

CLIMATE INVESTMENT FUNDS

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Agenda Item 4

SUPPLEMENTARY REPORT OF THE PPCR EXPERT GROUP

(Prepared by the PPCR Expert Group)

Introduction

In response to the request by the Sub-Committee, the Expert Group has produced the following report on the selection of countries to participate in the program for the South Pacific Region. The report is an addendum to the earlier report circulated (Supplementary Report by the PPCR Expert Group, PPCR/SC.3/3).

Supplementary Report of the Expert Group to the Sub-Committee for the Pilot Program on Climate Resilience: South Pacific Region Country Selection

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1. Background and Purposes

In November 2008 the Sub-Committee (SC) for the World Bank's Pilot Programme on Climate Resilience (PPCR) established an Expert Group (EG) to advise on the identification of countries for possible participation in the PPCR by January 20th 2009. Work began with the first conference call of the EG on November 25th. A report submitted to the SC identified ten countries or groups of countries likely to be at high risk from climate change, and in which the PPCR might be successfully piloted with a view to regional replication.

For countries included in the Pacific Region, the indicator analysis did not lead to a clear identification of a particular country or collection of countries for prioritizations. The EG therefore recommended one regional project in the Pacific Island Countries (PICs), but could not identify any particular subset of countries as part of such a regional initiative mainly due to the large diversity of countries' situation and lack of data.

Following the recommendation of the EG that regional programs be developed for the Caribbean and South Pacific regions, the PPCR SC requested the EG to undertake further analysis, in collaboration with the Multilateral Development Banks (MDBs) and relevant regional organizations, to recommend which cluster of countries should be included in each regional program.

To assist the PPCR EG in this work, the World Bank CIF Administrative Unit, working with the MDB Committee, has been requested to prepare further guidance to clarify:

- (a) The proposed objectives, organization and modalities of regional programs;
- (b) Indicate what kinds of activities or program components could best be undertaken at the regional level;
- (c) What kinds of activities and program components would be better suited to implementation at the country level; and
- (d) What would be the benefits, synergies and potential lessons to be learned from a regional approach.

The Guidance Note clearly requests to identify two types of activities, regional and country pilots, if appropriate. To respond to the above request, this short proposal for the consideration of the SC identifies two set of activities to be included in the regional program for the South Pacific.

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This is largely based, in parallel with our own analysis, on an examination of the Pacific Islands Region Climate Change Implementation Plan (CCIP) prepared by the Pacific Regional Department of the ADB, and supplemented with direct and personal consultations with ADB Professional Staff and consultants². Further, the proposal provides a rationale for the choice based on the available evidences and advice, and suggests possible institutional arrangements for regional cooperation and delivery and management of the funds available through the PPCR.

2. List of Countries in the South Pacific Region

In the analysis, the same countries of the region are taken. They are: *Cook Islands, Federated States of Micronesia, Fiji Islands, Kiribati, Marshall Islands, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Timor Leste, Tonga, Tuvalu and Vanuatu.*

Although the Guidance Note uses “South Pacific” to identify the target region, we took the same set of the countries analyzed in the previous report for the purpose of consistency. The conditions of these countries are listed in Table 1.

Country	Areas(km ²)	Population (2007)
Cook Islands	237	20,200
Federated States of Micronesia	702	108,000
Fiji	18,270	834,000
Kiribati	811	95,500
Marshall Islands	181	52,300
Nauru	21	8,800
Niue	260	1,400
Palau	458	20,200
Papua New Guinea	462,840	6,331,000
Samoa	2,944	180,000
Solomon Islands	28,450	501,200
Timor-Leste	15,000	1,047,600
Tonga	748	101,400
Tuvalu	26	9,800
Vanuatu	12,200	229,400

² Acknowledging the productive inputs from conversations with some of ADB Senior Professional Staff: Edy Brotoisworo (Pacific Department), Daniele Ponzi and David McCauley (Regional Sustainability and Development Department) and John Hay (Consultant on the Pacific Region Climate Change Implementation Plan (CCIP))

Data ADB: Key Indicators for Asia and the Pacific 2008 U.S. CIA: The World Fact Book

Table 1: Countries comprising the South Pacific Region for purposes of the Analysis

3. Methodology

This supplementary report provides a more detailed analysis of climate change hazards, vulnerability and risks in the Pacific Region than was provided in the initial report of the EG. The procedure is classification of countries by their scales and step-by-step country elimination by applying the following criteria.

(i) The Regional Guidance Note states that participating countries in a regional pilot should share a similar range of climate risks (derived by a similar set of hazards, exposure levels and vulnerabilities) representing a corresponding set of *common risk and vulnerability profiles*. This would enable pilot activities to focus on building responses to climate threats that have high relevance to the pilot region/sub-region and to each participating country³, recognizing that activities in each participating country could vary to reflect, as necessary, its national circumstances.

(ii) The regional guidance note specifically mentioned that participating countries in a regional pilot should be able to eventually integrate climate resilience into development planning and sector policies, where relevant, and to promote scaling-up of actions and investments to achieve greater climate resilience. This entails preparedness on the part of the selected countries to participate in the PPCR in terms of national policies and programs that support climate change or climate sensitive developmental issues and the institutional capacities and human resources to implement such activities. Needless to say, such requirements imply the existence of stable and capable national systems of governance.

(iii) There should be opportunities to tie up with prior, existing or planned regional programs supported through MDBs or other development partners. This will contribute to greater sustainability beyond the timeframe of PPCR support and the possibility of replication.

4. Indicators for Risks and Vulnerability Profile

The first step of analysis needs to set up a common risk and vulnerability profiles. The main changes anticipated and their potential consequences include: increased variability and extremes in rainfall; greater frequency and intensity in tropical cyclones and increases in sea level. Therefore, in addition to the previous analysis, we explored new aspect.

4.1 Indicators used in the previous EG report

In the previous analysis, some of the indicators proved problematic as critical data were lacking for many states. Of the data that were available for a majority of the states in the Pacific region, the EG concluded that the following data were most relevant in the identification of risk and vulnerability profiles:

³ Furthermore, to not spread activities in a regional pilot too thinly, the number of countries in a pilot in general should be kept to a limited number (i.e. not exceed 3 to 5 countries; an exception might be in cases where countries are very small states).

- % of Population in Low Elevation Coastal Zones (normalised exposure to sea-level rise, LECZ)
- % population affected by climate related disasters (CDRIa)
- Adaptive capacity as indicated by HDI
- IDA Resource Allocation Index (response capacity / governance of recipients).
- Environmental Vulnerability Index (EVI), used as an additional indicator for this region in order to compensate for the lack of data for Pacific islands in many of the other indicators

4.2 Additional aspects

1) Increased variability of rainfall

For the South Pacific Region, it is generally anticipated that there will be a higher rainfall variability occurring in the future. Table 1 column (a) shows the percentage of change (Sources: Climate Risk Profiles, Country First National Comm. to UNFCCC) of annual rainfall. The larger the range of values of change indicate that the distribution became more widespread in time, more extremes - wet areas will become wetter, and dry areas dryer - leading to greater risks of drought and flooding which can affect agricultural systems, human habitat and the integrity of coastal ecosystems (from changes in salt water – fresh water balance and sedimentation from extreme flooding events). (see Appendix 1)

However the estimate of the future trend of rainfall to each country is still associated with large uncertainty. Given the small land areas and high dependency on rainfall and ground water even today, eventually the countries of the South Pacific all face the variability of rainfall.

2) Greater frequency and intensity of tropical cyclones

On a neutral El Niño/Southern Oscillation (ENSO) conditions, there are eight to ten average tropical cyclones that can be expected over the entire South Pacific region. In the South Pacific, tropical cyclones usually develop in the wet season, from November through April, but occasionally occur in October and May. Peak cyclone occurrence is usually from January to March. Figure 1 presents the annual number of tropical cyclones occurring in the South Pacific Region from 1969 to 2008 in a neutral ENSO conditions.

With climate change and increased sea surface temperature, the number and strength of typhoons, and potentially the area of the Pacific subject to typhoon risks, are expected to increase, leading to damage to coastal ecosystems and infrastructure (from storm surge, wave action and high winds) as well as flooding – with obvious adverse economic impacts from disruption of coastal economic activity (fisheries, transport, tourism) and the costs of replacing damaged structures. PICs particularly prone to tropical cyclone impacts include *Vanuatu, Tuvalu, Samoa, and Tonga*.

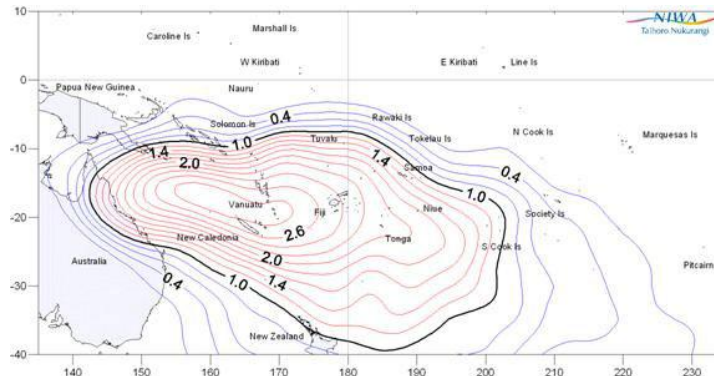


Figure 1: Average annual number of Tropical Cyclones, neutral-ENSO periods from 1969-70 to 2007-08 Frequency of tropical cyclones (Source: ...)

3) *Increases in sea level*

Low-elevation coastal zones (LECZ) – People in the LECZ in the Pacific is among the most vulnerable to increase in sea level and storm surges. Furthermore, in the long term, it is anticipated that "climate migrants" may need to move to higher or more productive ground – in some cases moving from one country to another. These countries are indicated by a high percentage of national population living in the LECZ for low to medium development PICs. PICs in this category include *Kiribati, Marshall Islands and Tuvalu* (see Table 2), having a percentage value higher than 90%.

Extreme Sea level Rise. Even more extreme high sea levels are evident if the mean hourly sea level data are considered. In Appendix Table 1 the return periods of such occurrences are presented for some PICs, for the current climate regimes and in the future climate change scenarios. Such exceptionally high sea levels are associated with flooding, accelerated coastal erosion and salt water intrusion into groundwater. Extreme high sea levels in the Pacific Region are evidently associated with El Niño events. PICs indicating such extremes include *Fiji, Kiribati, Marshall Islands, Samoa, Tonga, Tuvalu and Vanuatu*.

4) *Increase in acidity and sea surface temperature*

Changes in, acidity and sea surface temperature would affect the growth and health of corals and other organisms of coastal and marine ecosystems, especially those in estuaries and other nursing grounds and potentially affecting fisheries. Rising acidity of ocean water will inhibit the formation of calcium-based structures such as coral reefs, sea shells and even the minute structures of many zooplankton and the tolerances of phytoplankton. Rising ocean temperatures can likewise place strains on coastal and marine organisms, leading to "coral bleaching" among other impacts. Sea level rise strains coastal ecosystems and can lead to salt-water intrusion in freshwater aquifers, while further exacerbating damages to coastal zones from typhoons. Figure 2 below shows the current hotspots for potential coral bleaching. Areas appearing in the warmer zones include *Papua New Guinea, Solomon Islands, Timor Leste and Vanuatu*.

NOAA/NESDIS Current HotSpots, 3/16/2009

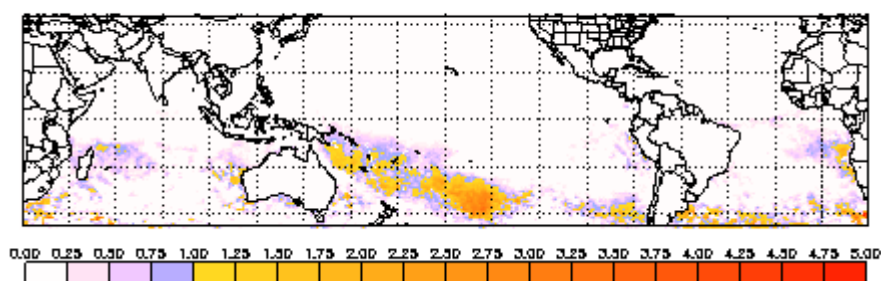


Figure 2: Current hotspots for potential coral bleaching Graph provided by NOAA satellite data and represents anomalies from mean sea-surface

4.3 New set of indicators

Combining the previous set of indicators and those explored in 4.2, we developed a new set of indicators for risk and vulnerability profile. They are:

- 1) Vulnerability to sea-level rise
 - % of Population in Low Elevation Coastal Zones (normalised exposure to sea-level rise, LECZ)
- 2) Risk of climate disasters
 - Average number of tropical cyclones that affect each country
 - % population affected by climate related disasters (CDRIa)
- 3) Impacts on marine ecosystem
 - Coral bleaching hotspot or not
- 4) Adaptive Capacity
 - Human Development Index (HDI)

The values of these indicators are listed in Table 2. As seen in Table 2, some countries lack the data to evaluate all the indicators. In the table, two additional indicators are also shown, only for reference.

- Environmental Vulnerability Index (EVI), as an overall index for the social and environmental vulnerability of the country.
- IDA Resource Allocation Index (response capacity / governance of recipients).

	Country	SLR	Climate Disasters		Ecosystem	Overall Vulnerability	HDI (2003/2006)	RAI
		LECZ (%pop)	Average number of trop cyclones	CDRIa	Marine ecosystem	EVI		
Group A	Cook Islands	42	0.4	-		Extreme	62/-	-
	Kiribati	100	-	83		Very high	129/-	3.07
	Marshall	100	-	9		High	121/-	-

	Islands							
	Nauru	42	-	-		Extreme	-/-	-
	Niue	15		-		Vulnerable	-/-	-
	Palau	51		0		High	-/-	-
	Tuvalu	99	1.4	-		Extreme	118/-	-
Group B	Fiji	18	2.6	135		High	92/103	-
	Micronesia	31	-	34		Extreme	120/-	-
	Papua New Guinea	3	-	23	Hot spot	At risk	137/149	3.32
	Samoa	24	1.4	152		High	74/96	3.88
	Solomon Islands	19	0.4	56	Hot spot	Vulnerable	128/134	2.73
	Timor-Leste	3	-	2	Hot spot	-	-/158	-
	Tonga	43	2.0	171		Extreme	54/85	3.03
	Vanuatu	5	2.6	108	Hot spot	Vulnerable	118/123	3.25

Table 2: Risk and vulnerability indicators for the Pacific Region

5. Classification of Countries and Risk Assessment

5.1 Classification of countries

The wide disparity among the countries in the region was one of the major difficulties that the EG faced in the previous analyses was. It is meaningless to judge which is more vulnerable, a small atoll country with population of 10,000 or large country where more but less % people would suffer from flooding and lack of water. Therefore, we propose to classify the countries into two groups which can share relatively similar scale. This allows us to set up a common risk and vulnerability profile on the different basis, which were requested by the Guidance Note of the SC. The criterion of the classification is population.

5.2 Assessment

(i) Group A Countries

Group A is a group of countries with less than 100,000 people, which represent those which has particularly limited resources for adaptation. As indicated in Table 2, this group includes *Cook Islands, Kiribati, Marshall Islands, Nauru, Niue, Palau, and Tuvalu*.

Group A countries share the following features.

- Extremely high vulnerability to climate change including sea-level rise, exacerbated storms, changes in rainfall.
- Extremely limited resources for adaptation
- Low ability to manage adaptation projects already invested
- Lack of data for quantitative analysis

Give such features, we recommend a **regional project for the Group A countries**. The impacts of sea-level rise and storm-surge induced flooding are the most dangerous impacts. By combining

SLR risk and overall vulnerability indicated by EVI, qualitative comparison identifies **Cook Islands, Kiribati and Tuvalu** as priority countries to be included in the regional project. However, other countries in this group can participate in the project as proposed later in the recommendations.

(ii) Group B Countries

Group B consists of relatively large countries. Therefore, we can apply the ordinary PPCR procedure to compare the countries' risk and vulnerability profiles. For the comparison of the countries, we assigned (3, 2, 1) scoring system to represent the risk and vulnerability for each of the four indicators as shown in Table 3. The results are shown in Table 4. For Timor-Leste, we could not find data appropriate for Risk of Climate Disasters.

Table 3: Proposed Risk and vulnerability scoring system

Vulnerability to SLR		Risk of Climate Disasters		Impacts on Marine Ecosystem		Adaptive Capacity (HDI ranking)	
Highest	3	Highest	3	Highest	3	Low (Lower 1/3)	3
High	2	High	2	High	2	Middle (Middle 1/3)	2
Considerable	1	Considerable	1	Considerable	1	High (Higher 1/3)	1

Table 4: Ordinary Ranking Based on the Proposed Scoring System

	Country	SLR	Climate Disasters	Eco system	HDI SCORE	TOTAL SCORE	Population	RAI
Group B	Fiji	2	3	2	2	9	834,000	-
	Micronesia	3	1	2	2	8	108,000	-
	Papua New Guinea	1	1	3	3	8	6,331,000	3.32
	Samoa	3	3	2	2	10	180,000	3.88
	Solomon Islands	2	1	3	3	9	501,200	2.73
	Timor-Leste	1	-	3	3	7+	1,047,600	-
	Tonga	3	3	2	2	10	101,400	3.03
	Vanuatu	1	3	3	3	10	229,400	3.25

The result of the ordinary ranking allows us to recommend the following three countries for **country pilots; Tonga, Samoa, and Vanuatu**. The total scores of these countries are 10 equally. Therefore it is difficult to prioritize countries among this group. This means that all the three countries should have their own country pilots in the PPCR.

Note that, even if we apply this scoring system, the difference of countries in Group B is quite small. This again proves that most of small island countries are vulnerable and need adaptation measures to address climate change impacts.

As added information, Appendix 2 summarizes the vulnerabilities of the Group B countries, the country preparedness in terms of national policies and programs, institutional capacities and Human Resources; and, examples of collaboration on climate sensitive development issues.

6. Final Recommendations

In consideration of the above analyses, we propose the following recommendations:

1) Countries recommended for country pilots

- Target countries: **TONGA, SAMOA and VANUATU**
- Activities: PPCR country projects

2) Countries recommended for regional pilot

- Target countries: Group A focusing on Cook Islands, Kiribati and Tuvalu as priority countries. Other countries can be invited to participate in the regional pilot.
- Proposed Activities:
 - (a) Coordination of existing or planned adaptation projects funded on bi- and multi lateral bases to identify the duplicated efforts and missing areas. The coordination should include strategic dialogue between the target countries and donor countries and organizations to integrate the existing projects into the development strategy.
 - (b) Development of tools and methodologies to assess vulnerability to, and impacts of, climate change and integration of climate resilience within development planning, including private sector activities;
 - (c) Provision of training (including training of trainers) with regard to application of such tools and vulnerability assessments and other capacity building efforts;
 - (d) Support to community-based approaches to adaptation

3) Institutional arrangements:

It is further proposed that the World Bank and the Asian Development Banks to directly manage funds and implement the PPCR country projects in the Pacific Region, in cooperation with national governments and their agencies which have the mandates related to the proposed country activities (e.g. Ministries of Environment, Agriculture or Disaster management).

The South Pacific Regional Environment Programme (SPREP), the Pacific Islands Applied Geoscience Commission (SOPAC) and the University of The South Pacific are the regional organizations which can help in the implementation and monitoring of regional activities when necessary.

These PPCR should be coordinated with the Climate Change Implementation Plan (CCIP) for the Pacific of ADB, because the approaches of both projects may overlap.

7. References

ADB, 2009: Climate Change Implementation Plan, for the Pacific

National Country Self Assessment (NCSA) Report: Cook Islands, 2005; Papua New Guinea, 2006; Timor Leste, 2007; Solomon Islands, 2007; Vanuatu, 2007

ADB Pacific Study Series: “Climate Risk Profiles”: Cook Islands, 2005; Fiji, 2006; Kiribati, 2004; RMI, 2004; Samoa, 2004; Tonga, 2008; Tuvalu, 2008; and, Vanuatu, 2008

Initial National Communications: Cook Islands, 1999; Fiji, 2005; RMI, 2000; Papua New Guinea, 2000; Samoa, 1999; Solomon Islands, 2001; Tonga, 2005; Tuvalu, 1999; and, Vanuatu, 1999

National Adaptation Plan of Actions (NAPA): Kiribati, 2007; Samoa, 2004; Tuvalu, 2007

Appendix 1: Indicators of Climate Change and Related Risks in the Pacific Island Countries

ISO3V10	Country	a) % Change in annual rainfall in2050	(b) Average number of trop cyclones (see Figure 1)	(c) Return period of Extreme Hourly Sea Level	(d) Population in LECZ %	Changes in acidity and sea surface temp (Figure 2)
COK	Cook Islands	- 0.1 to + 10.3	0.4	<u>At Rarotonga</u> By 2050: Best Guess 20 cm High Est. 40 cm SLR of at least 2 m associated with tropical cyclones has a return period of: Currently 2 years 2050 = 2 years but with higher likelihood of occurrence..	42	
FJI	Fiji	<u>At Nadi</u> - 8.2 to + 5.7	2.6	<u>At Lautoka</u> : SLR of at least 1.5m has the following return period Current = 29 years; by 2050 = 5.5. years By 2075 = 1.8 years	18	
KIR	Kiribati	+2.0 to +17.0	--	King Tides: - currently 15% of all high tides By 2090s: 29 - 76% of all high tides (possibly 96%)	100	
MHL	Marshall Islands	-	--	<u>At Majuro</u> : (SLR of at least 1.2 m, has return period of: Currently: 6 years; By 2050: 1.1 years.	100	
NRU	Nauru	+ 2.4 to +10.9	--	<u>At Apia</u> (at least 1.8 m) Current = 100 years; by 2025 = 4 years.	42	
PNG	Papua new Guinea	+ 2.2 to + 8.9	--	--	3	Hotspot
WSM	Samoa	+1.2	1.4	<u>At Apia</u> (ast least 1.8 m) Current = 100 years 2025 = 4 years.	24	
SLB	Solomon Islands	-0.4 to + 4.5	0.4	--	19	hotspot
TLS	Timor-Leste	-	-	--	3	hotspot
TON	Tonga	-9.8 to +4.8	2.0	<u>At Nuku'alof</u> : = (At least 2.2 m) Current = 580 years 2050 = 1.5 years	43	
TUV	Tuvalu	- 27.9 to + 6.3	1.4	<u>At Funafuti</u> : =(At least 3.7m) Current =136 years 2050 5 years	99	
VUT	Vanuatu	+0.6	2.6	<u>At Port Vila</u> : (At least 1.9 m) Current: = 136 years 2050 = 3.6 years	5	hotspot

Appendix 2: Additional Information

ISO3V10	Countries	Vulnerability to Climate Change	Country Preparedness (National policies and programs, institutional capacities and Human Resources)	Collaboration on climate sensitive dev't issues (Source: ADB's DPCC Matrix)
WSM	Samoa	<ol style="list-style-type: none"> 1. Instability of food production levels to meet higher demands 2. Adverse impacts on water quality and availability. 3. Loss of beaches, inundation and degradation of the coastal ecosystems. 4. Increased disaster risks of floods and droughts; human health impacts. <p>(Sources: Samoa National Adaptation Plan of Action, 2005; Samoa National Policy on Climate Change, 2007)</p>	<p>Samoa became party to the Paris Declaration on Aid effectiveness in March 2008. Better aid means allocating resources to policy priorities and plans to promote justice, stimulate economic growth and improving social welfare of the citizens of a country. Samoa works in collaboration with its more than 25 development partners in financing close to 150 active projects and is on track to achieve the Millennium Development Goals.</p>	<ol style="list-style-type: none"> 1. HYCOS -Hydrological Obs. System (EU) 2. Development of Sustainable Agriculture in the Pacific (EU) 3. Pacific Islands Climate Predictions Project (PICPP) - Phase 2 (AusAid) 4. South Pacific Sea Level & Climate Monitoring Project: Phase IV (AusAid) 5. Vulnerability and Adaptation Initiative (AusAid) 6. Vulnerability and Adaptation Initiative (AusAid) 7. - Building Disaster Response and Preparedness of Caritas partners in the Pacific (CARITAS) 8. Strengthening Humanitarian Emergency Response Management for Children & Women in the Pacific (UNICEF) 9. TA-7121 SAM: Preparing the Afu'ilo Environmental Enhancement Project (ADB) 10. TA/Loan: Sanitation and Drainage Project, Phase II (ADB)
TON	Tonga	<ol style="list-style-type: none"> 1. Increased threat to food security 2. Destruction of habitats / ecosystems of some marine species 3. Reduction in freshwater supply 4. Increased threats from disaster risks both for public safety and human health. <p>(Source: First National Communications to UNFCCC, 2005)</p>	<p>The Tonga Government's vision is to achieve sustained, sustainable and equitable economic growth, to provide the population with education, health and other basic services in an effective and efficient manner, to achieve better governance and to address the special needs of the least well-off, the more vulnerable, marginalized and disadvantaged groups in society. These goals have been integrated into SDP-8, which was formulated after extensive consultation and approved by the Cabinet in May 2006. SDP-8 sets out the Government's development vision, its eight medium-term national development goals, and specific strategies for achieving these goals. Quantitative and qualitative targets were set for each of these goals, including a budget deficit less than 2% of GDP, inflation below 7%, GDP growth in the 3–4% range and a reduction in the poverty headcount index below 23%.</p> <p>Source: ADB, 2007: CPS-Tonga (2007-2012)</p>	<ol style="list-style-type: none"> 1. Water supply projects under Grassroots program (JICA) 2. Development of Sustainable Agriculture in the Pacific (EU) 3. HYCOS -Hydrological Obs. System (EU) 4. Disaster Risk Reduction (EU) 5. Pacific Islands Climate Predictions Project (PICPP) - Phase 2 (AusAid) 6. South Pacific Sea Level & Climate Monitoring Project: Phase IV (AusAid) 7. Vulnerability and Adaptation Initiative (AusAid) 8. Vulnerability and Adaptation Initiative (AusAid) 9. National Action Plan (NAP) Implementation Facility (AusAid) 10. The Pacific Community Focused Integrated Disaster Risk Reduction Project (NCCA) 11. Climate Data Rescue (AusAid) 12. TA6496-REG: Regional Partnerships for Climate Change Adaptation and Disaster Preparedness (ADB) 13. Grant 0108-TON: Integrated Urban Development Sector Project, Phase II (ADB)
VUT	Vanuatu	<ol style="list-style-type: none"> 1. Threat to agricultural production and national food security. 2. Negative economic impacts due to floods and inundation 	<p>The Government of Vanuatu reaffirms its commitment to protect and manage the environment for the benefit of all its present and future citizens as enshrined in Article 7(d) of the</p>	<ol style="list-style-type: none"> 1. Water supply projects under Grassroots program (JICA) 2. Development of Sustainable Agriculture in the Pacific (EU) 3. HYCOS -Hydrological Obs. System (EU) 4. Reforestation

ISO3V10	Countries	Vulnerability to Climate Change	Country Preparedness (National policies and programs, institutional capacities and Human Resources)	Collaboration on climate sensitive dev't issues (Source: ADB's DPCC Matrix)
		<p>(Extreme rains and SLR) 3. Decreased suitability of conditions for human health and for ecosystems survival.</p> <p>(Source: First National Communications to UNFCCC, 1999)</p>	<p>Constitution. In particular, it will do its utmost to honor the obligations it took on when it joined the global movement and signed the Convention on Biological Diversity, the Convention to Combat Desertification and the Framework Convention on Climate Change. The goal of the present Government is to raise the welfare of the people of Vanuatu.</p> <p>Source: Vanuatu National Capacity Self Assessment, 2006)</p>	<p>5. Budget support under the GCCA (EU) 6. Pacific Islands Climate Predictions Project - Phase 2 (AusAid) 7. South Pacific Sea Level & Climate Monitoring Project: Phase IV (AusAid) 8. Vulnerability and Adaptation Initiative (AusAid) 9. Building Disaster Response and Preparedness of Caritas partners in the Pacific (CARITAS) 10. Strengthening Humanitarian Emergency Response Management for Children & Women in the Pacific (UNICEF) 11. The Pacific Community Focused Integrated Disaster Risk Reduction Project (NCCA) 12. Improving Community Based Emergency Preparedness (CARE AUSTRALIA) 13. Climate Data Rescue (AusAid) 15. TA6496-REG: Regional Partnerships for Climate Change Adaptation and Disaster Preparedness (ADB) 16. TA6471-REG: Strengthening Coastal and Marine Resources in the Coral Triangle of the Pacific (ADB)</p>

EU = European Union; AusAid = Australian Agency for International Development; ADB = Asian Development Bank; JICA = Japan International Cooperation Agen