP, National Met Offices	2012-2017	AUD \$32M	Stakeholder workshops Pacific Meteorology Council Strategy and Meeting
	CSIRO-SPREP	CSIRO-SPREP	2016-2018	AUD \$990,000	
	Pacific Risk	UNDP, LLEE	2012-	AUD \$16M	Emergent design

¹⁵ Information missing from these and subsequent tables was not available to the authors.

	Resilience Program		2017		
	SPC –Programme Funding		2014-17	AUD \$51.5M	SPC Corporate Plan
	SPREP – Programme Funding		2013-16	AUD \$12.3M	SPREP Corporate Plan
	Pacific iClim	Griffith University / SPREP	2014-2018	AUD 1.5M (2014-16) +AUD 1.5M (2016-18)	
	Climate finance readiness	GIZ, PIFS, PFTAC	2016-2019	AUD 1.5M	Country requests
Global contributions	The Government of Australia also contributes to the GCF, ADB, WB, GFDRR, PRIF, ICRC, UNOCHA and several other multilateral agencies				

Government of New Zealand

The Government of New Zealand’s Aid Programme Strategic Plan (2015-2019) targets resilience as a key pillar for development aid. In focussing on resilience, New Zealand supports specific and practical actions and is committed to integrating climate change and DRR principles across all its initiatives and working in partnership with other development partners where feasible.

Overall, the New Zealand Aid Programme is based on bilateral country programming and focuses on the Pacific, with close to 60% of the aid directed there (MFAT, 2015). Agriculture and renewable energy are flagship programmes and represent an important opportunity to integrate the consideration of climate and disaster risks.

The Pacific Energy Summit, co-hosted by New Zealand and the European Union (EU) in 2013, brought together a significant number of partners working on renewable energy. This led to practical outcomes of projects that could be supported. Over 50 of the 79 projects proposed in 2013 have been completed, or are underway. The partnership with the EU has led to joint investment in Kiritimati Island, and coordination support to outer island solar investments in Tuvalu.

This partnership on energy laid the groundwork for the 2016 Pacific Energy Summit and an expansion in 2016 to also develop partnerships in climate change and agriculture. The existing partnership with the European Union and New Zealand’s leadership in convening energy stakeholders represent a significant opportunity to improve donor coordination in these key sectors. Building on lessons from evaluations of fisheries support in the past (Sapere, 2013), partnerships in climate change and agriculture should be developed as holistic sector programmes with explicit links to regional support provided to SPC and SPREP.

Humanitarian assistance

Humanitarian assistance to the Pacific region is also a key pillar of MFAT’s Aid Programme (Table 5). For example, New Zealand provided NZD 4.7 million of immediate humanitarian assistance to Fiji following Tropical Cyclone Winston.

The New Zealand NGO Disaster Relief Forum is a coalition of New Zealand-based NGOs, including Christian World Service (CWS); Habitat for Humanity; Oxfam New Zealand; Rotary New Zealand; Salvation Army; Save the Children New Zealand; Tearfund; UNICEF New Zealand and World Vision. It is mobilised at the time of a disaster, to provide immediate and coordinated humanitarian support.

Evaluation of responses

Formal evaluations of New Zealand's recent support to climate change and DRM programmes have not been undertaken. Based on consultations with partners, New Zealand is recognised as a valuable partner in the climate change and DRM space, and one that others (in particular DFAT, European Union (EU) and Germany) are keen to develop stronger partnerships with going forward.

MFAT's expertise in energy, agriculture and fisheries is well regarded by its partners (SPC, UNDP, EU pers comm.). There are opportunities for integrating resilience into these existing MFAT programmes. Support provided through the New Zealand Red Cross to IFRC was also recognised by the IFRC as playing a crucial role in their ability to not only respond to disaster events, but to work increasingly on risk reduction, particularly in Kiribati and Tuvalu where they are starting a programme of institutional strengthening with the national societies.

Funding of experts to support institutional strengthening in the fisheries sector was recognised as critical as these positions support small island states such as Tuvalu to maximise their fisheries revenue (Sapere, 2013). This same study concluded that support provided to SPC and the Forum Fisheries Agency (FFA) for tuna management has assisted PICs to increase revenues from licensing arrangements. Support provided to SPC for tuna stock assessments provides important information for the Parties to the Nauru Agreement upon which to base their total quota decisions.

Coastal fisheries, which are critical for food security, have been recognised as a key gap. This fishery is expected to be severely affected by climate change impacts (Bell, 2011). MFAT have announced a new NZD 5m package of support for FFA and SPC, including work on coastal fisheries.

Some lessons have been learnt from New Zealand's humanitarian response to Tropical Cyclone Winston (NDRF, 2016). A review of the responses highlighted the importance of pre-positioned supplies, training and trust of local partners, opportunities to provide additional support to local government, and a review of emergency kits to better cater for the needs of people with disabilities.

New Zealand's investments in borrow pit rehabilitation in Tuvalu (Allen and Clarke, 2016) and land reclamation in Kiribati (Calibre Consulting, 2016) are considered to be prototypes of transformative change in resilient development to ensure habitability of atolls in the longer term.

Table 5

Summary of key government of key New Zealand's climate change and disaster risk management contributions 2008-2018

Development Agency	Main programmes	Implementing partners	Time-frame	Volume
MFAT	Fisheries information management system	FFA, SPC	2015-20	NZD 4.7M
MFAT	Fisheries Mekem Strong Solomon Islands Fisheries	Solomon Islands Ministry of Fisheries and Marine Resources (MFMR)	2010-14	NZD 8M
MFAT	Strengthening water security of vulnerable island states	SPC	2016-19	NZD 5M
MFAT	Ocean acidification	SPC, SPREP, USP	2015-18	NZD 1.8M
MFAT	Borrow pit rehabilitation	Tuvalu Government	2012-16	NZD 12.8M
MFAT	Feasibility assessment for land reclamation	Kiribati Government	2016	
MFAT	Kiribati water and sanitation	Kiribati Government	2011-14	NZD 7.95M
MFAT	Kiritimati Island – energy	Kiritimati Government, EU	2013-18	NZD 11M
MFAT	Pacific Access Category			
MFAT	NGO Disaster Relief Forum		2014-18	
MFAT		New Zealand Red Cross		
MFAT	Early warning systems and awareness raising	NDMOs (Samoa, Tonga, Cooks, Tokelau)		
MFAT	PFTAC (IMF)		2015-2019	NZD 1.8M / year
MFAT	Pacific partnerships programme		2015-2019	NZD 4.4M
MFAT	MFAT also contributes to regional agencies (SPC, SPREP, PIFS, FFA, USP) and multilateral funds (GEF, GCF, World Bank, ADB) 2015-2019			

The European Union

The main development funding mechanism for the EU is the European Development Fund (EDF), in addition to some, albeit relatively small project funding provided through GIZ & ECHO. The EU uses existing bilateral and multilateral delivery channels as well as reinforcing existing initiatives to channel climate change support.

EU engagement in the Pacific has increased significantly over the past decade, with total EDF-9 (2002-07) allocations (regional and bilateral) of EUR 295 million increasing to total EDF-10 (2008-13) allocations of EUR 461 million (EU, 2014). EDF programming for the 11th round is currently ongoing.

There are three components to European Development Funds in the Pacific. EDF resources are allocated through various channels:

- Intra-ACP (with Pacific Ambassadors in Brussels as main focal points)
- Regional (through PIFS as the Regional Authorising Officer)
- National / Bilateral (through national governments)

Climate change activities and DRM related programmes may be financed within each of these areas of funding. For example, sustainable energy priorities have been identified by 50% of the countries in the Pacific for national EDF allocations.

Following initial programming of regional EDF-10 allocations, remaining funds in 2013 were assigned to climate change and sustainable energy through the Adapting to Climate Change and Sustainable Energy (ACSE) programme, implemented by GIZ to manage a financing facility (EUR 18.64 million) and to SPC/USP (EUR 6.1M).

Funding is also programmed through the European Commission's Humanitarian Aid and Civil Protection Department (ECHO). Their Asia-Pacific office is based in Bangkok. This can limit regular communication between ECHO and Pacific stakeholders (see Table 6).

EDF-11 (2014-2020) programming is currently underway, with regional programmes (EUR 166 million) targeting three key priority areas including economic integration, sustainable management of natural resources and the environment, and inclusive and accountable governance (EU, 2014).

For the period 2014-2020, the European Commission plans to increase to at least 20% the proportion of the EU budget related to climate action mainstreaming and the transition to a low-carbon and climate-resilient society. As part of this process the EU has committed to mainstreaming climate change across its whole development agenda.

The SPC implemented (and EU funded) Global Climate Change Alliance (SPC-GCCA) (2007-14) was established to strengthen cooperation with vulnerable countries, particularly Least Developed Countries (LDCs) and SIDS, and to support the implementation of adaptation actions on the ground. The Alliance spans all three EDF channels (Intra-ACP, Regional and Bilateral Programmes). GCCA interventions have included targeted adaptation actions and mainstreaming initiatives. For example, national budget support related to water is being provided to Samoa as part of the GCCA.

The GCCA+ (2014-2020) has two pillars – a platform for dialogue and cooperation – and technical and financial support. The priorities of the GCCA+ technical and financial support are:

- Climate change mainstreaming and poverty reduction;
- Increasing resilience to climate-related stresses and shocks;
- Sector-based climate change adaptation and mitigation strategies.

In the Pacific, GCCA and GCCA+ have supported national and regional initiatives. Regional programmes include those provided to USP for climate change post-graduate curricula development, scholarships and applied research and to SPC and SPREP. They worked jointly to implement a project supporting nine small island developing states with country-identified proposals. Within this programme climate finance readiness and support for improved information and knowledge management are also supported (pers. comm. EU).

Within the DRM area, the EU supports the SPC implemented Building Resilience and Safety in the Pacific (SPC-BRSP) project (Euro 19.4 million). This works with national disaster management officers (NDMOs) and other key stakeholders to strengthen policy, legislative and operational aspects of DRM.

Evaluation of responses

The EU is a significant development partner in the region. When contributions from its member states are also accounted for, it represents the largest donor in the region after Australia.

Climate change is recognised as a key policy priority for the region, and for the EU. Political support for climate change has generally been more consistent among the EU and its member states relative to other key donors in the region, including Australia, New Zealand and the United States. To this end, the 2012 EU Communication, 'Towards a renewed development partnership with the Pacific region', stressed the importance of integrating climate change within the broader development agenda and emphasised the need for improved management of funding as well as the promotion of low carbon development.

The present round of regional support (as expressed through the 11th European Development Fund) does not specify climate change or risk reduction as a priority per se. Rather incorporates it to the key outcome areas of regional economic integration, sustainable management of natural resource and improved governance (see Box B).

By its own admission, the European Union procedures are known to be bureaucratic and burdensome (pers. comm. EU). In line with aid effectiveness commitments, the policy goal of the EU is to support countries to become eligible for budget support, including finance to strengthen resilient development outcomes. In Samoa, for example, GCCA funding was added to existing budget support provided to the water sector. CCA and DRR measures were added to that framework, reducing transaction costs and monitoring and reporting burdens for the country. This is also in line with promoting a “development first” approach as it enables resilience principles to be integrated within existing sectoral programming, and use national institutional systems for channelling funds.

The EU has promoted collaboration with the Council of Regional Organisations in the Pacific (CROP) through active efforts to programme projects that include multiple CROP agency partners (e.g. SPC/USP ACSE Pacific Technical and Vocational Education and Training, SPREP/SPC - GCCA-PSIS). Formal mechanisms within SPC and among CROP agencies to improve coordination, such as the Working Arm on Resilient Development (WARD), have been established (PREA, 2016). Additionally, the EU has also changed its approach to how funds are disbursed through the EDF, requiring CROP agencies to submit large joint programmes of work rather than smaller competitive bids.

Box B

EU-PIFS Regional Indicative Framework

Priority area 1: Regional Economic Integration

Specific objective 1.1: Strengthening the regional trade and business enabling environment

Specific objective 1.2: Increased participation of the private sector in economic integration

Priority area 2: Sustainable Management of Natural Resources and the Environment and the Management of Waste

Specific objective 2.1: Improved economic, social and environmental benefits from sustainable management of oceanic and coastal natural resources with due regard for the conservation of native biodiversity and climate change adaptation requirements.

Specific objective 2.2: Improved economic, social and environmental benefits from sustainable management of waste with due regard for the conservation of native biodiversity and climate change adaptation requirements.

Priority area 3: Inclusive and Accountable Governance and the respect for Human Rights

Specific objective 3.1: Transparent and Effective Policies and Public Finance Management, Data and Statistics.

Specific objective 3.2: Promote and protect Human Rights for all and Progress in Gender equality and civil society engagement in governance practices.

Specific objective 3.3: Strengthening of Regional Organisations in relation to 11th EDF implementation.

These efforts have gone some way to enhance inter-CROP coordination and collaboration. But EU-supported projects have also contributed to confusion as to roles and responsibilities at the regional level. For example, the USP-GCCA project involved applied research at the community level. In practice this resulted in many community-based adaptation projects led by USP. A network of these communities was created (the Local Community-Based Climate Change Adaptation Network), partially modelled on the Fiji Locally Managed Marine Area Network. However, the network does not seem particularly well integrated into other efforts to support community-based adaptation, particularly those led by NGO partners such as Oxfam, Save the Children and Live and Learn.

A recent evaluation of the GCCA-PSIS (PREA, 2016) gave the project positive ratings across all evaluation criteria. The project resulted in high levels of ownership and high staff retention at country level. A solid understanding of the context, ensured by

conducting research at the outset, and flexibility and adaptive management in programme implementation, contributed to the ability of the project to meet its objectives, despite delays in project design and procurement. The use of Ministries of Finance for channelling funding contributed to ownership, and built capacity to manage climate finance.

The EU is currently the only partner supporting the scholarship programme for the post-graduate climate change course at USP.¹⁶ Graduates of this programme tend to secure employment within their governments or development agencies, working on climate change. As such, the course builds long-term capacity in the region.

The EU has a strong history of supporting the energy and fisheries sectors in the region. These are also crucial flagship sectors for MFAT. Strong and active partnerships in the energy sector are highly valued by the EU, and are seen as providing a recognised foundation for further work.

The EU's investment in sourcing environmentally sustainable aggregate for Tarawa is considered to be a prototype of the transformative change in resilient development to ensure habitability of atolls in the longer term.

The EU promotes regional coordination and cooperation through the Regional Steering Committee for the Pacific. The Committee brings together high-level representatives from 15 PICs, regional organisations and overseas countries and territories. It is co-chaired by the European Union and PIFS. The Committee provides strategic guidance to ensure that the Euro 166 million allocated under the EDF 11 cycle responds effectively to the challenges faced by the people of the Pacific, with an emphasis on coherence of regional support with national programmes. It also provides an opportunity for open and frank discussions between all stakeholders on opportunities as well as issues and challenges with regard to Pacific's regional programmes under the EDF 11. Examples of the consortia established under the Committee are:

- Regional Economic Integration (Trade Integration & Private Sector), led by PIFS and SPC);
- Fisheries and Marine Coastal Ecosystem led by FFA;
- Waste Management led by SPREP;
- Public Financial Management, Data and Statistics led by PIFS; and
- Human Rights, Gender and Civil Society Engagement led by SPC.

¹⁶ The Government of Australia also contributed to the establishment and scholarships of the course when it was first established.

Table 6

Summary of the EU's climate change and disaster risk management contributions 2008-2018

Development Agency	Main programmes	Implementing partners	Time-frame	Volume	Process to define priorities
European Union - EDF					
Intra-ACP	BSRP	SPC	2013-17	EUR 19.4M	National planning processes, strengthened institutions and facilities
EDF-10	ACSE	GIZ	2014-18	EUR 18.6M	Project proposals from countries
EDF-10	ACSE - TVET	SPC/USP	2014-18	EUR 6M	Steering Committee
GCCA	PNG – REDD	PNG Government	2013-17	EUR8m (GCCA: 6M, UN-REDD 2M)	Steering Committee
GCCA	Samoa – Water and Sanitation	Samoa National Government	2012-15	EUR 3M	Sector plan through budget support
GCCA	Solomon Islands	Solomon Islands national government	2011-14	EUR 2.8M	Steering Committee
GCCA	Vanuatu – institutional strengthening	Vanuatu Government	2010-14	EUR 5.7M (GCCA EUR 3.2M, WB 2.5M)	Steering Committee
GCCA	GCCA-PSIS	SPC	2011-16	EUR 11.4M	Steering Committee
GCCA	GCCA	USP	2011-16	EUR 9.9M (GGCA+GCCA +)	Steering Committee
	Environmentally Sustainable Aggregate for Tarawa	Kiribati Government, SPC			
	Pacific Climate Change and Migration Project	UNESCAP	2013-2016	EUR 2.1M	
ECHO ¹⁷	Vanuatu – Cyclone Pam		2015	EUR 750,000	
	Fiji – TC Winston		2016	EUR 1M	
	PNG – sexual and gender based violence		2014-15	EUR 1.5M	
	PNG – El Nino		2016	EUR 1.26M	
	Solomon Islands		2014	EUR 238,000	
	DRR funding		2015-16	EUR 2.5M	
European Development	Regional programmes	CROP agencies	2014-2020	EUR 166M	Consultations with NAOs based

¹⁷ http://ec.europa.eu/echo/files/aid/countries/factsheets/pacific_en.pdf

Fund-11					on existing strategy documents
	National programmes	National Authorising Offices (NAO) - Government			Consultations with NAOs based on existing strategy documents
	Contribution to GFDRR		2006-15	EUR 133.5M (Global and excluding member state contributions)	Project proposals to GFDRR
	Contributions to multilateral mechanisms	The European Union and its member states contribute to various global and multilateral mechanisms including the GCF, GFDRR, CIF, GEF, WB			

Key lessons for MFAT:

- Through its development assistance, MFAT should seek to build and strengthen networks among CROP agencies. Care should be taken not to contribute to increasing competition for funding. Lessons from previous experiences (e.g. with the PACC programme) should be taken into account. For example, providing resources to SPREP to seek funding for GCF programmes in sectors of relevance to SPC without their formal involvement can both weaken the technical expertise involved in project development and increase tensions between agencies. Similarly, failing to provide an institutional role for SPREP in projects that involve the meteorological services (such as the ‘Strengthening water security in vulnerable atoll island states’ project) can have a similar effect.
- Partnerships with other development partners can assist in leveraging funding, improving coordination, reducing the burden on small government bureaucracies and making use of each other’s respective comparative advantages. For example, MFAT’s flexible procedures make it an attractive partner to larger donors interested in combining funding for infrastructure, with more adaptive approaches to strengthen governance arrangements necessary for promoting sustainability and ownership.

Government of Germany

The German Government’s financial commitments to the region have grown significantly over the last eight years, from a relatively small discrete forestry project, to a portfolio of EUR 80million (Table 8). Currently, Germany’s main financial commitments in the region relate to the regional SPC/GIZ Coping with Climate Change in the Pacific Island Region (CCPIR) (2009-2018, approximately EUR 23.2 million), the management of the EU-GIZ Adapting to Climate Change and Sustainable Energy (ACSE, 2014-2018 EUR 18.6 million), a regional REDD+ Programme (EUR 3.5 million) and a regional marine spatial planning and conservation programme (MACBIO EUR 8.1m).

Germany also announced in June 2016 a USD 15 million contribution to the Trust Fund for the Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI). The Fund was proposed in 2015 at the Forum Economic Ministers Meeting, to accompany the conversion of the Pacific Catastrophe Risk Insurance Pilot to an independent entity (Box C).

Box C

Pacific Catastrophe Risk Insurance Pilot (PCRIP)

The Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI) is a comprehensive programme on disaster risk management and climate change adaptation in the Pacific (World Bank, 2015). The Pacific Catastrophe Risk Insurance Pilot (PCRIP) is an application of the PCRAFI which trials the suitability of market-based sovereign catastrophe risk insurance solutions.

The PCRIP presently provides national coverage for members for earthquake and associated hazards, such as tsunami, and tropical cyclones and associated hazards, such as flooding. The funds issued from the insurance facility are intended to provide instant liquidity to member states following an event, to support governments to resume operations, for example, by covering overtime for staff involved in clean-up or humanitarian assistance, or covering additional fuel costs to access outer islands. Funds disbursed under the scheme are not intended to recoup the costs of damage from a disaster.

The SPC / GIZ Coping with Climate Change in the Pacific Island Region (CCCPIR) worked across twelve countries (2009-2015), and with several CROP agencies (SPC, SPREP, PIFS, USP). Originally due to conclude in 2015, it was extended, albeit with a reduced level of support and a reduction to six countries from 2015 onwards (PNG, Fiji, Vanuatu, Solomon Islands, Samoa and Kiribati). Support is tailored to country needs, resulting in a variety of different interventions.

Key achievements of the programme include:

- supporting the Fiji Government to leverage a USD 3.8 million project from the Forest Carbon Partnership Facility;
- supporting the Choiseul Provincial Government in the Solomon Islands to establish and implement the multi-partner Choiseul Integrated Climate Change Adaptation Programme;
- supporting the Government of Kiribati and Abaiang Island Council to establish a multi-partner Whole-of-Island programme;
- supporting various countries to strengthen their governance arrangements (Vanuatu's National Advisory Board, Kiribati's National Expert Group, Fiji's REDD+ working group) and policy frameworks (Nauru, Palau, Vanuatu, Kiribati, Tonga).

Community-level interventions include increasing diversity of cropping systems, coral replanting, promoting ecosystem-based approaches to fisheries management and the installation of solar systems on small tourism bungalows. This diversity and flexibility in approaches and activities, based on partner requests, confirms that the programme has been responsive to needs (GIZ, 2015).

One component of the CCCPIR focuses on mainstreaming the management of climate change and disaster risks within student curriculum for primary and secondary schools. The component takes as its entry point the current stage of curriculum development by Ministries of Education, and identifies how CCCPIR can best support the curriculum development process, and integrate climate change and disaster risk management as part of existing curriculum review processes.

A regional component of the programme supported preparation of the Pacific Gender and Climate Change Toolkit. This assists practitioners to integrate gender considerations in their programmes. The component also supported the development of, and provides ongoing support to, the Pacific Climate Change Portal hosted by SPREP.

GIZ also implements part of the EU-ACSE Programme (see European Union above). This programme essentially acts as a small financing facility to which countries can submit initial concept notes and subsequent project design documents. Approved projects are being implemented across a number of sectors, including energy, water, agriculture, governance, and climate finance.

In addition to its ongoing CCCPIR and ACSE work, Germany also contributes to several multilateral funds. These include the GCF and the World Bank's Climate Investment Fund (CIF).

Evaluation of responses

The Government of Germany does not have a diplomatic presence in the region. This absence can generate confusion among partners and countries around the status of GIZ, which is a German Government owned implementation agency. In October 2016 GIZ was approved by the GCF Board as an Accredited Entity. The German Government, through its Ministry of Economic Cooperation and Development and its Ministry of Environment also supports projects implemented by a wide range of partners in the region including SPREP, IUCN and TNC.

GIZ is recognised for contributing actively to developing partnerships with other development partners and implementation agencies and has supported many multi-partner efforts such as the Solomon Islands-led Choiseul Integrated Climate Change Adaptation Programme and the Kiribati-led Whole-of-Island Approach (GIZ, 2015). CCCPIR has supported a wide range of activities across the region relating to mainstreaming and implementation. A flexible approach to programme design has enabled GIZ to respond quickly to gaps and opportunities as they arise, but this can also lead to criticism that the programme lacks in strategic direction and cohesiveness.

Tools developed by CCCPIR have been used and institutionalised by CCCPIR's main partners. Tools include the Pacific Gender and Climate Change toolkit and the Integrated Vulnerability Assessment (IVA) framework. The Pacific Climate Change Portal, designed to facilitate information sharing, focussed mainly on the portal design rather than in engaging users and generators of information in order to understand the barriers to sharing information (pers. comm. GIZ). As such, it remains an underutilised resource, despite its considerable potential for information sharing, and underpinning of planning etc. GIZ has contracted a seconded development worker to support the portal management team at SPREP.

At the national level GIZ has contributed to several institutional strengthening initiatives such as contributing to the establishment of the Vanuatu National Advisory Board and information portal (nab.vu), the REDD+ Steering Committee in Fiji and the Kiribati National Expert Group on climate change and disaster risk management. These processes required significant time engagement, with relatively limited resources, from technical advisers within the team.

The education component, by working through the Ministries of Education and their existing curriculum review processes, is expected to have long-term impacts beyond the lifetime of the programme (GIZ, 2015).

As documented in the CCCPIR evaluation (GIZ, 2015), measuring the impact of the programme is hindered by the lack of baseline assessment or sufficient analysis of pilot measures. Insufficient attention has been given to learning and upscaling within the programme.

The German Government has a long-standing partnership with PICs forestry departments and is a key partner for progressing efforts for REDD+ readiness. Other key initiatives have related to ecosystem based adaptation including support for mangrove conservation, ecosystem based valuation and planning and marine spatial planning.

Table 8

Summary of Government of Germany's climate change and disaster risk management contributions 2008-2018

Development Agency	Main programmes	Implementing partners	Time-frame	Volume	Process to define priorities
Germany - BMZ	CCCPIR	GIZ, SPC, SPREP, USP, PIFS	2009-18	EUR 23.2M	National planning processes, national and regional steering committees
EDF-10	ACSE	GIZ	2014-18	EUR 18.6M	Project proposals from countries
Germany – BMZ / KfW	Cyclone Pam Response	SPC, Vanuatu, Solomon Islands, Kiribati, Tuvalu	2015-18	EUR 6M	
Germany – BMZ	Food and water security	PNG	2015-18	EUR 0.5M	
Germany – BMU	Marine and coastal biodiversity management in Pacific Island Countries (MACBIO)	GIZ, IUCN SPREP, Fiji, Kiribati, Solomon Islands, Tonga, Vanuatu	2013-18	EUR 8.1M	Appraisal mission
Germany – BMUB IKI	Pacific Ecosystem-based Adaptation to Climate Change (PEBACC)	SPREP, Fiji, Solomon Islands, Vanuatu	2015-2019	EUR 4.95M	Project proposal from SPREP
Germany – BMUB IKI	Building the Resilience of Communities and their Ecosystems to the Impacts of Climate Change in Micronesia and Melanesia	TNC, FSM, RMI, Palau, PNG	2014-2018	EUR 3.9M	Project proposal from TNC
Germany – BMUB	REDD+	SPC, Melanesian countries	2015-18	EUR 3.5M	Appraisal mission
Germany	InsuResilience – G7 PCRAFI Trust	WB, PIFS, SPC	2016-2020	EUR 15M	G7 commitment

	Fund				
Germany	Global Programme on Risk Assessment and Management for Adaptation to Climate Change (Loss and damage)	GIZ	2013-19	EUR 0.5M (Pacific)	
Germany	Germany also contributes to various multilateral mechanisms including the GCF, GEF, CIF and the WB				

Key lessons for MFAT:

- Flexibility in programming can support adaptive management and responsiveness to emerging needs.
- The absence of baseline information can hinder the evaluation of impacts created by interventions.
- Continuous evaluation of approaches used during the course of implementation is essential to promoting broader learning nationally and regionally. This is essential for wider adoption of good approaches and ensuring mistakes are not repeated.
- Working within existing development planning processes (such as curricula review processes) can promote country ownership and effect long lasting changes.
- Institutional and governance strengthening is not resource intensive but does require significant time investment and is vital for improving coordination and promoting a broader and more inclusive approach to resilient development.

Government of the United States

In 2012 the United States re-emerged as a donor of importance to the Pacific, including in the climate change and disaster risk management area. Its initial funding support (2012-16) was channelled through two large contracted programmes (Table 9). These were the USAID-Adapt programme, which is managed by AECOM and based in Bangkok, and the Coastal Community Adaptation Project (CCAP), which is managed by Development Alternatives International and hosted by USP. USAID-Adapt focussed on support to governments with climate finance readiness and proposal development, while CCAP focussed on the community level, supporting communities to implement key infrastructure projects and disaster risk reduction measures.

In addition, a food security project was channelled through SPC¹⁸, a water security project through SPREP and a number of grants provided to GIZ, UNOCHA and UNICEF (see Table 9).

The Pacific-American Climate Fund (2013-2017) is a facility managed by Partners for Global Research and Development in Suva. The Fund supports civil society and non-governmental organisations with small grants. They have contracted two cycles of funding, and are in the process of contracting cycle three.

The United States' disaster preparedness and humanitarian responses focus primarily, although not exclusively, on the Northern Pacific. Much of this is channelled through the

¹⁸ Vegetation and land cover mapping and improving food security towards building resilience to a changing climate project

International Office of Migration and its large Northern Pacific programme, the US Peace Corps, and the IFRC which works with local Red Cross societies. Funding is also provided to the French Red Cross and to Care, for work in the Solomon Islands and Vanuatu.

In 2016, a large USD 25 million programme (Climate READY) was tendered for contract by USAID. It focuses on climate-finance readiness and policy and institutional strengthening. The programme will be managed by AECOM and is expected to commence in 2017. A smaller USD 5 million programme, Institutional Strengthening for Adaptation to Climate Change (ISACC), commenced in 2016. It also has a similar focus on institutional strengthening. ISACC is managed by SPC, in partnership with PIFS and SPREP.

The United States has pledged the largest financial contribution to the Green Climate Fund (\$3bn).

The future involvement of the United States in climate change and related programming in the South Pacific is somewhat uncertain given the outcome of the recent US elections.

Evaluation of responses

Since the United States has only recently re-engaged in the Pacific, few formal evaluations relating to their support have been conducted. However, the mid-term evaluation of the USAID-Adapt programme (ICF International, 2014) highlighted a number of weaknesses in the approach. According to the review, being based in Bangkok restricted the Adapt programme's ability to meaningfully engage with partners in the Pacific. It largely focussed on strengthening climate finance readiness and provided useful backstopping to PIFS. This included contracting public financial management specialists to support climate finance assessments, and supporting countries particularly around proposal development. The review concluded that a greater focus on capacity building as part of the terms of reference for project proposal specialists may have helped to enhance knowledge transfer and uptake.

Additionally, USAID used the Asia-Pacific Adaptation Network (APAN) as its main knowledge sharing and learning tool. However, APAN has limited visibility in the Pacific. As such, the use of APAN as a platform for information and knowledge dissemination and for a discussion fora largely duplicated existing Pacific-based knowledge sharing and learning efforts, such as the Pacific Climate Change Portal and the Pacific Solution Exchange. APAN may, nevertheless, have facilitated some knowledge exchange between Asia and the Pacific.

Annual fora on climate finance arranged by USAID-Adapt were well organised and helped to bring partners and countries together to discuss key issues. Nevertheless, their effectiveness was constrained by the absence of a longer-term capacity building strategy for the events. The evaluation noted that the absence of a clear statement of purpose for the capacity building elements of the programme limited the scope for longer-term impacts or opportunities to link capacity building efforts to project-generated experience including USAID-Adapt Asia-Pacific's project preparation efforts. In the Pacific the project failed to find an institutional partner needed for sustainability (ICF International, 2014).

In its original design the CCAP programme ambitiously aimed to work in hundreds of communities across the Pacific, but scaled this down considerably to focus on around 70

communities. This is still a large number of communities to support sustainably, given the importance of establishing trust, relationships and understanding the governance structures capable of sustaining interventions. It has supported a variety of coastal and climate-relevant infrastructure improvements across the region.

A stronger partnership between the USAID-Adapt programme's capacity building elements and the CCAP programme could have supported both addressing the national – local disconnects identified by Manley et al. (2016), and institutionalising capacity building elements of the programme (ICF International, 2014).

Table 9

Summary of Government of the United States' climate change and disaster risk management contributions 2008-2018

Development Agency	Main programmes	Implementing partners	Time-frame	Volume (USD)	Process to define priorities
USAID	Asia Climate Change Adaptation Support Facility (ADAPT Asia-Pacific)	AECOM	2011-2016	\$3.25M (for Pacific)	
USAID	Coastal Community Adaptation Project	DAI, USP	2012-2016	\$18M	Community infrastructure prioritisation index
USAID		NOAA Pacific Climate Services			
USAID	Pacific-American Climate Fund (PACAM)		2013-2018	\$24M	Call for proposals from CSO via funding cycles
USAID	Choiseul Integrated Climate Change Programme (CHICHAP) – co-financing with Germany	GIZ, MECCDMM, MDPAC	2014-2017	\$1M	CHICCAP workplan committees
USAID	Solid water Kiribati (with NZ)		2015-		
USAID	U.S. Peace Corps Small Project Assistance (for CC/DRM)	US Peace Corps	2012-2020	\$3.09M	Project proposals
USAID	Vegetation and land use cover mapping – food security	SPC	2012-2014	\$4M	Regional and national steering committees?
USAID	Institutional Strengthening in Pacific Island countries to Adapt to Climate Change (ISACC)	SPC	2015-2020	\$5M	Regional and national steering committees?
USAID	Climate Ready	AECOM	2017-2021	\$25M	TBD

USAID	Disaster Preparedness for Effective Response (PREPARE) – FSM and RMI	International Organisation for Migration (IOM)	2013-18	\$67M	
USAID	U.S. Peace Corps Super Typhoon Maysek Housing, Reconstruction, Repair and Community Resiliency Project	US Peace Corps	2015-2016	\$0.3M	
USAID	Enhancing Humanitarian Coordination in the Pacific	OCHA	2013-2016	\$0.95M	
USAID	Supporting UNICEF Emergency Capacity and Preparedness	UNICEF	2013-2015	\$0.67M	
	Enhancing Disaster Management Capacity in the Federated States of Micronesia, Palau, and Republic of Marshall Islands, an on-going USAID/OFDA activity 08/01/2013 – 07/31/2016	IFRC- PRCS, MRCS, RMI	2013-16	\$0.8M	
	Micronesia Community Resilience And Capacity Development Project	American Red Cross	2016	\$1.5M	Hazard Vulnerability and Capacity Assessments and develop community action plans
	El Nino Drought Food Insecurity Monitoring, Preparedness and Support in Micronesia and Melanesia	American Red Cross	2016	\$0.5M	
	Building Resilient Communities in Fiji (BRCF)	IFRC / Fiji Red Cross	2016-2018	\$1.28M	
	Capacity Building in Palau	IOM	2014-2016	\$0.28M	
	Building Community Resilience - PNG	IOM	2013-2017	\$4.74M	
	Supporting Community Planning: Solomon Islands	French Red Cross	2015-2018	\$1.5M	Vulnerability and capacity assessments, and DRR action plans
	Community Disaster	Act for Peace	2013-2016	\$1.5M	From JNAP

	Risk Management - Tonga				
	Community Planning to Mitigate the Impact of Disasters - Vanuatu	French Red Cross	2015-2018	\$1.75M	
	PREVENT: Preparedness and Response for the most Vulnerable communities to El Nino in Tafeas, Vanuatu	CARE	2016-2017	\$1M	

Key lessons for MFAT:

- An in-country presence is important for promoting ownership and developing relationships. It is difficult to coordinate with other partners or with programmes funded by the same agency in the absence of staff on the ground.
- Ensuring coherence between different programmes can help to reinforce the effectiveness of each. For example, promoting links between capacity building elements of programmes can promote wider learning.

Government of Japan

In its support to the Pacific, the Government of Japan places significant emphasis on climate change and disaster risk reduction, preparedness and infrastructure development, including renewable energy (JICA, 2015 and Table 10). Aid commitments are usually announced through the Pacific Leaders Meeting (PALM), first held in 1997 and every three years thereafter.

The priority areas of cooperation and assistance declared in the Fukushima Iwaki Declaration at the PALM 7 were; a) disaster risk reduction, b) climate change, c) environment, d) personal exchange, e) sustainable development, f) ocean and fishery, and, g) trade, investment and tourism.

In 2009 Japan pledged USD 66 million for solar energy and solar desalinisation, through the Pacific Environment Community Fund. The Fund is managed by PIFS, with a technical working group to assess proposals submitted to the Fund. Countries received around USD 4 million to progress priorities in this area.¹⁹

The Government of Japan has been a long-time supporter of early warning systems in the region. They have also provided support to the Regional Specialised Meteorological Centre in Nadi, Fiji, including flood warning systems. Japan is currently supporting Vanuatu to strengthen its tsunami warning systems, through a World Bank project (DFAT, 2016).

Japan provides significant assistance to infrastructure development (ports, bridges) and JICA are a part of the Pacific Region Infrastructure Facility. Ensuring that past investments in infrastructure are resilient to the increasing intensity of natural hazards is a future priority of its assistance. Waste management is also a key priority for support.

¹⁹ <http://www.forumsec.org/pages.cfm/strategic-partnerships-coordination/pacific-environment-community-pec-fund.html>

Technical assistance through the deployment of Japanese experts is common to support the management of Japan-funded initiatives.

Japan provided significant assistance to support the Pacific Catastrophe Risk Insurance Pilot (see Box C). Japan funded the cost of all member premiums in Year 1, and the vast majority of member premiums thereafter²⁰. In 2014 Japan committed to building a climate change centre at SPREP. This will host a range of experts working on climate change and who are keen to undertake joint research. Japan has also pledged the second highest amount (USD 1.5 billion) to the GCF.

Evaluation of responses

Japan has a wealth of experience in managing risk domestically, and has played an active part in sharing this experience with PICs. The assistance provided tends to involve large flagship programmes, such as the Pacific Environment Community Fund, the Pacific Catastrophe Risk Insurance Pilot insurance premiums, and support for the Pacific Climate Change Centre at SPREP.

An evaluation of Japan's assistance to the Pacific conducted in 2015 (MOFA, 2016) concluded that assistance provided was in line with PIC priorities, though it was recognised that internal processes for approval of aid programmes are relatively lengthy.

The evaluation recognised that local sourcing for infrastructure programmes was an important factor in ongoing maintenance of Japan funded investments. This has been an issue in the past where Japanese technology has been used, and parts for maintenance and repair have not been readily available.

The evaluation also reported a relatively weak overall rating for Japan's donor coordination. The funding being provided for the Pacific Climate Change Centre is an opportunity to enhance coordination of initiatives, but it is unclear to what extent meaningful dialogue on the role of the centre is being conducted with other donors and stakeholders.

Key lessons for MFAT:

- Donor coordination and transparency are important for maximising collaboration opportunities and coherence among partners. MFAT should engage with Japan to better understand the arrangements and objectives of the proposed climate change centre; and
- Local sourcing of materials is important to facilitate maintenance, local economic development and ongoing sustainability of infrastructure investments.

²⁰ The exception is Cook Islands which – not being a member of the World Bank – pays 100 per cent of its premiums.

Table 10

Summary of Government of Japan's climate change and disaster risk management contributions 2008-2018

Development Agency	Main programmes	Implementing partners	Time-frame	Volume (USD)	Process to define priorities
Japan	Pacific Environment Community Fund (solar energy and desalinisation projects)	PIFS	2010-2014	\$66M	Country application process
Japan	Contribution to PCRAFI insurance premiums	WB, GFDRR, SPC	2012-2015	Confidential	
Japan	Fiji - EWS for cyclones, tsunami, earthquakes	JICA, WB	2011-13	2.78M	Country assistance policy/ Rolling plan
Japan	Vanuatu – Managing Disaster Risk Reduction Project	JICA, WB		2.78M	
Japan	Construction of Climate Change Centre	SPREP	2017- tbc	N/A	PALM meeting 7
Japan	Japan also contributes to the GCF, GFDRR, WB, ADB and other multilateral mechanisms				

2.2 Council of Regional Organisations in the Pacific

At present there are nine CROP agencies in the Pacific (Box D):

- The Pacific Islands Forum (PIF)
- The Pacific Community (SPC)
- The Forum Fisheries Agency (FFA)
- The Secretariat of the Pacific Regional Environment Programme (SPREP)
- The University of the South Pacific (USP)
- The Pacific Islands Development Programme (PIDP)
- The South Pacific Tourism Organisation (SPTO)
- The Pacific Power Association (PPA)
- The Pacific Aviation Safety Office (PASO)

In practice, and to varying degrees, all CROP agencies support the resilient development agenda and the implementation of the new Framework for Resilient Development in the Pacific (FRDP). A review of the annual reports of these CROP agencies suggests that those CROP agencies currently active in delivering responses to the various strategic climate change and disaster risk management issues identified in Manley et al. (2016) are: SPC, SPREP, PIFS, USP, FFA and PPA. Relevant aspects of their work is summarised in the following sections.

The Pacific Community (SPC)

SPC is the region's oldest and largest Pacific regional organisation, established in 1947 and now with over 600 staff across its campuses (Nouméa, Suva, Pohnpei, Honiara, Kiribati and Vanuatu). It provides technical and scientific support to its 22 PICT members. Much of SPC's technical assistance across its various divisions relates to resilience in some way – be that supporting the diversification of crops, gender equality, improving rain water harvesting or assessing forest cover change (SPC Strategic Plan, 2016-2020).

Box D

CROP coordination challenges

Tension between CROP agencies in terms of mandates is known to hinder effective collaboration and joint programming. The WARD – a subcommittee of the overall CROP Heads CEO Committee on climate change - has improved collaboration and joint programming. Several projects now include multiple CROP agencies (e.g. ISACC, GCCA, PREP) from the design phase. At the operational level staff collaborate effectively to jointly deliver support to countries, but at a political level competition for funding between the various CROP agencies is still evident (pers comm. GIZ). This is also partly compounded by the Government of Samoa's strong support of SPREP's lead on climate change issues (pers. comm. SPC).

MFAT should ensure that wherever possible its programming to regional agencies seeks to strengthen partnerships and coordination and does not exacerbate tensions. For example, as part of the programme on atoll water security, partnerships between SPC and SPREP could be strengthened around drought warnings.

Currently SPREP is the only GCF accredited entity among the CROP agencies, although SPC is in the process of seeking accreditation. In the interim SPREP should therefore be supported to identify partnership approaches to accessing regional funding. This will set an example for when other CROP agencies are accredited to the GCF.

Building on the lessons learnt from the PACC project, it is vital that CROP agencies collaborate on GCF proposals and ensure they are not duplicating efforts. This can be achieved by identifying specific roles for different institutions during the design stage.

Support for additional staff within CROP agencies, with a view to supporting countries access climate finance, should include a strong emphasis on CROP coordination, strengthening partnerships and joint-CROP project proposals.

SPC provides scientific and technical advice to support informed decision-making. Recent examples include a rainwater-harvesting model in Tuvalu, to demonstrate the effectiveness of increased storage, and modelling that assessed the risk of coastal inundation to the Bonriki water reserve in Kiribati.

Two landmark publications on climate change for the region – the Vulnerability of Pacific Fisheries to Climate Change (Bell et al., 2011) and the Vulnerability of Pacific

Agriculture and Forestry to Climate Change (Taylor et al. (2016) – were led by SPC researchers.

SPC manages climate change projects funded by Australia, New Zealand, EU, Germany and USAID. It is the main implementing partner of the SPC/GIZ Coping with Climate Change in the Pacific Island Region Programme and the REDD+ Programme (Table 11). SPC is sometimes called on to support the implementation of bilateral programmes where absorptive or technical capacity at the national level is weak. Recent examples of this are the support provided to the Government of Tuvalu to inform Government of Australia water tank distribution on Funafuti, and support to the Government of Kiribati for a water project on Kiritimati Island.

Many of SPC's sector programmes also have strong elements of climate and disaster risk management - for example, technical assistance in the area of water security and coastal zone management involves consideration of climate change and disaster risks. The Energy Programme of the Economic Development Division provides technical and policy advice to member countries in a wide range of areas, including energy efficiency, appliance labelling legislation, renewable energy options, economic assessments, gender and energy.

SPC carries the regional mandate to coordinate capacity building in disaster risk management. In this context it led preparation of the 2005 – 2015 Framework for Action for Disaster Risk Reduction and Disaster Management, as well as establishment of the Pacific Disaster Risk Management Platform and Pacific Disaster Risk Management Partnership. The latter is a network of national and international agencies supporting DRM. SPC manages the Pacific Disaster Net – a regional information and knowledge management hub. In collaboration with SPREP, PIFS, UNISDR and the USP, SPC coordinated preparation of the recently endorsed Framework for Resilient Development in the Pacific (FRDP). The Framework replaces the Framework for Action for Disaster Risk Reduction and Disaster Management as well as the Pacific Framework for Action on Climate Change.

As part of its technical service to the region, SPC designs and/or implements numerous projects related to risk reduction, including the EU Building Safe and Resilient Pacific (BSRP) project and the World Bank-funded Pacific Resilience Programme (PREP).

In support of both DRM and CCA, SPC provides technical backstopping for projects through data management (e.g., P-DaLo, Pacific Disaster Net, Pacific Risk Information System), technical expertise (e.g., GIS, wave modelling) as well as post disaster support (technical assessment, coordination, planning/management of post disaster needs assessments, training and capacity building). SPC is not a humanitarian agency, but it does, on request and in coordination with others, provide technical expertise and support to member countries to manage responses to a disaster (SPC, 2015). As an example, SPC sits on the water and sanitation cluster and food security cluster for some countries. It also coordinates the Pacific Island Emergency Management Alliance. This brings together fire, police and disaster response stakeholders.

SPC is currently applying for GCF accreditation.

Evaluation of responses

SPC should be well placed to offer technical support to countries given its wide range of expertise across sectors that are relevant for resilient development (e.g. water, energy,

coastal zone management, agriculture, health, fisheries) and its stated commitment to mainstream management of climate and disaster risks across all of its divisions. SPC's physical presence in multiple locations in the region and the fact that most of its staff are Pacific Islanders should also support its ability to deliver relevant technical assistance to its members.

However, efforts to mainstream CCA and DRR across the organisation itself have been challenging (SPC, 2013; SPC, 2014) and have been hampered by internal divisional rivalry and a resistance from some divisions to relinquish control of their ability to programme and fundraise independently.

Climate change related projects have had variable institutional support internally, as a result of the physically fragmented nature of the organisation (six sites) and changes to the management structure of the organisation. This has had real impacts on the ability of the organisation to provide quality technical assistance within its climate change projects.

Absence of joint programming by climate change personnel, by involving relevant technical divisions during the design stage of projects, meant that technical divisional staff were often not available to support implementation (PREA, 2016). This has limited the ability of the organisation to take advantage of one of its biggest strengths – the breadth and depth of technical expertise across multiple disciplines. This is a similar challenge to that prevailing at the national level – whereby line ministries resist the adoption of approaches that are perceived to be an added burden to their existing work. As such, SPC's efforts to advocate for whole-of-government approaches to resilient development nationally are hindered by their inability to do so internally.

Information about climate change activities within the organisation is scattered across multiple sections of the SPC website. Efforts to institutionalise climate change and DRM focal points across the organisation were largely unsuccessful (SPC, 2014), though discussions around challenges of working cross-sectorally may have fed into preparation of SPC's latest Strategic Plan. The Plan emphasises climate change as an area where cross-divisional working will be promoted. Current efforts to promote collaboration are focussing less on changing institutional structures, and more on encouraging collaboration across them. Managers of various climate change and DRM projects now meet regularly to facilitate collaboration.

Table 11

Summary of SPC's climate change and disaster risk management contributions 2008-2018

Development Agency	Main programmes	Implementing partners	Time-frame	Volume (USD)	Process to define priorities
Germany	CCCPIR	GIZ, SPC, SPREP, USP, PIFS	2009-18	EUR 23.2M	National planning processes, national and regional steering committees
Australia	ICCAI – support to the Centre for Pacific Crops and Trees (CePaCT) for climate	SPC	2010-2013		SPC/ LRD internal planning process

	resilient crops				
Australia	Support for adviser positions tasked with developing a coherent climate change programme across SPC	SPC	2010-2013		SPC internal planning process
Australia	ICCAI – Research on the vulnerability of Pacific fisheries to climate change	SPC	2010-2013		
USAID	Vegetation and land use cover mapping – food security	SPC	2012-2014	USD 4M	Regional and national steering committees
GCCA	GCCA-PSIS	SPC	2011-16	EUR 11.4M	Steering Committee, project design documents
EDF-10	ACSE - TVET	SPC/USP	2014-18	EUR 6M	Gap analysis, regional and national steering committees
EDF-10	BRSP	SPC	2013-18	EUR 19.4mM	National workplans
USAID	Institutional Strengthening in Pacific Island countries to Adapt to Climate Change (ISACC)	SPC	2015-2020	USD 5M	tbc
GFDRR	PCRAFI	SPC	2007-2016		
GFDRR	PREP	SPC/PIFS	2016-?		
Germany – BMZ / KfW	Cyclone Pam Response	SPC, Vanuatu, Solomon Islands, Kiribati, Tuvalu	2015-18	EUR 6M	
Germany – BMUB	REDD+	SPC, Melanesian countries	2015-18	EUR 3.5M	Appraisal mission
MFAT	Strengthening water security of vulnerable island states	SPC	2016-19	NZD 5M	
Global Environment Facility	Implementing Sustainable Water Resources and Wastewater Management in PICs (Pacific IWRM)	SPC	2008-2013	USD10.7M (regional)	Country strategy
	And Ridge to Reef	UNDP, SPC, National Governments	2016-2018	USD 91M (national programmes)	

Secretariat of the Pacific Regional Environment Programme (SPREP)

SPREP was established in 1978, with a focus on environment management. It has the overall lead on climate change in the region, reflecting the origin of climate change concerns globally as an environmental issue.

As the regional organisation with the mandate to coordinate capacity building in environmental management, SPREP also managed a number of the early adaptation projects in the region, and supported countries to prepare their first national communications to the United Nations Framework Convention on Climate Change (UNFCCC). Ultimately this led to preparation of the Pacific Island Framework for Action on Climate Change (PIFACC) (2005-2016) and, together with SPC and other partners, to preparation and subsequent endorsement of the new FRDP.

SPREP has four main programmes – climate change, biodiversity and ecosystem management, environmental monitoring and governance, and water management and pollution control. SPREP managed the regional Pacific Adaptation to Climate Change (PACC) programme from 2009 to 2013 (Table 12). It is accredited to the Adaptation Fund and the Green Climate Fund as a regional implementing entity. SPREP has an institutional partnership with the World Meteorology Organisation (WMO) and hosts the Pacific Meteorological Desk.

The Finish-Pacific Project (FINPAC), which is hosted by SPREP, focuses on linking national meteorological services with NGOs and partners working at the community level to improve the communication of weather and climate services and better target user needs.

SPREP coordinates regional support to member countries in their negotiation efforts at the UNFCCC. It also manages the Pacific Climate Change Portal (pacificclimatechange.net) and hosts the Regional Technical Support Mechanism (RTSM) Secretariat. The RTSM is a service designed to facilitate access to technical assistance in the region. SPREP is the focal institution for the implementation of the regional component of the Pilot Programme on Climate Resilience (PPCR), through the Asian Development Bank (ADB).

SPREP's biodiversity programme promotes ecosystem-based adaptation and a German-funded programme (through their International Climate Initiative) is working in Vanuatu, Solomon Islands and Fiji to strengthen capacity to value and promote ecosystem services as an adaptation option.

SPREP has historically organised a biannual Climate Change Roundtable. The FRDP advocates for streamlining regional meetings on climate change and disaster risk management as part of the Pacific Resilience Partnership. However, SPREP has previously expressed its intention to retain the Climate Change Roundtable.

Evaluation of responses

As the agency mandated to coordinate capacity building in climate change in the region, SPREP has struggled over the past few years to identify its niche as part of a world where “climate change is everyone’s business”. With its comparatively small size (approximately 100 staff for 26 members, compared to over 600 staff for SPC) and a

heavy policy and planning focus, SPREP has limited technical expertise to implement projects at the sector level.

Much of the early climate change financing made available by donors related to implementation of adaptation and mitigation projects. As such, SPREP's decision to design and implement technical-type projects may have been driven partly from budgetary necessities. The issue of budgetary resources (rather than member priorities) driving regional priorities is of course not only relevant to SPREP. However, the approach to become involved in climate change adaptation project implementation left the organisation's own capacity stretched, including struggling to deliver its coordination roles in relation to supporting UNFCCC processes, PIFACC monitoring and evaluation, and overall climate change coordination (pers. comm. GIZ). This is a similar situation to that at the national level, where the value of strong governance and coordination arrangements is not necessarily appreciated or adequately resourced.

The PACC project was the first regional project to commit substantial resources to addressing climate change impacts through tangible interventions on the ground. Limited capacity for managing projects, both within SPREP and at the national level, resulted in significant delays to project implementation and a confusion of roles between SPREP (implementing partner) and UNDP (implementing agency) (UNDP, 2015).

Demonstration activities in coastal zone management, food security or water security were identified for each country. These are all sectors where SPC delivered existing technical assistance to member countries. Whilst the project had the stated intention of working with SPC to provide the technical services to countries, formal and financial arrangements with SPC were not put in place. Rather, much of the assistance was delivered via consultancy services rather than linking with SPC to recruit additional staff to provide this support.

PACC was found to have supported implementation of key interventions at the community level, but with limited success in mainstreaming risk more broadly within government institutions. There was poor national ownership of the project in some countries, along with delays that will likely compromise the sustaining of project outcomes (UNDP, 2015).

SPREP's responsibility for regional coordination, through the Pacific Meteorological Desk and the Pacific Meteorological Council, has resulted in stronger relationships between Meteorological Services, and improved coordination (pers. comm. SPC). The FINPAC project has led to substantial collaboration between meteorological services and NGOs at the national level (pers. comm. Red Cross).

The Pacific Climate Change Portal (PCCP) is an initiative that all the Pacific's partners recognised to be important. However, its initial development failed to include sufficient engagement with users to better understand their information needs and with suppliers of information to understand how best to access their information easily (GIZ, 2015). Increased efforts within SPREP to support the small team that manage the portal would increase its usefulness to users (pers. comm. GIZ).

A regional advisory board for the portal was established, with representatives from CROP agencies, including SPC. Development of the climate change portal at a time when SPC had already established a major portal for DRM (Pacific Disaster Net), and when the Asia Pacific DRR project's portal was operational, has also led to some confusion as to where users should go for information. Significant effort was put into indexing all of the

Pacific Disaster Net and PCCP content to enable a regional search, but competition among SPC, SPREP and USP was apparent in the reluctance of SPREP to build on an existing platform and instead create a new platform from scratch (pers. comm. SPC). Increased coordination and collaboration between SPREP and SPC would have avoided such an outcome.

SPREP hosts long term consultants contracted by ADB to implement the Pilot Programme on Climate Resilience (Regional Track), to support both mainstreaming initiatives in Tuvalu and FSM as well as the Regional Technical Support Mechanism (RTSM). The programme was originally proposed as a coordinated project with a WB / SPC component. However, the SPC component was redesigned and amalgamated into the PREP, representing a missed opportunity to enhance partnerships and promote joint project activities and learning between the two agencies.

The RTSM has not had the desired impact of transforming the landscape of technical assistance in the region. Early design meetings discussed the intention for it to act as a clearing house for technical assistance, and to enable countries to access information on experts that are available to support the implementation of activities. However, there are few if any incentives to register as part of the RTSM. Experienced consultants working in the region are in demand and rarely need to advertise their services to find contracts. CROP agency staff, who were also asked to register, are usually too occupied with project implementation to contribute time to other activities.

Table 12

Summary of SPREP's climate change and disaster risk management contributions 2008-2018

Development Agency	Main programmes	Implementing partners	Time-frame	Volume (USD)	Process to define priorities
GEF, SCCF, Australia	PACC	SPREP/UNDP	2009-2014	USD 13.8M	
Germany	CCCPIR	GIZ, SPC, SPREP, USP, PIFS	2009-18	EUR 25M (Financing agreements focussing on the PCCP)	National planning processes, national and regional steering committees
Finland	FINPAC	SPREP, Red Cross, CSIRO, BoM, National Met Offices	2014-17	EUR 3.7M	
Australia	iCLIM	SPREP, Griffith University	2014-2018	AUD 1.5 + 1.5M	
Germany – BMUB IKI	Pacific Ecosystem-based Adaptation to Climate Change (PEBACC)	SPREP, Fiji, Solomon Islands, Vanuatu	2015-2019	EUR 4.95M	Project proposal from SPREP

Pacific Islands Forum Secretariat (PIFS)

The Pacific Islands Forum Secretariat (PIFS) plays a crucial role in progressing Pacific Leaders' decisions from their annual forum. As key priorities for Pacific Island Leaders and Forum Economic Ministers, climate change and DRM have been regular agenda items. PIFS leads on climate and disaster finance research, advice and coordination,

based on its role as convenor of the Forum Economic Ministers Meeting and its work on economic governance, aid coordination and development effectiveness. In addition, PIFS is now supporting the annual meetings of Forum Foreign Ministers, who are also heavily engaged on topics such as climate change, DRM and resilient development. This includes advocating that additional financing be made available to support relevant activities.

The Secretariat has a small number of staff working on these issues, reflecting its role as a facilitator and not an implementer. PIFS led preparation of the Pacific Climate Finance Assessment Framework, as well as publications outlining national experiences with different funding modalities (PIFS, 2012; PIFS, 2015). PIFS works closely with SPREP to provide support to countries on climate finance topics within UNFCCC processes. It has also worked closely with SPC to advance the topic of disaster risk financing, catastrophe insurance and regional risk management, and will host the project management unit for the World Bank Pacific Resilience Programme (PREP).

PIFS worked closely with the USAID-Adapt project to convene various workshops related to climate finance, and facilitated the inclusion of public financial management expertise within climate finance assessments.

The small team within PIFS is due to expand as a result of the commencement of a number of initiatives related to climate finance readiness and institutional strengthening. These will have members of staff based within PIFS. Initiatives include the USAID-funded ISACC project, the DFAT-GIZ climate finance project and the PREP.

PIFS was originally proposed as the secretariat for the Pacific Resilience Partnership – a possible successor to the Pacific Disaster Risk Management Partnership and the Pacific Climate Change Roundtable. PIFS will likely play a crucial role in progressing the operationalisation of the Pacific Resilience Partnership, following the endorsement of the FRDP in September, 2016.

Evaluation of responses

PIFS played a crucial role in supporting the mainstreaming of climate change and disaster risks as core development issues. It also plays a critical role in climate and disaster finance, by ensuring these issues remain high on the political agenda at meetings of Leaders and of Forum Economic and Foreign Ministers. PIFS supports countries to take a more systematic approach to analysing their own capacities for accessing and utilising climate finance. The Pacific Climate Change Financing Assessment Framework (PCCFAF), developed by PIFS, is a Pacific-specific tool to support national assessments of climate finance readiness. In practice, it has only been used twice (Nauru, RMI) in that form. Other climate finance and, more recently, risk governance assessments have been coordinated by UNDP, in partnership with PIFS. These have used an adapted version of the UNDP's Climate Public Expenditure and Institutional Review (CPEIR), in Samoa, Vanuatu and Fiji. A scoping mission to the Solomon Islands was held in September 2016, to commence a similar assessment there.

This informal partnership to support climate finance assessments, with PIFS and UNDP playing leading roles, is a useful mechanism for encouraging other partners to join these processes. Nevertheless, PIFS has generally been unable to keep up with the demand from countries for assessments. An expanded team at PIFS should be in a position to address this demand, but there will be coordination challenges with the variety of emerging initiatives working on this topic (see Table 13).

PIFS is also well placed to bridge the communication and coordination divide among organisations supporting strengthened public financial management, development effectiveness, and disaster and climate finance with additional capacity.

Table 13

Summary of PIFS's climate change and disaster risk management contributions 2008-2018

Development Agency	Main programmes	Implementing partners	Time-frame	Volume (USD)	Process to define priorities
Australia	Core Funding		2009-18	AUD 2.5M	FRDP
World Bank	Pacific Resilience Programme	PIFS, SPC	2015-2020	USD 45.5M ²¹	
Australia	Climate finance readiness	GIZ, PIFS, PFTAC	2016-2019	AUD 1.5M	
US	IASCC	SPC, PIFS	2016-2019	USD 5M	

The University of the South Pacific (USP)

The University of the South Pacific is a regional organisation with the mandate to support higher learning across its member countries. USP has many campuses across the region. Published research by University staff and students is available online.²²

In addition to its general teaching, research, consulting and training, USP's Pacific Centre for Environment and Sustainable Development (PACE-SD) delivers work specific to the fields of DRM and CCA. As an example, it manages and delivers a post-graduate diploma course in climate change and DRM, with the expectation that young graduates can join governments or relevant non-governmental or development agencies upon completion of their studies.

The climate change and DRM diploma was developed initially with Australian assistance, under their fast start finance. Scholarships were awarded through Australian and European Union funding. The European Union funding for these scholarships is due to conclude in 2017, with no foreseeable funding available from 2017. Since the Australian and NZ funded educational scholarships are supposed to be linked to local priorities, initiatives to bring resilient development into national development strategies should see more scholarships in relevant knowledge areas.

As part of the EU-GCCA project (Table 14), USP supports applied research at the community level across fifteen countries. USP also acts as the premier provider of tertiary education in the Pacific region, providing training critical in climate change

²¹ The *Pacific Resilience Program* is funded through US\$32.29 million in grants and credits from the International Development Association (IDA), the World Bank's fund for the world's poorest countries. The Global Environment Facility Special Climate Change Fund to Tonga and PIFS have provided US\$5.48 million; the Pilot Programme for Climate Resilience to the Pacific Community (SPC) has provided US\$5.79 million in grant funding; and the Global Facility for Disaster Reduction and Recovery to Tonga has provided \$US1.5 million in grant funding. (World Bank, 2016)

²² <http://pace.usp.ac.fj/ResearchOutputs.aspx>.

assessment and also risk reduction work, covering chemistry, mathematics, agriculture, biology, social science and governance/ policy.

USP contributes actively to regional processes, including the WARD, the Pacific Meteorological Council, the Climate Services Working Group, and the FDRP Technical Working group, among others.

Evaluation of responses

USP’s courses have played an important role in strengthening capacity in the region, enabling students from many countries to access climate change education. Many USP alumni are playing active roles in strengthening resilience, by working in development agencies, regional institutions, NGOs and within national governments.

As an education and research institution, USP’s applied community-based research often involves USP staff in project implementation. This can strengthen their research and training work, but can also lead to confusion and tension with other agencies. Such tensions have been partly overcome by USP’s willingness to partner with other institutions in course design and delivery of activities jointly with other partners. For example, the USP-GCCA In-Country Coordinator has supported implementation of joint activities with SPC/GIZ CCCPIR and other partners in Vanuatu. But a greater focus on its core business would allow the institution to be more proactive rather than reactive.

USP’s seminar series has contributed to wider knowledge sharing, and its research activities have contributed to better understanding of the issues associated with adaptation across a range of levels including community-based activities. For example, in November 2016 USP held a roundtable on shark conservation in the region, with representatives from government, USP, the World Wide Fund for Nature (WWF), a private sector dive operator and Fiji’s Ministry of Fisheries.

Table 14

Summary of USP’s climate change and disaster risk management contributions 2008-2018

Development Agency	Main programmes	Implementing partners	Time-frame	Volume	Process to define priorities
EDF-10	ACSE - TVET	SPC/USP	2014-18	EUR 6M	Steering Committee
GCCA	GCCA	USP	2011-16	EUR 9.9M (GGCA+GCC A+)	Steering Committee

Forum Fisheries Agency (FFA)

According to the Pacific Climate Change Portal (SPREP, undated²³), FFA does not have a climate change programme as such, but mainstreams climate change adaptation through its work on the management and development of tuna fisheries. However, FFA does undertake climate change-related work. For example, FFA is presently:

²³ <https://www.pacificclimatechange.net/organisation/forum-fisheries-agency>

- Supporting UNDP-funded work targeting the systematic inclusion of climate variability and change considerations to oceanic fisheries management decisions and policy-making; and
- Executing Government of Japan funded work on CFCs in fisheries.

In the Pacific region, the demand and market supply routes of HCFC-22 refrigerants and refrigerant servicing in the marine fishing sector are not fully known. A study currently being undertaken investigates the use of HCFC by vessels of Pacific member countries of FFA.

Climate variability, in particular changes in sea surface temperature during El Nino and La Nina cycles, influences the migratory patterns of pelagic fish. Integrating this information into advisory support provided to countries may help with medium-term planning of revenue from fisheries-licences. MFAT support to FFA in strengthening information systems presents an opportunity to also integrate risk considerations.

Pacific Power Association (PPA)

The Pacific Power Association is an intergovernmental organisation which promotes the cooperation of Pacific island power utilities in technical training, exchange of information, sharing of senior management and engineering expertise and other activities of benefit to its members. PPA implements supply and demand side management activities to increase energy efficiency. The effect of these activities is to reduce greenhouse gas emissions while improving utility performance.

In terms of present activities, PPA has recently facilitated a regional power system loss study, the findings of which underpin the development of action plans to reduce energy losses. PPA also undertakes ongoing benchmarking to formulate performance improvement programmes and enable power utilities to increase their stability and sustainability.²⁴

PPA also promotes the use of renewable energy by ensuring that the utilities are ready to take on increased generation capacity from renewable energy sources. This work involves regulatory, technical and policy changes in the utilities. Upcoming work will involve renewable energy (solar and wind) resource mapping, with funding from the World Bank, as well as working with utilities to be more disaster resilient.

Key lessons for MFAT (CROP Agencies):

- Provide funding for CROP agencies in line with their mandates and technical competence.
- Ensure that CROP agencies do not engage in community-based activities without the involvement of local government's and / or NGOs that can support the community following the end of the project.
- Encourage CROP agencies to actively collaborate on joint programmes and submit joint project proposals to MFAT (e.g. as part of the programme on atoll water security, partnerships between SPC and SPREP could be strengthened around drought warnings).
- Encourage CROP agencies to utilise USP students within projects, to provide students with practical experience.

²⁴ See: PPA 2016, <http://www.ppa.org.fj/ppa-activities/>

- Ensure strong user engagement as part of the development of information and knowledge products, to fully understand end-user needs and how they currently access information.
- Strengthen the monitoring, evaluation and learning capability of CROP agencies, and the sharing of lessons across the region.

2.3 Multi-lateral Organisations

World Bank

The World Bank re-engaged in the Pacific in the early 2000s, and has recently further scaled up its assistance. In order to better acknowledge country-specific challenges and priorities, it has moved from a regional approach to individual country strategies (World Bank, 2016). As of September 2016, the World Bank's cumulative lending to PICs was USD 752.53 million, relating to 76 active projects and additional project financing²⁵. The Bank's portfolio is concentrated on infrastructure, communications, transport, fisheries, agriculture, energy and climate change resilience (Table 15).

The Bank provides most of its assistance via loans, but it also has some key grant financing mechanisms. It is actively engaged in the disaster and climate resilience space.

The Bank coordinates the Global Facility for Disaster Reduction and Recovery (GFDRR) activities in the Pacific and has supported a number of projects in recent years.

As an example, through the GFDRR the Community Resilience to Climate and Disaster Risk in Solomon Islands (CRISP) project presently aims to increase the capacity of selected rural communities to manage natural hazards and climate change risks. With a budget of USD 9.13 million, the project targets:

- integration of CCA and DRR in government policies and operations; the objective is to support policy development, capacity building and institutional strengthening aimed at integrating governance and operational processes for CCA and DRR;
- the strengthening of climate and disaster risk information and early warning systems; the objective is to establish an early warning network for volcanic and seismic hazards and start the establishment of a national risk information platform; and
- CCA and DRR investments to support both structural and non-structural disaster risk and adaptation investments at community and provincial levels.

The project spans 2014-2019.²⁶

A flagship GFDRR project is the SPC-executed PCRAFI project. It has targeted DRM and CCA in the Pacific, in partnership with the ADB, SPC, EU and others. Under the PCRAFI, the World Bank plays a number of roles, including providing a conduit for funding and general oversight as well as an intermediary for the PCRIP (see Box C) between PICs and the reinsurance market.

²⁵ <http://www.worldbank.org/en/country/pacificislands/projects>

²⁶ <http://www.worldbank.org/projects/P112613?lang=en>

The Pacific Resilience Programme (PREP) will extend and complement the work of PCRAFI. As well as strengthening early warning/ preparedness, and targeting resilient investments, the project is intended to support disaster risk financing, including the provision of ongoing support to the PCRIP. This includes investigating options to extend it, updating the risk information that underpins it and potentially considering opportunities to provide coverage for more hazards. The project will also support key regional organisations with a critical role in technical, policy and or information areas, including PIFS and SPC.

The PREP project is presently in its first phase, targeting principally Samoa and Tonga, although RMI and Vanuatu are also involved in the disaster risk financing component. Phase 2 of the project is presently under preparation and will extend participation to other countries. In addition to World Bank Grant funding, PREP has funding support from the Climate Investment Fund's Pilot Programme on Climate Resilience, the GFDRR and the Global Environment Facility's Special Climate Change Fund. As part of these partnerships, Pacific countries are supported to better understand the risks they face, as well as their financing options for managing those risk more effectively.

In partnership with the UNDP and EU, the World Bank also forms part of a global tripartite agreement to support countries to deliver Post-Disaster Needs Assessments (PDNAs), strategically plan for recovery from a disaster event, and thereby facilitate access to finance (e.g. in Vanuatu post-Pam and Fiji post-Winston). The World Bank has supported a number of PDNAs in the region, the most recent being the RMI PDNA in relation to the 2015-2016 drought. Demand for PDNAs has been increasing, with eight having been completed since 2009. Two staff members with extensive experience in coordinating and conducting PDNAs have recently left SPC. Thus its capacity to provide PDNA support services going forward will be diminished.

Much of the Bank's lending is in the infrastructure sector. Therefore it plays a crucial role in mainstreaming disaster and climate resilience in the construction of new infrastructure. The Bank is also a contributing partner to the Pacific Region Infrastructure Facility (PRIF).

The World Bank is accredited to the Green Climate Fund and is currently working with the Government of Samoa on a proposal. As a GCF accredited entity, the World Bank will be assessing opportunities to apply for GCF funding for existing planned programmes.

Evaluation of responses

The PCRAFI pilot has received high-level support from PICs. During the second phase of the pilot all countries contributed to the cost of premiums, and the Cook Islands paid its premium in full²⁷. Pay outs to the Government of Tonga (in recognition of Tropical Cyclone Ian) and the Government of Vanuatu (Tropical Cyclone Pam) were made within two weeks of those events. These payments were small in relation to the total funding needed to recover from the disaster. As noted in Box C, the purpose of the pay-outs is to support the resumption of government, not recovery from the disaster per se. In this respect, the cash injection from the PCRIP can be extremely useful during an emergency (World Bank, 2015). By comparison, the Solomon Islands terminated its participation in the scheme after two natural hazard events the country experienced did not meet the criteria for a payout.

²⁷ Cook Islands is not a member of the World Bank and therefore ineligible for financial assistance under the project.

PCRAFI has undertaken a large volume of work to inform disaster risk financing and insurance premiums. Whilst much of it is available online, some of the applications are not immediately accessible. More could be done to use the information more widely, for example as part of national and sectoral development planning processes.

With the commencement of the PREP, the opening of its new Suva office in 2016, and the decision by Leaders to endorse the FRDP and the associated Pacific Resilience Partnership, the World Bank is likely to have a larger profile in the future in contributing to resilient development in the region. However, the Bank does not have a large physical presence in the Pacific, which makes it difficult to join informal coordination mechanisms (e.g. the DPCC). With the opening of a Suva office in 2016, this situation may improve.

Table 15

Summary of the World Bank's climate change and disaster risk management contributions 2008-2018

Development Agency	Main programmes	Implementing partners	Time-frame	Volume (USD)	Process to define priorities
World Bank	PCRAFI Pilot ²⁸	SPC, ADB, GFDRR, EU, Japan	2007-15		
World Bank	PCRAFI Trust Fund	Germany	2016-	EUR 15M	
World Bank	PCRAFI Trust Fund	United States	2016-	USD 8M	
World Bank	Pacific Resilience Programme	PIFS, SPC	2015-2020	USD 45.5M ²⁹	

Asian Development Bank (ADB)

ADB has scaled up its assistance (in loans and grants) in the Pacific, from around USD 500 million in 2004 to more than USD 2 billion by the end of 2015. The vast majority of this support goes to infrastructure construction — transport, energy, water and sanitation, and information and communication technologies (ICT) (ADB, 2016).

In so doing, ADB has increased its assistance to mainstream climate change adaptation and mitigation and disaster risk management in its investments, and help countries access finance to cover the extra costs. This includes climate-proofing investments by

²⁸ The Pacific Disaster Risk Financing Initiative (DRFI) was piloted under the Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI), a joint initiative of the World Bank, SPC, and the Asian Development Bank with financial support from the Government of Japan, the Global Facility for Disaster Reduction and Recovery (GFDRR) and the European Union. The Pacific DRFI pilot came to an end in October 2015, and has been continued under the PREP.

²⁹ The *Pacific Resilience Program* is funded through US\$32.29 million in grants and credits from the International Development Association (IDA), the World Bank's fund for the world's poorest countries. The Global Environment Facility Special Climate Change Fund to Tonga and PIFS have provided US\$5.48 million; the Pilot Programme for Climate Resilience to the Pacific Community (SPC) has provided US\$5.79 million in grant funding; and the Global Facility for Disaster Reduction and Recovery to Tonga has provided \$US1.5 million in grant funding. (World Bank, 2016)

building roads, bridges, port and airports to stronger specifications, and strengthening country safeguards and DRM systems. ADB also supports countries to integrate climate and disaster resilience into national development planning processes.

In August 2016 it launched The Pacific Approach 2016-2020 (ADB, 2016). This serves as the overall partnership strategy for its 11 smallest Pacific members (Cook Islands, Kiribati, the Republic of the Marshall Islands, the Federated States of Micronesia, Nauru, Palau, Samoa, the Solomon Islands, Tonga, Tuvalu, and Vanuatu). ADB has individual partnership strategies for the three larger Pacific developing member countries – Fiji, Papua New Guinea, and Timor-Leste. ADB's strategic priorities for the 11 countries are: (i) reducing costs of doing business including infrastructure and renewable energy investments; (ii) managing risks including building resilience to climate change and disaster risk; and (iii) enabling value creation by supporting private sector growth, urban infrastructure and skills development.

Part of this support to countries includes strengthening public financial management systems, including building audit capacity in Nauru, Kiribati and Tuvalu. These initiatives can support improved management of, and access to, climate change and disaster finance. As part of the Pilot Programme on Climate Resilience, ADB is supporting the Government of Tonga to establish a climate change trust fund to finance community-based CCA, mitigation and DRM actions.

ADB administers a multi-donor-supported regional programme — the Pacific Region Infrastructure Facility. This facility supports a coordinated approach to infrastructure planning by six partners: Australia, the European Commission and the European Investment Bank, the Japan International Cooperation Agency, New Zealand and the World Bank.

ADB is a major renewable energy financier in the region and has pledged more than USD 250 million (2013-15) in loans and grants to help achieve renewable energy targets supporting hydropower, wind and solar, as well as promoting biofuel opportunities along with energy efficiency and grid expansion measures.

ADB works to strengthen private sector development. The private sector will have an increasingly important role to play in supporting climate and disaster resilience (UN Secretary General, 2015). Private sector investment in low carbon, climate-resilient infrastructure and technologies will be required to support the transition to more resilient economies. Increased efforts are being made to engage the private sector and its representative bodies in partnerships to support resilient development. Ensuring these programmes integrate climate change and DRM considerations can support this transition.

The Pacific Private Sector Development Initiative, a regional technical assistance programme co-financed by Australia and New Zealand, works to strengthen the enabling environment. ADB also manages the Pacific Business Investment Facility, co-financed by Australia, to provide business support services to small and medium-sized enterprises.

In partnership with the World Bank, SPC and others, ADB is key partner in the GFDRR's activities in the Pacific, and has supported PCRAFI since its establishment.

ADB is accredited to the Green Climate Fund. It assisted the Fiji Government to secure the first GCF project for the region – an additional USD 31 million grant to add to an existing project to improve Suva's sewerage facilities (ADB, 2015).

In terms of future GCF projects, ADB is working with Pacific governments to identify from its pipeline of 2017-2019 projects those that might be suitable for GCF funding. Where possible they are looking to combine projects into a programmatic approach for GCF funding.

Evaluation of responses

Lessons from the PCRAFI pilot are summarised in Section 2.3 and detailed in World Bank (2015).

A corporate evaluation of ADB's support to the ten PICs was conducted in 2014³⁰. This evaluation highlighted progress in increasing collaboration with other development partners, including through the PRIF, in a more collaborative approach to new initiatives as a result of a greater in-country presence.

ADB has supported the scaling up of activities to promote climate change adaptation and disaster risk reduction at both country and regional levels. While this is a work in progress, there is a reasonably good appreciation among PICs and development partners of the possibilities for adaptation and the measures necessary to adapt to climate and disaster risks.

ADB's presence in Suva should mean that it is more responsive to country needs. However, in practice and despite the trial appointment of a longer-term climate change adviser from 2011-13 on a consultancy contract, there is little decision making authority. Programming and decision-making authority was retained in the office in Manila.

United National Development Programme (UNDP)

UNDP activities in the region are guided by the 2013-2017 United Nations Development Assistance Framework in the Pacific. This was prepared in cooperation with 14 PICT governments and other development partners. UNDP's main areas of support to countries are in governance, inclusive growth and poverty reduction, gender equality, climate change, environment, and DRM (UNDP, 2016).

UNDP has significant global and regional experience in managing and implementing projects in a number of sectors relevant for increasing climate and disaster resilience. As an implementing partner for the Global Environment Facility, the Adaptation Fund and the GCF, UNDP has a large climate change and disaster resilience portfolio in the Pacific. The GCF Board recently approved a USD 38.8m million project for coastal infrastructure in Tuvalu, to be implemented by UNDP.

In addition to projects funded via these multilateral channels, UNDP also implements the AUD \$16 million Pacific Risk Resilience Programme (PRRP) funded by the Government of Australia.

The main programmes implemented by UNDP are described below.

³⁰ 10 Pacific island countries: Cook Islands, Federated States of Micronesia (FSM), Kiribati, Nauru, Palau, Republic of the Marshall Islands (RMI), Samoa, Tonga, Tuvalu, and Vanuatu (PIC-10)

With UNDP support, the Tuvalu government has implemented two Least Developed Country Fund programmes - NAPA 1 (which was topped up with Australian Government finance) and is part-way through NAPA 2, focussing on fisheries, DRR and local governance strengthening.

In the Solomon Islands UNDP is the implementing agency for an Adaptation Fund project focussing on food security SWoCK (Strongem Waka lo Community fo Kaikai), and is supporting the Solomon Island Water Sector Adaptation Project (SIWSAP).

The GEF Small Grants Programme (SGP) is administered by UNDP. It provides funding for small community-based projects.

UNDP forms part of the global tripartite arrangement, together with the World Bank and the EU, for support in the delivery of post disaster needs assessments. To this end, UNDP has supported a number of PDNAs in the region, the most recent being the RMI PDNA of the 2015-2016 drought (in prep).

Together with UN Women, UNDP is implementing a Markets for Change programme, targeting women vendors and identifying infrastructure improvements required to ensure safe and resilient market places.

UNDP coordinates the Pacific Solutions Exchange – a query based knowledge exchange and discussion forum that supports peer to peer knowledge sharing. UNDP also facilitates funding for national communications support from the UNFCCC Secretariat.

As an accredited entity to the GCF, and now the implementing partner for Tuvalu's USD 38.8m project, UNDP's role in implementing climate change and disaster risk management projects in the Pacific is likely to expand further.

Evaluation of responses

UNDP's broader mandate, including across governance and financial inclusion, provides the opportunity to draw on knowledge from these sectors and potentially reach new actors and audiences. For example, in Fiji UNDP organised a Parliamentary Speaker's panel discussion on climate finance, through collaboration between its governance and resilience programmes.

The support UNDP provides to national and regional projects has had mixed results. As detailed above, the PACC Terminal Evaluation highlighted some of the differences in approaches between SPREP and UNDP, and the potential mixed messages delivered to countries during implementation. The NAPA 1 project in Tuvalu faced significant logistical challenges, and staff turnover contributed to implementation delays. Lessons from NAPA 1 are feeding into the NAPA 2 project. NAPA 2 is building on existing coordination structures within the Department of Fisheries, for example, to implement the activities to strengthen the resilience of coastal fisheries. The NAPA 2 project, which previously reported to the Department of Environment, now reports to the Climate Change and Disaster Risk Management Coordination Unit within the Office of the Prime Minister. NAPA 2 is actively collaborating with other relevant projects such as the SPC BRSP programme on disaster risk reduction initiatives.

The Markets for Change programme is implemented by UNDP in partnership with UN Women. This is one of a handful of programmes that actively involve multiple UN partners from the design stage. Increased joint programming of initiatives across

multiple agencies could help to improve coordination and multi-disciplinary support to countries.

UNDP also plays an active role in development partner coordination and provides a secretariat to the Development Partners in Climate Change (DPCC) and the Pacific Solution Exchange (PSE). Resourcing for PSE has recently been reduced despite the need for increased resourcing for information and knowledge management (see Working Paper 1).

The PRRP is currently undergoing its mid-term review. Results from the review should provide clearer guidance to focus activities for the remaining years of the project. It should also have valuable lessons for other partners working to integrate resilience into their programming.

Brief Overviews of Other Multilateral Agencies

The following sections provide an overview of other agencies engaged in climate change adaptation and disaster risk management initiatives in the Pacific. Time constraints have not allowed for a detailed evaluation of their current responses or mapping of current projects.

United Nations Children’s Fund (UNICEF)

UNICEF’s engagement in the resilience space is largely around children’s rights, as well as water and sanitation issues. The main Pacific office for UNICEF is in Suva. UNICEF participates in the Pacific Humanitarian Team, representing the rights of children. The most recognised link between their work and resilience is in their work in the water and education sectors.

“UNICEF Pacific works with governments and humanitarian partners before, during and after disasters to ensure that quick and effective relief is provided to affected populations, particularly women, children and people with disabilities. Disaster preparedness and response planning and management are integrated into all programme components and link with Pacific National Disaster Management Offices, United Nations and regional agencies under the umbrella of the Pacific Humanitarian Team. Specific focus areas for UNICEF humanitarian action include water, sanitation and hygiene; immunisation; nutrition; child protection; and education.” (UNICEF Pacific website)³¹

The study ‘Climate Change Impacts on Children in the Pacific’ (Urbano et al., 2010) highlighted the importance of addressing climate change and disaster risk reduction across all UNICEF programmes. A partnership has been established with the “350.org” to promote youth participation in the regional climate change debate and policy making.

With a clear focus and mandate on children, UNICEF often delivers support in partnership with others. Its strategic emphasis on water, sanitation and hygiene (WASH) issues, and particularly WASH in schools, gives a clear focus for the work. There is a need for good WASH facilities in schools as these often serve as evacuation centres. This current focus on WASH in schools is a key component of DRR. UNICEF also has a kindergarten project.

³¹ http://www.unicef.org/pacificislands/overview_10818.htm

Key objectives of the 2013 to 2017 WASH programme include:

- More communities, schools and health centres in rural and peri-urban areas have equitable access to safe drinking water and improved sanitation and hygiene facilities;
- Governments and communities have the capacity to prepare for and respond to natural disasters and adapt to climate change in the WASH sector;
- UNICEF-supported approaches such as community-led total sanitation and WASH in schools are successfully replicated throughout the region; and
- Availability of policies, budgets and minimum standards and sector-wide approaches in water and sanitation, especially in countries with human and financial resource constraints.

UNICEF highlights the need for whole-of-government approaches for DRR. It has found that, while localisation works for DRR, resilience and preparedness, it is very difficult with response, due in part to political interference in emergency response. NGOs have a key role to play in localisation, via DRR – this is on top of their development work. There is a need to strengthen sub-national governments as there is a disconnect with central government. Such relationships should be built during non-emergency times. Capacities of NDMOs for disaster preparedness vary across the region.

UNICEF highlights the need for contingency planning, in relation to droughts, storm surges etc. It finds that contingency exercises are good for identifying gaps. Science-based approaches are important as there is a need to know the hazards and risks.

While most DRR initiatives are mainstreamed within wider UNICEF initiatives, the organisation takes a holistic approach even when DRR interventions are targeted. An example of targeted DRR undertaken by UNICEF is a cyclone tie down project. The cluster approach used in disaster response in Vanuatu is a positive lesson learned. Disaster response awareness in schools is effective as children are a pathway to families. Prepositioning of supplies is also very effective.

UNICEF has been a key implementing partner for the Kiriwatsan programme that has focussed on water and sanitation issues in Kiribati and engaged communities and schools actively in the programme. For Kiribati there is a need to distinguish between Tarawa and the outer islands. There is also a need for coastal protection against storm surges. UNICEF's drought response work in Tokelau is relevant to Kiribati.

UNICEF has concerns that MFAT often works on assumptions. Its results based approach is a challenge as it is difficult to demonstrate the immediate benefits of DRR. There is a general lack of case studies showing the benefits of DRR in the Pacific.

United Nations Office for Disaster Risk Reduction (UNISDR)

The United Nations Office for Disaster Risk Reduction (UNISDR) was established in 1999, as a dedicated secretariat to facilitate the implementation of the International Strategy for Disaster Reduction (ISDR). As well as its headquarters in Geneva, the agency has a number of regional and sub-regional offices, including a sub-regional office servicing the Pacific located in Suva. The role of this office is to provide a focal point in the United Nations system for the coordination of DRM in the Pacific, including regional organizations and activities in the socio-economic and humanitarian fields. Specifically, the office targets coordination, campaigning, advocacy and information sharing.

Specific projects in the UNISDR regional office are relatively limited. Occasionally DRM projects are delivered through the office, but the main thrust of work is to link and coordinate the DRM work of key agencies in the Pacific. This has included co-hosting, with SPC, previous DRM Platforms and other fora. In particular, the UNISDR-Pacific team plays significant roles in coordinating global reports on DRM and targeted DRM activities, as well as supporting the regionalisation of DRM approaches. In this context, UNISDR played a key role on the regional Technical Working Group dedicated to the preparation of the recently endorsed FRDP. It also plays an important role in supporting the implementation of global frameworks such as the Hyogo Framework for Action and its successor the Sendai Framework for Disaster Risk Reduction. Additionally, staff of the regional office may support technical activities such as contributing content to PDNAs, and engaging the private sector on business continuity planning.

United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP)

UNESCAP has a relatively small office in Suva. In partnership with the International Labour Organisation and UNDP, from 2013 to 2016 UNESCAP implemented an EU-funded project on climate change and migration in the Pacific. This project delivered valuable research findings on migration trends, climate change influences and the legislative environment. The reports form a good evidence base for future discussions of the issues nationally, regionally and globally.

Fiji is part of an Asia-Pacific wide project on mainstreaming disaster risk into sustainable development that is being implemented by UNESCAP.

UNESCAP plays a role in coordinating input from countries to be presented at meetings related to the Sustainable Development Goals (SDGs) and supports the roll out of indicators and alignment to national development plans. Its strength is in undertaking key analytical work of relevance to the implementation of activities designed to assist PICs to achieve their SDGs.

In July 2016 UNESCAP, in partnership with SPC, convened an agriculture and climate change expert group to exchange knowledge, information and good practices on resilient agriculture between Asia and the Pacific. This included capturing benefits of dialogues between the meteorology, water, and agriculture sectors. In Asia these have resulted in downscaling of climate risk data, specifically for the agriculture sector. Policy and technical recommendations are being produced in advance of a Pacific Agriculture Ministerial Conference in 2017.

The United Nations Office of Coordination and Humanitarian Affairs (UNOCHA)

UNOCHA plays a key role in coordinating humanitarian responses to disasters. In 1999, UNOCHA established a Regional Office for the Pacific in Suva. Its role is to mobilize and coordinate effective and principled humanitarian action in partnership with national and international actors.

UNOCHA's work in the Pacific is focused around the key areas of emergency response, emergency preparedness and humanitarian financing. The Regional Office supports 14

Pacific Island countries. UNOCHA also has an office in Port Moresby, Papua New Guinea, that reports to the Regional Office for Asia and the Pacific in Bangkok, Thailand.

To improve the timeliness, effectiveness and predictability of humanitarian response in the region, UNOCHA established the Pacific Humanitarian Team in 2008. This Team brings together humanitarian actors in the region to support Pacific Island governments in the coordination of humanitarian action, using a regional cluster approach.

International Federation of the Red Cross and Red Crescent Societies (IFRC)

IFRC plays a critical role in disaster risk reduction and response in the region. As a backstopping mechanism to the national Red Cross societies, the IFRC acts quickly post disaster to release pre-positioned supplies, to deliver initial and immediate response materials and to mobilise funding support for the recovery effort. Partnerships with the Australian and New Zealand Red Cross organisations support resource mobilisation, allowing the IFRC office in Suva to play its coordination role. The Red Cross is represented on many of the Pacific Humanitarian Team clusters that work post disaster. They rely on their volunteer network to be able to mobilise response efforts quickly.

IFRC and its constituent societies are increasingly active in community based risk reduction programmes, and strengthening the governance and management of the national societies, which play a critical role pre and post disaster. Not all people affected by an emergency experience it in the same way. The Red Cross Societies have a strong emphasis on ensuring that this diversity is recognised in response efforts. Recent guidance on this need includes Minimum Standard Commitments to Gender and Diversity in Emergency Programming (IFRC, 2016).

IFRC is actively involved in providing training to NDMOs to support preparedness and response.

The Red Cross is also increasingly involved in risk reduction and resilience programming more generally. As part of the FINPAC project managed by SPREP (see above), the Red Cross and their volunteer network are actively involved in supporting the Meteorological Offices connect with communities and strengthen early warning systems and targeted messaging that are relevant for communities.

A global climate centre also provides technical expertise in mainstreaming climate change considerations across Red Cross programming.

Evaluation of responses

As an auxiliary to government, the Red Cross often has close ties to NDMOs. These organisations work together in times of disaster response. A relationship of mutual reliance exists between the two organisations, with NDMOs providing government backing to the Red Cross efforts, and also receiving considerable capacity through Red Cross networks, both internationally and locally through the wide community volunteer networks.

The Red Cross' independence allows it to work in partnership with the NDMO but, where necessary, also allows it the flexibility to respond unilaterally, based on needs.

Its global network – and its partnership in the Pacific with the Australian and New Zealand Red Cross – enables it to mobilise significant resources and personnel post-disaster.

“Red Cross has representatives on every island. Local government is also on every island. Those systems can be used more effectively than what they are being used. There is significant capacity through these local and national structures.”
(Interviewee from Gero, 2013).

National Red Cross Societies provide valuable local level networks and often have potential that is underutilised or largely overlooked. In Section 3 this is identified as a significant opportunity.

Other Organisations

Other agencies of relevance to the current review include the World Food Programme (that has established an office in Suva in 2016), and the Food and Agriculture Organisation (FAO) (based in Samoa).

2.4 Non-governmental Organisations

NGOs play a vital role in supporting the delivery of climate change and disaster risk management programmes. Active NGO partners include Oxfam, Live and Learn, Save the Children, Foundation of the People of the South Pacific, Habitat for Humanity. Time constraints have limited the ability to map their responses in detail.

General comments related to the research consultancy were provided by some NGOs. These are summarised in Annex A. The following is a summary overview for some of the NGOs that are addressing needs related to climate and disaster risks, and resilient development in general.

Oxfam

Oxfam NZ works in the Pacific, with independent country offices in Papua New Guinea, Vanuatu, Solomon Islands and Fiji. Oxfam also has partnerships in Samoa and Tonga. Oxfam often plays a facilitating and convening role, such as through WASH processes in Vanuatu and Tonga.

Oxfam implements community-based disaster risk reduction programmes across the Pacific. Their priority areas are the Melanesian countries of Papua New Guinea, Solomon Islands, Vanuatu. Oxfam has recently re-engaged in Fiji directly.

CCA and DRM current or recent Oxfam projects are:

- Vanuatu Building Resilience Program (2014-current);
- Solomon Islands Kwik Taem Bouns Back (Building Resilience) Program (2014-current);
- Vanuatu Humanitarian Team (2011- current);
- Vanuatu Climate Change Adaptation program (2012-2015);
- Solomon Islands DRR program (2011-2014);
- Papua New Guinea WASH Program - Sepik and Highlands (2011-current);
- Papua New Guinea Sustainable Livelihoods (2012-2015);

- Papua New Guinea HARVEST Sustainable Livelihoods (2015-current);
- Solomon Islands Flood response 2014 (Emergency Food Security, Vulnerable Livelihoods, Gender and Protection);
- Vanuatu TC Pam Response 2015-current (WASH, Emergency Food Security, Vulnerable Livelihoods, Gender and Protection; Coordination);
- Fiji TC Winston response (WASH, Emergency Food Security, Vulnerable Livelihoods, Gender and Protection; Coordination);
- Papua New Guinea El Nino drought response 2015-current (WASH, Emergency Food Security, Vulnerable Livelihoods, Gender and Protection); and
- Vanuatu El Nino drought response (WASH).

Programming is based on vulnerability analysis, rights-based programming, gender, CCA, advocacy and campaigning. Oxfam has an integrated approach to DRR and CCA and focuses on reducing people's vulnerability to hazards by building on their capacities and their ability to anticipate, cope with and recover from the impact of such events. Oxfam is also heavily involved in humanitarian work based on addressing root causes of vulnerability and disadvantage.

Participatory Capacity Vulnerability Assessment tools are used to equip vulnerable communities with the required skills and knowledge to prepare for disasters and promote sustainable development. Oxfam's community based disaster risk reduction work is implemented in urban and rural areas. It involves efforts to build community and household preparedness, develop contingency plans, strengthen resilient livelihoods, establish effective early warning and communication systems, promote improved farming and natural resource management systems, enhance government capacity, promote more accountable service provision and facilitate sustainable links between communities, partners and stakeholders including government actors and the private sector.

Oxfam defines resilience as the ability of women and men to realize their rights and improve their well-being despite shocks, stresses and uncertainty.

Oxfam's research and advocacy work at the regional level aims to share knowledge and emphasise the links between good governance and resilience. Policy briefs and attendance at post-forum dialogue events aim to ensure that community based voices are heard at the annual leaders meetings. Recent policy briefs of relevance include Oxfam (2012 and 2016). The former charts the groundbreaking efforts of the NGOs, communities and the government of Vanuatu between 2012 and 2014 to build resilience in the face of climate change. The latter takes stock of the climate risks facing the Pacific region, and considers these risks in relation to commitments under the Paris Agreement, the complex nature of existing financial flows, current commitments from Australia and New Zealand, and the range of challenges that must be overcome to ensure support reaches those most in need.

Between 2011 and 2014 Oxfam managed a project to support the strengthening of the Vanuatu Humanitarian Team (VHT). The VHT is a network of non-government humanitarian actors involved in Vanuatu (including regional bodies) and includes national agencies (VANGO, VRDTCA, and Wan Smol Bag - WSB), International NGOs (including Save the Children, World Vision, CARE, the Adventist Development and Relief Agency (ADRA)), Red Cross movement (Vanuatu Red Cross and French Red Cross) and UN agencies (UNICEF, OCHA, WHO). The aim of the project is *"Women, girls, boys and men affected by disaster in Vanuatu are able to access timely and appropriate assistance"*. It achieves this through improved coordination and preparedness by the non-

government sector and by improving the engagement between the sector and government agencies (primarily the NDMO)³².

Oxfam led a consortium of NGOs in Vanuatu as part of a programme funded by the Government of Australia. Oxfam had just completed a joint livelihoods assessment in Kiribati, following swells associated with TC Pam. This was conducted jointly with FAO. The assessment showed the need for WASH, and especially water and sanitation, in outer islands where there is no cash economy except for government workers. The challenge is to create mechanisms that can increase equality in such situations. This highlights the importance of cash generating activities.

Oxfam is producing a tool to give guidance to PICs on implementing the Sendai Framework. Existing documents relate to Hyogo. Tool preparation has three steps: (i) desk top work on existing documentation; (ii) interviews; and (iii) validation workshops. The workshop in Samoa has been completed; one will be held in Tonga in October. Oxfam is encouraging SPC to hold workshops in other countries – e.g. RMI.

Oxfam is currently finalising a European Union proposal under EDF-11 to lead a CSO strengthening programme. This represents a good opportunity to mainstream disaster risk reduction and climate change across a wider number of NGOs.

Evaluation of responses

Prioritization of Oxfam's projects is influenced by interest of the public. Accessibility to communities has a Samoa and Tonga focus, plus RMI. Oxfam's One Programme approach links development, humanitarian, advocacy and campaigning work. Oxfam NZ encourages other countries to invest in the Pacific, with governments taking initiatives, and transferring best practices.

Oxfam has led two projects that sought to strengthen collaboration and networks at the national level between NGOs and government institutions.

The Vanuatu Humanitarian Team (VHT) seeks to strengthen coordination, dialogue, trust-building and regular engagement between actors involved in humanitarian work. Improved collaboration as part of the VHT led to practical ways of mutual support (e.g. joint delivery of supplies among NGO partners) and increased engagement with government.

"... there is more awareness among NGOs and understanding of the different stakeholders focusing on disaster; not only during cyclone [season] but ongoing activity that they carry through throughout the year. In particular with awareness raising and the VHT, people know where we are in different spots in the country. That helps in terms of utilizing resources. Also a significant achievement has been the understanding of other stakeholders involved in disaster preparedness and relief work." VHT endline study respondent.

This approach was replicated amongst agencies as part of the Vanuatu Climate Adaptation Network (VCAN) which has led to greater collaboration of NGOs involved in

³² To date the VHT has worked with the government to: develop people's skills and capacity, communication and information sharing mechanisms among NGOs and with the Government, common assessment formats, standard operating procedures for disaster response, establish and coordinate clusters, and establish Provincial Disaster Committees and provincial coordination mechanisms.

disaster risk reduction and climate change adaptation programming, and a closer relationship with local government structures (Gero, 2011).

Both structures provide the Government with a streamlined way to engage with NGOs, and also provide significant support to the NDMO and the National Advisory Board (NAB) in delivering its disaster preparedness and response and resilience mandate across the country. The VHT and VCAN provided significant inputs into the conceptualization and design of these new government structures and demonstrated the value and importance of having non-government representation in key bodies and processes. It has led to NGOs being consulted and engaged in government strategy and policy and to many new initiatives, such as women and youth NGO representatives being invited to be part of the Vanuatu delegation at COP 19.

An evaluation (Anda, 2014) concluded that while some degree of national level engagement was critical, members of the VHT had a comparative advantage in terms of supporting sub-national level governance strengthening. By working through a network of NGO partners, resilience programmes were based on pre-existing relationships between NGOs and partner communities and on existing networks, trust and partnerships (McLellan, 2015).

Consortium programme agencies are increasingly sharing information and resources with each other and with the broader VCAN network, which is convened by Oxfam. The involvement of VCAN and civil society in national government coordination structures can be viewed as a positive step in promoting policy and practice that is more reflective of community priorities.

A Resilience Framework was developed by the consortium of partners and the communities. The decision to build on existing programmes meant that relationships of trust already built could be used to start a dialogue about climate change using traditional knowledge. Traditional knowledge as a foundation has provided the language and context upon which a better (and more complete) view of climate change can be built (Oxfam, 2013). In general, this has helped build trust between consortium partners and communities, as respect for traditional knowledge is important for community members and part of their identity, and has supported the creation of joint knowledge. However, there have been some challenges linking traditional knowledge with scientific information on climate change, for example, when traditional knowledge is at odds with the science, as well as concern in some communities about how traditional knowledge is shared outside of communities, especially in terms of loss of identity when traditional guardians of the knowledge no longer have exclusivity over the knowledge.

As for UNICEF, Oxfam's emergency response focus is on WASH. It considers that the approach to DRR should be holistic, with a focus on mainstreaming, and suggests there is less need planning and assessments, but a greater need to focus on on-the-ground activities. When working with governments it is important to also consider partners and stakeholders. But all lack capacity.

Simulation exercises held in Tonga, Vanuatu and Fiji revealed that the response system was immature; but the later response to TC Ian showed benefits of the simulation as the response was much more effective, responding in a more predictable way. However, at the local level in the Pacific memories are very short, partly as a result of a high turnover in personnel. Children have better memories – for example, they are better than adults at remembering the locations of evacuation sites.

Table 16**Summary of Oxfam's climate change and disaster risk management contributions 2008-2018³³**

Development Agency	Main programmes	Implementing partners	Time-frame	Volume (USD)	Process to define priorities
Australia	VHT	VANGO, VRDTCA, WanSmolBag Oxfam, Save the Children, Adra, Care, World Vision, Unicef, OCHA, WHO, Red Cross	2011-2014		
Australia	Vanuatu NGO Climate change adaptation programme	Oxfam, Care,	2013-2015	AUD \$2M	

Live and Learn Environmental Education

Across the Pacific, the Live & Learn network employs 120 full time staff and has a network of hundreds of volunteers. Live & Learn has worked in the Pacific for close to 25 years. Through this time it has established trusted relationships with communities, governments at all levels, United Nations agencies, non-government organisations and inter-governmental organisations such as USP, SPREP and SPC.

Building community resilience to disasters and climate change is a cross-cutting theme for all activities across the Live & Learn network. Currently, Live & Learn is working with close to 400 communities on DRR, including assessing vulnerability and risks, supporting livelihoods, food security, promoting climate resilient crops and farming techniques, mobilising communities for coastal protection and sustainable management of forests and marine environments.

Live & Learn's approaches are based on building local systems and groups, fostering local leadership and providing ongoing support and mentoring and on a rights-based approach that emphasises gender equity and sharing knowledge across its network. DRR and adaptation are placed within a broader community development context.

Live & Learn's Regional Office in Fiji provides support to in-country Live & Learn offices (and partners) in the areas of: (i) capacity building and up skilling; (ii) technical advice and quality assurance; (iii) knowledge sharing and learning; (iv) financial monitoring and auditing; (v) resource development; and (vi) testing, monitoring and evaluation. Live & Learn programmes in the Pacific are and have been financially supported by the EU, AusAID, New Zealand Aid Programme, ADB, World Bank and various United Nations agencies.

As part of a previous 'Protecting Food Security through Adaptation to Climate Change' project funded by the Australian Government, Live & Learn worked to support

³³ The table above does not include Oxfam programmes that are not explicitly linked to climate change funding.

communities across Papua New Guinea, Solomon Islands, Vanuatu and Kiribati to increase the climate resilience of local food systems. The project sought to actively foster partnerships between farmer-driven Knowledge Hubs and sub-national governments. Knowledge Hubs involve a network of community farmers who use demonstration plots to learn and share risk-sensitive farming information and technology, such as traditional climate and disaster-safe methods, organic approaches, mixed cropping, and climate resilient crops. These Knowledge Hubs have been utilised as part of its existing programme as the NGO-partner for the Pacific Risk Resilience Programme (Fiji, Vanuatu, Tonga and Solomon Islands).

Live & Learn are also involved in implementing REDD+ projects in Vanuatu and Fiji, working with communities to develop alternative livelihoods and put in place the necessary measures to quantify and trade carbon from forest protection and reforestation.

Live & Learn has also been actively involved in humanitarian responses in Vanuatu and Fiji post-cyclone Pam and Winston building on their existence community outreach.

Table 17

Summary of Live & Learn’s climate change and disaster risk management contributions 2008-2018

Development Agency	Main programmes	Implementing partners	Time-frame	Volume (USD)	Process to define priorities
Germany – BMZ	CCCPIR	GIZ, SPC, LLEE	2011-2014	EUR 600,000	
New Zealand Aid Programme	Fiji – Building community resilience to flooding and environmental disasters	LLEE		FJD 350,000	
Australia	Solomon Islands: Building Community Resilience: Investments to Support Creation of Rural Economies, Empower Women to Safeguard Natural Resources	LLEE	2010-2015	AUD 5M	
Australia	Pacific Risk Resilience Program	UNDP, LLEE	2012-2017	AUD \$16M (\$5.5m directed to LLEE)	Emergent design
Australia	Kiribati, Solomon Islands, PNG and Vanuatu: Protecting Food Security through Climate Change Adaptation (Phase 1)	LLEE	2010-2012	AUD \$800,000	

Australia	Kiribati, Solomon Islands, PNG and Vanuatu: Protecting Food Security through Climate Change Adaptation (Phase 2)	LLEE	2012-2015	AUD \$1.59M	
EU	Pacific-wide: Testing and Modeling Community Organization and Mobilization in Carbon Trading and Avoided Deforestation	LLEE	2010-15	EUR 1.995M	

Evaluation of responses

The food security Knowledge Hubs supported by Live & Learn were utilised post-disaster in a number of countries. In the Solomon Islands, following devastating floods, Knowledge Hubs in Honiara provided rapid support of tools, seeds and training to support the establishment of at least 76 gardens. This was done in full collaboration with the Solomon Islands Governments Flood Recovery Plan and in collaboration with other Australian NGOs including World Vision, Red Cross and Save the Children. Knowledge Hubs are now integrated into DRM food security clusters in the Solomon Islands and Vanuatu.

In 2014, following Tropical Cyclone Lusi (Vanuatu) which caused damaging storms impacting on agriculture, Knowledge Hubs in affected areas were used as part of the recovery efforts, especially in agricultural rehabilitation. Live & Learn is part of the Vanuatu Humanitarian Team and was supporting collaborative efforts coordinated by the NDMO's food security cluster. The Knowledge Hubs played a key role.

The Tugeda Tude Fo Tumoro Program (TTFT), which operated between 2010-2015 in the Solomon Islands, resulted in the development of savings clubs targeting women. These created positive changes for their families. Between 2011 and 2015 TTFT established 25 savings clubs with 785 members (76% being active) across five provinces. In addition there were 19 replicated clubs. These were not part of the programme, but sprang up when women living close by saw the advantages of saving.

The Nature Conservancy (TNC)

Relevant programmes include:

1. **Ridge to reef**, including participatory land use planning. Lessons learned in Solomon Islands and Papua New Guinea are broadly applicable. The approach provides a broad framework for supporting communities to make decisions re dealing with pressures on resources and communities. It can tie in with whole of island approaches in other countries (e.g. Kiribati).
2. **Nature based solutions to climate change** – this involves investing in natural ecosystems to build resilience. The approach is appealing to the private sector because of good cost benefit considerations. Co-benefits are important too. The work links to TNC's engagement with the insurance industry, and builds on the cost effectiveness of nature-based solutions.

3. **Gender, including women's economic empowerment.** The work reflects the importance of women in disaster response. For disaster risk, response and resilience, women are active agents, so need more empowerment. TNC has less expertise in this area, but that is growing rapidly, including establishing women's leadership initiatives through the Coral Triangle Initiative. TNC is building the evidence base in order to integrate gender into resilient development. Evidence from broader development work shows multiple benefits of taking a gender sensitive approach to designing and delivering programmes, including engaging women in conservation programmes. A study on this is being undertaken for the Pacific. The work still has a conservation focus - showing better conservation outcomes when women are involved, such as in decision making at local, island and provincial levels. There is considerable evidence of improved outcomes when women are involved in conservation, environmental management and building resilience. Based on evidence already available, an important opportunity for MFAT is to involve more women in nature-based adaptation programmes – this would be a point of differentiation from the DFAT programme.

4. **Micronesia** – some work has a climate focus, with a connection to Micronesian Conservation Trust. TNC is implementing a regional CCA project. The focus is on watershed management and atolls, with five watershed sites (ridge to reef) and five atoll sites. The process is to scope adaptation interventions using vulnerability assessments, prepare adaptation plans, and then undertake a cost benefit analysis using an economic tool to prioritise interventions. There was a need to explain to local stakeholders why the economic assessment was required. This was based on a need to know costs in order to have a sound management plan – with costs balanced against the benefits. The final step is to assess economic development plans to climate proof them and strengthen central government.

One focus is on sustainable financing, and especially payment for ecosystem services. The focus for atolls is more on conservation and human wellbeing. TNC provides on the ground support, plus support to municipal and state governments as well as at central government level.

TNC is setting up in New Zealand. TNC has undertaken a good deal of scoping work in the lead up to commencing a programme in NZ, and is now developing detailed in-country project priorities and plans for work on issues in Marine and Freshwater. In addition to these two general areas of focus, the programme will strengthen ties between New Zealand and TNC's long standing programmes in the Pacific. TNC hopes to work with MFAT on Pacific fisheries.

NZ NGO Disaster Relief Forum (NDRF)

The NDRF is New Zealand's network of humanitarian agencies, many of which are engaged in DRR projects around the Pacific as part of their humanitarian programming. DRR is a core component of NDRF's collective operational work, in terms of the training provided to in-country implementing partners (risk management, logistics, humanitarian guidelines and standards), as well as in decentralised pre-positioned stock initiatives.

NDRF (2016) provides an after-action review related to TC Winston, including useful insights into how NDRF DRR activities have influenced their approach to humanitarian response in the Pacific. It also includes recommendations for how NDRF members can improve their DRR efforts moving forward. NDRF has a project list which gives an

overview of NDRF members' DRR activities around the Pacific. It only covers activities undertaken through humanitarian programmes, not development ones.

Consortium simulation exercises were held some time ago, to test DRM procedures in the Pacific. A key theme from the recent World Humanitarian Summit was "localisation", including having front line responders better integrated into decision making and planning processes. DRR localisation means moving from crisis response to crisis prevention. Thus DRR and localisation go hand in hand. MFAT needs to be in this conversation.

There are many challenges and opportunities around the Pacific. What is the right approach – mainstream, targeted, resilience....? A diversity of approaches is best. It is important to always link development, humanitarian and vulnerability groups. In the Pacific vulnerability is more an issue than is poverty (relative to other regions). Partnership approaches are a way to making localisation work.

Save the Children

Save the Children has offices in Papua New Guinea, the Solomon Islands, Vanuatu and Fiji. Save the Children recently undertook needs assessments with the Ministries of Education in both Kiribati and Tuvalu. Both Ministries identified contingency planning and building their capacity to prepare and respond for Education in Emergencies (EiE) as their top priorities. Understanding child-centred approaches and reviewing national DRM plans and policy to ensure they address child-centred concerns were also noted. Save the Children's experience in working in these two countries has highlighted the challenges of distance (cost) and connectivity. Senior government officials are constantly out of the country, there is a high staff turn over and human/technical capacity within government departments is an on-going challenge (limited staff numbers and operating budgets).

Save the Children in the Pacific uses the human rights-based SAVE approach. DRR programming includes addressing the national policy/planning level, working with local government, linking them with the community (often through schools/informal education or traditional leadership) as well as the family and individuals/children. Save the Children also provides prepositioned supply support.

3. Current Responses Analysed by Success Factors

This section documents current responses, organised according to the success factors for successful management of climate and disaster risks, and for increasing the resilience of development outcomes, as identified Working Paper 1 (Manley et al., 2016).

3.1 Risk management mainstreamed in development plans and processes

As highlighted by Manley et al. (2016), many previous DRM and CCA initiatives have been risk or hazard focussed, rather than development focussed. In order to increase the resilience of development outcomes it is important that development practitioners identify, evaluate, select, implement and adjust development initiatives in ways that reduce climate vulnerabilities and thereby improve development outcomes. Actions must ensure progress toward development goals while at the same time reducing climate and disaster risks to acceptable levels (USAID, 2014).

It is becoming increasingly common for resilience initiatives to use development outcomes as the entry points for increasing resilience. This has meant that both climate change and DRM programmes must work with a much wider range of actors, in particular those involved in national and sectoral planning and budgeting, in addition to their traditional focal points within climate change, meteorology and national disaster management offices.

The PACC and PACC+ programme suffered from a “risk-first” approach and failed to adequately engage sector experts in the programme design and implementation within the programme’s key sectors, namely agriculture, water and coastal zone management. This meant that interventions were not integral parts of national development and sector processes. In Nauru for example, a water and adaptation plan was produced even though the overall water master plan had been revised recently, and already incorporated climate and disaster risks.

Expecting specialist climate change and disaster risk practitioners to take a development-first approach is ambitious. With this in mind, careful consideration should be given to who is involved in designing and implementing projects aimed at building resilience. The decision by the Government of Australia to have PACCSAP led by the DCCEE, and based out of SPREP, limited its ability to connect with key decision makers and planners within government. SPREP does not have established, long-term partnerships with such actors. It also has limited expertise at sector level. DCCEE is not a development agency limiting its ability to engage as a meaningful partner with central government agencies in the development space. Similarly, SPREP’s leadership of the PACC and PACC+ projects, without formal engagement of sector-specialists from SPC in agriculture, water and coastal zone management, reduced the quality and /or increased the costs of technical assistance provided, and failed to make use of established and ongoing relationships between SPC staff and their sector-level counterparts at the national level.

Many other programmes (e.g. CCCPIR, SWoCK, NAPA projects in Samoa and Tuvalu, the Kiribati Adaptation Project) mainstreamed climate change and disaster risk

management into key sectors. Whilst engagement with sector specialists was in general very good, engagement with central planners still remained weak.

The increasing priority given to managing climate and disaster risks, and the resulting increase in climate and disaster finance, has helped to establish wider partnerships. The Forum Economic Ministers Meeting have discussed climate and natural hazard risk management issues for almost a decade (PIFS, 2007) with an increasing emphasis on climate and disaster risk finance since 2012/13. Significant disaster events over the last 4 years – Tropical Cyclone Evan (Samoa and Fiji), Tropical Cyclone Ian (Tonga), Tropical Cyclone Pam (Vanuatu), typhoon Maysak (FSM) and Tropical Cyclone Winston (Fiji) and their impacts on economic and social wellbeing – have also contributed to keeping climate change and disaster risk management on the agenda of the central ministries.

Support to strengthen national institutions and governance mechanisms, such as the Vanuatu National Advisory Board (NAB) and information and knowledge sharing platforms such as its National Advisory Board portal, aim to increase transparency and engage a wider range of stakeholders in decisions and actions related to climate change and DRM issues.

In Kiribati and Choiseul, efforts have been made to support programmatic approaches to meet the needs of communities. Relevant Ministries (National Planning, Finance and Economic Development, Office of the President) steer the interventions at the national level. However, national and regional actors involved in aid coordination and strengthened public financial management have not been sufficiently engaged for the approaches to be sustainable over the long term.

The PRRP's approach to risk governance recognises that in order to take risk into account within key development processes, it is highly likely that the underlying processes will have to be strengthened. The programme has engaged meaningfully at the national level to first understand the development planning context and its existing weaknesses. It is now trialling a number of entry points for integrating risk into existing processes and structures within education, agriculture, private sector and local government.

The learning for other partners is limited to date due to the lack of publicly available documentation on project assessments. Over the coming months meaningful engagement with partners on the implications of their experiences for programme design will be necessary if future projects and programmes are to be designed and managed to achieve the desired resilient development outcomes.

Taking a development first approach at the local level requires working through and with partners that have established relationships with communities. Due to increasing donor assistance, the resources available to support risk-informed development planning at the local level can exceed those available to undertake more conventional local-level development planning. For example, the Divisional or Provincial office may not have the human resources needed to undertake a risk-informed development planning process. Where possible, their capacity should be augmented in ways that will enable them to undertake such tasks, rather than sidelining them by bringing in external expertise.

NGO partners with long established relationships with local governments and communities should be involved more widely in programme design and implementation. The use of regional institutions in implementing community-based initiatives is unlikely to be effective or efficient unless partners who are able to support

the community once the project ends are also involved. Support to strengthen NGO collaboration and their engagement with government (e.g. the Vanuatu Climate Adaptation Network / DFAT) and support to strengthen national Red Cross societies (NZ Red Cross) will be increasingly necessary to equip nationally-based actors with the skills and resources needed to support community level CCA and DRR.

Within the CROP agencies, the blurring of responsibilities and mandates among SPC, SPREP, USP and PIFS has created confusion at the country level, and in all likelihood maintained or even exacerbated competition between these agencies. For example, all key CROP agencies (SPC, SPREP, USP, PIFS) support countries with climate-finance readiness and all have supported specific agriculture and food security interventions.

The proposed Pacific Resilience Partnership represents an opportunity to reinvigorate the existing information exchange platforms in the region, with a view to better harmonising activities and funding so that more can be achieved with the same players and resources – and ultimately to improve overall resourcing. In so doing, the Partnership provides an opportunity to clarify roles and responsibilities across agencies and ultimately shift to joint programming. MFAT can play a role in encouraging such joint programming.

The creation of resilience units within central ministries, such as the Ministry of Finance in Samoa, or line ministries such as the Ministry of Agriculture in Vanuatu, can help to build the institutional capacity of the organisation to meaningfully engage in ensuring that national and sectoral planning processes are risk-informed.

To date, the links between existing efforts to improve public financial management and climate and disaster risk financing have not been strong. Increasingly, those providing technical assistance to countries on public financial management and public sector reform need to be engaged in understanding how those processes can also help position countries to access climate and disaster risk finance and utilise it effectively. USAID Climate-Ready, a new initiative due to commence in 2017, will address this opportunity as part of its focus on institutional strengthening and climate finance readiness.

The increased focus on ensuring that central planners and national level planning and decision-making structures are equipped to deal with the challenges should not in any way diminish the roles of local level actors, particularly NGOs. Local governments play a key role in supporting community development initiatives but are also severely under resourced. NGOs, with well-established relationships to local-level governments and communities, are often much better placed than other actors (governments, regional agencies) to support communities, settlements and households. At the community level it has often been the case that resilience programmes took a development first approach (Oxfam, 2015).

Key Messages for MFAT

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The proposed Pacific Resilience Partnership represents an opportunity to reinvigorate the existing information exchange platforms in the region, with a view to better

harmonising activities and funding so that more can be achieved with the same players and resources – and ultimately to improve overall resourcing.

The private sector should also be seen as a crucial partner in achieving resilient development outcomes. To date, private sector engagement has been weak.

Table 18

Key programmes related to risk management mainstreamed in development plans and processes

Development Agency	Main programmes	Implementing partners	Time-frame	Volume (USD)	Process to define priorities
Australia	Pacific Risk Resilience Program	UNDP, LLEE	2012-2017	AUD 16M	Emergent design
Australia	Vanuatu NGO Climate Change Adaptation Programme	Oxfam, CARE, Save the Children, Vanuatu Red Cross, Vanuatu Rural Development Training Centres Association, GIZ	2012-2014	AUD 2M	
EU	Global Climate Change Alliance: Pacific Small Island States (SPC-GCCA:PSIS)	SPC	Phase I 2011-2016 Phase II 2016-	EUR 11.4M (regional)	Country project design documents
Germany - BMZ	CCCPIR	GIZ, SPC, SPREP, USP, PIFS	2009-18	EUR 23.2M	National planning processes, national and regional steering committees
Australia	Climate finance readiness	GIZ, PIFS, PFTAC	2016-2019	AUD 1.5M	
USAID	IASCC	SPC, PIFS	2016-2019	USD 5M	
USAID	Climate Ready	AECOM	2017-2021	\$25M	TBD

3.2 Risk-informed products, processes and partnerships available and used

In order for development planning to be risk-informed, specific data and information of relevance relating to risks in a particular sector or place needs to have been developed (collected, compiled and stored), be accessible when needed and be analysed and tailored to user needs. Significant investment has been made over the last ten years to improve the evidence base in order to better understand the climate and disaster risks facing the Pacific.

Understanding climate risks

Multiple actors are involved in climate change science research and tool development. SPREP has the lead coordinating role in the region, hosting the World Meteorological Office (WMO), the Pacific Meteorological Desk and in supporting National Meteorological Offices. The Pacific Meteorology Council (PMC) and the Pacific Islands Meteorological Strategy guide its work. A multi-partner expert panel provides input and guidance between PMC meetings.

SPREP and WMO, via the Pacific Meteorological Desk, facilitate and coordinate the regional set of actions and provide national level support where possible. Efforts to bring providers of climate services together have improved partnerships among organisations. US NOAA, Australian BOM and CSIRO, NZ NIWA and MetService, the Korean Meteorological Agency, Japan's Meteorological Agency, France's MeteoFrance and Finland's Finnish Meteorological Institute are key collaborators across their various themes of interest. Ongoing funding for these institutions is largely from their national government budgets, and is heavily influenced by the prevailing political climate.

The PCCSP provided – at the time – up to date information on the expected changes in climate for each PIC. User-friendly data portals³⁴ were established and users received training on how to access information. A strong partnership between National Meteorological Offices, CSIRO and Australia's BOM was strengthened further. Capacity building as part of the programme was generally recognised as being practical, and tailored to the national government (Walter et al., 2013).

Most climate change and disaster risk management policies, strategies and plans at the regional and national levels reference PCCSP outputs. They remain the go-to knowledge products for climate change projections, and have been used to underpin vital research at the sector level, including research publications by SPC on the vulnerability of Pacific fisheries and agriculture to climate change (Bell et al., 2011; Taylor et al. 2016) that can be used by planners in these sectors.

The Climate and Oceans Support Program in the Pacific (CoSPPac)³⁵ focuses specifically on oceans, climate variability, seasonal forecasts and tidal events, and supports long term monitoring of sea-level rise and risks associated with storm surge inundation. Specific tools have been developed and trialled for users, including a malaria early warning system in Solomon Islands and a rainfall and energy model for hydropower in Samoa. An oceans portal³⁶ has recently been developed, with applications of relevance for tourism (swells, ocean currents), marine and climate science (sea surface temperatures, sea-level and coral bleaching warnings), fisheries (sea-surface temperatures, marine protected areas) and shipping (wind speeds, swells, ocean currents).

For the American-affiliated countries, NOAA provides significant support to climate services, and gathers the evidence needed to inform decisions around marine protected area management and expansion from their oceans observation work.

Linking datasets and information on risks to socio-economic databases is important in being able to understand impacts on people, their livelihoods and their assets.

³⁴ <http://www.pacificclimatechangescience.org/>

³⁵ <http://cosppac.bom.gov.au/>

³⁶ <http://www.bom.gov.au/cosppac/apps/portal/ocean.html>

Understanding disaster risks

Through the Global Facility for Disaster Risk Reduction (GFDRR) significant investment has been made to understand the risks faced by countries in the region. As an example – and in collaboration with the EU (ACP-EU) and the Government of Japan³⁷ – the PCRAFI project established two databases that provide the foundation for future assessments and planning:

- Regional historical hazard and loss database for major disasters which contains a historical earthquake catalogue and a historical tropical cyclone catalogue for the region dating back hundreds of years; and
- Regional exposure database, which contains components for buildings and infrastructure, agriculture, and population.

The data are held in, and made publicly available through the Pacific Risk Information System (available in an on-line portal <http://52.64.9.136/>). Based on the data generated, the project has enabled the generation of hazard models, which include earthquakes (both ground shaking and tsunamigenic) and tropical cyclones (wind, storm surge, and excess rainfall) that have been peer-reviewed by Geoscience Australia who described them as *"high standard, thorough and representative of best practice."*

The programme was driven by the need to develop disaster risk assessment tools and practical technical and financial applications to reduce and mitigate countries' vulnerability to natural disasters. In this respect, the programme targets the generation of tools to support ex ante DRR measures (such as planning, emergency preparedness, CAA, disaster risk financing) and post disaster support (such as rapid impact assessments).

A wealth of information exists within the data portal. In several instances it has been used to inform planning – for example, as part of the ADB "Strengthening Disaster and Climate Resilience in Urban Development in the Pacific", tools developed under PCRAFI were trialled in Nadi and Apia (Box E). A review of the project by ADB noted that the planning tools developed under the project were straightforward to use, and relevant, and that there had been a high number of downloads of hazard maps from the PCRAFI web site. The project was deemed by ADB to be successful since the products were viewed as highly relevant and sustainable (ADB, 2016). However, it was also noted that the project was assessed as being less than efficient³⁸. Importantly, it was noted that there were substantial delays in executing the project due to, for example, delays in recruiting SPC to execute the work. Contract signing took place around 25 months after project approval. This delay was largely attributed to a lack of familiarity with ADB recruitment processes and a lack of staff resources dedicated to the work.

Key Messages for MFAT

In order to maximise the usefulness of such databases for decision makers, much greater engagement with users is needed on an ongoing basis to help develop tailored products. To date, the PCRAFI programme has engaged with traditional partners (disaster risk managers and technical specialists) as well as provincial planners. The

³⁷ Also with technical inputs from GNS Science, Geoscience Australia, AIR Worldwide, SPC and the World Bank.

³⁸ <https://www.adb.org/sites/default/files/project-document/185980/46162-001-tcr.pdf>

expansion of the work as part of the PREP³⁹, which will include initiatives relating to early warning tools, risk reduction investments and financial planning for disasters, coupled with the decision to house the coordination unit at PIFS, will enable a more extensive engagement with national and local level planners. The programme is collaborating with CSIRO in an effort to incorporate climate risks to its tropical cyclone model.

Box E

Strengthening Disaster and Climate Risk Resilience in Urban Development in the Pacific

Data collected through the PCRAFI project were targeted to mainstream climate and disaster risk considerations to urban and infrastructure development planning. The project – Strengthening Disaster and Climate Risk Resilience in Urban Development in the Pacific – was intended to increase the resilience of social and economic development in Pacific DMCs to climate change and natural hazard events. The expected outputs were:

1. Integrated climate and disaster risk assessment tools for planning;
2. Integrated tools for mainstreaming disaster and climate risks into urban and sector planning; and
3. Pacific DMC planners with climate and disaster risk mainstreaming skills.

Specifically, the project developed a suite of natural hazard risk assessment tools that are intended to assist urban planners to integrate risk considerations into their work. The tools were applied in Fiji and Samoa, which allowed the tools to be developed and refined with involvement of urban planners from both countries. This ensured that the tools were straightforward to use, and relevant to the types of risk-based decisions that urban managers in the region are required to make. After the tools were developed, pilot-tested, and training delivered in each of the six participating PICs, a user manual was prepared to provide guidance on how to apply these tools.

The risk tools were peer reviewed by an independent expert, who concluded that most of the outputs delivered were of a high quality, and relevant to the needs of users.⁴⁰

Longer-term programmes that invest in maintaining and enhancing capacity to continually monitor and assess risks are required. Termination of ICCAI left a funding vacuum for continuing the research and modelling work completed to date. On the other hand, initiatives that support the long-term collection of fundamental data in the Pacific have often been left to the whim of projects, rather than institutionalised to national processes or long term programmes of work. As an example, the present PDNA of the RMI drought has revealed that the collection of agricultural data in RMI ceased in 2003.

³⁹ <http://www.worldbank.org/en/news/press-release/2016/06/21/pacific-resilience-program-launched>

⁴⁰ Source: ADB 2016. Completion Report: Project Number: 46162-001, Technical Assistance Number: 8238: Strengthening Disaster and Climate Risk Resilience in Urban Development in the Pacific. Available online at <https://www.adb.org/sites/default/files/project-document/185980/46162-001-tcr.pdf>, June.

Prior to this point, comprehensive spatial data on production of agricultural products, such as breadfruit, was available for the country.

Efforts to improve national statistical information for the agriculture sector are being furthered through the Pacific Agriculture and Policy Project (PAPP). Where relevant information is unavailable, PDNAs have relied on extrapolating the trends in the earlier data, according to national changes, such as population growth (PDNA for RMI - forthcoming). This means that planning for food security in the face of a disaster or climate change is severely impeded. There is clearly a role for development partners to support, over the longer term, the collection of basic sectoral data to assess the risks to communities and prepare them for the future. Such activities should be part of a CROP agencies core activity and therefore allocated core funding. Multilateral funding agencies such as the World Bank and the ADB also spend considerable resources maintaining country-specific databases and could play a much greater role in partnering with PICs to develop and maintain these at the national level as a capacity development initiative.

Table 19

Key programmes relating to risk-informed products, processes and partnerships available and used

Development Agency	Main programmes	Implementing partners	Time-frame	Volume	Process to define priorities
Australia	PACCSAP (ICCAI	CSIRO, BoM, DCCEE	2011-14	AUD 32M	
Australia	COSPPac	BoM, SPC, SPREP, National Met Offices	2012-2017	AUD 32M	Stakeholder workshops Pacific Meteorology Council Strategy and Meeting
Australia	CSIRO-SPREP	CSIRO-SPREP	2016-2018	AUD 990,000	
Australia	Pacific iClim	Griffith University / SPREP	2014-2018	AUD 1.5M (2014-16) +AUD 1.5M (2016-18)	
World Bank	PCRAFI Pilot ⁴¹	SPC, ADB, GFDRR, EU, Japan	2007-15		
World Bank	Pacific Resilience Programme	PIFS, SPC	2015-2020	USD 45.5M ⁴²	

⁴¹ The Pacific Disaster Risk Financing Initiative (DRFI) was piloted under the Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI), a joint initiative of the World Bank, SPC, and the Asian Development Bank with financial support from the Government of Japan, the Global Facility for Disaster Reduction and Recovery (GFDRR) and the European Union. The Pacific DRFI pilot came to an end in October 2015, and has been continued under the PREP.

⁴² The *Pacific Resilience Program* is funded through US\$32.29 million in grants and credits from the International Development Association (IDA), the World Bank's fund for the world's poorest countries. The Global Environment Facility Special Climate Change Fund to Tonga and PIFS have provided US\$5.48 million; the Pilot Programme for Climate Resilience to the Pacific Community (SPC) has provided US\$5.79 million in grant funding; and the Global Facility for Disaster

Japan	Fiji - EWS for cyclones, tsunami, earthquakes	JICA, WB	2011-13	USD 2.78M	Country assistance policy/ Rolling plan
Japan	Vanuatu - Managing Disaster Risk Reduction Project	JICA, WB		USD 2.78M	
Japan	Construction of Climate Change Centre	SPREP	2017- tbc		PALM 7 meeting
Finland	FINPAC	SPREP, Red Cross, CSIRO, BoM, National Met Offices	2014-17	EUR 3.7M	
Australia, Canada, France, Germany, Luxembourg, Netherlands	Climate Risk Early Warning Systems	UNISDR, WMO, GFDRR	2016-	USD 80M	

Responding to user needs

The following sections provide some examples of the way in which risk information is being taken into account in key sectors.

Several projects have sought to bring together the producers of risk information (such as National Meteorological Offices) with users of the information (e.g. Agricultural extension officers, Red Cross societies). These have included the COSPPac programme (see above) and the FINPac project – a partnership between SPREP, SPC and the Red Cross, funded by Finland. This project sought to develop specific tools and enhance the capability of Red Cross societies in providing advice to communities on identifying risk reduction measures.

Additionally, the surge in post disaster needs assessments in the region (eight since 2009) has provided an opportunity to incorporate risk information into different sectors (Box F).

Agriculture

At the outset it is worth recognising that traditional agro-ecosystems are relatively resilient. The move towards commercial agriculture and in particular mono-cropping for cash purposes has eroded some of these systems and thereby increased risk. Many programmes (COSPPac, CCCPIR) have supported the documentation of traditional knowledge in recognition of its importance.

Various attempts have been made to integrate risk into agricultural development, and develop farmer-friendly tools for risk reduction. Specific agro-met workshops were organised by SPC and UNDP as part of a south-south exchange in 2012-2014. As part of a GEF project, Samoa was supported to develop a climate early warning system

Reduction and Recovery to Tonga has provided \$US1.5 million in grant funding. (World Bank, 2016)

(CLEWS) for various sectors, including the agriculture sector.⁴³ There was also support provided to document traditional knowledge for early warnings.

Box F

PDNAs and Mainstreaming

A key development in the Pacific in the last seven years has been the emergence of post disaster needs assessments (PDNAs). PDNAs target a comprehensive socioeconomic assessment of the effects of a major event, whether they be sudden onset (e.g. the 2009 PDNA of the tsunami in Samoa) or slow onset (e.g. the 2016 PDNA of the RMI severe drought⁴⁴). The methodology of a PDNA involves assessment of the effects of an event on sectors, communities and the macroeconomic economy. As such, PDNAs provide an opportunity to mainstream risk reduction and management across society and the economy. The surge in PDNAs in the region in recent years provides considerable promise to ensure that risk management has a high profile for economic and social planning.

PDNAs so far delivered in the region are:

Samoa (2009 tsunami, 2012 TC Evan)
Fiji (2013 TC Evan, 2016 TC Winston)
Solomon Islands (2013 floods)
Vanuatu (2014 TC Pam)
Tuvalu (2014 TC Pam)
RMI (2016 severe drought).

Research conducted at SPC's Centre for Pacific Crops and Trees (CePaCT), through the ICCAI, assessed regional varieties against various traits. The resulting material is now expanding the diversity of food crops around the region. However, monitoring distribution and performance of materials from CePaCT is weak. Their in-country partners are agricultural research stations and CePaCT is completely dependent on them for monitoring the results of distributions.

Recent publications on the vulnerability of Pacific agriculture and forestry to climate change (funded by Australia) (Taylor et al., 2016), on threats to Pacific Island food systems from climate change impacts (funded by New Zealand and ACIAR) (Bell et al., 2016) and on climate change, food security and socioeconomic livelihoods (Rosegrant et al., 2015), provide up to date information on threats and options for managing climate change impacts which can be utilised by planners.⁴⁵

⁴³

http://www.samet.gov.ws/images/Resources/Climate%20Services%20to%20Agriculture_Samoa_12_May_2014.pdf

<http://www.samet.gov.ws/index.php/clews-products/soil-moisture-analysis>

⁴⁴ In prep.

⁴⁵ <https://cgspace.cgiar.org/handle/10568/75610>

<http://www.spc.int/en/media-releases/2534-new-book-improves-knowledge-of-climate-change-impacts-on-pacific-crops-livestock-and-forests.html>

Several countries have been supported to update their agricultural policies and plans to take into account the latest information available on climate and disaster risks to the agriculture sector. This includes Vanuatu (CCCPIR), Samoa (GEF/UNDP), Solomon Islands (GEF/UNDP - SWoCK) and Tonga (PRRP).

In August 2016, UNESCAP convened an expert group to discuss the implications of climate change on food security in the region utilising recent research.

Table 20

Key programmes relating to risk-informed products, processes and partnerships in the area of agriculture

Development Agency	Main programmes	Implementing partners	Time-frame	Volume (USD)	Process to define priorities
Australia	COSPPac	BoM, SPC, SPREP, National Met Offices	2012-2017	AUD \$32M	Stakeholder workshops Pacific Meteorology Council Strategy and Meeting
Australia	ICCAI – support to the Centre for Pacific Crops and Trees (CePaCT) for climate resilient crops	SPC	2010-2013		SPC/ LRD internal planning process
Germany - BMZ	CCCPIR	GIZ, SPC, SPREP, USP, PIFS	2009-18	EUR 23.2M	National planning processes, national and regional steering committees
GEF/LCDF / Australia	Samoa CLEWS	Samoa Ministry of Agriculture, Meteorological Office, UNDP, NIWA, JICA, BoM	2008-2013		
Australia	Pacific Risk Resilience Program	UNDP, LLEE	2012-2017	AUD \$16M	Emergent design
GCCA	GCCA-PSIS	SPC	2011-16	EUR 11.4M	Steering Committee, project design documents

Infrastructure

Climate change and natural hazard events have a substantial impact on infrastructure investments in the region. A significant number of development loans (from ADB and the World Bank, amongst others) relate to infrastructure. Thus making certain that these investments take climate and disaster risks into account is critical to ensuring that these projects represent sound investment. The Pacific Region Infrastructure Facility (PRIF) is committed to climate proofing all investments in the region.

Both the ADB and World Bank, and the relevant countries, assess the pipelines of planned projects in the region, to identify the most important projects for accessing additional financing to adjust project designs to be more resilient for future conditions. For example, the first successful Pacific project to be funded through the Green Climate Fund relates to an existing loan from ADB for a sewerage infrastructure project in Fiji. The GCF has provided USD 31 million as a grant component to ensure its resilience against future climate developments. ADB has identified a pipeline of projects for which it will try and access additional resources from the GCF for the anticipated higher costs of building to reduce future risks.

Table 21

Key programmes relating to risk-informed products, processes and partnerships in the area of infrastructure

Development Agency	Main programmes	Implementing partners	Time-frame	Volume (USD)
Australia	PACCSAP (ICCAI)	CSIRO, BoM, DCCEE	2011-14	AUD \$32M
Australia	CSIRO-SPREP	CSIRO-SPREP	2016-2018	AUD \$990,000
GCF, ADB, EIB, Government of Fiji	Fiji Urban Water Supply and Waste Management	Government of Fiji, ADB	2016-2021	USD 222M GCF 31M grant ADB 67.7M loan EIB 38M loan Fiji Government 85.3M
World Bank	Pacific Resilience Programme	PIFS, SPC	2015-2020	USD 45.5M ⁴⁶

This table does not include many other PRIF infrastructure programmes at national level that will also produce risk information to inform design

PCRAFI, and the Pacific Risk Information System developed as part of the initiative, provide vital information for infrastructure and other planners. Ensuring that this information is tailored to user needs should be prioritised during the PREP. Tools developed through PACCSAP aimed to provide planners – in particularly those working on roads and in urban settlements – with risk information to improve the design of infrastructure going forward. As noted earlier, a failure to significantly engage with relevant planners in country meant that the products were not necessarily well tailored

⁴⁶ The *Pacific Resilience Program* is funded through US\$32.29 million in grants and credits from the International Development Association (IDA), the World Bank's fund for the world's poorest countries. The Global Environment Facility Special Climate Change Fund to Tonga and PIFS have provided US\$5.48 million; the Pilot Program for Climate Resilience to the Pacific Community (SPC) has provided US\$5.79 million in grant funding; and the Global Facility for Disaster Reduction and Recovery to Tonga has provided \$US1.5 million in grant funding. (World Bank, 2016)

to user needs. Additional funding provided to CSIRO aims to increase the accessibility and usefulness of PACCSAP tools for users.

Fisheries

A significant amount of research has been conducted over the past five years to provide decision makers in coastal and oceanic fisheries management with information on the likely impacts of climate change in the future (e.g. Bell et al., 2011; Ganachaud et al., 2013). A crucial part of adapting to these impacts will be strong governance systems – both to manage declines in coastal fisheries productivity and any possible changes in offshore revenue from shifts in habitats. For example, in some countries, there is likely to be harm to coastal fisheries as reefs are damaged by rising sea temperatures and ocean acidification. From a food and income security perspective, this is likely to put pressure on remaining resources, as – for instance – communities are instead forced to mine fisheries further along the coast, previously off-limit areas (such as nurseries), freshwater fisheries or beaches (for molluscs or trachurus).

MFAT provides substantial support to fisheries departments in the region, with technical advisers placed in Kiribati and Tuvalu. Maximising the revenue from tuna fisheries is a no-regrets adaptation option that can be supported by strong governance systems. Options should be assessed for: (i) identifying alternative fisheries resource industries for those countries where tuna fisheries are likely to be harmed by climate change; (ii) supporting the development of tuna fisheries and value adding industries for those countries which may benefit from improved tuna fisheries in the future; and (iii) better utilising by-catch and lower grade tuna to support local food security taking into consideration any potential social impacts.

Table 22

Key programmes relating to risk-informed products, processes and partnerships in the area of fisheries

Development Agency	Main programmes	Implementing partners	Time-frame	Volume
MFAT	Fisheries information management system	FFA, SPC	2015-20	NZD 4.7M
MFAT	Fisheries Mekem Strong Solomon Islands Fisheries	Solomon Islands Ministry of Fisheries and Marine Resources (MFMR)	2010-14	NZD 8M
MFAT	Ocean acidification	SPC, SPREP, USP	2015-18	NZD 1.8M

Water Security

Many of the impacts on other sectors – agriculture, health, energy, tourism – are through impacts on water – see, for example, McIver et al. (2015). Thus ensuring water planners and managers have access to reliable information, including forecasts and projections relating to rainfall and hydro-meteorological data, is vital for use in early warning systems (e.g. flooding, drought), seasonal forecasting and climate change impact projections.

Significant progress has been made as part of the PCCSP to digitise historical rainfall data records to use as the basis for seasonal outlooks and longer-term climate change

projections. Specific tools have been designed for particular contexts (e.g. use of Samoa’s climate early warning system and soil moisture analysis tool in Samoa’s hydropower feasibility assessment). Integrated Water Resource Management (IWRM) projects have been carried out over the past few years and have utilised some of this information. The EU has also provided budget support for Samoa’s water sector.

MFAT’s support for strengthening water security in atolls will include strengthening drought response systems and underpinning that is data and information relating to rainfall patterns.

DFAT and MFAT provide substantial support to water security programmes in the region, in particular to Tuvalu and Kiribati. As noted above, UNICEF’s portfolio in the region is heavily concentrated on water security, in the context of children’s rights and disaster preparedness.

Table 23

Key programmes relating to risk-informed products, processes and partnerships in the area of water security

Development Agency	Main programmes	Implementing partners	Time-frame	Volume
Australia	PACCSAP (ICCAI	CSIRO, BoM, DCCEE	2011-14	AUD \$32M
MFAT	Strengthening water security of vulnerable island states	SPC	2016-19	NZD 5M
MFAT	Strengthening water security of vulnerable island states	SPC	2016-19	NZD 5M
GEF	Implementing Sustainable Water Resources and Wastewater Management in PICs (Pacific IWRM)	SPC	2008-2013	USD10.7M (regional)
	And Ridge to Reef	UNDP, SPC, National Governments	2016-2018	USD 91M (national programmes)

This table does not include many national level programmes including EU / UNICEF Kiriwatsan (see Kiribati section), EU Budget Support for the water sector in Samoa including GCCA funding (see EU section), Water and sanitation sector programme in Kiribati through PRIF partners.

Education and Training

The recently endorsed FRDP highlights that training, education, community planning workshops involving multi-sector participation, as well as other forms of human resources development, are critical to building resilient communities, which can more effectively participate in risk reducing initiatives and protect the interests of their most vulnerable people. Training is also essential for national disaster and climate change agencies and for other key national departments (such as lands, meteorological and hydrological services, health, education, tourism and planning). Such needs-based capacity building can provide a significant return on investment. The private sector can also make specific contributions to enhancing resilience on a local scale, for example in

raising awareness around disaster risk reduction, CCA and emissions reduction as the first step towards increased resilience at community level.

A priority action in the recently endorsed FRDP is to strengthen knowledge on the causes, local impacts and responses to climate change, hazards and disasters, and build capacity for local adaptation and other risk management measures, through formal and non-formal education systems.

Importantly in this regard, studies across 15 Pacific island nations (Hemstock et al., 2016) showed that a key barrier to improving national resilience to disaster risks and climate change impacts is a lack of capacity and expertise resulting from the absence of sustainable accredited and quality assured formal training programmes in DRR and CCA. Limited availability of appropriate formal training related to CCA and DRR in the region has led to: (i) a lack of locally trained people to implement and monitor projects; (ii) use of donor funds to support foreign experts; and (iii) unsuccessful projects, including those causing maladaptation or increased vulnerability and risk. Currently most of the training materials available are not reviewed, either through a peer-to-peer mechanism or by the scientific community and are, thus, not following quality assurance standards.

Findings from a regional needs and gap analysis (SPC, 2015) indicate that formal qualifications which account for local contexts are required to build national capacity to: (i) accurately monitor and assess impacts of climate change and natural hazards; (ii) identify solutions to reduce these risks; and (iii) plan, manage and implement risk reduction projects to reduce damage and losses. There is a need for a regionally accredited capacity building initiative that ensures all countries can produce, access and effectively use scientific and other relevant information for DRR and CCA.

A key challenge is to provide an accreditation and quality assurance mechanism that is shared across boundaries. Responsive and accredited regional qualifications should ensure that the interventions managed by those having these qualifications are indeed supporting sustainable development.

The challenge is now being addressed with the launch of the Pacific Regional Federation of Resilience Professionals, for DRR and CCA. Development of regionally-specific quality assured qualifications in this context is ground breaking. It is an important outcome of the EU Pacific Technical Vocational Education and Training in Sustainable Energy and Climate Change Adaptation Project (EU PacTVET).

It is critical that the Pacific Regional Federation of Resilience Professionals embraces the “development first” approach to building resilience, rather than promoting the more conventional “risk first” approach.

As part of SPC/GIZ CCCPIR and PRRP, support has been provided to curriculum development units and Ministries of Education policy makers, to integrate climate change and DRM within their respective national education frameworks, as well as primary, secondary and technical and vocational education and training policies. PRRP has provided support for a resilience officer within the Ministry of Education in Fiji to facilitate the integration of risks in policies and curricula.

SPC has provided professional development training to DRM professionals in the region, to enhance their capability to plan for, manage and respond to disasters. The suit of training provided builds on professional development training developed under The Asia Foundation/ US Office of Foreign Development Assistance (TAF/OFDA) from the

1990s. This training has now been extended to support a realm of DRM management needs, including introduction to DRM, post disaster needs assessment (Box F) and Post Graduate Programmes in DRM at the Fiji National University and The University of the South Pacific. The training reflects a regional competency framework for DRM.

Table 24

Key programmes relating to risk-informed products, processes and partnerships in the area of education

Development Agency	Main programmes	Implementing partners	Time-frame	Volume (USD)	Process to define priorities
Australia	Pacific Risk Resilience Program	UNDP, LLEE	2012-2017	AUD 16M	Emergent design
Australia	Vanuatu NGO Climate Change Adaptation Programme	Oxfam, CARE, Save the Children, Vanuatu Red Cross, Vanuatu Rural Development Training Centres Association, GIZ	2012-2014	AUD 2M	
Germany – BMZ	CCCPiR	GIZ, SPC, SPREP, USP, PIFS	2009-18	EUR 23.2M	National planning processes, national and regional steering committees
Australia	SPC / GIZ CCCPIR (support to produce teacher training material)	GIZ	2012-2013		
EU EDF-10	ACSE - TVET	SPC/USP	2014-18	EUR 6M	Steering Committee
	Integrating climate change adaptation into teacher training	UNESCO			

3.3 Adaptation and disaster risk management localised, as appropriate

Various projects and programmes aim to strengthen the link between different governance levels in a country. However, few have it as their overall focus, or link well into existing governance programmes. The PRRP aims to improve the links between national and local government and communities by strengthening existing governance and planning systems. Working through divisional offices (e.g. Fiji) or Ministries of Internal Affairs (e.g. Tonga), PRRP is helping to connect actors that were previously not engaged in understanding their crucial role in building resilience. The programme design, by explicitly including an NGO as a delivery partner, also helped to strengthen NGO – government partnerships.

A multi-partner approach in Choiseul (SPC, SPREP, GIZ, DFAT, UNDP, TNC) is aiming to bridge the national – provincial divide by supporting the provincial government with its development planning processes. A key weakness of this approach has been the failure to engage a development-planning specialist to lead the team in Choiseul. The technical staff employed tended to focus on agriculture and forestry activities, rather than strengthening planning processes to incorporate risk (pers. comm. GIZ).

In Kiribati, the Whole of Island Approach was developed to strengthen the links between national government and the Abaiang Island Council, and to align support provided by the national government and other partners to the Island Strategic Plan. The approach resulted in buy-in from government and partners working on resilience. Resilience is not referenced in the overall Kiribati development plan, suggesting that there is a failure to adequately link the work in central policy and planning with that undertaken by other parts of government.

There are many NGOs working at the community level across the Pacific – particularly on CCA, DRR, water and sanitation, livelihoods and conservation issues in fisheries, agriculture and forestry. Some of the larger initiatives are considered below. In general, their work is issue-focussed. But while they may have different entry points, working at the community level tends to necessitate working through a development lens (Oxfam, 2015). Much of the funding for this work is provided through Australia, New Zealand and United States funding mechanisms that channel funding to NGOs, including Australian and NZ Red Cross, Care, Plan, Action Aid, Oxfam and Live and Learn Environmental Education. A concern of the NGO community is the predictability and continuity of their funding.

Discussions with several NGOs suggest that they are sometimes not systematically involved in the design and execution of relevant projects in the Pacific region. Part of this may be lack of awareness by government departments as to which agencies operate in their area. However, the likelihood also exists that many national planning processes are heavily state agency focussed and do not strategically include civil society representatives as a matter of course. There is enormous opportunity to responsibly enhance civil society involvement in planning and delivering resilient development initiatives. For example, many benefits arose when NZ involved the Tuvalu Association of NGOs in helping to plan and deliver community consultation on a borrow pits rehabilitation project (Allen and Clarke, 2016).

Many tools used to assess community adaptive capacity or vulnerability tend to start from a sustainable livelihoods framework. As a result, links to community level governance structures and decision-making processes emerge fairly early on in the use of these initial assessment tools (SPC, 2016). While many NGO-led projects and programmes may support local governance strengthening to a certain degree, linking this to wider governance arrangements from local government or extension officers is constrained by limited capacity within the system. It is fairly common for NGOs to want to partner with government service providers, but the latter may not have the time or resources to engage with them directly. This highlights an opportunity for supplementing national capacity, such as by paying salaries for specific activities, in order to strengthen community level governance, including links with local government processes. There are also significant opportunities for donors to support local governance strengthening, such as used to occur through an MFAT-Local Government New Zealand partnership, including working in Tuvalu.

Relevant NGO initiatives that provide learning opportunities related to localising adaptation and disaster risk management include:

- The Fiji Community Development Programme – this is a large DFAT-funded programme supporting NGOs in their work to advance community level development and livelihoods; it provides support and institutional strengthening to many NGOs and may benefit from the opportunity to strengthen links between it and resilience programmes;
- The Commonwealth Local Government Forum is a regional agency specifically mandated with strengthening local government – but it is under-resourced and as such struggles to have the time to connect with other actors working on similar initiatives;
- The GEF / UNDP Tuvalu NAPA2 project, which aims to support island strategic planning processes, and integrate risk as part of the working with the Falekaupule (local island council), recognises that supporting local government’s planning processes effectively requires a sound understanding of the local context and strong in-country presence and/or networks;
- NGOs involved in humanitarian response, such as Red Cross and Habitat for Humanity, tend to have stronger links to local government through their involvement in the cluster networks; such NGOs are often tasked with assessments and distribution of relief;
- Within the conservation space, the Packard Foundation funded conservation officers, for instance within the Provincial Offices in Fiji, to act as specific focal points for conservation NGOs and to support the provinces to coordinate the activities of partners and align them to the respective provincial development plans;
- Support provided by EU, WB, DFAT, GIZ, UNDP and Oxfam to the Vanuatu National Advisory Board and the Vanuatu Climate Adaptation Network facilitated links and collaboration between local and national level stakeholders; and
- Vanuatu’s National Advisory Board includes NGO and local government representatives, thereby ensuring their involvement in national level policy and decision making where they are better able to reflect local views in national discussions (Oxfam, 2015).

Few programmes have addressed the issues of resilience in the context of strengthening links between national and local actors for urban areas, including informal settlements. Significantly, the Cities and Climate Change Initiative, led by UN Habitat, SPREP and UNEP, and funded by the EU, worked closely with Lami Town Council to improve the understanding of risks facing the town and integrate these into their planning processes for the prioritisation of infrastructure. Similar initiatives have been undertaken in Honiara, Port Moresby and Port Vila. UN Habitat also works to strengthen urban planning and develop risk profiles for urban settlements and infrastructure.

Table 25

**Key Programmes relating to adaptation and disaster risk management
localised, as appropriate**

Development Agency	Main programmes	Implementing partners	Time-frame	Volume (USD)	Process to define priorities
Australia	Pacific Risk Resilience Program	UNDP, LLEE	2012-2017	AUD \$16M	Emergent design
Australia	Humanitarian Partnership	Australian Red Cross, Care, Oxfam, Plan, Action Aid	As a response to a disaster		
Australia	Markets for Change	UNDP	2014-19	\$4.6M	
MFAT	NGO Disaster Relief Forum		2014-18		MFAT
GEF	NAPA2 - Tuvalu	UNDP	2015-2018	USD 4.2M	Steering committee
Germany / USAID	CCCPIR – Choiseul / WoI	GIZ	2011-2018	USD 1M (USAID) plus additional contributions from other	CHICCAP Partners Meetings and work plan WoI Work plan
German, USAID	CCCPIR, USAID/SPC Food Security SPREP – WoI	SPC, SPREP, GIZ, UNICEF, UNDP	2011-2014		WoI Work plan
Australia, EU, WB, Germany	Vanuatu – institutional strengthening to the Vanuatu National Advisory Board	Vanuatu Government	2010-14	EUR 5.7M (GCCA EUR 3.2m, WB 2.5M) Also through PRRP, CCCPIR	
Australia	Vanuatu NGO Climate Change Adaptation Programme	Oxfam, CARE, Save the Children, Vanuatu Red Cross, Vanuatu Rural Development Training Centres Association, GIZ	2012-2014	AUD 2M	

This table does not include many national and regional NGO programmes including those implemented by ADRA, Live and Learn, Red Cross Societies, Save the Children, Oxfam, Care, FSPI, TNC, WWF, IUCN, WCS and other NGOs

3.4 Underlying determinants of vulnerability are addressed

Vulnerability is multi-faceted and as such programmes that address underlying structural determinants of vulnerability such as poverty, access and rights to land, information, gender and social inequalities are also relevant for strengthening long-term resilience. Development initiatives can also erode traditional social networks and livelihoods and can therefore contribute to exacerbating vulnerability.

Most practitioners involved in designing and managing CCA and DRR projects and programmes are likely to claim that they are involved in addressing the underlying determinants of vulnerability – such as gender inequality, poverty, barriers in accessing resources including natural resources, decision making and governance processes. And many do so, but often in a highly superficial way.

There is not the opportunity to unpack all of the underlying determinants of vulnerability and discuss the extent to which they have been taken into account in climate change and disaster risk management responses. But to illustrate some of the broader challenges, the issues of promoting gender and social inclusion are considered. It has proved challenging to ensure mainstream climate change and DRM programmes acknowledge the importance of gender and social inclusion as an issue to address within their projects and programmes (pers. comm. GIZ). Specific toolkits and training courses have been developed⁴⁷ by several programmes to assist with this process.

Most development partners have gender action plans and/or gender markers and criteria that those involved in programme design must address during the programming phase. Ensuring that recommendations made during project design are implemented relies heavily on leadership by the implementing agency, including their own training and capacity in relation to gender equity.

Examples of projects and programmes that have a strong emphasis on addressing the underlying determinants of vulnerability are provided in Table 26. Humanitarian programmes have been excluded from this table. They tend to focus on ensuring that some of these underlying vulnerabilities are not factors in exacerbating the impact of a specific event, rather than working to reduce these factors pre-disaster as a contributor to vulnerability. The ProPa (Protection in the Pacific) network, facilitated by PRRP, is providing opportunities for gender and diversity focal points within government to share their experiences and challenges of championing the issue nationally and to find solutions jointly.

It should also be noted that almost all development programmes (education, health, livelihood development, agriculture, fisheries, natural resource management and conservation, gender equality, human rights etc.) can contribute to addressing underlying vulnerabilities to climate change and disaster risks where these are considered within the programme. In the absence of their consideration there is also the possibility that they aggravate existing vulnerabilities.

In general, DRR projects and programmes recognised these issues earlier than did those related to CCA. In addition, projects and programmes designed and implemented by NGOs tend to place a greater emphasis on a rights-based approach to DRR and CCA. In

⁴⁷ Including the Pacific Gender and Climate Change Toolkit and the Red Cross Minimum standard commitments to gender and diversity in emergency programming.

addition, in community-based programmes it is often more immediately obvious why considerations such as poverty, gender equity and disabilities do matter. They tend to receive less attention during policy processes and climate and disaster financing discussions.

Additional funding provided by DFAT as part of PACC+ allowed the project to contract gender expertise and provide training to project teams. But most countries felt that attempting to retrospectively add gender aspects onto projects when they were near completion had missed the opportunity to work on the issue substantively.

The SPC/GIZ CCCPIR programme had mixed success in addressing gender considerations within community-based interventions. Ensuring that women could voice their opinions during priority setting exercises resulted in the Petani Women’s Group in Tonga successfully rehabilitating plots of idle land and turning them in to productive food gardens. Women in Pele, Vanuatu, identified solar fruit drying as an activity that could make use of the excess fruit available during certain times of the year, and support their income generation aspirations. In FSM, where the focus was on community fisheries, women were not adequately consulted as part of the process. Fisheries were deemed to be “men’s” activities. The difference in approach stems from differences in the awareness of programme managers, and the importance that programme managers place on the issue. This highlights not only the critical role of gender responsive monitoring and evaluation frameworks and gender markers, but also internal training and leadership.

A review of Australia’s aid programme (Walter et al., 2013) found that success factors contributing to gender equality in project and programme outcomes included engaging both men and women, conducting a social/gender analysis at the outset, reflecting on and using its results, and strong leadership on the issue. The study found that NGOs most able to demonstrate a contribution toward gender equality and women’s empowerment were those presenting a strong organisational (internal) commitment and operational framework for actioning gender in their (external) programming.

Table 27

Key projects and programmes that ensure the underlying determinants of vulnerability are addressed

Development Agency	Main programmes	Implementing partners	Timeframe	Volume	Tools to define underlying vulnerabilities
Australia	Pacific Women	Cardno, DFAT and many contracted partners	2013-2023	AUD 320M	
Australia	PRRP	UNDP, LLEE	2013-2018	AUD 16M	Gender and Social Inclusion addressed with governance assessment. ProPa network of gender focal points
Australia	Vanuatu NGO Climate Change Adaptation Programme NGO	Oxfam, Care		AUD 2M	

Australia, NZ	IFRC	National RC Societies	Ongoing		
EU	EDF-11 Regional Gender Programme	SPC			
Germany - BMZ	CCCPIR	GIZ, SPC, SPREP, USP, PIFS	2009-18	EUR 23.2M	National planning processes, national and regional steering committees

The table above relates to projects that aim to address underlying determinants of vulnerability relating to social and gender inequalities. There is not space in this report to cover all underlying determinants of vulnerability.

3.5 Individual and institutional capacities are well developed

A. Strengthening the capacities of individuals

While essentially all projects and programmes have capacity building elements, including training courses, coaching, mentoring and peer to peer learning, several projects and programmes work specifically on strengthening formal education and capacity. As part of the EU-GCCA programme at the University of the South Pacific, formal scholarships are offered in post-graduate climate change and DRM programmes.

The EU – ACSE programme has a specific Technical and Vocational Education and Training (TVET) initiative involving both SPC and USP. It is aimed at integrating climate change and disaster risk management within formal TVET qualifications and training programmes. This builds on, and provides support to TVET institutions through CCCPIR. That programme works through the Ministry of Education to integrate climate change and DRM into formal primary and secondary school curricula. Teacher guides including facilitation notes were developed to accompany this.

Table 28

Key Programmes relating to strengthening individual capacities

Development Agency	Main programmes	Implementing partners	Timeframe	Volume	Process to define priorities
EU	USP-GCCA	USP scholarships	2011-2017		Public advertisement for applicants
EU	ACSE -TVET	SPC/USP	2014-2018	EUR 6M	
Germany	CCCPIR	SPC/USP/GIZ	2011-2018	EUR 23.2M (education component is a small component of a wider regional programme)	

B. Institutional strengthening

Climate finance and risk governance assessments include a pillar on governance mechanisms. Analysis of the assessments has identified several priority areas for institutional strengthening. These are now starting to be addressed by relevant projects.

For example, PRRP’s focus is to strengthen institutional capacity throughout the risk governance process. New and upcoming projects, such as the USAID-SPC ISACC (USD 5 million) and the USAID Climate-Ready (USD 24.9 million), also have resources available to build and implement the assessment findings, and should take these as their starting points. A key part of ADB and World Bank capacity building support is to enhance public financial management processes and internal governance procedures.

As part of the Pilot Programme on Climate Resilience (PPCR), Tuvalu and Kosrae are strengthening their internal prioritisation process for investment decisions. The national track of the PPCR in Samoa also supported establishment of the Climate Resilience Unit in the Ministry of Finance.

At the sector level, MFAT’s fisheries institutional strengthening programme builds resilience in a key sector of vital importance for small atolls and islands.

Table 29

Key programmes relating to institutional strengthening

Development Agency	Main programmes	Implementing partners	Timeframe	Volume	Process to define priorities
Australia	PRRP	UNDP, LLEE	2013-2018	AUD 16M	Risk Governance Assessment
USAID	Adapt	AECOM	2011-2016		
CIF	PPCR	SPREP/ADB	2012-2017	USD 3.61M	Situation and gap analysis
CIF	PPCR (Tonga, Samoa, PNG)	ADB / WB			
USAID	Institutional Strengthening in Pacific Island countries to Adapt to Climate Change (ISACC)	SPC	2015-2020	USD 5M	
USAID	Climate Ready	TBD	2017-2021	USD 25M	
Australia	Climate finance readiness	GIZ, PIFS, PFTAC	2016-2019	AUD 1.5M	Country requests

3.6 Private sector playing a significant role in resilient development

The private sector is a catch-all term and includes many different types of business – from sole trader farmers to global multinationals. These diverse actors therefore have diverse needs. Some are in the position to finance investments needed to progress the resilient development agenda. Some can act as key supportive players in the process. Micro enterprises tend to be too small to have insurance or much capital. Shocks can have a severely detrimental impact on these micro-enterprises and they are likely to need support to manage climate and disasters risk.

The private sector should be seen as a crucial partner in achieving resilient development outcomes. To date, private sector engagement has been weak. Formal evaluations are not available but some promising initiatives are emerging from collaborative efforts between UNISDR, the Pacific Islands Private Sector Organisation (PIPSO), and the Fiji Business Disaster Council. These include (i) strengthening networks between private sector and government actors to discuss respective needs and capacities pre and post-disaster, (ii) mapping private sector capacity and resources pre-disasters, to enable an effective and inclusive response to disasters in a timely manner and (iii) strengthening business community and improving that ability to interpret and act on weather information, including forecasts and warnings.

It is acknowledged that in the future much of the funding for risk reduction and management will have to come from the private sector. The private sector also has significant skills and capacity to contribute to the resilient development agenda. Engaging this sector is therefore a crucial part of a holistic response to climate change and disaster risk management. As an example, six months on from TC Winston in Fiji, building supplies to support the recovery were still in short supply. Improving partnerships among government, NGOs and the private sector could facilitate the efficient importation and distribution of materials needed to support the recovery. For example, putting in place measures to support the private sector to access credit post-disaster can help them to get back on their feet as soon as possible.

Having existing supply contracts with Australian- and New Zealand-based firms that are triggered post-disaster without the need to negotiate them at the height of the response effort would streamline responses. Similarly, establishing clarity pre-disaster on mechanisms that would be applied post-disaster, such as tax concessions and housing support can also speed up response efforts.

The GCF is making a concerted effort to attract private sector proponents of projects, as well as co-financing. Having accredited entities that are used to working with private sector actors (e.g. local development banks) may increase access to the GCF.

Responses to date to engage the private sector meaningfully have been inadequate. It is common for the Pacific Climate Change Roundtable to include sessions on private sector engagement, and invite speakers from the private sector, but formal initiatives to strengthen the enabling environment for micro enterprises are limited.

In the case of capital-intensive renewable energy project developments, Independent Power Producers (IPPs) are likely to continue to be reluctant to take on the risk that a long-term (often 20 year term) Power Purchase Agreement (PPA) will not be honoured by the recipient government. An important role of entities such as the ADB and World Bank is therefore to provide "Sovereign risk" insurance or similar backing to remove this barrier to development.

Efforts to engage the private sector formally include training conducted by UNSIDR on business continuity with key private sector representatives. UNOCHA, UNISDR and PRRP have also supported the establishment in Fiji of a Business and Disaster Risk Council to provide private sector representatives with opportunities to voice their views on ways to build the resilience of private sector actors within Fiji, and to share their experiences. A workshop in Suva in September 2016 discussed how the private sector can better connect with the humanitarian cluster system, and also assess information needs of private sector actors pre- and post-disaster, to help minimise confusion and support coordination efforts.

PRRP has also facilitated partnerships between the office of the Western Commissioner in Fiji and the private sector, to transport pre-positioned supplies and post-disaster supplies to the Yasawa group of islands. PRRP also worked with private mobile phone providers, Digicel and Vodafone, to develop joint agreements on sending early warnings by text messaging.

Several programmes that support agricultural development (e.g. PAPP) have strengthened links between private sector buyers of agricultural produce and local producers. The focus has been on the tourism sector. Other examples from the private sector include bringing seedlings in from the nursery in advance of extreme conditions, to protect them in shipping containers (PIFON Newsletter, 2016), and supplying credit facilities to farmers post disaster to support their early recovery. UNESCAP and SPC facilitated an expert meeting in Nadi in August 2016 that brought together several partners to discuss resilience in the agriculture sector, including the private sector.

Insurance-based instruments have not been used extensively in the Pacific. Many large tourism facilities have business interruption insurance that was utilised post-Winston in Fiji, but few farmers or shops have such cover. As an example, a survey of small to medium size enterprises conducted in Nadi following the severe floods of January 2009 indicated that only a quarter of the 230 businesses interviewed from downtown Nadi reported having any form of insurance. Lack of insurance was not limited to businesses. The same survey revealed that fewer than 7 per cent of families interviewed had any form of insurance (SPC, 2012).

The Market Development Facility, an enterprise development facility, was used post-Winston in Fiji to channel funds to private sector partners and communities. Using existing mechanisms such as this, where strong relationships and institutional arrangements are already in place, can save time as part of the initial response and can facilitate ongoing monitoring and support as part of the recovery process.

Table 30

Key programmes related to the private sector playing a significant role in resilient development

Development Agency	Main programmes	Implementing partners	Timeframe	Volume	Process to define priorities
Australia	PRRP	UNDP	2013-2018	AUD 16M	Emergent design
	Business continuity planning workshops	UNISDR	2014-2015		Expressions of interest from private sector organisations

3.7 Longer term habitability of atolls and islands is considered

Based on the analysis in Working Paper 1 (Manley et al., 2016) ten determinants of long-term atoll and island habitability identified (Figure 1). Also shown are examples of transformative approaches to increase the habitability of atolls and islands in the longer term.

Determinants of Atoll and Island Habitability	Transformative Approaches for Long-term Habitability
Governance and Management	Visionary/Inclusive Leadership Multi-level Risk Governance
People Power Population Pressures	MOOCs for Education & Training Smart Relocation Solutions
Financial and Technical Support	Adequate, Predictable and Accountable Financial Flows
Economic Resilience	Strong/diversified Pvt. Sector
Ecosystem Services	Maximise "Adaptation Services" of Ecosystems
Food Supplies Nutritious and Secure	Improved Integration of Traditional & Modern Practices
Land Access and Use	Safe Sites for People & Assets
Water, Energy, Waste & Sanitation Services	Reuse, Recycling, & Renewable & Sustainable Energy Solutions
Social Services and Networks	Address Poverty, Inequality and Environmental Justice
Transportation Services	Affordable & Reliable Transport

Figure 1. Determinants of the longer term habitability of atolls and islands, along with practical examples of relevant transformative approaches.

As Table 31 shows, New Zealand, the EU and Australia are undertaking activities that can be considered prototypes of transformative change. New Zealand has the potential to show leadership in this regard.

Table 31

Key programmes that address the longer term habitability of atolls and islands

Development Agency	Main programmes	Implementing partners	Timeframe	Volume	Process to define priorities
EU	Environmentally Sustainable Aggregate for Tarawa	Kiribati Government, SPC			Cost-benefit analysis conducted
NZ	Feasibility assessment for land reclamation	Kiribati government			Technical assessment and economic analysis conducted
NZ	Strengthening water security of vulnerable	SPC	2016-19	NZD 5M	

	island states				
NZ	Borrow pit rehabilitation	Tuvalu Government	2012-16	NZD 12.8M	
EU	Pacific Climate Change and Migration Project	UNESCAP	2013-16	EUR 2.1M	
Australia	Kiribati Australia Nursing Institute				Formal selection process
NZ	Pacific Access Category				
NZ	Seasonal horticulture workers scheme	National Governments			
Australia	Seasonal agriculture workers scheme	National Governments			

Also see Sections 4 and 5.

3.8 Increased access to, and effective use of climate and disaster finance

Climate change and DRM financing have become increasingly high priority areas for the Pacific. Operationalisation of the GCF has provided new impetus for countries to become climate-finance ready.

Fiji and Tuvalu have secured GCF finance for projects through implementation partners (ADB and UNDP, respectively). As yet, no PIC has national implementing entity status, but several have started the process of accreditation.

As support to become climate and disaster-finance ready has become a higher priority for PICs, a flurry of new mechanisms to support countries build institutional capacity have emerged, or are in the pipeline. These include the USAID-funded ISACC and Climate-Ready projects, NZ's GCF Technical Assistance for Pacific Access programme and the DFAT / GIZ climate finance project (see Table 32). Much of this support addresses needs identified as part of climate finance assessments, or risk governance assessments. Ongoing training on proposal development skills was identified as a need in the SPC-GGCA PSIS evaluation (SPC, 2016), and may continue as part of the expansion of that programme.

In March 2016, NZ initiated the GCF Technical Assistance for Pacific Access programme, geared towards supporting the development of GCF proposals in the region via technical support. NZ's provision of rapid draw-down engineering support has filled a clear gap as Accredited Entities and Pacific SIDS have scrambled to capitalise on an uncapped and underspent GCF. NZ-funded technical assistance was integral to development of Samoa's US\$ 57.7m flood management-focused grant proposal that was approved in December, 2016. NZ supported the UNDP in their role as Accredited Entity on this proposal which was turned around in four months.

NZ is also assisting with preparation of three adaptation-focused GCF proposals in the Republic of the Marshall Islands (Water Security), Papua New Guinea (Flood Early Warning Systems), and Tonga (Community Resilience). In 2017 these will be submitted to the GCF Board. Technical assistance for the Marshall Islands and Tonga is being

provided by New Zealand engineering firm MWH NZ Ltd. and, in the case of Papua New Guinea, by NIWA.

MFAT continues to investigate opportunities to leverage GCF funding for renewable energy-focused opportunities in PNG, Vanuatu, Palau, FSM and the RMI. It is also continuing to partner with the GCF Secretariat to deliver a series of national GCF workshops. In 2016 NZ supported 1-day workshops in Kiribati, Niue, Tonga, and Tuvalu. These bolstered PIC understanding of the GCF, and increased national capacity to develop project pipelines and GCF proposals. In 2017 similar workshops will be held in the Marshall Islands, Vanuatu, FSM, Palau and Samoa.

During the Kiribati workshop, MFAT agreed to a Government of Kiribati request to seek 'delivery partner' status to the GCF. MFAT has successfully done so, and has subsequently helped secure a US\$600,000 readiness grant for Kiribati from the GCF Secretariat. MFAT will administer this grant on Kiribati's behalf. Niue has similarly requested MFAT to act as a delivery partner which, as in the case of Kiribati, provides NZ with a unique opportunity to help shape GCF project pipelines in these countries.

Climate finance assessments (or equivalent) have been conducted in Nauru, RMI, Samoa, Vanuatu, Fiji and Tonga. A scoping mission to the Solomon Islands was conducted in September 2016 to plan for an assessment there. These assessments help to identify policy, institutional and capacity needs in strengthening access to and the management of climate finance. Progressing priority actions identified, as part of ongoing public financial management reform processes, requires the engagement and leadership of the Ministry of Finance in this area.

As the lead agency in the region on climate and disaster finance, PIFS will be hosting several donor-funded technical advisors. These will provide ongoing support to PICs. Climate and disaster finance readiness has strong links to existing work to support the strengthening of public financial management system, largely funded by Australia and New Zealand. Strong public financial management systems underpin the ability to access and manage resources efficiently.

Table 32

Key programmes relating to increased access to, and effective use of climate and disaster finance

Development Agency	Main programmes	Implementing partners	Timeframe	Volume	Process to define priorities
Australia	PFM roadmaps	PFTAC, National Governments			PFM roadmaps
Australia	Climate finance readiness	GIZ, PFTAC	2016-18	AUD 1.5M	PFM roadmaps and climate finance assessments
NZ	GCF Technical Assistance for Pacific Access (TAPA) Programme		2016 -		
Germany	UNDP -WRI	Fiji Government	2015-2018		
USAID	Climate-ready	tbc	2016-2020	USD 25M	
USAID	Adapt	DAI	2013-16		Specific technical assistance

					provided as part of project proposal training
USAID	ISACC	SPC, PIFS	2016-2020	USD 5M	Identified through Climate Finance assessment
GCF	Readiness	Cook Islands, Vanuatu			
Australia	PRRP	UNDP	2013-2018	AUD 16M	Risk governance assessments
Japan	PCRAFI	SPC			Criteria relating to insurance payouts
WB	PCRAFI	SPC			Criteria relating to insurance payouts

3.9 Resilient development investment opportunities planned and prioritised

As the availability of climate finance has increased, so too has the demand for technical assistance to prioritise climate change and risk reduction interventions (PIFS, SPC, SREP, UNDP, GIZ, USAID and USP, 2014). Cost-benefit analyses (CBA) to assess project and programming options have often been conducted jointly with economists from the respective governments. These analyses have been undertaken as part of several projects and programmes, including the PACC, CCCPIR and projects relating to vegetation and land cover mapping, and improving food security for building resilience to a changing climate in Pacific island communities.

CBAs tend to be a requirement when larger investments are being made by the World Bank and ADB. But in this case, they are usually conducted by external consultants, sometimes with limited involvement of national staff members (pers. comm. Government of Solomon Islands). Efforts were made to institutionalise a training course on CBA within USP, but this failed to materialise. The USAID-Adapt programme mid-term review noted that the heavy emphasis on CBA was not warranted as it was only one of a number of tools that could be used to prioritise actions, and was relatively resource intensive (ICF International, 2014).

The PACCSAP programme produced several tools designed to help inform the selection of interventions. In general, insufficient engagement with users, policy makers and decision makers during development of the tools limited their wider applicability. As part of the investment strategy development, the PRIF utilised multi-criteria analysis to inform the selection of infrastructure investments. But use of this tool also largely failed to gain traction at the national level. Each country has its own process within their national budgets to prioritise budget allocations, but systematic use of tools for priority setting is not happening.

For humanitarian finance Australia and NZ both have funds that they make available to NGOs shortly after a disaster. These are allocated through an application process.

3.10 Knowledge management and learning well established

A fundamental issue in relation to knowledge sharing and use is the continued poor management of data and other information across government departments, development agencies and NGOs.

To help address these weaknesses, various mechanisms have been put in place in order to strengthen knowledge sharing and uptake. Despite the coordination and learning benefits that result from improved information and knowledge management, donors have been reluctant to commit longer-term funding support to the portals and other mechanisms.

Various platforms for sharing knowledge exist, including the Pacific Solution Exchange (PSE) and the Pacific Agriculture and Forestry Policy Network (PAFPNet). Users can propose a topic and seek views from across the region and beyond.

Pacific Disaster Net⁴⁸, managed by SPC, hosts all relevant disaster risk management materials including an extensive library of resources. The Pacific Climate Change Portal,⁴⁹ hosted by SPREP, was developed in response to a request from climate change focal points for a platform to access all relevant climate change and disaster risk management resources. The Pacific iCLIM project, based out of Griffith University, supported SPREP and SPC to index these resources so that a user could search for information across both these portals. The project is also supporting SPREP, Fiji, Tonga and Vanuatu to upgrade their portals.

CCCPIR has provided ongoing financial support to the Pacific Climate Change Portal. Programme funding to SPREP from Australia and New Zealand will also be contributing to the cost of equipping, maintaining and staffing the portal. A GIZ staff member has recently been seconded to SPREP to conduct an in-depth user needs assessment and improve monitoring and evaluation processes. It is to be hoped that these studies will lead to more predictable, long-term funding for both the Pacific Climate Change Portal and the Disaster Risk Reduction Projects Portal, as well as improved coordination and integration of their operation.

The iCLIM project undertook a study to identify barriers to sharing information. It found that institutional barriers within governments, and between government departments, continue to hinder the development of evidence-based decision making (Brown, 2016). Good practice guidelines have been developed in an effort to promote information and knowledge management and sharing.

Efforts by development partners to produce stocktakes of “where we’re at” should be used to strengthen existing information platforms. A considerable waste of time and effort occurs through consultants conducting “fact-finding missions” which are used for one development partner only and not shared more broadly, including with the relevant countries.

Evaluations present an opportunity for learning, but in the Pacific islands region they are rarely used for such purposes. Many of the evaluations that have been undertaken are not immediately locatable in the portals and other repositories. It is also the case

⁴⁸ pacificdisaster.net

⁴⁹ pacificclimatechange.net

that many evaluations that are commissioned are not published as organisations are reluctant to share programme weaknesses (pers. comm., Gero). This significantly reduces the opportunity to learn from evaluation processes.

It is worth noting that MFAT does make available the vast majority of its evaluations, via its website. However, no evaluations are available for past or ongoing climate change and DRR projects. Significantly, MFAT and DFAT have commissioned a joint study to develop a monitoring and evaluation framework for evaluating disaster responses.

Though part of knowledge creation and sharing, preparation of risk information to inform decision-making processes and early warning systems are discussed in Section 3.2 above.

3.11 Humanitarian actions for disaster prevention, response and recovery are effective

Some PICs conduct post disaster assessments of how disaster events are managed. When publicly shared, these assessments can provide useful guidance for where PICs may need future assistance. As an example, TC Pam devastated Vanuatu in 2015 and caused damage in several other countries. This event was followed by a period of reflection and ‘lessons learned’ workshops in Vanuatu and Tuvalu. The report for Vanuatu (SPC, 2016) provides extensive recommendations for areas of improvement in planning for, and the management of, major disasters. These cover coordination, gender and protection, information management and assessment and logistics, among others. Coordination, in particular, can be a major issue for PICs, with assistance from multiple partners and agencies following a disaster being difficult to track and manage. Clarity on roles is often lacking.

The review of TC Pam in Vanuatu (SPC, 2016) also stressed the need to strengthen provincial level capacity for risk management. Numerous needs were identified including, for instance, the need for:

- Information management at the provincial level to be supported, such as the establishment of a database/inventory of ‘cluster relevant’ assets available in the province (i.e. health resources, prepositioned items for shelter, etc.) and census data for the province;
- Simulation exercises at all levels – national, provincial and community, rural and urban areas; and
- Standardisation of assessment processes and forms and training on the use of processes/forms and the ability to analyse the data that is collected.

As noted in Section 3.11, a monitoring and evaluation framework for evaluating disaster responses is currently under development by MFAT and DFAT. There are plans to assess the utility of the framework during the 2016/17 cyclone season, if a suitable event occurs.

3.12 Strong coordination and cooperation

Given the magnitude of the capacity constraints PICTs continue to experience (PASAI, 2015; Kelly, 2015), a regionally crafted coordinated response would provide the best

opportunity to ensure individual countries and territories have the necessary technical and administrative skills to meet current and future climate change challenges in a timely, economical and sustainable manner. The priority is for capacity building projects that seek to develop skills in climate change adaptation planning and project implementation through a combination of long-term capacity development and supplementation approaches. More targeted support for capacity could be guided more effectively by PICTs clearly defining roles and responsibilities and identifying gaps in institutional and human capacity at country level.

As noted in Working Paper 1 (Manley et al., 2016), partnerships can help ensure that actions are well coordinated and effective, with reduced duplication and waste (PIFS, 2015). Partnerships are vital for effectiveness and sustainability whether amongst development partners, with other governments, international organisations, within various national departments, local and provincial government, civil society organisations, the private sector, NGOs, the community and all the way to the individual.

Regional cooperation also helps address many of the climate and disaster challenges facing PICTs. It strengthens the ongoing national efforts to implement ambitious climate change actions. The EU's Regional Steering Committee for the Pacific provides an appropriate example of a mechanism that promotes regional coordination and cooperation. The Committee brings together high-level representatives from 15 PICs, regional organisations and overseas countries and territories. It is co-chaired by the EU and PIFS. The Committee provides strategic guidance to ensure that the Euro 166 million allocated under the European Development Fund 11 cycle responds effectively to the challenges faced by the people of the Pacific, with an emphasis on coherence of regional support with national programmes. It also provides an opportunity for open and frank discussions between all stakeholders on opportunities as well as issues and challenges with regard to Pacific's regional programmes under the European Development Fund.

Pacific Leaders and their Ministers have made a series of political decisions in support of a range of climate change, disaster reduction and development-related international, regional and multilateral agreements. Similarly, specific calls for improved coordination and cooperation have occurred following several disasters resulting from natural hazard and climate change related risk events that have had multiple country and regional impacts.

As also noted in Working Paper 1, there is an increasing need for strengthening cooperation and coordination among the Council of the Regional Organisations in the Pacific (CROP) agencies and development partners. This would help ensure a common purpose in planning, funding and implementation in support of achieving regional and national outcomes that are resilient and sustainable (PIFS, 2016).

This guidance on frameworks, and how supporting initiatives could be undertaken in a coordinated way, is now formalised in the Framework for Resilient Development in the Pacific (FRDP). In September, 2016 the Framework was endorsed by Pacific Leaders. They recognised its potential to support coordination and action on a number of key issues related to climate change and disaster risk management. Leaders also agreed on the Pohnpei Statement: Strengthening Pacific Resilience to Climate Change and Disaster Risk would complement the FRDP. It calls on all development partners, the private sector and civil society to join with PICTs to support the principles and the implementation of the Statement through high-level participation in a new Pacific Resilience Partnership (PRP). The Forum Secretariat is tasked to convene a Working

Group, including Members, CROP agencies, and relevant stakeholders, to elaborate on the PRP process by December 2016, to implement the FRDP.

The PRP will bring together the disaster risk management and climate change communities of practice, along with central and CROP agencies and other partners (for example, private sector stakeholders, humanitarian and development partners, sectoral partners) to better coordinate and streamline regionally supported assistance. The PRP will therefore include a broad range of stakeholders with common interests but also with some distinct needs and capacities such as preparedness, early warning capability, engineering skills, emergency management expertise, procurement capability, and risk reduction.

4. Tuvalu

4.1 Climate change, disaster risk management and development priorities: the Tuvalu context

In 2015 Tuvalu concluded a major consultation exercise to develop its national sustainable development plan, 'Te Kakeega III 2016-2020'. Climate change had previously been included under the environment banner. But in the new plan climate change became one of twelve stand-alone strategies, with seven strategic goals (Figure 2). Also in 2015, the National Advisory Council on Climate Change (NACCC) was established. This Council provides advice to Government on policy responses to climate change. At the same time the Climate Change and Disaster Policy Unit (CDP) in the Office of the Prime Minister was expanded. The CDP is responsible for incorporating climate change and disaster risk reduction into sector policies and programmes. The Department of Environment remains the lead on integrating environmental considerations into national and sectoral policies and plans, supporting ecosystem-based adaptation and responding to the physical and environmental impacts of climate change.



GOAL 1	Strengthening Adaptation Actions to Address Current and Future Vulnerabilities
GOAL 2	Improving Understanding and Application of Climate Change Data, Information and Site Specific Impacts Assessment to Inform Adaptation and Disaster Risk Reduction Programmes.
GOAL 3	Enhancing Tuvalu's Governance Arrangements and Capacity to Access and Manage Climate Change and Disaster Risk Management Finances
GOAL 4	Developing and Maintaining Tuvalu's Infrastructure to Withstand Climate Change Impacts, Climate Variability, Disaster Risks and Climate Change Projection
GOAL 5	Ensuring Energy Security and a Low Carbon Future for Tuvalu.
GOAL 6	Planning for Effective Disaster Preparedness, Response and Recovery
GOAL 7	Guaranteeing the Security of the People of Tuvalu from the Impacts of Climate Change and the Maintenance of National Sovereignty

Figure 2. Strategic action priorities of 'Te Kakeega III 2016-2020. Source: Government of Tuvalu, 2015.

For the previous few years, and aligned to Te Kakeega II (2005-2015), the Tuvalu Climate Change Policy and the National Strategic Action Plan for Climate Change and Disaster Risk Management 2012-2016 (NSAP), together with the National Adaptation

Program of Actions (NAPA), guided implementation of climate change and disaster risk management actions in the country.

A medium to long term National Adaptation Plan (NAP) will be developed within the period of Te Kakeega III (2016-2020), to further strengthen Tuvalu's adaptation to the impact of climate change, and to build resilience. The government will explore options for incorporating risk transfer mechanisms at the national and regional level to spread the burden of recovering from the impacts of climate change (Government of Tuvalu, 2015).

The National Disaster Committee (NDC) consists of key representatives of government and non-government agencies. It was formalised by the 2008 National Disaster Act, and acts as an advisory and coordination body for disaster mitigation, preparedness, response and recovery, including requirements for humanitarian aid. Each island has an Island Disaster Committee (IDC). These committees are responsible for coordinating disaster-related measures locally and facilitating links between the NDC and local communities.

Development Partner Coordination

Tuvalu is very dependent on international development assistance. Between 2011-2015 Tuvalu received around AUD \$81m from development partners. Around AUD \$35m was in cash grants from the Republic of China (ROC Taiwan). The balance was in grants from the ADB, Australia, EU, Japan, New Zealand, World Bank, UN agencies, CROP agencies and others (Government of Tuvalu, 2015).

These high levels of development assistance necessitate strong national coordination mechanisms. MFAT is involved in a number of development partner coordination efforts in Tuvalu. A weakness with some of these efforts is that they are to a certain extent driven by the partners themselves, rather than the Government of Tuvalu. Also, one of the largest donors (ROC Taiwan) is not included in many of these mechanisms.

Tuvalu Trust Fund

The Tuvalu Trust Fund was established in 1987 to provide bridge financing for budget deficits, by then a recurrent problem, to support national economic development and promote greater financial autonomy and sustainability.

Several partners (Australia, New Zealand, United Kingdom, the Government of Tuvalu) contribute to the Trust Fund. There are strict governance rules in place to manage the fund. Australia and New Zealand have representatives on the Advisory Board of the Fund. It is recognised as a successful model (PIFS, 2014). The Chair of the Board is always a representative from the Government, which helps to ensure ownership of the mechanism.

Pacific Region Infrastructure Facility (PRIF)

ADB, the World Bank, the European Union, the European Investment Bank and the Governments of Japan, Australia and New Zealand contribute actively to the Pacific Region Infrastructure Facility (PRIF). Its objective is to promote coordination on infrastructure investments between partners. PRIF has dedicated resources for a coordination office, and a technical assistance and research fund.

Multi-donor Coordinated Policy Reform Programme

The Governments of Australia and New Zealand, ADB, the World Bank, the European Union and the Pacific Financial and Technical Assistance Centre coordinate their efforts to support strengthening of the Government of Tuvalu's public financial management systems. As part of this process, a policy reform matrix was developed. This aligned to the national sustainable development policy (Te Kaakega II), with key indicators for tracking the progress of reforms against a number of outcome areas (DFAT, 2012).

4.2 Current responses in Tuvalu to the identified strategic needs and challenges; opportunities and implications for MFAT

This section explores the current responses in Tuvalu, organised according to the success factors for successful management of climate and disaster risks, and for increasing the resilience of development outcomes, as identified Working Paper 1 (Manley et al., 2016).. It identifies gaps and opportunities, as well as implications for MFAT.

1. Risk management mainstreamed in development plans and processes

(a) Current Responses

Tuvalu's 8th national development plan - Te Kakeega III (2016-2020) - has elevated the importance of climate change in national development planning. The plan dedicates a chapter to climate change. It also considers climate change related risks in all other eleven priority areas.

"The reason Te Kakeega III's first strategic area is climate change: it poses the most serious threat to the security and survival of Tuvalu. The danger of climate change and the prospect of warming temperatures, sea level rise, and severe weather events overhang the entire discussion of future development. And the dangers – some long- term, some more immediate – cut across Tuvalu's development landscape."

- Source: Government of Tuvalu, 2015.

The process of developing Te Kakeega III involved identification of climate and disaster risks, including the implications of slow-onset events, for each strategic area of the plan and incorporated them within actions to address that strategic area.

Various programmes over the past five years have supported the government to mainstream climate and disaster risk into national and sectoral development planning processes. The **Pilot Programme on Climate Resilience** (SPREP/ADB) takes a development-first approach. It has examined existing core development planning processes for entry points to strengthen the consideration of climate and disaster risks as part of the development planning and processes. Under the Programme, guidance has been produced on how to consider risk in the budget appraisal form and within monitoring and evaluation processes (Buncle, 2016).

The **NAPA II project** is working to integrate climate change and disaster risk management within the coastal fisheries sector, to assist Island Councils to integrate

climate change into their strategic plans, and improve disaster risk management and early warning systems for the outer islands.

Earlier projects contributed to mainstreaming climate change within specific sectors. For example, the **PACC and IWRM** projects worked jointly to mainstream climate change considerations within the water sector, including preparation of the Sustainable and Integrated Water and Sanitation Policy (2012-2021). A number of development partners have also provided support to strengthen Tuvalu's water security, and reduce vulnerability to droughts, through the addition of water tanks and other storage facilities for households, as well as promotion of eco-sanitation toilets. These include the EU, and bilateral support from the Government of Australia.

The SPC-GCCA Pacific Small Island States (PSIS) project worked in the agriculture sector. This was in partnership with the Taiwan Horticulture Crop Development Project, the NAPA I and support provided to Tuvalu by SPC's Land Resource Division through the ICCAI. The aim was to promote resilient agriculture techniques, such as traditional agro-forestry. The project supported agro-forestry demonstration sites as well as preparation of the Tuvalu Agriculture Strategic Marketing Plan.

To date, the links between existing efforts to improve public financial management, aid coordination and climate and disaster risk financing have been weak. However, four regional projects commencing in 2016/2017 focus on climate finance and strengthening links between public financial management and those working on climate finance. A DFAT-GIZ-PFTAC project aims to dovetail discussions on climate finance to existing technical assistance in this area. A new USAID programme due to commence in 2017 (USAID Climate-Ready) will focus on institutional strengthening and climate finance readiness. A smaller USAID-funded project implemented by SPC will also focus on institutional strengthening and climate finance readiness. A follow-up to the SPC-GCCA project will also partly focus on climate finance. The Government of Tuvalu intends to apply for accreditation under the Adaptation Fund and Green Climate Fund (Government of Tuvalu, 2015).

The recently approved Green Climate Fund project in Tuvalu will focus mainly on coastal zone management and has the potential to transform the resilience landscape in Tuvalu given its volume (USD 38.8 million over 7 years). It is vital that this project be effectively managed and coordinated. As the Government of Tuvalu strengthens national coordination and planning processes, and increases its access to finance, it should also ensure that local level decision makers are part of these processes.

Lessons from other countries (Oxfam Vanuatu, 2014) suggest that having local government (e.g. the Falekaupule / Home Affairs) and NGO representatives (e.g. Tuvalu Red Cross and/or Tuvalu Association of Non-governmental Organisations (TANGO) as part of the national coordination structures can greatly enhance coordination and effectiveness of local actions. These institutions are represented on the National Disaster Committee, but the National Advisory Council on Climate Change does not have any non-government representation.

The NAPA 1 project struggled to meaningfully engage at the local level due to transport and logistical issues, staff turnover, weaknesses in overall leadership and inadequate links to other line ministries and local island councils.

The Tuvalu Red Cross has volunteers present on all islands. This network is utilised by government to reach communities. But this has its limitations. There are very few government-led projects that provide funding for NGO partners to support project

implementation, despite knowing that they often do not have the capacity to do it themselves.

To provide a predictable stream of finance to meet climate change and disaster risk management challenges going forward, the Ministry of Finance and Economic Development established a Tuvalu Survival Fund in 2015 (Government of Tuvalu, 2015). Effective management of this Trust Fund, drawing on experience from management of the Tuvalu Trust Fund, is crucial to establishing development partner confidence in channelling funding through this mechanism.

Table 33

Projects related to risk management being mainstreamed in development plans and processes

Development Agency	Main programmes	Implementing partners	Time-frame	Volume	Process to define priorities	Description
GEF, LDCF, Australia	NAPA 1, NAPA1+ and NAPA2	UNDP	2009-2013 2011-2013 2013-2017	NAPA 1 USD 3.3M NAPA 1+ USD 1M NAPA2 USD 4.2M	NAPA document and project planning process	NAPA 1 - Resilient agriculture, coastal zone management NAPA II - Community early warning systems, coastal fisheries, integrating climate change into Island Strategic Plans
ADB	SPCR - PPCR	SPREP	2013-2017	USD 3.61M	Situation analysis and agreed country workplan	Identification of strategic entry points for climate change mainstreaming include budgetary processes and monitoring and evaluation
GEF	IWRM	SPC	2008-2013	USD 10.7M		Demonstration of eco-sanitation compost toilets
EU	IWRM	SPC	2008-2010	EUR 2.8M		Support to enhance water sector governance and policy development
GEF	Ridge to Reef	DoE, UNDP			R2R project design process	

GEF	Regional Ridge to Reef	SPC	2016-2020	USD 10.3M (regional)	R2R project design process	
EU	EDF-10	MPWU / TANGO	2008-13	AUD 11.1M		Tuvalu waste and water programme – support to waste management and upscaling the ecosanitation toilets. Renewable energy for outer islands.
EU	EDF-11	MPWU / TANGO	2014-2020	EUR 3.8M AUD 5.78M		Tuvalu solid waste management
GEF	Pacific Adaptation to Climate Change Project	SPREP/UNDP	2010-2015	USD 13,125,000 (regional)		Close coordination with IWRM to support policy development and the addition of water storage facilities on Funafuti.
USAID	ISACC	SPC	2015-2020	USD 5M		Institutional strengthening and climate finance readiness
EU	GCCA:PSIS Phase 1 and Phase 2	SPC	2011-2016 2016-xx	Phase 1 EUR 11.4M Phase 2 EUR tbc		Phase 1 – agro-forestry demonstration on Funafuti and Nukufetau. Integrating climate change considerations into national agriculture policies and processes
DFAT	Climate Finance	GIZ / PIFS / PFTAC	2016-18	AUD \$1.5M (regional)	To be confirmed	To be confirmed
DFAT	Bilateral support	MFED	2016-17	AUD \$6.6M	DFAT – Tuvalu Partnership for Development	
USAID	Climate Ready	To be announced	2016-2021	USD \$25M (regional)	To be confirmed	To be confirmed
European Development Fund (including	Review of National DRM Governance Arrangements	SPC	2011-2012		HFA	To assist Tuvalu to review the 1999 National

ACP DRR Facility) (EDF)	in Tuvalu					Disaster Act and implement key priorities that arise out of the review to address deficiencies in DRR, DM and DRM mainstreaming.
European Development Fund (including ACP DRR Facility) (EDF)	Building a Safe and Resilient Pacific	SPC	2013-2018	EUR 19.4M (regional)	Country workplans	
GEF	National Adaptation Plan		Pipeline			

(b) Gaps, opportunities and implications for MFAT

Climate change is high on Tuvalu’s political agenda. The mainstreaming of climate and disaster risk throughout government operations requires ongoing support to national and sectoral planning processes. Project-supported attempts at mainstreaming (for example, NAPA1 and PACC) have helped to produce key planning documents – such as the climate change policy (Te Kaniva) and the National Strategic Action Plan (NSAP) – but often leave a vacuum upon completion of the project and the departure of staff. The latter often have critical institutional knowledge.

The shift in leadership and coordination responsibilities from the Department of Environment to a Unit within the Office of the Prime Minister represents an opportunity to improve the overall management, coordination, knowledge management and monitoring and evaluation of climate change and disaster risk management interventions. It is an opportunity to ensure the government is taking a development-first approach to the integration of risk within development planning and processes.

Critical to understanding where the best opportunities for mainstreaming lie is the holistic overview of the degree to which climate change and disaster risk have been integrated into key sectors. This necessitates strong information and knowledge management systems as well as effective working relationships with all government departments. A PACTAM placement is currently working at the CC/DRM Unit and is supporting the mapping of institutional arrangements, the various climate change projects and the extent of mainstreaming at the sector level. Close coordination with the Aid Coordination and Budget and Planning Divisions is essential to ensure the Ministry of Finance remains engaged in the process.

MFAT support to strengthening public financial management and aid coordination can also play a transformative approach in the way that climate change and disaster risks are managed. Lessons from New Zealand’s long-standing support to the Tuvalu Trust Fund should be used to strengthen the governance arrangements of the Tuvalu Survival Fund (see also Sections 3.9-3.11).

MFAT's support for fisheries institutional strengthening represents an opportunity to meaningfully embed resilience and risk management within the fisheries sector. The NAPA II management team actively coordinate with the Ministry of Fisheries, building on existing institutional structures to determine priorities and ensuring that NAPA II activities are building the capacity of the Ministry of Fisheries to address climate change impacts on coastal fisheries.

MFAT's ongoing regional support for oceanic fisheries management, and expansion of that support to cover coastal fisheries, represents an ideal opportunity to integrate risk considerations within these regional programmes. Sound scientific information exists on the likely impact of climate change to oceanic and coastal fisheries as well as on the ways in which these impacts can be managed (SPC, 2011). Early discussions with the Government of Tuvalu and its development partners (FFA, SPC, FAO, UNDP) should identify lessons learned to date and the appropriate process for risk integration in Tuvalu's fisheries policies and operations, including relevant training and/or mentoring that might be necessary to better understand and address the risks.

Likewise, MFAT's support to the energy sector represents a pertinent opportunity for integrating risk within this programme. Significant investment in outer island renewable energy and solar installations – by MFAT and the European Union – has been undertaken in the past few years. It is important to ensure that the asset management and maintenance programmes associated with these installations do not compromise resilience.

Regional support through the partnership with SPC in 'Strengthening Water Security of Vulnerable Island States' (2016-2020, NZD 5 million) will strengthen governance arrangements within the water sector, including the institutional arrangements for drought alerts.

MFAT contributes to the Tuvalu Red Cross via support from Red Cross New Zealand. MFAT support to strengthen the Red Cross and other NGOs would also support their ability to better coordinate internally and with government.

Key opportunities for MFAT:

- Provide institutional strengthening support to the CC/DRM Policy Unit and link it to existing efforts to strengthen public financial management and aid coordination processes. With the new GCF project commencing soon it is vital that the Government of Tuvalu looks at its existing portfolio and rationalises it so that sufficient expertise is available to support implementation. This may involve politely declining new smaller projects;
- Utilise MFAT's expertise and knowledge gained in supporting the Tuvalu Trust Fund to inform the successful operation of the Tuvalu Survival Fund;
- Utilise opportunities through the institutional strengthening support in coastal fisheries, agriculture, energy, water security and drought preparedness to integrate risk considerations;
- Utilise MFAT support provided to the Tuvalu Red Cross to strengthen links between the Red Cross and Government and advocate for greater use of NGOs in delivery mechanisms for resilient development programmes; and
- Explore how the services of New Zealand expertise can support the implementation of the GCF programme, including expertise gained from the Borrow Pits remediation project.

2. Risk-informed products, processes and partnerships available and used

In order for development planning to be risk-informed, relevant information relating to risks in a particular sector or place needs to exist, be accessible when needed, and be tailored to the user's needs.

(a) Current responses

Understanding climate and disaster risks

Significant investment has been made over the last decade to improve the evidence base in order to better understand the climate and disaster risks facing the Pacific. The PCCSP and COSPPac programmes have developed outputs that provide the latest information on the climatic risks facing Tuvalu. PCCSP's 2015 publication, 'Current and future climate of Tuvalu' is available through their website⁵⁰ and information on the products and services of the COSPPac programme are also available online.⁵¹

The most up to date information on the disaster risks facing Tuvalu is detailed in the Tuvalu Country Profile, provided by PCRAFI's Pacific Risk Information System.⁵²

Responding to user needs

The following section provides examples of the way in which risk information is being used to inform resilient development in key sectors.

Community-level

As part of the FINPAC project – a partnership between SPREP, the Red Cross and the National Meteorology Office (NMO) – staff of the NMO in Tuvalu had the opportunity to travel to the outer islands to discuss first-hand the user needs of remote communities. This project is developing specific tools to enhance the capability of the Red Cross societies to provide advice to communities and identify risk reduction measures.

The NAPA II project is upgrading the current disaster risk management infrastructure with a particular focus on improving early warning systems for the outer islands (Nyman, 2013).

Agriculture

One of the core objectives of the NAPA 1 project was to strengthen the resilience of the agriculture sector, increase food security, and mainstream climate change within the practices of the Department of Agriculture. The coordination of the project by the Department of Environment led to a failure to sufficiently engage the Department of Agriculture in planning processes and a lack of ownership of the activities by the Department of Agriculture. Their engagement often appeared ad-hoc (Nyman, 2013).

This contrasts with the EU-funded SPC-GCCA project, which developed three agro-forestry trial sites (two on Funafuti and one on Nukufetau), re-equipped the research station on Vaitupu, and helped to develop the Agriculture Strategic

⁵⁰ http://www.pacificclimatechangescience.org/wp-content/uploads/2013/06/4_PACCSAP-Tuvalu-10pp_WEB.pdf

⁵¹ <http://cosppac.bom.gov.au/>

⁵² <http://52.64.9.136/documents/465>

Marketing Plan 2015-25. In this project, selecting the Department of Agriculture to take the lead role supported implementation, as the Department had specialist skills on the ground to draw on. The arrangement also helped to create ownership of the activities. This should support the sustainability of the actions (PREA, 2016).

Tuvalu has also received materials from SPC's Centre for Pacific Crops and Trees (CePaCT) through the ICCAI. However, monitoring distribution and performance of materials from CePaCT is weak.

The Pilot Programme on Climate Resilience (PPCR) has supported the Department of Agriculture to develop a monitoring and evaluation framework, which takes climate and disaster risk into account.

Infrastructure

The Pacific Region Infrastructure Facility (PRIF) supported the government to develop the Tuvalu Infrastructure Strategy and Investment Plan (TISIP), including the use of multi-criteria analysis to determine priority investments. It is unclear to what extent risk was taken into account as part of that process.

Tuvalu joined the World Bank in 2010. The focus of Bank-supported work since then has been on the upgrade of the airport. Planned ADB and World Bank projects in the region are being reviewed to identify priority projects for accessing additional financing to enable project designs to be adjusted to build in greater resilience. The recently approved UNDP-GCF project will focus on strengthening the resilience of coastal zone management infrastructure.

Risk information that is tailored for the use of these planned projects will be required to ensure that the infrastructure is resilient over the longer term.

Energy

A significant amount of investment in outer island solar photovoltaics has taken place over the last 5 years. Since 2013, renewable generation has increased from 4% to 45% (MFAT, 2016). MFAT and the European Union coordinated their support to the sector, with MFAT providing funding for the northern group of islands and the EU the southern group. All eight outer islands now have hybrid diesel-solar mini grids, which have increased the availability of energy significantly.

The UAE and the World Bank are the other major donors in the energy sector. Grid-connected solar systems have been installed on all major public buildings. Pre-pay meters will be installed shortly to improve revenue collection. The World Bank will continue to drive this investment in renewable energy with a AUD 7m project (World Bank, 2015) focussed on supporting the Government of Tuvalu meeting their ambitious target of being 100% renewable by 2020 with further investment in solar, wind and battery storage.

The Government of Japan continues to provide a subsidy for diesel costs as part of their budget support.

Fisheries

MFAT provides substantial support to fisheries departments in the region, including supporting a technical adviser within the Department Fisheries in Tuvalu. Maximising the revenue from tuna fisheries is a no-regrets adaptation

option that can be supported by strong governance systems. Revenue from the sale of fishing licences has increased substantially in recent years, from AUD 10 million in 2011 to AUD 23 million in 2015.

A key priority will be to continue to improve core information systems and combine them with climate tools (such as those developed under the COSPPac programme) to enable the Tuvalu government to better forecast potential changes in fisheries catch, and in government revenue, due to changes in the climate. MFAT has recently announced a NZD 5 million programme to improve information systems for Pacific fisheries.

Water Security

Ensuring users have access to reliable data, information and projections relating to rainfall and other hydro-meteorological conditions is vital for use in early warning systems (e.g. flooding, drought), seasonal forecasting and climate change projections. Many of the impacts on other sectors, including agriculture and health, are through impacts on water.

As part of a DFAT bilateral programme of support to Tuvalu (managed by SPC), all buildings on Funafuti were surveyed to assess their structural quality for rainwater catchment systems. This database will provide useful baseline information for anyone working on water storage on Funafuti. The stocktake was deemed necessary. Despite the substantial investment in water tanks over the past decade by Australia and the EU, water shortages remain an issue. The modelling work undertaken showed that in some instances adding more storage contributes very little to enhancing water security and that funds were better spent increasing roof size or fixing poor guttering.

The regional project ‘Strengthening water security in vulnerable countries’ with SPC (2016-2020; MFAT-funded) will support five atoll countries, including Tuvalu, to assess and improve their water security.

Education

As part of the SPC/GIZ CCCPIR, a specific Tuvalu version of “Learning about climate change: the Pacific Way” enables teachers in Tuvalu to provide students with interactive and accurate information about climate change as well as disaster impacts and responses. The resource was expanded to Tuvalu in partnership with the United Nations Educational, Scientific and Cultural Organization (UNESCO).

Coastal zone management

A sound understanding of coastal zone management processes is crucial to building resilient infrastructure on atoll islets. Upcoming projects, such as the UNDP-GCF project, will require investment in scientific evidence to inform investment decisions. Historically, in both Tuvalu and Kiribati infrastructure – such as seawalls and roads – has been built in ways that have exacerbated coastal erosion rates as they have not taken full account of the dynamics of coastal zones and sedimentation flows (Paeniu et al., 2015). With New Zealand assistance, the Government of Tuvalu recently filled in the borrow pits on Funafuti effectively creating a large amount of new recreational spaces. The Government recently reclaimed a large amount of land in front of the government buildings on Funafuti.

Table 34

Projects related to risk-informed products, processes and partnerships

Development Agency	Main programmes	Implementing partners	Time-frame	Volume	Process to define priorities	Description
DFAT, EU EDF	Strengthening of NDMO Information Systems	SPC	2010-2012		HFA	Support provided to enhance capacity of NDMO information systems through the provision of technical advice, the procurement of relevant hardware and software applications,
EU	Pacific Climate Change and Migration Project	UNESCAP, ILO,UNDP	2013-2016	EUR 2.1M	Baseline research	To increase protection of individuals and communities that are vulnerable to climate change displacement and migration through targeted national and regional policies; and To increase labour mobility opportunities for Pacific Islanders, through well-managed labour migration schemes
LDCF – GEF	NAPA1	UNDP	2010-2013	USD \$3.3 M	NAPA	Increase the resilience of coastal areas and community settlements to climate change throughout Tuvalu including policy development and capacity building, demonstration project implementation, and the capture of knowledge and lessons learned.
DFAT	NAPA1+	Department of Environment	2011-2016	USD \$1M	NAPA	Focused on improving agricultural food security and water management.
DFAT	Water security / drought response ⁵³	Ministry of Public Utilities and Industry	2008-2011	AUD 1.37M		
DFAT (ICCAI)	Water Resilience Project	SPC	2013-2015			Funding to the Secretariat of the Pacific Community to undertake a stocktake of the conditions of water tanks on Funafuti. The data gathered from the stocktake has informed follow-on maintenance works as well as the purchase of additional equipment to increase the Government's water storage capacity and delivery of water to the public during dry times.
NZMFAT	Tuvalu Borrow Pits Remediation		2013-2016	USD 9,431,225	Te Kakeega II, 2005-2015	This project remediated Tuvalu's Borrow Pits using material dredged from Funafuti Lagoon. Aligned to: Tuvalu's National Development Strategy, 2005

⁵³ 607 water tanks supplied to households and 150 to schools on outer islands. Partly financed under the International Climate Change Adaptation Initiative

						to 2015 (Te Kakeega II, 2005-2015). A feasibility study and environmental impact study were undertaken.
WBG	Pacific Region Oceanscope Program		2014-2020	USD 3.97M		The objective of the Project is to strengthen the shared management of selected Pacific Island oceanic and coastal fisheries, and the critical habitats upon which they depend.
LDCF – GEF	NAPA2	Office of the Prime Minister, Ministry of Fisheries	2013-17	USD 4.2M		Coastal fisheries, disaster risk reduction and early warning systems, island strategic plans
LDCF-GEF	Building Resilience of Health Systems in Pacific Island LDCs to Climate Change	UNDP, WHO		USD 17,850,000		Enhance the capacity of national and local health system institutions, personnel, and local communities to manage health risks induced by climate variability and change
GEF	IWRM	SPC	2008-2013	USD 10.7M		Implement an integrated approach to the management of their water resources. The project will assist in improving water resources management closely connected with other holistic management practices in support of sustainable development such as integrated coastal area management, island systems management, Focus area in Tuvalu supported policy development and promotion of locally-adapted compost toilets.
GEF	Pacific Adaptation to Climate Change Project	SPREP/UNDP	2010-2015	USD 13,125,000 (regional)		Close coordination with IWRM to support policy development and the addition of water storage facilities on Funafuti.
MFAT	Atoll water security	SPC	2016-2020	NZD \$5M		Supports relevant local authorities and met services to strengthen drought management and water security

(b) Gaps, opportunities and implications for MFAT

There are many actors involved in providing risk information and climate services to Pacific island countries, including NIWA. The main gap lies in the coordination of this work and in making it accessible to the relevant end users. Making risk information accessible and user-friendly is a key part of ensuring it is considered in development planning. Understanding user needs is crucial to tailoring information and evidence to meet the specific needs of planners. Significantly, not all risk-information programmes conduct user needs surveys or focus groups.

Conducting focus groups with planners at all levels is central to understanding the type, frequency and format of information needed by key planners and decision makers. Such

focus groups should be built into MFAT support in key sectors so that relevant information providers (e.g. Meteorological Offices, SPC) are aware of the content and format in which information provided would be most useful. A number of MFAT supported areas – in water and fisheries – have specific information needs, such as on rainfall and sea surface temperatures. These can be provided by the National Meteorological Office and the Regional Meteorological Office in Nadi. Using the results of these surveys within programmed support in agriculture, fisheries and water to develop tailored risk-information profiles and products for each sector would add significant value to existing responses.

Such project-specific support for information tools and products needs to be combined with adequate investment in long-term information and knowledge management systems. In the absence of such investment, improved information, evidence and knowledge for supporting risk-informed development processes is likely to be available only to the select few that have been involved in a particular project, and not more widely throughout government.

Information and knowledge management systems in Tuvalu are weak and internal government information technology systems are built around the principle of access to information being granted only to those who need to know, rather than it being open to anyone that could usefully use the information (Government of Tuvalu / GIZ, 2015). This prevailing attitude, and the resulting limitations of the information systems that underpin it, need to change in order to support risk-informed planning across the government, civil society and private sector. Legislation requires that all public documents be deposited within the public library, but this is rarely done (pers. comm., Government of Tuvalu Library). Library systems – both at the national and sector level – are woefully under-resourced and are not prioritised. Junior officials involved in their management struggle to access even basic publicly available information from senior officials.

MFAT support for strengthening information and communication technology (ICT) infrastructure should be linked to the championing of sharing cross-departmental information to support risk-informed decision making for development. User needs surveys and focus groups used to inform ICT infrastructure upgrades should include key line ministries and should assess the way in which risk information is currently accessed and shared and build potential improvements into planned upgrades and/or ICT policy and governance strengthening.

Key opportunities for MFAT:

- Invest seriously in strengthening information and knowledge management systems and processes to ensure risk-information is widely available to stakeholders for use in decision making processes; and
- Through MFAT programmes ensure focus groups and needs assessments are conducted prior to the development of risk products and use the opportunity to strengthen relationships, trust and networks between generators and user of information.

3. Adaptation and disaster risk management localised, as appropriate

(a) Current responses

Each island in Tuvalu has an Island Council (Kaupule) that is responsible for local decision-making processes and acts as the local government. They report to the Falekaupule (council of elders). The Falekaupule Act (1997) establishes the Kaupule (or Council) of each island, and outlines dispute procedures between the two bodies. Their establishment is the result of extensive consultations as part of a UNDP-supported programme.

The Falekaupule Trust Fund (FTF) provides a mechanism for issuing small grants to each island. This was partly established following the success of the Tuvalu Trust Fund and as a mechanism to distribute central funds to the local level. Several technical assistance and capacity building programmes were in place from 1996-2007 to support the roll out of the Falekaupule Act and Trust Fund. The impetus of these programmes, and the Fund itself, was to address growing inequality between Funafuti and the outer islands, and to increase the ability of those based on the outer islands to manage their own affairs and future. The FTF pays out periodically, when resources in the fund warrant a distribution.

There are useful lessons to be learnt from the evaluations of projects that supported the establishment of the FTF in the late 1990s and early 2000s. These are relevant for the disbursement of climate and disaster finance in the future (Box G).

Some of these lessons have been used in the implementation of ongoing projects – with much more emphasis now being given to conducting training on the outer islands, and translating material into local dialects.

The disconnect between national and local government remains hampered by logistical challenges and the cost of travelling between outer islands. Various climate change and disaster risk management programmes aim to strengthen the link between different governance levels in the country, but few have it as their prime focus, or link well into existing governance programmes.

The Commonwealth Local Government Forum (CLGF) is a regional agency specifically mandated with strengthening local government – but it is under-resourced and as such struggles to have the time to connect with other actors involved in this space. The Island Strategic Plans were developed with support from the Commonwealth Local Government Forum. An evaluation of MFAT support to the programme in 2007 recommended a continuation of funding to support the ongoing strengthening of local decision makers and governance structures. CLGF are currently partnering with UNCDF, who specialise in local financial support, to implement LoCAL, a programme aimed at directing finance to local government systems.

Including outer island representatives in consultations, planning and training related to MFAT's renewable energy projects in Tuvalu is considered a strength. However, for the ship to shore project, local ownership of the interventions was not well established, although the community was consulted on such matters as the location of channels (Allen and Clarke, 2016).

The GEF / UNDP Tuvalu NAPA2 programme, working with the Falekaupule (Island Councils), aims to support Island Strategic Plan processes, including integrating risk considerations into the process.

Box G
**Lessons from the establishment and management
of the Falekaupule Trust Fund (FTF)**

The FTF was established to provide greater ownership of development outcomes for outer island communities as by the late 1990s outer island communities had begun to view the development process as externally driven handouts. This prevailing view should be seen in the context of a history of 'development' under colonial rule as being something that is driven from the outside, by central government (ANU, 1979). It is therefore unsurprising, and as experienced in recent project implementation experience, that this view is slow to change.

Meetings held at the community level have historically attracted "sitting fees". This can compromise the effectiveness of the decision-making structures as the individuals concerned have multiple incentives for getting involved in development projects. During a board meeting for NAPA1, the conversation largely revolved around outer island representatives complaining that the equipment that they had been "promised" had not been delivered. Joint ownership and responsibility for programme deliverables was not apparent.

Based on experiences such as these, key lessons include:

- using participatory processes to support all stakeholders in the community to articulate their views;
- ensuring that projects are not reliant on one or two stakeholders at the community level;
- taking training to the community and involving as many people as possible, rather than gathering participants for one big national workshop;
- aligning work to local development planning exercises;
- ensuring project planning contains actions that the community are responsible for and contribute to;
- providing training to community members to enable their involvement in any work to install infrastructure; and
- where infrastructure is installed, ensuring asset maintenance plans are developed.

Tuvalu does not have the same diversity of civil society actors as many other countries in the region. The Red Cross is present (through volunteers) on each island and the Tuvalu Association of NGOs acts as an umbrella organisation for civil society, but in practice also becomes involved in project implementation. The church Ekalesia Kelisiano Tuvalu is also an important actor.

NGOs involved in humanitarian response (e.g. Tuvalu Red Cross) tend to have stronger links to local government through their involvement in the cluster networks. The Red Cross is often tasked with supporting disaster preparedness through the pre-positioning of supplies, and post-disaster with assessments and distribution of relief.

Currently the Pacific Risk Resilience Programme is not being implemented in Tuvalu, but is exploring the possibility of doing so with links to the NAPA2 programme and the upcoming GCF-funded project.

Table 35

**Projects related to adaptation
and disaster risk management localised, as appropriate**

Development Agency	Main programmes	Implementing partners	Time-frame	Volume	Process to define priorities	Description
European Development Fund (including ACP DRR Facility) (EDF)	Review of National DRM Governance Arrangements in Tuvalu	SPC	2011-2012		HFA	To assist Tuvalu to review the 1999 National Disaster Act and implement key priorities to address deficiencies in DRR, DM and DRM mainstreaming.
EU	Building Safety & Resilient Capacity in the Pacific	SPC	2014-2018	EUR 19.4M (regional)		
EU (EDF-9)	Outer island development, waste management	Department of Environment	2003-07	EUR 4.3M		
EU	Supply of Waste Management Equipment, Plant and Material to Funafuti, Tuvalu and Seven Outer Islands.		2013	USD 1.35M		
EU	Tuvalu Water, Sanitation and Waste - Falevatie Project (Eco-Sanitation)	Department of Public Works.	2010-2014	USD 224,000		
EU	Improving Reliable Access to Modern Energy Services through Solar PV Systems for 3 Outer Islands of Tuvalu		2014-2015	USD 1,486,157		Hybrid mini-grid
EU- GIZ	Sustainable Community-Based Biogas Schemes for Domestic Energy and Improved Livelihoods	Ministry of Public Utilities and Infrastructure Funafuti, Tuvalu.		EUR 400,000		Installation of biogas digesters on 7 islands
ADB	Outer Island Maritime Infrastructure Project (formerly Outer Island Port Development	Ministry of Communication and Transport, Tuvalu	2016-	USD 12.4M		

	Project) (including \$2.0 million PDA amount approved in 2015)					
DFAT	School Infrastructure Program	Ministry of Education	Current			
DFAT	Nursary on Nukulaelae - (DFAT) & Nanumaga & Nui) TC PAM Recovery (FAO)	FAO, Ministry of Natural Resources	Current			
DFAT	Cyclone Pam Recovery Effort	Tuvalu Red Cross and Tuvalu Government Disaster and Relief Coordination Unit	2015-2017	AUD 1M		Immediate release of pre-positioned water and medical supplies and deploy experts in logistics and water and sanitation. Support long-term recovery and reconstruction efforts (health centres) and to strengthen the operations of the Tuvalu Red Cross and Tuvalu Government Disaster and Relief Coordination Unit.
NZ MFAT	Tuvalu Renewable Energy Projects	Public Utilities and Industry	2013-2016	NZD 19.8M	Country Strategy	Solar-hybrid systems on three Outer Islands of Nanumea, Nanumanga and Niutao and on selected government buildings in Funafuti.
NZ MFAT	Ship to Shore		2007-2013	USD 5.8M		Enhancing reef channels and navigational aids to improve quality and safety of inter-island transport.
NZ MFAT	TC Pam response			NZD 420,00		To fund aerial reconnaissance, to airlift emergency supplies, to deploy 2 personnel to Funafuti to help coordinate the response, and to bolster small boat capacity of impacted islands and improve maritime safety.
NZ MFAT	Policy Reform		2012-2015	NZD 2.9M		PRM3 added a

	Matrix 18					focus on PFM system reform, outer island governance, record keeping and policy reform for privatisation, education and health.
NZ MFAT	Tuvalu Fisheries Support Programme	Ministry of Fisheries	2014-19	NZD 5M	Country Strategy	This activity will replace the existing buildings in Funafuti with a purpose built facility to accommodate all 45 staff, and will include facilities for document storage, data management and other systems. It will also generate its own electricity using roof-top photovoltaic arrays, and harvest rainwater for bulk storage in tank, to service building needs and provide an emergency supply in times of drought.
WBG	Energy Sector Development Project		2015-2019	USD 9.1M		The project will finance investments in renewable energy (RE) and energy efficiency (EE), and provide technical assistance to Tuvalu Electricity Corporation (TEC) to implement the project.
WBG	Pacific Region Oceanscope Program		2014-2020	USD 3.97M		The objective of the Project is to strengthen the shared management of selected Pacific Island oceanic and coastal fisheries, and the critical habitats upon which they depend.
LCDF – GEF	NAPA1	UNDP	2010-2013	USD 3.3M	NAPA	Increase the resilience of coastal areas and community settlements to climate change throughout Tuvalu.
LDCF – GEF	NAPA2	Office of the Prime Minister,	2013-17	USD 4.2m	Project Design	Coastal fisheries, disaster risk

		Ministry of Fisheries			Document	reduction and early warning systems, island strategic plans
LDCF-GEF	Building Resilience of Health Systems in Pacific Island LDCs to Climate Change	UNDP, WHO		USD 17,850,000		Enhance the capacity of national and local health system institutions, personnel, and local communities to manage health risks induced by climate variability and change
LDCF-GEF	CPDP: Climate Proofing Development in the Pacific	ADB, Ministries of Infrastructure		USD 9,340,000 (regional)		The overall goal of the program is to reduce the vulnerability of vital infrastructure in the Pacific LDCs through the implementation of NAPA priorities. The ultimate impact of the program will be to reduce absolute investments losses from the negative impacts of climate change.
GEF	Implementing Sustainable Integrated Water Resource and Wastewater Management in the Pacific Island Countries - under the GEF Pacific Alliance for Sustainability	SPC	2008-2013	USD 10.7M (regional)		Improving water resources management closely connected with other holistic management practices in support of sustainable development such as integrated coastal area management, island systems management, and river basin management.
GEF	Pacific Adaptation to Climate Change Project	SPREP/UNDP	2010-2015	USD 13,125,000 (regional)		Close coordination with IWRM to support policy development and the addition of water storage facilities on Funafuti.
GEF	National Adaptation Plan		Pipeline			
GEF	FASTNET	Energy Department - Ministry of Works and Energy; Tuvalu Electricity Corporation	Current	USD 2,639,725		Facilitation of the development and utilization of feasible renewable energy resources

						and application of energy efficiency technologies for achieving realistic energy targets in Tuvalu
LDCF – GEF	Ridge to Reef	UNDP/ SPC Department of Environment	2015-2019	USD 3.76M	Project Design Document	The R2R objectives is mainly to preserve Tuvalu Marine, Terrestrial Biodiversity, Ecosystem services and to improve livelihood.
GCF – UNDP	Coastal Adaptation Project	Office of the Prime Minister	2016-2022	USD 38.8M	Project Design Document	Strengthening coastal zone management processes and infrastructure
	Nukufetau Shoreline Protection Works	UNDP	Current	USD 6M		
Republic of China (Taiwan)	Taiwanese Garden - (Funafuti & Vaitupu)		Current			
Republic of China (Taiwan)	Taiwanese Milkfish Aquaculture		Current			
USAID	C-CAP		Current			
Government of Fianland	FINPac	SPREP	2013-2016	EUR 3.7M		Linking Met services to communities to strengthen risk information and communication
DBT	Energy Efficiency		Current			
Italy	RE + EE Demonstration					

Note: Many of the projects listed in other sections have components that are relevant for outer island development but those listed below explicitly focus on outer islands.

(b) Gaps, opportunities and implications for MFAT

Supporting community-based actors to manage their own futures is a crucial part of strengthening resilience and adaptive capacity in Tuvalu. These efforts should be linked to the existing support to strengthen governance processes in outer island communities. Development partners should be encouraged to channel climate change and disaster risk reduction support through existing mechanisms, and strengthen the governance processes associated with them, including the provision of technical advice, rather than delivering support in parallel to the Falekaupule Trust Fund (FTF). In the current discussions around the most effective way of supporting resilience building, and distribution of resources to local communities, Tuvalu has the benefit of an existing structure designed precisely for this sort of decentralisation, if it uses it effectively. The completion of a climate finance assessment could provide the opportunity for detailing how this could work in practice.

New Zealand was instrumental in supporting the establishment of the FTF, investing significant time and resources, along with other development partners. Yet partner funds continue to be channelled on a project-by-project basis, and thereby undermine the very structures they helped to establish in an effort to provide more ownership of the development process to outer island communities. Projects continue to dominate expenditure and are often seen at national government and outer island council level as ways to invest in and maintain infrastructure (Bell, 2008). Furthermore, the reduction in assistance for local governance has meant that the recommended ongoing technical assistance for the FTF did not happen, with a resulting impact on its effectiveness.

To address these issues MFAT should invest meaningfully in outer islands governance. This would also support and strengthen its current investments in the energy sector. Projects by development partners need to link to Island Strategic Plans and utilise the FTF where possible or, at the very least, align with other projects to ensure complementarity and avoid duplication. Actors working at the community level, such as the Red Cross and the CLGF, should be engaged as part of this process to maximise efficiencies and effectiveness. This should only be done if MFAT are willing to commit longer term and predictable finance to supporting local governance. More harm than good would be done with short term funding as it would reinforce the project-to-project cycle.

Key Opportunities for MFAT:

- Strengthen local governance systems by investing meaningfully in broad-based leadership;
- Support the national government and Kaupules to increase the use of the FTF as the primary way of delivering assistance to outer islands; and
- Ensuring all assistance to outer islands is tied to Island Strategic Plans and support their ongoing monitoring.

4. Underlying determinants of vulnerability are addressed

(a) Current responses

There are many different factors that affect vulnerability, including access and control over resources, access to information, education, age, and gender. This section details some of the recent projects in Tuvalu and the way in which they have addressed these factors.

Several programmes have sought to address underlying vulnerabilities (NAPA 1 and NAPA 2, PACC, Red Cross, IWRM, GCCA) during implementation. As part of the IWRM programme, a concerted effort was made to provide space for men and women to voice their views on the roll out of composting toilets. The women made it clear that having standalone structures outside the house would not be socially acceptable. As a consequence, the design of the remaining toilets was changed.

As noted above, the Department of Women was heavily involved in the assessments conducted post-Tropical Cyclone Pam. This enabled the responses to take into account women's specific needs and priorities. A gender analysis of NAPA1 highlighted that women felt as though they weren't sufficiently involved in the process of priority setting (Nyman, 2013) as the Board comprises a Kaupule representative from each island. They are traditionally male. Generally, activities and employment are very gendered, with women occupying more teaching and clerical roles.

Limited access to information, particularly for outer island communities, can increase vulnerability. Lessons documented by ADB (Bell, 2008) highlighted the importance of conducting training on the island rather than on Funafuti, and ensuring that relevant materials were translated into Tuvaluan.

Many communities in Tuvalu rely heavily on remittances from family living overseas. Outer island communities are also heavily dependent on their family on Funafuti for remittances. This reliance on remittances can weaken existing traditional systems that are an important source of resilience. They are, however, crucial in providing supplementary income for outer island communities and can reduce hardship particularly in times of external shocks including those related to extreme events.

Table 36

Projects related to addressing the underlying determinants of vulnerability

Development Agency	Main programmes	Implementing partners	Time-frame	Volume	Process to define priorities	Description
LDCF - GEF	Ridge to Reef	UNDP/ SPC Department of Environment	2015-2019	USD 3.76M		The R2R objectives is mainly to preserve Tuvalu Marine, Terrestrial Biodiversity, Ecosystem services and to improve livelihood.
EU	Pacific Climate Change and Migration Project	UNESCAP, ILO,UNDP	2013-2016	EUR 2.1M	Baseline research	To increase protection of individuals and communities that are vulnerable to climate change displacement and migration through targeted national and regional policies; and To increase labour mobility opportunities for Pacific Islanders, through well-managed labour migration schemes

(b) Gaps, opportunities and implications for MFAT

Understanding the context-specific, multi-faceted nature of vulnerability and ensuring that programmes address issues such as inequalities in access to information and resources requires the involvement of specialists (e.g. social scientists, community development specialists) that have a good understanding of the cultural context.

A key opportunity for ensuring that underlying vulnerabilities are addressed is to develop partnerships with organisations that can support the implementation of a rights-based approach to climate change adaptation and disaster risk reduction. Though they are few in number, local NGOs tend to have a greater capacity for doing this than government department. Strengthening partnerships between them is therefore important.

Crucially, these partnerships should be in place before the project design phase, as the design of an intervention is where most influence can happen. Partnering with NGOs and/or the relevant Departments of Women, Social Welfare, Culture as part of the design process can help to garner their support, advice and engagement from the outset. Through these partnerships specific activities can be integrated through the life of the project, thereby helping to address underlying drivers of vulnerability. Ensuring that these are monitored and evaluated for impact is also important.

Access to financial assets is an important component of resilience. Tuvaluans rely heavily on remittances. These can reduce hardship, but transferring money to Tuvalu can be expensive. Reducing the costs of such transfers would help reduce underlying hardship.

Ensuring that all MFAT programmes and partners are working on addressing the underlying sources of vulnerability as part of the programming process is an important way to build these considerations in from the design stage. Adding activities to deal with issues such as access to information, livelihood opportunities, gender and disabilities as an afterthought is not acceptable.

This may require more intensive efforts with implementation partners, such as SPC or national government departments. Fisheries, for example, (which tend to be seen as men's work) is an area where SPC is relatively weak in terms of mainstreaming gender. Similarly, actively programming gender mainstreaming in to water and agricultural initiatives, by partnering with NGOs that have more expertise in this area, including TANGO and the Red Cross, would support gender-responsive programme design.

A specific example of where this might be important relates to long term strategic planning within the fisheries sector. A proposed adaptation response to dwindling coastal fisheries catches is to assess options for better utilising by-catch and lower grade tuna to support local food security. However, this would need to be weighed against any potential social impacts. For example, Kiribati has a recognised problem with prostitution, associated with the presence of overseas boats in Tarawa lagoon. Any efforts to develop onshore processing of fish catch in Tuvalu should assess social issues that may arise from having overseas boats spending a longer time there.

Key Opportunities for MFAT:

- Build the capacity of MFAT staff and implementation partners at the regional, national and local level to take a more holistic approach to strengthening resilience through targeted and ongoing training; and
- Engage NGOs in programme design and implementation.

5. Individual and institutional capacities are well developed

(a) Current responses

Formal education

In general Tuvaluans have good access to tertiary training opportunities and scholarship (Allen and Clarke, 2016). The following programmes work specifically on strengthening formal education and capacity.

As part of the EU-GCCA programme at the University of the South Pacific formal scholarships are offered in post-graduate climate change and disaster risk management

programmes. Six students from Tuvalu have graduated from this programme since it began in 2010 including the former Director of Environment. A local USP campus also provides distance learning opportunities.

The EU-GIZ ACSE programme has a specific TVET programme with SPC and USP, aimed at integrating climate change and disaster risk management within formal TVET qualifications and training programmes. In Tuvalu the programme's focus is on renewable energy (specifically solar photovoltaic and biogas technology) as well as on climate services. The programme will work through established providers, such as the Tuvalu Maritime Training Institute. The number of seafarers from Tuvalu working overseas is falling and it is therefore important that there is a diversification in vocational training opportunities to match demand from employers, both in Tuvalu and overseas.

The EU-GIZ ACSE programme in Tuvalu is working in partnership with USP to implement a biogas programme. A current PhD student will support monitoring of the programme and documenting of achievements and lessons learnt. The SPC / GIZ CCCPIR education programme did not work specifically in Tuvalu. However, after a specific request from the Ministry of Education and UNESCO, Tuvalu-specific versions of the facilitation kit and teacher guides were developed to support the integration of climate change into school curricula.

Informal capacity building

All development programmes aim to build capacity and as such have training courses, individual mentoring and coaching, or on-the-job training (e.g. for agricultural and solar energy programmes) as part of their programmes.

A general frustration expressed by formal educational institutions interviewed was the lack of use of the formal education system by many projects. For example, various regional programmes have conducted training in-country on such topics as project development using the log frame approach (SPC-GCCA), cost-benefit analysis (PACC, CCCPIR, PPCR), and monitoring and evaluation (PPCR). Many more training activities are conducted regionally, requiring government officials to travel. While these training courses are often at the request of government as part of programme design, cumulatively they add up to government officials spending a lot of time in meetings and training sessions. There are often poor links to the public service professional development plans of staff. Much of this training is also delivered to government officials at the national level and not necessarily to those most in need, at sub-national levels. The turnover in staff within the civil service as a result of government officials being absent on study leave (Wrighton, 2010) can cause problems in continuity of policy approaches and project implementation.

The Taiwanese technical mission has a sizeable programme in Tuvalu and a nursery / farm close to the airport which employs and trains farmers.

ADB, PFTAC, PACTAM (DFAT) and MFAT (e.g. fisheries) provide in-country coaching and mentoring support through advisers or technical assistance. Nationally, projects such as NAPA 2, the Red Cross and various bilateral programmes deliver training at the sub-national and community level.

Institutional strengthening

Tuvalu created a unit within the Office of the Prime Minister in 2015 in order to strengthen its ability to respond to climate and disaster risk in an integrated way. This unit reports to a National Advisory Committee on Climate Change (NACCC), which

includes members from across government. A DFAT funded PACTAM position provides support to the climate change and disaster risk management unit.

Tuvalu has not undertaken a climate finance and risk governance assessment. The NAPA2 project had planned this within the project design, but it is unclear whether it will go ahead (pers. comm, UNDP). Upcoming projects such as the USAID-SPC ISACC (USD 5m) and the USAID Climate-Ready (USD 25m) also have resources available to progress recommendations from this assessment should the Government decide to proceed with the assessment.

A key part of ADB, World Bank, MFAT and DFAT capacity building support is to enhance public financial management processes, internal governance procedures and aid coordination. There is a good opportunity to expand the Policy Reform Matrix process to also cover climate change and disaster risks.

At the sector level, MFAT's fisheries institutional strengthening programme builds resilience in a key sector of vital importance for small atolls. As part of this support and following the introduction of the vessel day scheme, revenues from fishing licences have increased, making it even more imperative that the sector is well governed. Fishing licence revenue represented AUD 13 million in 2014 – around 40% of GDP (ADB, 2015).

At the local governance level, NAPA 2, BSRP, FINPAC and the Red Cross are strengthening disaster risk reduction capacity on outer islands by working with the Kaupule to develop disaster risk management plans and procedures, and improve early warning systems.

Table 37

Projects related to strengthening individual and institutional capacities

Development Agency	Main programmes	Implementing partners	Time-frame	Volume	Process to define priorities	Description
European Development Fund (including ACP DRR Facility) (EDF)	Review of National DRM Governance Arrangements in Tuvalu	SPC	2011-2012		HFA	To assist Tuvalu to review the 1999 National Disaster Act and implement key priorities that arise out of the review to address deficiencies in DRR, DM and DRM mainstreaming.
DFAT, EU EDF	Strengthening of NDMO Information Systems	SPC	2010-		HFA	Support provided to enhance capacity of NDMO information systems through the provision of technical advice, the procurement of relevant hardware and software applications,
EU	Sustainable Waste Management Programme in Tuvalu		2017-2020	USD 7.6M		To support the Government of Tuvalu to achieve a sustainable, effective and efficient waste management system.
EU	Vulnerability FLEX program			EUR 1.5M		Tied to ADB's program of public

	- budget support					enterprise reform
EU	Building Safety & Resilient Capacity in the Pacific	SPC	2014-2018	EUR 19M (regional)		
EU	Technical Assistance to Tuvalu NAO re Supply and Installation of Water Storage Systems in Outer Islands	Public Works Department	2011-2013	USD 75,000		TA to support in supervising the tendering, supply and installation of water tanks in eight outer islands, and building capacity within the Public Works Department
EU	Technical Assistance to Solid Waste and Sanitation Component		2011-2014	USD 217,000		TA to support capacity building in the waste and sanitation sector
EU	Support to the preparation of the National Waste Policy and Strategic Action Plan 2016-2020 for Tuvalu. Project implemented by SPREP and Government of Tuvalu	Ministry of Finance and Economic Development (EDF National Authorizing Officer), Ministry of Home Affairs, SPREP	2016	USD 22,379		Support to the preparation of the National Waste Policy and Strategic Action Plan 2016-2020 for Tuvalu
EU	Pacific Climate Change and Migration Project	UNESCAP, ILO, UNDP	2013-2016			To increase protection of individuals and communities that are vulnerable to climate change displacement and migration through targeted national and regional policies; and To increase labour mobility opportunities for Pacific Islanders, through well-managed labour migration schemes
EU- GIZ	Sustainable Community-Based Biogas Schemes for Domestic Energy and Improved Livelihoods	Ministry of Public Utilities and Infrastructure Funafuti, Tuvalu.		EUR 400,000		Installation of biogas digesters on 7 islands including TVET training
ADB	Public Financial Management – budget support	Ministry of Natural Resources, Department of Agriculture	2012-2014?	USD 2.65M		
SPREP/ADB	PPCR		2012-2016	USD 3.67M (regional)		Institutional strengthening in risk screening, cost benefit analysis, monitoring and evaluation
ADB	Maritime		2002-	USD 4.6M		To ensure that TMTI

	Training Project		2010 Completed			can continue to provide basic training and more specialized refresher and upgrade training to young trainees and present Tuvaluan seafarers, meeting IMO training standards.
DFAT	CC Finance readiness in the Pacific project	Ministry of Finance and Economic Planning, GIZ	2016-2018	EUR 1.5M	Country strategy	Support to PFM reforms and development of project pipeline
DFAT	Cyclone Pam Recovery Effort	Tuvalu Red Cross and Tuvalu Government Disaster and Relief Coordination Unit	2015-2017	AUD 1M		Strengthen the operations of the Tuvalu Red Cross and Tuvalu Government Disaster and Relief Coordination Unit. In 2016, Australia funded an adviser to support the Government to develop a plan and standard operation procedures to improve Tuvalu's preparedness and response to disasters.
MFAT & DFAT	Pacific Technical Assistance Mechanism	Tuvalu Treasury	2012-2016			Technical assistance was provided to address the shortage of accountants and other professionals in the government of Tuvalu's Treasury. Australia and New Zealand jointly funded placement of a Public Financial Management/ Capacity Development consultant in the Tuvalu Treasury
MFAT	Policy Reform Matrix		2012-2015	NZD 2.9M		Phase 1: PFM and macroeconomic data and improving procedures for recording and managing PFM data. PRM2 continued to focus on strengthened PFM systems and basic reforms for procurement, budgeting, tax collection, audit, public enterprise management, CIF drawdown and health/education reform. PRM3 added a focus on PFM system reform, outer island governance, record keeping and policy reform for privatisation, education and health.
MFAT	Tuvalu	Ministry of	2014-	NZD 2.3M	Country	New purpose built

	Fisheries Support Programme	Fisheries	19		Strategy	facility to accommodate all 45 staff, and will include facilities for document storage, data management and other systems. It will also generate its own electricity using roof-top photovoltaic arrays, and harvest rainwater for bulk storage in tank, to service building needs and provide an emergency supply in times of drought.
MFAT	Financial Management Support	Ministry of Finance and Economic Planning	2012-2016	NZD 2.5M	Country Strategy	
MFAT	Workforce skills / Scholarships	Ministry of Finance and Economic Planning	2014-		Country Strategy	
MFAT	Fisheries Institutional Strengthening	Ministry of Fisheries	2011-18	NZD 5M	Country Strategy	
WBG	Energy Sector Development Project		2015-2019	USD 9.1M		The project will finance investments in renewable energy (RE) and energy efficiency (EE), and provide technical assistance to Tuvalu Electricity Corporation (TEC) to implement the project.
LDCF-GEF	Building Resilience of Health Systems in Pacific Island LDCs to Climate Change	UNDP, WHO		USD 17,850,000		Enhance the capacity of national and local health system institutions, personnel, and local communities to manage health risks induced by climate variability and change
GEF	Implementing Sustainable Integrated Water Resource and Wastewater Management in the Pacific Island Countries - under the GEF Pacific Alliance for Sustainability	SPC				The primary objective of the project is to strengthen the capacity of countries to implement an integrated approach to the management of their water resources.
GCF - UNDP	Coastal Adaptation Project	Office of the Prime Minister	2016-	USD 38.8M		
Republic of China (Taiwan)	Taiwanese Garden - (Funafuti & Vaitupu)		Current			
Republic of China (Taiwan)	Taiwanese Milkfish		Current			

	Aquaculture					
	Adaptation Fund Accreditation		Current			

(b) Gaps, opportunities and implications for MFAT

Tuvalu has access to formal tertiary education, including through MFAT funded scholarships. A key gap is in formal vocational education and training. As such, the current support from MFAT for scholarships is not well targeted at addressing Tuvalu’s priority skills deficits (Allen and Clarke, 2016). There is a general frustration among formal education providers about the volume of ad-hoc training that is delivered, with poor links to existing vocational training programmes.

Historically the maritime training school has provided Tuvaluans from outer islands the opportunity to work overseas. Remittances from them are an important source of income for outer-island communities. Longer term, ensuring that vocational training available in Tuvalu matches potential opportunities, both nationally and overseas, is a vital part of building long term resilience. A new human resource development plan aims to improve the identification of priority needs. This should help New Zealand better align its assistance to Tuvalu’s needs.

As part of its support to public financial management strengthening in Tuvalu, MFAT should work with the Government of Tuvalu to improve understanding of the institutional constraints to strengthening capacity for managing project finances, advocating for budget support, and coordinating development partners. Part of the solution here may involve enforcing the Tuvalu Aid Policy - this limits development partner missions to certain times of the year - and being more selective about the types of training and meetings officials attend.

Stronger aid and development partner coordination will likely require enhanced capacity within MFED. Building capacity to access and manage larger volumes of finance will likely require government officials to decline offers of smaller volumes of development assistance and to reduce travel so that officials have the time in-country to put in place measures and implementation mechanisms to channel larger volumes of assistance. Linking this to existing support for public financial management strengthening and the Policy Reform Matrix process is crucial. Lessons can be learned from a recent assessment of public financial management reforms (World Bank et al., 2016).

MFAT provides support to strengthen fisheries institutional capacities, which in turn impacts revenues from fisheries licence sales and their sustainability. However, fisheries licence revenue can be volatile and is dependent on a migratory species. Support in this area could serve as a useful entry point for strengthening individual and institutional capacities around risk management.

As part of its support to the energy sector, formal training in solar maintenance should be a key priority for MFAT, to ensure that the value of recent investments in solar systems on outer islands is maximised. Linking up with the SPC/USP EU ACSE programme to examine opportunities to partner in boosting vocational courses around renewable energy is a key opportunity.

Key Opportunities for MFAT:

- Utilise embedded advisers to integrate risk considerations at the sector level (e.g. fisheries);
- Support the Government of Tuvalu to enforce their Aid Policy.
- Increase investment in relevant TVET opportunities (enterprise development, fisheries, solar installation and maintenance), building on existing initiatives and projects and aligning to the Government's human resource plan; and
- Lead discussions with other development partners and countries around reducing the number of international and regional capacity building initiatives and focus on in-country training wherever possible.

6. Private sector playing a significant role in resilient development

(a) Current responses

The private sector in Tuvalu is small. Finance generated from private sector sources is unlikely to feature heavily as part of climate and disaster risk management responses. The private sector largely consists of stores, restaurants, a few lodges and handicraft sellers. The volume of overseas development assistance in Tuvalu (approx 50% of GDP) often acts to crowd out investment from private sector players.

It is important that post-disaster, the private sector in Tuvalu is not undermined through the distribution of aid via government channels. The private sector does have a role in bringing in supplies post-disaster and in supplying materials generally, but they are reluctant to do so if it is likely that partners arrange their own deliveries.

The opportunities for private sector contractors as part of the implementation of projects – particularly the upcoming GCF project – are significant, although they are mostly likely to be overseas-based contractors. UNDP is already in discussion with a number of possible contractors to undertake the feasibility assessment, including MWH.

(b) Gaps, opportunities and implications for MFAT

The opportunities for the private sector in Tuvalu to enhance resilience are constrained by the overall size of the sector. Contractors from overseas are often engaged for infrastructure developments, or to supply equipment. Building into contractor Terms of Reference requirements for mentoring and coaching support for small local business could be one way to encourage skills transfer to local businesses.

Another opportunity, which would also enhance ownership, is that where projects are implemented at the household level (for example, the provision of water tanks), an alternative mechanism could be trialled for distributing the equipment. An ongoing problem in Tuvalu is the maintenance of assets, partly because of the very high levels of aid per capita. A private sector supplier could be engaged to operate a distribution system whereby the household exchanges a voucher for the materials, and could also pay a nominal amount. It would be interesting to assess whether such a system enhanced ownership, and thereby improved maintenance of the assets.

Key Opportunities for MFAT:

- Within any contractor tenders, require the employment of at least some local staff, and the inclusion of coaching, mentoring and training support; and
- Trial alternative systems for distributing assistance (perhaps through the FTF) to assess if ownership is enhanced.

7. Longer term habitability of atolls and islands is considered

(a) Current responses

Sea-level rise is a significant threat to Tuvalu's further development, affecting food security, water security, energy, and infrastructure. Together these can influence the habitability of Tuvalu's atolls in the longer term. More research is needed to understand the implications of different policy options to address these changes in habitability. For example, permanent migration options can provide people with expanded choices and may perversely result in less migration than temporary options would. Making remittances easier to send home would also increase access to finance by relatives.

Increasing the availability and protection of land is a significant dimension of the longer-term habitability of Tuvalu's atolls in the face of sea-level rise and other drivers of change. Tuvalu has been successful in securing USD 38.8 million from the GCF for the Tuvalu Coastal Adaptation Project (TCAP). The project aims to reduce the impact of increasingly intensive wave activity, compounded by sea-level rise and intensifying storm events due to climate change. These are amplifying coastal inundation and erosion.

The project will put in place a robust coastal protection infrastructure along 2.21km of vulnerable coastlines of Funafuti, Nanumea and Nanumaga, representing nearly 28% of the high value zones of the country, which currently have no protective measures. It also represents 10% of all vulnerable coastlines in the country. The intervention will benefit about 3,100 people directly. A further 3,499 indirect beneficiaries means an estimated 62% of the population of Tuvalu will derive benefit from the project. Potentially, the project could reduce annual losses (including statistical value of life) worth up to AUD\$667,000 over a 40-year time period.

The GCF funding to Tuvalu helps resolve the high upfront investments required for coastal protection, the public good and non-revenue nature of the required solutions, and the inability of the Government to service loans which meant Government and the community were only able to implement recognized solutions at a slow pace and in a highly fragmented manner in the past.

MFAT funding for the remediation of the borrow pits has led to some immediate results; increase in land mass, more aesthetic urban environment, and a more sanitised environment. In particular, additional land is available for recreation, stagnant water pools that were breeding grounds for mosquitoes have been removed, and there are reduced human health risks from children swimming and playing nearby.

On atolls in the Pacific agriculture is already under stress due to poor soil, limited available land, and water scarcity. For Tuvalu, a future of sea-level rise, saltwater intrusion, coral bleaching and ocean acidification will bring increasingly important challenges for food production and food security. Other factors will also play a role, such

as the recovery time between extreme events and the impact of multiple stresses, for example a combination of higher temperatures and lack of rainfall. Freshwater reserves are limited to shallow subsurface lenses susceptible to contamination by salt water; most of the crops grown on these islands have a relatively low tolerance to salinity, though salt tolerant varieties are becoming more commonly available. Of particular concern to Tuvaluan communities is the vulnerability of swamp taro, a hugely important crop, both culturally and for food security. Addressing sea-level rise on atoll islands will be a significant challenge, requiring far more knowledge about salinity tolerant crops and systems than is currently available. Atolls also face the challenges of drought; it is likely that both sea-level rise and drought will require transformation change within the next decade or so.

Migration is an ingrained part of everyday life for Tuvaluans, enabling risk spreading and greater economic opportunity (Connell and Conway, 2000). In a study of Tuvaluan migrants living in New Zealand, Shen and Gemenne (2011) found that most of the migrants interviewed had moved between Tuvalu and other countries many times during their lifetimes – some as many as eight times (UNESCAP, 2014). A large Tuvaluan population already lives in Fiji and in New Zealand.

At present, less than 100 Tuvalu seafarers are employed by European and Hong Kong-based merchant shipping companies. This is a 40-50% drop from 2008 and a 75-80% drop from the historic peak in the late 1990s and early 2000s. Seafarer remittance income at that time was AUD 2-4 million per year. But Tuvalu has always been a comparatively high cost, marginal supplier of seafaring labour. Under TKIII, the Tuvalu government is considering ways of overcoming the current bottlenecks in the seafarer industry.

Expanding international labour competition, and driving down costs, has slowly marginalised Tuvalu seafarers in the market. The steady decline of Tuvalu's Maritime Training Institute (TMTI) may also be a contributing factor, as well as competing increases in government wages and other sources of household income, such as non-seafarer remittances. Easy money from expanding the public sector, and increasing wages, may also have had a negative influence on the importance of remitted seafarer income, initiating the long decline in seafarer numbers.

Three bilateral programmes currently facilitate employment of Tuvaluans abroad: New Zealand's system of Recognized Seasonal Employment (RSE) and the Pacific Access Category (PAC) system, and Australia's Seasonal Workers Program (SWP). Currently there are some 600 Tuvaluans working overseas, including those employed in these programmes. This has partly offset the loss of household income from declining seafarer employment. Working with the Tuvalu Department of Labour, NZ's Ministry of Business, Innovation and Employment plans to increase the number of Tuvaluans recruited under these labour initiatives by raising migrant worker reputations and promoting them as reliable and hardworking employees.

Table 38

Projects related to the longer-term habitability of atolls and islands

Development Agency	Main programmes	Implementing partners	Time-frame	Volume	Process to define priorities	Description
EU	Pacific Climate Change and Migration Project	UNESCAP, ILO, UNDP	(2013-2016)			To increase protection of individuals and communities that are vulnerable to climate change displacement and migration through targeted national and regional policies; and To increase labour mobility opportunities for Pacific Islanders, through well-managed labour migration schemes
MFAT	Tuvalu Borrow Pits Remediation		2013-2016	USD 9,431,225	Te Kakeega II, 2005-2015	This project will remediate Tuvalu's Borrow Pits using material dredged from Funafuti Lagoon. Aligned to: Tuvalu's National Development Strategy, 2005 to 2015 (Te Kakeega II, 2005-2015)
UNDP	Nukufetau Shoreline Protection Works	UNDP	Current	USD 6M		
Japan	Beach nourishment	Department of Environment				
Japan	Annual fuel grant to Tuvalu Electricity Corporation			In 2011 = 3 months supply		
Japan	Rehabilitation of the national secondary college					JICA is the largest single donor in education due to this
Republic of China (Taiwan)	Budget support	Ministry of Natural Resources, Department of Agriculture	Annually	USD 5M/p.a		
Republic of China (Taiwan)	Taiwanese Garden - (Funafuti & Vaitupu)		Current			
USAID	C-CAP – FINPAC		Current			

(b) Gaps, opportunities and implications for MFAT

All development programmes can be classed as relevant to supporting resilient development. This is particularly true for atoll countries where the climate and disaster risks to development are much more apparent. Supporting the long-term habitability of Tuvalu's atoll in the face of climate and disaster risks will require a multi-sector response to the various risks to water quality, food production and infrastructure.

MFATs existing support for water security in atoll countries through SPC will support Tuvalu to "build skills, systems and basic infrastructure to better anticipate, respond to, and withstand severe drought" (MFAT, 2015). Tuvalu, as part of a recent EU-funded UNESCAP Pacific Climate Change and Migration Project, assessed long-term migration options. New Zealand could provide additional support to Tuvalu as part of its existing migration programmes. Increasing voluntary migration, as part of existing programmes, would enable Tuvaluans to meet their own needs in accordance with their own values (Barnett and O'Neill, 2012).

The New Zealand government has been a long term supporter of improving governance and infrastructure in Tuvalu's outer islands. This has included support for governance, renewable energy and improving transport links. There has been a shift in recent years away from softer measures such as governance strengthening towards hard visible infrastructure. It is important to stress that in terms of resilience, the softer measures are as vital, and perhaps even more so compared to hard infrastructure such as solar photovoltaic arrays and sea walls. The ability to sustain and manage infrastructure over the medium to long term is dependent on technical skills and strong governance and leadership mechanisms locally. MFAT should assess the possibility of support to the Falekaupule and Kaupule to assist them in managing and coordinating development partner assistance, and monitoring an active maintenance programme.

Longer term, increasing the number of places available through the various migration channels will support both skills development and remittances.

It would be reasonable to assume that over the longer term the remedial work on the borrow pits will lead to an improvement in health outcomes. Other longer term benefits will depend on how the landowners decide to use the new land. It remains to be seen as to whether such land reclamation projects can deliver a wider development dividend. Unexpectedly, the project seems to have contributed to an increase in the Government of Tuvalu's confidence to undertake other land reclamation projects. Within the context of sea-level rise, this unanticipated consequence could be significant (Allen and Clarke, 2016).

Key Opportunities for MFAT:

- Support the Tuvalu government to overcome the current bottlenecks which impede the participation of Tuvaluans in the seafarer industry;
- Increase the number of Tuvaluans recruited under New Zealand's applicable labour mobility initiatives, by raising migrant worker reputations and promoting them as reliable and hardworking employees;
- Assess options and implement measures to increase the availability and protection of land as a strategy to enhance the longer-term habitability of Tuvalu's atolls in the face of sea-level rise and other drivers of change;

- Assess options and implement measures to reduce the impacts of future sea-level rise, saltwater intrusion, coral bleaching and ocean acidification on food production and food security;
- Ensure that an appropriate number of Tuvaluans have the technical skills to sustain and manage infrastructure over the medium to long term; and
- Provide support to the Falekaupule and Kaupule to assist them in managing and coordinating development partner assistance, and monitoring an active maintenance programme.

8. Increased access to, and effective use of climate and disaster finance

A. Securing finance for climate change adaptation and disaster risk management

(a) Current responses

Climate change and disaster risk management financing have become increasingly high priority areas for the Pacific. The operationalisation of the Green Climate Fund has provided new impetus for countries to become climate-finance ready. Tuvalu has indicated its intention to apply for direct access to the GCF and is in the process of applying for Adaptation Fund accreditation.

Climate and disaster finance readiness has strong links to existing work to support the strengthening of public financial management systems, largely funded by Australia and New Zealand. Strong public financial management systems underpin the ability to access and manage resources efficiently. ADB, the World Bank, Australia and New Zealand have a coordinated approach to supporting strengthened public financial management. Efforts should be made to leverage this existing support and advice to also cover climate change and disaster risk financing support.

The Tuvalu Trust Fund is generally recognised as being a well-managed trust with strong governance procedures. New Zealand support for the New Zealand representative on the Trust Fund Board, and for an analyst, is a vital part of this. Lessons from the management of the Tuvalu Trust Fund should be documented as the basis for developing procedures for managing the newly created Tuvalu Survival Fund.

Table 39

Projects relating to securing finance for climate change adaptation and disaster risk management

Development Agency	Main programmes	Implementing partners	Time-frame	Volume	Process to define priorities	Description
DFAT	CC Finance readiness in the Pacific project	Ministry of Finance and Economic Planning	2016-2018	EUR 1.5M	Country strategy	Support to PFM reforms and development of project pipeline
	Adaptation Fund Accreditation		Current			
	GCF		Pipeline			

	Readiness Program					
DFAT and MFAT	Pacific Technical Assistance Mechanism	Tuvalu Treasury	2012-2015			Technical assistance was provided to address the shortage of accountants and other professionals in the government of Tuvalu's Treasury. Australia and New Zealand jointly funded placement of a Public Financial Management/Capacity Development consultant in the Tuvalu Treasury
MFAT	GCF Technical Assistance for Pacific Access Programme	GCF	2016 -			Increase understanding of the GCF, and national capacity to develop project pipelines and GCF proposals

(b) Gaps, opportunities and implications for MFAT

Tuvalu Government officials have insufficient time to fulfil their many and varied responsibilities. Securing large-scale finance requires the time to develop proposals and implement financial management reforms. There is considerable scope to rationalise the number of climate change and disaster risk management projects being undertaken in the country. MFAT could support the facilitation of this dialogue to better understand what constraints the climate change and disaster unit face, and the incentives they have for taking on projects that are probably too small to be worth the administrative time of government staff. This may free up some of the time of officials to concentrate on larger volumes of finance. It is crucial that at all times the process is led by the Government of Tuvalu.

Promoting links between existing support for strengthen public financial management processes and climate and disaster risk financing can also enhance the Government of Tuvalu's ability to access finance. New Zealand's existing support to the Tuvalu Trust Fund leaves it well placed to support the operationalisation of the Tuvalu Survival Fund.

Key Opportunities for MFAT:

- Encourage the Government of Tuvalu to conduct a climate finance assessment to better understand key capacity constraints to access finance;
- Support the Government of Tuvalu to develop the procedures for and operationalise the Tuvalu Survival Fund as a mechanism to provide predictable funding and to rationalise the number of climate change and disaster risk management programmes in Tuvalu; and
- Build on existing PFM support and the current Government's process of applying for Adaptation Fund Accreditation to strengthen the links between PFM reforms and climate and disaster risk financing.

B. Ensuring effective and efficient use of funding

(a) Current Responses

Effective use of funding is dependent on many factors. Financial systems (see Section 9) and decision making processes (Section 11) must be strong. Implementing entities

(regional, national and sub-national) must have the time and skills to implement activities effectively. Learning from previous experiences and lessons in implementing projects is also crucial in ensuring that mistakes are not repeated (see Section 3.10).

The Government of Tuvalu has recently created a monitoring and evaluation unit within the Office of the Prime Minister to track TK III with a view to improving the documentation of lessons and evaluation capability of the Government.

Tuvalu has secured a USD \$38.8m GCF grant for a coastal zone management project implemented through UNDP. Managing this volume of resources is likely to require significant additional capacity internally and strong links to the existing work to strengthen public financial management procedures in the country.

Table 40

Projects relating to ensuring effective and efficient use of funding

Development Agency	Main programmes	Implementing partners	Time-frame	Volume	Process to define priorities	Description
EU	Vulnerability FLEX program – budget support			EUR 1.5M		Tied to ADB’s program of public enterprise reform
ADB	Public Financial Management – budget support	Ministry of Natural Resources, Department of Agriculture	2012-2014?	USD 2.65M	?	
DFAT	CC Finance readiness in the Pacific project	Ministry of Finance and Economic Planning	2016-2018	EUR 1.5M	Country strategy	Support to PFM reforms and development of project pipeline
NZ MFAT & DFAT	Pacific Technical Assistance Mechanism	Tuvalu Treasury	2012-2016			Technical assistance was provided to address the shortage of accountants and other professionals in the government of Tuvalu’s Treasury. Australia and New Zealand jointly funded placement of a Public Financial Management/Capacity Development consultant in the Tuvalu Treasury
NZ MFAT	Policy Reform Matrix		2012-2015	NZD 2.9M		Phase 1 initially focused on updating and revising PFM and macroeconomic data and improving procedures for recording and managing PFM data. PRM2 continued to focus on strengthened PFM systems and basic reforms for procurement, budgeting, tax collection, audit, public enterprise management, CIF drawdown and health/education reform. PRM3 added a focus on PFM system reform, outer island governance, record

						keeping and policy reform for privatisation, education and health.
Republic of China (Taiwan)	Budget support	Ministry of Natural Resources, Department of Agriculture	Annually	USD 5M/p.a		

(b) Gaps, opportunities and implications for MFAT

The Government has a small bureaucracy, and those working on climate change in country are also heavily involved in international negotiations, further reducing the time with which they can engage in supporting implementation in country.

Increased use of other partners to implement initiatives on the Government’s behalf (e.g. NGOs) could address some of the current time constraints that Government officials have and build strong government – NGO partnerships for implementation over the longer term. Strengthening NGO capacities locally may be required as part of this process.

The GCF programme presents a good opportunity to discuss with the Government and UNDP support that might be required, and to utilise some of the funding to address important weaknesses at the national level in terms of aid coordination. For example, there is currently no effective monitoring system in place for aid coordination or for climate finance tracking at the national level. A UNDP governance programme trialed an aid coordination database several years ago, but the Aid Coordination unit stopped using it and reverted back to an Excel spreadsheet.

MFAT may also want to consider whether to play an active role in trying to support partner coordination in this space. MFAT is in an advantageous position given it is a trusted partner, with a large programme in the Pacific, but a small one globally. Several stakeholders who were interviewed suggested that MFAT could play a more active role in aid coordination. But the shift in the management of the Tuvalu programme out of Suva and to Wellington will reduce MFATs ability to contribute meaningfully. Supporting a formal coordination process at the regional level, for example through support to the resilience partnership, also assists countries with their aid coordination efforts.

Discussions with countries on these reports, and validating the information in them, could form the starting point of developing a tracking mechanism to monitor climate finance in partnership with Tuvalu and Kiribati’s aid coordination units and the Pacific Climate Change Portal and Pacific Disaster Net, for example.

The effect of poor coordination and weak information and knowledge management systems is that a significant amount of government officials’ time is spent providing information to partners on current responses and priorities (Wrighton, 2010). Time and cost savings from investing in strengthening coordination and information and knowledge management systems could be significant.

Supporting the climate change and disaster risk management policy unit to critically assess the portfolio of projects currently ongoing and in the pipeline and to advocate for larger, better coordinated programmes with partners is crucial (see Wrighton (2010) for a discussion of the burden on small administration from partners). The Tuvalu

government has an aid policy that forbids development partner missions arriving in the two months leading up to the budget each year (September and October), but the policy is not enforced.

Key Opportunities for MFAT:

- Advocate for an increased role for NGOs in programme implementation. Where necessary support NGOs to strengthen their capacity to play this role; and
- Support the Government of Tuvalu to strengthen aid coordination processes.

9. Resilient development investment opportunities planned and prioritised

(a) Current Responses

Integrating risk considerations into core policy, planning and budgeting processes requires changes in the decision making tools used as part of these processes. A DFAT supported staff member within the budget unit of the Ministry of Finance and Economic Development oversaw the updating of the budget appraisal and project appraisal template in 2014. As part of the PPCR project these decision tools were mapped and a guidance note produced to support the consideration of climate and disaster risks as part of this process. Also as part of the PPCR project, SPREP is supporting the Government of Tuvalu to strengthen its internal prioritisation process for budget submissions and investment decisions.

Formal appraisal, prioritisation and evaluation tools, such as multi-criteria analysis and cost-benefit analysis, have been used as part of various climate change and disaster risk management policy and project development processes, but have failed to gain traction as part of core government processes. This is partly a result of the time required to undertake these analyses and the lack of time available to most government officials.

As part of the PACC and CCCPIR projects, cost-benefit analyses (CBA) were conducted jointly with economists from the respective governments and used to inform programme interventions. A CBA of the PACC project on Funafuti (water cistern) was used as a training and mentoring exercise for relevant staff members. Similarly, a CBA of a biogas project was used to inform the project design document of the EU-GIZ ACSE programme, working in partnership with USP. The PRIF used a multi-criteria analysis to inform the selection of infrastructure investments as part of the investment strategy development.

Government officials involved in using both these tools reported that they were useful, and ideally should be used routinely, particularly for large-scale investments (pers. comm. SPREP).

Table 41

Projects relating to planning and prioritising resilient development investment opportunities

Development Agency	Main programmes	Implementing partners	Time-frame	Volume	Process to define priorities	Description
LDCF-GEF	CPDP: Climate Proofing Development in the Pacific	ADB, Ministries of Infrastructure				The overall goal of the program is to reduce the vulnerability of vital infrastructure in the Pacific LDCs through the implementation of NAPA priorities. The ultimate impact of the program will be to reduce absolute investments losses from the negative impacts of climate change.
Climate Investment Fund	PPCR	SPREP / ADB		USD 3.61M (regional)		Support to adapt budget appraisal tools, conduct CBA training and strengthen M&E processes taking risk and resilience into account
Germany	CCCPIR	GIZ		USD 23M (regional)		CBA training and mentoring

(b) Gaps, opportunities and implications for MFAT

Barriers to the application of decision support tools include a lack of technical knowledge about the application of the tool, a lack of time and also a lack of institutional support internally. Creating demand from decision makers for analytical tools is therefore important.

The World Bank and ADB projects are required to conduct cost-benefit analyses as part of the project design process. There is considerable scope to use these processes to build local capacity in the application of decision support tools such as cost-benefit analysis. For example, the Terms of Reference for the consultant that conducted the biogas cost-benefit analysis, which was used to inform the project design under the EU-GIZ ACSE project, included specific training and capacity development sessions as part of the contract.

The new GCF project also has considerable opportunity to strengthen capacity for undertaking these types of analysis as part of the selection of different coastal adaptation measures. Lessons from the Kiribati Adaptation Programme and challenges with developing institutional capabilities in relevant ministries should be drawn.

MFAT should also lead by example by integrating risk considerations within MFAT's own processes of prioritisation and decision-making. Involving Tuvalu officials in these procedures would be a valuable learning exercise for them, and would help to ensure that any decision support tools created are grounded in reality.

Key Opportunities for MFAT:

- Use the adaptation of MFAT's own processes to better account for risk and resilience as a learning exercise for partner countries;

- Through the PRIF processes, ensure that prioritisation tools (e.g. cost benefit analysis) that are conducted are also used as a capacity building opportunity; and
- Advocate for sharing of lessons between Kiribati and Tuvalu on the use of prioritisation tools to inform coastal zone management.

10. Knowledge management and learning well established

(a) Current Responses

A fundamental problem in relation to knowledge sharing and use is continued poor management of data and other information across government departments, development agencies and NGOs.

Recent efforts to improve information and knowledge management within the Department of Environment (supported by CCCPIR), and the Aid Coordination Unit (supported by UNDP), have largely failed to institutionalise new processes around information management. Weak IT systems, a lack of file and folder naming conventions and restricted access to many government folders, as well as the prevalence of paper-based processes, affect the ability of government staff to share information (Government of Tuvalu, 2015). There is, however, a lack of political will by partners and the Government to address the issue seriously.

The Pacific Climate Change Portal (PCCP) has a mandate to support countries with information and knowledge management priorities but in practice has not engaged sufficiently or invested significant resources to play its role effectively. Pacific Disaster Net has good research capabilities but lacks the resources to meaningfully engage with countries and support training and capacity development for information managers.

The newly created monitoring and evaluation unit within the Office of the Prime Minister demonstrates a recognition by Government to address issues to strengthen learning internally and should be actively supported.

Under the MFAT supported investment in strengthening the institutional governance of the fisheries sector, information available through the fisheries department library has improved. As part of the design process for the new fisheries building, information and communication technology are being considered.

Table 42

Projects related to knowledge management and learning

Development Agency	Main programmes	Implementing partners	Time-frame	Volume	Process to define priorities	Description
DFAT, EU EDF	Strengthening of NDMO Information Systems	Applied Geoscience and Technology Division (SOPAC) of the Secretariat of the Pacific Community (SPC) (SOPAC)	2010-		HFA	Support provided to enhance capacity of NDMO information systems through the provision of technical advice, the procurement of relevant hardware and

						software applications,
DFAT / DCCEE (ICCAI)	Water security survey	SPC, Ministry of Public Utilities and Industry	2011-2013			
LDCF – GEF	NAPA2	Office of the Prime Minister, Ministry of Fisheries	2013-17	USD 4.2M		Coastal fisheries, disaster risk reduction and early warning systems, island strategic plans
Government of Germany	CCCPIR	GIZ, DoE	2011-15	EUR 23M (regional)	Annual workplans	Support to conduct an information and knowledge management assessment

(b) Gaps, opportunities and implications for MFAT

Strengthening the system of tracking climate finance, and development finance in general, should be a high priority for the government. It is acknowledged that a failure to learn from past projects has led to many projects in Tuvalu repeating the same mistakes (pers. comm., GIZ).

Despite the benefits to coordination and learning, donors have been reluctant to commit longer-term funding support to improving information and knowledge management. Efforts by development partners to produce situation analyses should be used to strengthen existing information platforms. A considerable amount of time is spent by consultants conducting “fact-finding missions” which are used for one development partner only, and not shared more broadly, including with the relevant countries. This places a burden on already stretched government officials and results in a situation where consultants and partners have more information (plans, policy documents, project evaluations, technical assessments) about the country than many government officials do.

A substantial investment in improved information and communication technology and processes within the Government of Tuvalu is needed to facilitate information and knowledge sharing. As climate change and disaster risk management are cross-cutting issues, being able to access information and documents from other ministries is crucial to support learning for the climate change and disaster risk management unit.

Technology alone is not sufficient, as many of the barriers to sharing information and knowledge are related to institutional and individual behaviour. These can take time to shift.

Lessons from the experience of the Department of Fisheries to improve their information and knowledge management processes could be shared with others to advocate for increased attention to these issues.

As part of the work to strengthen public financial management, investment in a functioning, user-friendly, aid coordination system that can track all development assistance, including climate change and disaster risk management finance, is well overdue. Funding additional staff within the aid coordination division could assist with this. A significant investment in terms of time and resources is needed to support such an institutional shift. Without such investment, however, learning is likely to only ever

be done by individuals who have access to the information by virtue of their role, and not by the broader institution.

The newly created monitoring and evaluation unit within the Office of the Prime Minister should be supported to evaluate former projects – those that integrated risk specifically as part of their design and those that did not – to provide evidence of the differences that can result. For example, a solar project constructed in 2007 (that failed to take into account the impact of the environmental conditions in Tuvalu) was no longer functioning in 2015⁵⁴.

Many mistakes were made during the first few decades of climate change adaptation programmes. It is important that development partners, governments and communities reflect on these mistakes, to improve programming in the future and ensure that lessons learned are reflected in future planning processes. Many of these mistakes occurred as practitioners failed to learn from past development projects in sectors such as water, food security and energy.

As part of this review it is evident that project evaluations, and key learning within them, are not as widely shared as they should be. Development partners are often under pressure to showcase success stories and results. This causes an institutional bias to document and report things that are going well and not to report things that are going wrong. And yet, learning from mistakes is exceedingly valuable. The Government of Tuvalu's Monitoring and Evaluation Unit should be supported to collate and make available all relevant technical reports and evaluations from previous projects.

The SPC GCCA project took an interesting approach to sharing learning from the project. It produced a short presentation and DVD for screening as part of a roadshow to other partners and interested stakeholders. These sorts of approach should be more widely used to disseminate learning. There is an overwhelming amount of reports and other information and available. Using videos, photos, and more accessible media might attract more people to utilise them.

The review of MFAT's resilience programme at the same time that DFAT are reviewing their programme represents a good opportunity to contribute to joint learning – regionally and nationally – on the needs, priorities and opportunities going forward. A significant number of information and evaluation reports have been reviewed and the learning associated with this process should be shared both with the Government of Tuvalu and a wider audience. Peer to peer learning between countries should also be promoted, for example, within the SPC water security programme.

MFAT could contribute actively to strengthening knowledge on what is working and areas that need rethinking. It could also support improved documentation and reporting of projects and areas of support, and ensure that they are provided to the Pacific Climate Change Portal and Pacific Disaster Net for broader dissemination.

Consultants should be required, as part of their Terms of Reference, to contribute publicly available documents to the Government of Tuvalu Library, and to the regional portals.

⁵⁴ http://powersmarttuvaluproject.blogspot.com/2015_01_01_archive.html

Key Opportunities for MFAT:

- Invest in understanding the current barriers and to strengthen information and knowledge management systems within government and strengthening capacities (people, skills and systems);
- Upgrade the ICT infrastructure in ways that will help ensure the efficient and effective operation of information and knowledge management systems;
- Embed long term technical assistance positions to support strengthened information and knowledge management and monitoring and evaluation systems;
- Document lessons from efforts to improve information management within the Ministry of Fisheries as part of the institutional strengthening programme; and
- Require consultants to share publicly available information with the Government of Tuvalu Library and the regional information platforms for climate change and disaster risk management.

11. Humanitarian actions for disaster prevention, response and recovery are effective

(a) Current Responses

A number of projects work specifically on disaster preparedness and response, including strengthening early warning systems (see also section 4.2 for risk information). Tuvalu generally faces lower risks associated with cyclones than countries further south – but Tropical Cyclone Pam caused widespread storm surges and resulting inundation of gardens and water sources.

Drought is a greater risk in Tuvalu. A State of Emergency was declared in 2011 after Funafuti had several months without rain. Funafuti relies exclusively on rainwater harvesting.

A number of projects over the past decade (EU, DFAT, SPC) have supported the roll out of water tanks across Funafuti, to ensure households have sufficient storage to manage longer drought periods. This work also involved mapping all rainwater harvesting infrastructure on the main island, to provide a baseline.

NAPA2 has a disaster risk management component and is working across all outer islands to strengthen early warning systems. The EU-SPC Building a Safe and Resilient Pacific (BSRP) is collaborating with the NAPA project to also strengthen outer island preparedness. The FINPAC project partnered with the Red Cross and the Tuvalu National Meteorological Office to facilitate discussions between the National Meteorological Office and the island communities so that they could give direct user feedback on the type of information that is helpful to receive.

The International Federation of the Red Cross in Suva is providing technical backstopping and institutional strengthening to the national Red Cross Societies in Tuvalu and Kiribati.

Table 43

Projects relating to improving the effectiveness of humanitarian actions for disaster prevention, response and recovery

Development Agency	Main programmes	Implementing partners	Time-frame	Volume	Process to define priorities	Description
European Development Fund (including ACP DRR Facility) (EDF)	Review of National DRM Governance Arrangements in Tuvalu	SPC	2011-2012		HFA	To assist Tuvalu to review the 1999 National Disaster Act and implement key priorities that arise out of the review to address deficiencies in DRR, DM and DRM mainstreaming.
DFAT, EU EDF	Strengthening of NDMO Information Systems	SPC	2010-		HFA	Support provided to enhance capacity of NDMO information systems through the provision of technical advice, the procurement of relevant hardware and software applications.
EU	Building Safety & Resilient Capacity in the Pacific	SPC	2014-2018	EUR 19M (regional)		
DFAT	Pacific Enhanced Humanitarian Response Initiative (PEHRI)	CARE Australia, United Nations Children's Fund (UNICEF), ActionAid Australia, Act for Peace, Australian Red Cross (ARC), Caritas Australia, Applied Geoscience and Technology Division	2008-2001	USD 10.974M	HFA	Established disaster preparedness and response arrangements in over 500 communities across six countries. These same communities recorded no fatalities and minimal damage during recent extreme events
DFAT	Access to Safe Water - Drought Crisis Response		2011-2012	USD 150,000		Funding under initiative INK231 'Tuvalu Drought Emergency Support' to support Tuvalu respond to the ongoing drought situation. It is Australia's 50% contribution to NZAID to jointly supply, transport and distribute 1,080,000 litres of potable water to Tuvalu.
DFAT	Cyclone Pam Recovery Effort	Tuvalu Red Cross and Tuvalu Government Disaster and Relief Coordination Unit	2015-2017	AUD 1M		Immediate release of pre-positioned water and medical supplies and deploy experts in logistics and water and sanitation. Support Tuvalu's long-term recovery and reconstruction efforts. This includes support to In 2016, Australia funded an adviser to support the

						Government to develop a plan and standard operation procedures to improve Tuvalu's preparedness and response to disasters.
LDCF – GEF	NAPA2	Office of the Prime Minister, Ministry of Fisheries	2013-17	USD 4.2M		Coastal fisheries, disaster risk reduction and early warning systems, island strategic plans

(b) Gaps, opportunities and implications for MFAT

Disaster preparedness and response programmes in Tuvalu tend not to have worked very much on the underlying factors that influence vulnerability (see section 3.5). MFAT could work with existing partners (SPC, Red Cross) to assess the scope for integrating risk, along with gender, culture and human rights, as part of disaster preparedness and water security programmes. The Department of Women took part in the disaster assessments post-TC Pam which proved useful in identifying the different needs of men and women post-disaster. The Red Cross has good outreach to outer islands as part of its volunteer network and MFAT could strengthen this by utilising the Red Cross more as part of its programming on outer islands.

Key Opportunities for MFAT:

- Build on existing efforts to strengthen NGOs (e.g. Red Cross) and their ability to reach and support Island Councils in preparedness and response efforts.

12. Strong coordination and cooperation

(a) Current Responses

A recent evaluation of NZ's development cooperation in Tuvalu (Alan and Clarke, 2016) provides a useful assessment of development assistance, coordination and cooperation in Tuvalu. The country receives bilateral development assistance primarily from Australia, New Zealand, Japan, Republic of China (Taiwan), as well as the United Arab Emirates (UAE). It also receives assistance from the European Union (EU), the World Bank, Asian Development Bank (ADB), United Nations Development Programme (UNDP), and the Green Climate Fund and Global Environment Facility (GEF). Australia (USD 46.8 million) has been the biggest donor over the five year period 2010 to 2014, followed by Japan (USD 37.0 million), New Zealand (USD 23.7 million) and the EU (USD 10 million)

Some 145 projects supported by donors were ongoing, completed, or planned during the 2012–2015 period. These were provided by 26 donors and valued at AUD 105.2 million over the four years. A high proportion of this funding (39 percent) was allocated for general and sector budget support from Australia, Republic of China, Taiwan, New Zealand and other donors who provided cash support earmarked for sector or general budget support.

In Tuvalu higher level donor coordination operates at several levels, including:

- Annual high level consultation meetings led by Tuvalu (sometimes referred to as the ‘donor roundtable’);
- biannual meetings of the TTF Board;
- management meetings around the PRM, including joint missions and meetings after each phase;
- regular inter-donor high level meetings between MFAT and EU/WB/ADB on respective activities in the region; and
- quarterly consultations between donors in Suva.

The conversations that take place on the side lines of the official PRM and TTF meetings are another effective means to achieve coordination.

The high-level Policy Reform Matrix (PRM), a joint initiative between Tuvalu and its key development partners – Australia, New Zealand, EU, ADB and the World Bank, aims to increase the efficiency and effectiveness of Tuvalu’s public and financial management policies. In addition, the PRM provides an effective means to engage in strategic policy dialogue. This process reflects a robust dialogue between Tuvalu and its development partners.

(b) Gaps, opportunities and implications for MFAT

Climate change is a new and first priority strategic focus area in the national development plan, Te Kakeega III. There are numerous partners providing climate finance assistance to Tuvalu in a largely uncoordinated manner’. This can lead to duplication and inefficiency, which is especially significant when the level of finance is short of the anticipated costs of adaptation.

Thus ensuring strong donor coordination around climate change assistance is both a challenge and an opportunity. Responses could draw on experiences related to coordinating assistance for renewable energy across the Pacific.

Key Opportunities for MFAT:

- Under MFAT’s GCF Technical Assistance for Pacific Access Programme, and within the Pacific Resilience Partnership, assist Tuvalu to maximise, coordinate and make effective use of climate finance opportunities.

4.3 Next Steps

Working Paper 3 brings together the broader as well as Tuvalu-specific findings in this Working Paper, as well as other findings in Working Papers 1 and 2. These are used to identify strategic resilient development investment opportunities for MFAT.

In addition, Working Paper 5 (Hay et al., 2016) provides the rationale for, and details of proposed priority investments in resilient development, climate change adaptation and disaster risk management as part of New Zealand's development assistance to Tuvalu.

5. Kiribati

5.1 Climate change, disaster risk management and development priorities: the Kiribati context

The Government of Kiribati (GoK) has long recognised the implications of climate change and disaster risk for the development of the country.

Kiribati was highlighted by the World Bank (2000) as being at particularly high risk to the impacts of climate change, and in 2002 work began on the design of a large adaptation programme (the Kiribati Adaptation Programme, KAP). Somewhat in parallel and perhaps in competition (Hughes, 2011), UNDP supported the development of Kiribati's National Adaptation Programme of Action.

Phase II of the Kiribati Adaptation Programme (supported by the WB, ADB and the Governments of Australia and New Zealand) began in 2006. It was designed to pilot adaptation measures, and focussed on integrated coastal zone management and water security. Unsatisfactory performance, partly as a result of inadequate oversight by the Office of the President (OB) and the World Bank, led to a restructuring of Phase II and to a strengthened approach for Phase III (2011-2018). In 2012 the KAP Steering Committee was re-established as the National Adaptation Steering Committee (NASC).

The Kiribati Climate Change Strategy was endorsed in 2005. In May 2016, during his first policy statement, President Taneti Maamau announced the Government's intention to develop a new climate change policy.

The Kiribati Joint Implementation Plan for Climate Change and Disaster Risk Management (KJIP) (Figure 3) was endorsed in 2013. The KJIP was supported by a range of different partners, including SPC, SPREP, GIZ, UNICEF and UNDP through German Government, EU, USAID and Australian Government funding.

The KJIP identifies the following twelve major strategies:	
1.	strengthening good governance, policies, strategies and legislation;
2.	improving knowledge and information generation, management and sharing;
3.	strengthening and greening the private sector, including small-scale business;
4.	increasing water and food security with integrated and sector-specific approaches and promoting healthy and resilient ecosystems;
5.	strengthening health service delivery to address climate change impacts;
6.	promoting sound and reliable infrastructure development and land management;
7.	delivering appropriate education, training and awareness programs;
8.	increasing effectiveness and efficiency of early warnings and disaster and emergency management;
9.	promoting the use of sustainable, renewable sources of energy and energy efficiency;
10.	strengthening capacity to access finance, monitor expenditures and maintain strong partnerships;
11.	maintaining the existing sovereignty and unique identity of Kiribati; and
12.	enhancing the participation and resilience of vulnerable groups.

Figure 3. Major Strategies in the Kiribati Joint Implementation Plan (2013)

The Kiribati National Expert Group (KNEG) was created in 2012 to:

- provide whole-of-government guidance on the implementation of the KJIP,
- provide oversight of project development, and
- support implementation.

The KNEG was instrumental in developing and trialling a Whole-of-Island Approach in Abaiang (Box C). This approach supports outer island vulnerability assessments as well as holistic development planning that integrates the consideration of climate and disaster risks. It also seeks to implement priority activities in a more coordinated manner among government and partner agencies, by aligning project support to identified development priorities.

The Government of Kiribati submitted its Intended Nationally Determined Contribution (INDC) to the UNFCCC in 2015. This outlines the Government's commitment to a 13-60% reduction in emissions (contingent on international support), while also highlighting adaptation needs.

The Kiribati Development Plan (2016-19) includes six priority areas and includes climate change under its environmental priority area.

Key Priority Area 1: Human Resource Development

Key Priority Area 2: Economic Growth and Poverty Reduction

Key Priority Area 3: Health

Key Priority Area 4: Environment

Key Priority Area 5: Governance

Key Priority Area 6: Infrastructure

5.2 Current responses in Kiribati to the identified strategic needs and challenges; opportunities and implications for MFAT

This section explores the current responses in Kiribati, organised according to the success factors for successful management of climate and disaster risks, and for increasing the resilience of development outcomes, as identified Working Paper 1 (Manley et al., 2016).. It identifies gaps and opportunities, as well as implications for MFAT.

1. Risk management mainstreamed in development plans and processes

(a) Current Responses

Climate and disaster risk in the context of national planning and coordination

Taking climate and disaster risks into account as part of core development planning processes is crucial to ensuring longer term resilience of development outcomes. Despite the high public profile accorded to climate change and disaster risk management, these priorities do not feature particularly highly within the Kiribati Development Plan (2016-19). This is in part due to the scale of more immediate development challenges in Kiribati, including those related to health, education, water and sanitation, population growth and governance.

Climate change adaptation is highlighted in the plan as a cross-cutting issue and an underlying priority. CCA and DRM priorities are described as part of Key Priority Area 4

on the Environment. This is consistent with the previous Plan. The priorities are also mentioned as part of the other priority areas, in particular Key Priority Area 6: Infrastructure.

The OB leads government coordination of climate change and disaster risk management in Kiribati. It has long been recognised as being severely under resourced and not able to fulfil the coordination role expected of it (Hughes, 2011). Several departments are involved in the implementation of adaptation and mitigation measures on the ground, including the Ministry of Environment and Agricultural Development (MELAD), the Ministry of Public Utilities (MPU), the Ministry of Internal Affairs (MIA), Ministry of Women, Youth and Social Affairs (MWYSA), Ministry of Education (MOE), Ministry of Public Works and Utilities (MPWU), the Marine Training Centre (MTC), the Ministry of Fisheries and Marine Resources Development (MFMRD) and the Ministry of Health and Medical Services (MHMS), among others.

The creation of the KNEG, and preparation of the KJIP, brought key stakeholders together to improve coordination and cross-sectoral support for the implementation of CCA and mitigation measures, and risk management measures across all areas of development. Cross-sectoral coordination mechanisms also exist within the water and energy sectors.

Integration of risk into coastal zone management

Early CCA projects contributed to mainstreaming climate change within specific sectors. For example, the KAP focussed on integrated **coastal zone management**. It aimed to create institutional change among government departments involved in coastal zone management and the management of water resources. But such changes within the relevant decision making bodies proved difficult (Kay, 2009, Donner, 2013). The engineering design of seawalls constructed under KAP II, while an improvement on previous designs, did not represent 'best practice' or a transformational shift in the planning and design of coastal infrastructure development (Donner and Webber, 2013).

The third phase of the KAP, launched in 2011, aims to address these issues by strengthening the capacity of Government to improve the management and governance of water resources and infrastructure. A Coastal Policy Advisor consultancy is supporting OB, MELAD, MFMRD and MPWU to prepare and adopt a coastal management framework. It is expected to be finalised before KAP III's conclusion in 2018 (World Bank, 2016). Other initiatives supporting coastal zone management include the GIZ-supported MACBIO and the EU-GIZ ACSE programme. These projects aim to enhance MELAD's capacity to undertake marine spatial planning, coastal zone mapping and assessments (GIZ, 2016).

Water, sanitation and risk

A major development issue for Kiribati is the state of water and sanitation services on Tarawa, and the resulting health implications. The child mortality rate stood at 71 per 1000 live births in 2012 (Government of Kiribati, 2014), partly due to diarrhoea. This rate is among the highest in the region, and numerous projects are working to address the issue of open defecation. Slightly counter-intuitively the reduction of open defecation rates, given the shallow groundwater lens, can decrease drinking water safety. Numerous projects (see below) are collaborating to take a multi-pronged approach to improving water safety and sanitation by working with schools, community champions and members to produce water safety plans and upgrade infrastructure.

Preparation of the 2008 Water Resources Policy was supported by KAP. Rainfall variability is a factor in the management of water resources necessary to support

improved sanitation and health outcomes. However, there are more immediate challenges with the existing infrastructure. The following were seen as a pre-requisite to maximising water catchment and distribution: detecting leakage and repairing the transmission mains from Betio to Bonriki; establishing reservoirs at Buota and Bonriki (completed as part of KAP III).

At least five major programmes [Table 5A] over the last few years have sought to improve water resource management and sanitation. These include the ADB South Tarawa Sanitation Improvement Project, Kiriwatsan Phases I and II, the GEF-funded IWRM project, the EU Improved Drinking Water Supply for Kiritimati Island Project and the EU Water & Sanitation for Outer Islands Project.

The World Health Organisation (WHO) supported development of a National Climate Change and Health Action Plan, but it appears to have few formal links to overall national planning processes.

Resilient infrastructure

Infrastructure upgrades, such as the upgrade of the 40 kilometres of main road on South Tarawa, supported by the World Bank and ADB, with funding from the Government of Australia through the PRIF (USD 38.84m), is taking into account climate change and disaster risk information as part of the design process (World Bank, 2016b).

As part of its 2009 National Energy Policy and as described in its INDC, the Kiribati Government aims to reduce its emissions and fossil-fuel energy systems significantly – between 13%-60% by 2030 depending on the availability of funding (Government of Kiribati, 2015). A number of partners, including the European Union, DFAT, ADB, WB and the Government of New Zealand, are supporting the Government of Kiribati in its efforts to increase the share of renewable energy. A partnership between the EU and the New Zealand government is supporting Kiritimati Island to strengthen its transmission network and generation capacity.

Integrating climate change into education

The SPC/GIZ CCCPIR programme worked in partnership with UNESCO to support the Ministry of Education to strengthen the integration of climate change considerations into the new school syllabus on Environmental Science and Kiribati Community Studies for Years 1 to 6. The programme also supported the development of a national action plan on education on climate change and DRM, jointly with SPREP and UNESCO, and provided support for education materials and teacher training through the Kiribati Teacher College (KTC).

Public financial management and climate finance

The Government of Kiribati's ability to attract the necessary level of climate finance, and genuinely transform its internal policy, planning and budgeting processes to address climate change and disaster risks to development outcomes, will be linked to the speed at which they can strengthen public financial management processes. A key constraint in the implementation of the KAP was the limited capacity within the government for complex project and contract management, procurement and public financial management (Hughes, 2011). A recent review notes that in Kiribati several public financial management reforms have been relatively successful, including reforms to debt management, management of the Revenue Equalization and Reserve Fund (RERF), and some reforms in the SOE sector such as privatization of the telecommunications utility (World Bank, MFAT, DFAT and ODI, 2016).

To date the links between existing efforts to improve public financial management, aid coordination and climate and disaster risk financing have been limited. Technical assistance (from Australia, New Zealand, ADB, WB, PFTAC) to Kiribati on public financial management and public sector reform should also help Kiribati to be in a better position to access climate and disaster risk finance, and to utilise it effectively. The Government of New Zealand provides budget support linked to economic reforms. This could also be used to also strengthen implementation of the climate finance readiness agenda.

Four regional projects that have commenced, or are commencing in 2016/2017, focus on climate finance and strengthening links between public financial management and those working on climate finance. These are:

- A DFAT-GIZ-PFTAC project to dovetail discussions on climate finance with existing technical assistance in this area;
- A USD \$25m USAID programme due to commence in 2017 (USAID Climate-Ready); it will focus on institutional strengthening and climate finance readiness;
- A smaller USD \$5m USAID-funded project at SPC will focus on institutional strengthening and climate finance readiness; and
- A follow-up to the SPC-GCCA Pacific Small Island States (PSIS) project will also partly focus on climate finance.

These projects present a good opportunity to genuinely mainstream climate change and disaster risk within the national planning processes. Experiences from the PPCR in Tuvalu and the PRRP programme can provide lessons to support the modification of existing budget and appraisal tools to support this process (SPREP, 2016, UNDP, 2016).

Resilience and outer islands

The Government of Kiribati has historically struggled to involve local decision makers in discussions around climate change and disaster risk management policy and planning. Travelling between outer islands is very costly and logistically difficult. Information and communication technologies are also poor.

Joint partner approaches are being trialled on Kiritimati Island (e.g. water and energy through EU/NZ/SPC) and on Abaiang (Whole-of-Island Approach supported through SPC, SPREP, GIZ, USAID, USP, UNDP). These have resulted in improved coordination and planning of partner assistance in these sectors. A resilience fund, created as part of the KAP, received over 300 applications from community groups in outer islands in the Gilberts Group and South Tarawa. Thirty five grants were awarded and implementation is ongoing (World Bank, 2016).

The NASC and KNEG includes representation of NGOs with the inclusion of the Kiribati Climate Action Network (KiriCAN).

Lessons from other countries (Oxfam 2015), suggest that having local government (e.g. the Ministry of Internal Affairs) and NGO representatives (e.g. Kiribati Red Cross and KiriCAN) as part of the national coordination structure can greatly enhance coordination and effectiveness of local actions. There are very few government-led projects that actively provide funding for NGO partners to support them with implementation, despite facing implementation capacity constraints at the national government level.

In summary, efforts to date to transform existing development processes to take into account the additional challenges of climate change impacts and disaster risk management have been patchy. Much attention has been given to improving the

underlying governance systems themselves (such as strengthening public financial management and aid coordination processes) or addressing the pressing development issue (such as water and sanitation). But a coherent effort to ensure that these processes also address opportunities to increase adaptive capacity and reduce long term vulnerability has not necessarily been apparent.

In recent years, significant efforts have been made to strengthen overall coordination and governance systems for climate change and disaster risk management, as well as more generally. Substantial learning has also taken place, though some of this remains undocumented. Key national policy and coordination frameworks that relate to climate and disaster resilience are also in place. Many of these include costed priorities. Climate change and disaster risks are being addressed in policies and strategies relating to population, water and sanitation, health and environment, and are increasingly being incorporated into policies and strategies relating to fisheries, agriculture, labour, youth and education. These include the National Fisheries Policy, the National Water Policy and the Kiribati Development Cooperation Policy. However, only a few sectors have transferred strategic actions to address climate and disaster risks into their annual Sector Operational Plans and Ministerial Plans of Operations and budgeting.

Table 44

Projects related to mainstreaming risk management in development plans and processes⁵⁵

Development Agency	Main programmes	Implementing partners	Time-frame	Volume	Process to define priorities	Description
World Bank GEF AusAID	Kiribati Adaptation Programme (KAP)	Kiribati Ministry of Finance and Economic Planning – Office of the President, Government of Kiribati	2003-2005 2006-2010 2011-2016	USD 7.7M (GEF, NZ, Australia, GoK) USD 10.55M (LDCF, Japan, GFDRR, GoK)	Extensive project design process (Phase 1)	Mainstream adaptation into national economic planning, support NAPA, design priority pilot adaptation investments (water, coastal zone management). Phase II implementation and consolidation. Improve the resilience to the impacts of CC on freshwater supply and coastal infrastructure.
EU	Global Climate Change Alliance: Pacific Small Island States (SPC-GCCA:PSIS) Kiribati component	SPC NIWA WHO SPREP	Phase I 2011-2016 Phase II 2016-	EUR 11.4M (regional)	Project Design Document developed by Government of Kiribati with SPC support	Support to tackle the adverse effects of CC to health. Improve environmental health and systems for monitoring and responding to vector borne-diseases, water quality testing, trial solar disinfection (SODIS) and roll out with tippy taps.

⁵⁵ The projects listed are those that explicitly aim to support a transformative approach to mainstreaming by strengthening governance and planning systems

NZ MFAT	Kiribati Urban Development Program (UDP); formerly the Sustainable Towns Programme		2010-	NZD 4M	Country strategy	Manage the effects of rapid urbanization. Components of the programme – more housing, improve infrastructure (waste management) roads and water access, strengthen the capabilities of local agencies and reduce vulnerability to CC.
NZ MFAT	South Tarawa Urban development. Betio, Bairiki and Bikenibeu		2013-2016	NZD 3,1M		Construction of housing units to be owned and managed by Kiribati Housing Corporation (KHC). Built according to minimum standards to meet development needs of inhabitants, is low maintenance, and able to withstand extreme climatic events for the long term. Installation of rainwater harvesting systems on every unit.
NZ MFAT	Kiritimati Island Energy Project		2013-2018	NZD 11M		Development of Kiritimati Island Strategic Energy Plan (KISEP); Asset Management Strategy, Policy, and Plan. Installation and construction of energy infrastructure upgrade on Kiritimati Island including: power meters, grid and distribution improvements, generators (diesel and photo-voltaic), decommissioning and remediation of existing power generator sites.
German Federal Ministry for Economic Cooperation and Development (BMZ)	SPC/GIZ Coping with CC in the Pacific Island Regional (CCCPiR)	SPC, GIZ	2010-2018	EUR 23M (regional)	National and Regional Steering committee meetings	Support national coordination in CC and disaster risk management (Kiribati Joint Implementation Plan), Whole of Island Approach and the fisheries, livestock, education and energy sectors.

USAID	Water project	SPREP and the Kiribati Ministry of Public Works and Utilities	2012-2016			As part of Whole of Island Approach on Abaiang <ul style="list-style-type: none"> • Integrated vulnerability and adaptation assessment • Water quality testing • Installation of improved water supply infrastructure • Community education for water health issues, rainwater tanks and well maintenance • Upgrade of Abaiang weather station
USAID	USAID Climate Change and Food Security Project in Kiribati:	SPC	2011-2016			Support to complete Kiribati Joint Implementation Plan As part of Whole of Island Approach on Abaiang <ul style="list-style-type: none"> • Integrated vulnerability and adaptation assessment • Implementation of agricultural and food security initiatives
DFAT	Kiribati Infrastructure		2011- 2016	AUD 34M	KI – Australia Partnership for Development	In 2012 infrastructure was added as the fourth priority under the Kiribati-Australia Partnership for Development, through the PRIF. Support is provided in sub sectors of: transport; road rehabilitation; water sanitation; energy and ICT.

(b) Gaps, opportunities and implications for MFAT

Context

The Government of Kiribati has made significant efforts over the past five years to identify key strategic priorities relating to climate change and disaster risk management. It has also strengthened governance arrangements, including the establishment of the Kiribati National Expert Group (KNEG) and preparation of the Kiribati Joint Implementation Plan (KJIP). The challenge remains to institutionalise some of these mechanisms and to mainstream them into core development planning, budgeting and monitoring and evaluation processes.

Climate change is high on the political agenda, and Kiribati is known globally for highlighting the vulnerability of PICs. The former President, Aote Tong, was a 'climate change celebrity', regularly being invited to international conferences to talk about the

issue. Under his leadership a policy of ‘migration with dignity’ was promoted. This aimed to upskill i-Kiribati nationals for employment overseas as part of a long term adaptation strategy to support people to migrate in expectation of the country becoming uninhabitable at some point in the future.

Unfortunately, this message was often not nuanced for audiences back home – the same presentations given to international audiences about the vulnerability of the islands and the inevitability of relocation, were also viewed by national audiences (pers. comm. GIZ). This tended to have a demoralising impact on community members working to build adaptive capacity. The new President has distanced himself from the policy of the previous President. He has focussed much more on protecting vulnerable communities and building the adaptive capacity of the country and its people.

Risk informed development processes

Increasing the resilience of development outcomes requires the integration of risk considerations into all aspects of planning and budgeting. A crucial partner in this process is the Ministry of Finance and Economic Development (MFED). MFED is in theory the implementation agency for KAP. But in practice there is insufficient capacity within the Ministry in general. In the past there has been poor engagement with the Ministries that have technical knowledge to support project implementation, such as the Ministry of Environment, Land and Agricultural Development. This resulted in MFED’s role being largely limited to contract management (Hughes, 2011) rather than undertaking more proactive engagement in managing the integration of adaptation and disaster risk management into government processes.

MFED remains insufficiently engaged in the climate change discussions, partly as a result of its workload relating to public financial management reform, state enterprise reform, medium term expenditure planning, procurement policy reform etc. This is visible in the treatment of climate change and disaster risks as part of the environment section of the Kiribati Development Plan. MFAT support to the economic reform agenda in Kiribati represents a useful entry point for capacity development within MFED as well as adapting existing tools and processes to better address climate and disaster risk.

The importance of governance

The KAP has another two years to run, until 2018. So far it has not delivered the transformational change in the area of coastal zone management expected during its initial planning phase. Part of the weakness, perhaps in the programme design, was the absence of addressing key institutional and governance related issues particularly around coordination, procurement and contract management. This remains a common weakness in many development projects (PREA, 2016).

..... and clear priorities

Several projects, including CCCPIR and SPC/USAID food security, supported the development of the KJIP. It includes key strategies and costed priorities for promoting resilient development. This should be the starting point for all development partners in supporting the Government of Kiribati to address climate change and disaster resilience. The plan includes an overview of the way in which strategies are to be translated in the operational plans of line ministries. But there are no formal links between costed priorities identified and the budgeting or donor coordination processes. A UNDP project supported the presentation of the KJIP to a donor-round table in 2013. However, development partner coordination on climate change issues remains weak. MFAT could play a crucial role in strengthening development partner coordination on climate change and disaster risk management issues, building on lessons from partner coordination in infrastructure development.

Integrated approaches

The Whole-of-Island Approach trialled in Abaiang, which brought together many sectoral experts to support the Island Council identify vulnerabilities and plan responses, has not yet been evaluated formally. Early indications suggest that significant capacity and skills gaps remain within Government to provide ongoing management support to the Island Councils (GCCA:PSISP, 2012). Whole-of-government and whole-of-island approaches to climate change and disaster risk management are necessary for strengthening resilience, but significant resourcing is likely to be needed to support this on an ongoing basis. The Government of Kiribati is currently discussing with partners the need for support to replicate the approach in other islands. MFAT support to this process, and support for the necessary internal governance strengthening, could help to translate this from a pilot approach to one that is institutionalised within government.

Tracking progress

In order to identify opportunities for taking a development-first approach to risk management, a tracking process for the implementation of the Kiribati Development Plan is required, as well as for tracking upcoming development partner support for the implementation of actions. This is being progressed as part of support to the Government of Kiribati for improved development partner and aid coordination. Ensuring that climate change and disaster risk specialists are engaged in this process is vital to identifying opportunities to integrate risk considerations at the development planning, budgeting implementation, monitoring and reporting stages.

The current staffing within the OB is inadequate for coordinating the number of climate change and disaster risk management projects within the country. The provision of additional resources and staff to enable the OB to fulfil its mandate should be explored. Close coordination with the aid coordination and budget and planning division is essential to ensure MFED remains engaged in the process.

Entry points

MFAT's continued support for oceanic fisheries management and the expansion of that support to cover coastal fisheries represents an ideal opportunity to integrate risk considerations from the outset of these programmes. Sound scientific information exists on the likely impact of climate change to oceanic and coastal fisheries and ways in which these impacts can be managed. It has been integrated into the National Fisheries Policy (Government of Kiribati, 2013). Ongoing discussions with partners such as FAO, FFA and SPC should focus on implementation of the planned initiatives and training and/or mentoring that might be necessary to support risk-informed decision making. Likewise, MFAT's programmed support to the water and energy sectors provides good opportunities for integrating risk within these programmes, based on the identified priorities for these sectors.

A more concerted effort to strengthen the governance and capacity of local NGOs to enable them to participate more actively and effectively would also support the Government and communities in efforts to strengthen resilience.

Key opportunities for MFAT:

- Use the priorities identified in the KJIP as the basis for action;
- Strengthen links between public financial management support and climate finance;
- In order to strengthen local adaptation efforts, support the evaluation of, and upscale successful pilot initiatives, such as the Whole of Island Approach;

- Use existing programmes of support to fisheries and energy as entry points for mainstreaming risk and resilience;
- Provide support for staff within the OB to strengthen coordination effects; and
- Support the Government of Kiribati to monitor and track resilience as part of the Kiribati Development Plan monitoring.

2. Risk-informed products, processes and partnerships available and used

If development planning is to be risk-informed, relevant information relating to risks in a particular sector or place needs to exist. It must also be accessible when needed, and be tailored to the user's needs. This section focuses on efforts to improve the information and evidence-base that is required in order to better understand and manage the climate and disaster risks facing Kiribati.

(a) Current responses

The climate change and disaster risk section of the KJIP contains information on risks facing Kiribati, drawing on the sources below and local expert review (Government of Kiribati, 2013).

Understanding climate and disaster risks

The PCCSP and COSPPac programmes developed outputs that provide the latest information on the climatic risks facing various PICS, including Kiribati. PCCSP's 2015 publication, 'Current and future climate of Kiribati' is available through their website.⁵⁶ Information on the products and services of the COSPPac programme is also available online.⁵⁷

The most recent information on the disaster risks facing Kiribati is available in the Kiribati Country Profile, provided by PCRAFI's Pacific Risk Information System.⁵⁸

In order to support community vulnerability assessments, data and information available from the latest Household Income and Expenditure Surveys (2006) and Census (Government of Kiribati, 2005) and a recent Poverty Assessment⁵⁹ (DFAT, 2014) can be used as starting points.

Responding to user needs

This section provides some examples of the way in which risk information is being used in key sectors to inform planning and policy priorities.

Community-level

The FINPAC project⁶⁰ – a partnership between SPREP, the Red Cross and the Kiribati Meteorology Service – is developing specific tools to enhance the capability of Red Cross societies to provide advice to communities, and identify risk reduction measures.

⁵⁶ http://www.pacificclimatechangescience.org/wp-content/uploads/2014/07/PACCSAP_CountryReports2014_Ch6Kiribati_WEB_140710.pdf

⁵⁷ <http://cosppac.bom.gov.au/>

⁵⁸ <http://52.64.9.136/documents/474>

⁵⁹ <http://kiribati.embassy.gov.au/files/twaa/140313%20Poverty%20Assessment%20.pdf>

⁶⁰ <https://www.sprep.org/finpac/>

Fisheries

The Government of Australia is providing support in the form of an embedded adviser to the Ministry of Fisheries and Marine Resources Development. A combination of a new national fisheries policy (Government of Kiribati, 2013), strengthened regional agreements, and El Nino conditions led to record revenues from fishing licences between 2013 and 2015.

The fisheries sector is of central importance to the economy and the national budget. The National Fisheries Policy identified three ways in which climate change will impact fisheries – through potential increased oceanic fish catch, reduced productivity of coastal fisheries and increased damage to fisheries infrastructure through more extreme events (Government of Kiribati, 2013).

Given the impact of climate variability on fishing conditions, current record keeping and reporting are inadequate for managing risks and opportunities within the country's most important industry and source of income. There is a need to inform planning and improve fisheries management information through surveys, fishery statistics, and development projects, including with regard to climatic conditions. The MFAT-funded project with FFA should lead to such an improvement in fisheries information. The national fisheries policy identifies short- and long-term strategies that need support within the fisheries sector. Integrating climate data and information within this project is of vital importance to ensure that changes in fisheries migratory patterns due to climate variability and change – and the resulting impact on the Kiribati budget – can be better predicted and managed.

Agriculture

Atoll conditions for agricultural production are harsh. Generations of i-Kiribati have survived these conditions using traditional knowledge to grow crops to suit the conditions. Learning from this traditional knowledge is crucial for understanding how best to cope with climate change. Before climate change emerged as an additional threat initiatives included efforts to improve soils and small-scale irrigation. Increased salinity of groundwater will mean that small-scale agricultural production will be reliant on improvements in rainwater harvesting.

Ensuring that information is disseminated to farmers on improved techniques to manage climate change impacts largely relies on the under-resourced extension officers. A number of activities have been or are being undertaken in this area, resulting in the improved availability of information. The Taiwanese technical mission has a long-standing programme of supporting vegetable production and backyard gardening. In 2008 SPC and IFAD proposed the establishment of a Pacific Centre of Excellence for Atoll Agriculture. Funding support for the Centre was not forthcoming and its activities were largely confined to a few demonstration plots. The SPC/GIZ CCCPIR project supported the development of a livestock and climate change strategy in 2012. This assessed the main impacts of climate change on livestock productivity and identified priority measures to promote resilient livestock production. Kiribati has also received materials from SPC's Centre for Pacific Crops and Trees (CePaCT), through the ICCAI. However, monitoring the distribution and performance of materials from CePaCT is weak.

Water and Sanitation

Improving water resource management and sanitation infrastructure is a key development priority of the Government of Kiribati. A number of development partner supported projects are currently working with the Government to upgrade infrastructure and support ongoing maintenance of vital assets.

Reliable rainfall data and forecasts are an essential tool in supporting the government to manage its fresh water reserves at Bonriki and Buota. As part of the PACCSAP programme SPC supported a project to model groundwater, future storm surges and resulting inundation at the Bonriki reserve (SPC, 2015). Impacts from inundation were predicted to be relatively low, while over-extraction and rainfall impacts on recharge rates were found to be much more significant.

The drought response plan for South Tarawa (2011) describes the functions of the drought committee. Information from the Kiribati Meteorological Service, the Public Utilities Board, the Water Engineering Unit and the Ministry of Health Environmental Health Unit is used to issue drought alerts (Box H).

Box H

The use of meteorological information as part of the drought management arrangements

Meteorological information is sourced predominantly from KMS, supported by Australia's BOM, using a software application, the Seasonal Climate Outlook for Pacific Island Countries (SCOPIC). Daily rainfall is measured at Betio and Bonriki rainfall stations.

The Water Engineering Unit is responsible for monitoring and informing the NDMO and other members of the Drought Committee on the status of the Bonriki and Buota water reserves, as well as for smaller groundwater lenses used for household wells in South Tarawa. The Public Utilities Board supplies information on water pumping rates from the reserves and the salinity levels. The Environmental Health Unit is responsible for testing water quality.

Source: Government of Kiribati Drought Management Plan

Infrastructure

The Kiribati Adaptation Program (Phases 1-3, 2002-2018) has focussed on the promotion of integrated coastal zone management, including coastal protection measures such as seawalls. As part of that process a calculator was developed by NIWA to support government staff in taking extreme events into account in the construction of new coastal infrastructure.

The focus of a new EU-GIZ ACSE programme is on improving the evidence base to inform coastal zone management processes.

The PRIF supported the government to develop the Kiribati Infrastructure and Investment Strategy (KISIP). Multi-criteria analysis was used to determine priority investments. It is unclear to what extent risk was taken into account as part of that process.

Both the ADB and the World Bank are assessing their pipelines of planned projects in the region, and working with countries to assess the most important projects for accessing additional grant financing to strengthen the resilience of the projects. ADB has identified a pipeline of projects for which it will try and access additional resources from the GCF for the anticipated higher costs of building to reduce future risks.

Energy

Information relating to solar intensity, and risks associated with storm surges, are important to factor into the design of energy projects.

A solar lighting project is being implemented by the Kiribati Solar Energy Company, with Taiwan funding assistance. It will supply 10,000 sets of 5Watt solar panels with 5Watt and two 3Watt LED light tubes, at a cost of USD 2.5 million. These sets arrived in Tarawa before the end of 2014 for delivery and installation on all outer islands.

Another programme to assist in the production of sustainable energy is the recent introduction of a Japanese funded project through the Pacific Islands Forum Secretariat (PIFS), connecting solar PV systems to Public Utilities Board (PUB) power grid. Installation was due to commence during the second half of 2014. Other projects of a similar nature are being initiated by the World Bank and the United Arab Emirates for commissioning in 2017. Each of these systems is designed to produce 400Kw of power for the PUB grid.

Health

The World Health Organisation supported the development of a climate change and health action plan in Kiribati. This outlined a number of direct and indirect impacts of climate change on health. Immediate health issues concern drinking water quality and the high levels of diarrhoea from contamination of groundwater supplies. Climate change will exacerbate these issues by placing further pressure on groundwater supplies.

Since 2011 several projects (SPC GCCA, NIWA) have worked with the Ministry of Health to improve water quality monitoring and testing to provide more accurate information to planners. SPC also conducted research into the solar disinfection of water, which led to a reduction in the incidence of diarrhoea cases in the trial communities (Cambers, 2016.)

Table 45

Projects related to risk-informed products, processes and partnerships

Development Agency	Main programmes	Implementing partners	Time-frame	Volume	Process to define priorities	Description
Government of Finland	Finnish-Pacific Project to Reduce Vulnerability of PIC livelihoods to the effects of CC (FINPAC)	SPREP	2012-2015	USD3.2M		Develop capacity of villages, EWS and improved dialogue between disaster managers and NMSS.
Government of	Water quality	NIWA	2012-	USD3.2M		Integrated water

New Zealand	monitoring programme	(partnered with SPC-GCCA programme)	2014			quality monitoring programme for water and sanitation-related planning and operational decision-making in Tarawa.
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Projects in Table 44 are also relevant, but are not included in Table 45 to avoid repetition

(b) Gaps, opportunities and implications for MFAT

There are many actors involved in providing risk information and climate services to Kiribati. NIWA plays a crucial and niche role in this space, and has supported the development of tools and applications in the infrastructure (Ramsay, 2010) and health sectors. The main gap lies in the coordination of this work, and in making the findings accessible to the relevant users. Making risk information accessible and user-friendly is a key part of ensuring it is considered in development planning.

Project-specific support for information tools and products (as described above) needs to be supported by adequate investment in long-term information and knowledge management systems. This is recognised as a key strategy of the KJIP (Box I). In the absence of such investment, improved information, evidence and knowledge needed for supporting risk-informed development processes is likely to be available only to the select few that have been involved in a particular project, and not more widely throughout government.

Box I
Strategy 2 of the Kiribati Joint Implementation Plan
Strategy 2: Improving knowledge and information generation, management and sharing
Results
<p>2.1 An integrated and up-to-date national database providing all relevant information for resilient development is available and accessible for all.</p> <p>2.2 Capacities to communicate science and best practices are strengthened by developing and disseminating effective and relevant information, communication and awareness products for decision-making and awareness raising across sectors and at all levels (see also Strategy 7).</p> <p>2.3 Capacities for data collection, assessment, analysis, interpretation, monitoring and reporting are strengthened across sectors.</p>

Key opportunities for MFAT:

- Partner with relevant line ministries to develop sector-specific products to support sectors account for risk – and link to existing institutional strengthening support, particularly within the energy and fisheries programmes;
- Invest in long-term information and knowledge management systems within the National Statistical Office and sector specific support programmes; and
- Strengthen links between the generators of risk information and end users, involving media organisations and NGOs as key intermediaries in this process

3. Adaptation and disaster risk management localised, as appropriate

(a) Current responses

The Republic of Kiribati is made up of 33 scattered low-lying islands, dispersed over 3.5 million km² in the central Pacific Ocean. This presents significant logistical challenges in serving outer islands from South Tarawa where the main government offices are located. Empowering outer island communities to manage their own development, taking into account climate and disaster risks, is an essential part of strengthening overall resilience. This requires Island Councils and the communities they serve to have good access to information about the types of changes and risks they face, such as the risk information outlined above. Information needs to be context specific, available in Te-Kiribati and made available through trusted channels and partners, using examples that people can relate to (Government of Kiribati, 2015). Given the logistical challenges of reaching all Island Councils and communities, it is recommended that greater use be made of the radio and local partners, such as the church.

Empowering outer island communities also requires central decision-making bodies, such as MFED and the OB, as well as all partners within and external to government, to have good access to information about the current situation in each outer island. A large amount of information has been gathered over the past twenty years or so – much of this funded by development partners. This includes information on island governance structures, water resources, fisheries habitats and opportunities, health facilities, and socio-economic data. This information is not brought together into a central repository, for example, at the National Statistical Offices or the Ministry of Internal and Social Affairs. Doing so would enable central government and its partners to easily access it to inform their work. This leads to a huge duplication of effort as many partners spend the early stages of projects ensuring they understand the context well, by gathering the currently scattered information at the outset. This leaves less time for planning and for implementing specific measures.

The Government of Kiribati has a number of relevant programmes to support outer island development. These include whole of island initiatives (Box J), solar installation in rural schools, clinics, fisheries resource centres and other public buildings, water and sanitation improvements, upgrading weather stations and food security programmes. Many of these programmes that are currently working in the outer islands – for example, the EU-funded and SPC-implemented Kiribati Water and Sanitation (KiriWatSan) programme and MFAT's support, through SPC, to improve outer island fisheries resource centres – are designed to address immediate development challenges.

Ensuring that longer-term adaptive capacity and disaster risk reduction is built into these programmes at the design stage is an important part of building longer-term resilience. Island Councils must be supported to play an active role in shaping these projects, in line with their own development plans. This approach requires longer-term programming and will likely also require support to strengthen the governance context locally – an important determinant of adaptive capacity. Building capacity at the local level for ongoing maintenance of equipment and infrastructure is also critical.

To date many climate change adaptation and disaster risk management programmes have concentrated efforts on South Tarawa. Migration from outer islands to South Tarawa places additional pressure on an already densely populated island. It has been occurring steadily since the 1960s. Improving living standards and opportunities in the

Box J

Trialling an integrated approach to outer island development – a Whole-of-Island Approach

Several development partners (including SPC, SPREP, GIZ, UNDP, UNICEF, USAID, EU) have supported the Government of Kiribati to trial a Whole-of-Island (WoI) Approach to implementing climate change adaptation and disaster risk management programmes in Abaiang Island. With the involvement of many government ministries and taking a development-first approach, the existing Island Development Plan was reviewed to identify areas that needed to be strengthened to adequately take climate and disaster risks into account. This was informed by an in-depth integrated vulnerability and adaptation assessment bringing together a wealth of existing information and informed by community focus group discussions and surveys. The assessment was based on a sustainable livelihoods framework and assessed a number of different areas (natural capital, social capital, financial capital, physical capital and human capital) as well as shocks, coping mechanisms and governance structures. Different partners identified different areas of the plan that they could support. Governance and leadership training was provided to the Island Council and the Island Development Committee, which was nominated to become the local steering committee, and a monitoring and evaluation plan developed jointly.

The aim of the WoI Approach was to support the Kiribati Government to trial and potentially upscale an integrated approach to outer island support. However, formal coordination mechanisms between partners were not developed. This will therefore rely on the Government of Kiribati to promote with possible partners. Ownership within the Government of Kiribati appears to be strong (pers. Comm. GIZ) and the Government are discussing with partners future funding support to upscale the model.

A formal evaluation of the approach is being undertaken to assess its effectiveness and potential for modification and replication. Anecdotally, partners involved consider that the governance mechanisms – the Island Councils and support to them from central government through the Kiribati National Expert Group or the Ministry of Internal and Social Affairs – require considerably more capacity and sustained resourcing to provide the ongoing support needed (pers. Comm. GIZ).

Taking a development-first approach to outer island support – by starting with the Island Council Strategic Plan – represents a significant departure from the way in which most development projects are planned currently in Kiribati. Many partners, such as the World Bank, ADB and SPC, prefer to engage on a sector basis, for example in energy, fisheries or water resource management. Despite intentions to move to a more cross-sectoral approach (for example, SPC Strategic Plan 2016-2020) shifting from a sectoral planning model — which is currently the norm for many donors, development partners, implementation agencies and national governments — to implement on a more holistic basis requires strong governance and coordination mechanisms.

outer islands must be a priority as part of a longer-term resilience strategy, but efforts to date have failed to stem the number of new arrivals each year with high rates of in-migration to South Tarawa. These movements are likely to increase by climate change as livelihoods on outer atolls become more challenging to sustain (Campbell and Warrick, 2014).

The European Union and New Zealand announced in 2013 at their jointly convened Pacific Energy Summit their intention to work together in Kiribati on energy security issues. A EUR 3.7 million partnership was signed in September 2016, to provide additional support for the design, supply, installation and commissioning of a new diesel power station, a high voltage network and a grid-connected PV system between 2016-18 (EU Press Release: 20.09.16). The New Zealand Government and the EU have announced their intention to broaden the partnership from energy to also cover food security and climate change issues.

Renewable energy generation in Kiribati has increased steadily from 0.2% to 10% since 2013 (MFAT, 2016). Greater efforts could be made to recognise the inter-connectedness of development objectives of outer island communities – energy, fisheries, food security, water security – and strengthen governance mechanisms as a core part of supporting resilient development in a holistic way.

As noted above, KAP established a resilience fund to support community-based projects, with 35 projects having been approved for implementation over the coming two years (World Bank, 2016).

As also noted previously, the disconnect between national and local government is hampered by logistical challenges and the cost of travelling between outer islands. There is a need to strengthen the link between different governance levels in the country. The Ministry of Internal Affairs would be a key partner in these efforts. Its Rural Development Division manages a local development fund for councils. Boosting its capacity to channel climate change and disaster risk financing would be a way to strengthen existing mechanisms.

The Kiribati Local Government Association (KILGA) is represented on the Kiribati National Expert Group. The initial Island Strategic Plans were developed by the Island Councils with support from KILGA. An evaluation of MFAT support to the Kiribati Country Strategy (2002-2007) recommended a continuation of funding to support the ongoing strengthening of local decision makers and governance structures (Chandra, 2009).

Kiribati does not have a particularly diverse range of civil society actors. The Kiribati Climate Action Network and the Kiribati Red Cross are the most important NGOs from a climate change and disaster risk management perspective. The Red Cross is often tasked with supporting disaster preparedness through the pre-positioning of supplies, and post-disaster with assessments and distribution of relief.

Table 46

Projects related to localising adaptation and disaster risk management

Development Agency	Main programmes	Implementing partners	Time-frame	Volume	Process to define priorities	Brief description
World Bank GEF Australia New Zealand LDCF Japan	Kiribati Adaptation Programme (KAP)	Kiribati Ministry of Finance and Economic Planning – Office of the President, Government of	2003-2005 2006-2010 2011-	USD 7.7M (GEF, NZ, Australia, GoK) USD10.55M (LDCF, Japan, GFDRR, GoK)	Extensive project design process (Phase 1)	Improve the resilience to the impacts of CC on freshwater supply and coastal infrastructure.

		Kiribati	2016			
Government of Finland	Finnish-Pacific Project to Reduce Vulnerability of PIC livelihoods to the effects of CC (FINPAC)	SPREP	2012-2015	USD3.2M		Develop capacity of villages, EWS and improved dialogue between disaster managers and NMSS.
GEF	Implementing Sustainable Water Resources and Wastewater Management in PICs (Pacific IWRM)	SPC	2008-2013	USD 500,000	National consultations	Pacific IWRM development of – Ridge to Reef – community to catchment integrated water resources management activities.
UNICEF	UNICEF's Pacific's Health Sanitation programme	SPC	2008-2012			Provide water supply and sanitation infrastructure in primary school and households near schools and hygiene promotion.
German Federal Ministry for Economic Cooperation and Development (BMZ)	SPC/GIZ Coping with CC in the Pacific Island Regional (CCCPIR)	SPC, GIZ	2010-2018		Regional and national steering committees and planning meetings	Support the development and roll out of the Whole of Island Approach.
Japanese Government PIFS (PEC Fund)	Kiribati Solar SV Grid Connected Project		2012-2015	USD 4M	Country strategy	Sustainable Energy support. Expansion of solar on Tarawa.
ADB	ADB Technical Assistance outer island growth centres		2010-2012		Country strategy	Identify necessary infrastructure and supporting systems for sustainable use of natural resources in Kiritimati Island and employment generation.
EU	Solar energy for outer islands		2010-2014	EUR 4.1M	Country strategy	To improve the living standards of outer island through household and community electrification on 18 islands.
EU	Improved Drinking Water Supply for Kiritimati Island	SPC	2013-2018	EUR 4,836,430		
EU	Kiribati Water and Sanitation in Outer Islands, Kiriwatsan Phase I and II	UNICEF, SPC	Phase I 2011-2014 Phase II 2014-2018	EUR 4,455,320 EUR 4,390,710 EUR 3,950,000		Increase access to safe and sustainable water and sanitation and to reduce water, sanitation and hygiene (WASH)-related diseases in at least 70 of 142 villages in the 16

						islands of the Gilbert group
EU	Solar Energy for Outer Islands Programme Estimate No. 1 and 3		2011 - 2013 2014-2015	EUR 5,500,000 EUR 3,500,000		Solar electrification will be introduced at households, maneabas, small businesses and schools
NZ MFAT	Kiritimati Island Energy Project		2013-2018	NZD 11M		Development of Kiritimati Island Strategic Energy Plan (KISEP); Asset Management Strategy, Policy, and Plan. Installation and construction of power meters, grid and distribution improvements, generators (diesel and photo-voltaic), decommissioning and remediation of existing power generator sites
NZMFAT	PF 4-437 Kiribati WASH in Schools (KWIS)	UNICEF	2014-2018	NZD 942,849		36 schools in four outer islands, North Tarawa, Abaiang, Maiana, and Marakei, Trial and implement options for safe drinking water and sanitation facilities in those schools, targeting children as agents of change for the reduction of open defecation.
EU	EU-GIZ ACSE Coastal Risk Assessment Project	GoK, SPC, GIZ	2015-2018	EUR 200,000		Strengthened institutional capacity to undertake land use & coastal vulnerability assessment (4 islands.)
EU	EU-GIZ ACSE Solar boarding schools project	GoK, SPC, GIZ	2015-2018	EUR 475,400		2 PV solar hybrid systems at Mereang Tabai secondary school (MTSS) and Alfred Sadd Memorial College (ASMC) in the rural areas

USAID	Water project	SPREP and the Kiribati Ministry of Public Works and Utilities				Supported the water security elements of the Whole-of-Island Approach in Abaiang (including assessment, water quality testing, improved water supply infrastructure, community education, upgrade of Abaiang weather station.
USAID	USAID Climate Change and Food Security Project in Kiribati:	SPC	2012-2015			Support for the Whole of Island Approach, the KJIP and agricultural elements of both.
USAID	CCAP	DAI				Sites in KI
USAID	Pacific Islands Disaster Risk Management Program 2 (PDRMP-2)	Asia Foundation / FNU	Up to 2012	2012 – USD 750,000	Country strategy	The PDRMP-2 aims to improve the capacity and performance of local and national disaster management agencies, develop and adapt training materials relevant to the region, and strength

(b) Gaps, opportunities and implications for MFAT

Assisting community-based actors to manage their own future is a crucial part of strengthening resilience and adaptive capacity in Kiribati. These efforts should be linked to the existing support to strengthen governance processes within outer island communities. Where these processes are found to be deficient, investment in strengthening core development planning processes should be undertaken as a crucial part of strengthening local adaptive capacity.

There is active development partner coordination, particularly in the infrastructure sector, through coordination mechanisms such as the PRIF and the EU-NZ Energy Partnership. To date, many of these coordinated efforts have involved joint investment on South Tarawa, coordination in Kiritimati Island (EU/NZ within the energy and water sector) and within water and sanitation initiatives on outer islands (EU/NZ/UNICEF/SPC/SPREP).

Such mechanisms should be expanded to cover more outer islands – taking the Island Strategic Plans as a starting point and working with the Island Council and relevant national ministries to strengthen them where necessary in order to integrate resilience measures. The Kiribati National Expert Group were involved in providing oversight to this process as part of the Whole-of-Island approach (WoI). This support should be

evaluated to assess its potential as a mechanism to provide further coherent support to outer island development.

Island Councils should also be involved in monitoring implementation and providing feedback to central government and partners. Supporting strengthened governance and coordination mechanisms does not necessarily require significant resourcing, but it does require a long-term commitment to the process (McNaught, forthcoming 2016). Lessons from the PRRP initiatives indicate that placing additional capacity within the central ministries responsible for outer island / rural development is an important component of strengthening the links between national and local development planning (UNDP, 2016). This would require significant efforts in decentralisation, and in building the capacity within the Ministry of Internal Affairs and within island councils in planning, steering, monitoring and in conducting joint local assessments. Many council members lack skills to perform this role.

Based on lessons from previous initiatives, such as the KAP, there is a need to continue to provide technical support to the Public Utilities and Works Department to develop asset registers and maintenance schedules to ensure ongoing effective management of the infrastructure. Island Councils and community members should be fully engaged in this process.

A key constraint to coordination in Kiribati, and in outer islands in particular, is the absence of easily accessible information about needs and priorities and current responses by island. Island profiles were developed in 2008 and updated in 2012 by the KAP, UNDP and SPC. These provide a basic overview of demographics, physical characteristics and issues by sector. They would be greatly enhanced if they also included details of governance and decision-making structures, and current partner responses. As part of a replication of the Whole of Island approach, a key gap is to develop a vulnerability database. The National Statistics Office, which was actively involved in trialling the WoI approach on Abaiang, could be supported to play this role, including provision of additional funding (see KJIP: Strategy 2).

As part of its overarching support to strengthened aid coordination mechanisms, New Zealand could provide useful support to the Government of Kiribati to improve the information and evidence base for decision makers. The website of the Ministry of Finance and Economic Planning (MFEP) improved significantly during 2015/16. Extending this to also cover outer island information would lay the foundation for expanded joint partner support for outer island resilient development.

The KAP programme's resilience fund was introduced late in the process. With such a short period left for implementation (2016-2018) there is a high risk that project outcomes may not be fully integrated into local level planning processes, as this takes time. As a result, the sustainability of project results could be undermined. The large number of applications received (over 300 proposals, 35 of which were successful) indicates significant unmet demand for community initiatives. New Zealand could consider evaluating the existing mechanisms (such as the Whole-of-Island Approach, funding that is currently allocated through the Ministry of Internal Affairs and the Resilience Fund) to channel climate change and disaster risk management finance to communities.

As noted above, the WoI approach is currently being evaluated. The findings should be discussed with the Government of Kiribati and other key partners, to determine whether the model used could be adjusted and then replicated to support Island Councils to coordinate development partner support to outer islands.

Kiribati has a limited number of NGOs and community-based organisations. New Zealand's offer of support (Kiribati Aid Discussions 2015) for mentoring through partnerships with NZ based NGOs should be explored further as a way of increasing the capacity to support local level adaptation and risk reductions measures.

Key opportunities for MFAT:

- Invest meaningfully in outer islands governance and their strategic planning processes;
- Assess the potential of the Whole of Island Approach as a model for upscaling;
- Support the development of a vulnerability database drawing together existing information and using it to update Island Profiles;
- Evaluate NZ-EU joint support to Kiritimati and use the recently approved Island Strategic Plan to promote coordination and whole-of-island planning;
- Assess the MIA small projects fund as a mechanism to help address outer island priorities; and
- Strengthen the capacity of NGOs to support community development processes.

4. Underlying determinants of vulnerability are addressed

(a) Current responses

Strengthening adaptive capacity is difficult unless basic needs are met. Countries and communities that are poorer and have less access to resources (information, finance, social networks) are generally more vulnerable to climate change and disasters because they lack institutional, economic or financial capacity to adapt (Fankhauser, 2014). Existing inequalities, such as gender inequalities, that constrain access to resources, information and decision-making structures also exacerbate vulnerabilities (SPC, 2013). Limited infrastructure and large distances between islands, combined with low rates of internet, television and radio penetration, make it difficult to access the information, knowledge and services families need to ensure the health, safety and wellbeing of their children (UNICEF, 2016).

A significant number of people struggle to access clean water and sanitation and good health care. Youth unemployment is high, and livelihood opportunities are scarce. According to the 2010 census, 70% of the adult i-Kiribati population is supported by the income generation by the other 30%. Violence against women has one of the highest rates in the Pacific, with two in every three women having experienced violence in her lifetime (DFAT Kiribati Program Poverty Assessment, 2014). All these factors affect the adaptive capacity and therefore the resilience of communities and people, all other things being equal.

Women and men, often as a result of their gendered roles and responsibilities, have different needs and priorities and are differently vulnerable to climate and disaster risks. For example, if the burden of care from diarrhoea in children falls on women in the family, improving the water supply system will have disproportional positive impacts on children and women.

Parts of South Tarawa's 15km² are some of the most densely populated places on the planet. Continued migration from the outer islands means that this is likely to increase further in the future. Campbell and Warrick (2014) estimate that by 2050 at current

population growth rates of 2.1% a year, Kiribati's population will have increased by over 90% to 208,000.

This level of population pressure on an already crowded low-lying atoll leads to contamination of water supplies, overstretched health and education services, and unmet family planning needs. All of this acts to constrain people's ability to access safe water and sanitation, secure housing and good health care. ADB has estimated that inadequate water supply costs between 2-4% of 2013 GDP. The report also concluded that an integrated approach to improving the water supply and sanitation infrastructure, hygiene behaviour, and water storage practices at the household and village levels would have the greatest impact in reducing the burden of disease and stimulating economic development in South Tarawa (ADB, 2014).

School wells are highly vulnerable to contamination from toilets and animals. Building resilience into school systems and managing risks to drinking-water quality is crucial to safeguarding child health (SPC, UNICEF, UN Habitat, 2015). In 2015-16 UNICEF supported the Government of Kiribati to improve water, sanitation and hygiene in 36 schools in four outer islands, as well as 70 out of 142 communities on 16 outer islands. UNICEF also supported the Ministry of Education to develop and adopt a WASH in Schools Policy. In North Tarawa the Three Star Approach for WASH in Schools was introduced to ensure that all students wash their hands with soap, have access to drinking water and are provided with clean, gender segregated toilets at school.

Several projects are working to strengthen water and sanitation systems (see Section 2.1), resulting in some success in reducing open defecation and in promoting cost-effective approaches to accessing clean water through solar disinfection (SODIS) and tippy tappy taps for handwashing (PREA, 2016). In both cases, starting with a good understanding of the social issues involved, and working with key community champions such as women's groups and young mothers, was a vital part of the success of the programme – such measures are important in reducing the adaptation deficit and therefore contributing to enhance resilience. Following the introduction of SODIS in the target community in Bairiki, diarrhoea rates have fallen significantly (Cambers et al, 2016).

Security of place is also an important component of resilience. The awareness of the possibility of relocation or of future climate risks has the potential to affect a person's well-being (UNICEF: Climate Change Impacts on Children in the Pacific: Kiribati and Vanuatu). The focus over the past few decades on migration as an adaptation strategy, and the threat to Kiribati's survival as a people and a country, may already be having negative impacts on children and social structures within Kiribati.

People with disabilities face additional challenges in ensuring their needs and priorities are met. The Foundation for the Peoples of the South Pacific Kiribati (FSPK), through the Action at the Frontline programme, worked with Tetoamatoa, a disabled persons' group, to create a platform for them to present their daily reality through drama awareness on DRR/CCA. This platform not only changed the way disabled people were thinking about themselves, it also changed the perception of the general public about people with disabilities. This led to a more active engagement of people with disabilities in risk reduction activities in Kiribati.

An important part of strengthening resilience is therefore to recognise that these underlying determinants of vulnerability exist, identifying them in the initial social analysis and taking them into account as part of the programme design, implementation and monitoring and evaluation. Various sources of guidance exist to promote diversity

and gender-responsive programming and implementation. The Pacific Gender and Climate Change Toolkit (SPC et al, 2013) contains sector specific as well as general guidance for practitioners and programme managers. The Red Cross Red Crescent Climate Centre has prepared 'Minimum standards for local climate smart disaster risk reduction' and 'Minimum standards commitments to gender and diversity in emergency programming'.

Environmental resources and ecosystem services underpin many factors that contribute to resilience including water and food security. Strengthening environmental protection measures to safeguard natural resources contributes to enhancing resilience.

Traditional knowledge and social networks are also key contributors to resilience. Weakening traditional coping mechanisms, through increased urbanisation, can also place people in a more vulnerable position to climate and disaster risks.

Table 47

Projects related to addressing the underlying determinants of vulnerability

Development Agency	Main programmes	Implementing partners	Time-frame	Volume	Process to define priorities	Brief description
Government of Finland	Finnish-Pacific Project to Reduce Vulnerability of PIC livelihoods to the effects of CC (FINPAC)	SPREP	2012-2015	USD 3.2 M		Develop capacity of villages, EWS and improved dialogue between disaster managers and NMSs.
UNICEF	UNICEF's Pacific's Health Sanitation programme	SPC	2008-2012			Provide water supply and sanitation infrastructure in primary school and households near schools and hygiene promotion.
German Federal Ministry for Economic Cooperation and Development (BMZ)	SPC/GIZ Coping with CC in the Pacific Island Regional (CCCPIR)	SPC, GIZ	2010-2018		Regional and national steering committees and planning meetings	Support the development and roll out of the Whole of Island Approach.
EU	Improved Drinking Water Supply for Kiritimati Island	SPC	2013-2018	EUR 4,836,430		
EU	Kiribati Water and Sanitation in Outer Islands, Kiriwatsan Phase I and II	UNICEF, SPC	Phase I 2011-2014 Phase II 2014-2018	EUR 4,455,320 EUR 4,390,710 EUR 3,950,000		Increase access to safe and sustainable water and sanitation and to reduce water, sanitation and hygiene (WASH)-related diseases in at least 70 of 142 villages in the 16 islands of the

NZMFAT	PF 4-437 Kiribati WASH in Schools (KWIS)	UNICEF	2014- 2018	NZD 942,849		Gilbert group. 36 schools in four outer islands, North Tarawa, Abaiang, Maiana, and Marakei, Trial and implement options for safe drinking water and sanitation facilities in those schools, targeting children as agents of change for the reduction of open defecation.
USAID	Water project	SPREP and the Kiribati Ministry of Public Works and Utilities				Supported the water security elements of the Whole-of-Island Approach in Abaiang (including assessment, water quality testing, improved water supply infrastructure, community education, upgrade of Abaiang weather station
USAID	Pacific Islands Disaster Risk Management Program 2 (PDRMP-2)	Asia Foundation / FNU	Up to 2012	2012 - USD 750,000	Country strategy	The PDRMP-2 aims to improve the capacity and performance of local and national disaster management agencies, develop and adapt training materials relevant to the region, and strength

(b) Gaps, opportunities and implications for MFAT

Various tools exist to assist programmes to address the underlying sources of vulnerability in the design and delivery of climate change and disaster risk programming. But there is also a need to use diversity champions within organisations to ensure that the tools are used appropriately. MFAT should ensure that gender and other diversity training is provided to all staff members and to the staff of partners working in Kiribati. An existing training package is available to support the Pacific Gender and Climate Change Toolkit. The EU and DFAT have internal courses – and lessons from their use should be identified and applied. Adjusting activity design documents across all sectors to require a detailed explanation of how resilience has been promoted through the programme design with particular reference to marginalised groups ensures that the design process has to assess and design interventions to promote inclusive resilient development.

Island and community profiles including gender disaggregated socio-economic data from recently available sources should be compiled to ensure that all MFAT programming has this basic context available to inform decisions (see also Section 3).

Explicit links should be made between MFAT support for inclusive development generally – including programmes to end violence, create livelihood opportunities, - and MFAT's overall resilience programme. This could include ensuring that key stakeholders address the underlying determinants of vulnerability when they are involved in the design and implementation of initiatives to achieve resilient development. With regard to agriculture and livelihoods programmes, every effort must be taken to ensure that women and men can access these programmes equally and, where possible, that they do not reinforce existing gender imbalances.

Increased support provided through the NZ Red Cross and other members of the New Zealand NDRF, can help to ensure that they and their local partners have the capacity to support the implementation of a wider number of programmes on a needs driven basis.

Key Opportunities for MFAT:

- Adjust activity design documents and staff training both within MFAT and with partners to require staff to address resilience and the underlying determinants of resilience in the design stage of interventions. Learning from DFAT and EU experiences should be identified;
- Support the national government (Statistics, Ministry of Internal Affairs) to update island profiles (including gender-disaggregated data) and make these available to MFAT staff as the basis for improving information available nationally, locally and among partners for decision-making; and
- Promote links and networks between staff working on resilience and other relevant socially inclusive programmes.

5. Individual and institutional capacities are well developed

(a) Current responses

Implementation of priority adaptation measures face serious institutional challenges, including high staff turnover rates in senior executive positions, limited sector-specific training, and a lack of clarity on internal roles and responsibilities (Government of Kiribati, 2015).

The following programmes work specifically on strengthening formal education and capacities.

Formal education

Many of the courses available at The Kiribati Institute of Technology (KIT) target international labour market opportunities (Box K). Migration as an adaptation response was heavily promoted under the previous President, Anote Tong. An agreement between the Kiribati Institute of Technology (KIT) and TAFE South Australia means that all KIT courses have Australian accreditation, within the Australian TVET Quality Framework. This ensures that qualifications gained at KIT are recognised in Australia and New Zealand. The Kiribati Institute of Nursing recently merged with KIT and is working towards this accreditation, commencing with a review of its current curriculum. KIT also provides short courses to Government officials, the private sector

and the community. Industry Training Advisory Committees and industry-led Course Advisory Committees at KIT support KIT to ensure that courses are matched to labour market needs (Government of Kiribati, 2013).

Historically the Marine Training Centre has provided training for seafarers to work on cargo ships globally. The number of seafarers working overseas from Kiribati is falling – remittances from seafarers fell from over AUD 12 million in 2002 to around AUD 8 million in 2008 (Government of Kiribati, 2016). It is therefore important that there is a diversification in vocational training opportunities to match demand from employers, both in Kiribati and overseas. The NZ Aid Programme is working with KIT to improve the relevance of courses to local needs.

There are no courses offered in Kiribati that are directly relevant to climate change and disaster risk management. The EU – ACSE programme has a specific TVET regional programme with SPC and USP. This is aimed at integrating climate change and disaster risk management within formal TVET qualifications and training programmes.

Box K

Overview of the Kiribati Technical and Vocational Education and Training Institutions and Governance Mechanisms

Technical and Vocational Education and Training (TVET) is administered by the Ministry of Labour and Human Resource Development (MLHRD) and the Ministry of Education (MoE). MLHRD directly operates two Technical Institutions: Kiribati Institute of Technology (KIT) and the Maritime Training Centre (MTC) (merged with the Fisheries Training Centre in 2015). Both of these institutions are supported by significant Australian (KIT) and New Zealand (MTC) donor funds. Thus these TVET institutions are comparatively well resourced with skilled personnel and internationally accredited programs.

KIT offers a wide range of TVET courses. Many of these are accredited with the Australian Quality Training Framework. KIT is currently implementing Phase III of the TVET sector strengthening project (TSSP). It is also currently building new classrooms and workshops to accommodate the planned expansion. MTC offers 18 month courses for Able Seaman qualifications (accredited with NZ) in addition to a wide range of upgrading short courses for existing Maritime workers and seafaring officers. These are detailed in their prospectus (<http://www.mtc-tarawa.edu.ki>).

The Ministry of Education administers limited TVET programs in the secondary school system. The four church schools' education authorities also play a key role in TVET in secondary schools since they manage 16 of the 19 secondary schools in Kiribati.

Source: SPC PACTVET Gap Analysis, 2015

During consultations as part of the initial gap analysis the following issues were identified:

- Lack of project management skills, from data collection and lab analysis to grant application and monitoring and evaluation, and also including soft skills such as negotiation, problem solving, teamwork, and communications;
- Lack of specific training on coastal management and protection, food security, water management and crisis response, including counselling;

- Lack of understanding of entrepreneurship and what the real ‘working life’ is;
- Not enough technically skilled people to maintain sustainable energy projects and support the national targets;
- Lack of qualified people in sustainable energy, including for different renewable energy sources, energy audit, and site assessment; and
- Limited understanding of equipment utilization and removal/recycling of used equipment.

The gap analysis revealed a number of unmet course needs in the current TVET sector – including project management, renewable energy maintenance, water resource assessments, ecotourism and coastal management.

In Kiribati the PACTVET programme’s focus is on renewable energy, and specifically solar photovoltaic. The programme is working with KIT to strengthen course offerings in this area.

Tertiary qualifications

As part of the EU-GCCA programme at the University of the South Pacific, formal scholarships are offered in post-graduate climate change and disaster risk management programmes. Several students from Kiribati have graduated from this programme since it began in 2010 (USP-GCCA Annual Report, 2015). The current Acting Director for Environment is studying for a Masters in climate change at USP.

A variety of opportunities for tertiary scholarships are also provided by Australia, New Zealand, the EU, the UK and the US. Scholarships are also available for short-term vocational or professional study in Australia and New Zealand. From 2015, New Zealand is also supporting five scholarships for tertiary study in the Pacific region.

The performance of i-Kiribati students, and the low completion rates, were a historical concern. This situation has improved over the past few years, largely due to collaboration between MFAT, DFAT and the Government of Kiribati to strengthen joint scholarship selection processes, including aptitude testing, preliminary English language testing and interviews. This also helps that scholarships are complementary. More work could be done to analyse market needs (MFAT Aid Talks Brief, 2015).

Primary and secondary education

The SPC/GIZ CCCPIR programme in partnership with UNESCO has supported the Kiribati Government to integrate climate change and disaster risk management into the curriculum as part of an ongoing curriculum review process (see above).

“Learning about Climate Change: The Pacific Way” was developed as a teacher facilitation kit with twelve illustrations, and a teacher guide linked to the Kiribati curriculum. Teacher training has been provided on the use of the tools as part of the existing and revised curriculum.

The retirement of the Head of the Curriculum Development Unit is a set back in institutionalising climate change and disaster risk management into the school and teacher training system. The Head was a strong champion for the process, and had developed good capacity and expertise in this area. This needs to be rebuilt (Pers. Comm. GIZ).

The Sandwatch Foundation, which engages children and schools in active participation in monitoring coastal change processes, has operated a programme in Kiribati for a

number of years. Collaboration with CCCPIR and UNESCO has supported its activities to a certain extent.

Informal capacity building

All development programmes aim to build capacity and as such have training courses, individual mentoring and coaching, on-the-job training (e.g. for agricultural and solar energy maintenance) as part of their programmes. A general frustration expressed by formal educational institutions, such as USP, is the lack of use of formal education courses in meeting the training needs of development programmes.

The efficiency and effectiveness of decision making within line ministries and central agencies is constrained by staff capacity and institutional arrangements (Government of Kiribati, 2016). Staff turnover is high. The retirement age of 55 results in a loss of knowledge and expertise in related Ministries and implementing agencies. This affects the ability of Ministries to deliver to their citizens. There are delays in decision-making when key staff are required to travel overseas, for example.

Internal professional development plans for civil servants are not monitored actively to ensure that the training provided by development partners – particularly that provided outside Kiribati – is directly relevant to their roles. Most development partners do not consult with the Public Service Office to ensure that training is in line with the professional development plans for Government staff.

Various regional climate change and disaster risk management programmes have conducted training in-country, including project development using the logframe approach (SPC-GCCA), cost-benefit analysis (SPC, SPREP, GIZ), disaster risk management (SPC), and Emergency Operation Centre Management (SPC). Many more are conducted regionally, requiring government officials to travel.

While these training courses are often at the request of government as part of programme design, cumulatively they add up to government officials spending considerable time in meetings and training sessions, often with poor links to the public service commission professional development plans of staff.

The Taiwanese technical mission provides training throughout South Tarawa for extension officers in nursery management, and vegetable production and marketing, and training to farmers and communities in vegetable farming and supply chain development.

Institutional strengthening

ADB, WB, PFTAC, PACTAM (DFAT) and MFAT provide in-country coaching and mentoring support through staff and departmental advisers, volunteers and/or technical assistance in a number of sectors. This includes public financial management, public utility reform, fisheries and urban planning. All are directly relevant to resilient development.

The Governments of Australia and New Zealand, along with the World Bank, ADB and PFTAC, have a programme to strengthen public financial management processes and procedures within MFED. The focus of the current reform efforts is to strengthen expenditure control, increase revenue through an expanded revenue base and improved compliance, including through fishing revenues, state own enterprise reform and aid effectiveness (DFAT, 2016).

Table 48

Projects related to strengthening individual and institutional capacities

Development Agency	Main programmes	Implementing partners	Time-frame	Volume	Process to define priorities	Note of project
WBG	Kiribati Utility Service Reform Project		2014-2017	USD 500,000		Engagement of CEO for the Public Utilities Board, and a utility services reform TA to identify measures to improve operational performance and achieve financial sustainability in the delivery of electricity, water and sanitation services in South Tarawa, Kiribati
ADB DFAT	Strengthened Public Financial Management		2010-2012	ADB – USD 800,000 Australia (Grant – USD1 million)	Country strategy	Technical assistance on public financial management to address priority areas of weakness identified in Public Expenditure and Financial Accountability assessment.
GEF	Implementing Sustainable Water Resources and Wastewater Management in PICs (Pacific IWRM) And Ridge to Reef	SPC	2008-2013 2016-2018	USD 10.7M	Country strategy	Strengthened policy, governance structures and capacities for community to catchment integrated water resources management activities.
	Maintaining renewable energy systems in Kiribati through technical training	UNDP	2010-2012	USD 35,000	Country strategy	Training programme for island technicians due to the increasing use of solar photovoltaic stand-alone systems in the outer islands.
	Quality Teaching Education for Sustainable Development and Climate Change	UNESCO	2009-2012	USD 36,016	Country strategy	To improve the quality of education in Kiribati and to make Kiribati education more relevant to the Pacific and Kiribati context
German Federal Ministry for Economic Cooperation and Development (BMZ)	SPC/GIZ Coping with CC in the Pacific Island Regional (CCCPiR)	SPC, GIZ	2010-2018		Country strategy	Support to integrate CC/DRM into the school curricula and conduct teacher training. Support to national coordination in CC and disaster risk management (Kiribati Joint Implementation Plan) and the fisheries, livestock, education and energy sectors.
EU	SPC:GCCA Climate Change and Health Adaptation Project	SPC, UNICEF	2010-2013		Project design document development by Government of Kiribati with	Strengthen environmental health surveillance and response. Key areas focus (water quality,

					SPC support	water-borne diseases, food safety, food-borne diseases, vector control works and vector-borne diseases, climate sensitive disease surveillance.
DFAT	International Climate Change Initiative		2010-2013		Country strategy	Strengthened capacity of Kiribati Meteorological Services.
ADB	South Tarawa Sanitation Sector Improvement Project Loan and Grant		2011-2019	USD 21,090,000	Country strategy	Improve sanitation infrastructure, sewerage and maintenance capacity.
ADB IDA Grant Pacific Region Infrastructure Trust Fund	Kiribati road rehabilitation project		2012-2016	USD 12,000,000 (ADB) USD 20,000,000 (IDA Grant) USD 5,790,000 (PRIF Trust Fund) USD 1,050,000 (GoK)	Country strategy	Improve condition of Tarawa road network and help strengthen road financing and maintenance capacity. To maintain the activities for a more sustainable main road infrastructure in South Tarawa.
ADB	ADB Technical Assistance outer island growth centres		2010-2012		Country strategy	Identify necessary infrastructure and supporting systems for sustainable use of natural resources in Kiritimati Island and employment generation.
EU	ESAT Environmentally Safe Aggregates for Tarawa.		2008-2013		Country strategy	Strengthen capacity to manage an SOE to extract and sell local aggregates.
EU	Global Climate Change Alliance: Pacific Small Island States (SPC-GCCA:PSIS)	SPC NIWA WHO SPREP	2011-2014		Country strategy	Support to tackle the adverse effects of CC. Development of CC Strategy, the KJIP, and a CC Adaptation Implementation activity in the health sector. Monitor and respond to vector-borne diseases. The USP-EU GCCA project addressed the challenges of CC through capacity building, community engagement and applied research.
NZMFAT	Marine Training Centre - Fisheries and Medical Centre Facilities		2012-2014	NZD 8,679,882		
NZMFAT	PF 4-437 Kiribati WASH in Schools (KWIS)		2014-2018	NZD 942,849		This Activity will target 36 schools in four outer islands, North Tarawa, Abaiang, Maiana, and Marakei, the four

						islands closest to South Tarawa. It proposes to trial and implement options for safe drinking water and sanitation facilities in those schools, targeting children as agents of change for the reduction of open defecation, a practice that has the potential to contaminate the highly permeable water lens and coastal environment.
DFAT, EU EDF	Strengthening of NDMO Information Systems	SPC	2010-2014		HFA	Support provided to enhance capacity of NDMO information systems through the provision of technical advice, and procurement of relevant hardware and software applications,
	Severe Weather Forecast Demonstration Project (SWFDP) South Pacific Islands	WMO	2009-2011	-	HFA	Improve severe weather forecasting. Improve lead-time of warnings Improve interaction between National Weather Services
EU	Coastal Risk Assessment Project	GoK, SPC, GIZ	2015-2018		Project proposals from Kiribati	Strengthened institutional capacity to undertake land use & coastal vulnerability assessment. Land use & coastal vulnerability assessment undertaken on 4 islands. Island communities engaged through use of GIS community participation model on at least one of the islands
EU	Building Safety & Resilient Capacity in the Pacific	SPC	Current	EUR 19.4M (regional)	Country workplan	
USAID	Pacific Islands Disaster Risk Management Program 2 (PDRMP-2)	Asia Foundation / FNU	Up to 2012	2012 – USD 750,000	Country strategy	The PDRMP-2 aims to improve the capacity and performance of local and national disaster management agencies, develop and adapt training materials relevant to the region, and strength

(b) Gaps, opportunities and implications for MFAT

Secure livelihoods are an important determinant of adaptive capacity. The expansion of the MTC school to cover fisheries training has the ability to ensure that the necessary

skills and training needed to support i-Kiribati to derive sustainable livelihoods from their biggest industry. Support from MFAT in this area should continue. As recommended in a 2013 evaluation of fisheries support by the New Zealand Government (Sapere Research Group, 2013), to maximise the benefits of support to Pacific fisheries as part of a long-term effort to provide local employment and enterprise development, opportunities and formal links to the existing fisheries programme support should be established, including support provided to SPC and FFA.

Integrating climate change and disaster risk management into these courses is important. It will help ensure that fishers in Kiribati understand the potential implications that climate change will have on the oceans, and on coastal fisheries in particular. Supporting fishers to access and sell oceanic fish, such as tuna, is a key adaptation strategy (SPC, 2011) to support livelihoods and food security in the face of the increasing population and decreasing coastal fisheries productivity.

Training in fish handling (for example, ensuring that tuna is bled and iced immediately) and the management and maintenance of fisheries related infrastructure, such as ice-plants, has the potential to support additional livelihood opportunities for fishers. Training in household and business financial management and contracting arrangements should be integrated into technical fisheries training. These areas are recognised to be a constraining factor on ensuring reliable fisheries supplies and consistency in income for fishers (Pers. Comm. SPC).

Every year, several i-Kiribati fishers run into difficulties whilst fishing - 20 were rescued by the Police Maritime Unit in 2015. As well as providing emergency locator beacons, strengthening the information available to fishers on weather conditions is an important part of improving safety.

The Kiribati Development Cooperation Policy (2015) emphasises the use of “technical assistance for building institutional capacity through the transfer of expertise and knowledge wherever feasible” (Government of Kiribati, 2015). It also encourages the use of local consultants working alongside international consultants. The Policy has yielded positive results, including helping to progress sensitive programmes such as the state owned enterprise reform processes (ADB, 2016). MFAT should seek to strengthen the capacity of local consultants, and adopt an approach of using local consultants alongside international consultants, wherever practical.

The continued use of short-term overseas training opportunities as an employment perk/income supplement for civil servants results in staff attending courses that may not be directly applied on their return to Kiribati (Nunn, 2009). This also has the effect of draining capacity nationally, with Government officials travelling often for training and workshops. Approval processes for international travel for training purposes should be strengthened, to ensure that travel for training purposes is in line with Government needs. Coordination between development partners on this issue is vital. MFAT could play a role in initiating and dialogue in this area. At any one point in time it is very likely that funding provided through MFAT for a particular initiative is being undermined by an overseas training or workshop by a regional organisation (also supported by MFAT) that has pulled capacity out from the country at a time when it is needed to support local implementation.

Weak project design and management skills are recognised as a constraint to the effective implementation of climate change and disaster risk management projects (SPC, 2015). As part of the strengthening of support for graduates of scholarship programmes to integrate back into the Kiribati labour market, consideration should be given to

providing training courses (through KIT) for project design and management. Existing courses provided through the SPC-GCCA programme could be adapted for this purpose. This could also continue the strengthening of local consultancy capacity, to support resilient development projects.

The support currently provided to strengthen public financial management processes will be vital to the Government of Kiribati's ability to access and effectively manage larger climate change and disaster risk management projects and programmes. A major constraint to the effective delivery of the KAP was the lack of expertise within KAP and MFEP to manage, tender, and supervise the technically large consultancy contracts (Hughes, 2011).

Key Opportunities for MFAT:

- Continue to support the marine training centre to ensure that TVET training provides opportunities for local employment and enterprise development. Mainstream climate change and disaster risk reduction into these courses;
- Strengthen the availability of in-country training in solar and energy maintenance, project design and management. Link to the existing PacTVET programme.;
- Require the use of local consultants as part of programme design and support capacity development opportunities to strengthen the number of local consultants available;
- Support dialogue at the national level around professional development for staff and balancing opportunities for overseas capacity development with strong in-country training opportunities; and strengthen governance systems around procurement and tendering as part of support for public financial management.

6. Private sector playing a significant role in resilient development

(a) Current responses

The private sector in Kiribati is small in relation to the public sector, and is hampered by the high costs of trade (Government of Kiribati, 2016) as well as the presence of state owned enterprises that crowd out entrepreneurial activity (ADB, 2016). However the government has undertaken significant reforms, supported by ADB. These included the State-Owned Enterprises Act 2013 and improved corporate governance.

The government is actively pursuing private sector development and has finalised a private sector development strategy. It is expanding opportunities for the private sector, such as the introduction of the first Public-Private Partnership for operation of the Otintaai Hotel.

Improvements in transport, energy, telecommunications and skills development are also essential for supporting growth of the private sector. A new Telecommunications Act was passed in April 2013. It sets out the conditions for a competitive market in telecommunications, and focuses on the regulator's capacity to manage a competitive market.

Kiribati Fish Limited (KFL) is a joint venture of Kiribati's CCPL, Shanghai Deep Sea and Golden Ocean. The project is worth A\$11m. The factory was officially opened in 2012. It was established to increase revenue from the fisheries sector by providing an avenue for

local value adding from oceanic fisheries, increase local employment opportunities and promote trade activities in terms of exports to the Japanese, Australian and Korean markets.

The factory is working with MTC to provide training opportunities that can help maximise opportunities for local fishers, and produce the required throughput at the factory.

Wages on outer islands are dominated by the sale of fish (49%, DFAT, 2014). The high costs of transport, and of running ice-plants in the outer islands, hinders growth in fisheries income from the sale of fish to Tarawa. There are ongoing efforts to professionalise the fisheries and fish processing sector in the outer islands, along with new infrastructure (such as solar energy for outer island fisheries ice-plants) to increase outer island fisheries sales.

Other areas of potential that the Government of Kiribati is exploring include public-private partnerships in ecotourism and sea-bed exploration/research (Government of Kiribati, 2013).

Data from the Kiribati Provident Fund shows that the number of contributors from the private sector has risen sharply from 2,156 in June 2009 to 3,277 in June 2015, a rise of 51.9 per cent (Government of Kiribati, 2016).

Bubuti, the practice of asking for help such as resources and favours, is an important social safety net, but can undermine incentives for private sector development (DFAT, 2014). The bubuti system is not always a comfortable fit with the cash economy and some researchers have noted that obligations to one's extended family can be such a drain on resources that businesses fail (AusAID 2012: 33).

Table 49

**Projects related to the private sector
playing a significant role in resilient development**

Development Agency	Main programmes	Implementing partners	Time-frame	Volume	Process to define priorities	Note of project
World Bank Group	Kiribati Utility Service Reform Project		2014-2017	USD 500,000		Engagement of CEO for the Public Utilities Board, and a utility services reform TA to identify measures to improve operational performance and achieve financial sustainability in the delivery of electricity, water and sanitation services in South Tarawa, Kiribati
ADB	ADB Technical Assistance outer island growth centres		2010-2012		Country strategy	Identify necessary infrastructure and supporting systems for sustainable use of natural resources in Kiritimati Island and employment generation.
NZMFAT	Marine Training		2012-2014	NZD 8,679,882		

	Centre - Fisheries and Medical Centre Facilities					
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(b) Gaps, opportunities and implications for MFAT

The Government and its development partners are working hard to increase opportunities for private sector. Investment in Kiribati Fish Limited presents a good opportunity to maximise revenue from oceanic fisheries as a result of potential shifts in tuna migratory patterns result from climate change. This will require ongoing investment in training and support for local fishers to meet the required standards.

Given the dominance of the public sector, and also its reduced capacity due to a retirement age of 55, the use of local independent consultants as part of climate change and disaster risk management projects should be required as part of all development programmes. Mentoring programmes to assist local consultants to develop their skills (facilitation, project development, evaluation) may be needed for continuing support.

Overseas contractors are often brought in to address the capacity gaps, in particular around infrastructure. Again, mentoring programmes that are built into supply contracts should facilitate the transfer of knowledge and skills. This could increase local capacity.

Key Opportunities for MFAT:

- Provide ongoing support for regulatory and the state enterprise reform and public-private partnerships;
- Support business and enterprise training through TVET providers;
- Require the use of local consultants and hold targeted in-country training to grow the pool of consultants available to support project design and implementation; and
- Require the use of local sources of emergency response materials wherever feasible.

7. Longer term habitability of atolls and islands is considered

(a) Current responses

While all development assistance to Kiribati will increase habitability in one way or another, this section takes a longer-term perspective on the issue. As noted in Section 3.8, there is a reasonably plausible scenario that even relatively modest increases in sea level could cause forced abandonment of islets and, eventually, entire atolls. There is little or even no chance that current incremental changes designed to reduce the impacts of sea-level rise along with other drivers of environment and socio-economic change will avoid the abandonment of low-lying islands and coastal areas, even if the enormous funding required is forthcoming. Some of these interventions can in fact be maladaptive – the seawalls built on the early stages of KAP are a case in point.

On the other hand, transformative changes driven by a desire to avoid abandonment of entire atolls might well buy considerable time, and perhaps even at a relatively affordable price. As also noted in Section 3.8, New Zealand, the EU and Australia are undertaking activities in Kiribati, and also Tuvalu, that can be considered prototypes of such transformative changes. New Zealand is clearly showing leadership in this regard. The game changing interventions are related to land, human mobility (e.g. the Pacific

Fisheries Initiative and the Pacific Trades Employment Initiative) and supply of construction aggregate (Table 50).

Such efforts are extremely timely. There has been a policy shift as a result of the change of government with the March 2016 election of Taneti Mamau as the new President of Kiribati. The Kiribati National Development Plan 2012 – 2015 identified migration as the government’s long-term strategy for dealing with climate change. This is consistent with then President Tong’s “Migration With Dignity” Policy which articulated the importance of training I-Kiribati to take up skilled labour migration opportunities in response to climate change threats to livelihoods in Kiribati. Then President Tong was reported as saying that residents will start leaving Kiribati in 2020 as rising seas make life too difficult.

The new Kiribati Development Plan 2016-2019, prepared under President Mamau, makes no mention of migration in the context of climate change. Specifically, none of the strategies related to the goal of adapting to and mitigating the effects of climate change make any reference to migration. Rather, the Plan highlights such strategies as stemming outer island migration by improving access to economic and social infrastructure to the outer islands and ensuring that all people of Kiribati can access the associated opportunities.

Table 50

Projects related to the longer term habitability of Kiribati’s atolls and islands

Development Agency	Main programmes	Implementing partners	Timeframe	Volume	Process to define priorities
NZ	Feasibility assessment for land reclamation	Kiribati government			Technical assessment and economic analysis conducted
Australia	Kiribati Australia Nursing Institute				Formal selection process
NZ	Pacific Fisheries Initiative				
NZ	Pacific Trades Employment Initiative				
NZ	Pacific Access Category				
NZ	Seasonal agriculture workers scheme	National Governments			
Australia	Seasonal agriculture workers scheme	National Governments			

(b) Gaps, opportunities and implications for MFAT

Working Paper 6 will elaborate opportunities to enhance the habitability of Kiribati’s land areas in the longer term and which might be consistent with New Zealand’s investment priorities going forward. These cover the resilient development spectrum, including governance and management, economic resilience, population growth and

movement, ecosystem, social, utility and transport services, and food production and security.

Key Opportunities for MFAT:

- Supporting studies that increase understanding of the policy options for ensuring habitability of Kiribati in the longer term; and
- Assess the utility of current New Zealand migration policy in the context of contributing to the habitability of Kiribati in the longer term, and in the context of also planning for eventual significant declines in habitability.

8. Increased access to, and effective use of climate and disaster finance

A. Securing finance for climate change adaptation and disaster risk management

(a) Current responses

The ability of the Kiribati Government to secure the necessary finance to manage climate change and disaster risks into the future is crucially dependent on its ability to strengthen its public financial management systems, including procurement processes, contractor management and supervision, and accounting and acquittal procedures. This is important for finance being channelled through partners, such as the World Bank and UNDP. It is also crucial if the Government of Kiribati has aspirations for direct access to climate and disaster finance in the future, for example through the GCF.

With support from the Governments of Australia and New Zealand, ADB, the World Bank and PFTAC, significant efforts are underway to strengthen and support public financial management reforms. The World Bank and the New Zealand Government are providing AUD 1 million and NZD 1 million per annum, respectively, in budget support linked to such economic reforms. Additional technical assistance support is also being provided. The economic reforms of the Government have focussed on improving the management of fisheries revenue, improved management of State-Owned Enterprises and expanding private sector opportunities (Government of Kiribati, 2016).

In the past two years improvements have been made in the availability of information through the website of the Ministry of Finance and Economic Development. Key policy documents such as the Kiribati Development Plan, the Kiribati Development Cooperation Policy, the Kiribati Joint Implementation Plan for Climate Change and Disaster Risk Management are now available online. A project database is also available, covering most of the large externally financed infrastructure projects. It is relatively up to date. However, most climate change and disaster risk management projects are not included.

Building on the experience of the KAP project and the challenges in meeting procurement and tendering procedures of the World Bank, the World Bank has supported the government to establish a Fiduciary Service Unit within the Ministry of Finance and Economic Development. This provides fiduciary support to all World Bank-financed projects. Experience with the KAP and other large-scale infrastructure projects

has provided MFED staff with knowledge and skills that will be useful for accessing and managing climate finance. The ADB/ World Bank Development Coordination Office in Tarawa also aims to streamline accessing finance, leading to more joint projects.

The Government of Kiribati is currently discussing possible options for submission to the GCF. The proposed ADB South Tarawa Sector Water Programme has been identified as a possible project for the GCF.

The other critical aspect of accessing finance is to have clear national priorities that can be supported through projects or other financial mechanisms. The KJIP has twelve key strategic priorities. It went through extensive consultations, involving stakeholders from across government, the private sector, the church and NGOs. The Kiribati National Expert Group (KNEG), a cross-ministerial group including representatives from Civil Society, is responsible for overall implementation. Strategies are costed. Project proponents and development partners should use the KJIP as the basis for identifying areas to support.

Table 51

Projects relating to securing finance for climate change adaptation and disaster risk management

Development Agency	Main programmes	Implementing partners	Time-frame	Volume	Process to define priorities	Description
NZ MFAT	Budget support	MFED	2015-2018	NZD 3M	PFM roadmap	Budget supported linked to economic reforms.
ADB DFAT	Strengthened Public Financial Management		2010-2012	ADB USD 800,000 Australia (Grant - USD 1M)		Technical assistance on public financial management to address priority areas of weakness identified in Public Expenditure and Financial Accountability assessment.
DFAT	CC Finance readiness in the Pacific project	GIZ, PIFS	2016-2018	AUD 1.5M	Building on existing PFM support and country requests	Support to PFM reforms and development of project pipeline.
USAID	IASSC	SPC, PIFS	2016-2018	USD 5M		Climate finance assessments, institutional strengthening and project development support.
USAID	Climate Ready	AECOM	2017-2021	USD 25M		Institutional and governance strengthening, policy and planning, pipeline project development

(b) Gaps, opportunities and implications for MFAT

Development partners have previously been reluctant to channel funding through Kiribati national systems due to the risk of financial mismanagement. The New Zealand Government provides NZD \$1m in economic reform linked budget contributions, along with the World Bank (MFAT, 2015). A greater link between the economic reform agenda and the climate finance agenda would maximise the usefulness of current reforms to assist the Government to secure climate finance. This is one of the aims of the DFAT/GIZ project, and relevant for the USAID projects with SPC as well as the Climate Ready project. Readiness support is available as part of the GCF process and could be accessed to address any identified gaps. This should be integrated into support that is already being provided to strengthen public financial management systems.

Continued institutional strengthening of the National Economic Planning Office within MFED, as well as wider government processes, will give partners increased confidence in utilising Government of Kiribati systems for budget support and to channel climate and disaster finance using Government of Kiribati systems.

Ensuring that relevant information is available to all stakeholders is important in meeting the requirements for accessing finance. During project preparation, documentation is required to demonstrate links to national priorities, a history of managing other projects, and robust procurement procedures. Gathering this information caused significant delays for the EU-GIZ ACSE project preparation process (Pers. Comm. GIZ). Having this publicly available can reduce the burden of gathering this information for every project development process. MFAT should continue to support the Government of Kiribati, MFED and the Office of the President to strengthen their internal knowledge management systems and make all public documents available via the MFED website and the climate.gov.ki site. This site is currently inoperative.

An evaluation of MFAT and World Bank budget support to the Government of Kiribati should be undertaken to learn lessons from the processes, and to identify areas that require further strengthening. MFAT support to address any challenges associated with budget support will also support institutional strengthening for climate finance.

An internal evaluation of the Kiribati Adaptation Programme should also be undertaken to document and learn lessons from the management of a large adaptation programme. These lessons will help Kiribati to more effectively manage future programmes.

A climate finance and risk governance assessment should be undertaken to identify key gaps in the institutional architecture within government – for example, building the capacity of the National Designated Authority to the GCF. This would provide a solid basis for identifying the support required. Additional capacity at PIFS through the DFAT/GIZ/PIFS or SPC/PIFS project should enable PIFS to provide support in this area.

The Revenue Equalisation Reserve Fund (RERF) was developed to provide a mechanism for surplus revenue (initially from phosphate from Banaba and later fishing licence sales) to be held in trust for possible use in deficit years. The Ministry of Internal Affairs also has a mechanism to disburse finance to local councils. Experience managing these funds may provide the basis for management of future ‘trust fund’ style arrangements for climate and disaster risk financing. Lessons from their management should be documented and used to inform future arrangements for the efficient disbursement of climate finance to the local level.

The capacity of the Office of the President, which leads whole of government coordination mechanisms on climate change and disaster risk management such as the Kiribati National Expert Group (KNEG), remains weak. Augmenting the capacity of the Office by funding additional staff positions, or longer-term technical assistance arrangements, would enable the Office to be more active in its coordination role. Such possible initiatives should be discussed with the Government.

The KNEG is supposed to play the role of Secretariat to the KJIP, but it is unclear whether these arrangements are functioning well. There is a need for partners to be more committed to acknowledging KJIP priorities, and building them into ongoing project pipelines when working with the Government to identify possible funding support (Pers. Comm. GIZ).

Key Opportunities for MFAT:

- Continue to provide support for strengthening the National Economic Planning Office (NEPO), and link the strengthening of budget support and public financial management with efforts to strengthen climate finance readiness;
- Ensure all publicly available information of relevance to climate financing is available via the MFED website;
- Evaluate lessons from the KAP budget support and the RERF, to inform climate finance institutional strengthening;
- Embed additional staff within the OB and MFED to strengthen coordination and climate finance readiness; and
- Use the KJIP as the basis for informing project planning and design.

B. Ensuring effective and efficient use of funding

(a) Current responses

Section 9 describes a number of measures that have been undertaken to improve public financial management systems, to support both increased access and improvements in the management of funds. Having systems in place to ensure funds are well managed is a necessary but not sufficient condition for ensuring their effective and efficient use. Securing sufficient technical capacity to support project implementation is also important, but remains a challenge in the case of Kiribati. This results in the use of many external consultants providing technical assistance to the Government. In order to maximise the effectiveness of such technical assistance, capacity to select, contract and monitor the performance of consultants is needed. Requiring the use of local consultants that work alongside international consultants is a way to build local consulting capacity to support the design and implementation of future initiatives.

Evaluations of Phase II of the KAP found that contract management and oversight was an area with serious capacity deficiencies. This has been partially addressed through the creation of the Fiduciary Standards Unit. But this unit deals with ensuring adherence to World Bank financial and procurement processes. It does not deal with assessing the quality of technical assistance provided. Support to strengthening monitoring and evaluation capability within the OB and MFED is also crucial, and has been recognised as an ongoing challenge to aid effectiveness (Government of Kiribati, 2015).

The retirement age of 55 for government officials means that considerable capacity and institutional knowledge is lost upon the retirement of long-serving officials. Human

capacity constraints are recognised as a key constraint to project implementation (Government of Kiribati, 2015).

Addressing the needs of the outer islands remains an ongoing challenge. Initiatives such as the Whole-of-Island approach, and the KAP Resilience Fund, should be evaluated to assess their potential for upscaling and replication. The Line and Phoenix Islands have recently prepared an integrated development plan, with EU funding support. Such planning exercises have the ability to streamline support provided to outer islands by projects, by strengthening the links between the Ministry of the Line and Phoenix Islands in Tarawa, the Island Councils and the Government Ministries involved in service delivery.

Confusion around decision-making processes and coordination mechanisms can impact project delivery. The National Adaptation Steering Committee was created as part of the KAP to support the roll out of KAP and other projects. The Kiribati National Expert Group (KNEG) was established during the development of the KJIP to provide technical, whole-of-government support to that process. The KJIP outlines a process for the proposed actions to be incorporated into ministerial and sectoral operational plans. But this has not yet happened in a structured way.

The Government of Kiribati has been increasing the involvement of NGOs, schools, youth groups and the church as delivery partners for projects (EU Kiriwatsan, EU-GIZ ACSE). Increased use of partners for delivery could help to overcome capacity constraints within government.

Table 52

Projects relating to ensuring effective and efficient use of funding

Development Agency	Main programmes	Implementing partners	Time-frame	Volume	Process to define priorities	Description
World Bank Group	Kiribati Utility Service Reform Project		2014-2017	USD 500,000		Support for a CEO for the Public Utilities Board, and a utility services reform technical assistance to improve operational performance and achieve financial sustainability in the delivery of electricity, water and sanitation services in Kiribati
ADB DFAT	Strengthened Public Financial Management		2010-2012	ADB – USD 800,000 Australia (Grant – USD 1M)	Country requests	Technical assistance on public financial management to address priority areas of weakness identified in Public Expenditure and Financial Accountability assessment.

DFAT GIZ	CC Finance readiness in the Pacific project	MFED	2016-2018	AUD 1.5M	Country requests	Support to PFM reforms and development of project pipeline
IFRC	Institutional Strengthening	Kiribati Red Cross	2016-2018			Support to strengthen knowledge management.
BMZ / Government of Australia / USAID	Whole-of-Island Approach	KNEG	2012-ongoing			Support a development-first approach to Island Development Planning
EU	Line and Phoenix Island development plan	Ministry of Line and Phoenix Island Island Council	2016-2020			Support to Island development planning

(b) Gaps, opportunities and implications for MFAT

Improving the delivery of resilient development programmes on the ground requires, in the first instance, reliable and targeted information and analysis about the current context – whether that be the state of the infrastructure, the social-cultural context or the most recent policy and planning documents.

Many development programmes spend the first few months / years gathering existing information and learning from previous projects – and/or conducting their own vulnerability and adaptation or risk assessments. A wealth of information already exists, as indicated in Section 2 and elsewhere in this report. This should be made more accessible to all Government officials and development partners working to support resilient development.

Information on learning from previous projects is often only available internally. Also, there is often a disconnect between the publicly available information on projects and the reality on the ground. And yet it is arguable that the learning contained in evaluation reports, which provide detail on where mistakes have been made previously, is probably the most valuable way to inform future project design.

Enhancing the internal capacity for information and knowledge management is vital to support this process going forward. Having staff within the OB and/or MFED who can mentor others and demonstrate the value of good information and knowledge management systems could benefit all internal and externally funded projects in Kiribati.

Since 2015 MFED has increased the amount of information available on their website, including project evaluations and academic research. The OB has relied on the website created under the KAP project to support information dissemination, but many of the links are not functional. Much of the information is also available on the MFED site. MFAT support to ensure all previous technical reports, situation analyses, consultancy reports and evaluations are available for use by all interested stakeholders could support the increased effectiveness of funding, by ensuring that lessons from previous experiences are taken into account in the design of future programmes.

Development partner coordination is important for avoiding duplication. It appears to have improved over the past five years, with many examples of coordination mechanisms (PRIF, joint funding of infrastructure projects, EU-NZ Kiritimati Island

support, Whole-of-Island approach). The use of sector-wide programmes, such as the planned Water and Sanitation Programme, is another example of improving development partner coordination. These existing mechanisms could be further strengthened. MFAT has offered support to the Government of Kiribati to strengthen coordination efforts further (MFAT, 2015). As an important but relatively small player within the development partner context, MFAT is in an advantageous position to lead coordination efforts. When strengthening partner coordination, care must be taken not to weaken country-ownership of coordination mechanisms.

It is important that development partners brief consultants fully on the expectations of coordination and partnerships envisaged for a project or programme. The importance of coordination with other partners should be explicitly stated in their Terms of Reference, and a section of their report - and any project design documents - should describe the arrangements for development partner coordination and for making available the results of their work. The use of local consultants should be encouraged.

Private sector opportunities exist to support the implementation of climate change and disaster risk management programmes – from the provision of technical assistance (as facilitators, consultants etc), to supplying materials, through to hosting and feeding the stream of external partners, consultants, researchers and journalists that need accommodating on Tarawa. In line with MFAT's support to grow the private sector, strengthening the capacity of local consultants to be more involved in the delivery of projects should be supported. (see section 7).

This could be achieved by providing specific training and/or mentoring to local consultants, including young graduates and retired civil servants, and building up their capability. Collaborating with the PACTVET project as part of planned course offerings in project management of climate change and disaster risk management could be a way to support an increase in the capacity of local consultants (see section 6).

Key Opportunities for MFAT:

- Strengthen information and knowledge management systems to ensure that information and learning available from previous projects is widely available;
- Strengthen the capacity of NGOs locally and increase their involvement in programme delivery;
- Strengthen development partner coordination to streamline programme delivery. Actively support and lead programme wide approaches within areas of MFAT comparative advantage (e.g. energy, agriculture, fisheries);
- Strengthen the ability of the private sector to support programme implementation; and
- Require the use of local consultants in programme design and implementation and provide training where necessary to increase capacity.

9. Resilient development investment opportunities planned and prioritised

(a) Current responses

The ability to prioritise resilient development investment opportunities also relies on sound information and evidence about the underlying problem and alternative solutions

to addressing that problem. Section 10 describes some of the current responses and deficiencies in the area of information and knowledge management.

The Kiribati Development Cooperation Policy recognises ‘poor planning in identifying government priorities and formulation of programmes’ as a constraint to aid effectiveness (Government of Kiribati, 2015). All projects proposed as part of the government budget procedure or as development partner-funded projects must align to the Kiribati Development Plan (KDP). Within this framework and that of the KJIP, it is the responsibility of the relevant line ministry to propose a specific project. NEPO within MFED is responsible for appraising the project according to an internal template. Projects are then submitted to the Development Coordination Committee ahead of submission to Cabinet for approval (Government of Kiribati, 2015).

Project prioritisation, in particular the choice of location, is heavily politicised. As part of the SPC/GIZ CCCPIR project, the Government was supported to develop criteria to inform the selection of an island to trial the Whole-of-Island approach. Nevertheless, even with these criteria, it took the Government a year to decide which island would be the focus of the initiative (pers. comm. GIZ), leading to a significant delay in project implementation.

Tools such as cost-benefit analysis (CBA) and multi-criteria analysis (MCA) have been used to varying degree. A pre-feasibility CBA of the proposed solar-hybrid upgrades on Kiritimati was undertaken, and was used as evidence to inform the programme design of an EU-NZ investment (pers. comm. GIZ). MCA was used to complete the Kiribati Infrastructure and Investment Strategy but it is unclear how influential the Strategy has been in determining investment priorities. Partnering local consultants and government staff members with international consultants can help ensure that learning opportunities are maximised and would support ongoing capacity development in the management and use of these tools.

Simon and Webber (2014) provide an overview of decision-making processes within the Kiribati Adaptation Programme. They found that, despite an extensive consultation and planning process, decision-making processes were weak, particularly around the prioritisation of activities. One consequence was construction of seawalls that were flawed in design.

Table 53

Projects relating to planning and prioritising resilient development investment opportunities

Development Agency	Main programmes	Implementing partners	Time-frame	Volume	Process to define priorities	Description
NZ MFAT	Budget support	MFED	2015-2018	NZD 3M	PFM roadmap	Budget supported linked to economic reforms
ADB DFAT	Strengthened Public Financial Management		2010-2012	ADB USD 800,000 Australia (Grant – USD 1M)		Technical assistance on public financial management to address priority areas of weakness identified in Public

						Expenditure and Financial Accountability assessment.
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(b) Gaps, opportunities and implications for MFAT

There is a need to strengthen information and knowledge management capabilities, as described in Section 10, and also in Strategy 2 of the KJIP. Ensuring the availability of information to inform project design should also be supported. A wealth of technical assessments, data and other information have been gathered over the years and continues to accumulate. This could usefully inform prioritisation exercises.

An institutional analysis of current governance and decision-making processes and tools should be completed as part of a climate finance assessment. This will provide the Government of Kiribati with an opportunity to critically analyse internal structures and propose activities for institutional strengthening.

Continued support to strengthen national decision-making processes and the budget process, through MFED, as part of general public financial management reforms, will also support the increased use of analytical tools. Building the capacity of NEPO to appraise and evaluate project proposals and budget submissions is crucial for strengthening government capacity to prioritise development initiatives. Support to integrate risk considerations into existing prioritisation tools, such as budget appraisal tools, should be provided. Training in the application of tools, such as cost-benefit analysis and multi-criteria analysis, should be supported as part of government reform efforts.

Experiences of developing decision-support tools, such as the coastal calculator (Ramsay, 2010), should be evaluated to understand how and in which circumstances strengthened tools can support improved prioritisation.

The GCF has mechanisms to help countries identify priorities for GCF projects, from within their national priorities. This support can be utilised not only for GCF purposes, but also to translate priorities identified in the KJIP to specific project or programme proposals.

Consultants are often brought in to complete the analysis required for project proposals and large infrastructure projects, for example, an economic analysis or a social safeguards study. Frustration exists within government that these are missed opportunities for capacity building. MFAT should ensure that, where practical, local consultants are partnered with external consultants as part of project analysis / prioritisation processes.

Key Opportunities for MFAT:

- Strengthen information and knowledge management systems to provide evidence based information for decision makers in prioritising initiatives;
- Strengthen capacity within NEPO to appraise national and development partner proposals;
- Evaluate experiences of using decision-making support tools such as the coastal calculator; and
- Ensure that, as a PRIF member, analytical tools to inform project design and prioritisation are used as capacity building opportunities by partnering local staff

and consultants with international consultants and ensuring they are part of the process.

10. Strengthened knowledge creation, management and learning

(a) Current responses

Formal evaluations of various climate change and disaster risk management initiatives, as well as other relevant resilient development projects, contain a wealth of information and lessons for future projects. Yet this information is often buried in large reports, or not made public at all given the perceived sensitivities in the way strengths and particularly weaknesses are reported in evaluation reports. Increased efforts should be made to support the OB to disseminate lessons from previous projects, in order to support learning into the future. There is currently a big disconnect between the information and lessons shared officially by development partners and information contained in formal, independent evaluations. This unconscious bias not only constrains learning opportunities but also the ability to improve and reform processes based on past mistakes.

By way of an example, some documented lessons from previous projects are described below:

- A failure to account for the power dynamics between government ministries can lead to development partners inadvertently exacerbating rivalries and damaging working relationships;
- Implementing large-scale adaptation projects is as much about contract management as utilising up to date risk information to inform resilient development; specialist skills in these areas should be sought; and
- Taking social issues into account in infrastructure project design is crucial to a project's effectiveness; yet social scientists are not often employed as part of climate change and disaster risk management projects.

Sections 9 through 11 describe current responses in strengthening information and knowledge management processes, particularly within MFED.

Risk-information (see Section 2) is often not readily available to the stakeholders directly involved in generating the information. Sharing across the whole-of-government is not the norm. Developing repositories for risk information that can be used by all stakeholders, including every line ministry, would lead to an improvement in evidence-based policy making. Tailoring risk information to the local context, including translation into te-Kiribati, helps maximise its usefulness.

All development projects collect data of some description. While there have been improvements in recent years in bringing together key project documentation on the MFED website, datasets which underpin these projects are rarely brought together in a central repository for use by other stakeholders. This represents a significant underutilisation of key resources.

Table 54

Projects related to strengthening knowledge creation, management and learning

Development Agency	Main programmes	Implementing partners	Time-frame	Volume	Process to define priorities	Description
DFAT, EU EDF	Strengthening of NDMO Information Systems	SPC	2010-2014		HFA	Support provided to enhance capacity of NDMO information systems through the provision of technical advice, and the procurement of relevant hardware and software applications
	Severe Weather Forecast Demonstration Project (SWFDP) South Pacific Islands	WMO	2009-2011	-	HFA	Improve severe weather forecasting. Improve lead-time of warnings. Improve interaction between National Weather Services
EU	Coastal Risk Assessment Project	GoK, SPC, GIZ	2015-2018		Project proposal from Kiribati	Strengthened institutional capacity to undertake land use & coastal vulnerability assessment. Land use & coastal vulnerability assessment undertaken on 4 islands. Island communities engaged through use of GIS community participation model on at least one of the islands
EU	Global Climate Change Alliance: Pacific Small Island States (SPC-GCCA:PSIS)	SPC NIWA WHO SPREP	2011-2014		Country strategy	Support to tackle the adverse effects of CC. Development of CC Strategy, the KJIP, and a CC Adaptation Implementation activity in the health sector. Monitor and respond to vector-borne diseases. The USP-EU GCCA project addressed the challenges of CC through capacity building, community engagement and applied research.
Government of Finland	Finnish-Pacific Project to Reduce Vulnerability of PIC livelihoods to the effects of CC (FINPAC)	SPREP	2012-2015	USD 3.2M		Develop capacity of villages, EWS and improved dialogue between disaster managers and NMSs.
UNICEF	UNICEFs Pacific's Health Sanitation programme	SPC	2008-2012			Provide water supply and sanitation infrastructure in primary school and households near schools and hygiene promotion.

German Federal Ministry for Economic Cooperation and Development (BMZ)	SPC/GIZ Coping with CC in the Pacific Island Regional (CCCPIR)	SPC, GIZ	2010-2018		Regional and national steering committees and planning meetings	Support the development and roll out of the Whole of Island Approach.
EU	Improved Drinking Water Supply for Kiritimati Island	SPC	2013-2018	EUR 4,836,430		
EU	Kiribati Water and Sanitation in Outer Islands, Kiriwatsan Phase I and II	UNICEF, SPC	Phase I 2011-2014 Phase II 2014-2018	EUR 4,455,320 EUR 4,390,710 EUR 3,950,000		Increase access to safe and sustainable water and sanitation and to reduce water, sanitation and hygiene (WASH)-related diseases in at least 70 of 142 villages in the 16 islands of the Gilbert group
NZMFAT	PF 4-437 Kiribati WASH in Schools (KWIS)	UNICEF?	2014-2018	USD 942,849		36 schools in four outer islands, North Tarawa, Abaiang, Maiana, and Marakei, Trial and implement options for safe drinking water and sanitation facilities in those schools, targeting children as agents of change for the reduction of open defecation (see Box L)

(b) Gaps, opportunities and implications for MFAT

As highlighted above, MFED has increased the amount of information available on their website, including project evaluations and academic research. Enhancing the capacity internally for information and knowledge management is vital to support this process going forward. Ensuring there are staff within the OB and/or MFED who can mentor others, and demonstrate the value of good information and knowledge management systems, could benefit all internal and externally funded projects in Kiribati.

Most climate change and disaster risk management projects involve the collection of data and information. There is often significant duplication in the collection of information, and a lack of consolidation of this information once collected. Projects that involve the collection of data and statistics should involve the National Statistics Office at the outset, and should be required to provide data and information collected as part of the project, for subsequent use by the Government and other partners. MFAT should ensure that this is happening as part of all the projects it supports. To support the implementation of projects on outer islands, island profiles should be updated, including incorporating information gathered from recent projects.

As part of an institutional review of roles and responsibilities, barriers to information sharing should be identified. Barriers are often multi-faceted and can involve issues of power, authority and institutional mandates. Developing guidelines on information management to support resilient development could be coordinated by the Kiribati National Expert Group. Additional staff resources in the National Statistics Office, and in the Ministry for Internal Affairs, could make it possible to strengthen and update evidence base to inform the design of larger scale projects in the coming years, and support the institutionalisation of data provision to these ministries by other

government ministries. These positions should be sufficiently senior, to ensure the staff have the negotiating power to deal with the dynamics of information sharing.

BOX L

Success eliminating open defecation in Kiribati

Kiribati has one of the highest rates of under-5 mortality in the Pacific region, at 47 deaths per 1000 live births. This is mainly due to diarrhoeal disease, caused by inadequate access to safe drinking-water and sanitation. In the outer islands, nearly 50% of the rural population – and on some islands more than 70% of the population – practise open defecation. In densely-populated South Tarawa, very shallow water lenses are highly vulnerable to contamination.

The lack of sanitation in Kiribati has been described as being at “crisis levels” in terms of the risk it poses to public health and scarce water resources. The Ministry of Public Works and Utilities (MPWU) together with Ministry of Health and Medical Services, Island Councils, UNICEF, and other national WASH sector partners piloted a radically different approach to mobilizing communities to stop open defecation, without offering up-front hardware subsidies. Trained facilitators used tools from community-led total sanitation (CLTS) to support communities in North Tarawa to map their sanitation and drinking-water facilities and develop plans for eliminating open defecation. The success in North Tarawa led MPWU and UNICEF to a roll out to the Gilbert Islands, using funding from the European Union and the Government of Kiribati. One year later, more than 70 communities on six outer islands had declared themselves free of open defecation. These declarations require continuous community commitment, monitoring and verification.

The President of Kiribati and Cabinet committed to achieving an “Open Defecation Free Kiribati” by 2015, using CLTS to increase sanitation coverage in line with the National Sanitation Policy. Once open defecation is eliminated using the CLTS approach, households will have to upgrade shallow pit latrines and composting toilets with guidance on location so that drinking-water quality is not compromised. This will require long-term commitment and community ownership that enables households to afford safe technologies. Participatory mapping during community mobilization can be an entry point for identifying and discussing health risks from open defecation, poorly built latrines, pigs and household waste. Most communities are familiar with managing these risks, for example by drinking only rainwater or boiling well water prior to drinking. Additional support to develop a comprehensive risk management framework should follow once Kiribati is free of open defecation. Sources: Ministry of Health and Medical Services working documents; JMP 2014; Kiribati National Census, 2010; Monitoring Reports: Water and Sanitation in Kiribati Outer Islands – Phase I, Delegation of the European Union for the Pacific.

Kiribati has considerable experience implementing adaptation programmes – and with that experience comes the opportunity for a large amount of learning. MFAT could usefully support the Government of Kiribati to pull together some of this learning to inform all future programmes that are working to support resilient development. The research conducted as part of this review could provide a starting point for discussions. Reviews conducted to strengthen public financial management processes have been open and candid about weaknesses within partner systems, as well as in the

Government's own systems. Such openness about strengths and weaknesses relating to climate change adaptation experiences would be valuable, not only to inform future work in Kiribati but throughout the region.

Key Opportunities for MFAT:

- Strengthen information and knowledge management systems by supporting institutional reviews of existing barriers and supplementing staff capacity internally, including within the National Statistics Office, to support enhanced documentation and sharing;
- Identify and address technological barriers to information sharing, including upgrade the ICT infrastructure required to ensure the efficient and effective operation of information and knowledge management systems;
- Involve the National Statistics Office in the design of any programmes that will generate information to ensure sustainability of approaches used; and
- Evaluate, document and share lessons from adaptation experiences to date to inform future programme design.

11. Humanitarian actions for disaster prevention, response and recovery are effective

(a) Current responses

Kiribati's risks are mostly related to slow-onset events such as droughts and storm rather than cyclones or earthquakes. Seasonal king tides and long distance ocean swells do cause significant damage, with sea-level rise exacerbating their impacts. Kiribati is generally considered to be outside the cyclone belt but cyclone Pam in 2015 caused storm surges and significant damage to homes and other assets. The Kiribati Red Cross Society (KRCS) worked closely with island disaster management committees in the immediate response to the event. The National Society's disaster management officer led initial assessments. KRCS had emergency stocks, in place but these were exhausted within a few days.

The longer-term strategies in the KJIP generally relate to governance improvements within the national disaster committee, and to strengthening the links between national and local level disaster response. The IFRC are also working with the national societies to strengthen institutional and governance arrangements.

(b) Gaps, opportunities and implications for MFAT

Kiribati's dispersed islands means that there is greater imperative for local island councils and disaster management committees to have the capacities and knowledge to lead response efforts in coordination with national government. Increased decentralisation and capacities at the Island Council level will support these efforts. Strengthening governance mechanisms at national and sub-national level is needed (see Section 3).

NGOs play a crucial role in humanitarian response, and tend to have strong capacity for promoting socially inclusive responses, but often lack the resources needed to reach everyone. Providing additional resources to organisations like the Red Cross should be explored. Faith based organisations also play a crucial role. New Zealand's offer to

support mentoring of NGOs through partnerships with NZ based NGOs should be explored as a way to increase the role of NGOs in disaster preparedness and response.

Table 55

Projects relating to improving the effectiveness of humanitarian actions for disaster prevention, response and recovery

Development Agency	Main programmes	Implementing partners	Time-frame	Volume	Process to define priorities	Note of project
ADB	Kiribati Food Crisis Response Operation		2011-2012	USD2 million	Country strategy	Grant to contribute to GoK short term efforts to improve the availability and affordability of food and encourage the production of local agricultural production.
Japan, Global Facility for Disaster Reduction and Recovery (GFDRR)	Pacific Catastrophe Risk Financing Initiative: Phase 2	World Bank, SPC, ADB, AIR Worldwide (AIR), Geoscience Australia (GA), GNS Science (GNS), Pacific Disaster Center (PDC)	2010-2012	USD 1,439,146		Providing the Pacific Island Countries (PICs) with disaster risk assessment tools and financial instruments to reduce their vulnerability to natural disasters.
Regional Cooperation and Integration Fund (RCIF)	Regional Partnerships for Climate Change Adaptation and Disaster Preparedness	ADB, WB	2008-2010	1 Million USD		Strengthen the exposure database management in the eight Pacific countries. To also form a component of broader work on the feasibility of a catastrophe insurance facility.
DFAT	Pacific Enhanced Humanitarian Response Initiative (PEHRI)	CARE Australia, UNICEF, ActionAid Australia, Act for Peace, Australian Red Cross (ARC), Caritas Australia	2008-2011		HFA	Established disaster preparedness and response arrangements in over 500 communities across six countries.
DFAT	Humanitarian Partnership Agreement	CARE Australia, Caritas Australia, Oxfam, Plan International, Save the Children, World Vision	2015-19		HFA	Established disaster preparedness and response arrangements in over 500 communities across six countries.
DFAT	Partnership with	Australian Red		AUD 28.3m		

	the Australian Red Cross	Cross				
EU	Building Safe and Resilient Pacific (BSRP)	SPC		EUR 19M	Country plans	
Germany (KfW)	Cyclone Pam Long Term Recovery	SPC		EUR 6m	Project proposal by SPC	
USAID	Cyclone Pam Response	IFRC		USD 50,000		

Personnel engaged in humanitarian efforts should receive compulsory training in human rights based approaches to humanitarian crises.

Key Opportunities for MFAT:

- Strengthen national governance mechanisms and networks for coordinating response efforts;
- Provide additional resources to NGOs as key partners in humanitarian response;
 - Engage faith based organisation as key partners in humanitarian actions for disaster prevention, response and recovery; and
 - Ensure that all partners engaged in disaster response receive compulsory training in human rights, gender and socially inclusive responses.

12. Strong coordination and cooperation

(a) Current Responses

Development cooperation has played a vital part in the development of Kiribati since independence in 1979. But here are few donors in Kiribati. Australia, Japan and New Zealand provided approximately 84% of gross ODA flowing in to Kiribati in 2013. In addition to these three, only IDA, the EU institutions and the ADB Special Funds provided more than USD 1 million each (2012-13 average) (OECD, 2015).

As a result of the few active development partners there is an appropriate division of labour. This is largely agreed on an informal basis between partners, and with government, now aided by the new Development Cooperation Policy (Government of Kiribati, 2015). The new KDP (2016-2019) provides development partners with an opportunity to reinforce ownership and alignment, reduce transaction costs for the Government of Kiribati, and improve coordination.

In addition, key development partners such as Australia and New Zealand, are well harmonised and complementary in their approaches. For example, there are joint health sector reviews, joined up scholarship programmes, and harmonised budget support with the multilateral organisations. However, development partners with a staff presence in Kiribati report challenges in co-ordinating with those without a permanent staff presence. At sector level, with the odd exception, working groups and co-ordination mechanisms do not operate effectively. Partners could do more to support government to revive these mechanisms, and reinforce government ownership and leadership (e.g. fewer projects and more programme-based approaches). Furthermore, the NEPO in the

Ministry of Finance has limited capacity, yet has to deal with increasing mission numbers (OECD, 2015).

While aid volumes have been increasing in recent years, improving aid effectiveness to deliver expected results remains a key challenge. There is a need for continuous reform to ensure that best practice is applied in use of aid funds from development partners in an environment of mutual understanding. The Government of Kiribati has expressed its commitment to aid effectiveness at various international forums (Government of Kiribati, 2015).

In the past, constraints have occurred with the effective adoption of the Principles of the Paris Declaration due to the limited capacity of Ministries as well as a lack of knowledge of the issues. These constraints included (Government of Kiribati, 2015):

- Poor planning in identifying government priorities and formulation of programmes;
- Poor and weak Financial Information Management Systems which have inhibited the proper recording of financial information;
- Poor linkages of the recurrent and development budgets with the KDP, sector plans and Ministries' Strategic Plans;
- Lack of absorptive capacity in the utilisation of aid funds. Although there have been improvements in the process of aligning development cooperation with the country's priorities and systems, there are mixed results when it comes to implementation. A lack of human resources to implement ongoing programmes is one of the causes;
- Lack of consultation in the initial design and planning stage of the project often resulting in conflicting outcomes between line ministries or GOK and overseas institutions;
- Strict timelines and avoidance of the use of local systems by donors. This requires a need to harmonise donor processes and programming of their missions;
- Donor driven programmes. Aid effectiveness can only be realised if the ownership of aid funded projects lies with the recipient government;
- The small size of many projects has caused fragmentation with high transaction costs and additional burdens for both the Government and the development partners;
- Poor monitoring, evaluation and reporting of development projects;
- Issues in delivery and disbursement of funds causing delays in implementing programmes; and
- Incomplete and often inaccurate data on aid flows.

In addition, various development cooperation international forums and peer group reports have stressed the need for a development cooperation policy. As a result, the Government of Kiribati has prepared and approved a Development Cooperation Policy (Government of Kiribati, 2015). It is based on a new agenda for aid effectiveness. Objectives of the policy are:

- To help achieve the development goals stated in the KDP through the mobilisation of external resources;
- To achieve aid effectiveness through strengthened governance and management of aid, strengthened partnerships in the coordination and delivery of aid, and by ensuring the accountability of aid in achieving sustainable development results; and
- To maximise the impacts of development resources on the wellbeing of I-Kiribati by achieving medium and long term development cooperation commitment.

Kiribati is now taking a whole of government, sector-wide approach in the monitoring and coordination of overseas development assistance and programs – right from the planning or design stage through to implementation. The intention is for lead ministries to collaborate with other sector stakeholders (ministries, NGOs, private sector and civil society representatives) as well as representatives of development partners in developing national sector (rather than individual ministry) projects, including implementation. The National Planning Office of MFED is responsible for scrutinizing and appraising the project proposals, ensuring that they are in line with the development priorities stated in the current KDP, before tabling them with the Development Coordinating Committee for further review and recommendations for Cabinet’s approval.

The Development Coordinating Committee is thus the main coordinating body at head of Ministry level for KDP implementation. The leadership and efforts by the current Cabinet Secretary to strengthen this role of the Committee was noted. However, the agenda remains crowded, and more time should be set aside for regular and detailed discussion on KDP implementation. The Secretary of the Ministry of Finance and Economic Development chairs the KDP Task Force, with NEPO as the secretariat, as party of its wider aid coordination role.

A strong, functional KDP Task Force is important for the ongoing coordinated implementation, monitoring and reporting of the KDP, particularly where cross-cutting issues are concerned. Through working groups established to manage projects, coordinate implementation of Multilateral Environment Agreements and its Strategic Plan, MELAD has coordinated implementation of the KDP through the Kiribati Integrated Environment Policy (Government of Kiribati, 2014).

The Mid-Term Review of the KDP (Government of Kiribati, 2014) noted that coordination with donors takes place on several fronts, including through Biannual Strategic Planning with United Nations agencies, a Development Partners’ Forum every two years and annual dialogues with Australia and New Zealand. These meetings are highly consultative and are linked to the KDP. Reports and presentations at the Forum are on the Ministry of Finance and Economic Development website. Discussions with Australia and New Zealand representatives in Kiribati confirm that the KDP has been a useful document to identify entry points for development cooperation and assistance.

At the sector level, the Ministries of Education and Environment appear to have effective development cooperation mechanisms which cover implementation of their Strategic Plans and KDP related goals. Education Partners in Kiribati is a strategy for the Ministry of Education to manage development partners’ support for education in Kiribati. The aim of strategy is to provide an operational framework in which all partners are included, with their support coordinated for achievement of Kiribati’s national goals for education.

While formal mechanisms are in place, greater degree of informal and regular contact between NEPO and Ministries with significant expenditure projects/ programmes, and with development partners is necessary. This will improve understanding of challenges and constraints, and facilitate collective efforts to find solutions in good time.

The National Adaptation Steering Committee is responsible to coordinating responses to the impacts of climate change. It is under the OB, with the KAP Project Management Unit acting as Secretariat for the Steering Committee. The Committee oversees the joint work programme for the NAPA and the KAP. The existing NAPA team became the Climate Change Study Team, the technical team for the unified programme, reporting to the

Steering Committee. The NAPA Management Unit of MELAD has been acting as the Secretariat for the Climate Change Study Team. Thus two separate project management units exist, with the OB having responsibility for the overall supervision of the unified climate work. Part of the mandate of the Strategic Risk Management Unit within the OB is to develop and coordinate the national policy on climate change, including the coordination of implementation at the broad national level.

The National Framework on Climate Change and Climate Change Adaptation outlines the broad functions of the Strategic Risk Management Unit and provides national guidance on a coordinated response to addressing the issue of climate change. The KJIP was developed to coordinate priorities so that investments to reduce the vulnerabilities to the impacts of climate change and disaster risks and be both effective and efficient.

The Government of Kiribati will also initiate measures to improve donor collaboration on climate change adaptation programming, and will establish the mechanisms for improved coordination amongst government agencies in the design and implementation of priority adaptation programs and projects as defined under the KJIP and community-based adaptation plans. A priority of the Government of Kiribati is to establish the Climate Change and Disaster Risk Management Unit in the OB, working in collaboration with the Department of Environment. It will be the gatekeeper, coordinator and entry point for climate change programming engagement with all development partners. The OB and the Department of Environment will thus ensure that international climate change programming supports the implementation of the KJIP and community-based adaptation plans.

Because of Kiribati's geographical situation lying close to the equator, cyclones are not normally a problem. Neither are tsunamis as normally these do not affect coral atolls. However, king tides combined with high winds and heavy rain can cause much destruction and erosion on the islands. Drought, particularly during La Nina events, can occur on some islands. Other potential problems are epidemics, maritime disaster (such as oil spills), fire and aircraft accidents. Humanitarian aid will be mobilised to respond to such incidences.

The Government, through its National Disaster Risk Management Council, works closely with aid providers during the phases of preparation, reconstruction, and rehabilitation to prevent, mitigate, and respond to crises. Responses to identified humanitarian emergencies may come from a range of organisations including governments, the United Nations system (in particular UNOCHA), and international and local NGOs (including the Kiribati Red Cross Society and International Federation of Red Cross and Red Crescent Societies). The National Emergency Operations Centre, the central command and control facility responsible for carrying out the principles of disaster management functions, coordinates all response actions including the deployment of specialised humanitarian personnel and materials to support the provincial disaster committee's efforts on the ground.

New Zealand shows strong commitment to the principles of effective development co-operation in Kiribati. The programme is well aligned with government priorities; it is predictable, with medium-term spending plans; and New Zealand is part of an informal division of labour among the few development partners operating in Kiribati, while seeking opportunities to work jointly with other partners in sectors and programmes (e.g. health sector and scholarships programming). As the third largest provider of development assistance in Kiribati, New Zealand is showing good leadership and responsibility in supporting co-ordination among partners, in line with government priorities (OECD, 2015).

(b) Gaps, opportunities and implications for MFAT

Most national policies and strategies, such as the KAP, NAP and KJIP, emphasise the importance of engaging the widest possible circle of stakeholders, including NGOs, CSOs and the private sector, in order to achieve their environmental objectives. The Kiribati Government is supporting NGOs and CBOs in the elaboration of national strategies and plans. However, with a focus on top-down adaptation mainstreaming, the current national implementation mechanism has not ensured the greater synergy in the implementation, of community-based adaptation and climate resilience programmes. There is poor alignment with national strategies and planning frameworks, making it difficult to effectively leverage the potential CSO and village communities' perspectives and engagement.

The Government of Kiribati is committed to community-based vulnerability mapping, to adaptation planning and to a management approach which is underpinned by improved access to financing for community-based resilience-building projects. These initiatives are to be undertaken on a whole of island basis that will build capacity in vulnerable villages for small scale localised adaptation actions which represents a critical contribution to the implementation and achievement of national climate change and DRM policies and strategies.

The Government of Kiribati intends to establish the institutional structures and strengthen capacities at the community level in order to support the country-wide implementation of community-based vulnerability mapping and adaptation planning, and the community-based design and implementation of priority resilience measures through improved access to financing for such measures. By fostering broader community engagement and ownership in building climate resilience at the local level, it is anticipated that long-term support will be sustained for priority adaptation interventions that address the basis needs of vulnerable villages and segments of society.

New Zealand can help Kiribati in practical ways to improve its ability to coordinate donor activities, and lead sector coordination, including with managing climate and disaster risks in the context of resilient development. Such initiatives will improve the efficiency and effectiveness of all aid efforts. New Zealand can continue supporting Kiribati in leadership and ownership of priorities for New Zealand's aid, and support the Government of Kiribati in improving its monitoring of donor activities, including through the use of Kiribati's systems wherever possible.

NZ can continue supporting capacity building for contracting and public financial management reform, noting the government's preference for building procurement capacity. NZ can also work alongside the government and other donors to improve coordination in the WASH sector, building on the sector design prepared by the Government of Kiribati and other development partners, notably NZ, Australia, ADB and the WB. Effort should be made to ensure this sector design contributes to the overall resilient development of Kiribati.

Kiribati is a good illustration of the development challenges in the Pacific. But there are also positive stories about the impact of New Zealand's development co-operation over time, including in relation to managing climate and disaster risks. It is therefore a missed opportunity that communication materials are not being routinely requested or taken up from the Kiribati country programme, to assist with raising development awareness and support in New Zealand (OECD, 2015).

Key Opportunities for MFAT:

- Revives and improve the functioning and effectiveness of sector working groups and co-ordination mechanisms, including ensuring that climate and disaster risks are considered in the context of resilient development. Support government to revive these mechanisms, and to reinforce government ownership and leadership;
- Strengthen Financial Information Management Systems, including their ability to properly record of information related to climate and disaster finance;
- Support the establishment and effective operation of the Climate Change and Disaster Risk Management Unit in the OB, including its ability to work in close collaboration with the Department of Environment.;
- Support the Government of Kiribati to undertake community-based vulnerability mapping and adaptation planning and to improve access to financing for community-based resilience-building projects;
- Support the Government of Kiribati in practical ways to improve its ability to coordinate donor activities, and lead sector coordination, including with managing climate and disaster risks in the context of resilient development;
- Support efforts to increase the accountability of aid in achieving measureable reductions in climate and disaster risk indicators; and
- Under MFAT's GCF Technical Assistance for Pacific Access Programme, and within the Pacific Resilience Partnership, assist Kiribati to maximise, coordinate and make effective use of climate finance opportunities.

5.3 Next Steps

Working Paper 3 brings together the broader as well as Kiribati-specific findings in this Working Paper, as well as other findings in Working Papers 1 and 2. These are used to identify strategic resilient development investment opportunities for MFAT.

In addition, Working Paper 6 (Hay et al., 2016) provides the rationale for, and details of proposed priority investments in resilient development, climate change adaptation and disaster risk management as part of New Zealand's development assistance to Kiribati.

6. Lessons Learned, Success Factors and Sharing Experiences

6.1 Lessons learned and success factors

This section outlines some key lessons and success factors identified while undertaking the research for the current report as well as for Manley et al., 2016.

The need to build on existing mechanisms and relationships

Understanding the context is a vital component of being able to effect change and greater use of existing institutional arrangements and partnerships, where appropriate, such as those with NIWA, the Meteorological Services and NGOs can improve the effectiveness and sustainability of programmes. Similarly, embedded advisers and secondments to partner governments are opportunities and entry points for the consideration of risk across the broader development agenda.

The importance of strong governance and institutional mechanisms

Investing in governance mechanisms should be sustained where there is evidence of their usefulness; this particularly applies to local level governance mechanisms such as island councils and community governance structures. Modest funding, that is predictable over the longer term, can support sustainability.

The importance of investing time and other resources to develop and sustain partnerships and coordination mechanisms

Considerable investment of time and other resources is required to develop and sustain partnerships and coordination mechanisms, but they are usually critical to achieving outcomes and longer-term results; the PRIF, the EU/NZ partnership and the Pacific Energy Summit and Conference are excellent examples.

The need to engage local non-governmental organisations as key partners and invest in their capacity to support resilient development

NGO partners with long established relationships with local governments and communities should be involved more widely in programme design and implementation. The use of regional institutions in implementing community-based initiatives is unlikely to be effective or efficient unless partners who are able to support the community once the project ends are also involved. Trusted local actors that understand the local context, including the underlying drivers of vulnerability, are a vital partner in providing targeted support and can help sustain interventions over the longer term. Building NGOs into project design and investing in their capacity is critical.

The need to promote gender and social inclusion as a core part of resilience

Three principles that underpin the recently endorsed FRDP are of relevance here, namely:

Protect human rights, such as the right to life, safety, dignity, non-discrimination, and access to basic necessities, to ensure that every person has equitable access to humanitarian and development assistance, according to his or her specific needs;

Prioritise the needs and respect the rights of the most vulnerable, including but not limited to women, persons with disabilities, children, youth and older

persons, and facilitate their effective participation in planning and implementation of all activities;

Integrate gender considerations, advocate and support equitable participation of men and women in the planning and implementation of all activities.

The need to underpin prioritisation and decision-making processes with sound social, economic and environmental analysis, robust science and transparent and inclusive processes

Strategic political decisions are of necessity taken at the top, but design and implementation decisions should be taken at the lowest possible level of public authority, closest to the population concerned, and with full consideration of robust evidence and involvement of all stakeholders. There is thus a need to balance top-down and bottom-up processes. Decision makers often lack information on criteria for prioritising climate and disaster resilient responses; this includes information on the economic losses incurred by climate change and natural hazard events. Flexibility and adaptive management are key requirements; existing stand-alone, project-based approaches to adaptation planning largely fail to incorporate the adaptive planning that is required in order to accommodate the different timescales of climate change impacts.

The need to engage users in understanding their information and knowledge requirements and investing in information and knowledge management systems and accessibility

A priority action in the FRDP is to strengthen knowledge on the causes, local impacts and responses to climate change, hazards and disasters, and build capacity for local adaptation and other risk management measures, through formal and non-formal education systems, including for loss and damage. Understanding how users currently access information and knowledge and their preferred format for receiving it is critical to supporting the use of information and knowledge in decision-making. Traditional knowledge should be valued alongside scientific knowledge. There is a need for more predictable, long-term funding for both the Pacific Climate Change Portal and the Disaster Risk Reduction Projects Portal, as well as improved coordination and integration of their operations.

The need to link the climate change finance, public financial management and aid effectiveness agendas

There are strong links between these agendas. Bringing them together will help to reinforce each other and avoid duplication and conflicts.

The need to include climate change and resilience considerations in policy and planning, as well as in aid coordination and tracking mechanisms

The increased resilience of development outcomes can be achieved by the systematic inclusion of climate- and disaster-risk considerations in existing development planning and decision-making processes, in a “development first” approach. This involves working from within existing policy and aid management systems and adjusting them to take risk into account where necessary.

The importance of integrating resilience principles throughout programming

Adapt development planning and processes, where needed, and provide training support to ensure development practitioners understand the reasons why it is important to increase the resilience of development outcomes.

The importance of using existing long-term partnerships as the basis for capacity building initiatives

Coaching and mentoring can be as effective as formal training but need to be undertaken by trusted partners. Existing educational institutions such as USP and local tertiary and TVET institutions should be used to deliver formal capacity development where possible.

The importance of engaging stakeholders beyond climate change and disaster risk management

Transforming the development agenda requires reaching new people and new partners, particularly planners and decision makers, sub-national governments and NGOs.

6.2 Sharing Experiences

In terms of enhancing the resilience of development outcomes in the Pacific it is useful to also consider approaches used by countries in the Caribbean. Benefits occur as a result of knowledge sharing between countries, including through peer reviews. For example, UNDP's Pacific Centre coordinated a Pacific-Caribbean South-South project in the Pacific with support from the UNDP Caribbean Risk Management Initiative (CRMI) and UNDP's sub-regional Centre in Trinidad and Tobago. There were several regional partners involved. In the Pacific these were SOPAC, SPREP, other divisions of SPC, and USP. The South-South project provided a common platform for the regions to share their experiences with a range of exchanges between the regions. These include regional meetings and study tours in each region to exchange DRM operational practices and experiences.

However, an evaluation (Bennett and Jones, 2013) found that the project did not achieve its intended outcome. But the project did have some identifiable successes. The evaluation found that, most importantly, the project promoted relationships between the regional organisations upon which future cooperation could build, and confirmed the two regions can work together well for mutual benefit.

Caribbean countries and communities are facing increasing threats, similar to those in the Pacific Region. These include sea-level rise, more intense hurricanes, changing rainfall patterns, diminishing water availability, new health-related hazards, and adverse impacts on livelihoods, especially of the most vulnerable people. It is recognised that response efforts must link CCA and DRR strategies with development and poverty reduction, resulting in new linkages between disaster management and climate change in institutional contexts.

Since coping measures for climate variability and extremes already exist in the Caribbean, as in the Pacific, adaptation to future climate change focuses on identifying gaps in the current capacity for addressing present-day climate variability and extremes. Reducing vulnerability to near-term hazards is also considered to be an effective strategy for reducing long-term climate change risks.

Global warming and associated climate change, together with the consequent rise in sea levels, will lead to increase the economic and social vulnerability of Caribbean countries. The rationale for advocating greater investment in comprehensive and effective measures to address the impacts of a changing climate and reduce the region's vulnerability is that this approach builds the resilience of countries to respond in a

comprehensive manner to the economic, environmental, and social challenges that will accompany a changing climate.

The Caribbean Development Bank's 2009 Disaster Management Strategy and Operational Guidelines are an excellent example of regional stakeholder organisations mainstreaming an integrated approach into their operations. An important theme (Theme 3) of the Guidelines is harmonised donor interventions and in this regard the Caribbean Development Bank will seek to collaborate with the relevant institutions and offer proactive assistance for DRM and CCA work.

Many international development organisations, both governmental and non-governmental, that traditionally work in the Caribbean in DRM have adopted a similar integrated approach. This includes UNDP and the Red Cross.

7. Conclusions and Recommendations

The comparative advantages and limitations of the main development partners are summarised in Table 56. In keeping with the acknowledged importance of regional coordination, the Table indicates many opportunities for joint programming.

Table 56

Comparative Advantages and Limitations of the Main Development Partners

Development Partner	Comparative Advantage	Limitations
Australia	Climate change science. Partnerships with the national meteorological offices. Support for public financial management reform. Gender mainstreaming. Targeted capacity building, especially strengthening individual and institutional capacities	Largest donor in the region so is often seen to be driving the development agenda – sometimes alone. Domestic politics have a strong influence on the aid agenda. Fluctuating aid volumes in recent years, and changing priorities.
New Zealand	Flexible funding mechanisms. Expertise in disaster response and humanitarian assistance. Support for public financial management reform. Strong technical skills in renewable energy, agriculture and fisheries. Institutional strengthening at the local government level. Supporting the capacity development of NGOs.	Partner agreement processes, such as joint programming, could be improved, as could the mainstreaming of resilience and social inclusion within MFAT processes.
EU	Significant volume of funding available. Climate change and renewable energy high on political agenda, and likely to remain so. Climate change and gender mainstreamed within its own programmes. Desire to move towards budget support. Willingness to partner with others – particularly New Zealand.	Small presence in the region. Bureaucratic procedures and lengthy approval processes.
Germany	Flexible funding mechanisms. Partnerships. Mainstreaming climate change and disaster risk into the education sector.	Competing with local delivery partners. Monitoring, evaluation and reporting processes weak.
Japan	Expertise in disaster risk management and insurance mechanisms.	Limited information available on programming and evaluations to help strengthen donor coordination.
SPC	Technical skills in agriculture,	Weak financial management.

	fisheries, water, coastal zone management, climate change, disaster risks and health. Strong relationships with government counterparts.	Has struggled to mainstream climate change and disaster risk management and social inclusion effectively internally. Largest of the CROP agencies and sometimes reluctant to partner with others. Poor internal prioritisation mechanisms.
SPREP	Technical skills in environmental and biodiversity conservation, waste management, and coordination with meteorological services.	Strays into the mandate of others by implementing on the ground. Perfunctory monitoring and evaluation. Insufficient political priority given to its management of the Pacific Climate Change Portal.
PIFS	Access to the Leaders and to Forum Foreign and Economic Ministers. Convening power. High political profile. Lead role on climate change finance.	Limited capacity working on climate finance (though this will soon grow). Weak coordination mechanisms. Bureaucratic processes.
WB/ ADB	Public sector reform. Strengthened public financial management. Infrastructure development. Insurance. Ability to leverage large amounts of finance.	Reluctance to partner with smaller players or replicate good practices started by others.
UN agencies	Able to support countries to access GEF (UNDP) and other funding sources. Multi-disciplinary. Able to access expertise from a large staff body globally. Learning and communications.	Competing with each other and with local delivery partners. Inadequate partnerships between UN agencies.
NGOs	Strong socially inclusive and community oriented processes. Naturally take a development-first approach. Good access to local government and communities.	Institutional capacities sometimes weak. Government's sometimes reluctant to partner.

Several new initiatives related to climate finance have commenced, or are about to. MFAT should support the implementation of these existing programmes wherever possible, particularly in countries where MFAT is engaged in supporting public financial management reforms.

Of all of the priority themes identified, major gaps and opportunities exist in relation to localising adaptation and disaster risk management, addressing the underlying determinants of vulnerability, engaging the private sector, as well as supporting resilient development and a transformative approach to mainstreaming.

MFAT has experience in institutional strengthening at the local government level and in supporting the capacity development of NGOs as key partners in progressing the resilient development agenda. Lessons from these previous experiences should be utilised when planning future initiatives. A long term, but modest, commitment is needed to have a meaningful impact.

It is important to build capacity from within a sector, so that development interventions can better account for the risks and the opportunities of climate change. This involves building on existing partnerships and programmes, utilising existing institutional strengthening programmes within government – such as embedded fisheries advisers. Where necessary, additional embedded advisers should be used to build capacity to take risk into account as an integral part of all development processes.

Such initiatives will support a transformative approach to resilient development, and increase the resilience of hard won development gains.

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Annex A

Summary of Comments Made by NGOs

- An important advantage of working in the Pacific is the ability to influence governments, unlike in other regions;
- Pacific islanders are very resilient and resourceful. But there has been a big change in vulnerability in last 10 to 15 years, especially as a result of slow and rapid onset disasters;
- NGOs have been told they have too much focus on service delivery. Governments say they should focus on strengthening systems. The reality is a need for a more nuanced approach;
- There are many challenges and opportunities around the Pacific. What is the right approach – mainstream, targeted, resilience....? A diversity of approaches is best. It is important to always link development, humanitarian and vulnerability groups. In the Pacific vulnerability is more an issue than is poverty (relative to other regions). Partnership approaches are a way to making localisation work;
- Some NGOs believe the focus should be on building resilience. Vertical systems should include local government, communities and the private sector. The latter is very important, but not ultimately important – there is a need to be realistic. The private sector should support the informal economy, and see it as a strength, rather than trying to convert it to the formal sector. Thus strategies should be grounded on the private sector engaging with the informal sector. Need to focus on women’s groups and DRR, including WASH;
- Formalising the informal economy will leave people behind – so vulnerability and poverty increase. With respect to women’s economic empowerment, governments are overly influenced by donors, rather than by the communities. NGOs can help with this rebalancing;
- Development assistance needs to move on from economic diplomacy, aid for trade etc. There is concern about the focus of the Australian Aid Programme on economic development and the private sector (similar to MFAT). The mantra is that new infrastructure is needed everywhere – build roads, bridges etc, and economic growth will follow, pulling people out of poverty. The World Bank tried this in many countries in Africa, and failed. There is a need to take a broader approach;
- Economic growth in the Pacific should focus on the informal economy – markets, handicrafts, tourism and family owned transport, etc. These activities are not formalised into the national economy. But they sustain communities and families. ADB and the World Bank are overlooking this in the Pacific. Papua New Guinea, Kiribati and others lack a strategy on how to engage with the informal sector;
- In the Pacific there has been too much emphasis on building national systems to address climate change – these are not going to be effective. Vertical integration is lacking. National government systems lack the ability to create change on the ground. There is a need to build systems vertically. A good practice example is community development planning in Tonga. There island councils work with the Ministry of Finance etc to prepare plans, budgets etc. The approach is needs and strengths based, and is vertical and practical, combining both bottom up and top down;
- Development and humanitarian organisations should be rights based. Poverty makes people in the Pacific more vulnerable to climate and disaster risks as they have limited access to assistance;
- Emergency response includes women’s leadership. This highlights the need to shift power to local actors;

- When building relationships, there is a need to earn the right to be listened to, so that communities, governments, and other stakeholders can work together;
- Research in the Pacific should lead to more than just policy documents. For example, there is a need to start from the evidence base, to decide whether to plan for moving people or continue with current responses, even though many of these are band aid solutions. Thus there is a need to know, for example, where sea-level rise will impact – not all parts of an island or country will be similarly affected. Another important challenge is drought, which also requires a stronger evidence base;
- Examples of targeted support for DRR include a DRM plan for a community – but this still needs to be in context of, for example, livelihoods approach. Without this, it is difficult to be effective. Hence it is not really DRR, but simply RR – resilience and risk;
- With respect to the quality of climate finance projects, a real issue is that funds are not reaching the most poor or most vulnerable. This needs to be addressed. There is also a need for new and additional funding for climate change, not just normal overseas development assistance;
- For Kiribati, access is a key problem. There is a large number of projects in Tarawa. But it is much more challenging to deliver projects in the outer islands. This is similar for the outer islands in other countries (e.g. Tonga and Tokelau). NGO partners can help to address the problems of delivering assistance in the outer islands of countries and territories;
- The “Grand Bargain” is the name for a package of reforms to humanitarian funding, launched at the World Humanitarian Summit. Thirty representatives of donors and aid agencies produced 51 “commitments” to make emergency aid finance more efficient and effective. <https://www.irinnews.org/analysis/2016/05/24/grand-bargain-big-deal>
- Charter4Change is an initiative led by both national and international NGOs, to practically implement changes to the way the humanitarian system operates to enable more locally-led response. <https://charter4change.org>
- One of the major stumbling blocks for INGO coordination is MFAT's competitive funding approach plus the need to cover support costs. There is considerable work and expectation-building to develop the proposals, often to only have them turned down for questionable reasons. It is also a struggle to develop joint applications due to the need to split the cost-recovery; and
- With respect to DFAT, there are two areas that are very murky:
 - role of private sector in development – there is too much reliance on the belief that economic development will pull people out of poverty. While GDP may increase, there is inequality in where the benefits are felt, leading to an increase in poverty and vulnerability; and
 - innovation – the concept is poorly defined; good activities are discontinued when they are no longer considered to be innovative; innovation should not just be focussed on technology; it should be contextualised. For Australia, the innovation focus is on the private sector; for example, for P&O cruises to Vanuatu, the villagers entertain the tourists; toilets are built, but only for use by tourists, not for the locals. There is a need realism and smart approaches.

Key messages of relevance to MFAT work include:

- Need a strengths-based approach to development;
- The strategic focus needs to be a holistic approach to resilience;
- It is important to bridge DRR and humanitarian considerations - all NGOs are working in both areas;

- DRR and CCA need to be integrated or mainstreamed across sectors and become business as usual;
- There is a place for targeted interventions to start building capacity – for example, build the capacity of ministries (Education in the case of Save the Children) as well as the NGOs who could provide preparation/response support;
- Community participation and ownership is critical to achieving sustainability, while also recognising that time constraints are an issue for communities. They need technical and financial resource support, including development of livelihood opportunities;
- Improve the ways in which cross-cutting issues such as disability, gender and child safety are addressed;
- It is preferable that the NGO sector not need to compete against each other for MFAT funding - some sort of bilateral approach for Kiribati and Tuvalu would be helpful; and
- INGOs have different strengths. There is more than enough to do to keep everyone busy.