

9.0 Papua New Guinea

ADB	Asian Development Bank
AusAID	Australian Agency for International Development
CIA	Central Intelligence Agency
FSM	Federated States of Micronesia
GEF	Global Environment Facility
GFDRR	Global Facility for Disaster Reduction and Recovery
MEC	Ministry of the Environment and Conservation
NOAA	National Oceanic and Atmospheric Administration (United States)
PACC	Pacific Islands Adaptation to Climate Change Project
PNG	Papua New Guinea
PPCR	Pilot Program for Climate Resilience
SCCF	Special Climate Change Fund
SPA	Strategic Priority for Adaptation (Global Environment Facility)
SPREP	Secretariat to Pacific Regional Environmental Program
UNDP	United Nations Development Programme

The Independent State of Papua New Guinea occupies the eastern half of the island of New Guinea¹⁵³ as well as numerous offshore islands. With a land area of 462,840 square kilometers and a population of over 6.1 million, Papua New Guinea is the largest country in the Pacific region both by geography and population. It has an abundance of natural resources, with mineral deposits like copper, gold and oil accounting for nearly two-thirds of Papua New Guinea's export revenues. Still, 85 per cent of the population relies on subsistence agriculture (CIA, 2011).

A. Adaptation Needs and Priorities

The main sources of climate change vulnerabilities identified by Papua New Guinea (MEC, 2000) are:

¹⁵³ The western half of New Guinea forms part of Indonesia.

- *Coastal and Marine Environments*: due to the potential for sea level rise, bleaching of corals, loss of wetlands, loss of freshwater (through seawater intrusion), and changes in the abundance and health of marine resources.
- *Human Health*: potential for severe storms, drought, declines in water resources, impacts on agricultural resources, and an increase in vector-borne and other diseases (including malaria).
- *Agriculture and Land Use Change*: potential for unsustainable forestry and the monsoon season may create more landslides and/or degradation of soils if storms occur with more frequency, climate variability to affect crop production, and enable declines in soil fertility.

A number of adaptation priorities have been identified to reduce vulnerability to these anticipated impacts. These needs mainly focus on the integration of sustainable development practices into natural resource extraction (MEC, 2000).

B. National Level Policies and Strategic Documents

Papua New Guinea released its Initial National Communication to the United Nations Framework Convention on Climate Change in 2000 (MEC, 2000). Subsequent policy related initiatives, such as efforts to integrating adaptation into sectoral policies and planning processes and/or the establishment of a national adaptation strategy, have not been identified.

Table 1: Key Government Policies and Reports reflecting Adaptation Needs, Priorities and Planned Actions

Name of Policy Action		Government Division Responsible	Status	Sector(s) of Focus	Summary description
1.	Papua New Guinea Initial National Communication Under the United Nations Framework Convention on Climate Change ¹⁵⁴	Ministry of the Environment and Conservation	Released November 2000	Multi-sectoral	This document provides an overview of the socioeconomic and environmental situation of the country. Main climate change concerns identified are extreme weather events (drought) and the degradation and erosion of coastal areas. It also identifies as number of potential adaptation strategies.

C. Current Adaptation Action

There are a high number of adaptation projects and programs underway in Papua New Guinea relative to other countries in the region. While most of these projects involve multiple countries, a current initiative being executed exclusively within Papua New Guinea focuses on disaster risk management in the agriculture and transport sectors. These projects are addressing needs related to a variety of sectors, with a greater number of projects focusing on agriculture, disaster risk reduction, and coastal zone management; most have a

¹⁵⁴ UNFCCC, <http://unfccc.int/resource/docs/natc/papnc1.pdf>

clear focus on capacity building. The majority current projects in Papua New Guinea are funded by the Asian Development Bank (ADB), the Australian Agency for International Development (AusAID) and the United States.

Table 2: Current Adaptation Projects and Programs active in Papua New Guinea

Name	Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
National Action							
1. Papua New Guinea Disaster Risk Management and Climate Adaptation Program ¹⁵⁵	This project will concentrate on disaster risk management in the agriculture and transport sectors. The following activities will take place: • Agriculture: assessment of climate change and disaster risks; feasibility study for agriculture risk insurance for smallholder farmers; emergency response plan; crop selection; and strengthening rural agriculture networks. • Transport sector: integrated hazard risk information and mapping; capacity building; research; risk assessment; pilot mitigation measures.	GFDRR Budget: US\$1,873,200		Capacity building; Field implementation	2011–2014	Disaster risk management; Agriculture; Transportation	Papua New Guinea
Participation in Regional and Global Actions							
2. Pacific Islands Climate Prediction Project ¹⁵⁶	The project aimed to expand understanding of how seasonal climate prediction services can be applied to support climate-sensitive decision making and the use of climate predictions by National Meteorological Services and industries/agencies which use climate information (e.g. farmers, tourism, water resource managers and health authorities). Along with the provision of software tailored to local circumstances and	AusAID Budget: AU\$3.0 million	Australia Bureau of Meteorology	Research; Capacity building	Phase I: 2004–2006 Phase II: 2007–2009 (completed)	Climate information services	Regional: Cook Islands, Fiji, Kiribati, Niue, PNG, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu

¹⁵⁵ GFDRR, http://gfdrr.org/gfdrr/ca_projects/detail/3686

¹⁵⁶ BOM, <http://www.bom.gov.au/climate/pi-cpp/> and ALM, <http://www.adaptationlearning.net/project/pacific-islands-climate-predictions-project-pi-cpp>

Name		Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
		training in the effective use of climate predictions in a risk management context, the project undertook specific pilot activities.	<i>In Papua New Guinea:</i> Climatic forecasting with emphasis on rainfall and tropical cyclones. Participated in the pilot projects “Climate and Oceanographic Variability and their Impacts on Fisheries” ¹⁵⁷ completed in 2005 and “Application of Climate Forecasts for Improved Management of Drought and Crop Production (Sweet Potato) in Papua New Guinea.” ¹⁵⁸					
3.	Regional Partnerships for Climate Change Adaptation and Disaster Preparedness ¹⁵⁹	The outcome is expected to be a strengthened information system that will support informed decision-making aimed at minimizing the negative social and environmental impacts of catastrophic events. It will also mitigate the financial risk of participating Pacific developing member countries to the effects of natural disasters, including those exacerbated by human-induced climate change. This work is linked to the World Bank’s work on the development of a Caribbean Catastrophe Insurance Facility for the Pacific.	ADB Budget: US\$1.0 million	World Bank	Capacity building	Phase 1: 2007–2011	Disaster risk management	<i>Regional:</i> Cook Islands, Fiji, PNG, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu
			<i>In Papua New Guinea:</i> Data gathering for country-specific risk models to be developed. These models will be used to assess the feasibility of catastrophe risk financing and insurance options. ¹⁶⁰					
4.	Pilot Program for Climate Resilience (PPCR) ¹⁶¹	PPCR aims to pilot and demonstrate ways in which climate risk and resilience may be integrated into core development planning and implementation in a way that is consistent with poverty reduction and sustainable development goals. In this way, the PPCR provides incentives for scaled-up action and initiates transformational change. The pilot programs and projects implemented under the PPCR are country-	World Bank’s Strategic Climate Fund Budget: US\$971.75 million pledged as of February 2011	World Bank	Policy formation and integration	2008–?	Multi-sectoral	<i>Regional Programs:</i> Caribbean and Pacific <i>Country programs:</i> Bangladesh, Bolivia, Cambodia,

¹⁵⁷ BOM, http://www.bom.gov.au/climate/pi-cpp/pilot_projects/fisheries_guide.shtml

¹⁵⁸ BOM, http://www.bom.gov.au/climate/pi-cpp/pilot_projects/agriculture_png.shtml

¹⁵⁹ ADB, <http://www.adb.org/Projects/project.asp?id=41187>

¹⁶⁰ ADB, <http://www.adb.org/Documents/TARs/REG/41187-REG-TAR.pdf>

¹⁶¹ Climate Fund Update, <http://www.climatefundupdate.org/listing/pilot-program-for-climate-resilience>

Name	Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
	led, build on NAPAs and other relevant country studies and strategies. Pacific participation includes Papua New Guinea, Samoa, Tonga.						Mozambique, Nepal, Niger, Tajikistan, Yemen, Zambia
<i>In Papua New Guinea: additional information required.</i>							
5.	Pacific Islands Adaptation to Climate Change Project (PACC) ¹⁶²	SCCF, co-financing Budget: US\$59,526,299	UNDP, ADB, SPREP	Capacity building; Policy formation and integration	2008–2012	Agriculture; Coastal zone management; Freshwater supply	<i>Regional:</i> Cook Islands, FSM, Fiji, Nauru, Palau, PNG, Solomon Islands, Tonga, Tuvalu, Vanuatu
<i>In Papua New Guinea: Demonstration measure to reduce vulnerability in coastal area and crop production. The institutional and socioeconomic adaptive capacity will be evaluated using legislation, policies and capacity assessments. Developing an integrated assessment of the vulnerability of the biodiversity of the region to climate change.</i>							
6.	U.S. Support Program to the Coral Triangle Initiative (CTI) ¹⁶³	USAID Budget: US\$41 million	WWF, Conservation International, the Nature Conservancy, ARD Inc., NOAA	Capacity building; Assessment; Field implementation	2008–2013	Marine management	<i>Asia-Pacific:</i> Indonesia, Malaysia, Philippines, Papua New Guinea, Solomon Islands,

¹⁶² GEF, <http://www.thegef.org/gef/sites/thegef.org/files/documents/document/09-16-08-SCCF.pdf>

¹⁶³ CTI, <http://www.uscti.org/uscti/default.aspx>

Name	Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
	to fisheries management, creating marine protected areas, building climate change adaptive capacity and establishing regional platforms to promote cross-country learning and enhance sustainability.						Timor-Leste
		In Papua New Guinea: additional information required.					
7.	Coastal and Marine Resources Management in the Coral Triangle of the Pacific (under the Pacific Alliance for Sustainability Program and the Coral Triangle Initiative) ¹⁶⁴	GEF-SPA; Japan; Australia; United States Budget: US\$27,568,183	ADB	Capacity building, Research; Field implementation	2008–2013	Coastal zone management; Marine management	Regional: FSM, Fiji, Palau, PNG, Solomon Islands and Vanuatu Plus: Timor-Leste
		In Papua New Guinea: additional information required.					
8.	Strengthening the Capacity of Pacific Developing Member Countries to Respond to Climate Change (Phase 1) ¹⁶⁵	ADB, Canada Budget: US\$4.965 million	ADB	Capacity building; Policy formation and integration	2009–?	Government	Regional: Cook Islands, Fiji, FSM, Kiribati, Marshall Islands, Nauru, Palau, PNG, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu. Plus: Timor-Leste

¹⁶⁴ GEF, <http://www.gefonline.org/projectDetailsSQL.cfm?projID=3591>

¹⁶⁵ ADB, <http://pid.adb.org/pid/TaView.htm?projNo=43071&seqNo=01&typeCd=2#timetable>

Name		Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
		Adaptation preparation—up to five countries will be supported in preparing the implementation of climate change adaptation plans, including further capacity building	In Papua New Guinea: Additional information needed					
9.	Seeds for Needs ¹⁶⁶	Project to pre-select crops and varieties that will likely perform well under future conditions.	World Bank	Biodiversity International	Community based adaptation; Research	2009–?	Agriculture	Global: Ethiopia, Papua New Guinea
			In Papua New Guinea: Additional information needed					
10.	Coping with Climate Change in the Pacific Island Region ¹⁶⁷	Enhance the competence and capabilities of the local population, the national governmental authorities and regional organizations—SPC and SPREP—in order to cope with the effects of climate change and combat its causes. It includes reviewing policies and integrating adaptation considerations into them, and focuses on the management of land and coastal natural resources, as well as tourism. At the regional level, the program aligns with the Pacific Island Framework for Action on Climate Change 2006–2015. Originally only involving Fiji, Tonga, Vanuatu, the project has been expanded and extended.	German Federal Ministry for Economic Cooperation and Development Budget: €17.2 million	GIZ, SPC	Capacity building; Policy formation and integration; Field implementation	2009–2015	Agriculture; Forestry; Tourism	Regional: FSM, Fiji, Kiribati, Marshall Islands, Nauru, Palau, PNG, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu
			In Papua New Guinea: The project is “working with gene banks and local partners, including communities and women’s groups, to identify sweet potato and taro varieties that can withstand extremes of temperature and rainfall as well as differences in the salt content of the soil and predicted shifts in pests and diseases. The pre-selected varieties will then be matched with places where they should continue to produce good yields under predicted future conditions.”					
11.	Cities and Climate Change	This initiative aims to strengthen the climate	UN-Habitat	Local	Capacity	2010–?	Urban areas	Asia Pacific:

¹⁶⁶ Biodiversity International, http://www.biodiversityinternational.org/announcements/seeds_for_needs.html

¹⁶⁷ GIZ, <http://www.gtz.de/en/weltweit/asien-pazifik/27718.htm> and SPC, http://www.spc.int/lrd/index.php?option=com_content&view=article&id=478&Itemid=44

Name	Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
Initiative Asia Pacific ¹⁶⁸	change response of cities and local governments. The main objectives are to: promote active climate change collaboration between local governments and associations; to enhance policy dialogue on climate change; to support local governments in preparing climate action plans; and to foster awareness, education and capacity building.	Budget: US\$10 million	governments, universities	building; Knowledge communication; Policy formation and integration			China, Fiji, Indonesia, Mongolia, Nepal, Papua New Guinea, Samoa, Sri Lanka, Vanuatu and Viet Nam
		In Papua New Guinea: Review of current building codes; capacity building of local governments; mitigation measures to reduce land erosion and solid waste management; and education awareness. ¹⁶⁹					

D. Proposed Adaptation Action

Papua New Guinea has developed projects for future implementation that have been submitted to the Special Climate Change Fund (SCCF) and the Adaptation Fund for consideration. These projects will focus on marine resources management, disaster risk reduction and agriculture.

Table 3: Proposed Adaptation Projects and Programs in Papua New Guinea

Name	Objectives	Type of project	Priority Sector(s)	Geographic focus (if any)
1. Adaptation in the Coral Triangle (ACT)			Marine management	Malaysia, Papua New Guinea, Philippines, Solomon Islands, Timor-Leste
		Notes: Proposed to the SCCF = US\$20 million; Proposed co-fin = US\$290 million		
2. Enhancing Adaptive Capacity of Communities to Climate	"The overall objective is to strengthen the ability of communities in Papua New Guinea to make informed	Capacity building; Knowledge	Agriculture; Disaster risk management ;	North Coast and Islands Region

¹⁶⁸ CCCI, http://www.fukuoka.unhabitat.org/programmes/ccci/index_en.html

¹⁶⁹ UN-Habitat, http://www.fukuoka.unhabitat.org/programmes/ccci/pdf/Port_Moresby_city_flyer_May10.pdf

Name	Objectives	Type of project	Priority Sector(s)	Geographic focus (if any)
Change-Related Floods in the North Coast and Islands Region of Papua New Guinea ¹⁷⁰	decisions about and adapt to climate change-driven hazards affecting both coastal and riverine communities. In particular, the program will focus on resilience towards occurrences of coastal and inland flooding events.” The project concentrates on following areas: • Adaptation measures in coastal and riverine communities; • Institutional strengthening; and • Awareness raising and knowledge management.	communication	Coastal zone management	Notes: Submitted to the Adaptation Fund Board. Concept approved at June 2011 meeting.¹⁷¹ <i>Planned Implementing Agency:</i> UNDP <i>Planned budget:</i> US\$5,227,530 <i>Planned timeline:</i> 2011–2015

E. Assessment

Papua New Guinea is in a unique situation compared to other Pacific Islands, as it has a large land and natural resources base. It also has a relatively high number of adaptation projects underway, largely through its participation in various regional projects and programs. These ongoing initiatives address the concerns identified by Papua New Guinea with respect to coastal and marine resources, agriculture and land use (including forestry). Concerns related to human health do not appear to be addressed through current initiatives. Nor do any current adaptation projects or proposed strategies specifically identify gender considerations as a prominent component. Finally, given that a decade has passed since Papua New Guinea identified its vulnerabilities and adaptation needs through its Initial National Communication, a new assessment that takes into account knowledge gained and adaptation efforts completed would assist in better meeting its adaptation requirements.

References:

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¹⁷⁰ Adaptation Fund, http://www.adaptation-fund.org/sites/default/files/AFB.PPRC_5.12%20Proposal%20for%20PNG_1.pdf

¹⁷¹ Adaptation Fund, http://adaptation-fund.org/sites/default/files/AFB14_Report_English.pdf