Global Environment Facility

Monique Barbut
Chief Executive Officer
and Chair person

1818 H Street, NW
Washington, DC 20433 USA
Tel: 202.473.3202
Fax: 202.522.3240/3245
E-mail: mbarbut@TheGEF.org

September 16, 2008

Dear LDCF/SCCF Council Member:

The UNDP as the Implementing Agency for the project entitled ***Regional (Cook Islands, Federated States of Micronesia, Fiji, Marshall Islands, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu): Pacific Adaptation to Climate Change Project (PACC)*** has submitted the attached proposed project document for CEO endorsement prior to final Agency approval of the project document in accordance with the UNDP procedures.

The Secretariat has reviewed the project document. It is consistent with the project concept approved by the Council in April 2008 and the proposed project remains consistent with the Instrument and Special Climate Change Fund (SCCF) policies and procedures. The attached explanation prepared by the UNDP satisfactorily details how Council's comments and those of the STAP have been addressed.

If by October 14, 2008, I have not received requests from at least four Council Members to have the proposed project reviewed at a Council meeting because in the Member's view the project is not consistent with the Instrument or GEF policies and procedures, I will complete the Secretariat's assessment with a view to endorsing the proposed project document.

We have today posted the proposed project document on the GEF website at www.TheGEF.org. If you do not have access to the Web, you may request the local field office of UNDP or the World Bank to download the document for you. Alternatively, you may request a copy of the document from the Secretariat. If you make such a request, please confirm for us your current mailing address.

Sincerely,

Attachment: Project Document

cc: Alternates, GEF Agencies, STAP, Trustee

REQUEST FOR CEO ENDORSEMENT/APPROVAL

PROJECT TYPE: Full-sized Project
THE Special Climate Change Fund (SCCF)

Submission Date: August 15, 2008
Re-submission Date: September 11, 2008

PART I: PROJECT INFORMATION

GEFSEC PROJECT ID:
GEF AGENCY PROJECT ID:
COUNTRY: Cook Islands, Federated States of Micronesia, Fiji, Marshall Islands, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu
PROJECT TITLE: Pacific Adaptation to Climate Change (PACC)
GEF AGENCY: UNDP
OTHER EXECUTING PARTNER: Secretariat of the Pacific Regional Environment Programme
GEF FOCAL AREA: Climate Change

Expected Calendar	
Milestones	**Dates**
Work Program (for SCCF FSP)	April 2008
GEF Agency Approval	August 2008
Implementation Start	November 2008
Mid-term Review (if planned)	November 2010
Implementation Completion	December 2012

A. PROJECT FRAMEWORK

Project Objective: To increase adaptive capacities to address climate change risks in water resource management							
Indicate whether Investment, TA, or STA**	**Expected Outcomes**	**Expected Outputs**	**LDCF/SCCF Financing***		**Co-financing***		**Total ($)**
			($)	%	($)	%	
TA	1. Policy changes to deliver immediate vulnerability-reduction benefits in context of emerging climate risks defined in all 13 PACC countries.	1.1 Develop methodology and tools to assist Pacific Island countries mainstream climate change into their current national development plans and priorities. 1.2 Climate change economic tools for evaluation of adaptation options developed and utilized.	2,639,000.00	13	17,191,614.00	87	19,830,614.00
TA	2. Demonstration measures to reduce vulnerability in coastal areas and crop production (in Fiji, Palau, Papua New Guinea and Solomon Islands) and in water management (in Marshall Islands, Nauru, Niue, Tonga and Tuvalu) implemented.	. 2.1.1a: Guidelines to integrate coastal climate risks into an integrated coastal management programme Output 2.1.1b: Measures identified in the Guidelines (2.1.1a) demonstrated in Manihiki communities (with co-financing support). Output 2.2.1a: Guidelines to integrate climate risks (e.g. intense rainfall and storm surges) into coastal road designs. Output 2.2.1b: Measures identified in the Guidelines (2.2.1a) demonstrated in Walung community, Kosrae (with co-financing support). Output 2.3.1a: Guidelines to incorporate climate risks into an integrated community based coastal management model. Output 2.3.1b: Measures identified in the Guidelines (2.3.1a) demonstrated in Vaa o Fonoti to Gagaifomauga district (with co-financing support). Output 2.4:1a Guidelines that incorporate multistakeholder decision-making in the redesign and relocation of roads due to the impacts of climate change. Output 2.4:1b Measures identified through use of the Guidelines (2.4.1a) demonstrated in Epi communities, Shefa Province (with co-financing support). Output 2.51a: Guidelines for design of drains and	8,466,000.00	29	20,330,000.00	71	28,796,000.00

		drainage networks to adapt to future rainfall regimes. Output 2.5.1b: Measures identified in the Guidelines (2.5.1a) demonstrated in Tailevu/Rewa and Serua Namosi Province (with co-financing support). Output 2.6.1a Guidelines to improve resilience of coastal food production systems to the impacts of climate change. Output 2.6.1b Measures identified in the Guidelines (2.6.1a) demonstrated in Ngatpang State/Communities (with co-financing support). Output 2.7.1a: Guidelines for design of underground irrigation networks to adapt to future rainfall regimes. Output 2.7.1b: Measures identified in the Guidelines (2.7.1a) demonstrated in Kivori Poe, Kairuku district, Central Province (with co-financing support). Output 2.8.1a: Guidelines for reducing vulnerability of small isolated island communities' to the effects of climate change in the food production and food security sector. Output 2.8.1b: Measures identified in the Guidelines (2.8.1a) demonstrated in Ontong Java Island (with co-financing support). Output 2.9.1a: Guidelines for improving water retention through redesign and retrofit of existing water-holding tanks to enhance resilience to drought events. Output 2.9.1b: Measures identified in the Guidelines (2.9.1a) demonstrated in Majuro town (with co-financing support). Output 2.10.1a: Guidelines for design of hybrid water supply systems to enhance resilience to drought events. Output 2.10.1b: Measures identified in the Guidelines (2.10.1a) demonstrated in Anabar district (with co-financing support). Output 2.11.1a: Guidelines for design of water storage systems on a raised atoll island to enhance resilience to drought events. Output 2.11.1b: Measures identified in the Guidelines (2.11.1a) demonstrated in Liku to Avatele district (with co-financing support). Output 2.12.1a: Guidelines for water resource use and management response to increased ENSO frequency. Output 2.12.1b: Measures identified in the Guidelines (2.12.1a) demonstrated in Hihifo district (with co-financing support). Output 2.13.1a: Guidelines for climate proofing integrated water management plans. Output 2.13.1b: Measures identified in the Guidelines (2.13.1a) demonstrated in Fogafale village (with co-financing support).				
TA	3. Capacity to plan for and respond to changes in climate related risks improved.	Output 3.1.1: Technical advice for implementation of national adaptation Output 3.1.2: Best practices and lessons exchanged among countries through SPREP. Output 3.1.3: Project website established at SPREP.	870,000.00	12	6,154,480.00	88	7,024,480.00
TA	4. Project management		1,150,000.00	58	827, 705.00	42	1,977,705.00
	Total Project Costs		**13,125,000.00**	**23**	**44,503,799.00**	**77**	**57,628,799.00**

B. FINANCING PLAN SUMMARY FOR THE PROJECT ($)

	*Project Preparation**	*Project*	*Agency Fee*	*Total at CEO Endorsement*	*For the record At PIF ($m)*
Grant	350,000.00	13,125,000.00	1,347,500.00	14,822,500.00	13.13
Co-financing	200,000.00	44,503,799.00		44,703,799.00	44.28
Total	550,000.00	57,628,799.00	1,347,500.00	59,526,299.00	57.76

* Status of implementation and use of funds for project preparation in Annex D.

C. SOURCES OF CONFIRMED CO-FINANCING, including co-financing for project preparation

Co-financing Letter #	*Name of co-financier (source)*	*Classification*	*Type*	*Amount ($)*	*%**
4	Nauru planned annual government expenditures as per 2006 budget	Executing Agency	In-kind	168,000	0.4%
	Nauru JICA funded water tanks for communities project	Overseas Development Agency	In-kind/parallel	77,000	0.2%
	Nauru MOU with Australia on water catchment & storage and repairs	Overseas Development Agency	In-kind/parallel	1,150,000	2.6%
	Nauru/Australia COMPACT for groundwater prospection and monitoring	Overseas Development Agency	In-kind/parallel	307,000	0.7%
	Nauru FAO regional food security programme with a package on water storage	Overseas Development Agency	In-kind/parallel	136,000	0.3%
	Nauru MOE Office space (in-kind)	Executing Agency	In-kind	62,000	0.1%
5	Niue New Zealand water reservoir under Cyclone Recovery Project	Overseas Development Agency	In-kind/parallel	46,000	0.1%
	Niue Environment Office space	Executing Agency	In-kind	55,799	0.1%
11	Solomon Ministry of Agriculture and Livestock / Rice Development project / Taiwan/FAO funding	Executing Agency	In-kind/parallel	4,800,000	10.8%
1	Cook islands ADB Cyclone Emergency Loan Project	Overseas Development Agency	In-kind/parallel	2,650,000	6.0%
	Cooks MOE Office space	Executing Agency	In-kind	50,000	0.1%
12	Tonga Groundwater monitoring / Geology Department operational budget	Executing Agency	In-kind	500,000	1.1%
	Tonga Canada and Japan funded water tanks for community	Overseas Development Agency	In-kind/parallel	500,000	1.1%
	Tonga Rainwater harvesting / Trust Operational Budget	Executing Agency	In-kind	500,000	1.1%
3	FSM Compact Funds	Overseas Development Agency	Cash	2,805,480	6.3%
	FSM Japanese Grant for Road construction Tafunsak-Walung	Overseas Development Agency	Cash	4,000,000	9.0%
	FSM MOE Office space	Exec. Agency	In-kind	94,520	0.2%
10	Samoa World bank IAM I and II	Overseas Development Agency	In-kind/parallel	1,700,000	3.8%
	Samoa CERP / Coastal resilience recovery	Overseas Development Agency	In-kind/parallel	500,000	1.1%
	Samoa MOE office space	Executin g Agency	In-kind	300,000	0.7%
13	Vanuatu US Millennium Challenge Account / transport infrastructure project	Overseas Development Agency	In-kind/parallel	2,900,000	6.5%
2	Government of Fiji Expenditures based on 2007 – 2009 estimates Drainage and Irrigation, Flood Protection	Executing Agency	In-kind/parallel	8,600,000	19.3%
14	Tuvalu AUSAID Adaptation to Climate Change project	Overseas Development Agency	In-kind/parallel	923,076	2.1%
	Government of Tuvalu / Water Tank	Executing Agency	In-kind	461,538	1.0%
	Tuvalu MOE Office space	Executing Agency	In-kind	115,386	0.3%

8	PNG National Department of Agriculture and Livestock	Executing Agency	In-kind	1,000,000	2.2%
	PNG Donor funded (FAO & EU)	Overseas Development Agency	In-kind/parallel	1,000,000	2.2%
	PNG Central Provisional Administration	Executing Agency	In-kind	500,000	1.1%
	PNG DEC Water Resources Division	Executing Agency	In-kind	500,000	1.1%
7	Palau salaries of technical experts from organizations that would support PACC implementation	Executing Agency	In-kind	1,010,000	2.3%
	Palau costs of base data and technical inputs to be provided to PACC	Executing Agency	In-kind	592,000	1.3%
9	Marshalls Airport Runway works	Executing Agency	In-kind	4,000,000	9.0%
	Marshalls Salaries of Technical Experts from organizations that would support PACC implementation	Executing Agency	In-kind	2,300,000	5.2%
	UNDP time of finance staff and management	Implementing Agency	In-kind	50,000	0.1%
	UNDP Office space	Implementing Agency	In-kind	50,000	0.1%
6	SPREP time of finance staff and management (in-kind)	Implementing Partner	In-kind	50,000	0.1%
	SPREP Office space (in-kind)	Implementing Partner	In-kind	50,000	0.1%
	Total Co-financing			**$44,503,799.00**	**100%**

D. LDCF/SCCF RESOURCES REQUESTED BY AGENCY OR COUNTRY*

None

E. PROJECT MANAGEMENT BUDGET/COST

Cost Items	***Total Estimated person weeks***	***SCCF ($)***	***Other sources ($)***	***Project total ($)***
Local consultants (13 PICs)	3,380	1,000,000		1,000,000
*International consultants**				
Office facilities, equipment, vehicles and communications		100,000	697,705	797,000
Travel		50,000	130,000	180,000
Total	3,380	1,150,000	827,705	1,977,705

* Detailed information regarding the consultants in Annex C.

F. CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:

Component	**Estimated Staff Weeks**	***SCCF* ($)**	**Other Sources ($)**	**Project Total ($)**
Local consultants (13 PICs)*	533	1,200,000	0.00	1,200,000
International consultants (13 PICs)*	484	1,356,000	330,000	1,686,000
Total	1,017	2,556,000	330,000	2,886,000

***** Detailed information regarding the consultants in Annex C.

G. BUDGETED M&E PLAN: Project monitoring and evaluation will be conducted in accordance with established UNDP and GEF procedures and will be provided by the project team and UNDP Samoa MCO with support from UNDP/GEF. The Logical Framework Matrix in Section II provides performance and impact indicators for project implementation along with their corresponding means of verification. These will form the basis on which the project's Monitoring and Evaluation system will be built.

The following sections outline the principle components of the Monitoring and Evaluation Plan and indicative cost estimates related to M&E activities. The project's Monitoring and Evaluation Plan will be presented and finalized at an Inception Report following a collective fine-tuning of indicators, means of verification, and the full definition of project staff M&E responsibilities.

Project Inception Phase

A Regional Inception Workshop (IW) will be conducted with the full project team, relevant government counterparts, co-financing partners, the UNDP Samoa MCO and representation from the UNDP/GEF Regional Coordination Unit (RCU) at the UNDP Regional Centre in Bangkok and its sub-regional office in Apia as well as UNDP/GEF (HQ), as appropriate.

A fundamental objective of this IW will be to assist the project team to understand and take ownership of the project's goals and objectives, as well as finalize preparation of the project's first annual work plan on the basis of the PPM. This will include reviewing the PPM (indicators, means of verification, assumptions), imparting additional detail as needed, and on the basis of this exercise finalize the first Annual Work Plan (AWP) with precise and measurable performance indicators, and in a manner consistent with the expected Outcomes for the project.

Additionally, the objective of the IW will be to: (i) introduce project staff to the UNDP/GEF team which will support the project during its implementation, namely the UNDP Samoa MCO and responsible UNDP/GEF staff from the UNDP Regional Centre in Bangkok or Apia, as appropriate; (ii) detail the roles, support services and complementary responsibilities of UNDP MCO Samoa and responsible Regional Technical Advisor (RTA) from the UNDP/GEF RCU vis-à-vis the project team; (iii) provide a detailed overview of UNDP/GEF reporting and monitoring and evaluation (M&E) requirements, with particular emphasis on the Annual Project Implementation Reviews (PIRs) and related documentation, the Annual Project Report (APR), Tripartite Review Meetings, as well as midterm and final evaluations. Equally, the IW will provide an opportunity to inform the project team on UNDP project related budgetary planning, budget reviews, and mandatory budget rephrasing.

The IW will also provide an opportunity for all parties to understand their roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for project staff and decision-making structures will be discussed again, as needed, in order to clarify for all, each party's responsibilities during the project's implementation phase.

The IW will also provide the first annual meeting of the Project Executive Group (PEG) with responsibilities over management decisions including approving implementation work plans and budget revisions, identifying problems, suggesting actions to improve project performance. The PEG, chaired by UNDP Samoa, will agree and adopt a coordinated annual project implementation strategy and plan.

Monitoring Responsibilities and Events

A detailed schedule of project reviews meetings will be developed by the PMO, in consultation with project implementation partners and stakeholder representatives and incorporated in the Project Inception Report. Such a schedule will include: (i) tentative time frames for Tripartite Reviews (TPR), PEG Meetings and relevant advisory and/or coordination mechanisms at national levels and (ii) project related Monitoring and Evaluation activities.

Day to day monitoring of implementation progress will be the responsibility of the PMO in consultation with the UNDP Samoa MCO based on the project's AWP and its indicators. The PMO will inform UNDP Samoa MCO of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely and remedial fashion.

The RPM and the responsible UNDP/GEF RTA will fine-tune the progress and performance/impact indicators of the project in consultation with the full project team at the IW and assisted by UNDP Samoa and UNDP/GEF HQ, as appropriate. Specific targets for the first year implementation progress indicators together with their means of verification will be developed at the IW. These will be used to assess whether implementation is proceeding at the

intended pace and in the right direction and will form part of the AWP. The local implementing agencies will also take part in the Inception Workshop in which a common vision of overall project goals will be established.

Targets and indicators for subsequent years would be defined annually as part of the internal evaluation and planning processes undertaken by the project team. The measurement impact indicators will be undertaken through subcontracts or retainers with relevant institutions or through specific studies that are to form part of the projects activities.

Periodic monitoring of implementation progress will be undertaken by the UNDP Samoa MCO through quarterly meetings with the project staff; or more frequently as deemed necessary. This will allow parties to take stock and to troubleshoot any problems pertaining to the project in a timely fashion to ensure smooth implementation of project activities.

UNDP PPR (UNDP Samoa), UNDP Fiji and UNDP PNG and UNDP/GEF RCU, as appropriate, will conduct yearly field visits to appropriate sites, or more often based on an agreed upon scheduled to be detailed in the project's Inception Report/AWP to assess first hand project progress. Any other member of the PEG can also accompany, as decided by the PEG. A Field Visit Report will be prepared by UNDP PPR (UNDP Samoa), UNDP Fiji, UNDP PNG and UNDP GEF RCU respectively and circulated no less than one month after the visit to the PMO and all PAC members..

UNDP Samoa MCO and UNDP/GEF RCU, as appropriate, will conduct yearly field visits to pilot implementation sites, or more often based on an agreed upon scheduled to be detailed in the project's Inception Report/AWP to assess first hand project progress. Any other member of the PEG can also accompany, as decided by the PEG. A Field Visit Report will be prepared by UNDP Samoa MCO and circulated no less than one month after the visit to the project team, all PEG members, and UNDP/GEF.

Annual Monitoring will occur through the Tripartite Review (TPR). This is the highest policy level meeting of the parties directly involved in the implementation of a project. The project will be subject to a TPR at least once every year. The first such meeting will be held within the first twelve months of the start of full implementation. The Executing Agency will prepare an Annual Project Report (APR) and submit it to UNDP Samoa MCO and the UNDP/GEF RCU at least two weeks prior to the TPR for review and comments.

The APR will be used as one of the basic documents for discussions in the TPR meeting. The Implementing Partner (SPREP) will present the APR to the TPR, highlighting policy issues and recommendations for the decision of the TPR participants. The IP also informs the participants of any agreement reached by stakeholders during the APR preparation on how to resolve operational issues. Separate reviews of each project component may also be conducted if necessary.

Terminal Tripartite Review (TTR)

The terminal tripartite review is held in the last month of project operations. The Implementing Partner is responsible for preparing the Terminal Report and submitting it to UNDP Samoa MCO and UNDP/GEF RCU. It shall be prepared in draft at least two months in advance of the TTR in order to allow review, and will serve as the basis for discussions in the TTR. The terminal tripartite review considers the implementation of the project as a whole, paying particular attention to whether the project has achieved its stated objectives and contributed to the broader environmental objective. It decides whether any actions are still necessary, particularly in relation to sustainability of project results, and acts as a vehicle through which lessons learnt can be captured to feed into other projects under formulation or implementation.

The TPR has the authority to suspend disbursement if project performance benchmarks are not met. Benchmarks will be developed at the Inception Workshop, based on delivery rates, and qualitative assessments of achievements of outputs.

Project Monitoring Reporting

The PMO in conjunction with UNDP Samoa MCO and the UNDP/GEF team will be responsible for the preparation and submission of the following reports that form part of the monitoring process. Items (a) through (f) are mandatory and

strictly related to monitoring, while (g) through (h) have a broader function and the frequency and nature is project specific to be defined throughout implementation.

(a) Inception Report (IR)

A Project Inception Report (IR) will be prepared immediately following the Inception Workshop. It will include a detailed first year/AWP divided in quarterly time-frames detailing the activities and progress indicators that will guide implementation during the first year of the project. This Work Plan would include the dates of specific field visits, support missions from UNDP Samoa MCO or the UNDP/GEF RCU or CROP technical experts under the RBF mechanism, as well as time-frames for meetings of the project's decision making structures. The Report will also include the detailed project budget for the first full year of implementation, prepared on the basis of the AWP, and including any monitoring and evaluation requirements to effectively measure project performance during the targeted 12 months time-frame.

The Inception Report will include a more detailed narrative on the institutional roles, responsibilities, coordinating actions and feedback mechanisms of project related partners. In addition, a section will be included on progress to date on project establishment and start-up activities and an update of any changed external conditions that may effect project implementation.

When finalized the report will be circulated to project counterparts who will be given a period of two weeks in which to respond with comments or queries. Prior to this circulation of the Inception Report, UNDP Samoa and UNDP/GEF RCU will review the document.

(b) Annual Project Report (APR)

The APR is a UNDP requirement and part of UNDP's Country Office central oversight, monitoring and project management. It is a self–assessment report by project management to UNDP Samoa MCO and provides input to the country office reporting process and the ROAR, as well as forming a key input to the TPR. An APR will be prepared on an annual basis prior to the Tripartite Project Review, to reflect progress achieved in meeting the project's AWP and assess performance of the project in contributing to the intended outcomes through outputs and partnership work. The format of the APR is flexible but should include the following:

- An analysis of project performance over the reporting period, including outputs produced and, where possible, information on the status of the outcome;
- The constraints experienced in the progress towards results and the reasons for these;
- The three (at most) major constraints to achievement of results;
- AWP, CAE and other expenditure reports (ERP generated);
- Lessons learned; and
- Clear recommendations for future orientation in addressing key problems in lack of progress.

(c) Project Implementation Review (PIR)

The PIR is an annual monitoring process mandated by the GEF. It has become an essential management and monitoring tool for project managers and offers the main vehicle for extracting lessons from ongoing projects. Once the project has been under implementation for a year, a Project Implementation Report must be completed by UNDP Samoa MCO together with the project. The PIR can be prepared any time during the year (July-June) and ideally prior to the TPR. The PIR should then be discussed in the TPR so that the result would be a PIR that has been agreed upon by the project, the Implementing Partner, UNDP Samoa MCO and the concerned RTA.

The individual PIRs are collected, reviewed and analyzed by the RTA prior to sending them to the focal area clusters at the UNDP/GEF headquarters. The focal area clusters supported by the UNDP/GEF M&E Unit analyze the PIRs by focal area, theme and region for common issues/results and lessons. The TAS and PTAs play a key role in this

consolidating analysis. The focal area PIRs are then discussed in the GEF Interagency Focal Area Task Forces in or around November each year and consolidated reports by focal area are collated by the GEF Independent M&E Unit based on the Task Force findings.

The GEF M&E Unit provides the scope and content of the PIR. In light of the similarities of both APR and PIR, UNDP/GEF has prepared a harmonized format for reference.

(d) Quarterly Progress Reports

Short reports outlining main updates in project progress will be provided quarterly to UNDP Samoa MCO and the UNDP/GEF RCU by the Implementing Partner along with (1) financial report and advance request for the upcoming quarter (2) workplan and budget for the upcoming quarter. QPRs should be reviewed and cleared by the PEG prior to submitting formally to UNDP. All copies of the QPRs should be uploaded on the PACC website and circulated widely to all the PEG members.

(e) Periodic Thematic Reports

As and when called for by UNDP/UNDP/GEF, the project team will prepare Specific Thematic Reports, focusing on specific issues or areas of activity. The request for a Thematic Report will be provided to the project team in written form by UNDP and will clearly state the issue or activities that need to be reported on. These reports can be used as a form of lessons learnt exercise, specific oversight in key areas, or as troubleshooting exercises to evaluate and overcome obstacles and difficulties encountered. When Thematic Reports are necessary, UNDP will allow reasonable timeframes for their preparation by the project team.

(f) Project Terminal Report

During the last three months of the project the project team will prepare the Project Terminal Report. This comprehensive report will summarize all activities, achievements and outputs of the Project, lessons learnt, objectives met, or not achieved structures and systems implemented, etc. and will be the definitive statement of the Project's activities during its lifetime. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the Project's activities.

(g) Technical Reports

Technical Reports are detailed documents covering specific areas of analysis or scientific specializations within the overall project. As part of the Inception Report, the project team will prepare a draft Reports List, detailing the possible technical reports that are expected to be prepared on key areas of activity during the course of the Project, and tentative due dates. Where necessary this Reports List will be revised and updated, and included in subsequent APRs.

Technical Reports may also be prepared by external consultants and should be comprehensive, specialized analyses of clearly defined areas of research within the framework of the project and its sites. These technical reports will represent, as appropriate, the project's substantive contribution to specific areas, and will be used in efforts to disseminate relevant information and best practices at local, national and international levels.

(h) Project Publications

Project Publications will form a key method of crystallizing and disseminating the results and achievements of the Project. These publications may be scientific or informational texts on the activities and achievements of the Project, in the form of journal articles, multimedia publications, etc. These publications can be based on Technical Reports, depending upon the relevance, scientific worth, etc. of these Reports, or may be summaries or compilations of a series of Technical Reports and other research. The project team will determine if any of the Technical Reports merit formal publication, and will also (in consultation with UNDP, the government and other relevant stakeholder groups) plan and

produce these Publications in a consistent and recognizable format. Project resources will need to be defined and allocated for these activities as appropriate and in a manner commensurate with the project's budget.

Independent Evaluation

The project will be subjected to at least two independent external evaluations as follows: -

Mid-term Evaluation

An independent Mid-Term Evaluation will be undertaken at the end of the second year of implementation. The Mid-Term Evaluation will determine progress being made towards the achievement of Outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, terms of reference and timing of the mid-term evaluation will be decided after consultation between the parties to the project document. The Terms of Reference for this Midterm evaluation will be prepared by the UNDP Samoa MCO based on guidance from the UNDP/GEF RCU.

Final Evaluation

An independent Final Evaluation will take place three months prior to the terminal tripartite review meeting, and will focus on the same issues as the mid-term evaluation. The final evaluation will also look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental goals. The Final Evaluation should also provide recommendations for follow-up activities. The Terms of Reference for this evaluation will be prepared by the UNDP Samoa based on guidance from the UNDP/GEF RCU.

PART II: PROJECT JUSTIFICATION

A. Project rationale and expected measurable adaptation benefits: The Pacific Islands are considered by many as a 'bell weather' of climate change. Many anticipated impacts of climate change on natural and human systems are already an unfortunate reality for Pacific Islanders. These include; extensive coastal erosion, coral bleaching, persistent alternation of weather patterns, decreased productivity in fisheries and agriculture, coastal roads, bridges, foreshores and plantations suffering increased erosion, recent devastating droughts hitting export crops, serious water shortages, and more widespread and frequent occurrence of mosquito-borne diseases. Climate change will continue to exacerbate these problems. If no action were taken now, it would have serious and wide-reaching consequences on the future of small island countries of the Pacific. Pacific Island people and institutions have over the years tried to adapt and continue to improve their lives from the situations they are facing. However, frequency and intensity of extreme events such as droughts, flooding, storm surges are placing a lot of pressure on the meager government resources that these countries have. The imperative now is to look at ways to better address these issues. The PACC project by design attempts to address the issues mentioned above in a programmatic framework that involves improving capacity in Pacific islands' governments to mainstream climate change adaptation into government policies and plans, addressing the urgent need for adaptation measures through developing systematic guidelines for adaptation and demonstrating their use at a pilot scale and laying the foundation for a comprehensive approach to address adaptation over the medium-long term at the regional level. As climate change affects all aspects of national and community development, the PACC projects focuses mainly on three areas; i) coastal management, ii) water management and iii) food production and food security for maximum impact. Mainstreaming climate change risk management into economic and social planning processes of key ministries and departments of government would also be undertaken; for example, ensuring that climate risk management options are institutionalized by strengthening regulations that could guide the climate proofing of infrastructure and inform policy decisions. At local level, pilot activities will seek to improve experience in implementing anticipatory adaptation responses, thereby increasing local awareness of climate related risks, improving adaptive capacity of vulnerable groups, and providing valuable information for future policy formulation. Special

attention will be given to the implementation of adaptation measures on the ground with the participation of local communities and provincial and municipal governments.

B. CONSISTENCY OF THE PROJECT WITH NATIONAL PRIORITIES/PLANS: All the 13 Pacific Island countries participating in the PACC have ratified the UNFCCC and the Kyoto Protocol. The 13 Pacific Island countries through their GEF Operational Focal Points are fully informed and participated in several PACC project consultations. A regional inception workshop for the PACC PDFB process was arranged in Nadi, Fiji in 2006 where key government officers from the Environment and Planning departments were present. In the workshop, participants were consulted on the current focus of the PACC project, future process of consultation and criteria to be used particularly a strong fit/alignment with Government's existing programmes and plans. Further country visits by the PACC Consultation Team provided further opportunity for countries to deliberate with the Team their adaptation priorities. In recent country studies such as the National Communications to the UNFCCC and the NCSA, water governance , food production and food security and coastal management has emerged as a growing public concern and the impact of climate change has been defined as a critical cross cutting issue affecting these most vulnerable sectors of the economy.

PACC will be contributing to building core competencies such as, participatory learning techniques, learning networks, competency-based learning, increased mentoring and mainstreaming as well as very specific skills such as vulnerability and adaptation assessment and evaluation, use of climate change economic models, and GIS is important. Its application for use in government decision-making is key to increasing national governments adaptive capacity and ability to implement and monitor climate change programmes.

B. CONSISTENCY OF THE PROJECT WITH LDCF/SCCF ELIGIBILITY CRITERIA AND PRIORITIES: The project is consistent with the eligibility criteria for the SCCF, as laid out in "Programming to Implement the Guidance for the Special Climate Change Fund Adopted by the Conference of the Parties to the United Nations Framework Convention on Climate Change at its Ninth Session" (Council paper GEF/C.24/12; October 15, 2004). Consistent with the Council Paper (paragraph 40), the project is country-driven, cost-effective and integrated into national sustainable development and poverty-reduction strategies; and takes into account national communications or NAPAs, and other relevant studies and information. The project will also serve as a catalyst to leverage additional resources, and efforts have been made to maximize co-financing from other sources (GEF/C.24/12, paragraph 25). The selected sectors are three of the priorities outlined in paragraph 44 of the GEF document, namely water resources management, agriculture and Integrated Coastal Zone Management. The project will support capacity building, including institutional capacity, for preventive measures, planning, preparedness and management of disasters relating to climate change, including contingency planning for droughts and floods in areas prone to extreme weather events (GEF/C.24/12, paragraph 46), and support strengthening existing centres and information networks for rapid response to extreme weather events, utilizing information technology as much as possible (GEF/C.24/12, paragraph 47). Furthermore, as the costs of water resources use, agricultural development and integrated coastal zone management falls disproportionately on the poor, the project therefore recognizes the link between adaptation and poverty reduction (GEF/C.24/12, paragraph 41)

C. COORDINATION WITH OTHER RELATED INITIATIVES: This project will ensure linkages with relevant initiatives, including: (1) the Second National Communication (SCN), whose objective is to report to the UNFCCC on national efforts to address climate change, to formulate a national strategy, and to identify priorities for mitigation and adaptation, including potential projects for funding in these areas. The SNC will carry out vulnerability and adaptation assessments, and will identify priority measures and polices to build resilience in different sectors. The SNC is expected to generate impact studies that will feed into the design of adaptation strategies, and has already established a national climate change country team which will form part of the project's steering committee at the national level. (2) The NAPAs are intended to outline a country's priorities regarding its most immediate and urgent adaptation needs. They are a first step toward addressing long-term adaptation initiatives therefore will be closely linked with PACC to integrate climate change into current plans, policies and programs. (3) Data from the AusAID funded Sea Level Monitoring Project (SLMP) will be used particularly for assessments and evaluation of adaptation options in the coastal sector. With its primary goal to generate an accurate record of variance in long-term sea level for the South Pacific and to establish methods to make these data readily available and usable by Pacific Island countries, it is a useful contribution to adaptation efforts in the region. Data from the SLMP has been running for over 14 years and is now in its fourth phase, which commenced on 1 January 2006 and is due to end on 31

December 2010. (4) The Climate Change and Biodiversity in Melanesia project funded by the Bishop Museum will document the institutional and socioeconomic adaptive capacity of Melanesian countries to effectively respond to climate change impacts including legislation, policies and capacity assessment; and to develop an integrated assessment of the vulnerability of Melanesia's biodiversity to climate change. The Melanesia study includes the islands of Fiji, Vanuatu, New Caledonia, Solomon Islands, Papua New Guinea, and the Indonesian Province of Papua. This project should provide PACC with important information on critical networks and socioeconomic information that would be helpful in improving resilience. (5) The NOAA funded Pacific Islands Global Climate Observing Systems specifically focused to improving the climate observation needs of the Pacific Meteorological Services therefore providing quality data for national use. An important partnership project between developed and developing countries in the area of Systems Observations. Projects such as PACC also benefit from quality data produced from national meteorological institutions as a result of such partnerships. (6) The GEF/UNDP funded Pacific Islands Greenhouse Gas Abatement through Renewable Energy Project is about reducing the growth rate of GHG emissions from fossil fuel use in the Pacific Island Countries (PICs) through the removal of the barriers to the widespread and cost effective use of feasible renewable energy (RE) technologies. It closely links with the PACC project through awareness of the importance of taking action now whether it is adaptation or mitigation.

D. ADDITIONAL COST REASONING: In general, adaptation in the Pacific has been "reactive" where strategies and responses to addressing climate change impacts are carried out on an ad-hoc basis or as part of post-disaster recovery and rehabilitation. Anticipatory adaptation to climate change is desirable but has not been integrated into sectoral activities. The project alternative scenario is an agriculture, water and coastal sector in the Pacific where climate risks are mainstreamed into relevant plans and programmes at the national and state level level and provincial levels. As with other SIDS, PICs are aware of and concerned about the impacts of climate change and sea-level rise given the exposure of main socio-economic and cultural activities and infrastructure being located on or near the coastline. Based on indication from national assessments such as initial communications (NCs), national adaptation plan of actions (NAPAs), regional assessment reports and workshops as referred to in earlier paragraphs and as ascertained during the national consultations with various stakeholders in each of the 13 participating country under the PACC project; it became apparent that integrating climate risks into development sectors of PICs is key to contributing to the achievement of development objectives and a steady sustainable growth. In the process, local stakeholders are informed about current climate vulnerability conditions and climate change risk factors, and incorporate this information into local policies and decisions. The project will develop a practical framework to guide the process of integrating agriculture, water and coastal sector climate change risks and adaptation into relevant policies, programmes and management plans. The guidance will serve as a comprehensive and practical reference on how local agriculture, water and coastal governance institutions can conduct the integration of climate change risks into ongoing strategies and plans more effectively. SCCF funds will contribute towards ensuring that climate change risks are mainstreamed from specialized forums on climate change to national and local institutions, particularly those involved in regional and local agriculture, water and coastal resource planning and management. Funds will be used to establish a practical framework to guide the process of integrating agriculture, water and coastal climate change risks and adaptation into relevant policies, programmes and management plans.

With SCCF support, the PACC project is looking to address the expected impacts of long-term climate change, which requires to increase the resilience of 3 key development sectors in 13 PICs to increased intensity and frequency of extreme climate events and related impacts, as well as sea-level raise and its direct consequences in a strategic and anticipatory manner. Central to its mission is piloting adaptation interventions in 3 key development sectors that would showcase practical and replicable anticipatory measures to adapt to changing climatic conditions. The PACC project therefore aims to contribute to the adoption of more sustainable practices as well as the integration of lessons learnt from piloting adaptation within current programmes and future planning. PACC's strategic response to climate risks embrace a long term perspective, where climate related knowledge is seen as embedded into national responses to development.

In the water sector, in a scenario without climate change, providing and ensuring water supply (availability, quantity and quality) is part of on-going development work. In concerned PICs and under climate neutral / current climate; water supply are able to meet the demand during drought period. However, as climate change is expected to alter the frequency, length and/or severity of drought occurrence, current water supply will be outpaced by the demand. The PACC strategy is to strategically define (at PDFB phase) and implement (at FSP phase) targeted adaptation interventions to ensure sustainability of the water system in view of long term expected impacts of climate change.

Therefore, the PACC will focus on improving the current water supply in pilot communities to adapt to a changing demand under a climate change scenario.

In agriculture, farming and coping strategies have traditionally existed for efficient dealing with past and current vulnerability. Apart from these traditional systems, additional and improved crop management strategies and agricultural development policies existed and have been implemented by governments with assistance from the international development community. However, in a climate change scenario, such coping strategies and initiatives will no longer be adequate. Further diversification and enhancement of approaches in securing access to food (in terms of quality and quantity) is a crucial way in preparing to cope with long term impacts of dimate change. Interventions under the PACC project will look at introduction of adaptation technologies to enhance crop management strategies and upscaling of best practices to increase the resilience of agricultural systems to the impacts of climate change.

In the management of coastal systems, governments have developed mechanisms to cope with climatic variations under a neutral /current climate scenario. Mechanisms for the maintenance of coastal assets and services to communities have been in place for many years with assistance from development partners in a disaster management and response context. In view of the exacerbated climatic conditions under a climate change scenario, a proactive approach to adaptation whereby climate risks are integrated into coastal planning and processes is seen as a more efficient and more cost effective option to address the long term impacts of climate change. The PACC pilots will implement adaptation interventions within coastal management plans at community and state levels with punctual demonstrations.

E. RISKS THAT MIGHT PREVENT THE PROJECT OBJECTIVE FROM BEING ACHIEVED AND RISK MITIGATION MEASURES: The principal risks, i.e. possible barriers to successful project implementation and externalities that may reduce project effectiveness, relate to: (i) National Coordinators with relevant qualification and experience in place to coordinate project activities at the national level, ii) Adequate community endorsement and project benefit understood; (iii) investment of time and effort to ensure buy-in/ownership of the project, iv) funds received in a planned and timely manner, v) technical assistance available that meets country needs and activities under the project, and vi) Country Teams actively involved in the implementation and monitoring and evaluation process. Mitigation measures include a strong emphasis on PIC hands-on project management and participation from the regional level, and a continuous dialogue between the project's donors, implementing partner, implementing agency, regional organizations and national governments. Key assumptions underlying the project design include: i) stakeholders are able to perceive reductions in vulnerability over the time-scale determined by project duration, ii) stakeholders are able to distinguish vulnerability to climate change from baseline weaknesses in coastal management, food production and food security and water resources management, iii) he government remains supportive to improved coastal management, food production and food security and water resources management, iv) turnover of staff does not negate the benefits of training, v) selected pilot province is best placed to demonstrate the benefits of measures to adapt to climate change, vi) communities are sufficiently homogeneous to support community action, vii) projects are under implementation long enough for lessons to be transferred to other projects before the end of the project and viii) regional backstopping support would be provided throughout the implementation period of the project.

F. COST-EFFECTIVENESS PROJECT DESIGN: The project will operate with participation and collaboration of different stakeholders. This will avoid duplication and promote complementarities among different projects, thus contributing to cost effectiveness. In addition, the communities' willingness to participate in the project with their labor and in-kind contribution also contributes to cost effectiveness. The project will also undertake intensive capacity-building interventions as an investment in human capital, producing a viable capacity to adapt to drought and climate change, which is a cost effective way of ensuring sustainability. The project has raised considerable interest and commitment from local stakeholders, expressed in an important volume of leveraged resources.

PART III: INSTITUTIONAL COORDINATION AND SUPPORT

A. PROJECT IMPLEMENTATION ARRANGEMENTS:

Implementation, execution and coordination of the Project will be carried out as detailed in this section. In brief, several activities are envisaged including the establishment of a Project Executive Group (PEG), the appointment of an

Implementing Partner (which includes the appointment of a Regional Project Manager, procurement of additional equipment and other requirements to support the project unit), and national implementation arrangements and coordination which include the setting up of a National Project Management Unit, consultation and signature/management of project documentation.

Project Management and Operational Coordination

Implementing Agency (IA)

UNDP, as the Implementing Agency, will provide the overall guidance on approval of key project activities, including fund commitments and co-financing arrangements. The UNDP Country Office in Samoa (UNDP-CO) will be responsible for this. The UNDP-CO together with the UNDP/GEF Regional Technical Advisor for Climate Change in the Asia/Pacific region will carry out all oversight functions are required by the GEF. Working in conjunction with the various project partners, UNDP-Samoa will be responsible for aspects of monitoring and evaluation (M&E), including organizing project reviews, approving annual implementation work plans and budget revisions (in consultation with the PEG), monitoring progress, identifying problems, suggesting actions to improve project performance, facilitating timely delivery of project inputs, and providing linkages to its other sub-regional, Asia-Pacific regional and global initiatives. All M&E functions will be carried out in line with standard procedures of UNDP.

UNDP via the UNDP PPR, i.e. UNDP Samoa, will provide the overall guidance and approval of key project activities, including fund commitments and co-financing arrangements vis-à-vis the Implementing Partner. The UNDP PPR, i.e., UNDP Samoa, together with UNDP Fiji, UNDP PNG and UNDP/GEF staff will carry out the UNDP/GEF oversight. Working in conjunction with the various project partners, the UNDP PPR, in close collaboration with UNDP Fiji and UNDP PNG, will be responsible for monitoring and evaluation (M&E), including organizing project reviews, approving annual implementation work plans and budget revisions, monitoring progress, identifying problems, suggesting actions to improve project performance, facilitating timely delivery of project inputs, and provide linkages to its other sub-regional, Asia-Pacific regional and global initiatives. All M&E functions will be carried out in line with standard UNDP and UNDP/GEF procedures.

Project Executive Group (PEG) (equivalent of a Project Steering Committee)

In line with UNDP's results management guide (RMG), a Project Executive Group will be established at the regional level. A PEG is set up with responsibilities over management decisions including approving implementation work plans and budget revisions, identifying problems, and suggesting actions to improve project performance. The PEG will be chaired by UNDP Samoa and composition will be as follows: Executive: UNDP Samoa Resident Representative, Senior Beneficiaries: a representative from each participating countries and Senior Supplier: SPREP Executive Director. The PEG is scheduled to meet once a year, allowing for the stakeholders to review the progress with the project implementation and to agree on a coordinated annual project implementation strategy and plan.

The PACC project will be guided by the PEG, which is charged with providing regional oversight (including scientific, technical, policy and management) to the implementation of PACC. It will ensure that issues relating to wider adaptation debates/issues are incorporated in the work of the National Climate Change Country Teams (NCCCTs) and other key stakeholders in the project.

In addition, the provision of overall guidance to project implementation, PEG will also support and provide guidance, as appropriate, to the Regional Project Manager and the PMO. PEG will be responsible for the coordination of regional activities so as to avoid duplication of efforts and will ensure that that the project activities are fully in line with the existing and emerging climate change policies and priorities in the region.

Each PEG member will be responsible for the coordination of project activities and activities of the organizations he/she represents to avoid duplication of effort. On request from the RPM, the PEG will provide guidance on the execution of project activities.

Regional Coordination and Implementation Arrangements

Implementing Partner (IP)

In accordance with UNDP Results Management Guide, SPREP, as an Implementing Partner (IP) is responsible and accountable to UNDP Samoa for coordinating the PACC, achieving its outputs, producing results and for the effective use of UNDP resources. Therefore, SPREP will be the sole agent responsible for overall planning, management, coordination and administration of the national implementation in the 13 participating countries and providing a regional technical support through engaging other CROP agencies or consultants to support national implementation as appropriate.

PACC will be one of the cornerstones of the climate change component of SPREP's Pacific Future's Programme and will be implemented within the framework of its programmatic approach thereby enabling the utilization of the multidisciplinary experts employed in the organization in the areas of training and awareness raising, finance, law and policies, energy, waste management, climate change negotiations as well as in climate monitoring (see Annex XX for an overview of SPREP).

Regional Project Management Office (PMO)

The PMO will be established and located in SPREP as part of its Pacific Futures Programme and the PMO will be responsible for the overall project operation and financial management and reporting in accordance with the rules and regulations for UNDP NEX projects. Regional and international experts will be contracted to support the PMO as and when needed to undertake various project activities.

The PMO will coordinate with all project partners both at the national and regional levels. The RPM will be primarily responsible for the day-to-day operation of the PMO, including coordination, provision of technical, scientific and policy guidance and advice and ensuring that project activities at the national and regional levels are efficiently and effectively carried out. He/She will liaise with the relevant CROP agencies as well as NGOs, civil society and co-financing partners. The RPM will also be responsible to UNDP for the achievement of project objectives and for all reporting requirements as envisioned in the project formulation, including periodic reporting of progress of project implementation and financial reporting. He/She will ensure that the project is executed in line with the NEX procedures.

Regional Project Manager (RPM)

A full-time Regional Project Manager (RPM) for PACC will be contracted, funded by the project and based at SPREP. As part of co-financing for the PACC, SPREP will provide administrative, logistical and technical support for the Regional Project Manager (RPM) in order to effectively establish a PACC PMO. This Regional Project Management Office (PMO) composed of the RPM and a Project Officer will be responsible for the planning and execution of the PACC, and undertake key activities of the project including financial disbursements to PACC countries, hiring of consultants, and preparation of meetings, workshops, liaising and collaborating with PACC national focal points or project managers in the implementation of project activities. The PMO will work closely with UNDP Samoa covering all facets of the PACC implementation.

Project Officer

A Project Officer (Technical/Administrative Support position) will assume direct responsibility for the financial management of the PACC Project, under the supervision of the Regional Project Manager whilst also working closely with other UNDP/GEF and SPREP staff. Close liaison will be required with the National project delivery teams (13 National Project Managers and National Assistants) and other regional partners to strengthen the technical and administrative capacity of the regional PMO and the national PMUs.

SPREP will be accountable to UNDP Samoa for the achievement of the project objectives and for all reporting, including the submission of work plans, progress reports, audit and financial reports. SPREP will be responsible for financial control of the UNDP/GEF project implementation using the National Execution (NEX) modality of UNDP. SPREP, working through the RPM; will assume responsibility for entering into the necessary work arrangements with

other regional organizations to maximize efficient and effective project implementation. SPREP will also provide institutional support to the RPM to engage services consistent with delegations provided by the Director under SPREP's Financial Regulations. SPREP will provide the RPM with full support in order to maintain a close record of all expenditures planned or made under the project in full accordance with relevant UNDP procedures and guidelines, as detailed in the UNDP Results Management User Guide. In addition to SPREP and UNDP, the RPM will also report to the PEG on the disbursement of funds under the project in order to ensure full transparency. Funding disbursement will follow the PIREP and the PIGGAREP models where project disbursements are based on a reimbursement basis or direct payments made by SPREP on behalf of the countries.

National Coordination and Implementation Arrangements

The implementation of project activities at the national level will be based on the "country team" approach, which was originally used for PICCAP and will continue to provide for basis of implementation at the country level. Thus 13 multisectoral National Climate Change Country teams (NCCCTs), which include the private sector and NGOs, will provide oversight and approve work programmes and budgets for the implementation of project activities at the national level in each of the 13 countries. In addition to the NCCCTs, a Project Management Unit (PMU) will be established within each of the National PACC implementing agencies (NPIA). In all cases the NPIA will be physically located in a government department for example, the Ministries of Environment, Meteorology, Public Works or Utilities and Infrastructure. Arrangements will be considered according to the arrangement of portfolios in each country.

The National PMU will comprise of:

A Project Manager/National Project Coordinator for PACC (NPM/NPC) who will work full time on the project will be fully paid by the project. The NPM/NPC, among others, will be responsible for the day-to-day management and implementation of all national project activities. The PMU will serve as a secretariat to the NCCCT on matters relating to PACC project implementation.

Most of the project activities will be conducted at the national level, implementing on-the-ground activities, utilizing national experts and involving as much as possible the communities in which the project activities will be implemented. This will enable the project to have greater impacts and heightened visibility not only within the specific communities/villages but also at the national and regional levels. Additionally, use of local/national expertise and local communities in project implementation will ensure national ownership of the project thus providing the impetus for long-term sustainability.

The NCCTs act as the national steering committee and will ensure that all relevant professionals from government, non-government, and civil society and community organisations who are involved in managing, coordinating and implementing the in-country activities carry out their role accordingly. Thus, the NCCCT, while providing overall oversight to project implementation at the national and local levels, will also make use of local technical experts (i.e. technical working groups) who will carry out specific tasks/work relating to PACC project.

Further scientific, technical, policy and management guidance can be provided by relevant regional organisations (CROP agencies), national, regional and international consultants upon request by the NCCCT and/or the national PMU in consultation with the RPM. Relevant in-country and regional activities will be sub-contracted to and executed by the appropriate regional organisations with expertise and time on a cost reimbursement basis only and provided those activities are not already funded as co-financing activities.

National government professionals and other relevant national stakeholders from the private sector and civil society will, to the extent possible, manage, coordinate and implement the in-country activities. The NCCCT will upon request to the RPM and as per agreed-to work plans be provided with external technical assistance for implementation of specific in-country activities. Relevant regional organisations, national consultants, regional consultants or international consultants can provide such needed expertise. The PICs have the prerogative to engage the services of regional organisations in the implementation of their in-country activities if they deem necessary.

Regional Technical Assistance

In order to support national implementation in the 13 countries, a technical support will be coordinated by SPREP. This backstopping support can provide further scientific, technical, policy and management guidance to countries upon request by the NCCCT and/or the national PMU in consultation with the RPM. Regional organisations, which have comparative advantage vis-à-vis the activities, will be designated as sub-contractor for those activities. Alternatively, external experts will be commissioned through the project to provide specific advice or support.The RPM will coordinate closely with the respective National Project Managers/National Coordinators the outputs from all project activities.

Regional Reporting Mechanism

SPREP as part of its role as the Implementing Partner for the PACC will report to the annual SPREP Council meetings on the progress of the PACC and its contributions to the PIFACC.

Audit Arrangements

SPREP will provide the UN Resident Representative with certified periodic financial statements, and with an annual audit of the financial statements relating to the status of UNDP (including GEF) funds according to the established procedures set out in the Programming and Finance manuals. The Audit will be conducted by the legally recognized auditor of SPREP, or by a commercial auditor engaged by SPREP.

Project Accreditations

In order to accord proper acknowledgement to the GEF SCCF for providing funding, a GEF logo will appear on all relevant PACC project publications, including among others, any project hardware and vehicles purchased with GEF funds. Any citation on publications regarding projects funded by GEF will also accord proper acknowledgement to GEF. Where UN visibility is necessary for security purposes, the UNDP logo will be more prominent and separated from the GEF logo where possible. Logos of the IA and IP will also appear on all publications.

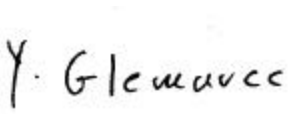
PART IV: ALIGNMENT OF PROJECT DESIGN WITH THE ORIGINAL PIF:

The proposal was modified in order to define more precisely the boundaries of the project and its proposed activities, and to allow for a clear distinction between baseline and project activities. The expected outcomes were modified as follows:

Approved PIF	*Modified Project Design*
Outcome 1: Policy changes to deliver immediate vulnerability- reduction benefits in context of emerging climate risks implemented.	**Outcome 1:** Policy changes to deliver immediate vulnerability- reduction benefits in context of emerging climate risks implemented.
Outcome 2: Demonstration measures to reduce vulnerability in coastal areas and crop production (in Fiji, Papua New Guinea and Solomon Islands) and in water management (in Nauru, Niue, Tonga and Tuvalu) implemented.	**Outcome 2:** Demonstration measures to reduce vulnerability in coastal areas (Cook Islands, FSM, Samoa and Vanuatu) and crop production (in Fiji, Palau, Papua New Guinea and Solomon Islands) and in water management (in Marshall Islands, Nauru, Niue, Tonga and Tuvalu) implemented.

Outcome 3: Capacity to plan for and respond to changes in climate-related risks improved.	**Outcome 3:** Capacity to plan for and respond to changes in climate-related risks improved.

PART V: AGENCY CERTIFICATION

This request has been prepared in accordance with GEF policies and procedures and meets the LDCF/SCCF criteria for CEO Endorsement.	
 Yannick Glemarec Executive Coordinator UNDP/GEF	Project Contact Person Pradeep Kurukulasuriya Technical Advisor, Climate Change Adaptation. UNDP/GEF
Date: August 15, 2008	Tel. and Email (212) 906-6843 pradeep.kurukulasuriya@undp.org

ANNEX A: PROJECT RESULTS FRAMEWORK

Project Strategy	Indicator*	Baseline value	Target and benchmarks	Sources of verification	Risks and Assumptions
Goal: To reduce vulnerability and to increase adaptive capacity to the adverse effects of climate change in key Development Sectors identified by 13 participating countries in the Pacific.					
Objective: To enhance the capacity of the participating countries to adapt to climate change, including variability, in selected key development sectors.	Number of references to vulnerability of the coastal, crop production and water sector to climate risks in policies, plans and projects.	Climate change risks in the coastal, crop production and water sector are not acknowledged in relevant policies, plans and projects both at the national and local level.	By the end of the project, 100% of national and regional relevant plans in all participating countries include climate change risk considerations for the coastal, crop production and water sector.	Surveys/interviews /plans	There is political willingness to integrate climate change related risks into coastal, crop production and water sector management plans, policies and strategies
Outcome 1: Policy changes to deliver immediate vulnerability-reduction benefits in context of emerging climate risks defined in all 13 PACC countries.	Number of references to coastal, crop production and water sector climate change risks in relevant plans and programmes.	Relevant development and risk management plans do not include climate change risks on the coastal, crop production and water sector.	By the end of the project, climate change risks in the coastal, crop production and water sector are addressed in three (3) national plans and at least two (2) provincial development plans.	Survey and review of national and provincial coastal, crop production and water sector management plans.	Political will to review the plans is ensured and maintained throughout the life of the project.
Output 1.1: Develop methodology and tools to assist Pacific Island countries mainstream climate change into their current national development plans and priorities.	**1.1.1** Number of instances where the Guidelines on climate change risk management have been applied in national and sub-national coastal, crop production and water sector related plans and programmes. **1.1.2** Number of plans that integrate climate change risk issues related to coastal, crop production and water sector management.	Relevant development and risk management plans, both at the national and the local level, do not address climate change risk in the coastal, crop production and water sector.	By the end of the project, the National coastal, crop production and water sector Management Plan, Sustainable Development Plan, National Risk Management Plan, and at least two (2) Provincial /Risk management Plans include climate change risk and adaptation measures for the coastal, crop production and water sector in country all 13 PACC countries.	Survey and review of revised relevant national plans.	Political will to review the plans is ensured and maintained throughout the life of the project.
Output 1.2 Climate change economic tools for evaluation of adaptation options developed and utilized.	**1.2.1** By the end of year two, a report of the findings of economic costing of adaptation options disseminated	Currently, no such models exist.	By the end of the project, at least 5 countries have used the model in their pilot sites.	Evaluation reports	Relevant experts are available.

Project Strategy	Indicator*	Baseline value	Target and benchmarks	Sources of verification	Risks and Assumptions
<u>Outcome 2:</u> Demonstration measures to reduce vulnerability in coastal areas and crop production (in Fiji, Papua New Guinea and Solomon Islands) and in water management (in Nauru, Niue, Tonga and Tuvalu) implemented.	Number of adaptation measures implemented at the national level Number of adaptation measures implemented at the sub-national level Number of adaptation measures implemented at the local (community) level.	No long-term climate change adaptation measures implemented.	By the end of the project, adaptation measures to address climate change risks in the coastal, crop production and water sector have been adopted by: – All countries (100%) at the national level. – 50% of countries at the sub-national level. – At least three (3) communities in each country.	Evaluation reports Field Surveys	Local stakeholders support the adoption of adaptation measures.
Output 2.1.1a: Guidelines to integrate coastal climate risks into an integrated coastal management programme.	**2.1.1a** At the end of year two, a Guidelines is developed and is applied to two (2) national and sub-national coastal sector related plans and programmes.	No long-term climate risk coastal management in place.	By the end of the project, at least one (1) community has implemented the Guidelines developed in the coastal management planning.	Field Surveys	Selected pilot island/community is best placed to demonstrate the benefits of measures to adapt to climate change.
Output 2.1.1b: Measures identified in the Guidelines (2.1.1a) demonstrated in Manihiki communities (with co-financing support).	**2.1.1b** Number of government officers in the coastal management section that incorporate climate change risk into their coastal management planning	No officer trained in applying climate risk management into coastal management planning.	By the end of the project, at least 10 government officers in the coastal management section to incorporate climate change risk into their coastal management planning and implementation improved during the life of the project.	Field Surveys	Selected pilot island/community is best placed to demonstrate the benefits of measures to adapt to climate change.
	2.1.2b At the end of year four, one (1) measure to reduce climate change risks on coastal systems is in place.	Currently, no coastal development have taken future changes in climate into consideration.	By the end of the project, at least one (1) project that incorporates climate change risk into an integrated coastal management plan is demonstrated.	Field Survey	Selected pilot island/community is best placed to demonstrate the benefits of measures to adapt to climate change.
Output 2.2.1a: Guidelines to integrate climate risks (e.g. intense rainfall and storm surges) into coastal road designs.	**2.2.1a** At the end of year two, a Guidelines is developed and applied to two (2) national and sub-national coastal road management plans and programmes.	None exist.	By the end of the project, at least 1 Guidelines is developed and applied.	Field Surveys	All key stakeholders support the work to be carried out.

Project Strategy	Indicator*	Baseline value	Target and benchmarks	Sources of verification	Risks and Assumptions
Output 2.2.1b: Measures identified in the Guidelines (2.2.1a) demonstrated in Walung community, Kosrae (with co-financing support).	**2.2.1b** At the end of year four, one (1) climate change resilient coastal road design system is in place.	None exist.	By the end of the project, at least one (1) design that incorporates climate change risk into coastal road systems is implemented.	Field Surveys	All key stakeholders support the work to be carried out.
Output 2.3.1a: Guidelines to incorporate climate risks into an integrated community based coastal management model.	**2.3.1a** At the end of year two, two (2) national or sub-national coastal management policies/plans developed and adopted.	None exist	By the end of the project, at least one (1) integrated coastal community protection model (in the form of a plan) taking climate risk management into account is developed.	Field Surveys Model documentation	Relevant expertise is available.
Output 2.3.1b: Measures identified in the Guidelines (2.3.1a) demonstrated in Vaa o Fonoti to Gagaifomauga district (with co-financing support).	**2.3.1b** At the end of year four, one (1) coastal community defense and erosion control model (in the form of a plan) taking climate risk into consideration is in place.	None exist	By the end of the project, at least one (1) project that incorporates climate change risk into an integrated coastal community defense and erosion control model is demonstrated.	Field Surveys Actual pilot	Relevant expertise is available.
Output 2.4:1a Guidelines that incorporate multistakeholder decision-making in the redesign and relocation of roads due to the impacts of climate change.	**2.4.1a** Number of instances where a multi-stakeholder decision-making system in place.	No clear decision making system is in place for road infrastructure relocation.	By the end of the project, at least one (1) multi-stakeholder decision making system for relocation of road infrastructures in isolated coastal communities is used.	Field Surveys Government report	All stakeholders have the same understanding and support.
Output 2.4:1b Measures identified through use of the Guidelines (2.4.1a) demonstrated in Epi communities, Shefa Province (with co-financing support).	**2.4.1b** Practical guidance provided through demonstration project.	No such guidance is available at present.	By the end of the project, at least one (1) multi-stakeholder decision making system for relocation of road infrastructures in isolated coastal communities is demonstrated.	Field Surveys Government report	Public Works Department have the necessary background technical information.
Output 2.51a: Guidelines for design of drains and drainage networks to adapt to future rainfall regimes.	**2.5.1a** Practical guidance is approved by relevant authorities.	No such guidance is available at present.	By the end of the project, at least the Tailevu and Navua drainage schemes have demonstrated the Guidelines.	Field Surveys Government report	All relevant base data are easily accessible.
Output 2.5.1b: Measures identified in the Guidelines (2.5.1a) demonstrated in Tailevu/Rewa and Serua Namosi Province (with co-financing support).	**2.5.1b** Number of drainage schemes implementing the new design.	No design that takes into consideration long-term change in precipitation in place.	By the end of the project, at least the Tailevu and Navua drainage schemes would demonstrate the new design.	Field Surveys Government report	Farmers collaborate in the demonstration process and capturing of lessons.

Project Strategy	Indicator*	Baseline value	Target and benchmarks	Sources of verification	Risks and Assumptions
Output 2.6.1a Guidelines to improve resilience of coastal food production systems to the impacts of climate change.	**2.6.1a** Number of Guidelines developed and applied.	No such Guidelines are available at present.	By the end of the project, at least one (1) Guidelines is developed and applied in Ngatpang State in Palau.	Ngatpang State report Field Survey	All necessary background information are available.
Output 2.6.1b Measures identified in the Guidelines (2.6.1a) demonstrated in Ngatpang State/Communities (with co-financing support).	**2.6.2b** Number of measures demonstrated.	No new measures in place that have taken climate change into consideration	By the end of the project, at least one (1) community in Ngatpang State has demonstrated and accepted a measure developed and applied through the project.	Ngatpang State report Field Survey	State Government contribute to the PACC initiative.
Output 2.7.1a: Guidelines for design of underground irrigation networks to adapt to future rainfall regimes.	**2.7.1a** Number of Guidelines developed and applied.	No such guidance is available at present.	By the end of the project, at least one (1) Guidelines is developed and applied in the larger community of Kivori Poe in PNG.	Department of Agriculture report Field Survey	All relevant base data are easily accessible.
Output 2.7.1b: Measures identified in the Guidelines (2.7.1a) demonstrated in Kivori Poe, Kairuku district, Central Province (with co-financing support).	**2.7.1b** Number of measures demonstrated.	No design that takes into consideration long-term change in precipitation in place.	By the end of the project, at least one (1) community in the larger community of Kivori Poe in PNG has demonstrated and accepted a measure developed and applied through the project.	Department of Agriculture report Field Survey	Farmers collaborate in the demonstration process and capturing of lessons.
Output 2.8.1a: Guidelines for reducing vulnerability of small isolated island communities' to the effects of climate change in the food production and food security sector.	**2.8.1a** Number of Guidelines developed and applied.	No such guidance is available at present.	By the end of the project, at least 1 Guidelines is developed and applied.	Department of Agriculture report. Field Survey	Transportation is not disrupted by bad weather.
Output 2.8.1b: Measures identified in the Guidelines (2.8.1a) demonstrated in Ontong Java Island (with co-financing support).	**2.8.1b** Number of measures demonstrated in small island communities.	No new measures in place that have taken climate change into consideration	By the end of the project, at least one (1) small island community in the Solomon Islands has demonstrated and accepted a project intervention.	Department of Agriculture report. Field Survey	Transportation is not disrupted by bad weather
Output 2.9.1a: Guidelines for improving water retention through redesign and retrofit of existing water-holding tanks to enhance resilience to drought events..	**2.9.1a** Number of instances of practical guidance prepared and approved.	No cases of any best practice recorded.	By the end of the project, at least one (1) instance of practical guidance is developed and demonstrated in the existing water holding tanks in the Marshall Islands.	Government Report Field Survey	Political will at the national level is maintained.

Project Strategy	Indicator*	Baseline value	Target and benchmarks	Sources of verification	Risks and Assumptions
Output 2.9.1b: Measures identified in the Guidelines (2.9.1a) demonstrated in Majuro town (with co-financing support).	**2.9.1b** Number of measures demonstrated.	No adaptation measures in place.	By the end of the project, at least one (1) intervention to minimize evapotranspiration in the current water holding tank implemented in a pilot situation.	Government Report Field Survey	Political will at the national level is maintained.
Output 2.10.1a: Guidelines for design of hybrid water supply systems to enhance resilience to drought events.	**2.10.1a** Number of hybrid designs combining current community water supply and storage and groundwater sources.	No such design exists a present.	By the end of the project, at least one (1) guidance is developed in Nauru.	Government Report Field Survey	Groundwater investigation is carried out as planned by Government.
Output 2.10.1b: Measures identified in the Guidelines (2.10.1a) demonstrated in Anabar district (with co-financing support).	**2.10.1b** Number of hybrid designs combining current community water supply and storage and groundwater sources demonstrated.	No such design exists or demonstrated.	By the end of the project, at least 1guidance is developed and demonstrated in a pilot situation in Nauru.	Government Report Field Survey	Groundwater investigation is carried out as planned by Government.
Output 2.11.1a: Guidelines for design of water storage systems on a raised atoll island to enhance resilience to drought events.	**2.11.1a** Number of instances of practical guidance being used.	No previous experience in such design.	By the end of the project, at least one (1) practical guidance is in place and five (5) officers trained on the use of the guide.	Guide document Training report	All stakeholders provide necessary support.
Output 2.11.1b: Measures identified in the Guidelines (2.11.1a) demonstrated in Liku to Avatele district (with co-financing support).	**2.11.1b** Number of improved water storage systems on a raised atoll island to enhance resilience to prolonged drought situations in place.	No previous experience in place.	By the end of the project, at least 1 guidance to improve water storage systems is demonstrated in a pilot situation in Niue.	Government Report Field Survey	All stakeholders provide necessary support.
Output 2.12.1a: Guidelines for water resource use and management response to increased ENSO frequency.	**2.12.1.a** Number of guidance in place.	No previous experience in such design.	By the end of the project, at least 1 practical guidance document is produced in Tonga.	Government Report Field Survey	All communities concerned support the project interventions.
Output 2.12.1b: Measures identified in the Guidelines (2.12.1a) demonstrated in Hihifo district (with co-financing support).	**2.12.1b** Number of interventions to improve water management during ENSO in place.	None is available at present.	By the end of the project, at least 1 guidance is demonstrated in Tonga	Government Report Field Survey	

Project Strategy	Indicator*	Baseline value	Target and benchmarks	Sources of verification	Risks and Assumptions
Output 2.13.1a: Guidelines for climate proofing integrated water management plans.	**2.13.1a** Number of instances of guidance.	This activity has never been carried out.	By the end of the project, a guide on how to climate proof water management plans in place.	Government Report Field Survey	All stakeholders support the process.
Output 2.13.1b: Measures identified in the Guidelines (2.13.1a) demonstrated in Fogafale village (with co-financing support).	**2.13.1b** Number of interventions to climate proof current integrated water management plan demonstrated.	No previous in carrying out this work.	By the end of the project, Tuvalu's current integrated water management plan is climate proofed.	Climate proofed water management document developed and disseminated.	All stakeholders support the process.
Outcome 3: Capacity to plan for and respond to changes in climate related risks improved.	Number of instances of technical support provided to the 13 PICs and acceptance.	Carried out in ad hoc arrangements.	By the end of the project, the 13 PICs rate that the quality of support received as a 1 (out of 4, with 1 being excellent and 4 being poor).	Country reports PACC Annual Reports Workshop Reports Evaluations	All stakeholders support the process.
Output 3.1.1: Technical advice for implementation of national adaptation	**3.1.1** Number of instances of technical guidance provided and accepted.	Regional support mechanisms ad hoc in nature.	By the end of year 2, the Support Mechanism for the Project is in place and receives positive comments from all PICs.	Country comments in quarterly reports Evaluations	All stakeholders support the process.
Output 3.1.2: Best practices and lessons exchanged among countries through SPREP.	**3.1.2** Number of lessons exchanged.	No climate change adaptation lessons have been shared around the region in a systematic fashion.	By the end of year 4, at least 52 lessons are documented and exchanged (four lessons for each of the 13 PICs).	Country reports PACC Annual Reports Workshop Reports Evaluations Publications	All stakeholders at the national and regional level play their part in capturing, documenting and sharing lessons.
Output 3.1.3: Project website established at SPREP.	**3.1.3** Project website functioning	No specific website targeted at climate change adaptation.	By the end of the 2nd year of the project, the PACC project website is established at SPREP	Website address and site.	All stakeholders support the development of the site.

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, Responses to Comments from the Convention Secretariat and STAP made at PIF)

GEF SECRETARIAT REVIEW FOR FULL/MEDIUM-SIZED PROJECTS

Country/Region :	Regional (Cook Islands, Micronesia, Fiji, Nauru, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu, Marshall Islands, Palau)
Project Title :	Pacific Adaptation to Climate Change Project (PACC)
GEFSEC Project ID :	3101 **UNDP Project ID :** 2162
GEF-4 Strategic Prog :	**GEF Agenc(ies) :** UNDP
Anticipated project financing ($ million) :	PPG : 0.35 GEF Project Grant : 13.13
	Co-Financing : 39.20 Total Project Cost : 52.68
PIF Approval Date :	**Target Work Program Date :** November 2007
Program Manager :	Bonizella Biagini **GEF Agency Contact Person :** Andrea Volentras

At PIF/Work Program Inclusion	*At CEO endorsement (FSP)/Approval (MSP)*

A. Eligibility

1. Is the Participating Country eligible?

Yes. All 13 countries are non-annex I under the UNFCCC and is thus eligible for support under the SCCF.

2. Has the operational focal point endorsed the project?

Yes. Signed letters of endorsement have been received for all 13 countries.

However, several of these operational focal point endorsement letters are more than 2 years old, including two which are not signed by the current GEF OFP (Tonga and Tuvalu). By CEO endorsement it is expected that up to date endorsement letters are provided for all participating countries.

By CEO endorsement it is expected that up to date endorsement letters are provided for all participating countries.

3. Which GEF Strategic Objective/Program does the project fit into?

SCCF

4. Does the Agency have a comparative advantage for the project?

Yes. The project is within UNDP's comparative advantage in capacity building as articulated in the GEF matrix.

B. Resource Availability

5. Is the proposed GEF Grant (including the Agency fee) within the resources available for (if appropriate):

- The RAF allocation?

N/A

- The focal areas?

N/A

- Strategic objectives?

N/A

- Strategic Program

Yes. As this project addresses adaptation to CC in highly vulnerable countries, it is a top priority under the SCCF and adequate funds have thus been reserved for it. The general freeze of the SCCF pipeline is thus not applicable for this specific project.

C. Project Design

6. Will the project deliver tangible global environment benefits?

Yes. Tangible adaptation benefits will be delivered primarily through component 2, which includes implementation of pilot adaptation measures in coastal management, agricultural management, water management. Other tangible outputs from the proposed project would include: updated legislation, increased

Not Applicable at CEO Endorsement (FSP)/Approval (MSP)

At PIF/Work Program Inclusion	At CEO endorsement (FSP)/Approval (MSP)
institutional capacity and shared information among participating countries.	

7. Is the global environmental benefit measurable?

Not Applicable at PIF/Work Program Inclusion

8. Is the project design sound, its framework consistent sufficiently clear (in particular for the o

Yes. Conceptually this project is very clear and promises to address both overarching cross-regional adaptation concerns (such as lacking institutional capacity and a framework for regional coordination and knowledge management), and specific national adaptation needs (updated national policies and strategies, and pilot measures to be implemented in individual countries in response to specific national vulnerabilities).	The current description is thus acceptable under the condition that baseline description and adaptation rationale is considerably strengthened by CEO endorsement with a clear baseline/adaptation alternative argumentation both at the regional level and at the level of the individual country.
However, due to its wide regional and sectoral scope, baseline problem description is relatively general and vague, and does not provide a clear rationale for the proposed adaptation interventions neither in the regional nor the individual country context. This is acceptable at this stage, as it would be impossible to do so in reasonable detail for 13 different regions across the pacific in a 4 page PIF. The current description is thus acceptable under the condition that baseline description and adaptation rationale is considerably strengthened by CEO endorsement with a clear baseline/adaptation alternative argumentation both at the regional level and at the level of the individual country.	

9. Is the project consistent with the recipient country's national priorities and policies?

Yes. The proposed project responds to common priorities identified in regional consultations such as the 'Fourteenth Pacific Regional Environment Programme Council	A more detailed description for each country, including a reference to national communications and NAPAs (where available), should be included at CEO endorsement. If necessary, an annex including

At PIF/Work Program Inclusion	*At CEO endorsement (FSP)/Approval (MSP)*
Meeting' in 2003 and the GEF assisted 'Pacific Islands Climate Change Assistance Programme (PICCAP)'. Project interventions will also be aligned with national development priorities, of which a very brief list is provided in this PIF. Again, it would be unreasonable to expect a detailed description of how the project is aligned with each individual country's national priorities in a 4 page PIF. A more detailed description for each country, including a reference to national communications and NAPAs (where available), should be included at CEO endorsement.	the adaptation interventions to be implemented in each island will be attached to the submission.
10. Is the project consistent and properly coordinated with other related initiatives in the country or in t	
Yes. The project will be coordinated with related initiatives under the GEF-Pacific Alliance for Sustainability (PAS), and in particular with the GEF funded IW project 'Regional - Implementing Sustainable Integrated Water Resource and Wastewater management in the Pacific Island Countries'. Again this is a very general description that will have to be elaborated on a country by country basis by CEO endorsement. Furthermore, it is of crucial importance that coordination be sought with the UNDP/UNEP IW project throughout project preparation, and that 'this coordination be formalized by CEO endorsement with annual reporting and a budget assigned to it' (input from IW PM). This is particularly important in the 4 countries that will implement pilot measures in the water management sector (Nauru, Niue, Tonga and Tuvalu) as there is high risk for overlap in these countries.	Again this is a very general description that will have to be elaborated on a country by country basis by CEO endorsement. Furthermore, it is of crucial importance that coordination be sought with the UNDP/UNEP IW project throughout project preparation, and that 'this coordination be formalized by CEO endorsement with annual reporting and a budget assigned to it' (input from IW PM). This is particularly important in the 4 countries that will implement pilot measures in the water management sector (Nauru, Niue, Tonga and Tuvalu) as there is high risk for overlap in these countries.
11. Is the proposed project likely to be cost-effective?	
Yes. By implementing national adaptation action in a regional framework, transaction costs are minimized as	Not Applicable at CEO Endorsement (FSP)/Approval (MSP)

the costs of management and overarching activities (such as technical assistance, M&E etc.) are shared among participating countries. This will significantly lower total costs compared to a situation in which each country implements independent projects. Also, project implementation will emphasize 'soft' measures and least-cost options.

12. Has the cost-effectiveness sufficiently been demonstrated in project design?

Not Applicable at PIF/Work Program Inclusion

13. Is the project structure sufficiently close to what was presented at PIF?

Not Applicable at PIF/Work Program Inclusion

14. Does the project take into account potential major risks, including the consequences of clima

Not clear.

Section F of the LDCF/SCCF PIF template has been left out of this submission.

Recommended action:

Please include section F of the template, briefly outlining major risks and mitigation measures.

D. Justification for GEF Grant

15. Is the value-added of GEF involvement in the project clearly demonstrated through incremental reas

As mentioned under section 8 above, baseline and additional cost discussion is (by necessity) fairly general and vague. The overarching additional argument for intervention in the region is accepted, but will have to be significantly expanded by CEO endorsement. Please refer also to comments under section 8.

Please refer to comments under section 8.

It is not currently clear whether or not the project will utilize the simplified modalities for determining additional cost under the 'sliding scale'. With current levels of co-financing (75% of total project costs) the project would just qualify under the sliding scale. However, if co-financing levels drop significantly or if it is decided

At PIF/Work Program Inclusion	*At CEO endorsement (FSP)/Approval (MSP)*
It is not currently clear whether or not the project will utilize the simplified modalities for determining additional cost under the 'sliding scale'. With current levels of co-financing (75% of total project costs) the project would just qualify under the sliding scale. However, if co-financing levels drop significantly or if it is decided not to utilize the sliding scale, additional cost of project interventions in each of the 3 components would have to be clearly quantified and justified in the CEO endorsement document.	not to utilize the sliding scale, additional cost of project interventions in each of the 3 components would have to be clearly quantified and justified in the CEO endorsement document.

16. How would the proposed project outcomes and global environmental benefits be affected if GEF does not invest?

Not Applicable at PIF/Work Program Inclusion

17. Is the GEF funding level of project management budget appropriate?

Management cost are well below 10% of total LDCF investment, which is satisfactory. However, current GEF policies requests that project management cost are shared between LDCF and co-financiers at a pro-rata basis in relation to the total cost contribution.

Recommended action: Management costs should be covered at a pro-rata basis compared to the full project cost distribution. (i.e. as the co-financing ratio of the present project is close to 75%, this should also be the approximate co-financing ratio of its management costs)

18. Is the GEF funding level of other cost items (consultants, travel, etc.) appropriate?

Not Applicable at PIF/Work Program Inclusion

19. Is the indicative co-financing adequate for the project?

Yes. The co-financing level of around 75% of total project costs are adequate for a project of this size. If all claimed co-financing is secured, the project would just qualify under the proportional sliding scale.

Not Applicable at CEO Endorsement (FSP)/Approval (MSP)

20. Are the confirmed co-financing amounts adequate for each project component?

Not Applicable at PIF/Work Program Inclusion

21. Does the proposal include a budgeted ME Plan that monitors and measures results with indicators and targets?

Not Applicable at PIF/Work Program Inclusion

E. Secretariat's Response to various comments from:

- STAP

Not yet available.

- Convention Secretariat

Not yet available.

- Agencies' response to GEFSEC comments

Not Applicable at PIF/Work Program Inclusion

- Agencies' response to Council comments

Not Applicable at PIF/Work Program Inclusion

F. Secretariat Decisions

22. Is PIF clearance being recommended?

Not yet.

Not Applicable at CEO Endorsement (FSP)/Approval (MSP)

The project idea, design and adaptation rationale is generally clear and qualifies for support under the SCCF. The limitations set by the PIF format makes it difficult to evaluate the appropriateness of the proposed project interventions both at the regional and individual country level. Sections describing the baseline/additional cost argument, the description of fit with national priorities and coordination with related initiatives in the region and individual countries, will thus have to be significantly expanded by CEO endorsement as outlined in the comments of section 8,9,10 and 15.

At PIF/Work Program Inclusion	*At CEO endorsement (FSP)/Approval (MSP)*
The PIF would be reconsidered for approval and WP inclusion following the revision of the recommended actions mentioned under section 14 (project risk and mitigation measures) and 17 (management cost at a pro-rata basis).	
23. Items to consider at time of CEO Endorsement.	
Please refer to comments under section 2,8,9,10 and 15.	Not Applicable at CEO Endorsement (FSP)/Approval (MSP)
24. Is CEO Endorsement being recommended?	
Not Applicable at PIF/Work Program Inclusion	

REQUEST FOR PPG APPROVAL

1. Are the proposed activities for project preparation appropriate?

N/A

2. Is itemized budget justified?

N/A

3. Is the consultant cost reasonable?

N/A

4. Is PPG being recommended?

N/A

5. Other Comments

Pacific Islands Adaptation to Climate Change Project (PACC)
UNDP/GEF RTA RESPONSE TO ISSUES RAISED BY STAP REVIEW

Reviewer: Rolph Payet
Project: Pacific Islands Adaptation to Climate Change Project (PACC)

Key issues

- *Scientific and technical soundness of the project*

The project is technically sound and based upon recent scientific evidence; however these need to be clearly shown in the project document. Although the introductory note on the climate in the pacific consists of extensive descriptions on variations in tropical cyclones and extreme events, it is rather silent on the climate science behind the main impacts being addressed by the project. Need to present scientific research outcomes on sea-level rise, agriculture, coastal flooding, and freshwater lens/groundwater issues.

Response
Agreed: Needs more treatment of climate science behind main impacts

Action: *New paragraphs 8-15 added to illustrate the science behind the main impacts as they relate to the Pacific islands region.*

There proposal gives the impression that there has been very little climate scenario work done in the Pacific Region, but some of the references quoted point to scenario work done for the region, which provides valuable insight into the various possible future scenarios which provides the basis for identification of vulnerability. Only then can adaptation measures be clearly identified and effective in addressing the climate impact.

Response
Not sure where proposal gives this impression but as noted by reviewer references do point to the scenario work done.

The following general technical issues need resolving:

1. Need to agree whether designs are for 25 yr return periods or 50 yr events; some proposals differ – there may be a reason for this difference, but based upon the climate analysis done for the Pacific island group, the likely changes seem reasonably homogeneous. I would recommend 25 yr events;

Response*:*
Agree with the suggestion above given that the AR4 informs us that it is very likely that hot extremes, heat waves, and heavy precipitation events will continue to become more frequent. Also ikely that future tropical cyclones more intense. Therefore, designs of roading, drainage, building etc. need to take reduction in return periods into consideration. Often engineers usually use a 50 yr return period of events as basis for engineering designs. but go along with the suggestion that this needs to be reduced. Its implication on cost etc.is something that needs consideration.

Action: *Addressed by changes to take a 25 year return rate at paragraphs 20.21.27 and 35*

2. Why are the pilot activities indicative at his stage? If they are, then a process for finalizing the type/location/extent of these pilot activities should be clearly indicated.

Response:
They are finalised and no longer indicative. Have changed indicative to Activities!

Action: Addressed by changes deleting word indicative at paragraphs 24, 27, 31,35,38,41,46,50,55,59,66,72,74 and 76

Since the project is being implemented in 11 island states, the following technical issues pertinent to each pilot case needs to be addressed:

Cook Islands – there is a need to emphasize a bit more the rationale behind the proposed adaptation option. Links to economic prosperity should be given in real monetary terms if possible. What is the cost of doing nothing?

Response*:*

A major contributor to the Cook Islands GDP is the pearl industry based in Manihiki and Penrhyn/Tongareva within the northern group. The pearl industry, based primarily in farms on Manihiki and Penrhyn, is estimated to provide employment to approximately 450 people in the northern group. The pearl industry further provides employment to pearl retailers, jewelers, craftsmen, middlemen, and employees in the financial sector and has thus been valued at USD 56 million. The successful upgrade of the airport means improved and regular access to markets as well as supplies that maintain that aspect of the economy.

This is coupled with the fact that there are also plans to build a centralised hospital for the Northern Group in Manihiki for more efficient and cost effective rural healthcare, which will rely on the airport to bring doctors and medical supplies, as well as taking out referals to Rarotonga and beyond to NZ. A major reason for people to migrate is due to the lack of health care available in the outer islands.

The cost of doing nothing means that the airport will prohibitively be more expensive to maintain (estimated at US$18,500 per km of runway) from ongoing erosion and storm surge, and will compromise its effectiveness as both a market access mechanism and for health care.

Also there is interest in economic diversification in terms of establishing small-scale eco-tourism in Manihiki where both Bone Fishing and Bird watching have proved exciting for the people whom have been able to experience it. Getting the airport upgraded and able to withstand certain categories of storm surge means bigger planes can fly there, improving economy of scale and enabling more cargo and passengers. Currently it is a 4 hour flight on the Banderante at a cost of $US1200 return, and only 10 people can travel on the 12 seater plane with 6 kg of luggage each.

Travel by boat is also arduous and expensive and hampered by ongoing problems with irregular inter-island shipping.

Action: *Above information has now been inserted into paragraphs 18-20*

Samoa – From the project document, it is not clear how these activities will contribute to adaptation, although the reality on the ground may indicate otherwise.

1. Reclamation – it is not clear how this action can contribute to adaptation. Where would this reclamation be? Wetland reclamation can change retention capacities of mangroves, marshland, thus aggravating flooding and on the other hand coastal reclamation, if not done properly, can aggravate coastal erosion. How will this project address these issues and contribute to reducing vulnerability. Perhaps it should be clarified what the actual reclamation is, whether it is taking back eroded land, how many people will be protected, and what the land will be used for, and so on.

Response**:**
The issue of reclamation arises because it is addressed in the indicative list of activites under the pilot. However work to be carried out in the district of Faleatai and Samatau is not necessarily to reclaim but to regenerate mangrove areas, and strengthen existing sea walls so that they can withstand high energy waves and also to assist the communities in the area to protect their biodiversity particularly mangrove swamps as an adaptation option.

Action: *Now addressed by deleting word reclamation in para 29 and replacing it with regenerate mangrove areas and also inserting strengthen existing sea walls to withstand high energy waves as an activity*

2. Buffer zone protection – it is not clear whether these buffer zones are already in existence and protected/managed by law. It is also not clear what the buffer is meant for.

Response:

The creation of buffer zones in coastal areas is quite a recent development for Samoa and yet to be piloted at various levels in the urban or community levels particularly where the PACC pilots are located. The PACC would develop a guide on how buffer zone areas could be created and also develop key monitoring indicators that would assist in the monitoring of the buffer zones. It is not something that that has been legislated and hopefully the PACC pilots would generate information, experiences as well as policy issues that would guide any policy or legislative development process. These activities would be very useful in the long-term adaptation efforts of Samoa as a nation.

Action: *Left as is*

3. Replanting & improving the existing mangrove. I think we can be a bit more specific here- what size of mangrove areas need rehabilitation? Are we to explore new techniques of mangrove restoration? How do we address existing human impacts on the mangroves?

Response:

Protecting mangroves solely for environmental or protecting biodiversity purposes have been a losing battle for many Pacific Island countries as governments and resource owners have chosen to designate mangrove areas for other development activities with higher economic returns.

What the PACC would try and undertake at the pilot level is to rehabilitate the mangrove areas largely as a first stronghold of defence between high-energy waves and the communities. This activity would definitely have environmental and biodiversity benefits but the additional activity that PACC would undertake is to develop with communities' models of developing and rehabilitating the mangrove areas taking into account economic opportunities. This would not be a one-size-fit-all model but a series of models that would help the Department of Environment in Samoa pilot in other areas of the country.

Action: *Left as is*

4. Additional cost of seawall construction accounting for SLR – This needs to be clearly elaborated. The reference of 88 cm - is it over what time period, or return event? Relate this to my points raised in point 1 above.

Response:

Most villages in Samoa are found along the coast. Dwelling houses, schools and churches are located very close to the sea. The receding coastline due to storm surges in particular high energy waves has forced many households to resettle further inland. Often individual households with the best of intentions have constructed sea walls to protect their properties but these are done without proper designs. Given that these sea walls are only erected by the people who have the money, the have-nots have no protective barriers therefore, the whole erosion problem becomes skewed towards their land and property putting them in extreme dire situations and many have had to vacate their houses and move inland. This is a serious problem that has to be addressed as more people are being displaced creating new land tenure problems.

The PACC is looking to rehabilitate these sea walls taking into account the shorelines that have not been protected in order to minimize the erosion impacts on the people and surrounding biodiversity. This would be in the form of a proper engineered design that will include a bidium filter fabric, suitable bedding and armour rocks. In the case where there are wetlands, the seawall design would introduce culverts to maximize fresh and salt-water exchange. This is crucial in permitting flushing to occur thus maintaining the necessary quality of the wetland ecosystem.

Action: *Left as is*

5. Are these areas for pilot adaptation projects located within tourism/commercial areas? *What mechanisms for their involvement/contribution in the project?*

Response*:*

The PACC pilot for Vaimaunga East is in the tourism and commercial area. The private sectors in particular the tourism industry are very weary of climate change and have been part of many consultations that government have undertaken. They were one of the main stakeholders that were consulted in the development of the First and currently the Second National Communication Report to the UNFCCC. Tourism is an emerging sector and government is doing all it can to nurture the industry in particular to working with them to reduce the impacts of climate change on the sector.

Action: *Left as is*

Solomon Islands – the need for integrated water resources management need to be emphasized, within the context of adapting to climate change.

1. What is the role of development policies in addressing some of this vulnerability? What are the long-term policies which need to be implemented to ensure long-term climate-proofing?

Response:

We would address the issue from a bottom-up mainstreaming approach. What this means is that the work at the pilot level will help us generate information that would inform the long-term development policies with relation to food security and water resource management in the Solomon Islands.

2. Under proposed activities – how will protecting and regenerating marine living resources be done? There are indeed many strategies – which ones will be tested and how?

Response:

The protection and regeneration of marine living resources in the Solomons will involve a combination of activities from mangrove and beach rehabilitation as most of the pilot sites are in low-lying areas. Further assessments twill be undertaken and clarified prior to implementation. The work in Ontong Java, Solomon Islands would be very significant for atoll islands in the Pacific region.

Action: *Left as is*

Nauru -

1. It is not clear whether studies have indicated that further borehole drilling/aquifer water extraction is

sustainable in the long-term. What would be the impact of further borehole drilling on biodiversity, agriculture, productivity of the coastal areas?

Response:

This is from the Nauru PFP "…Yes, extensive projections has been done on the aquifier and our work is to verify the projections under different climate conditions, and a pumping rate that would provide a sustainable supply of underground water.The drilling of the bores will be carried out this year including monitoring for salinity, pollution and water quality…" Vinci Coldimar

Our Response

Prior assessments have pointed out that the aquifers are able to sustain extraction and currently another assessment is currently being carried out. In terms of impacts, the site where this work would be carried out was already degraded from the phosphate mining that had been ongoing since the early 1980s. The current work to be carried out under the PACC is in collaboration with the work of the government on the rehabilitation programme for lands that had been mined. In essence, both these programmes would help in rejuvenating the degraded lands to be more biodiversity and agriculture friendly.

2. There is no indication that rainwater harvesting, water conservation policies/economic instrument/technologies are planned, and perhaps consideration of wastewater recycling into potable water.

Response*:*

The issues of rainwater harvesting and water conservation policies/economic instrument/technologies etc. are deliberately not mentioned because during national consultation it was agreed that they be part of a suite of support to be taken on by other overseas development assistance (ODA) from countries such as Japan and Australia in particular. The South Pacific Applied Geosciences Commission (SOPAC) also a regional organisation would be implementing another GEF project specifically for water and issues of rainwater harvesting and water conservation policies and technologies would be issues specifically addressed.

3. What about considerations of combining the above measures with the groundwater extraction, i.e. integrated approaches to reduce demand side, and increase/climate-proof supply side aspects to water resources management.

Response:

This will be carried out for all the programmes that would be carrying out the water component of the PACC. PACC is not working in isolation here but aligning itself to current national programmes and future projects that would be coming on-board for countries in the not too distant future. Pilot activities currently identified under the PACC are gaps that need support at this present stage at the national level particularly in the area of increasing adaptive capacity to droughts. When implementation is completed, it would be a significant development for Nauru because at present during long periods of droght, Nauru is actually importing water from its neighbours such as Marshall Islands.

Tonga -

1. Para 52 – can we have a reference to the statements being made here. Can these statements be applied to other islands in the basin?

Response:
Reference has being provided as requested
It could be attributed particularly to islands that do not have above ground surface water for example Tonga, Niue, Kiribati, Tuvalu and Marshall Islands.
Action: Provided Reference as requested

Para 55 – Please give details on how one can climate-proof existing water reservoirs.

Response:

Current storage capacities of existing reservoirs have been built without much consideration of future climate change. Often experience kicks into play plus cost as the most important criteria for communities to determine tank capacity. They do not usually use current and future climate information to help them in their decision-making processes. People have land/space and also certain raw materials and labour but cost of cement, steel rods etc. need to be purchased and often communities have to seriously go into fund raising to be able to fund these purchases.

The issue of climate proofing is really to have a better understanding of what is in store for the community in terms of determining adaptive capacity and resilience to droughts. If the tank that communities have holds about 20,000 litres, for a population of 300 people, it may take only two weeks of no rain for the tanks to start depleting extensively. In order for such a community to be able to withstand longer term droughts as predicted by the AR4, then the communities ned to have other adaptive strategies in place.

This activity is part of the overall adaptation strategy for the district of Hihifo and it is undertaken to inform ther other components of the project for example; the construction of additional water tanks. What should be the current capacity of the tanks so that it can withstand a longer drought period.

2. Catchment management initiatives (para 55, last bullet). Could that be extended to other pilot islands, with significant catchment areas?

Response:

Yes definitely. Information from Tonga would be useful for the work carried out in Fiji, Nauru, Niue and other areas such as the Solomon Islands. Catchment in the case for Tonga does not mean a drainage basin but an area founded on formal local government boundaries.

FSM – the construction of the road is brought across as more of a construction project. The focus should probably be changed to reflect the issue of adaptation, viz.

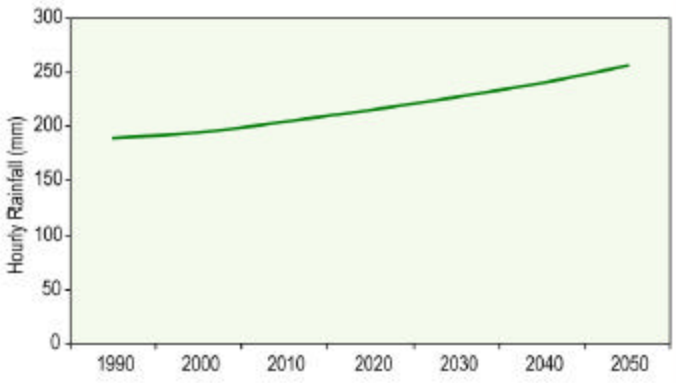
1. Cost of not doing the road – the implications of this need careful arguments. Current arguments are very weak, and for lack of quantitative data the argument is not robust enough.

Response :

The drainage works for the original road design (both built and yet-to-be-built sections)
were based on an hourly rainfall of 178 mm. This value was thought to have a recurrence interval of 25 years, but was derived using hourly rainfall data for Washington, DC, USA, since no hourly rainfall data exist for Kosrae. The observed data were adjusted subjectively to approximate Kosrae conditions. The case study used hourly rainfall data for Pohnpei, adjusted by the ratio of the mean annual rainfalls for Kosrae and Pohnpei. On the basis of these data, an hourly rainfall of 178 mm has a recurrence interval of 23 years. The design rainfall was intended to be the hourly rainfall with a return period of 25 years. For present conditions this is 190 mm. But Figure VI.6 reveals that by 2050 the hourly rainfall with a 25-year return period will have increased to 254 mm. A recommendation was made to the Kosrae state government that the design of the road be modified so the drainage works can

accommodate an hourly rainfall of 254 mm. This recommendation was accepted, and a climate-proofed design was prepared and costed

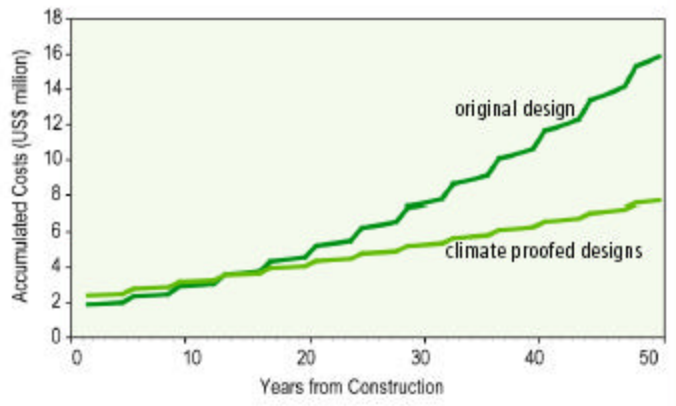
Figure VI.6. Hourly Rainfall (mm) with a Return Period of 25 Years, Kosrae



mm = millimeters.
Source: CCAIRR findings.

What the above means in terms of real cost is that with climate proofing in the design phase, the cost of the overall road in terms of construction and monitoring would be far lower then without climate proofing. To climate proof retroactively: US$776,184 for a 3.2-km section of existing road (US$243,000 per km) as opposed to US$511,000 to climate proof 6.6 km of new road (US$77,000 per km).

Figure VI.7. Accumulated Costs (Construction, Repairs, and Maintenance) for the As Yet Unbuilt Section of RS4



Source: CCAIRR findings.

Figure VI.7 illustrates the above results. While the capital cost of the climate-proofed road will be higher than if the road were constructed to the original design, the accumulated costs, including repairs and maintenance, will be lower after only about 15 years. This is because the repair and maintenance costs for the climate-proofed road will be lower.

Action: New paragraphs 26-27 added with Figures above to address the concern about the lack of quantitative data

2. Drainage issues – how will that impact on the community, from what I gather the road will circumnavigate a marsh land, so at face-value the threat of flooding is not an issue- hence why the drainage there- unless the flood would affect biodiversity there.

***Response**:*

Flooding is currently not a problem as there are no interventions to the biophysical systems that exist in the area. The ideal situation would be not to interfere with the natural systems but this is not usually the case as developments and other needs are often superimposed or take precedence over environment or biodiversity issues. However disillusioned one may think of situations such as this, one need to always find ways to address the issue so that disturbances made have minimal impacts to the communities around the area as well as its biodiversity.In the Kosrae situation, the people in the remote areas of Walung also wish to be linked to other municipalities and have the benefit of ease of travel using modern forms of transportation. With this in mind, this study that was undertaken for Kosrae was to determine what design would be best to help reduce the impacts of the roading infrastructure on the biophysical systems and the community.

The drainage issue was brought into the scenario due to the rainfall extremes that do happen in Kosrae and future projections. If the culverts were not designed to take this load off the natural system, then flooding would be a severe problem therefore having a rippling effect to other systems in particular the biodiversity of the area.

3. Role of the transport sector in the use of the road – how many people will depend on this road, can a toll be raised to ensure long-term financing for other such roads, or maintenance of the adaptation features.

Response:

The population of Walung is around 230 or more then 300 depending on time and situations that arise. They are the primary users of the road but this road would be of significance to the nation as a whole in particular eco-tourism.

The issue of a toll can be raised with the people of the area who would be the primary users of the road but it would need a careful consultation before any decision is undertaken.

4. No mention of EIA being conducted for the road project, including other issues such as fragmentation of ecosystems, etc.

Response:
An EIA would be carried out prior to any implementation. This is often required by law and would be undertaken for the Kosrae road as well. The study would include issues such as fragmentation of ecosystems.

Action: Provision of EIA now inserted into paragraph 28

5. Implications of more roads implies more traffic, and hence more GHG emissions from the transport sector. What measures are being implemented to reduce emissions from the transport sector? Although it is a mitigation issue, overuse of fossil fuels drains national wealth, which could be used to invest in adaptation.

Response:
Most Pacific Island Countries are already moving towards cleaner energies and this would include importing higher-grade fuels that contain less sulphur and nitrous oxide. Also, engines are being scrutinised carefully

during vehicle inspection to increase efficiency therefore reducing emissions. Not only that, the Pacific in general is moving towards renewable energy in a large way and SPREP had just got approval from the GEF and UNDP to implement a renewable energy project that is targeted at reducing the barriers to the use of renewables in the Pacific region.

- *Identification of the global environmental benefits and/or drawbacks of the project*

There are indeed many global benefits arising out of this project, but it is not clearly elaborated. Perhaps the section dealing with this should contain more specific information.

Response: *Global environmental benefits does not have to be elaborated for an SCCF project. Please refer to SCCF programming paper and the concept of additionality.*

Some aspects of the project, such as road construction seem to be promoting GHG emissions. There is no clear policy mechanism on how this adaptation option can bring about global benefits, although there is merit from a vulnerability perspective. The project should indicate how effective transport policies may reduce the contribution to GHGs in this context as well. It is indeed a difficult technical issue to resolve, but the project should be able to show that the proposed road will not bring about any increase in GHG and in fact be a significant contributor to reduction of vulnerability. Many coastal roads in many small islands are at risk from SLR and storm surges, and it may be relevant to consider this issue.

Response*:*

Most Pacific Island Countries are already moving towards cleaner energies and this would include importing higher-grade fuels that contain less sulphur and nitrous oxide. Also, engines are being scrutinised carefully during vehicle inspection to increase efficiency therefore reducing emissions. Not only that, the Pacific in general is moving towards renewable energy in a large way and SPREP had just got approval from the GEF and UNDP to implement a renewable energy project that is targeted at reducing the barriers to the use of renewables in the Pacific region.

Summary should have a table summarizing each adaptation project being implemented in the 11 island states, and the contribution of each pilot to global environmental benefits.

Response
How each pilot contributes to global environmental benefits is not a requirement of the SCCF. Have already provided baseline/additionality table in Annex B

- *How the project fits within the context of the goals of GEF, as well as its operational strategies, programme priorities, GEF Council guidance and the provisions of the relevant conventions*

It is my view that this project fits well within the operational strategies of the GEF, and also the requirements under the SCCF. Countries also meet the relevant provisions of the UNFCCC. It is not clear whether these countries have also ratified the Kyoto Protocol. All of the countries have submitted their initial national communications.

Response*All PICs have ratified the Kyoto Protocol but for the purposes of the SCCF the issue is whether they are Parties to the UNFCCC.*

- *Regional context*

The regional context of the project is very sound and will indeed build upon past and future work. The regional pacific

climate change implementation mechanism is a model for implementation of projects in small islands and will be further consolidated by this project. However a number of issues need to be strengthened:

The use of climate change scenarios for many islands and archipelagoes in the Pacific have been undertaken, some of which can be useful as basis for this adaptation project. It is not clear whether this work covers all the states participating in this project. Outputs from the scenarios can be useful in fine-tuning levels of adaptation responses, at the national level, and indeed at the regional level.

Response
SPREP has worked with several institutions in the region to develop a range of integrated computer models for integrated assessments. Each model is a powerful tool for assessing the impacts of climate change, ENSO, climate extremes and other aspects of climate variability.

The models are useful decision support tools providing information for decision-makers responsible for planning and managing environmental change. Beginning with the bio-physical impacts of climate variation and change in 1993, the models have been extended to include the socio-economic implications of these changes, and are now being extended so as to integrate climate change with biodiversity loss and land degradation.

Through IGCI, SPREP worked on the SIMCLIM Model, which is now used globally as a tool to integrated assessments. SPREP also worked with the Australian Bureau of Meteorology, NIWA, CSIRO and others to address the issue of modeling in the region. The University of the South Pacific is also assisting in this area and we will be working closely with them on the PACC project.

It is very clear that on many of these islands annual precipitation is very high, but storage and capture presents a problem. Some islands in the Pacific have come up with innovative ways of water-harvesting, water conservation and water storage strategies and techniques to traditionally address the constraint. This regional ability needs to be further studied and considered for implementation in those pilot countries. Adaptation in the water sector needs integration, the project does not clearly indicate how these projects will integrate and also contribute to resilience, which may involve changes in human practice and behavior.

Response*:*

As an example of the links between PACC and other programmes in the water sector of countries, a schematic overview of the Kingdom of Tonga's Water Sector Support Project and how PACC fits into the overall framework has been done and is available.

- *Replicability of the project (added value for the global environment beyond the project itself)*

Innovativeness and replicability of the project will depend upon further elaboration of the adaptation options presented, which as presented look rather vague. What makes those proposed pilots non-mainstream? These pilot projects have the potential to be replicated, so it is vital to be able to capture the lessons and be able to present them. There is no indication how these will be done, perhaps in terms of outputs, guidelines and so on.

Although the nature and extent of the road/drainage/coastal protection projects in Cook islands/FSM/Samoa/Vanuatu may indeed be different, there are many similarities and opportunities for gaining vital adaptation knowledge. This should be carefully highlighted. These may include: (i) type of road designs along coastal areas designed to withstand storm surges/wave overtopping (there is a lot of external know-how there, but in islands these are limited); (ii) road design/runoff to reduce surface runoff, reduce impact on coastal ecosystems, etc; (iii) soft approaches – buffer zones, setback zone, coastal restoration.

The fact that these pilot projects will benefit other SIDS need to be emphasized, especially since the regional institutional organization will also build this capacity for replicating these projects in other island states in the Pacific region.

Response
Comments noted

- *Sustainability of the project*

Government co-financing is very high (indicating that there is indeed solid government commitment behind the adaptation projects. There is also a clear indication of urgency as many of these impacts seem to be already affecting coastal communities and villages. It is therefore vital that sustainability in the long-term is built. These may take the form of capacity building, model plans which can be implemented with little or no modification; ongoing rehabilitation or restoration activities; and identification of no/low cost but long-term resilience building strategies which could be implemented.

Response
Comment noted with appreciation.

Review of the project logical framework indicates that the measureable targets are based upon the average completed projects in the 11 states. I am concerned on two counts:

1. This average may not show the reality of implementation of the projects. Few projects may have not started, while other projects are well ahead of implementation. On average this scenario would give a good rating. Although a value of no less than 10% per individual project is given, I am still unfamiliar with the effectiveness of this indicator.

Response
This is a indicator and value recently approved by GEF Council for Community Adaptation Project

2. Completion time is a very generic target in project implementation. What about measurable targets on the ground. Has the adaptation project achieved the objective? I am aware this presents some technical challenges, but measuring resilience and effectiveness of adaptation projects is an important consideration, especially when governments are placing financial and political commitments behind such projects. These projects need to have clear measurable indicators to be able to ensure they have indeed contributed to the set adaptation objective, and met the cost-effectiveness/benefit criteria.

Response
These issues will need to be addressed at the inception and formulation stage once project gets of the ground.

Secondary issues

- Linkages to other focal areas

There are strong linkages with the biodiversity and the land degradation focal areas. These should be appropriately indicated. Potential synergies with other GEF focal area projects will enhance the long-term sustainability as well as effectiveness of the project.

Response
Provided for in para 139 and Table 1

- *Linkages to other programs and action plans at regional or sub-regional levels*

This is not clearly elaborated although there are a number of ongoing initiatives in the region which covers many areas being addressed in this project. There are examples given for the agricultural components. What about biodiversity components which relate to conservation of water bodies, coastal ecosystems, etc.

Response
The inception stage will further clarify all list ongoing initiatives in each country relevant to project. This information is provided however in the individual country reports.

- *Other beneficial or damaging environmental effects*

As mentioned previously, it is important that the project addresses the following possible impacts:

1. Construction of the road and reclamation on biodiversity and natural processes.
2. An increase in greenhouse gases as a result of project implementation.

However, all the above points need to be weighed against the potential benefits. It is evident that due to the nature of climate change impacts, trade-offs will need to be made to ensure the survival of many vulnerable communities. This should be kept in mind when considering the potential damaging impacts. For example, the reclamation project may indeed have some environmental impacts which could be addressed, but as a trade-off in lieu of the potential adaptation benefits.

Response
Noted as requested

- *Degree of involvement of stakeholders in the project*

The involvement and participation of stakeholders is key to any adaptation project. Form the project concept I identify three possible areas which require strengthening to ensure success of the project, viz.

The role and participation of the private sector. The project should explore how to involve the private sector, in particular tourism establishments in the coastal adaptation works. Para 65 – Makes reference to the role of the private sector in adaptation financing. How does this project enhance this role before/during/after project implementation? What about local community involvement?

There is clear indication that the Ministries of Finance, as well as those responsible for Economic development to be involved in the project. There would be many benefits in doing this, in terms of long-term capacity building, sustainability as well as ensuring the provision of the required data.

- Capacity-building aspects

The capacity building aspects needs to be further emphasized and a clear budget as well as performance indicators given. The diversity of this project, re: construction, practice and integrated management approaches presents a formidable opportunity for building capacity at all levels of the country – grass roots, professionals (engineers), policy makers as well as the private sector. This should be careful built into the project. Some specific comments include:

Para 71 – A website in this respect may appear too static. Some other forms of knowledge and groupware opportunities may be explored.

Response
Noted:

Interactive webpages can now be developed at particular sites
E-NewslettersCapacity building kit will be developed specificalyl for policy makers and other professional groupings working collaboratively with the project

Para 97 – Is the human resource constraint an issue for SIDS? What about size of private sector, economies of scale, ability of communities to adapt to climate change, etc?

Response:

Human resource constraint could be an issue if a certain government institution is singled out however, if they are bundled together in an integrated fashion to address project implementation then it is no longer an issue. Under the PACC, a team consisting of various government agencies, private sector, NGOs and communities would be set-up to drive the implementation process at the national level. Having said that, it is also important to note that at present, there are climate change teams already set-up at the national level from previous GEF projects. The PACC will simply build on this and set-up teams to really focus primarily on the PACC project implementation. It is also worthy to note that the PACC could be implemented at the same time as other projects therefore it is prudent that a good support team is set up to assist in the project implementation.

- *Innovativeness of the project.*

The project will tackle issues which are critical for adaptation in small island states, and as such has the potential for innovative approaches and lessons to be learned. The proposed backstopping facility and the regional body provide the necessary platform for this innovativeness to be nurtured.

Response: *Noted*

Comment:
In the Pacific region, regional organisations/agencies are in existence and were set-up by Pacific Islands countries to assist them address critical issues such as water, environment, agriculture, fisheries and enhanced economic, social and political cooperation amongst Pacific Island countries. All agencies are involved in facilitating and progressing human development of the Pacific islands and its people. Although the PACC is a climate change adaptation project, its focus on water resources management, food production and food security, and coastal zone management by default infuses it across three CROP agencies mandates and expertise baseThe CROP agencies concerned will be actively engaged in the PACC. The Regional Backstopping facility is expected to provide the following benefits

(1)Expertise in other regional organizations dealing with issues to be covered by the PACC would be available to support the PACC;

(2)Information that is generated during the project would also be useful to these organisations for future work in the countries concerned;

(3) Information and expertise available with these organisations were and will continue to be used to develop as well as implement the PACC project;

(4) Member organisations are aware of relevant developments;Activities are complementary and achieve effective results;

(5) Information and resources are effectively shared.

(6) Avoid overlaps and creating synergies in the various programmes that are implemented in-country

The project is innovative in various ways:

- Integrating development project within the context of adaptation and resilience building
- Empowerment of local communities in food security based upon various climate futures

- Approaching water resources management from an integrated perspective, which can in fact also address mitigation issues, such as non-use of desalination plants, which are in themselves energy intensive.

Response
Noted with Thanks

ANNEX C: CONSULTANTS TO BE HIRED FOR THE PROJECT

Position Titles	*$/ Person week*	*Estimated person weeks*	*Tasks to be performed*
13 Local Coordinators	300	3,380	▪ Serve as the technical focal point for the national level activities of the PACC within the designated government agency in the country; ▪ Responsible for the day-to-day management and implementation of all national project activities; ▪ Responsible for the formulation and preparation of annual and quarterly work plans and budgets; ▪ Responsible for all project consultation meetings including meetings of the NCCCTs and any other project related meetings in the communities or project sites; ▪ Ensure the achievement of project objectives in accordance with the ProDoc and the country-specific annual and quarterly work plans; ▪ Assume overall responsibility for all the reporting obligations of the project to the designated host government agency, the Country Team and RPM/SPREP, including annual work plans and budgets, quarterly progress and financial reports; ▪ Ensure an effective coordination of all PACC activities with all national project partners, particularly those who are implementing and/or funding co-financed activities in the country; ▪ Coordinate and monitor the national activities described in the work plans; ▪ Serve as the national representative to the annual meetings of the PEG. ▪ Manage all necessary nationally-managed contracts and consultancies in the project, including reviewing consultancy reports; ▪ Ensure regular and timely receipt of progress reports on the various parallel funded activities of the project at the national level; ▪ Coordinate in-country studies and activities; ▪ Provide guidance and terms of reference to contractors and consultants; ▪ Facilitate liaison and networking between and among the country teams; ▪ Foster and establish strong links with all national co-financing activities within the country; ▪ Assume overall responsibility for awareness-raising and widespread dissemination of PACC best practices and experiences as well as highlighting GEF's and UNDP's roles in the project; ▪ Ensure that the national level PACC activities are consistent with national policies and strategies; ▪ Liaise with the PACC PMO on the work programmes and budgets.
National Consultants for Technical Input	2100	533	• Technical knowledge of adaptation to climate change and integrated management of coastal, food security, and water resources • Monitoring and Evaluation Expertise based on UNDP Practices for GEF projects • Knowledge of national policy relevant to adaptation • Experience with project and programme design • Capacity to engage with multiple levels of stakeholders, including communities, civil society, government, and the private sector

International Consultants for Technical Input	2800	484	• Assist in the development of vulnerability and adaptation assessment guide • Assist in the development of the economic assessment tool • Prepare technical documents that will support the implementation of Outcomes listed in the UNDP Project Document • Participate and provide technical advice in Project Executive Group Meeting and technical group meetings as required; • Provide technical guidance based on previous experiences in the development of demonstration measures as identified in the project document and as they relate to the identified project sites; • Prepare methodologies and tools, based on international best practices, for use in the implementation of project components • Guide the monitoring and evaluation activities as they relate to the project and the approved Vulnerability Reduction Approach for measuring improvements in adaptive capacity • Guide the preparation of knowledge products and contribute towards the effective dissemination of knowledge management products at national level; • Provide technical input at capacity development fora as outlined in the project document; • Review and revise inputs provided by national institutions; • Provide technical backstopping to the Project as required and as requested by the Project Coordinator; • Assist the facilitation of lessons learned into the UNDP/GEF Adaptation Learning Mechanism • Facilitate cross-country knowledge transfer • Develop papers and briefs highlighting successful case studies and lessons learned from the project

ANNEX D: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS

THE PPG OBJECTIVE HAS BEEN ACHIEVED THROUGH THE PPG ACTIVITIES UNDERTAKEN. During the implementation of the PDF-B phase of the project the following outcomes and related outputs have been achieved:

PACC PPG

Outcome 1: National frameworks and strategies for adaptation developed and integrated into national sustainable development plans for their equivalent in water resources management, food production and food security and coastal zone and associated infrastructure
Outcome 2: Implementation of adaptation measures in key socio-economic areas identified by the participating Pacific Island Country.
Outcome 3: Financial instruments, institutions and incentives to support climate change adaptation transfer developed.

Outputs

- Establishment of Implementation arrangements for the PDF-B exercise
- Adaptation Activities Feasibility
- Regional report Preparation
- Project Formulation workshop
- PACC executive Summary and project Document Preparation
- PACC Regional Inception Workshop

A. DETAILED FUNDING AMOUNTS OF THE PPG ACTIVITIES AND THEIR IMPLEMENTATION STATUS IN THE TABLE BELOW:

Project Preparation Activities Approved	*Implementation Status*	*LDCF/SCCF Amount ($) Approved*	*Amount Spent To-date*	*Amount Committed*	*Uncommitted Amount**	*Co-financing budget ($)*
Outcome 1: Establishment of Implementation arrangements for the PDF-B exercise.	Completed	**60,000**	**60,000**	**0**	**0**	**200,000**
Outcome 2: Adaptation Activities Feasibility.	Completed	**80,000**	**93,501**		**0**	
Outcome 3: Regional report Preparation	Completed	**20,000**	**10,000**		**0**	
Outcome 4: Project Formulation workshop.	Completed	**80,000**	**37,315**	**40,000**	**0**	
Outcome 5: PACC executive Summary and project Document Preparation.	Completed	**50,000**	**50,000**		**0**	
Outcome 6: PACC Regional Workshop.	Yet to be carried out	**60,000**	**0**	59,184		
Total		**350,000**	**250,816**	**99,184**	**0**	**200,000**

- Uncommitted amount will be returned to the LDCF/SCCF Trust Fund.

Government of the
Cook Islands, Federated States of Micronesia,
Fiji, Marshall Islands, Nauru, Niue, Palau, Papua New Guinea,
Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu

United Nations Development Programme Project Document
Global Environment Facility

Secretariat of the Pacific Regional Environment Programme

PIMS 2162
PACIFIC ADAPTATION TO CLIMATE CHANGE (PACC)

BRIEF DESCRIPTION

Pacific island countries are already experiencing the impacts of climate change. The potential magnitude of the problem threatens the very existence of some Pacific island states, and the achievement of sustainable development and Millennium Development Goals. However, vulnerabilities and risks associated with climate change are not currently being addressed in any systematic way. Climate change risks and opportunities are not reflected in national and community level planning and governance processes. Individual, institutional and systemic capacity is not targeted towards strategic interventions. Demonstrations of adaptation pilots in key development sectors have not been implemented, and as a consequence few are replicated and scaled-up. The PACC Project aims to significantly improve the effectiveness of the response to climate change in the Pacific. The project will improve technical capacities to support appropriate adaptation centric policies , demonstrate cost-effective adaptation techniques in key sectors, and promote regional cooperation. It is designed to lay the framework for effective and efficient future investment on climate change adaptation in the Pacific.

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List of Abbreviations and Acronyms

AIACC	Assessment of Impacts and Adaptation to Climate Change
APF	Adaptation Policy Framework
APRs	Annual Project Reports
AWP	Annual Work Plans
CBD	Convention on Biological Diversity
CBDAMPIC	Capacity Building for the Development of Adaptation Measures in Pacific Island Countries
CIDA	Canadian International Development Agency
CMS	Convention on Migratory Species of Wild Animals
COP	Conference of the Parties
CROP	Council of Regional Organizations in the Pacific
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
EA	Executing Agency for PACC
ENSO	El Niño Southern Oscillation
EU	European Union
INC	Initial National Communication
IR	Inception Report
GDP	Gross Domestic Product
GNP	Gross National Product
GEF	Global Environment Facility
GHG	Greenhouse Gases
GEF-PAS	GEF Pacific Alliance for Sustainability
IPCC	Intergovernmental Panel on Climate Change
IW	Inception Workshop
FSM	Federated States of Micronesia
MDG	Millennium Development Goals
MIND	Munasinghe Institute for Development
NBSAP	National Biodiversity Strategy and Action Plan
NCCC	National Climate Change Coordinator
NCCT	National Climate Change Country Team
NCSA	National Capacity Self Assessment
NEX	National Execution
NGO	Non Government Organization
PB	Project Executive Group
PICCAP	Pacific Islands Climate Change Assistance Project
PICs	Pacific Island Countries
PIF	Pacific Islands Forum
PIFACC	Pacific Islands Framework for Action on Climate Change
PI-GCOS	Pacific Islands Global Climate Observing System
PIGGAREP	Pacific Islands Greenhouse Gas Abatement through Renewable Energy Project
PPM	Project Planning Matrix
PIREP	Pacific Islands Renewable Energy Project
PMO	Project Management Office at SPREP
PMU	Project Management Unit in each country
QPR	Quarterly Project Reports
Ramsar	Ramsar Convention of Wetlands of International Importance Especially as Water Flow Habitat (Ramsar is not an acronym but a place in Iran)

RCU	Regional Coordination Unit of the UNDP-GEF
RMI	Republic of the Marshall Islands
SBAA	Standard Basic Assistance Agreement
SEI	Stockholm Environment Institute
SIDS	Small Island Developing States
SNC	Second National Communication
SPC	Secretariat of the Pacific Community
SPREP	Secretariat of the Pacific Environment Programme
SOPAC	South Pacific Applied Geosciences Commission
TPR	Tripartite Review
TTR	Terminal Tripartite Review
TWG	Technical Working Group
UNCCD	United Nations Convention to Combat Desertification
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
UNDP-CO	United Nations Development Programme Country Office in Samoa
UNFCCC	United Nations Framework Convention on Climate Change
UNITAR	United Nations Institute for Training and Research
USP	University of the South Pacific
V&A	Vulnerability and adaptation assessment

SECTION I: ELABORATION OF THE NARRATIVE

PART I: Situation Analysis

Introduction

1. Climate change adaptation is vital for Pacific SIDS. Long-term effects, including the increasing frequency and severity of extreme events such as high rainfall, droughts, tropical cyclones, and storm surges are affecting the people in this region. Coupled with non-climate drivers, such as inappropriate land use, overexploitation of resources, increasing urbanization and population increase, development in the region is increasingly undermined. For the low lying atolls, the likely economic disruption from climate change pressures could be catastrophic and potentially lead to population relocation and therefore social and cultural disruption and disproportion. Failure to reduce vulnerability may result in loss of future risk management opportunities when impacts may be greater and options fewer.

2. The issue of climate change has been recognized at the highest level of government in the Pacific islands. In April 2004, the Pacific Leaders met in Auckland, reaffirming the importance of strengthening and broadening regional cooperation to address these issues and to achieve sustainable development through the Pacific Plan[1]. Pacific Leaders have since continued to call for urgent assistance to address the present adverse effects of climate change.

3. The Pacific Adaptation to Climate Change (PACC) Project is the first project to be implemented in the region that responds directly to this call for urgent action while supporting the systemic and institutional capacity to address adaptation across the Pacific islands region. The project addresses these key issues on three fronts:
   i. Improving capacity in Pacific islands' governments to mainstream climate change adaptation into government policies and plans;
   ii. Addressing the urgent need for adaptation measures through developing systematic guidelines for adaptation and demonstrating their use at a pilot scale in the coastal management, food security and water resources sectors; and
   iii. Laying the foundation for a comprehensive approach to address adaptation over the medium-long term at the regional level.

4. The PACC Project will achieve real and demonstrable results that satisfy urgent needs, and build the foundation for a long-term programmatic approach to address climate change in the region. This will be achieved through a coupling of improved capacity and increased knowledge of effective measures that will ensure future investment is effectively targeted to achieve real results. This is important in terms of the scale of the issue facing the Pacific region, where the international community has an important role in the integration of initiatives into an effective broader programmatic framework that

[1] Regional document for strengthening regional cooperation and integration in the Pacific region.

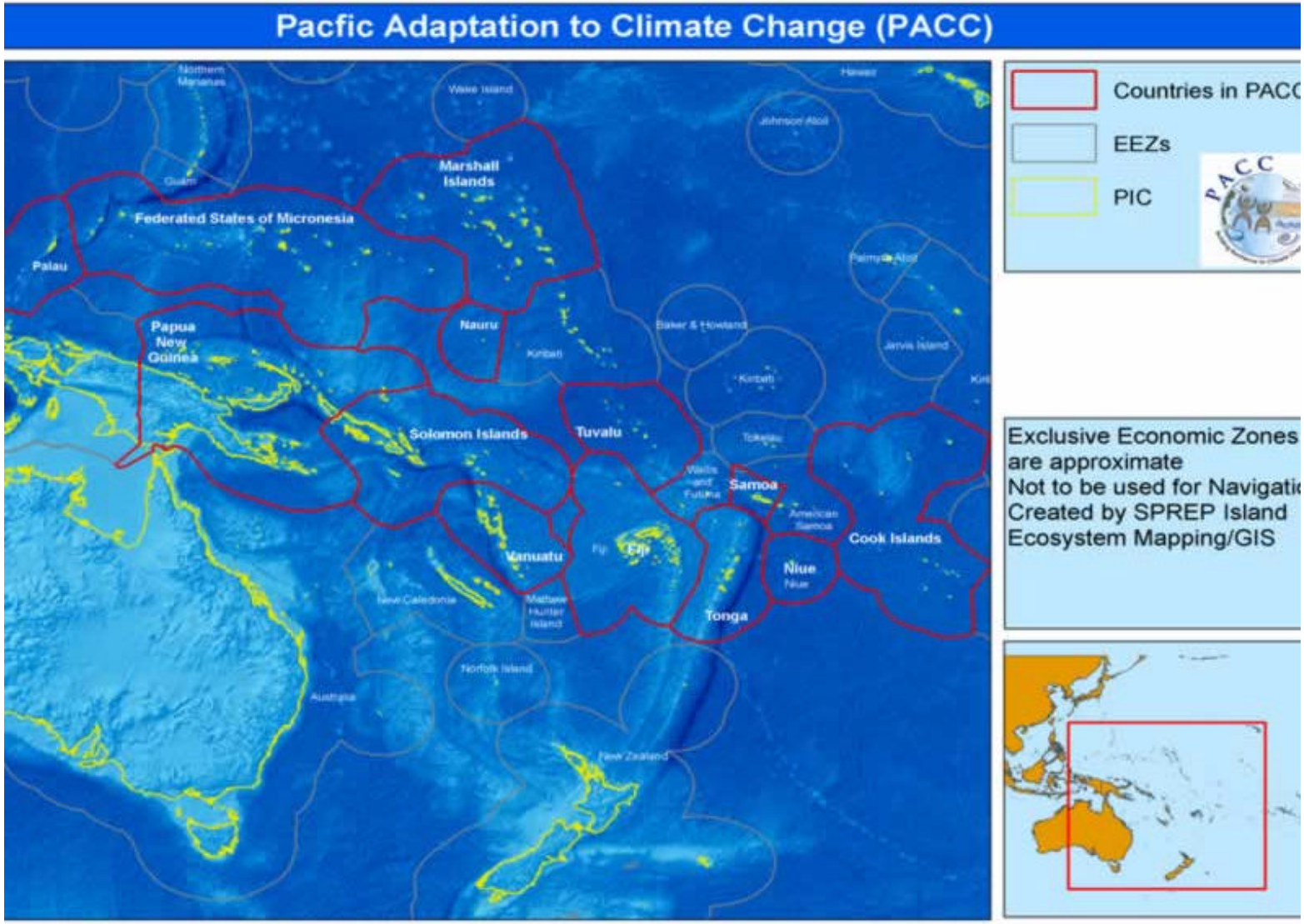
ensures the livelihoods of Pacific communities are protected against the global threat of climate change.

5. The PACC Project will be the first UNDP project in the Pacific islands region drawing on the resources from the Special Climate Change Fund (SCCF), managed by the GEF. It is based on country-driven priorities identified in the National Communications to the United Nations Framework Convention on Climate Change (UNFCCC), and is consistent with National Adaptation Programmes for Action (NAPAs) and the regionally endorsed Pacific Islands Framework for Action on Climate Change (PIFACC, see Annex A).

Context

6. The Pacific Islands region is diverse in terms of size and features of the island countries, although there are many shared characteristics that have a substantial influence on the potential impacts of climate change. For example:
   - *Geographical isolation* – the large expanses of water and small areas of land (depicted in Figure 1.0), create numerous challenges including difficulties of transport and communications both within and between countries, and to the international community;
   - *Rapid population growth, and high population densities* – the rapid growth in population that many PICs have experienced in past decades along with increasing commercialisation of traditional, subsistence-based economies has been associated with rapid increases in rates of natural resource exploitation, especially land, forests and living marine resources;
   - *Limited land resources* – many PICs are characterized by extremely small land area and limited land resources, such as soil and forest, making many terrestrial and near-shore resources quite vulnerable to overexploitation and pollution from poorly planned waste disposal;
   - *Dependence on marine resources* – all PICs have a traditional dependence on marine resources for subsistence, and as the region's ocean resources contain the highest marine biodiversity in the world, it represents almost the sole opportunity for substantial economic development for many of the small island nations;
   - Low *topographic elevation* – many of Pacific islands, especially atolls, have very low topography, some reaching only a few metres above sea level at their highest point;
   - *Vulnerability and resilience* – PICs often experience enormously damaging extreme weather events, suffer severely from global economic pressures and fluctuations, and have a heavy reliance on the productivity of one or two economic sectors, resulting in many PICs adopting a 'no regrets' approach to resource management ; and
   - *Small, highly integrated environmental and economic systems* – the small size of islands result in the interactions between components of natural systems and the sectors of economic activity being rapid and strong, which demands that sustainable development be holistic and balanced.

Figure 1.0 Pacific Island Countries that are part of the Pacific Adaptation to Climate Change project (PACC)



7. Through the United Nations Framework Convention on Climate Change, and its Kyoto Protocol and related processes, the Pacific has been able to access funding for certain types of climate change projects. Past projects have focused largely on enabling activities for specific purposes such as the Second National Communications and National Adaptation Programmes of Action (NAPA), Self-Assessments etc. The PACC Project is the first initiative to systematically strengthen capacity to build resilience and directly reduce climate change related risks at the national and community level. It is in line with the GEF Council paper GEF/C.23/Inf.8/Rev.1 (GEF Assistance to Address Adaptation) that states:

> *"Adaptation to climate change is increasingly recognized as significant to the attainment of sustainable development and as essential for the achievement of many global environmental objectives. While many scientific uncertainties exist, the scope and magnitude of the risks now known to be associated with climate change represent a challenge to environmental and economic goals that must be taken into account today … the understanding of human response to climate change is still at an early stage, with much to be learned from historical experience. However, in general it is known that [among numerous factors] the capacity to adapt is determined by access to resources, information and technology, the skill and knowledge to use them, and the stability and effectiveness of cultural, economic, social, and governance institutions that facilitate or constrain how human systems respond. Those with the least resources have the least capacity to adapt and are the most vulnerable*."

Threats, root causes and barrier analysis

Threats

8. Climate change already threatens the sustainability of Pacific SIDS and the threat will be exacerbated in the decades to come. Despite the many uncertainties as to the nature and consequences of global warming, the projected rate of warming for the Pacific islands region (by between 0.6 and 3.5^{o}C in this century) is much larger than the observed changes during the last century and is very likely to have been without precedent during, at least, the last 10,000 years (Hay et al, 2005).

9. As the regional climate adjusts to resemble "El Niño" characteristics, anomalously wet areas could become wetter, and unusually dry areas could become even drier. Coupled with sea level rise, which is estimated between 1 and 7 mm/yr (with a central estimate of 4 mm/yr), inundation and salinity problems faced by PICs will increase.

10. The IPCC's Fourth Assessment Report (2007) provided a comprehensive analysis of how climate change is affecting natural and human systems for small island states. PICs have experienced extensive coastal erosion, coral bleaching, persistent alternation of regional weather patterns, and decreased productivity in fisheries and agriculture. Damage has occurred to coastal roads, bridges, foreshores and other structures. Recent devastating

droughts have affected food crops and caused serious water shortages. Climatic shifts have also increased the distribution and frequency of mosquito-borne diseases. These examples highlight the serious and wide-reaching consequences future changes will have on the small island countries of the Pacific.

11. Shortages of food have been attributed to a serious decline in yield from staple root crops and fruit trees, resulting from weather pattern changes, as well as a decline in soil fertility and a reduction in supplementary sources of food from forest gardens.

12. PICs are already experiencing the likely effects of a changing and variable climate. The 1998 drought wiped out approximately two thirds of the newly planted sugar crop in Fiji, the overall impact equivalent to 3 percent of Fiji's GDP. The value ofTonga's squash crop, which produces about half that country's exports, was more than halved during the drought period, relying on more than$A30 million of aid. In some parts of the Federated States of Micronesia (except for Kosrae) crops and water supply were so severely affected the government was forced to declare a national disaster.In the Marshall Islands, the drought caused severe water shortages that limited households to seven hours of tap water every 14 days. In Palau, there were severe impacts resulting in a 30 per cent loss of its coral reefs. The drought also led to a major loss of taro that affected 30 per cent of the Palau population. "La Niña" events have also contributed to a severe drought in Kiribati and drought and multiple cyclone events in Tuvalu resulting in the loss of land, inundation of taro pits, destruction of houses, and contamination of freshwater supplies.

13. The World Bank (2000) estimated that by 2050, Tarawa atoll in Kiribati could face an annual capital cost of US$6.6-12.4 million due to salt-water inundation. Periodic storm surges could potentially result in the inundation of 55-80 percent of land areas in North Tarawa, and 25-54 percent of areas in South Tarawa.

14. In the commercial and government zone of the Marshall Islands (the Darrit-Uliga-Delap sections of Majuro), severe erosion and storm surges would affect some 15,000 people and have an acute impact on the functioning of government, water systems, power plants, ports, hospitals and education.

15. In Papua New Guinea alone, it is estimated that the permanent or periodic inundation of deltaic flood plains, swamps, and other low-lying areas could affect up to 50 percent of the Papuan coastline (for a half a metre sea-level rise) causing damage to mangrove and swamp forest ecosystems, as well as human productive systems (Sekhran and Miller, 1996).

16. Letua village in the Torres Group of Islands in Vanuatu are already facing the problem of inundation from seawater (Vanuatu V&A 2002). During high tides, seawater has already intruded into cooking places and dwellings. Coconut palms are literally growing in seawater as a result of erosion and coastlines moving inland. Through a Canadian funded

project[2], a community was relocated to higher grounds away from the vulnerable coastline.

17. In summary, climate change poses many risks for PICs in terms of land resources and coastal structures, water supply and food security.

Root Causes

18. There are many non-climate related threats that seriously affect the sustainable development efforts of governments at present, including the smallness of islands, inappropriate land use, overexploitation of scarce resources, and overpopulation.

19. Developing countries in the Pacific have a land area of only 550,073 km^2 but are spread out in the world's largest ocean. The land areas vary considerably, although the bulk of the countries are very small. Nauru and Tuvalu, for example, comprise land area of less than 27km^2.

20. The geographic nature of the Pacific region causes isolation from the main centers of trade such as Asia, Europe and the US, creating unique difficulties in integrating into the global economy. Transportation costs reduce competitiveness, and uncertain air and shipping linkages are significant obstacles to efficient export manufacturing. However, the benefits of trade liberalization and globalization can only be realised in the Pacific region if the specific limitations and vulnerabilities of SIDS are addressed at all levels.

21. A UNESCO Report has stated “more than half of the world’s population currently lives within 100 kilometers of the coast". In the Pacific, the proportion of people located near the coast is higher, whereas only Papua New Guinea has any population further than 100 km from the coast. This makes Pacific populations highly vulnerable to gradual sea level rise and extreme weather events, such as tropical Cyclones Ofa (1990) and Val (1991), which devastated Samoa and caused damage estimated to be about three times that of Samoa’s GNP.

22. The population of the Pacific islands is increasing at the average annual rate of 2.3 percent (South Pacific Commission, 1994:6). In Micronesian countries (RMI, FSM, Palau), the rate of population growth is very high, averaging 3.5 percent per annum. While the exact relationships between population growth and development are still being debated, there is little doubt that for Pacific islands it is likely to have extremely serious consequences due to the nature of their fragile ecosystems and poor record of economic development. Rapid population growth is likely to make it exceptionally difficult for most Pacific islands to address the adverse effects of climate change without a holistic and balanced approach.

23. Housing density and an increase in squatter settlements continue to rise. As a result, domestic household and industrial waste is increasingly visible. Collection systems (if

[2] Capacity Building for the Development of Adaptation Measures in Pacific Island Countries (CBDAMPIC)

they exist) struggle to deal with the volumes of waste produced. Development and maintenance of basic water, sanitation and road infrastructure is not maintaining pace with demand, resulting in an increase in urban and wastewater pollution, urban and peri-urban land degradation and water degradation from inadequately controlled development.

24. Land is a major issue in the Pacific due to its scarcity and the communal nature of its tenure. Most land in PICs is communally owned. For example, around 83 percent of Fiji's total land area is under communal ownership withsimilar situations in the other countries. One of the difficulties with communal ownership of land is the role of landowners in development activities, particularly if there are no clear legal arrangements recognized by all Parties. However, there are traditional and modern ways of addressing these land tenure and land use conflicts in the region. In many countries, most conflicts are resolved in a traditional manner involving extensive consultation and engagement with the community. Even though this approach can be time consuming, it promotes improved understanding and encourages change that is universally accepted.

25. Transport and communications remain important lifelines linking Pacific island communities with the outside world. While dramatic technological breakthroughs have been achieved over the last decade, there are still serious access limitations to basic telecommunications in many Pacific islands. Transport and communication from the main urban centers to outer islands lack consistency..

26. Energy dependence is a major source of economic vulnerability for many Pacific island developing States. Many remote and rural Pacific communities have little or no access to modern and affordable energy services. Alternative energy sources, such as wind, solar, geothermal, biomass, hydro and ocean energy, may be geographically suited to the Pacific region but not commercially feasible.

27. Most Pacific island governments have limited human resources to confront critical issues such as climate change. The resources they do have are further reduced when trained individuals consistently seek lucrative opportunities in the private sector or regional and international job markets. Capacity building, and retention of skills, is therefore an ongoing and long-term task for the PICs in order to address all aspects of climate change, particularly for adaptation. Currently, core competencies that are important to building climate change resilience are lacking. These include participatory learning techniques, learning networks, competency-based learning, mentoring and succession planning as well as specific skill sets such as modeling, Environmental Impact Assessment and Strategic Environmental Assessment, and GIS. Building these capacities takes time and effort and requires significant support from within government and through bilateral or multilateral partnerships.

28. The ability of Pacific SIDS to confront climate change is further constrained by political developments in many PICs. Weaknesses in management at the national level are reflected at the regional level. Governance systems in SIDS are currently experiencing considerable stress as the economic requirements for integration are outstripping the capacity of SIDS to make the necessary political adjustments. It is clear that traditional

concepts of sovereignty cannot cope with the significant cross-country threats of climate change.

29. In addition to the above non-climate related root-causes, the Pacific region is subjected to disasters such as cyclones, droughts, floods and storms. These events result in significant loss of life, the destruction of homes, and the reversal of hard-won economic gains (World Bank, 2006). In the Pacific, the cost of extreme events (primarily cyclones and droughts) exceeded US$1 billion in the 1990s alone (World Bank, 2006). In the capital cities of the Fiji, Solomon Islands, Vanuatu, Samoa and Tonga, a cyclone with a 25-year return period causes average damages estimated at 3 percent of national GDP. A 100-year cyclone, with a 50 percent chance of occurring within the present generation, inflicts damages estimated to average 60 percent of GDP (Shorten 2003). These events are projected to increase with climate change.

30. Since 1939, a total of 124 tropical cyclones had affected Vanuatu, of which 45 (36 percent) were categorized with hurricane force winds. Communities in Vanuatu have reported significant increases in coastal erosion of up to 50 meters over the last 20 years (Vanuatu V&A Report 2000). This has impacted greatly on public infrastructures such as roads, jetties and wharfs. In Niue, Cyclone Heta is estimated to have caused damage of about NZ$37.7 million, which is approximately 25 percent of GDP (McKenzie, Prasad and Kaloumaira, 2005). Since the 1990s Fiji has reported that floods associated with cyclonic storms and rainfall have caused considerable damage to agricultural lands, particularly in the lowlands. Damage caused by flooding associated with Cyclones Kina and Sina was estimated at FJ$188 million and FJ$33 million (World Bank 2000).

31. It is imperative for SIDS to implement improved mechanisms to address these issues now. New and creative governance processes need to be developed and implemented that enable climate change issues to be mainstreamed into the core business of governments. These processes also need to allow scope for civil society, and bilateral and multilateral partners to participate meaningfully in the formulation and implementation of sustainable development policies at the national level.

Barriers

32. Climate change is more than environmental issue in the Pacific region. It also presents economic, social, and political challenges. It poses serious political and financial management issues for PICs that adversely affect GDP, balance of payments, budget deficits, foreign debt, unemployment, and living standards. However, several barriers have been identified that constrain the integration of these issues across Pacific island governments' activities.

33. There is limited national commitment and capacity to address climate change adaptation and disaster management due to insufficient awareness and limited financial resources. Inadequate high-level control to cope with these issues in various sectoral ministries, and the difficulties associated with decision-making and coordination of cross-sectoral issues,

further constrain capacity. There is also limited insight into the economic ramifications of climate change impacts, as well as the cost/benefit of adaptation measures.

34. Research on adaptation processes in the Pacific has demonstrated that few adaptation measures have been, or are likely to be initiated in light of climate change alone. Rather, most strategies to better cope with and plan for climate change fit within programmes, policies and community decision structures that deal with risk management, disaster management, sustainable development, resource management, food security, water management and livelihood maintenance. Most PICs lack the capacity to carry out such risk assessments and risk management at all appropriate places and levels of government. Many are not able to perform macroeconomic and cost/benefit analysis of environmental and risk management issues, and are unable to communicate predictions to relevant stakeholders both within and outside the government.

35. Communication and coordination challenges at the planning and the implementation stages between departments, ministries and agencies across sectors relating to coastal, food security and water resource management are significant constraints in dealing with climate change. Attempts at integration have been made but are often overly ambitious and suffer due to the lack of systemic support and inappropriate institutional incentives. As a result, fiscal planning and budgetary processes of governments have not taken climate change into consideration in a systematic way.

36. In many PICs there is limited understanding of what mainstreaming climate change requires at the national and/or community level. The type of analysis that is needed is some level of expertise in the area of climate change modeling, economic impact assessments and livelihood evaluations. Much of this expertise is unavailable within many Pacific island governments.

37. Addressing the issue is further constrained by government's limited access to financial resources. Competition for resources with other livelihood priorities, such as health, education, poverty eradication, and waste constrains the allocation of resources for explicit climate change risk management initiatives. As a result, there is no learning through demonstration initiatives and limited lessons to draw on for supportive policy responses.

38. A key issue is the lack of demonstrated examples and practical experience of climate change adaptation, particularly in the context of national development initiatives. Development projects have tended to be handled in isolation and designed in the context of immediate needs and short-term government and donor imperatives. There is little appreciation of the practical implementation of adaptation measures as an integral component of development activity. This results in limited adoption of adaptation techniques, and promotes inefficient use of development resources through projects that may not be designed to cope with medium-term climate effects.

39. Many of the isolated adaptation activities carried out to-date have been instigated without a systematic assessment of how risks of potential climate change impacts had been

reduced. Technical capacities to carry out assessments of climate change impacts therefore needs to be significantly improved.. Assessment and decision-support tools and Guidelines that focus on specific sectors (coastal zone, food security, water) need to target issues of relevance to PICs. In particular, the analyses of potential adaptation responses need to be tailored to the physical and cultural circumstances in PICs whilst working in tandem with the Pacific Disaster Risk Management Partnership Network and corresponding relevant disaster risk reduction/disaster risk management (DRR/DRM) initiatives.

40. Although diverse, PICs share some common circumstances and challenges. The adoption of regional approaches as a way of addressing common problems has been recognized in the adoption of the Pacific Plan. However at present the opportunities for regional pooling of knowledge and experiences have only been taken up in a limited way.

Stakeholder analysis

41. Consultation with the 13 PICs in the development of the PACC Project was undertaken in three phases:
    i. A regional inception workshop for the PACC Project Preparatory Phase process in Nadi, Fiji in 2006;
    ii. Individual country consultations to further define the focal areas and specific activities to be addressed by the PACC Project; and
    iii. Development of country specific implementation arrangements.

42. The PACC national consultation reasserted that coastal management, food production and food security as well as water are priority sectors vulnerable to climate change. This finding is consistent with the position recorded by Pacific Island Countries in their Initial Communication to the UNFCCC. Review of reports, observations and personal discussions/interviews during the consultation process point to the fact that most PICs are already grappling with coastal erosion problems, loss of land from inundation, decline in crop yields, increase in pest problems, increase in salinity of underground water, water storage issues, and other issues. With the projections by the IPCC that global temperature will continue to increase if GHG emissions are not reduced, PICs need to start strengthening adaptive capacities now.

43. The regional inception workshop included key government officers from Environment and Planning departments. The workshop systematically reviewed the regional, national and institutional context for climate change adaptation, providing insights on the threats, root causes, barriers and potential responses that have contributed to the design of the Project. Participants were also consulted on the current focus of the PACC Project, future process of consultation and criteria to be used in determining a country's demonstration focal area. The workshop agreed on three principals for developing the Project:
    - A strong fit/alignment with the Government's existing programmes and priorities;
    - Completion of necessary baseline assessments; and
    - Ability to co-finance and deliver.

44. The PACC Team[3] then travelled to the 13 participating countries to assist in further defining the focal areas and specific activities to be addressed by the Project. The meetings with the participating countries used a three-tiered approach:
    - Gathering information (including legislation, plans and policy documents) relating to the activities, programmes and projects from various government ministries, departments and agencies;
    - Meetings/consultations and workshops with representatives of relevant ministries, agencies and institutions of government, and non-government organizations; and
    - Presenting the consultation feedback and official endorsement to progress the Project.

45. Finally, the Team assisted the 13 countries in developing an implementation arrangement for the PACC Project at the national level. While some countries have nominated their focal institutions at the national level, others will finalize during the Inception phase (see Annex B). This included an analysis of regional stakeholders that was based on existing organizations in the region and their relevant mandates and programmes that relate to the PACC. These institutions included; the University of the South Pacific (USP), Secretariat of the Pacific Community (SPC), South Pacific Applied Geosciences Commission (SOPAC), Pacific Islands Forum Secretariat (PIF), and the Fiji School of Medicine (FSM). The purpose of the visits and consultations were to:
    - Ensure duplication of work is avoided;
    - Ensure the Project is better synergised with other initiatives that are being implemented; and
    - Define a better common modus operandi for working together to implement the Project.

46. These consultations have produced a comprehensive, integrated and fully country-driven PACC Project. An example of stakeholders consulted in Cook Islands during this process is presented in table 1.0 below. A summary of stakeholders, their roles and responsibility identified through this process is listed in Annex C.

[3] Chief Technical Adviser (Mr Taito Nakalevu), UNDP representative (Ms Misa Andriamihaja) and the PACC Consultant (Dr Graham Sem)

Table 1.0 An example of stakeholders consulted in the Cook Islands during the national consultation process

Institution	Stakeholders interests/responsibilities	Relevance to climate change/reasons for inclusion	Role in consultation process
GOVERNMENTAL INSTITUTIONS			
National Environment Service (NES)	– Implementing agency and operational focal point of the GEF, including UNFCCC, UNCCD and CBD and other MEAs. Responsibilities: – Management of the state of the environment; – National coordination of actives and programmes related to MEAs including implementation, monitoring and evaluations; and – Issuance and vetting of projects including permits and environmental impact assessments. – Liaising with relevant national agencies for assistance to ensure the Cook Islands effective representation at meetings of the Parties to the Convention and other relevant meetings. – Liaising with relevant regional and international bodies to ensure that the representation of the Cook Islands at any meeting concerning a Convention is informed and effective. – Managing or participating in any project, or part of a project, aimed at implementing any aspect of environmental concerns. – Disseminating information to local stakeholders and creating public awareness on environmental concerns. – Preparing reports, and information papers for the Minister and Cabinet in relation to the implementation of any Convention. – Review and improvement of regulations, policies and strategies for implementing environmental concerns. – Provide technical support to any other relevant government department or agency) to implement any obligation under a Convention.	– Operational focal point of the UNFCCC and the GEF. – Climate Change officers, coordinating the UNFCCC Second National Communications project under the NES. – National Climate Change Country Team (NCCCT) is established under the auspices of the NES with administrative and management support from Climate Change officers. – Responsible for preparation of the INC and its submission to the COP. – Responsible for preparation of the draft National Implementation Strategy (NIS) in collaboration with other relevant agencies. – Responsible for the preparation of the NESAF 2005-2009. – Responsible for the NCSA. – Responsible for preparation of the National Biodiversity Strategy and Action Programme under the CBD. – Responsible for preparation of the National Action Plan NAP under the CCD.	– Consultations on national priorities, Mainstreaming of climate change in national environmental strategies, programmes and other documents, and on current and planned projects. – Regular consultations with the UNFCCC partners for discussion of the proposal of the 2NC in terms of technical issues, opportunities for synergy among various projects and institutional arrangements. – Regular consultations on the needs and priorities for capacity building. – Regular consultations on the implementation of the NESAF, NBSAP and the formal adoption of NIS. – Possible pilot sites for PACC theme on coastal zone management and associated infrastructure. – Secretariat of the national Climate Change Country Team. – Organized and coordinated all stakeholder consultations on PACC.

Institution	Stakeholders interests/responsibilities	Relevance to climate change/reasons for inclusion	Role in consultation process
Ministry of Agriculture	– Ministry responsible for development of agriculture products for export and local markets.	– Member of the NCCCT. – Collaboration with NES on policy and strategies on agricultural developments as they relate to crop productions, food security, land-use, resources management, vulnerability and adaptation assessment, use of chemicals and inorganic fertilizers, mitigation and other relevant climate change information and data.	– Consultation on data needs for V&A assessment regarding agricultural crops including issues related to invasive species, chemicals usage, and policies review and development. – Food security issues are critical as food production is an important development sector.
Office of the Prime Minister	– Responsible for WSSD, MDGs and development of the National Sustainable Development Plan. – National Policy Coordination Unit.	– Member of the NCCCT.	– Consultation with regard to integration of climate change issues into national strategies and policies including sustainable development programmes – Data and information needs for PACC activities relating to coastal zone management and associated infrastructure.
Office of the Minister for Islands Administration	– Responsible for administration and technical support to Outer Islands administrations.	– Proposed member of the National Climate change country Team.	– Consultations on effects of climate change on resources a and infrastructure in the outer islands and data needs – Mangaia harbour redevelopment to be completed by mid-2007 – Airport hub in northern group
Meteorological Services	– Responsible for providing national meteorological services to the public.	– Chair and Member of the NCCCT.	– Consultations on strategies to enhance capacity-building on climate-related activities including data management activities and technologies including research and systematic observations applications.
Ministry of Works, Energy, and Physical Planning	– Responsible for design and development of infrastructure of public works and services in communities, roads, bridges, drainage, water works, energy inspection, and development, coastal zone protection and management, building standards and control, land survey information, and waste management.	– Member of the NCCCT.	– Undertakes climate change vulnerability and adaptation assessments, environmental impact assessment work, resource investigations and studies including mapping and planning, development of resources management policies, plans and regulations.
Cook Islands Investment Corporation	– Responsible for the management of government assets especially housing and state-owned enterprises along with lagoon floor.	– Potential role in energy efficiency and increasing resilience of infrastructure.	– Consultations on strategies for cyclone reconstruction efforts, reviews on building codes and standards and including legislations, and national GIS mapping

Institution	Stakeholders interests/responsibilities	Relevance to climate change/reasons for inclusion	Role in consultation process
			project as well as the ADB TA for infrastructure planning.
Emergency Management Cook Islands and Cyclone and Emergency Assistance Loan Project	– Responsible for the national disaster management office and national emergency operations centre. – Developing a 20-year Master Plan for Preventative Infrastructure.	– Member of the NCCCT – Responsible for pre disaster and emergency preparedness.	– Consultations on post disaster response and relief operations and potential for trainings and educational and awareness, including vulnerability and adaptation assessments, and hazards risks assessments. – Infrastructure on outer islands.
Aid Management Division (Ministry of Finance and Economic Management)	– Responsible for administration of foreign aid funding and TA projects in the Cook Islands – Responsible for Cyclone recovery and Reconstruction Programme.	– Responsible for administration and disbursement of project funds and for recovery work in the country.	– Consultations on the impacts of climate change on the national economy and needs for data. – Possible pilot sites for PACC project. – Possibilities for co-financing.
PRIVATE SECTOR CONSULTANT/ENTREPRENEUR			
Mr. Don Dorell	– Provides scientific/technical/policy advise and guidance on coastal management issues.	– Assists government on scientific/technical and policy issues relating to coastal zone management and infrastructure development on the foreshore.	– Guidance on wave climatology and design infrastructure for harbour & airport redevelopment. – Review of consultant's report on Avatiu Harbour Breakwater feasibility study.
NON-GOVERNMENT ORGANISATIONS (NGOs)			
Island Sustainability Alliance Cook Islands (ISACI) and Climate Action Network (CAN)	– Responsible for facilitating numerous community based environment programmes and assisted in the initiation of a Climate Change Action Network. – Advocacy on environmental issues.	– Climate Change Action Network member to promote awareness and dissemination of information. – Assisted Cook Islands in the preparation of Initial National Communication. – A member of CIANGO. – Assisting the Cook Islands to prepare community vulnerability assessments. – Awareness-raising, education and training.	– Consultations on strategies for climate change community awareness. – Training programmes relating to PACC implementation.

Baseline Analysis

Institutional, sectoral and policy context

47. Most PICs, excluding territories, have ratified international environmental conventions (e.g. UNFCCC, CBD, CCD, Ramsar, CMS, CITES). Additionally, Forum Leaders and their Environment Ministers endorsed a Climate Change Round-table[4] in 2000. This mechanism was established primarily to ensure a coordinated and strategic approach by regional and international organizations to assist Pacific islands implement their priority activities. At the highest level of governance in the Pacific, the Leaders endorsed the Pacific Plan in October 2005 as the guiding document for strengthening regional cooperation and integration in the Pacific. This document recognizes that climate change is a risk to sustainable development particularly for Small Island States given their limited capacity and vulnerable environments. Other relevant regional documents and initiatives that this project is consistent with and contributes to include;
    - Pacific Islands Framework for Action on Climate Change;
    - The Pacific Islands Disaster Risk Reduction and Disaster Management Framework (DRRM); and
    - The Pacific Regional Action Plan on Sustainable Water Management.

48. All PICs have a National Sustainable Development Strategy (NSDS), or equivalent, that describe the vision, goals, and targets for sustainable development, and processes for implementation and review at the national level (see Table 2.0). At the sectoral level, implementation and monitoring of agricultural development in Fiji, PNG, Palau and Solomon Islands are governed by Land Use Plans, Land Conservation Acts and Drainage and Irrigation Plans. Coastal management plans and Outer Island Management Plans are in place in Cook Islands, FSM, Samoa and Vanuatu.

49. Regional initiatives include the Micronesian challenge, involving Marshall Islands, FSM and Palau, which targets marine conservation. Community-based Conservation, Locally Managed Marine Networks (LMMA) have been piloted in Fiji and other islands as a new approach to managing marine resources with local communities' participation. In addition, government departments develop specific annual plans in many sectors including coastal protection and management, food production and food security, and water to guide development at the national scale. These are important documents to be considered when mainstreaming climate change into key development plans and policies of governments.

50. However, only Fiji has a specific climate change policy, approved by Cabinet in November 2007. The policy states that Fiji is committed to:
    - Mainstreaming climate change;
    - Strengthening the collection, analysis and use of data to monitor climate change patterns,
    - Promoting understanding and awareness;

[4] The next Climate Change Round-table will be convened in October 08.

- Proactively identifying the most vulnerable areas and assets at risk from the impacts of climate change; and
- Developing adaptation options that are appropriate, cost effective and culturally sensitive.

Table 2.0 National and Sectoral Policies relevant to PACC

Country	National	Sectoral
Cook Islands	National Strategic Development Plan (NSDP).	Preventative Infrastructure Master Plan. National Environment Strategic Action Framework (NESAF) policies last year.
Federated States of Micronesia	Strategic Development Plan 2003-2023.	Kosrae Infrastructure Development Plan (IDP).
Fiji	"Strategic Development Plan 2003-2005 (SDP) - a rolling development plan.	Land Conservation Act and Rural and Outer Island Development Plan.
Marshall Islands	Vision 2018.	Master Plan.
Nauru	National Sustainable Development Strategy 2005-2025.	National Water Plan 2001 Power and Water Strategy 2006.
Niue	Integrated Strategic Plan (NISP) 2003-2008.	Environment Act 2003, Water Resource Bill.
Palau	Palau 2020 National Master Development Plan (PNMDP).	Ngatpang State development Plan.
Papua New Guinea	Medium-Term Development Strategy 2005-2010.	National Food Security Policy 2000-2010.
Samoa	Strategy for Development of Samoa (SDS) 2005-2007.	Coastal Infrastructure Management Plan.
Solomon Islands	National Economic Recovery, Reform and Development Plan (NERRDP).	Agricultural Policy and Plan.
Tonga	The Strategic Development Plan Eight 2006-2009: Looking to the Future Building on the Past (SDP8).	Water Management Bill.
Tuvalu	Te Kakeega II: National Sustainable Development Strategy 2005-2015.	Water and Sanitation Master Plan.
Vanuatu	Priorities and Action Agenda (PAA) 2006-2015.	Infrastructure Master Plan.

51. The PACC Project demonstration activities build on existing programmes and activities in participating countries in the areas of coastal zone management and associated infrastructure, water resources management, and food production and food security. However, most national sustainable development and sectoral policies do not implicitly include climate change as an important issue during implementation. The exception is the Marshall Island's Vision 2018, which includes climate change, although translating policy words into action seems void. Thus, the PACC Project will significantly make an important contribution to climate proofing the plans and policies of these countries (see table 2.0).

Climate Change support for the Pacific

52. Climate change initiatives implemented by Pacific SIDS since ratification of the UNFCCC are indicated in Table 3.0. Many of these initiatives are assessment and enabling projects, and very few include implementation (as noted by decision 11/CP.1 of the UNFCCC COP[5]). Other than the GEF-UNDP PICCAP project, there is no regional project to address climate change adaptation at a regional level. Indeed, most of the projects discussed above and detailed in Table 3.0 cover only a few countries and focus primarily on assessments and capacity building, with limited mainstreaming efforts.

53. However, it is recognised that DRR/DRM projects address baseline risks relevant to climate change adaptation. There are country specific DRR/DRM projects in the Pacific, such as the mainstreaming of DRM into national policy, headed by SOPAC. Other locally focused projects include the UNDP/GEF funded Small Grants Projects that aim to reduce vulnerability at the local level. These types of projects could form strategic entry points for further climate change adaptation initiatives in the future.

Table 3.0. Major Active Projects Piloting Adaptation and Hazard Management in Pacific Islands

Project	Country	Donor/Administrator	Funding (US$ million)	Focus
Assessments:				
Pacific Islands Climate Change Assistance Programme (PICCAP)	Cook Islands, Fiji, Marshals Palau, PNG, Vanuatu, Samoa, Tonga, Kiribati, Tuvalu, Niue, FSM, Solomon Islands	GEF/UNDP	5.0	Vulnerability and adaptation assessment, Mainstreaming Capacity building
Assessments of Impacts and Adaptation to Climate Change	Cook Islands, Fiji	GEF/UNEP, START, and the Third World Academy of Science (TWAS).	0.2	Vulnerability and adaptation assessment Mainstreaming Capacity building
NAPAs – Preparation of National Adaptation Programmes of Action	Kiribati, Samoa, Solomon Islands Tuvalu, Vanuatu	GEF/UNDP	1.0	Vulnerability and adaptation assessment Mainstreaming Capacity building
Pilot Adaptation:				
CIDA – Capacity Building to Develop Adaptation Measures in Pacific Island Countries	Cook Islands Fiji, Samoa Vanuatu	CIDA/SPREP	1.3	Capacity building Mainstreaming Community pilots
KAP – Kiribati Adaptation Programme	Kiribati	GEF / Japan / World Bank	0.65 + 3.05	Mainstreaming Pilot adaptation
CLIMAP – Climate Change Adaptation Program for Pacific	FSM Cook Islands.	CIDA/ADB	0.8	Mainstreaming Climate Proofing

[5] Stage I: Planning, which includes studies of possible impacts of climate change; Stage II: Measures, including further capacity-building, which may be taken to prepare for adaptation, as envisaged by Article 4.1(e); and Stage III: Measures to facilitate adequate adaptation.

AusAID – Vulnerability and Adaptation Initiative	Fiji, Samoa, Vanuatu	AusAID/	2.0	Capacity building Mainstreaming Community pilots
Samoa - Infrastructure Asset Management Project I and II	Samoa	World Bank	4.3	Strengthened hazard management

GEF Alternative Scenario

54. The GEF alternative scenario for the PACC Project will focus on:
    - Implementing specific measures to address anticipated climate change risk for priority development areas through policy interventions and capacity support;
    - Building awareness and acceptance of the risks of climate change and the necessary conditions for adaptation at the policy level;
    - Developing mainstreaming methodologies to integrate key thematic issues into national development strategies; and
    - Increasing the adaptive capacity of human and biophysical systems through measures designed to reduce the adverse effects of climate change on key development sectors of government.

55. With SCCF support, anticipated climate change risks on priority development areas will be given due consideration through systemic adjustments in national policy interventions and the necessary capacity support. Specific measures to reduce vulnerabilities of key investments will be financed and implemented in the form of demonstrations. These initiatives will provide guidance to post-PACC interventions, which may be required at a larger scale, both in terms of the amount invested and scope. Technical assistance for developing capacities for integrating risks into management decision-making processes at the national, sub-national and project levels will be undertaken. Together with capacity developed through the enabling activities, interventions undertaken in the future will have a much stronger capacity base on which to build.

56. Through the integration of policies and programmes, the project will sensitise policy makers on the risks posed by climate change and the necessary conditions for adaptation. This will be in addition to the contribution the project will have in reducing the likelihood of maladaptive practices that exacerbate vulnerability of social, ecological and geomorphological systems to climate change, coastal erosion and sea-level rise in the name of short-term economic development. Communication between departments and agencies, and between policy makers and coastal communities will be improved, with greater stakeholder involvement in policy development and implementation.

57. A gender-sensitive mainstreaming methodology will be used to corral key thematic issue into national development plans, policies or strategies. This will be developed in collaboration with technical experts and domestic partners including economic planners, institutional analysts, budget specialists, technical/ scientific experts, policy analysts,

sectoral and cross sectoral managers, and community stakeholders. The process will focus on:

- Reviewing the National Sustainable Development Strategy (NSDS) and their role in national development;
- Identifying the strengths, weaknesses, gaps, and responses to strengthen specific sectoral management in the coastal, food security and production and water sector (problem tree analysis and objective/ solution identification);
- Reviewing linkages between sectoral plans and NSDS, and the relationship between sectoral medium term budget and the medium term national fiscal expenditure and revenue budget; and
- Strengthening sector level budgeting to reflect outcomes focused on priorities and national development goals.
- Reviewing and identifying how climate change can be mainstreamed into current and future community programmes and plans at the pilot level.

58. The current approach to mainstreaming lacks consistency and a clear methodology. No serious effort has also gone into developing guidelines to appraise plans or existing projects in a methodical way. More effort is concentrated at the national planning level without due consideration given to other levels. The PACC approach to mainstreaming involves the development of a guide to be used by the 13 PICs participating in the PACC and it will detail how climate change adaptation issues will be mainstreamed at different levels, which include national, sectoral and community level.

59. The project will increase the adaptive capacity of human and biophysical systems through measures designed to reduce the adverse effects of climate change on key development sectors of government in the coastal, food production and food security and water sector. Emphasis will be placed on building capacity and institutional structures and decision systems to enable these sectors to better cope with current variability and long term climate change. Anthropogenic stresses on resources such as biodiversity habitats and threatened species of plants and animals will also be taken into consideration in the project as part of a holistic and integrated approach to enhancing climate resilient systems. PACC activities will increase the resilience of coupled social and ecological systems in the face of climatic variability and change. Another major focus is the amelioration of anthropogenic climate change drivers to coastal change, food production and food security and water use, including measures to reduce vulnerability to future climate change and sea level rise. As a result of PACC Project activities, particularly capacity building, it is anticipated that coastal erosion due to climate change driven factors, water stress and food insecurity would be reduced and communities would be able to plan for and adapt to climate change, relative to baseline conditions. Climate-resilient sustainable livelihoods will be promoted, securing longer-term sustainable economic development.

PART II: Strategy

Project Rationale and Policy Conformity

60. The PACC Project is designed to promote climate change adaptation as a key pre-requisite to sustainable development in Pacific Island Countries. The PACC project objective is to enhance the capacity of the participating countries to adapt to climate change, including climate variability, in selected key development sectors. The Project focuses on barriers identified through the situation analysis: supporting capacity building and mainstreaming of climate change adaptation at the national level; providing tools and guidelines, supplemented by practical demonstration of adaptation as both a process and on the ground activity; and through supporting regional approaches.

61. More specifically, the project will deliver outcomes and outputs that include improved technical capacity to formulate and implement national and sub-national policies, legislation, and costing/assessment exercises. Climate change risks will be incorporated into relevant governance policies and strategies for achieving food security, water management, and coastal development. At the sub-national level, pilot demonstration activities will deliver adaptation benefits in the form of practical experiences in the planning and implementation of response measures that reduce vulnerability. These benefits will be integral for future replication and up-scaling, and also to identify larger-scale investment opportunities from multilateral banks supporting countries with climate change adaptation. The project will also foster regional collaboration on adaptation.

62. The PACC project is aligned with policies and strategies at several levels:

- *Global* - PACC is aligned with recommendations and decisions from international agreements such as the UNFCCC, the Millennium Declaration and the MDGs, and the Barbados Programme of Action.
- *Regional* - PACC is aligned with the PIFFACC and the Pacific Plan and the Disaster Risk Management Plan and the Pacific Water.
- *National* - PACC is aligned with national adaptation and development priorities, and supports improved national sustainable development planning (mainstreaming).
- *Institutional* - PACC fits within the Climate Change Focal Area of the Global Environment Facility (GEF) within the Adaptation Operational Programme. It is also a core element of GEF-PAS. PACC is consistent with the guidelines/requirements of the Strategic Priority SCCF managed by the GEF[6]. The PACC also fits within the UNDP corporate focus as described below.

[6] GEF paper "Programming to implement the Guidance for the Special Climate Change Fund adopted by the Conference of the Parties to the United Nations Framework Convention on Climate Change at its Ninth Session (GEF/C.24.12)

- *Thematic* - PACC will engage with partners from DRR/DRM backgrounds (e.g. SOPAC) to ensure climate change adaptation initiatives are well targeted and work in tandem with projects that reduce vulnerability to current weather related disasters in PICs.

63. UNDP and the GEF will play a catalytic role in leveraging national and international investments towards the additional costs of adaptation and promote sustainable development. PACC provides an overarching framework whereby the goal of integrating risks into three key development sectors (coastal management, food production and food security) and piloting adaptation measures at the community level is contained and allows for top-down and bottom-up sharing of lessons and experiences.

UNDP Project Rationale

64. UNDPs overall strategic priority in adaptation as identified in its Climate Change Strategy is to help developing countries address three key challenges: (i) securing political traction to implement pro-active adaptation responses given the costs and uncertainties associated with climate change, (ii) assisting governments to find the appropriate policy mix of options to address climate change; and (iii) finding finance to develop capacities and policies. UNDP seeks to embed climate change risk management into development policies and practices in order to lower the impacts of climate change that can no longer be avoided, as well as to capitalize on new opportunities.

65. In order to address these challenges, the services UNDP will provide under the PACC will be to: (i) assist countries to identify, prioritize and implement long-term "no regrets" pilot demonstration adaptation response measures in line with UNDP's comparative advantage; (ii) enhance the capacity of 13 Pacific countries to design and implement policies to integrate adaptation into domestic plans, investments and practices; and (iii), support countries to mobilize additional sources of funding for implementing adaptation responses.

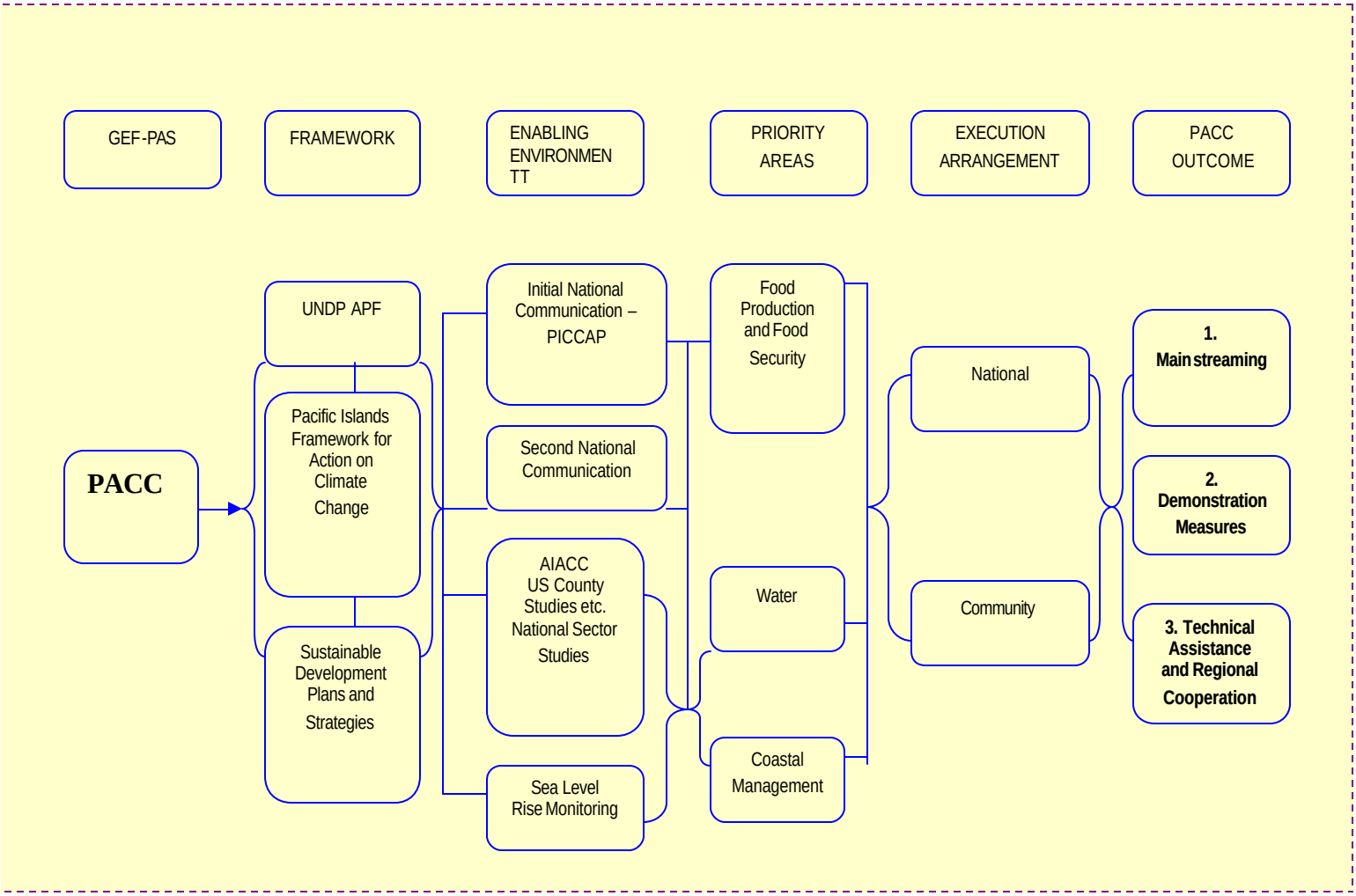
66. The overall PACC strategy is consistent with the aims and objectives of the GEF-PAS programme as it focuses on: (i) balancing community-focused actions, country drive, regional coordination; (ii) ensuring GEF modalities are more reflective of national and regional circumstances; (iii) adopting an integrated, programmatic rather than focal area and project-based approach; (iv) balancing national and regional projects; (v) emphasizing on the ground action (capacity development, policy formulation, demonstrations) rather than assessments; (vi) ensuring that countries and the region have the absorptive, technical and fiduciary capacity required to undertake activities in an efficient and effective manner; and (vii) the importance of sharing expertise and information.

PACC Framework

67. The PACC project framework is shown in the schematic diagram below (Figure 2.0). The Framework places national priorities in the context of relevant global and regional strategies and the national enabling environment. Against this background, the Project will

be executed at national and community level to deliver the specified Project Outcomes The PACC project will assist the Pacific region to move from through the three stages of adaptation as mapped out by Decision 11/CP1 of the UNFCCC COP (from planning through to adaptation measures).

Figure 2.0 Schematic Diagram of the PACC Framework



68. The project will provide a substantive contribution in terms of the consideration of longer-term climate change risks into development and resource management planning. It will make a significant contribution through:

- Focusing on enhancing the resilience of current development activities to long term climate change;
- Incorporating adaptation to climate-change risks and related vulnerabilities into existing institutional and decision-making processes ("mainstreaming"), at both the community level and the national planning level;

- Recognizing the role of gender-sensitive communities in resilience building hence community-relevant vulnerability assessment and gender-sensitive community-based ("bottom-up") adaptation options;
- Promoting real community engagement in the processes of improving capacity to deal with climate-related risks;
- Delivering tangible adaptation measures through practical demonstration; and
- Setting a foundation for a strategic approach to adaptation at the Pacific regional level.

69. At the national and community level, the demonstration measures will contribute to building the resilience of communities to climate related risks, improving livelihoods and alleviating poverty, a key priority for national governments.

PACC Approach

70. The PACC project will demonstrate a framework of action that fuses the top-down (mainstreaming) and bottom-up approaches to climate change vulnerability assessments and action. This is an important development, regionally and globally, as it differs from other adaptation projects that implement only one of these approaches. This dual approach encourages new modes of action to emerge, which are consistent with both community and national priorities and plans. While the specific actions will reflect the cultural and geographical circumstances in the Pacific region, the approach is expected to be applicable in similar situations elsewhere.

71. The PACC project by design is closely linked to national level sustainable development and poverty reduction strategies. It provides additional resources for national governments to address climate change specific issues in the design of their development programmes to ensure resilience to current and future changes in climate. Therefore, co-financing activities from governments provide the baseline activity aimed at achieving sustainable development whilst PACC activities provide the additional provisions to address climate change adaptation.

72. Activity at the national level will be carried out through national project teams. Regional support will be provided for backstopping countries on technical capacity building, financial administration and other support needed. This is a departure from other regional projects where most project activities have been carried out at the regional level and mostly by Consultants. The regional component envisaged in the PACC includes strengthening coordination among regional organizations to support participating countries. This will involve providing technical needs for national implementation, and facilitating the exchange of lessons learned and best practices between the countries and the wider global community.

73. While the PACC is a Pacific regional project, it also functions as an umbrella for nationally driven and implemented measures to demonstrate adaptation in practice. SCCF resources will be targeted at improving adaptive capacity to address climate change concerns at the

national level and, together with individual country co-financing, finance the implementation of pilots that reduce vulnerability to climate impacts which countries themselves have identified on the basis of nationally and scientifically endorsed assessments. The Project also provides the context for an integrated regional approach to adaptation to be refined over the medium term.

74. The PACC approach is innovative for a number of reasons. (I) The PACC will be the first GEF SCCF project in the Pacific islands region focusing specifically on adaptation in thirteen countries simultaneously[7]. As such, the PACC will contribute to the achievement of target results in the PIFACC, while being consistent with strategic priorities in the NAPAs and other relevant national policies, strategies and plans. (II) GEF managed funds will play a catalytic role in leveraging national level investments towards meeting the additional costs of adaptation to climate change. All countries have already committed the necessary co-financing towards this project. (III) The project represents an important opportunity for the UNDP and GEF to take the lead on piloting approaches to adaptation and lessons from this initiative have the potential to be widely disseminated for replication. (IV) The PACC builds on lessons learnt from previous GEF projects in the Pacific[8]. The regional component for example, will be streamlined to place more responsibility for the execution of the PACC on country personnel[9].

75. Targeted capacity building and technical support initiatives will be implemented for key local stakeholders who will play a pivotal role in the success of the project[10]. For example, there is potential for the use of expertise in participating countries (both existing expertise and that developed through the project) in other countries in the region; providing a model of South – South cooperation.

Project Goal, Objective, Outcomes and Outputs/activities

76. The project goal, consistent with UNDP's overall Climate Change Strategy, is to assist PICs to integrate climate change risks into key development sectors. The project goal is consistent with the overall goal of GEF-PAS, which is to contribute to sustainable development in the Pacific islands region through improvements in natural resource and environmental management. It is also consistent with the UNDP focus to programme adaptation in the four areas of (1) institutional and constituency capacity building and awareness raising; (2), integration of climate change risk reduction strategies at the strategic, policies and practices into various sectors; (3), implementation of adaptation measures and (4), financial instruments, including insurance and other risk transfer systems.

[7] Previous GEF assistance has focused on enabling activities and assessments, for example the Pacific Islands Climate Change Assistance Programme (PICCAP).

[8] International Waters, South Pacific Biodiversity Conservation Programme and the Pacific Islands Climate Change Assistance Programme.

[9] Termination Evaluation of the South Pacific Biodiversity Conservation Programme; Mid-Term Evaluation of the International Waters Programme and the Terminal Evaluation of the International Waters Programme.

[10] As recommended in GEF/UNDP/SPREP Strategic Action Program for the International Waters of the Pacific Small Island Developing States (RAS/98/G32): International Waters and Lesson Learnt from the PCU/SPREP Perspectives, 16 February 2007.

77. The Objective of the PACC, based on the PIFFAC and national consultations with experts on climate change impacts in the 13 participating countries, is to "enhance the capacity of the participating countries to adapt to climate change, including variability, in selected key development sectors".

78. The PACC project has three main Outcomes and twenty outputs delivered throughout the 13 Pacific Island countries that are participating in the PACC project. This section introduces the project Outcomes and outputs in detail. The Outcomes are summarised in Table 4.0.

Table 4.0 Summary of PACC objectives and Outcomes

OBJECTIVES, OUTCOMES OF THE GEF COMPONENTS	
Objective: To enhance the capacity of the participating countries to adapt to climate change, including variability, in selected key development sectors.	
Outcomes	**Country / Site**
COMPONENT 1: NATIONAL ADAPTATION CAPACITY DEVELOPMENT (MAINSTREAMING) **Outcome 1:** Policy changes to deliver immediate vulnerability- reduction benefits in context of emerging climate risks implemented.	National Activity; Cook Islands, FSM, Fiji, Marshall Islands, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu,
COMPONENT 2: DEMONSTRATION MEASURES TO REDUCE VULNERABILITY **Outcome 2.** Demonstration measures to reduce vulnerability in coastal areas (Cook Islands, FSM, Samoa and Vanuatu) and crop production (in Fiji, Palau, Papua New Guinea and Solomon Islands) and in water management (in Marshall Islands, Nauru, Niue, Tonga and Tuvalu) implemented.	National Activity; Cook Islands, FSM, Fiji, Marshall Islands, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu,
COMPONENT 3: TECHNICAL ASSISTANCE & REGIONAL COOPERATION **Outcome 3:** Capacity to plan for and respond to changes in climate-related risks improved.	National Activity; Cook Islands, FSM, Fiji, Marshall Islands, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu,

Outcome 1: Policy changes to deliver immediate vulnerability- reduction benefits in context of emerging climate risks implemented.

Rationale

79. The purpose of this Outcome is to strengthen the institutional framework, policies and plans and the capacity of key national government and community decision makers to take climate change risks into key decisions in their sustainable resource development programmes (mainstreaming).

80. The Situation Analysis identifies the need for institutional capacity building and mainstreaming to address climate change adaptation. Some effort has been made over the years to strengthen the institutional framework of government departments in the Pacific to take on climate change issues at the national level. Under a GEF/UNDP funded Pacific Islands Climate Change Assistance Project, all the 13 PACC countries established National Climate Change Country Teams to spearhead climate change activities at the national level. Success of this intervention is mixed. While it is a success in some countries like Vanuatu where a vibrant National Advisory Council on Climate Change (NACCC) is in operation, in most, this institutional setup went into abeyance at the end of the project.

81. The World Bank report 'Cities, Seas, and Storms' (2000) identified the need for adaptation policies, and highlighted the merit of them being incorporated into development initiatives, particularly risk management of natural hazards. In the Pacific a Canadian funded adaptation project (CBDAMPIC), supported three countries (Fiji, Samoa and Vanuatu) to develop climate change policies. To date, only Fiji has had their climate change policy endorsed by Cabinet. One of the main impediments to the process for Samoa and Vanuatu has been the perception that a climate change policy would supersede other policies that are currently in place causing by other government departments to be reluctant to support its endorsement. Progress has therefore been limited; most PICS have yet to develop their climate change programmes to a stage where they can better position their institutional framework and networks, policies and plans to better address the adverse effects of climate change.

82. The PACC project will assist the 13 PICs to strengthen their systemic and institutional framework, networks and policies and plans to better address climate change threats and opportunities. Methodologies, tools and guidelines will be developed to assist PICs mainstream climate change into their current national development plans and priorities. The Munasinghe Institute for Development (MIND) a Sri Lanka based private, non-profit organization and SPREP will collaborate closely to carry out this task under the UNITAR C5D Capacity Development Platform.

83. The project will seek to establish a bridge between national authorities responsible of formulating and integrating climate change policies, and national, regional and local authorities and practitioners of coastal, agriculture and water resource management. Knowledge and information provided through monitoring mechanisms, strengthened

institutional structures, and pilot projects would produce information on best practices that would also feed into the policy processes to bridge the gap.

Output 1.1 Develop methodology and tools to assist Pacific Island countries mainstream climate change into their current national development plans and priorities.

84. Methodologies and tools will be developed to assist Pacific Island countries mainstream climate change into their current national development plans and priorities. The activity will help to map out linkages between climate change vulnerabilities, adaptation measures, and major national goals and policies, taking into account social, economic and environmental considerations. It will help produce a comprehensive training module with supporting materials for testing through pilot workshops and fieldwork. The framework will make development more sustainable in PICs by better integrating individual adaptation activities at the micro and community levels into a broader macro sustainable development strategy and national policies. It will also take into consideration mainstreaming efforts currently being undertaken in the DRR/DRM community spearheaded by SOPAC, /PIFS and UNDP. This has been carried out for Vanuatu whilst Samoa and Cook Islands are currently being implemented.

85. PACC will also assist the creation, and/or strengthening, of national integrated risk reduction mechanisms. Such mechanisms will include coordination of government policies across sectors, coordination of multi sectoral strategies and policies, and linkages across all levels of government, as well as NGOs and local communities. The work will be underpinned by inter disciplinary knowledge bases. Sub-national, local and community based organizations and community participation will be facilitated through strategic management of external and local volunteer resources. Specific activities include:

- Modifying the MIND methodology for mainstreaming climate change response options into national sustainable development strategy, to suit the particular circumstances of the Pacific Island countries
- Applying and testing the mainstreaming methodology, using case studies in a selected Pacific Island country
- Developing training materials based on methodology and case studies
- Conducting two training workshops to trial the training materials, methodological tools, and case studies developed in the earlier steps
- Revising/adjusting national development strategies to account for climate change risks.

Output 1.2: Climate change economic tools for evaluation of adaptation options developed and utilized.

86. This is to ensure that key economic factors are taken into consideration when developing and implementing adaptation measures to climate change. A guide would be developed for national use in all 13 PACC Countries across the Pacific Islands region. The guide will be used to assess net economic benefits of implementing the various adaptation options, using

an economic cost-benefit framework and comparing the 'with' and 'without' scenarios identified in the course of the project. Specific activities include:

- Reviewing relevant literature and international best practice for assessment of economic costs and benefits of adaptation;
- Consulting with climate experts on an appropriate climate scenario for use in planning an adaptation intervention over the medium to long term;
- Developing economic tools that describe long term costs and benefits under different intervention scenarios;
- Conducting training on use of the economic tools to enable their application at the country level; and
- Revising/adjusting national development strategies to account for climate change risks in consideration of costs-benefits of climate change interventions.

Outcome 2. Demonstration measures to reduce vulnerability in coastal areas (Cook Islands, FSM, Samoa and Vanuatu) and crop production (in Fiji, Palau, Papua New Guinea and Solomon Islands) and in water management (in Marshall Islands, Nauru, Niue, Tonga and Tuvalu) implemented.

Rationale

87. The purpose is to design and demonstrate innovative decision systems, approaches, technologies and practical measures to strengthen the resilience of 13 Pacific Island SIDS to the adverse effects of climate change.

88. Some effort has been made over the years to improve the resilience of Pacific Island communities to the adverse effects of climate change. One multi-country adaptation project has focused on pilot demonstration, while most programmes focused largely on assessments and capacity building. The GEF/UNDP PICCAP project aimed to strengthen national capacity to undertake studies and provide reports required by the UNFCCC. It also undertook climate change and sea level modelling, assessed impacts, identified hazard areas, and developed possible adaptation strategies. However, it did not directly implement or facilitate measures to assist people and communities to adapt to risks associated with climate change.

89. The Climate Change Adaptation Program for the Pacific (CLIMAP) of the Asian Development Bank (ADB) aimed to enhance the adaptive capacities of Pacific Island developing countries to manage climate change, including climate extremes. ADB in 2005 reported on a series of case studies that demonstrate a risk-based approach to adaptation, where infrastructure projects and national development plans are "climate proofed". Even though these studies have been undertaken, no follow through to direct implementation has ensued.

90. The project Capacity Building for the Development of Adaptation Measures in Pacific Island Countries (CBDAMPIC) was one of the first initiatives to actually implement adaptations to tangibly reduce the vulnerability of communities susceptible to climate change and its effects. The project operated in the Cook Islands, Fiji, Samoa, and Vanuatu, and ran over the period 2003 to 2006. The community adaptation, "learning-by-doing" component of the project started with community-identified vulnerabilities as a basis for the development and implementation of practical measures for local people to improve their capacity to deal with climate-related hazards in selected pilot communities. This project is only limited to four countries in the Pacific and its interventions were very locale-specific and the focal area for most of its intervention was water management. Other vulnerable sectors such as food security, health and coastal management were not addressed due to limited resources. There is a serious need to continue to address other areas of vulnerability such as coastal, food security, health others including covering more vulnerable areas.

91. The PACC project brings with it the opportunity to develop specific Guidelines in the coastal, food security and water sector on how climate change assessments and demonstrations can be undertaken, taking current and future changes in climate into consideration. Several tools such as the CRiSTAL (Community Based Risk Screening Tool) and Climate Change Explorer (CCE) will assist in the development of Guidelines and their demonstration. In some cases relevant tools already exist, but need to be tailored to fit Pacific situations. This will be with the guidance of the Stockholm Environment Institute (Oxford), under the UNITAR C5D Capacity Development Platform. This Outcome will also provide the opportunity for the 13 PACC countries to pilot adaptive designs, management options and demonstration measures. The results, from diverse sectors using innovative approaches, will create a major resource of lessons learned and experiences that can be shared and upscaled.

92. Outputs and sectors for demonstration measures for Outcome 2 are summarised in Table 5.0.

Table 5.0 Outputs and sectors for Outcome 2

Outputs	Sector	Countries
Output 2.1.1a: Guidelines to integrate coastal climate risks into an integrated coastal management programme. **Output 2.1.1b** Demonstrating risk reduction practices in Manihiki Communities (with co-financing support).	**Coastal Management**	**Cook Islands**
Output 2.2.1a: Guidelines to integrate climate risks (e.g. intense rainfall and storm surges) into coastal road designs. **Output 2.2.1b:** Demonstrating integration of	**Coastal Management**	**Federated States of Micronesia**

climate change risks in road designs in Walung community, Kosrae (with co-financing support).		
Output 2.3.1a: Guidelines to incorporate climate risks into an integrated community based coastal management model. **Output 2.3.1b:** Demonstrating climate change risk reduction through community interventions in Vaa o Fonoti to Gagaifomauga district (with co-financing support).	**Coastal Management**	**Samoa**
Output 2.4:1a Guidelines that incorporate multistakeholder decision-making in the redesign and relocation of roads due to the impacts of climate change. **Output 2.4:1b** Demonstrating integration of climate change risk reduction in road design in Epi, Shefa Province (with co-financing support).	**Coastal Management**	**Vanuatu**
Output 2.51a: Guidelines for design of drains and drainage networks to adapt to future rainfall regimes. **Output 2.5.1b:** Demonstrating integration of climate change risk reduction in drains and drainage networks in Tailevu/Rewa and Serua Namosi Province (with co-financing support).	**Food Production and Food Security Sector**	**Fiji**
Output 2.6.1a Guidelines to improve resilience of coastal food production systems to the impacts of climate change. **Output 2.6.1b** Demonstrating integration of climate change risk reduction in coastal food production systems in Ngatpang State/Communities (with co-financing support).	**Food Production and Food Security Sector**	**Palau**
Output 2.7.1a: Guidelines for design of underground irrigation networks to adapt to future rainfall regimes. **Output 2.7.1b:** Demonstrating integration of climate change risk reduction through irrigation networks in Kivori Poe, Kairuku district, Central Province (with co-financing support).	**Food Production and Food Security Sector**	**Papua New Guinea**
Output 2.8.1a Guidelines for reducing vulnerability of small isolated island communities' to the effects of climate change	**Food Production and Food Security Sector**	**Solomon Islands**

in the food production and food security sector. **Output 2.8.1b** Demonstrating community based management of climate change risks in agriculture in Ontong Java Island (with co-financing support).		
Output 2.9.1a Guidelines for improving water retention through redesign and retrofit of existing water-holding tanks to enhance resilience to drought events. **Output 2.9.1b** Demonstrating climate change risk management in water holding tanks in Majuro town (with co-financing support).	**Water Sector**	**Marshall Islands**
Output 2.10.1a Guidelines for design of an alternative water supply system to enhance resilience to drought events. **Output 2.10.1b** Demonstrating an alternative water supply system in a in Anabar district (with co-financing support).	**Water Sector**	**Nauru**
Output 2.11.1a Guidelines for design of water storage systems on a raised atoll island to enhance resilience to drought events. **Output 2.11.1b** Demonstrating a water storage system that will overcome water pressures during a normal drought in Liku to Avatele district (with co-financing support)	**Water Sector**	**Niue**
Output 2.12.1a Guidelines for water resource use and management response to increased ENSO frequency. **Output 2.12.1b** Demonstrating climate change risk management practices for water in Hihifo district (with co-financing support).	**Water Sector**	**Tonga**
Output 2.13.1a Guidelines for climate proofing integrated water management plans. **Output 2.13.1b** Demonstrating the enforcement of a integrated water management plan in Fogafale village (with co-financing support).	**Water Sector**	**Tuvalu**

Output 2.1.1a: Guidelines to integrate coastal climate risks into an integrated coastal management programme.

Output 2.1.1b Demonstrating risk reduction practices in Manihiki (with co-financing support).

93. The PACC will provide additional support to the Government of Cook Islands to put in place measures that will facilitate the improved management of adverse effects of climate change when redeveloping the Manihiki[11] Airport The Airport, given its location, is increasingly damaged by the higher incidence and intensity of storm surges, which scientists have linked to climate change. The resultant damage restricts air traffic, which in turn has significant economic and development implications[12]. With the Government co-financing support allocated towards the redevelopment of the airport infrastructure, the PACC project will focus primarily on addressing climate change induced coastal zone risk management issues. Activities identified during national consultation suggest that work will be needed to develop an integrated coastal management programme that takes into consideration traditional and contemporary coastal resource management measures, including emerging climate change risk considerations. The Cook Islands government is currently investing in the redevelopment of the airport in line with the Preventative Infrastructure Master Plan developed with support from the Asian Development Bank[13]. The redevelopment cost of the airport adjacent to the ocean is to be borne by the Cook Islands Government with assistance from the New Zealand Government. The redevelopment plans are based on feasibility assessments[14] approved by the Ministry of Finance and Economic Management. The PACC, in conjunction with government co-financing, will support the following activities:

- Undertaking a vulnerability assessment of coastal communities in Manihiki including the airfield to the impacts of climate change;
- Developing guidelines to integrate coastal climate risk management into relevant plans and programmes using participatory methodology;
- Training key technical staff in relevant government ministries to apply the guidelines in a pilot situation; and
- Demonstrating the use of guidelines through appropriate coastal support measures (modern and traditional) to reduce coastal vulnerability and enhance the resilience of coastal communities and small island airfields to the impacts of climate change.

Output 2.2.1a: Guidelines to integrate climate risks (e.g. intense rainfall and storm surges) into coastal road designs.

Output 2.2.1b: Demonstrating integration of climate change risks in road designs in Walung community, Kosrae (with co-financing support).

94. This project will enable the state of Kosrae in the Federated States of Micronesia to build technical capacities to develop designs in coastal road systems that will better withstand against the increasing variability and intensity of rainfall and storm surges. During the national consultation and review of previous assessments, it was noted that the drainage works for the original road design (both built and as yet un-built sections) were based on a maximum hourly rainfall of 178 mm, which supposedly had a return period of 25 years.

[11] Manihiki is a small atoll in the Cook Islands comprising 40 tiny islets encircling a 4km wide lagoon.

[12] Given the isolation of small outer island communities from the main centers of Cook Islands, goods and assistance are mostly transported by air, a crucial lifeline for outer island/atoll communities.

[13] Pacific Region Environmental Strategy 2005-2009: Volume II: Case Studies, Mainstreaming the Environment in Development Planning and Management, Published in January 2004

[14] GHG Consultants and Aid management Division 2006.

Assessments carried out on-site indicate that an hourly rainfall with a return period of 25 years is 190 mm[15], whereas by 2050, the hourly rainfall is anticipated to increase to 254 mm as a consequence of climate change. Such types of climate change induced effects incur a cost to building and maintenance of existing and new road networks. With Government co-financing support going towards building a road to the remote village of Walung, the PACC project will ensure that current and future changes in climate are taken into consideration in the road design. Climate proofing new road designs would go along way in reducing maintenance costs over time. The current proposal is designed to incorporate road modifications so that the drainage works can accommodate an hourly rainfall of 254 mm. While the capital cost of the climate-proofed road would be higher than if the road were constructed to the original design, the accumulated costs, including repairs and maintenance, would be lower after only about 15 years. The state of Kosrae, under its infrastructure development plan, will be making available USD 6.9 million for the development of this circumferential road, closing the current 16 km gap. The PACC project will supplement this government initiative by developing a guide on how to integrate climate risks into road designs and assist in its demonstration. Specific activities include:

- Undertaking an evaluation of engineering designs and plans of the current Kosrae circular road in the context of climate change;
- Developing guidelines that incorporate climate change issues into infrastructure designs;
- Training key technical staff in relevant government ministries to apply the guidelines in a pilot situation; and
- Demonstrating the use the guidelines through appropriate engineering measures to increase resilience of coastal roads in Kosrae to the impacts of climate change.

Output 2.3.1a: Guidelines to incorporate climate risks into an integrated community-based coastal management model.

Output 2.3.1b: Demonstrating climate change risk reduction through community interventions in Vaa o Fonoti to Gagaifomauga district (with co-financing support).

95. The above outputs will provide additional support to the government of Samoa to develop technical capacity to plan and demonstrate a community based integrated coastal protection model for adaptation to climate change. The government of Samoa recognizes the vulnerability of its coastal population and infrastructure. In 2003, it requested the World Bank to carry out an assessment of coastal infrastructure in its two main islands, Upolu and Savaii. In that process, plans were developed for 15 districts of Samoa.[16]. During PACC national consultation, suggestions were made on the type of activities that could be undertaken by the project which include; coral replanting, coral gardens on reefs, banning of destructive fishing methods, development of local surveillance programmes et cetera. The government has committed US $2.5 million of national and donor support for the identification of adaptation support to vulnerable coastal areas and communities. PACC assistance will provide the opportunity to demonstrate how climate risks are integrated into a community based coastal management model that include innovative community

[15] ADB Report 2005
[16] Coastal Infrastructure Management Plans for Samoa 2001 World Bank,

engagement processes. This will follow specific activities outlined below of which detail on the ground activities will be further refined, evaluated and demonstrated. The ongoing UNDP/GEF CBA Project in Samoa will be leveraged to provide technical assistance with this initiative. Communities to be engaged in the design and demonstration process are; the district of i) Vaa o Fonoti; ii) Falelatai ma Samatau; iii) Vaimauga Sasae; iv) Falealili; v) Aana Alofi; vi) Lefaga ma Faleseela; vii) Safata; viii) Aiga I le Tai ma Satuimalufilufi; ix) Anoamaa Sisifo; x) Palauli I Sasae; xi) Vaisigano No 1; xii) Faasaleleaga 1; xiii) Gagaemauga 2; xiv) Gagaifomauga; xv) Salega. Pre-and-post adaptation conditions will be carefully assessed to better understand adaptation processes to avoid maladaptation. Specific activities include:

- Undertaking an assessment of climate change issues in relation to community based integrated coastal management;
- Developing guidelines to incorporate climate change issues into community based integrated coastal management;
- Training key technical staff in relevant government ministries to apply the guidelines in a pilot situation; and
- Demonstrating use of the guidelines through measures that incorporate the impacts of climate change to improve integrated coastal management.

Output 2.4:1a Guidelines that incorporate multi-stakeholder decision-making in the redesign and relocation of roads due to the impacts of climate change.

Output 2.4:1b Demonstrating integration of climate change risk reduction in road design in Epi, Shefa Province (with co-financing support).

96. The PACC project will assist the Government of Vanuatu and key stakeholders in the island of Epi to develop their technical and institutional capacities to employ multi-stakeholder decision-making systems to design and implement relocation of road infrastructure so as to increase resilience to climate change related risks. A total of nine tropical cyclones have either directly or indirectly affected the infrastructure on Epi Island since 1941. Extreme events (tropical cyclones, ENSO–related events) can set the whole economy of Epi and Vanuatu back by 5 years, therefore, diverting development funding to recovery. In the case of Cyclone Ivy in 2004, damage was estimated at a total cost of US$4.276 million (VT427.6 million). Activities identified during national consultation point to the need to relocate roads that are severely damaged from storm surges. With government co-financing focusing on the rehabilitation of these roads and other infrastructures in Epi, the PACC support will focus on the development and demonstration of a multi-stakeholder decision-making system that will ensure views of all different stakeholders in Epi are taken into consideration. Government has committed US$2.9 million to the rebuilding of the main Lamen Bay wharf in Epi and storage houses that would be able to hold produce from the communities to await shipment to Port Vila or other overseas markets. Other in-kind support would be available in the form of equipment and machinery if necessary.

97. The proposed demonstration measures provide the opportunity to test out different decision systems that take the socio-economic, natural resource and cultural/human settlement issues of affected communities into consideration. Specific activities include:
    - Undertaking an assessment of the vulnerability of coastal roads to the impacts of climate change;
    - Developing guidelines that incorporate multi-stakeholder decision-making in the redesign and relocation of roads due to the impacts of climate change;
    - Training key technical staff in relevant government ministries to apply the guidelines in a pilot situation; and
    - Demonstrating use of the guidelines through appropriate road redesign or relocation measures using a multi-stakeholder decision-making tool.

Output 2.51a: Guidelines for design of drains and drainage networks to adapt to future rainfall regimes.

Output 2.5.1b: Demonstrating integration of climate change risk reduction in drains and drainage networks in Tailevu/Rewa and Serua Namosi Province (with co-financing support).

98. The above outputs will assist the Land and Water Resources Division of the Ministry of Agriculture in Fiji to develop their technical capacity for the design and implementation of drainage and drainage networks. Most of the 50 drainage networks around Fiji today are over 20 years old. Their present designs, will sufficient to accommodate historically stable flooding and rainfall, no longer copes with the emerging trends in flash floods and intense rainfall regimes. The consequence is that low-lying areas are frequently flooded, and water outflow limited, causing substantial damage to valuable crops that the Fijian economy, including farmers' livelihoods, is dependent on. The Government of Fiji over the years has used considerable amount of funding to try and dredge the water-ways and rejuvenate existing drainage schemes to alleviate the flooding problems the country is facing. In most cases, this is an exercise in futility, as the drainage networks are not designed for two-to-threefold increases in precipitation. As recent as February 2007, the Fiji government was requested to relocate a whole village due to extreme rainfall and consequent flooding. The Government has allocated a budget of about US $8.6 million over the next 5 years to improving drainage schemes throughout the country. The PACC project activities will focus on reviewing and revising existing drainage design criteria in the context of emerging climate change risks and demonstrating their use in a pilot situation to increase resilience of current drainage infrastructure to current and projected changes in extreme events. Review of drainage design will also include the review of drainage design discharge in relation to ability of different crops to withstand expected water-logging as a result of climate change induced pressures. Two pilot sites in Tailevu/Rewa and Serua/Namosi provinces have been identified for demonstration measures through this project. The population of the two pilot provinces are 149,763 and 21,203 respectively with a total land area of 121,701ha and 139,201ha respectively of which 10,122ha and 3,643ha are considered arable land. Specific activities include:
    - Undertaking an assessment of the impacts of climate change on the drainage network;

- Developing Guidelines that include drainage specifications that take into account current and future rainfall regimes;
- Training technical staff in the Land and Water Resources Division and other relevant institutions to apply the guidelines in a pilot situation; and
- Demonstrating use of a Guideline through drainage design measures that take into account current and future rainfall regimes and other expected climate change pressures.

Output 2.6.1a Guidelines to improve resilience of coastal food production systems to the impacts of climate change.

Output 2.6.1b Demonstrating integration of climate change risk reduction in coastal food production systems in Ngatpang State/Community (with co-financing support).

99. The PACC project will assist the Ngatpang Maritime Authority in the State of Ngatpang in Palau to develop technical capacity to design guidelines and utilize technologies to enhance resilience of their coastal food production systems. The State of Ngatpang largely uses the coast and land interface to develop its agriculture and aquaculture programmes for subsistence and commercial purposes. This interface is now under threat from changes in sea level as well as sea surface temperature. According to preliminary results of the 2nd National Communication vulnerability and adaptation assessments, saltwater inundation is a serious problem that is plaguing farmers in the low-lying areas of Ngatpang State and other states of Palau. Even though agriculture in Palau is relatively small-scale, contributing only 6.2 percent of the GDP, there are a lot of small-scale taro farms dispersed around the main island of Babeldaob, which includes Ngatpang State. Taro is usually cultivated very close to the sea and faces the threat of saltwater inundation and wave overtopping. Cultivation of taro is critical to Palau's socio-economic development and cultural as well as religious norms.

100. In the near shore area, aquaculture and mariculture activities such as clam, crab and grouper fish farming are already being affected by changes in sea surface temperature particularly during an El Niño. Ngatpang State Marine Authorities indicated that farmers have reported clam bleaching when sea surface temperatures increase. The IPCC Fourth Assessment Report notes that due to global warming, it is likely that more El Niño-like events will be occurring. From a land-to-sea approach, the PACC project will demonstrate a range of interventions which include; identifying and propagating saltwater tolerant taro varieties, address climate change relevant issues pertaining to water management in taro production areas, reviewing and refining current aquaculture practices in clam, crab and grouper fish to take into consideration expected changes in sea surface temperature and salinity.

101. Co-financing support will be provided from several sources including the Palau Community College Extension and Research, Palau Community Agency and Government departments that would be supporting the project at various stages. The Ngatpang State Government is also committing space and in-kind support for the project at the State level to ensure that work is carried out accordingly. The PACC climate change adaptation

activities for Ngatpang State will assist by providing alternative solutions to real problems faced by farmers which include salt water inundation on taro patches close to the sea and also the impacts of warming waters and changes in salinity to the grouper fish, rabbit fish, clams and crab culture programmes currently implemented in Ngatpang State. Specific activities include:

- Undertaking an assessment of the vulnerability to climate change of coastal food production systems;
- Developing a guide to improve resilience of coastal food production systems to the impacts of climate change;
- Training technical staff in the Ngatpang Maritime Authority and other relevant institutions to apply the guidelines in a pilot situation; and
- Demonstrating use of the Guidelines through appropriate measures to reduce vulnerability of coastal food production systems to the impacts of climate change.

Output 2.7.1a: Guidelines for design of underground irrigation networks to adapt to future rainfall regimes.

Output 2.7.1b: Demonstrating integration of climate change risk reduction through irrigation networks in Kivori Poe, Kairuku district, Central Province (with co-financing support).

102. The PACC project will support the Papua New Guinea Department of Agriculture, key stakeholders and communities to develop their technical capacity to design and demonstrate innovative programmes that would address one of Papua New Guinea's main sources of vulnerability, drought. Activities identified during national consultation include the need for low input/low technology irrigation systems to manage water resources better in the context of emerging climate related risks on crop production during six months of the year in the Central Province of PNG. Over the years Papua New Guinea has been plagued with drought, with the Central Province being one of the most affected areas. The lowland dry sub-humid region of Central Province is a stretch of coastal area running some 200+ kilometres east – west in parallel with the southern coast of the mainland of Papua New Guinea. In 1997, the Papua New Guinea Government declared a state of emergency as concern over the food situation of the country mounted. Official reports showed that up to 1 million people were affected by the drought conditions and faced food shortages. Large numbers of people who relied on home gardens were reported to have deserted villages in search for food as drought resulted in widespread bushfires destroying homes, crops, grasslands and forests. On March 4th 1998, the Treasury Minister advised Parliament that the country had lost 500 Million Kina (SD$300 million) in foreign exchange reserves as a result of the prolonged drought. Appropriate training, feasibility and consultations will be carried out prior to implementation of any demonstration activities.

103. A pilot demonstration will be undertaken at Kivori Poe which is located approximately 190km out of Port Moresby in the Kairuku District in the Central Province. This is an area where precipitation is greatly reduced during 6 months of the year. The site is an area of about 2000 hectares of flat to gently undulating terrain covered mainly by grassy and scrub vegetation, scattered eucalyptus and mango trees. There is a population of just over 1000

residing in one main village, Kivori Poe, and three separate settlements, which branched out from this village. In an effort to address the issue, the government has currently committed US$3 million as part of its recurrent budget on food production and security to carry out assessments and research on how farmers in the Central Province and also other similar vulnerable areas around the country would be able to sustain production of food crops. The PACC project will contribute towards this endeavour. Specific activities include:

- Undertaking an assessment of irrigation needs for food production in relation to the impacts of climate change on water supply;
- Developing Guidelines that identify how underground irrigation can best support food production requirements;
- Training technical staff in the Department of Agriculture and other relevant institutions as well as key stakeholders involved in the demonstrations to apply the guidelines in a pilot situation; and
- Demonstrating use of the Guidelines through appropriate underground irrigation measures that meet food production requirements.

Output 2.8.1a Guidelines for reducing vulnerability of small isolated island communities' to the effects of climate change in the food production and food security sector.

Output 2.8.1b Demonstrating community-based management of climate change risks in agriculture in Ontong Java Island (with co-financing support).

104. This project will also provide assistance to the Solomon Islands Department of Agriculture and key stakeholders, including communities, to develop technical capacities to design and implement an integrated food security programme that will reduce their vulnerability to the effects of climate change. Activities identified during national consultation include; identification and evaluation of adaptation technologies to reduce crop yield decline, measures to reduce wave overtopping and inundation, identification and demonstration of salt resistant crops and provision of additional food storage facilities. Areas of highest risk in the Solomon Islands are the low-lying islands and atolls including Reef Islands, Ongtong Java and Sikaiana. In the coastal lowland of Ontong Java, which is a pilot site for the PACC project, food shortages on the island have been reported to the National Disaster Office. An assessment of the food security situation attributes this problem to warmer temperatures, variations in rainfall coupled with higher alkalinity of the soil due to wave overtopping and saltwater inundation.

105. Ontong Java is a boot-shaped atoll just south of the equator and 258km north of Santa Isabel. It is approximately 57km long and 50km wide with a total population of 3919 inhabitants. The Solomon Islands Government has committed US$2.4 million as part of its recurrent budget on food production and security to carry out assessments and research on how the general population in Ontong Java and other atoll islands in the Solomon Island with similar vulnerabilities can sustain food production. This output of PACC will follow activities outlined below. In the course of the project, details of on the ground activities will

be identified, evaluated and demonstrated to enhance resilience of government development (co-financing) activities. Specific activities include:

- Undertaking a vulnerability assessment targeting food production and livelihoods in relation to the impacts of climate change;
- Developing Guidelines that identify methods for improving food security combining both modern and traditional knowledge and technology;
- Training technical staff in the Department of Agriculture and other relevant institutions to apply the guidelines in a pilot situation; and
- Demonstrating use of the Guidelines through measures that improve food security in relation to climate change.

Output 2.9.1a Guidelines for improving water retention through redesign and retrofit of existing water-holding tanks to enhance resilience to drought events.

Output 2.9.1b Demonstrating climate change risk management in water-holding tanks in Majuro town (with co-financing support).

106. These outputs will assist the Republic of the Marshall Islands' (RMI) Environmental Protection Authority and the Majuro Water Sewer Company and key stakeholders to develop their technical capacity to design and demonstrate measures to improve water retention of existing water-holding tanks to minimize evapotranspiration and enhance adaptation to drought situations. Water is a major issue for the Marshall Islands as is the case for all atoll Pacific islands as recognized in the country's Vision 2018 and the Pacific Regional Action Plan on Sustainable Water Management (Pacific RAP) endorsed by Pacific Heads of States in 2003. It is also documented in RMI's Initial Communication to the UNFCCC that climate change will exacerbate the water issue already faced by the people and institutions. RMI is working to try and address some of these issues. However, the structure and climate of the atolls has restricted the quantity and quality of fresh water supply in the RMI. The source of drinking water varies from area to area, but for the country as a whole around 70 percent of homes use rainwater for drinking. To address shortcomings in water supply, the National Government distributed more than 3,000 water catchment devices to residents in both the urban centres and the outer islands. In addition, there are plans to construct an additional water reservoir to improve the security of water supply in Majuro Atoll.

107. The project will demonstrate how evapotranspiration can be reduced from existing water reservoirs in Majuro. Unrestricted water utilization levels for Majuro have been estimated to be about 45 gallons per person per day, which equals 170 L/p/d. Past projects planned for Majuro have targeted 40 gallons/day (g/p/d). An estimated population of 25,000 (1994), amounts to a daily consumption of 1 million gallon. Hence, the storage provided by the existing reservoirs (23 Mega gallons) is less than one month's supply in times of drought. This is a very vulnerable situation and if more El Niño-like events occur, serious socio-economic repercussions would come about for the island of Majuro. The Government of Marshall Islands is working on improving the water storage facilities in Majuro and the

airport runway to capture rainwater runoff. It is allocating around US$6.375 million of government and donor support to improve the current situation and the PACC project will contribute significantly to this effort. Overall, the PACC project promotes a broad-based integrated intervention that takes into consideration policy issues related to water conservation, particularly during droughts, at the national and sectoral level. It also aims to demonstrate a whole island approach to climate change adaptation that carefully considers water usage by other sectors, especially agriculture, during droughts. A better understanding of the different vulnerabilities and risks for Majuro will provide valuable insight to improving the current and future adaptive capacity of Marshall Island people. Specific activities include:

- Undertaking a vulnerability assessment of the impacts of climate change on water storage facilities;
- Developing Guidelines that identify methods for minimizing evapotranspiration rates taking into account climate change;
- Training technical staff in the Environmental Protection Authority and the Majuro Water Sewer Company and other key stakeholders to apply the guidelines in a pilot situation; and
- Demonstrating use of the Guidelines through redesign or retrofit measures that reduce evapotranspiration rates.

Output 2.10.1a Guidelines for design of alternative water supply systems to enhance resilience to drought events.

Output 2.10.1b Demonstrating alternative water supply system in Anabar district (with co-financing support).

108. Outputs will support the Government of Nauru and key stakeholders to develop their technical capacity to design and demonstrate alternative water management practices that reduce vulnerability to climate change. Nauru depends largely on precipitation and desalinisation. With current high costs of crude oil in the global market and the economic problems plaguing Nauru, desalinisation is very costly to Government-- thus the need to investigate other sources of water. Activities supported with SCCF resources will involve exploring the viability of utilizing underground water sources. It will also involve developing adaptive storage design and enhancing the climate resilience of current water networks. PACC will also explore the option of developing alternative storage systems (non-tank) as well as the development of alternative livelihood options (e.g. fishstock cultivation).

109. Desalination and a reverse osmosis plant that once served the island are out of action and rusting. Current supply comes from two reserve osmosis plants, which produce 240 tonnes per day (t/d). The current precipitation and storage capacity is not able to provide the water supply that is needed, which is estimated at 1500t/d. Coupled with the problem Nauru is currently facing in purchasing fuel at current world market price, water supply may be seriously impacted. This makes the water resource sector in Nauru at present already

extremely vulnerable to drought. Nauru has a total land area of 22 km^2 and a population of 13,287. The island is surrounded by a fringing coral reef between 120 and 300 meters wide which drops away sharply on the seaward edge, to a depth of about 4000 meters. The Government of Nauru has set-aside US$1.9million to undertake borehole drilling and pumping trials on the topside part of the island as part of its quest for an alternative source of water. The PACC project will assist Nauru to address this vulnerability by developing practical guidance to design and demonstrate an alternative water supply system for Nauru to reduce vulnerability to drought events. Specific activities include:

- Undertaking an assessment of the current and future water needs and the availability of water in relation to climate change;
- Developing a Guideline that identifies an integrated alternative water supply system to reduce vulnerability to drought events;
- Training relevant technical staff in the Government of Nauru and other key stakeholders to apply the guidelines in a pilot situation; and
- Demonstrating use of the Guidelines through measures that incorporate alternative water sources into current supply system.

Output 2.11.1a Guidelines for design of water storage systems on a raised atoll island (Niue) to enhance resilience to drought events.

Output 2.11.1b Demonstrating a water storage system that will overcome water pressures during a normal drought in Liku to Avatele district (with co-financing support)

110. The above outputs will support the Niue Department of Environment and Public Works and other key stakeholders to develop their capacity to design and demonstrate adaptive water supply and storage systems. These systems will reduce climate change induced water supply shortages during cyclone events and droughts. Niue is expected to experience more intense cyclones and drought conditions in the future, compounding pressures brought up by El Niño occurrences. The people of Niue depend largely on agricultural produce for food sources which is already under threat from extreme events and decline in precipitation. The PACC project will demonstrate adaptive water storage designs that can help reduce this vulnerability. The suite of support provided with SCCF resources include training and conducting technically robust vulnerability and adaptation assessments of current water networks and facilities, improve and construct water reticulation and distribution systems, developing guidelines for designing climate resilient reservoirs as well as for water storage tanks for community use.

111. As Niue is situated near the edge of a regional tropical cyclone belt, it is subject to gale force winds during the hot season. Cyclones strike at irregular intervals, the most recent one being Cyclone Heta in January 2004, which caused devastation to people, property, government facilities and industry, infrastructure, agriculture and the economy with an estimated damage cost of more than US$60 million (or NZ$89.1 million). Coupled with increasing variations in rainfall, which leads to soil moisture decline, agricultural production which people of Niue depend on is already seriously affected. Specific activities include:

- Undertaking a vulnerability assessment of water availability in relation to climate change;
- Developing Guidelines that include specification for water storage facilities to improve water availability during drought events;
- Training relevant technical staff in the Niue Department of Environment and Public Works and other key stakeholders to apply the guidelines in a pilot situation; and
- Demonstrating use of the Guidelines through appropriate water storage measures to increase resilience to drought events.

Output 2.12.1a Guidelines for water resource use and management response to increased ENSO frequency.

Output 2.12.1b Demonstrating climate change risk management practices for water in Hihifo district (with co-financing support).

112. The PACC will support the Tonga Water Board and the Department of Health and key stakeholders to develop the Hihifo District communities' capacity to protect and manage their underground water resources from climate change induced salinity in conjunction with other ongoing measures aimed at addressing baseline pressures such as unsustainable human activities. The PACC will support producing guidelines on managing emerging risks on water resources, training technical officers on applying guidelines in day-to-day management decision and long-term planning. Appropriate vulnerability and economic assessments of climate change risks on current water demand and supply will be relied on. Local experience (traditional knowledge) to identify, evaluate, design and demonstrate appropriate risk management measures such as water retention capacity/technologies will be undertaken. the combined application of these tools will demonstrate how the selection, quality and use of data and information specific to each tool can be cross-checked and complimentary, leading to more robust adaptation decisions. An integrated multi-stakeholder catchment, conservation and protection model using the CRiSTAL[17] (Community Based Risk Screening Tool – Adaptation and Livelihoods) and the Climate Change Explorer[18] (CCE), will be designed and developed as a management tool to assist decision making for managing climate change risks.

113. Hihifo district consists of 6 villages situated 15 kilometres south east of Nuku'alofa, the capital on the main Island of Tongatapu. The water resources of Tongatapu are mainly from groundwater sources, supplemented by rainwater. Climate change and sea-level rise has had a significant impact on the livelihoods of the communities in Hihifo District, which

[17] CRiSTAL seeks to help project planners and managers integrate risk reduction and climate change adaptation into community-level projects. Specifically, CRiSTAL is designed to help project managers and designers: a) understand how climate change affects their work; b) systematically consider how their work can contribute to vulnerability reduction and adaptation; and c) use this understanding to develop and incorporate climate risk-reduction and adaptation measures in their programming.

[18] The overall objective of the Climate Change Explorer tool is to support adaptive management and planning responses for climate change by utilizing the climate change explorer and providing information and guidance on the results from climate models. A five year strategic plan has been developed for the tool, and this proposal supports one of the components in this overall objective, entitled Technical Scoping, Design and Implementation, by drawing on the comments and experiences to date in the use of the currently available (beta) version of the Climate Change Explorer Tool.

suffer from drought, and impacts of saltwater intrusion affecting ground water resources. The mean annual rainfall for the island of Tongatapu is 1,753mm with a mean annual recharge of 524mm to the groundwater or 30 percent of the total rainfall. During El Niño-Southern Oscillation (ENSO) event there is less rainfall, as indicated by a monthly mean rainfall of less than 100mm as opposed to monthly mean of 200mm[19]. With less rainfall, there is less recharge. This combined with continued pumping of groundwater and a rise in sea-level leads to saltwater intrusion into the groundwater aquifer. Recent short-term sea level trend in Tonga for February 2008 according to the SEAFRAME data was around +8.6mm/yr[20]. This is well above the IPCC Fourth Assessment Report's observed sea level rise of 3.1 +/- 0.7 mm/yr. It is clear that if action is not undertaken now to address the preservation of underground water in the Hihifo district, water supply into the future will be seriously compromised. The Government of Tonga has committed US$1.5 million as co-financing for water resources management in the larger Hihifo area and the PACC project will contribute significantly to this endeavor. Specific activities include:

- Undertaking a vulnerability assessment on the impacts of increased ENSO frequency on water availability;
- Developing Guidelines for improved integrated water catchment management and reticulation taking into account increased ENSO frequency;
- Training relevant technical staff in the Tonga Water Board and the Department of Health and other key stakeholders to apply the guidelines in a pilot situation; and
- Demonstrating use of the Guidelines through measures that improve security of potable water supply.

Output 2.13.1a Guidelines for climate proofing integrated water management plans.

Output 2.13.1b Demonstrating the enforcement of an integrated water management plan in Fogafale village (with co-financing support).

114. The physical location and topography of Tuvalu makes it especially vulnerable to climate change-related risk including sea level rise, drought and rise in sea surface temperature. Sea level rise ranks highly due to the unusually high King Tides[21] that has been plaguing Tuvalu for a number of years, causing flooding of dwellings and intrusion of salt water into the freshwater lens. These events impact adversely on food security, water, health and general living conditions of Tuvaluans.

115. The project will support Tuvalu Department of Public Works and the Department of Environment to develop their technical capacities to take into consideration climate change risks in the context of integrated water management . Tuvalu does not have above-ground water sources and relies largely on precipitation, desalinisation and underground water. It is critical that Tuvalu institutes a climate change resilient water management programme and search for alternative ways of managing baseline pressures such as reducing fuel expenses from desalinisation. The choice of which combination of methods to use will depend on

[19] Fielea, 2004
[20] South Pacific Sea Level and Climate Monitoring Project Monthly Data Report February 2008.
[21] King Tides are exceptionally high tides which occur with the coming of the full and new moon.

local conditions, but a strong program of conservation is essential. Training and application of vulnerability and adaptation assessments using climate information, design and demonstration of an approach to increase the climate resiliency of the water supply systems, and design and demonstrate ways to improve water retention capacity as a long-term strategy and a means of 'climate proofing'.

116. According to the recently completed National Adaptation Programmme of Action (NAPA, 2007) for Tuvalu, drought is on the increase and it is closely associated with the frequency of ENSO, which brings erratic and periods of low rainfall to Tuvalu. This climate related risk, coupled with anthropogenic stresses due to over-consumption and increase in population, has impacted severely on Tuvalu's ability to maintain a quality water supply for its population. Efforts need to be put in place now to address these risks and the activities to be instituted under PACC will go some way to address some of the many vulnerabilities facing Tuvalu. The Government of Tuvalu has committed US $1.5 million to continue to improve on the retention capacity of water in Tuvalu. Specific activities include:

- Undertaking a vulnerability assessment of water requirements in relation to the effects of climate change;
- Developing Guidelines for climate proofing existing water reservoirs and tanks including use of energy efficient technologies;
- Training relevant technical staff in the Tuvalu Department of Public Works and the Department of Environment and other key stakeholders to apply the guidelines in a pilot situation; and
- Demonstrating use of the Guidelines through measures that increase availability of potable water.

Outcome 3: Capacity to plan for and respond to changes in climate-related risks improved.

Output 3.1 Technical advice for implementation of national adaptation
Output 3.2 Best practices and lessons exchanged among countries through SPREP
Output 3.3 Project website established at SPREP

Rationale

117. This outcome is designed to address technical barriers identified during national consultations that must be overcome in order to ensure successful implementation of this project. Given that a number of SIDS face capacity constraints due to high turnover and exodus of technical people, it is critical that there is sufficient backstopping services. Lessons learned from other national and regional projects have been taken into account in the formulation of this outcome.

118. Unlike in a number of other projects that have been regionally executed, with limited participation of national experts on direct project implementation, the PACC is based on a hybrid model. National experts and line departments and ministries will take the lead for the implementation of their respective components of the projects. They will be supported

and complemented by SPREP, which in its' capacity as a regional technical agency, will be responsible for substantive issues related to the coordination of the project and the implementation of regional activities. SPREP will provide the technical support to the countries and will be responsible for the monitoring and evaluation component. It will also be responsible keeping the Project Board informed of project activities, and ensuring that the 13 countries work in a coordinated manner, not as individual stand-alone projects. SPREP will also act as a regional platform for exchange of information, capacity building delivery and the syntheses of experiences and lessons.

Output 3.1 Technical guidance provided for implementation of national adaptation

119. This output is designed to make available technical assistance to the 13 participating PICs in support of implementing national activities. Technical assistance will be sourced from various organizations around the region that deal with the three main sectors of PACC. The partners that have been approached to support the PACC under this Outcome include; the Coastal Management and the Sustainable Development programme at SPREP, the Secretariat of the Pacific Communities (SPC), and the University of the South Pacific (USP). This support will be available for countries based on specific needs that arise at the national level during implementation.

Specific activities include:

- Coordinating and providing technical backstopping;
- Leading and training relevant policy makers and senior decision-makers in the context of project outcomes and outputs;
- Preparing of project relevant country-specific newsletters and other dissemination materials; and
- Conducting side events on project progress at high-level international and regional events, including the Pacific Islands Forum Leaders Meeting and the SPREP Council/Ministerial Meeting.

Output 3.2 Best practices and lessons exchanged among countries

120. This output is on sharing lessons learned and new knowledge generated through national activities. It involves documenting the results of specific activities as well as participants' experiences. At the regional scale, the experience, expertise and knowledge will be synthesised to provide a basis for future regional approaches and activities to address climate change.

Specific activities include:

- Documenting and creating publications on best practices and lessons learnt, for example, in conducing community consultations for adaptation projects, implementing adaptation interventions, incorporating climate change and gender issues into relevant policies and initiatives, and other relevant topics;
- Exchanging knowledge and lessons learnt.

Output 3.3 Project website established at SPREP

121. A PACC website will provide information and facilitate the exchange of information and lessons learnt from the PACC project.

Specific activities include:

- Designing, developing and maintaining the PACC Website; and
- Identifying linkages to other adaptation initiatives in the Pacific and other SIDS.

Project Indicators, Risks and Assumptions

122. At the level of the PACC project objective, the indicator is "…reduction to vulnerability to climate change and extreme events…" The target for achieving this indicator is "…at any time after the completion of the PACC demonstration measures, the average Vulnerability Risk Assessment (VRA) value over all completed projects in all thirteen countries is at least 35% and for no individual project is this value less than 10%..."

123. This indicator makes use of the Vulnerability Reduction Assessment (VRA), under which there will be country-by-country assessments of progress in terms of vulnerability reduction. This will provide a country-level impact index, as well as a measure of overall impact at the project level.

Target Indicators for each of the PACC Outcomes are:

Outcome 1: By end of programme at least eight national policies or programmes have been adopted to take account of experiences generated through the PACC

Outcome 2: By the completion of the project, the average VRA value over completed demonstration measures in all participating countries is at least 35 percent and not less than 10 percent.

Outcome 3: By end of programme there is at least one example in each country of a strategy or practice that was introduced on the basis of experience gained in other countries.

124. More detailed information on impact and performance indicators, risks and assumptions, including indicators at the programme Output level is provided in the Logical Framework Matrix, in Section II.

125. The principal risks to successful project implementation and externalities that may reduce project effectiveness, relate to: (i) National Coordinators with relevant qualification and experience in place to coordinate project activities at the national level, ii) adequate community endorsement and project benefit understood; (iii) investment of time and effort to ensure buy-in/ownership of the project, iv) funds received in a planned and timely

manner, v) technical assistance available that meets country needs and activities under the project, and vi) Country Teams actively involved in the implementation and monitoring and evaluation process. Mitigation measures include a strong emphasis on PIC hands-on project management and participation from the regional level, and a continuous dialogue between the project's donors, implementing partner, implementing agency, regional organizations and national governments.

126. Key assumptions underlying the project design include: i) stakeholders are able to perceive reductions in vulnerability over the time-scale determined by project duration, ii) stakeholders are able to distinguish vulnerability to climate change from baseline weaknesses in coastal management, food production and food security and water resources management, iii) the participating governments remain supportive to improved coastal management, food production and food security and water resources management, iv) turnover of staff does not negate the benefits of training, v) the host region/province/community is best placed to promote the benefits of measures to adapt to climate change, vi) communities are sufficiently homogeneous to support community action, vii) demonstration measures are under implementation long enough for lessons to be transferred to other projects before the end of the project and viii) regional backstopping support will be provided throughout the implementation period of the project.

Expected global, national and local adaptation benefits

127. The successful implementation of the PACC will mean that resilience of communities and their economies to impacts of climate change will have been enhanced by the end of the project. The experiences will provide lessons and best practices for other SIDS and islands globally facing similar circumstances in relation to climate change and sea level rise. It will also strengthen the collaborative effort by international and regional agencies to address the multi-dimensional nature of the challenges of climate change.

128. At the regional level, the project will not only strengthen the joint effort of the CROP to implement the Pacific Plan[22], the PIFACC, Pacific Islands Disaster Risk Reduction and Disaster Management Framework and the Pacific Regional Action Plan on Sustainable Water Management but it will also support the effort of regional and other agencies (e.g. UN agencies) through the sharing of information, data, experiences, expertise and resources (i.e. know-how, skills, technology). It will also strengthen the delivery of the climate change work programme of SPREP. Collaborative opportunities with UNDP/BCPR will be explored during implementation to ensure that the PACC activities are integrated with existing/planning DRM program in the countries participating in this initiative.

129. In keeping with the need for SCCF to serve as a catalyst for additional resources from bilateral and other multilateral sources, the PACC project has already accessed direct donor

[22] The Pacific Plan, adopted by the PIC Leaders in 2005, is the blueprint for enhancing and stimulating economic growth, sustainable development, good governance and security for Pacific countries through regionalism.

funding from various sources at the national level and at the UN level. All the 13 participating PICs have pledged some form of bilateral donor financing on activities related to the PACC project as co-financing. For example, in the case of the FSM, US Compact funds will provide support to the PACC project in Kosrae; In Nauru, funds from the Japanese Government will co-finance PACC related water activities; funds from the European Commission with a total value of Euro 210,000 coming through UNITAR will also support the capacity development component of the PACC project.

130. The project will help catalyse action by involving the various stakeholders (international experts/consultants, regional experts/consultants, CROP agencies, IA, national governments, national climate change country teams, provincial governments, local/community governments, communities/villages). The knowledge and experience gained through adaptation activities to be implemented under PACC will be transferable to other ongoing or planned activities under various national and regional programmes. In addition, the Project will provide the basis for a strategic regional approach to adaptation. This will contribute to the development of further potential adaptation projects and potential funding for these activities. The project will also catalyze additional funding from traditional donors and development partners in the Pacific Islands region to support various adaptation activities either at the national or regional level. This can be achieved through a donor roundtable process during the life of the project.

131. PACC activities, by their design, build on existing programmes and activities in the participating countries in the areas of coastal zone management and associated infrastructure, management of water resources, and food production and food security. Thus, the project will significantly contribute to sustainability by engaging all relevant stakeholders including the policy makers, managers, local and/or rural communities in the design, planning and implementation of the adaptation activities. The stakeholders will be engaged, as appropriate, to carry out the various tasks/activities planned under the project. PACC will also include regular dialogue through workshops, meetings, training sessions, newsletters, e-mail lists, between and among the various stakeholders interested, involved or participating in this project.

Linkages with other projects

132. The PACC project is part of an extensive network of climate change and DRR/DRM programmes and activities that are currently being implemented in the Pacific region. It links the needs of Pacific Island countries as set out in the Pacific Islands Framework for Action on Climate Change (PIFACC) particularly Principle One; 'Implementing Adaptation Measures'. Table 6.0 below provides a broad summary of relevant linkages between PACC and other programmes and projects in the region.

Table 6.0: Linkages with Regional Projects and Programmes

Project and Programmes	Description
SPREP Action Plan and Strategic Programmes	SPREP's mandate is to promote cooperation in the Pacific islands region and to provide assistance in order to protect and improve the environment and to ensure sustainable development for present and future generations. The PACC project is contributing to this mandate through national/community projects to reduce vulnerability to the adverse effects of climate change and increase adaptive capacity.
2009 Year of Climate Change in the Pacific	The 2007 SPREP Council meeting endorsed 2009 as the Year of Climate Change in the Pacific and programmes will be launched to increase government officers and the general publics awareness of climate change issues and capacity to act to reduce vulnerability. PACC as one of the 'first' adaptation implementation projects for the region will significantly contribute to programmes that will be introduced.
Small Grants Scheme: Donor: GEF/UNDP Year: 2005 on-going	The primary objective of the SGP is to assist in securing global environment benefits in the areas of biodiversity, climate change, and international waters – three of the four GEF focal areas – through community-based approaches that also generate local benefits. The PACC project will compliment the SGP learning from lessons learnt and contributes to sustainable natural resource use and increase community participation in development.
National Adaptation Programme of Action (NAPA) Donor: GEF/UNDP	Four countries implementing the PACC project are also developing a National Adaptation Programme for Action (NAPA). A review of preliminary drafts of the four NAPA's suggests that most focus on capacity development in the area of water management, health, climate early warning systems, food production and food security and Coastal Infrastructure Management. The PACC project will ensure that there is a clear distinction between activities to be covered under the NAPA and the PACC project and where there is overlap, lessons learned are shared between projects.
Capacity Building for the Development of Adaptation Measures in Pacific Island Countries Donor: CIDA Year: completed	The PACC will build on institutional capacity and national expertise undertaken by this project in four PICs (Cooks, Fiji, Samoa and Vanuatu) to identify, consider, and evaluate adaptation options and measures with regards to climate variability and change.
Capacity Building for Observing Systems for Climate Change: Donor: NOAA Year: 2004 on-going	The objective of the project is to improve observing systems for climate in developing countries. The project will launch processes that will develop national capacity in a significant number of non-Annex I Parties to participate in systematic observation networks for meeting the multiple needs of the UNFCCC. This process will involve training and assessment, and will help to develop regional Action Plans for improving observing systems. To ensure that the project feeds into National Communications, the workshops will involve national climate change coordinators of enabling activities.

Sustainable Land Management (SLM)	SLM has been identified in the UNCCD National Action Programme (NAP) for PICs. The national SLM Medium Sized Projects will focus on capacity development and mainstreaming of land management[23].
WWF Climate Witness Project	This project by WWF helps gather stories, from communities, on their vulnerability to climate change, for international campaigning purposes called 'climate witness' stories. The PACC and this project should compliment each other through exchange of climate witness information to improve resilience.
Red Cross Climate Change Initiative Year: 2004 on-going	Red Cross is an organization that has been very much in the forefront of disaster management in the Pacific. Through the global initiates of the Netherlands Red Cross Society/ Climate Centre (NRCS/CC), climate change is now a new challenge introduced to the Pacific Red Cross Societies. Both these projects would assist Pacific communities help vulnerable communities identify and address this new element of risk early on to avoid catastrophic damages later.
Sustainable Land Management Capacity Development and Mainstreaming Donor: GEF/UNDP Year: on-going	The project will assist 48 LDC and SIDS countries that have not yet completed their National Action Plans to develop individual, institutional and systematic capacity for sustainable land management. PACC concerns food security and water mgmt and the interactions between the two, therefore management issues and solutions/mitigations are going to be directly relevant to the PACC project. Capacity development to address land management cannot effectively proceed in isolation from watershed issues and water use management and efficiency.
Pacific Islands Greenhouse Gas Abatement through Renewable Energy Project Donor: GEF/UNDP Year: 2008-2011	PIGGAREP is about reducing the growth rate of GHG emissions from fossil fuel use in the Pacific Island Countries (PICs) through the removal of the barriers to the widespread and cost effective use of feasible renewable energy (RE) technologies. It closely links with the PACC project through awareness of the importance of taking action now whether it is adaptation or mitigation.
Climate Change Adaptation in Rural Communities of Fiji Donor: AusAID Year: 2008-	This project will pilot the implementation of climate change adaptation in six rural communities within Fiji with focus on two exposure sectors, (i) coastal areas[24] and (ii) water resources, utilizing a simplified V&A methodology. To raise awareness about climate change, internalize climate change adaptation, and build local capacity in practical climate change adaptation science. The climate change adaptation will be put into perspective through community level management planning using principles of adaptive management[25].
Pacific Islands Global Climate	This project is specifically focused to improving the climate

[23] Links with the SLM National Coordinators have already been established and the SLM Project will be represented at the Pre-Inception Workshop as part of the Pacific IWRM Workshop in Niue in July, 2008. Specific water links with Tonga (focusing on drought management), Tuvalu (focussing on capacity development), and Kiribati (focusing of management of water catchments) will be made between projects, although all SLM projects focus on policy development, cross-sectoral linkages and capacity development as key activities and IWRM can provide assistance in these issues.

[24] Includes the coastal zone (beach, coastal land - 30metres from high tide mark and its ecosystem (e.g. mangroves and coral reefs)

[25] Adaptive Management is the integration of design, management, and monitoring of a project to systematically test assumptions in order to adapt, learn, and improve the results of their efforts.

Observing Systems Donor: NOAA Year: 2004	observation needs of the Pacific Meteorological Services therefore providing quality data for national use. An important partnership project between developed and developing countries in the area of Systems Observations. Projects such as PACC also benefit from quality data produced from national meteorological institutions as a result of such partnerships.
Pacific Climate Information System: Donor: NOAA Year: 2008 on-going	PaCIS provides a programmatic framework to integrate ongoing and future climate observations, operational forecasting services and climate projections, research, assessment, data management, outreach, and education to address the needs of American Flag and U.S.-Affiliated Pacific Islands. PACC will benefit from quality data provided under this information system.
Climate Change and Biodiversity in Melanesia Donor: Bishop Museum Year: 2008-2010	This project will document the institutional and socioeconomic adaptive capacity of Melanesian countries to effectively respond to climate change impacts including legislation, policies and capacity assessment; and to develop an integrated assessment of the vulnerability of Melanesia's biodiversity to climate change. The Melanesia study includes the islands of Fiji, Vanuatu, New Caledonia, Solomon Islands, Papua New Guinea, and the Indonesian Province of Papua. Should provide PACC with important information on critical networks and socioeconomic information that would be helpful in improving resilience.
Sea Level Monitoring Project Donor: AusAID Year: 1991 on-going	Its primary goal is to generate an accurate record of variance in long-term sea level for the South Pacific and to establish methods to make these data readily available and usable by Pacific Island countries. The Project has been running for over 14 years and is now in its fourth phase, which commenced on 1 January 2006 and is due to end on 31 December 2010. Data from the project is currently being used by PACC and it's participating countries.
Climate Change and Forestry Donor: GTZ Year: 2008-2012	The German Technical Cooperation (GTZ) in collaboration with SPC is currently developing a climate change and forestry project. Links to be developed.
National Adaptation Programme of Action Donor: GEF/UNDP Year: 2001 on-going	NAPAs are intended to outline a country's priorities regarding its most immediate and urgent adaptation needs. They are a first step toward addressing long-term adaptation initiatives therefore should be integrated into current plans, policies and programs, and designed such that they have a high likelihood of being implemented, lay the groundwork for future adaptation efforts and are consistent with and support the overarching development objectives of a country. PACC will be closely monitoring five PICs NAPAs to determine synergies as reports are finalized.
Second National Communication to the UNFCCC Donor: GEF/UNDP Year: 2006 on-going	This is a reporting obligation carried out by countries that have ratified the UNFCCC and the Kyoto Protocol. All PACC countries have ratified both mechanisms therefore are obligated to carry out this reporting. As part of the process, assessments on vulnerabilities and mitigation are undertaken. Information produced for this report is also useful to the PACC project particularly when some of the assessments are actually carried out at the PACC pilot sites.
AusAID Adaptation Initiative	Au$150 million initiative announced by Government of Australia

Donor: AusAID Year: 2008-2010	to focus on adaptation. SPREP has identified 'gender' as a gap that needs to be strengthened in the PACC project thus have approached AusAID to support the engagement of a Climate Change Gender Advisor to strengthen this area of PACC. SPREP also requested AusAID to support a PACC Communications and Knowledge Management Advisor to specifically: • develop a Climate Change Adaptation communications strategy for use by SPREP and PICs in supporting PACC and other adaptation projects which will include how to collect and synthesize project information from the 13 PICs; • develop in a participatory way guidelines and approaches for mainstreaming Adaptation to CC into national planning and budget processes. • develop a PACC project section on the Climate Change Portal that documents and supports the implementation strategies, objectives, activities and outcomes of PACC at both the regional and national levels; and • develop a specific page/site for the PACC project and assist 13 PICs develop web pages/weblinks to PACC website.
Island Climate Update Donor: NZAID Year: On-going	The Pacific Island Climate Update (ICU) is a programme implemented by SOPAC in collaboration with SPREP and New Zealand's National Institute of Water and Atmospheric Research (NIWA). The ICU has a primary goal of assisting Pacific Island Countries (PICs) in making informed planning and management decisions relating to climate-sensitive sectors through the provision of timely and accurate seasonal climate forecasts.
Pacific Hydrological Cycle Observing System (HYCOS) Donor: EU Water Facility	SOPAC, the World Meteorological Organization (WMO), UNESCO and the Fiji Meteorological Office are implementing the HYCOS project. The project focuses on improving the condition of Pacific SIDS hydro-meteorological monitoring stations and the national capacity to collect, understand and analyze hydro-meteorological data. Data support from the HYCOS would compliment data that are available to the PACC project through national water authorities.
Global Facility for Disaster Reduction and Recovery Donor: World Bank Year: On-going	The World Bank has established the Global Facility for Disaster Reduction and Recovery (GFDRR), a longer-term partnership under the ISDR system to reduce disaster losses by mainstreaming disaster risk reduction in development, particularly upstream country strategies and processes, towards fulfillment of principal goals of the Hyogo Framework of Action (HFA). GFDRR helps developing countries fund development projects and programs that enhance local capacities for disaster prevention and emergency preparedness. GFDRR grants support disaster risk assessments, developing risk mitigation policies and strategies, preparation of disaster prevention projects and additional financing for recovery provided recipient governments demonstrate commitment to disaster prevention. PACC will work on a strategy to best take advantage provided by the GFDRR for a sustainable financing support for PACC project interventions.

Links with the Integrated Water Resource Management Project

133. The PACC project has specific links to the IWRM project that merit further explanation. The IWRM project is a multi-country integrated water resources management programme, focusing on the improved integration of inter-sectoral water resources management, including the issues of drought and flood management, both associated with climatic variability. This section will define the inter-linkages between the two programmes, and specifically addresses the issue of synergistic design and delivery of the demonstration projects.

134. There is a strong 'thematic' overlap between the Pacific PACC and IWRM projects in the area of climate change adaptation in the water sector. Within the PACC this is specific to the climate change adaptation demonstration projects in five participating countries, which have selected the water sector for climate change adaptation. These are Marshall Islands, Nauru, Niue, Tuvalu and Tonga. All of these countries are highly dependent on groundwater and/or rainwater. There is no surface water on Marshall Islands, Nauru, Niue, Tuvalu and RMI, and only limited surface water on a few outer islands in Tonga. Four of these countries focus demonstration projects on improving drought period water supply (Nauru, Niue, Tuvalu, and RMI). The demonstration project in Niue focuses on improving the resilience of water supplies in the aftermath of cyclone impacts. A review of these five countries and their demonstration measures is presented in Table 7.0. This brief review confirms there are clear complementarities as well as separation between the PACC and IWRM project demonstrations. This is most obvious in the groundwater projects, where improved land management and groundwater protection will reduce the risk of contamination of the dry season groundwater supplies.

Table 7.0: IWRM and PACC National Interventions and Complementarities

Country	National PACC Interventions	National IWRM Interventions	Project Complementarities
Nauru	Improved communal rainwater harvesting and conjunctive use of groundwater resources to reduce vulnerability to drought period water scarcity, including peak water demand management (this is depending on current groundwater investigations)	Reducing pollution risks to the groundwater resources of the island	The PACC project considers improving dry period rainwater storage as well as strategic reserve storage whereas the IWRM project considers the non-climate related issue of groundwater quality vulnerability to land use
Niue	Improved household rainwater harvesting to reduce water supply shortages due to cyclone associated damage to public water supply systems	Improved land management in the borehole catchment zones of the Alofi (capital) well-field to protect public water supply drinking water quality	The PACC project considers cyclone impacts, whereas the IWRM project considers the non-climate related issue of groundwater quality vulnerability to land use

Tuvalu	Improved rainwater harvesting, including development of national strategic rainwater storage reserves, to reduce drought period water scarcity	Improved national wastewater management as a groundwater protection and water use efficiency strategy	PACC considers improving dry period rainwater drinking water supply, whereas the IWRM project considers non-climate related improved wastewater management with associated water demand management (dry toileting technologies) and groundwater quality benefits
Tonga	Reducing village supply vulnerability to drought period groundwater salinity on Tongatapu, using groundwater transfers and rainwater harvesting	Groundwater quality protection strategies for the freshwater lens of Neiafu (provincial town) in the Vava'u Island Group	PACC considers rural village-scale vulnerability to saline intrusion on the main island, whereas the IWRM programme addresses non-climate related land use water quality issues in and around the urban area of a town in an outer island group. These issues of salinization and land use pollution are unrelated and the two projects also differ in scale and location (requiring different approaches for implementation and sustainability)
Marshall Islands	Reducing water loss from storage facilities, water conservation, alternative water sources, and raising public awareness	Groundwater quality protection Laura groundwater lens feeding DUD's main supply system	The PACC project considers improving dry period rainwater storage as well as strategic reserve storage whereas the IWRM project considers the non-climate related issue of groundwater quality vulnerability to land use

National Benefits

135. Together with project activities financed through co-financing contributions, there are many national benefits that will be derived from climate change adaptation and resilience-building from this project, including:

a) Improved access to critical infrastructure and services in areas where these are either non-existent or have deteriorated or been destroyed by impacts of climate and climate change. It is expected that at least two essential community lifelines (e.g. coastal roads and atoll

air transport facilities) will be secured or climate-proofed and used all year round at the completion of the project.

b) Improved self-sufficiency in providing and utilizing water resources in a sustainable manner. Adaptation activities within the water sector will strengthen the capacity for improving water use efficiency and conservation in vulnerable areas. There will be overall improvement in the reliability of water supply and an increase in the volume of water supply available to vulnerable communities by the end of the project. At least four PICs will have integrated climate change adaptation strategies, policies and plans in water management during the project. Practical measure will be demonstrated to increase water use efficiency, reduce water loss, increase annual volume of water stored for reticulation and distribution through water supply networks, and increase the number of durable water tanks in households and communities.

c) Improved livelihoods and increased income-generating opportunities particularly in rural areas. Adaptation activities within food production sector will facilitate increased area of arable land and increased supply of food thereby increasing opportunities to market food and other products. Feasible farming systems suitable to climate conditions in the region will have been implemented in each pilot country by end of the project. There will be adoption of suitable land management practices and technologies for use under different climate conditions, drainage systems and cultivation of salt-tolerant and drought-tolerant crop varieties. Additionally, adaptation activities will have enabled the establishment of land care groups, increased arable land, reduced crop losses, increased yields and the adoption of two low-cost sustainable technologies during and after the project.

d) Enhanced and strengthened national and local/community capacity to deal with climate change issues. The amount and quality documentation on climate change impacts and adaptation strategies for coastal systems, water resources management, and food security will have been enhanced. This will be achieved through development of Guidelines, delivery of training workshops and dissemination of information and lessons learned. National and local/community participation and involvement in the implementation of project activities will have increased the number of people contributing to this project. This project will continue to use the country team approach and will put in place mechanisms for integration and incorporation of climate change issues and concerns into development planning processes. Climate change adaptation and adaptation planning will have been integrated into development planning processes in all PACC countries by the end of the project.

Country Ownership: Country Eligibility and Country Drivenness

Country Eligibility

136. UNFCCC Decision 7/CP.7 states that funding from the SCCF is to be provided to developing country Parties. While the UNFCCC COP has not adopted an explicit definition of developing countries that differentiates them from non-Annex I Parties, decisions 10/CP.5, 2/CP.7 and 6/CP.7 imply that the two terms are synonymous in the context of the Convention. Pacific island countries are small island state are developing countries as well as non-Annex I Parties. No Pacific Island Country has a level of Gross National Income

(GNI) sufficiently high enough to make them ineligible for World Bank lending or country assistance from UNDP. As such they are eligible for SCCF assistance given the GEF position that pending more specific guidance from the Conference of the Parties, the GEF proposes to follow the practice that has been followed for purposes of the GEF Trust Fund: that is, all non-Annex I Parties are deemed to be eligible developing country Parties.

137. All Thirteen (13) PICs participating in this project are developing country states that are Parties to the UNFCCC. The ratification dates are as follows: Cook Islands 20/04/93; Federated States of Micronesia 18/11/93; Fiji 25/02/93; Marshall Islands 08/10/92 Nauru 11/11/93; Niue 28/02/96; Palau 10/12/99; Papua New Guinea 16/03/93; Samoa 29/11/94; Solomon Islands 28/12/94; Tonga 01/07/98; Tuvalu 26/10/93; and Vanuatu 25/03/93. All participating countries have submitted their initial national communications under the UNFCCC and are in the implementation phase of their second national communications.

Country Drivenness

138. The concept of a regional adaptation project in the Pacific has been given endorsement at the highest political level at the Pacific Islands Leaders' Forum. The request to develop a regional adaptation project was made at the 33rd Forum Leaders' meeting in 2003. The annual Pacific Forum Meeting is complemented by the annual regional meeting of the Secretariat of the Pacific Programme, which is attended by Ministers and senior government officials. The request for SPREP to develop a regional adaptation project in partnership with GEF and UNDP has been repeated since 2001[26]. Between 2002 and 2005 SPREP executed a regional adaptation pilot project funded by the Government of Canada.27. This project was implemented in the Cook Islands, Fiji, Samoa and Vanuatu and involved carrying out adaptation pilots in water resources, coastal zones and agriculture working with selected local communities in those countries.

139. With the success of the Canadian adaptation pilots, 28 PICs renewed their support for SPREP and UNDP-CO to work towards developing an adaptation project for the PICs. This request was later formalized and endorsed by the 16th Meeting of SPREP in 2005. Further meetings for the PICs were held between the GEF secretariat, UNDP-GEF, UNDP Samoa Country Office and the PICs. First, at the COP10 in Buenos Aires, Argentina, December 2004 and, second, at COP11 in Montreal, Canada in December 2005.

140. In addition, the design of the PACC Project itself has involved extensive country consultation to identify appropriate demonstration sites and measures. Each of the demonstration measures has been selected at country level for its alignment with national development priorities as well as its suitability as a vehicle for capacity development and replicability in parallel situations elsewhere.

Fit within UNDAF and UNDP MCPD

[26] Report of the Terminal Review of PICCAP
[27] "Capacity-building for Development of Adaptation Measures in the Pacific Island countries" (CBDAMPIC) funded by the Canadian Climate Change Fund (CCCDF) through its International Development Agency (CIDA)
[28] Report of the Terminal Review of CBDAMPIC, 2006

141. Under the Samoa 2003-2007 UNDAF and UNDP Multi-Country Programme, UNDP supported the implementation of the national development plans in Pacific Islands Countries by developing and implementing national and community-based programmes in three related areas: achieving MDGs and reducing human poverty; fostering democratic governance; and environment and energy for sustainable development. Seen as a trusted and neutral partner, UNDP also played a strategic role among other Pacific Island Countries through its regional environmental initiatives. The coincidence of international, regional and local experts present in Apia, Samoa (UN Agencies, SPREP, NGOs and the Government of Samoa) has seen Apia recognized as an "environment hub" for the region.

142. The new regional UN Pacific Framework for Action for 2008-2012 identifies the GEF as a key partner to support environmental activities of the UN in the Pacific. The regional PACC project is seen as one of the cornerstones for achieving the UNDAF outcomes, one of which calls for the mainstreaming of environmental sustainability and sustainable energy into regional and national policies, planning frameworks and programmes; and Pacific communities sustainably using their environment, natural resources and cultural heritage. UN agencies will collaborate to support governments to mainstream environmental sustainability and sustainable energy into regional and national policies, planning frameworks and programmes, including on conservation, sustainable use and equitable sharing of benefits of natural resources, and sustainable energy. Agencies will focus on building national, regional and global knowledge and information networks and capacity to fulfil multilateral environmental agreements and to implement environment programmes. UN agencies will also target the community level, supporting communities to effectively manage and sustainably use their environment and natural and cultural resources. This will be achieved by including indigenous knowledge and practices in local governance systems and decision making processes, and building community capacity to manage and conserve their environment, natural resources and cultural heritage and to prepare adequately for long-term threats.

143. The UN is a significant global player on environmental issues, and has comparative advantages in its global technical expertise, knowledge of innovative approaches, and global standards to support its environmental work in the Pacific.

144. This is further restated in the UNDP multicountry programme document for both the Samoa and Fiji multicountry offices, where for the period of 2008-2012, UNDP will build upon its national, regional and global partnerships for sustainable developmentto address natural disasters, climate change and other environmental challenges. Policy support will be provided and alliances will be developed with regional environment and energy partners and programmes to increase community resilience and capacity to address environmental challenges and natural disasters.

Sustainability

Institutional Sustainability

145. The core activities of the PACC project will be fully integrated with the baseline work of the national and, where relevant (e.g. FSM), the state government. The policy and advocacy work will increase the exposure of national policy and decision makers to the importance of factoring adaptation into the developmental process and national plans, programmes and strategies.

146. The activities in the thirteen demonstration sites will primarily result in increased capacity of local institutions and stakeholders for integrating a longer time horizon into their planning, which should be sustainable beyond the implementation of the project's investments. Furthermore, the examples set by these demonstrations will provide tools and mechanisms for building resilience in key development sectors that can be replicated to other sectors.

147. Institutional sustainability at the regional level will be promoted through coordinated regional support from CROP agencies for the Project. The PACC will bring regional organizations together to integrate efforts to deliver climate change adaptation assistance to countries. In doing so, the Pacific Leaders' vision of deepening and strengthening regional cooperation as set out in The Pacific Plan will be supported[29].

Social Sustainability

148. Participation is the key to project impact and sustainability. The project will involve gender-sensitive consultation and collaboration at many levels during preparation and implementation. It will take advantage of the partnerships and linkages that have already been established by the regional organizations and in the project development process to ensure the project's sustainability.

Replicability

149. The PACC project will contribute to sustainable development when adaptation concepts and activities the project promotes are integrated into development planning processes and these processes are institutionalised. Replication will be achieved by:
    - Building on existing political will. Adaptation to climate change has featured on the agenda of the regions leaders for over a decade. The issue is therefore not whether adaptation is necessary but how adaptation can operate in practice. The PACC provides a mechanism for demonstrating to decision and policy makers how this may be achieved;
    - Building and promoting adaptation integration processes that have already commenced. A budget for adaptation for example has already been provided for in the National Development Strategy of Kiribati. The PACC will seek to replicate this development in the participating countries and in the design of national development plans and strategies. A number of countries are already committed to climate change

[29] The Pacific Plan, adopted by the PIC Leaders in 2005, is the blueprint for enhancing and stimulating economic growth, sustainable development, good governance and security for Pacific countries through regionalism.

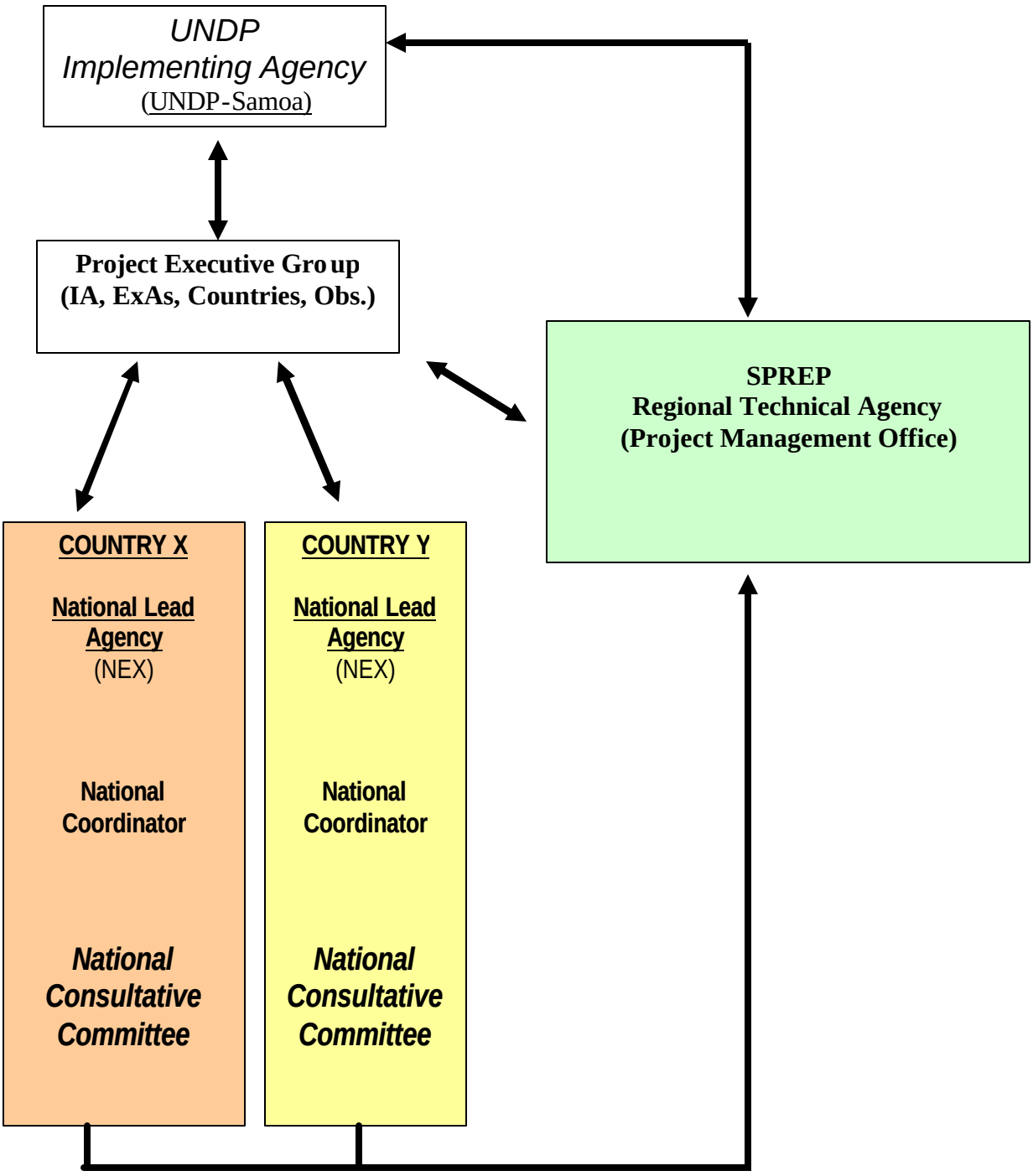
policies and plans which include adaptation issues (Fiji, PNG, Samoa, Tonga, and Vanuatu);

- Building, reinforcing the lessons learnt from other adaptation pilots. Under the CBDAMPIC project adaptation implementation activities were carried out in key development sectors of four countries. In Vanuatu, the development area was the coastal zone of Tegua where the pilot involved the relocation of the Tegua community to inland areas away from salt water inundation and flooding. Valuable lessons are learnt from the cost/benefit analysis of this activity and implications for future activities of this nature that are sought to be replicated;
- Promoting financing for adaptation beyond the life of PACC. As a result of the Samoan pilot and following the logic of the GEF Small Grants Programme grant, the Samoan Government established a national small grants facility where communities can apply for grants for adaptation implementation. The PACC will seek to replicate this experience and also develop an options and policy paper on government financing for adaptation and the role of the private sector in adaptation financing;
- Enhancing the capacity of the project implementers to address adaptation in key development sectors through training and knowledge tools which can be used in future development projects;
- Regional Cooperation. Technical support from regional organisations to countries and the exchange of country information will assist countries with the implementation of their own projects, replication and scaling-up of successful experiences; and
- Regional Adaptation framework. Lessons learned will be used to formulate a framework for future regional approaches to adaptation in the Pacific.

PART III: Management Arrangements

150. Implementation, execution and coordination of the Project will be carried out as detailed in this section. In brief, several activities are envisaged including the establishment of a Project Board (PB), the appointment of an Implementing Partner (which includes the appointment of a Regional Project Manager, procurement of additional equipment and other requirements to support the project unit), and national implementation arrangements, which includes setting up National Project Management Units.

Figure 3.0 Schematic overview of programme management arrangements



Project Management and Operational Coordination

Implementing Agency (IA)

151. UNDP, as the Implementing Agency, will provide the overall guidance on approval of key project activities, including fund commitments and co-financing arrangements. The UNDP Country Office in Samoa (UNDP-CO) will be responsible for this. The UNDP-CO together with UNDP-GEF will carry out all oversight functions as required by the GEF. Working in conjunction with the various project partners, UNDP-CO Samoa will be responsible for aspects of monitoring and evaluation (M&E), including organizing project reviews, approving annual implementation work plans and budget revisions (in consultation with the PB), monitoring progress, identifying problems, suggesting actions to improve project performance, facilitating timely delivery of project inputs, and providing linkages to its other sub-regional, Asia-Pacific regional and global initiatives. All M&E functions will be carried out in line with standard procedures of UNDP.

152. UNDP via the UNDP Principal Project Representative (PPR), i.e. UNDP Samoa, will provide the overall guidance and approval of key project activities, including fund commitments and co-financing arrangements vis-à-vis the Implementing Partner. The UNDP PPR, i.e., UNDP Samoa, together with UNDP Fiji, UNDP PNG and UNDP-GEF staff will carry out the UNDP/GEF oversight. Working in conjunction with the various project partners, the UNDP PPR, in close collaboration with UNDP Fiji and UNDP PNG, will be responsible for monitoring and evaluation (M&E), including organizing project reviews, approving annual implementation work plans and budget revisions, monitoring progress, identifying problems, suggesting actions to improve project performance, facilitating timely delivery of project inputs, and provide linkages to its other sub-regional, Asia-Pacific regional and global initiatives. All M&E functions will be carried out in line with standard UNDP and UNDP-GEF procedures.

Project Board (PB) (equivalent of a Project Steering Committee)

153. In line with UNDP's results management guide (RMG), a Project Executive Group will be established at the regional level. A PB is set up with responsibilities over management decisions including approving implementation work plans and budget revisions, identifying problems, and suggesting actions to improve project performance. The PB will be chaired by UNDP Samoa and composition will be as follows: Executive: UNDP Samoa Resident Representative, Senior Beneficiaries: 3 reps to represent each subregion on an annual rotational basis. If needed, a subgroup of all the beneficiaries can be formed to discuss their input to the PB conveyed by their 3 reps. Senior Supplier: SPREP Executive Director and UNDP-GEF. The PB is scheduled to meet once a year, allowing for the stakeholders to review the progress with the project implementation and to agree on a coordinated annual project implementation strategy and plan.

154. The PACC project will be guided by the PB, which is charged with providing regional oversight (including scientific, technical, policy and management) to the implementation of PACC. It will ensure that issues relating to wider adaptation debates/issues are incorporated

in the work of the National Climate Change Country Teams (NCCCTs) and other key stakeholders in the project.

155. In addition to the provision of overall guidance to project implementation, the PB will also support and provide guidance, as appropriate, to the Regional Project Manager and the PMO. The PB will be responsible for the coordination of regional activities so as to avoid duplication of efforts and will ensure that that the project activities are fully in line with the existing and emerging climate change policies and priorities in the region.

156. Each PB member will be responsible for the coordination of project activities and activities of the organisations he/she represents to ensure coordination of effort. On request from the RPM, the PB will provide guidance on the execution of project activities.

Regional Coordination and Implementation Arrangements

Implementing Partner (IP)

157. In accordance with UNDP Results Management Guide, SPREP, as an Implementing Partner (IP) is responsible and accountable to UNDP Samoa for coordinating the PACC, achieving its outputs, producing results and for the effective use of UNDP resources. SPREP has significant experience managing regional programmes of the expected size and scope of PACC. It has good relations with its member country environmental agencies and a respected and well-known institution internationally. SPREP is currently implementing a climate change mitigation project called PIGGAREP[30]. Within its core cadre of officers, technical expertise exists in two areas that PACC will be covering; i) coastal management and ii) food production and food security. Expertise on water will be sourced from partner institutions or from the open market.

158. SPREP will be responsible for overall planning, management, coordination and administration of the national implementation in the 13 participating countries and for providing a regional technical support through engaging other CROP agencies or consultants to support national implementation as appropriate.

159. SPREP will be accountable to UNDP Samoa for the achievement of the project objectives and for all reporting, including the submission of work plans, progress reports, audit and financial reports. SPREP will be responsible for financial control of the UNDP/GEF project implementation using the National Execution (NEX) modality of UNDP. SPREP, working through the RPM, will assume responsibility for entering into the necessary work arrangements with other regional organizations to maximize efficient and effective project implementation. SPREP will also provide institutional support to the RPM to engage services consistent with delegations provided by the Director under SPREP's Financial Regulations. SPREP will provide the RPM with full support in order to maintain a close record of all expenditures planned or made under the project in full accordance with relevant UNDP procedures and Guidelines, as detailed in the UNDP Results Management

[30] Pacific Islands Greenhouse Gas Abatement through Renewable Energy Project

User Guide. In addition to SPREP and UNDP, the RPM will also report to the PB on the disbursement of funds under the project in order to ensure full transparency. Funding disbursement will follow the PIREP and the PIGGAREP models where project disbursements are made on a reimbursement basis or direct payments for service made by SPREP on behalf of the countries.

160. PACC will be one of the cornerstones of the climate change component of SPREP's Pacific Future's Programme. It will be implemented within the framework of its programmatic approach, thereby, enabling the utilization of the multidisciplinary experts employed in the organization in the areas of training and awareness raising, finance, law and policies, energy, waste management, climate change negotiations as well as in climate monitoring (see Annex D for an overview of SPREP).

Regional Project Management Office (PMO)

161. The PMO will be established and located in SPREP as part of its Pacific Futures Programme and will be responsible for the overall project operation and financial management and reporting in accordance with the rules and regulations for UNDP NEX projects. Regional and international experts will be contracted to support the PMO as and when needed to undertake various project activities.

162. The PMO will coordinate with all project partners both at the national and regional levels. The RPM will be primarily responsible for the day-to-day operation of the PMO, including coordination, provision of technical, scientific and policy guidance and advice and ensuring that project activities at the national and regional levels are efficiently and effectively carried out. He/She will liaise with the relevant CROP agencies as well as NGOs, civil society and co-financing partners. The RPM will also be responsible to UNDP for the achievement of project objectives and for all reporting requirements as envisioned in the project formulation, including periodic reporting of progress of project implementation and financial reporting. He/She will ensure that the project is executed in line with the NEX procedures.

Regional Project Manager (RPM)

163. A full-time Regional Project Manager (RPM) for PACC will be appointed by SPREP, funded by the project and based as a contracted staff member at SPREP. As part of co-financing for the PACC, SPREP will provide administrative, logistical and technical support for the Regional Project Manager (RPM) in order to effectively establish a PACC PMO. This Regional Project Management Office (PMO) composed of the RPM and a Project Officer will be responsible for the planning and execution of the PACC, and undertake key activities of the project including financial disbursements to PACC countries, hiring of consultants, preparation of meetings, workshops, and liaising with PACC national focal points or project managers in the implementation of project activities. The PMO will work closely with UNDP Samoa covering all facets of the PACC implementation.

Project Officer

164. A Project Officer (Technical/Administrative Support position) will assume direct responsibility for the financial management of the PACC Project, under the supervision of the Regional Project Manager whilst also working closely with other UNDP/GEF and SPREP staff. Close liaison will be required with the National project delivery teams (13 National Project Managers and National Assistants) and other regional partners to strengthen the technical and administrative capacity of the regional PMO and the national PMUs.

Climate Change Roundtable

165. The Climate Change Roundtable meeting for the Pacific coordinated by SPREP is an annual ad-hoc meeting of Pacific Island Country representatives, donors and other interested parties that have an interest/activities on climate change. It is a forum to maintain awareness of what each other is doing in the area of climate change adaptation and mitigation as well as on the international negotiations. PACC will use the roundtable as an opportunity to share information, progress and lessons on the PACC project. It is also an opportunity for building new partnerships.

National Coordination and Implementation Arrangements

National Climate Change Country Team and Project Management Unit

166. Implementation of project activities at the national level will be based on the "country team" approach, which was originally used for PICCAP. Thus, 13 multisectoral National Climate Change Country teams (NCCCTs), which include the private sector and NGOs, will provide oversight and approve work programmes and budgets for the implementation of project activities at the national level in each of the 13 countries. In addition to the NCCCTs, a Project Management Unit (PMU) will be established within each of the National PACC implementing agencies (NPIA). In all cases, the NPIA will be physically located in a government department, the Ministry of Environment, Meteorology, Public Works or Utilities and Infrastructure.

The National PMU

167. The National PMU will comprise a Project Manager/National Project Coordinator for PACC (NPM/NPC) who will work full time on and be fully paid by the project. The NPM/NPC, among others, will be responsible for the day-to-day management and implementation of all national project activities. The PMU will serve as a secretariat to the NCCCT on matters relating to PACC project implementation.

168. Most of the project activities will be conducted at the national level, implementing on-the-ground activities, utilizing national experts and involving as much as possible the

communities in which the project activities will be implemented. This will enable the project to have greater impacts and heightened visibility not only within the specific communities/villages but also at the national and regional levels. Additionally, use of local/national expertise and local communities in project implementation will ensure national ownership of the project to maintain the impetus for long-term sustainability.

169. The NCCTs act as the national steering committee and will ensure that all relevant professionals from government, non-government, and civil society and community organisations who are involved in managing, coordinating and implementing the in-country activities carry out their role accordingly. Thus, the NCCCT, while providing overall oversight to project implementation at the national and local levels will also ensure synergies with relevant national initiatives to avoid overlaps and duplications. It will also determine the use of technical experts (i.e. technical working groups) at the local level, if necessary, to carry out specific tasks/work relating to PACC project.

170. Further scientific, technical, policy and management guidance can be provided by relevant regional organisations (CROP agencies) as part of normal support, or national, regional and international consultants upon request by the NCCCT and/or the national PMU in consultation with the RPM. Relevant in-country and regional activities can be sub-contracted to and executed by the appropriate regional organisations with expertise on a cost reimbursement basis only and provided those activities are not already funded as co-financing activities.

171. National government professionals and other relevant national stakeholders from the private sector and civil society will, to the extent possible, manage, coordinate and implement the in-country activities. The NCCCT will upon request to the RPM and as per agreed-to work plans be provided with external technical assistance for implementation of specific in-country activities. Relevant regional organisations, national consultants, regional consultants or international consultants can provide such needed expertise. The PICs have the prerogative to engage the services of regional organisations in the implementation of their in-country activities if they deem necessary.

172. The national PACC PMU will be reporting to the appointed National Host Authority as per the Public Service process currently in place and also to the regional PMU at SPREP on a quarterly basis. Reports will contain: (i) results and (ii) administrative and financial.

Regional Technical Assistance

173. In order to support national implementation in the 13 countries, a technical support will be coordinated by SPREP. Several partner institutions will be assisting SPREP to provide technical support on the various components of the project which are: UNITAR, Stockholm Environment Institute, and Munasinghe Institute for Development This backstopping support can provide further scientific, technical, policy and management guidance to countries upon request by the NCCCT and/or the national PMU in consultation with the RPM. Further technical support needed would be advertised widely for independent consultants, CROP and others to apply where selection will be carried out through a

competitive and transparent process. The RPM will coordinate closely with the respective National Project Managers/National Coordinators the outputs from all project activities.

Regional Reporting Mechanism

174. SPREP as part of its role as the Implementing Partner for the PACC will report to the annual SPREP Council meetings on the progress of the PACC and its contributions to the PIFACC.

175. Financial management for the PACC will be accordance with UNDP's National Execution Modality (NEX). Disbursement of funds to the countries will be made in accordance to SPREP's financial system and accounting procedures.

Audit Arrangements

176. SPREP will provide the UN Resident Representative with certified periodic financial statements, and with an annual audit of the financial statements relating to the status of UNDP (including GEF) funds according to the established procedures set out in the Programming and Finance manuals. The Audit will be conducted by the legally recognized auditor of SPREP, or by a commercial auditor engaged by SPREP (see Annex E for Terms of Reference).

Project Accreditations

177. In order to accord proper acknowledgement to the GEF SCCF for providing funding, a GEF logo will appear on all relevant PACC project publications, including among others, any project hardware and vehicles purchased with GEF funds. Any citation on publications regarding projects funded by GEF will also accord proper acknowledgement to GEF. Where UN visibility is necessary for security purposes, the UNDP logo will be more prominent and separated from the GEF logo where possible. Logos of the IA and IP will also appear on all publications.

PART IV: Monitoring and Evaluation Plan and Budget

178. Project monitoring and evaluation will be conducted in accordance with established UNDP and GEF procedures and will be provided by the project team and UNDP Samoa MCO with support from UNDP/GEF. The Logical Framework Matrix in Section II provides performance and impact indicators for project implementation along with their corresponding means of verification,forming the basis on which the project's Monitoring and Evaluation system will be built.

179. The following sections outline the principle components of the Monitoring and Evaluation Plan and indicative cost estimates related to M&E activities. The project's Monitoring and Evaluation Plan will be presented and finalized at an Inception Report following a collective fine-tuning of indicators, means of verification, and the full definition of project staff M&E responsibilities.

Project Inception Phase

180. The objective of the PM&E approach is to initially use the first six months of the project implementation period to refine Demonstration Projects to ensure sustainable ownership at the national level. Demonstration Projects are already designed so the purpose of any refinement activities is to support National Project Management Staff in:
    - Clarifying project boundaries (both technical and geographical);
    - To review stakeholder analysis for each project;
    - To review and check through the logic of the logframe;
    - To review baseline and target indicators already identified with stakeholders, including regional outcome indicators; and
    - To decide on monitoring protocol for indicators.

181. A Regional Inception Workshop (IW) will be conducted with the full project team, relevant government counterparts, co-financing partners, the UNDP Samoa MCO and representation from the UNDP-GEF Regional Coordination Unit (RCU) at the UNDP Regional Centre in Bangkok and its sub-regional office in Apia as well as UNDP-GEF (HQ), as appropriate.

182. A fundamental objective of this IW will be to assist the project team to understand and take ownership of the project's goals and objectives, as well as finalize preparation of the project's first annual work plan on the basis of the PPM. This will include:

    - Reviewing the PPM (indicators, means of verification, assumptions), imparting additional detail as needed;
    - Agree upon the first Annual Work Plan (AWP) with measurable performance indicators;
    - To introduce support processes and technical backstopping mechanisms available;
    - To provide information on communication infrastructure for project implementation;
    - To clarify the governance structure for the project; and
    - To agree on the PM&E process and provide training in the process and agree on annual workplan for the PM&E including the development of National PM&E Plans and learning approaches including Community Working Groups.
    - To accomplish with precise and measurable performance indicators, and in a manner consistent with the expected Outcomes for the project.

183. Additionally, the objective of the IW will be to: (i) introduce project staff to the UNDP-GEF team which will support the project during its implementation, namely the UNDP Samoa MCO and responsible UNDP/GEF staff from the UNDP Regional Centre in

Bangkok or Apia, as appropriate; (ii) detail the roles, support services and complementary responsibilities of UNDP MCO Samoa and responsible Regional Technical Advisor (RTA) from the UNDP-GEF RCU vis-à-vis the project team; (iii) provide a detailed overview of UNDP-GEF reporting and monitoring and evaluation (M&E) requirements, with particular emphasis on the Annual Project Implementation Reviews (PIRs) and related documentation, the Annual Project Report (APR), Tripartite Review Meetings, as well as midterm and final evaluations. Equally, the IW will provide an opportunity to inform the project team on UNDP project related budgetary planning, budget reviews, and mandatory budget rephrasing.

184. The IW will also provide an opportunity for all parties to understand their roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for project staff and decision-making structures will be discussed again, as needed, in order to clarify for all, each party's responsibilities during the project's implementation phase.

185. The IW will also provide the first annual meeting of the Project Executive Group (PB) with responsibilities over management decisions including approving implementation work plans and budget revisions, identifying problems, suggesting actions to improve project performance. The PB, chaired by UNDP Samoa, will agree and adopt a coordinated annual project implementation strategy and plan.

Monitoring Responsibilities and Events

186. A detailed schedule of project reviews meetings will be developed by the PMO, in consultation with project implementation partners and stakeholder representatives and incorporated in the Project Inception Report. Such a schedule will include: (i) tentative time frames for Tripartite Reviews (TPR), PB Meetings and relevant advisory and/or coordination mechanisms at national levels and (ii) project related Monitoring and Evaluation activities.

187. Day to day monitoring of implementation progress will be the responsibility of the PMO in consultation with the UNDP Samoa MCO based on the project's AWP and its indicators. The PMO will inform UNDP Samoa MCO of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely and remedial fashion.

188. The RPM and the responsible UNDP-GEF RTA will fine-tune the progress and performance/impact indicators of the project in consultation with the full project team at the IW and assisted by UNDP Samoa and UNDP-GEF HQ, as appropriate. Specific targets for the first year implementation progress indicators together with their means of verification will be developed at the IW. These will be used to assess whether implementation is proceeding at the intended pace and in the right direction and will form part of the AWP. The local implementing agencies will also take part in the Inception Workshop in which a common vision of overall project goals will be established.

189. Targets and indicators for subsequent years would be defined annually as part of the internal evaluation and planning processes undertaken by the project team. The measurement impact indicators will be undertaken through subcontracts or retainers with relevant institutions or through specific studies that are to form part of the projects activities.

190. Periodic monitoring of implementation progress will be undertaken by the UNDP Samoa MCO through quarterly meetings with the project staff; or more frequently as deemed necessary. This will allow parties to take stock and to troubleshoot any problems pertaining to the project in a timely fashion to ensure smooth implementation of project activities.

191. UNDP PPR (UNDP Samoa), UNDP Fiji and UNDP PNG and UNDP-GEF RCU, as appropriate, will conduct yearly field visits to sites to assess first hand project progress. Any other member of the PB can also accompany, as decided by the PB. A Field Visit Report will be prepared by UNDP PPR (UNDP Samoa), UNDP Fiji, UNDP PNG and UNDP GEF RCU, respectively, and circulated no less than one month after the visit to the PMO and all PAC members.

192. UNDP Samoa MCO and UNDP-GEF RCU, as appropriate, will conduct yearly field visits to pilot implementation sites to assess first hand project progress. Any other member of the PB can also accompany, as decided by the PB. A Field Visit Report will be prepared by UNDP Samoa MCO and circulated no less than one month after the visit to the project team, all PB members, and UNDP-GEF.

193. Annual Monitoring will occur through the Tripartite Review (TPR). This is the highest policy level meeting of the parties directly involved in the implementation of a project. The project will be subject to a TPR at least once every year. The first such meeting will be held within the first twelve months of the start of full implementation. The Executing Agency will prepare an Annual Project Report (APR) and submit it to UNDP Samoa MCO and the UNDP-GEF RCU at least two weeks prior to the TPR for review and comments.

194. The APR will be used as one of the basic documents for discussions in the TPR meeting. The Implementing Partner (SPREP) will present the APR to the TPR, highlighting policy issues and recommendations for the decision of the TPR participants. The IP also informs the participants of any agreement reached by stakeholders during the APR preparation on how to resolve operational issues. Separate reviews of each project component may also be conducted if necessary.

Terminal Tripartite Review (TTR)

195. The terminal tripartite review is held in the last month of project operations. The Implementing Partner is responsible for preparing the Terminal Report and submitting it to UNDP Samoa MCO and UNDP-GEF RCU. It shall be prepared in draft at least two months in advance of the TTR, allowing time for review, and will serve as the basis for discussions in the TTR. The terminal tripartite review considers the implementation of the project as a whole, paying particular attention to whether the project has achieved its stated

objectives and has contributed to the broader environmental objective. It decides whether any actions are still necessary, particularly in relation to sustainability of project results, and acts as a vehicle through which lessons learnt can be captured to feed into other projects under formulation or implementation.

196. The TPR has the authority to suspend disbursement if project performance benchmarks are not met. Benchmarks will be developed at the Inception Workshop, based on delivery rates, and qualitative assessments of achievements of outputs.

Project Monitoring Reporting

197. The PMO in conjunction with UNDP Samoa MCO and the UNDP-GEF team will be responsible for the preparation and submission of the following reports that form part of the monitoring process. Items (a) through (f) are mandatory and strictly related to monitoring, while (g) through (h) have a broader function and the frequency and nature is project specific to be defined throughout implementation.

(a) Inception Report (IR)

198. A Project Inception Report (IR) will be prepared immediately following the Inception Workshop. It will include a detailed first year/AWP divided in quarterly time-frames detailing the activities and progress indicators that will guide implementation during the first year of the project. This Work Plan would include the dates of specific field visits, support missions from UNDP Samoa MCO or the UNDP-GEF RCU or Partner technical experts[31], as well as time-frames for meetings of the project's decision making structures. The Report will also include the detailed project budget for the first full year of implementation, prepared on the basis of the AWP, and including any monitoring and evaluation requirements to effectively measure project performance during the targeted 12 months time-frame.

199. The Inception Report will include a more detailed narrative on the institutional roles, responsibilities, coordinating actions and feedback mechanisms of project related partners. In addition, a section will be included on progress to date on project establishment and start-up activities and an update of any changed external conditions that may effect project implementation.

200. When finalized the report will be circulated to project counterparts who will be given a period of two weeks in which to respond with comments or queries. Prior to this circulation of the Inception Report, UNDP Samoa and UNDP-GEF RCU will review the document.

(b) Annual Project Report (APR)

201. The APR is a UNDP requirement and part of UNDP's Country Office central oversight, monitoring and project management. It is a self–assessment report by project management to UNDP Samoa MCO and provides input to the country office reporting process and the

[31] Sister CROP organizations such as SPC or partners such as SEI, MIND and UNITAR.

ROAR, as well as forming a key input to the TPR. An APR will be prepared on an annual basis prior to the Tripartite Project Review, to reflect progress achieved in meeting the project's AWP and assess performance of the project in contributing to the intended outcomes through outputs and partnership work. The format of the APR is flexible but should include the following:

- An analysis of project performance over the reporting period, including outputs produced and, where possible, information on the status of the outcome;
- The constraints experienced in the progress towards results and the reasons for these;
- The three (at most) major constraints to achievement of results;
- AWP, CAE and other expenditure reports (ERP generated);
- Lessons learned; and
- Clear recommendations for future orientation in addressing key problems in lack of progress.

(c) Project Implementation Review (PIR)

202. The PIR is an annual monitoring process mandated by the GEF. It has become an essential management and monitoring tool for project managers and offers the main vehicle for extracting lessons from ongoing projects. Once the project has been under implementation for a year, a Project Implementation Report must be completed by UNDP Samoa MCO together with the project. The PIR can be prepared any time during the year (July-June) and ideally prior to the TPR. The PIR should then be discussed in the TPR so that the result would be a PIR that has been agreed upon by the project, the Implementing Partner, UNDP Samoa MCO and the concerned RTA.

203. The individual PIRs are collected, reviewed and analyzed by the RTA prior to sending them to the focal area clusters at the UNDP/GEF headquarters. The focal area clusters supported by the UNDP/GEF M&E Unit analyze the PIRs by focal area, theme and region for common issues/results and lessons. The TAS and PTAs play a key role in this consolidating analysis. The focal area PIRs are then discussed in the GEF Interagency Focal Area Task Forces in or around November each year and consolidated reports by focal area are collated by the GEF Independent M&E Unit based on the Task Force findings.

204. The GEF M&E Unit provides the scope and content of the PIR. In light of the similarities of both APR and PIR, UNDP/GEF has prepared a harmonized format for reference.

(d) Quarterly Progress Reports

205. Short reports outlining main updates in project progress will be provided quarterly to UNDP Samoa MCO and the UNDP-GEF RCU by the Implementing Partner along with (1) financial report and advance request for the upcoming quarter (2) workplan and budget for the upcoming quarter. QPRs should be reviewed and cleared by the PB prior to submitting formally to UNDP. All copies of the QPRs should be uploaded on the PACC website and circulated widely to all the PB members.

(e) Periodic Thematic Reports

206. As and when called for by UNDP/UNDP-GEF, the project team will prepare Specific Thematic Reports, focusing on specific issues or areas of activity. The request for a Thematic Report will be provided to the project team in written form by UNDP and will clearly state the issue or activities that need to be reported on. These reports can be used as a form of lessons learnt exercise, specific oversight in key areas, or as troubleshooting exercises to evaluate and overcome obstacles and difficulties encountered. When Thematic Reports are necessary, UNDP will allow reasonable timeframes for their preparation by the project team.

(f) Project Terminal Report

207. During the last three months of the project the project team will prepare the Project Terminal Report. This comprehensive report will summarize all activities, achievements and outputs of the Project, lessons learnt, objectives met, or not achieved structures and systems implemented, etc. and will be the definitive statement of the Project's activities during its lifetime. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the Project's activities.

(g) Technical Reports

208. Technical Reports are detailed documents covering specific areas of analysis or scientific specializations within the overall project. As part of the Inception Report, the project team will prepare a draft Reports List, detailing the possible technical reports that are expected to be prepared on key areas of activity during the course of the Project, and tentative due dates. Where necessary this Reports List will be revised and updated, and included in subsequent APRs.

209. Technical Reports may also be prepared by external consultants and should be comprehensive, specialized analyses of clearly defined areas of research within the framework of the project and its sites. These technical reports will represent, as appropriate, the project's substantive contribution to specific areas, and will be used in efforts to disseminate relevant information and best practices at local, national and international levels.

(h) Project Publications

210. Project Publications will form a key method of crystallizing and disseminating the results and achievements of the Project. These publications may be scientific or informational texts on the activities and achievements of the Project, in the form of journal articles, multimedia publications, etc. These publications can be based on Technical Reports, depending upon the relevance, scientific worth, etc. of these Reports, or may be summaries or compilations of a series of Technical Reports and other research. The project team will determine if any of the Technical Reports merit formal publication, and will also (in

consultation with UNDP, the government and other relevant stakeholder groups) plan and produce these Publications in a consistent and recognizable format. Project resources will need to be defined and allocated for these activities as appropriate and commensurate with the project's budget.

Independent Evaluation

211. The project will be subjected to at least two independent external evaluations as follows:

Mid-term Evaluation

212. An independent Mid-Term Evaluation will be undertaken at the end of the second year of implementation. The Mid-Term Evaluation will determine progress being made towards the achievement of Outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, terms of reference and timing of the mid-term evaluation will be decided after consultation between the parties to the project document. The Terms of Reference for this Midterm evaluation will be prepared by the UNDP Samoa MCO based on guidance from the UNDP-GEF RCU.

Final Evaluation

213. An independent Final Evaluation will take place three months prior to the terminal tripartite review meeting, and will focus on the same issues as the mid-term evaluation. The final evaluation will also look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental goals. The Final Evaluation should also provide recommendations for follow-up activities. The Terms of Reference for this evaluation will be prepared by the UNDP Samoa based on guidance from the UNDP-GEF RCU.

214. The Table 8.0 below provides an indicative monitoring and evaluation work plan and corresponding budget.

Table 8.0 Project Monitoring and Evaluation

Type of M&E Activity	**Responsible Parties**	**Budget US$** ***Excluding Project Staff time***	**Time frame**
Inception Workshop (IW)	▪ Project team ▪ UNDP Samoa MCO ▪ UNDP-GEF	100,000	Within first 4 months of project start up
Inception Report	▪ Project team ▪ UNDP Samoa MCO ▪ UNDP-GEF	None	Draft IR available before IW Final IR available immediately following IW
Measurement of means of verification for project purpose Indicators	▪ Regional Project Manager will oversee hiring of specific studies and institutions, and delegate responsibilities	To be finalized in Inception Phase and IW. 100,000 (indicative cost)	Start, mid, and end of project
APR and PIR	▪ Project team ▪ UNDP Samoa MCO ▪ UNDP-GEF	None	Annually
TPR and TPR report	▪ Government Counterparts ▪ UNDP Samoa ▪ Project team ▪ UNDP-GEF RCU	None	Annually, upon receipt of APR
Periodic status reports	▪ Project team	None	To be determined by Project team and UNDP
Technical Reports	▪ Project team ▪ Consultants as needed	20,000	To be determined by Project team and UNDP Samoa
Mid-term External Evaluation	▪ UNDP Samoa ▪ UNDP-RCU ▪ External consultants (i.e. evaluation team	20,000	At mid-point of project implementation
Final External Evaluation	▪ UNDP Samoa ▪ UNDP-RCU	20,000	At end of project implementation

	▪ External consultants (i.e. evaluation team		
Terminal Report	▪ Project team ▪ UNDP Samoa ▪ External Consultant	None	At least one month before the end of project
Lessons learned	▪ Project team ▪ UNDP Samoa ▪ UNDP-GEF RCU (suggested formats for using best practices, etc)	25,000 (i.e. 5,000 per year)	Annually
Audit	▪ UNDP Samoa ▪ Project team	25,000 (i.e. 5,000 per year)	Annually
Visits to field sites (UNDP staff travel costs to be charged to IA fees)	▪ Project team ▪ UNDP Samoa ▪ UND-GEF RCU (as appropriate) ▪ Government/PB representatives	100,000 (i.e. 20,000 per year)	Annually
TOTAL INDICATIVE COST *Excluding project team staff time and UNDP staff and travel expenses and misc. expenses*		**US$410,000**	

PART V: Legal Context

215. This Project Document shall be the instrument referred to as such in Article I of the Standard Basic Assistance Agreement between the Governments of the Cook Islands, Federated States of Micronesia, Fiji, Nauru, Niue, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu (herein represented by the Secretariat of the Pacific Regional Environment Programme) and the United Nations Development Programme (UNDP). The host country implementing agency shall, for the purpose of the Standard Basic Assistance Agreement (SBAA), refer to the government co-operating agency described in that Agreement.

216. UNDP acts in this Project as Implementing Agency of the Global Environment Facility (GEF), and all rights and privileges pertaining to UNDP as per the terms of the SBAA shall be extended mutatis mutandis to GEF.

217. The UNDP Resident Representative in Samoa is authorized to effect in writing the following types of revision to this Project Document, provided that he/she has verified the agreement thereto by UNDP-GEF Unit and is assured that the other signatories to the Project Document have no objection to the proposed changes:

- Revision of, or addition to, any of the annexes to the Project Document;
- Revisions, which do not involve significant changes in the immediate objectives, outputs or activities of the project, but are caused by the rearrangement of the inputs already agreed to or by cost increases due to inflation;
- Mandatory annual revisions which re-phase the delivery of agreed project inputs or increased expert or other costs due to inflation or take into account agency expenditure flexibility; and,
- Inclusion of additional annexes and attachments only as set out here in this Project Document.

NB: Parts VI and VII of Section I appear at the end of Section IV

SECTION II: STRATEGIC RESULTS FRAMEWORK AND GEF INCREMENT

PART I: Additional Cost Analysis

218. The PACC project requests US$13.125 million of SCCF financing. Consistent with SCCF Guidelines, the SCCF is expected to finance a quarter of the total costs of the projects. The remaining costs of the project are met by 13 PIC Governments and other co-financiers. Costs and benefits are summarised in Table 9.0. Co-financing arrangements are summarised in Table 10.0.

219. As with other SIDS, PICs are aware of and concerned about the impacts of climate change and sea-level rise given the exposure of main socio-economic and cultural activities and infrastructure being located on or near the coastline. Based on indications from national assessments such as initial national communications (INCs), national adaptation plan of actions (NAPAs), regional assessment reports and workshops as referred to in earlier paragraphs, and as ascertained during the national consultations with various stakeholders in each of the 13 participating countries under the PACC project; it is apparent that integrating climate risks into development sectors of PICs is key to contributing to the achievement of development objectives and a steady sustainable growth.

220. While development work is carried out in key development sectors as part of national development initiatives and through development partner assistance in all 13 participating countries, adaptation concerns have generally not been factored into national and sectoral development plans, policies and strategies. In general, adaptation has been "reactive" where strategies and responses to addressing climate change impacts are carried out on an ad-hoc basis or as part of post-disaster recovery and rehabilitation. Anticipatory adaptation to climate change is desirable but has not been integrated into sectoral activities.

221. The PACC project is looking to address the expected impacts of long-term climate change. It is necessary to increase the resilience of three key development sectors in PICs to increased intensity and frequency of extreme climate events and related impacts, as well as sea-level rise and its direct consequences in a strategic and anticipatory manner. Central to its mission is piloting adaptation interventions in three key development sectors that would showcase practical and replicable anticipatory measures to adapt to changing climatic conditions. The PACC project therefore aims to contribute to the adoption of more sustainable practices as well as the integration of lessons learnt from piloting adaptation within current programmes and future planning. PACC's strategic response to climate risks embraces a long-term perspective, where climate related knowledge is seen as embedded into national responses to development.

222. In the water sector, in a scenario without climate change, providing and ensuring water supply (availability, quantity and quality) is part of on-going development work. However, as climate change is expected to alter the frequency, length and/or severity of drought occurrence, current water supply will be outpaced by the demand. The PACC strategy is to strategically define and implement targeted adaptation interventions to ensure sustainability of the water system in view of long-term expected impacts of climate change. Therefore, the PACC will focus on improving the current water supply in pilot communities to adapt to a changing demand under a climate change scenario.

223. In agriculture, farming and coping strategies have traditionally existed for efficient dealing with past and current vulnerability. Apart from these traditional systems, additional and improved crop management strategies and agricultural development policies existed and have been implemented by governments with assistance from the international development community. However, in a climate change scenario, such coping strategies and initiatives will no longer be adequate. Further diversification and enhancement of approaches in securing access to food (in terms of quality and quantity) is a crucial way in preparing to cope with long-term impacts of climate change. Interventions under the PACC project will look at introduction of adaptation technologies to enhance crop management strategies and up-scaling of best practices to increase the resilience of agricultural systems to the impacts of climate change.

224. In the management of coastal systems, governments have developed mechanisms to cope with climatic variations under a neutral/current climate scenario. Mechanisms for the maintenance of coastal assets and services to communities have been in place for many years with assistance from development partners in a disaster management and response context. In view of the exacerbated climatic conditions under a climate change scenario, a proactive approach to adaptation whereby climate risks are integrated into coastal planning and processes is seen as more efficient and more cost effective option to address the long-term impacts of climate change. The PACC pilots will implement adaptation interventions within coastal management plans at community and state levels with punctual demonstrations.

Table 9.0 Cost Benefit table

Cost/Benefit	Baseline (B)	Alternative (A)	Additionality (A-B)
National Benefits	Economic and social development objectives are achieved through baseline policies and programmes, but these are non-sustainable due to the threats posed by future, long-term climate change including variability	Economic and social development objectives are achieved through modified policies and programmes that account for the need to adapt to future, long-term climate change including variability, and which are therefore sustainable	
Costs **Outcome 1:** Policy changes to deliver immediate vulnerability-reduction benefits in context of emerging climate risks implemented.	$17,191,614.00 invested in economic development that does not account for the impacts of long-term climate change including variability	$19,830,614.00	$2,639,000.00
Outcome 2 Demonstration measures to reduce vulnerability in coastal areas and crop production (in Fiji, Palau, Papua New Guinea and Solomon Islands) and in water management (in Marshall Islands, Nauru, Niue, Tonga and Tuvalu) implemented	$20,330,000.00	$28,796,000.00	$8,466,000.00
Outcome 3: Regional Cooperation promoted between participating countries to share lessons learnt and promote innovation in mainstreaming	$6,984,185.00	$9,002,185.00 (includes programme management and M&E costs)	$2,020,000.00

Cost/Benefit	Baseline (B)	Alternative (A)	Additionality (A-B)
adaptation to climate change.			
Cost Totals	**$44,503,799.00**	**$57,628,799.00**	**$13,125,000.00**

Table 10.0 PACC Co-Financing

Countries	Co-financing programmes and projects descriptions	Amount	Amount USD
Nauru	Planned annual government expenditures as per 2006 budget	218,000 AUD	168,000
	JICA funded water tanks for communities project	100,000 AUD	77,000
	MOU with Australia on water catchment & storage and repairs	1,500,000 AUD	1,150,000
	Australia COMPACT for groundwater prospection and monitoring	400,000 AUD	307,000
	FAO regional food s ecurity programme with a package on water storage	136,000 USD	136,000
	office space (in-kind)	50,000 USD	62,000
Subtotal			**$1,900,000.00**
Niue	Construction of water reservoir under Cyclone Recovery Project	67,036 NZD	46,000
	office space (in-kind)	50,000 USD	55799
	DSAP Project / EU funded		
Subtotal			**$101,799.00**
Solomons	Ministry of Agriculture and Livestock / Rice Development project / Taiwan funding		
	FAO Technical Cooperation Project		
	FAO regional food security		
	Ministry of Agriculture budget estimate based on 2006 figures		
	office space (in-kind)		4,800,000
Subtotal			**$4,800,000.00**
Cook Islands	ADB Cyclone Emergency Loan Project		2,650,000
	Office space (in-kind)		50,000
Subtotal			**$2,700,000.00**
Tonga	AUD funding for adaptation for Tonga TBC	2,000,000 AUD	1,500,000
	Groundwater monitoring / Geology Department operational budget		
	Canada and Japan funded water tanks for community		
	Rainwater harvesting / Tonga Trust Operational Budget		
	Office space (in-kind)		
Subtotal			**$1,500,000.00**
FSM	Compact Funds (on-going exp)		2, 805,480
	Compact Funds (planned exp)		
	Japanese Grant for Road construction Tafunsak-Walung	4,000,000 USD	4,000,000
	office space (in-kind)		94,520 USD

Subtotal			**$6900,000.00**
Samoa	World bank IAM I and II	1700000 USD	1,700,000
	CERP / Coastal resilience recovery	500,000 USD	500,000
	office space (in-kind)		300,000
Subtotal			**$2,500,000.00**
Vanuatu	US Millennium Challenge Account / transport infrastructure project in Epi (roading)	2,900,000	2,900,000
	office space (in-kind)		
Subtotal			**$2,900,000.00**
Fiji	Government of Fiji Expenditures based on 2007 estimates Drainage and Irrigation	4800000 FJD	2,866,667
	Government of Fiji Expenditures based on 2008 estimates land Drainage and Flood protection	4800000 FJD	2,866,667
	Government of Fiji Expenditures based on 2009 estimates Drainage and Irrigation	4800000 FJD	2,866,666
Subtotal			**$8,600,000.00**
Tuvalu	AUSAID Adaptation to Climate Change project	1,200,000 AUD	923,076
	Government of Tuvalu / Water Tank	600,000 AUD	449,924
	Office space (in-kind)		115,386
Subtotal			**$1,500,000.00**
PNG	National Department of Agriculture and Livestock		1,000,000
	Donor funded (FAO & EU)		1,000,000
	Central Provisional Administration		500,000
	DEC Water Resources Division		500,000
Subtotal			**$3,000,000.00**
Palau	Salaries of Technical Experts from organisations that would support PACC implementation		1,010,000
	Costs of base data and technical inputs to be provided to PACC		592,000
Subtotal			**$1,602,000.00**
Marshall Islands	Airport Runway works		4,000,000
	Salaries of Technical Experts from organisations that would support PACC implementation		2,300,000
Subtotal			**6,300,000**
UNDP	time of financ e staff and management (in-kind)	50,000 USD	50,000
	office space (in-kind)	50,000 USD	50,000
Subtotal			**$100,000.00**
SPREP	time of finance staff and management (in-kind)	50,000 USD	50,000
	office space (in-kind)	50,000 USD	50,000

Subtotal			**$100,000.00**
Total Co-financing			**$44,503,799.00**

PART II: Logical Framework Analysis

Table 11.0 PACC Logical Framework

Project Strategy	Indicator*	Baseline value	Target and benchmarks	Sources of verification	Risks and Assumptions
Goal: To reduce vulnerability and to increase adaptive capacity to the adverse effects of climate change in key Development Sectors identified by 13 participating countries in the Pacific.					
Objective: To enhance the capacity of the participating countries to adapt to climate change, including variability, in selected key development sectors.	Number of references to vulnerability of the coastal, crop production and water sector to climate risks in policies, plans and projects.	Climate change risks in the coastal, crop production and water sector are not acknowledged in relevant policies, plans and projects both at the national and local level.	By the end of the project, 100% of national and regional relevant plans in all participating countries include climate change risk considerations for the coastal, crop production and water sector.	Surveys/interviews /plans	There is political willingness to integrate climate change related risks into coastal, crop production and water sector management plans, policies and strategies
Outcome 1: Policy changes to deliver immediate vulnerability-reduction benefits in context of emerging climate risks defined in all 13 PACC countries.	Number of references to coastal, crop production and water sector climate change risks in relevant plans and programmes.	Relevant development and risk management plans do not include climate change risks on the coastal, crop production and water sector.	By the end of the project, climate change risks in the coastal, crop production and water sector are addressed in three (3) national plans and at least two (2) provincial development plans.	Survey and review of national and provincial coastal, crop production and water sector management plans.	Political will to review the plans is ensured and maintained throughout the life of the project.
Output 1.1: Develop methodology and tools to assist Pacific Island countries mainstream climate change into their current national development plans and priorities.	**1.1.1** Number of instances where the Guidelines on climate change risk management have been applied in national and sub-national coastal, crop production and water sector related plans and programmes. **1.1.2** Number of plans	Relevant development and risk management plans, both at the national and the local level, do not address climate change risk in the coastal, crop production and water sector.	By the end of the project, the National coastal, crop production and water sector Management Plan, Sustainable Development Plan, National Risk Management Plan, and at least two (2) Provincial /Risk management Plans include climate change risk and adaptation measures for the coastal, crop production and water sector in country all 13 PACC countries.	Survey and review of revised relevant national plans.	Political will to review the plans is ensured and maintained throughout the life of the project.

Project Strategy	Indicator*	Baseline value	Target and benchmarks	Sources of verification	Risks and Assumptions
	that integrate climate change risk issues related to coastal, crop production and water sector management.				
Output 1.2 Climate change economic tools for evaluation of adaptation options developed and utilized.	**1.2.1** By the end of year two, a report of the findings of economic costing of adaptation options disseminated	Currently, no such models exist.	By the end of the project, at least 5 countries have used the model in their pilot sites.	Evaluation reports	Relevant experts are available.
<u>Outcome 2:</u> Demonstration measures to reduce vulnerability in coastal areas and crop production (in Fiji, Papua New Guinea and Solomon Islands) and in water management (in Nauru, Niue, Tonga and Tuvalu) implemented.	Number of adaptation measures implemented at the national level Number of adaptation measures implemented at the sub-national level Number of adaptation measures implemented at the local (community) level.	No long-term climate change adaptation measures implemented.	By the end of the project, adaptation measures to address climate change risks in the coastal, crop production and water sector have been adopted by: – All countries (100%) at the national level. – 50% of countries at the sub-national level. – At least three (3) communities in each country.	Evaluation reports Field Surveys	Local stakeholders support the adoption of adaptation measures.
Output 2.1.1a: Guidelines to integrate coastal climate risks into an integrated coastal management programme.	**2.1.1a** At the end of year two, a Guidelines is developed and is applied to two (2) national and sub-national coastal sector related plans and programmes.	No long-term climate risk coastal management in place.	By the end of the project, at least one (1) community has implemented the Guidelines developed in the coastal management planning.	Field Surveys	Selected pilot island/community is best placed to demonstrate the benefits of measures to adapt to climate change.

Project Strategy	Indicator*	Baseline value	Target and benchmarks	Sources of verification	Risks and Assumptions
Output 2.1.1b: Measures identified in the Guidelines (2.1.1a) demonstrated in Manihiki communities (with co-financing support).	**2.1.1b** Number of government officers in the coastal management section that incorporate climate change risk into their coastal management planning	No officer trained in applying climate risk management into coastal management planning.	By the end of the project, at least 10 government officers in the coastal management section to incorporate climate change risk into their coastal management planning and implementation improved during the life of the project.	Field Surveys	Selected pilot island/community is best placed to demonstrate the benefits of measures to adapt to climate change.
	2.1.2b At the end of year four, one (1) measure to reduce climate change risks on coastal systems is in place.	Currently, no coastal development have taken future changes in climate into consideration.	By the end of the project, at least one (1) project that incorporates climate change risk into an integrated coastal management plan is demonstrated.	Field Survey	Selected pilot island/community is best placed to demonstrate the benefits of measures to adapt to climate change.
Output 2.2.1a: Guidelines to integrate climate risks (e.g. intense rainfall and storm surges) into coastal road designs.	**2.2.1a** At the end of year two, a Guidelines is developed and applied to two (2) national and sub-national coastal road management plans and programmes.	None exist.	By the end of the project, at least 1 Guidelines is developed and applied.	Field Surveys	All key stakeholders support the work to be carried out.
Output 2.2.1b: Measures identified in the Guidelines (2.2.1a) demonstrated in Walung community, Kosrae (with co-financing support).	**2.2.1b** At the end of year four, one (1) climate change resilient coastal road design system is in place.	None exist.	By the end of the project, at least one (1) design that incorporates climate change risk into coastal road systems is implemented.	Field Surveys	All key stakeholders support the work to be carried out.

Project Strategy	Indicator*	Baseline value	Target and benchmarks	Sources of verification	Risks and Assumptions
Output 2.3.1a: Guidelines to incorporate climate risks into an integrated community based coastal management model.	**2.3.1a** At the end of year two, two (2) national or sub-national coastal management policies/plans developed and adopted.	None exist	By the end of the project, at least one (1) integrated coastal community protection model (in the form of a plan) taking climate risk management into account is developed.	Field Surveys Model documentation	Relevant expertise is available.
Output 2.3.1b: Measures identified in the Guidelines (2.3.1a) demonstrated in Vaa o Fonoti to Gagaifomauga district (with co-financing support).	**2.3.1b** At the end of year four, one (1) coastal community defense and erosion control model (in the form of a plan) taking climate risk into consideration is in place.	None exist	By the end of the project, at least one (1) project that incorporates climate change risk into an integrated coastal community defense and erosion control model is demonstrated.	Field Surveys Actual pilot	Relevant expertise is available.
Output 2.4:1a Guidelines that incorporate multistakeholder decision-making in the redesign and relocation of roads due to the impacts of climate change.	**2.4.1a** Number of instances where a multi-stakeholder decision-making system in place.	No clear decision making system is in place for road infrastructure relocation.	By the end of the project, at least one (1) multi-stakeholder decision making system for relocation of road infrastructures in isolated coastal communities is used.	Field Surveys Government report	All stakeholders have the same understanding and support.
Output 2.4:1b Measures identified through use of the Guidelines (2.4.1a) demonstrated in Epi communities, Shefa Province (with co-financing support).	**2.4.1b** Practical guidance provided through demonstration project.	No such guidance is available at present.	By the end of the project, at least one (1) multi-stakeholder decision making system for relocation of road infrastructures in isolated coastal communities is demonstrated.	Field Surveys Government report	Public Works Department have the necessary background technical information.
Output 2.51a: Guidelines for design of drains and drainage networks to adapt to future rainfall regimes.	**2.5.1a** Practical guidance is approved by relevant authorities.	No such guidance is available at present.	By the end of the project, at least the Tailevu and Navua drainage schemes have demonstrated the Guidelines.	Field Surveys Government report	All relevant base data are easily accessible.

Project Strategy	Indicator*	Baseline value	Target and benchmarks	Sources of verification	Risks and Assumptions
Output 2.5.1b: Measures identified in the Guidelines (2.5.1a) demonstrated in Tailevu/Rewa and Serua Namosi Province (with co-financing support).	**2.5.1b** Number of drainage schemes implementing the new design.	No design that takes into consideration long-term change in precipitation in place.	By the end of the project, at least the Tailevu and Navua drainage schemes would demonstrate the new design.	Field Surveys Government report	Farmers collaborate in the demonstration process and capturing of lessons.
Output 2.6.1a Guidelines to improve resilience of coastal food production systems to the impacts of climate change. **Output 2.6.1b** Measures identified in the Guidelines (2.6.1a) demonstrated in Ngatpang State/Communities (with co-financing support).	**2.6.1a** Number of Guidelines developed and applied. **2.6.2b** Number of measures demonstrated.	No such Guidelines are available at present. No new measures in place that have taken climate change into consideration	By the end of the project, at least one (1) Guidelines is developed and applied in Ngatpang State in Palau. By the end of the project, at least one (1) community in Ngatpang State has demonstrated and accepted a measure developed and applied through the project.	Ngatpang State report Field Survey Ngatpang State report Field Survey	All necessary background information are available. State Government contribute to the PACC initiative.
Output 2.7.1a: Guidelines for design of underground irrigation networks to adapt to future rainfall regimes.	**2.7.1a** Number of Guidelines developed and applied.	No such guidance is available at present.	By the end of the project, at least one (1) Guidelines is developed and applied in the larger community of Kivori Poe in PNG.	Department of Agriculture report Field Survey	All relevant base data are easily accessible.
Output 2.7.1b: Measures identified in the Guidelines (2.7.1a) demonstrated in Kivori Poe, Kairuku district, Central Province (with co-financing support).	**2.7.1b** Number of measures demonstrated.	No design that takes into consideration long-term change in precipitation in place.	By the end of the project, at least one (1) community in the larger community of Kivori Poe in PNG has demonstrated and accepted a measure developed and applied through the project.	Department of Agriculture report Field Survey	Farmers collaborate in the demonstration process and capturing of lessons.
Output 2.8.1a: Guidelines for reducing vulnerability of small isolated island communities' to the effects of climate change in the food production and food security sector.	**2.8.1a** Number of Guidelines developed and applied.	No such guidance is available at present.	By the end of the project, at least 1 Guidelines is developed and applied.	Department of Agriculture report. Field Survey	Transportation is not disrupted by bad weather.

Project Strategy	Indicator*	Baseline value	Target and benchmarks	Sources of verification	Risks and Assumptions
Output 2.8.1b: Measures identified in the Guidelines (2.8.1a) demonstrated in Ontong Java Island (with co-financing support).	**2.8.1b** Number of measures demonstrated in small island communities.	No new measures in place that have taken climate change into consideration	By the end of the project, at least one (1) small island community in the Solomon Islands has demonstrated and accepted a project intervention.	Department of Agriculture report. Field Survey	Transportation is not disrupted by bad weather
Output 2.9.1a: Guidelines for improving water retention through redesign and retrofit of existing water-holding tanks to enhance resilience to drought events..	**2.9.1a** Number of instances of practical guidance prepared and approved.	No cases of any best practice recorded.	By the end of the project, at least one (1) instance of practical guidance is developed and demonstrated in the existing water holding tanks in the Marshall Islands.	Government Report Field Survey	Political will at the national level is maintained.
Output 2.9.1b: Measures identified in the Guidelines (2.9.1a) demonstrated in Majuro town (with co-financing support).	**2.9.1b** Number of measures demonstrated.	No adaptation measures in place.	By the end of the project, at least one (1) intervention to minimize evapotranspiration in the current water holding tank implemented in a pilot situation.	Government Report Field Survey	Political will at the national level is maintained.
Output 2.10.1a: Guidelines for design of alternative water supply systems to enhance resilience to drought events.	**2.10.1a** Number of designs combining current community water supply and storage and groundwater sources.	No such design exists a present.	By the end of the project, at least one (1) guidance is developed in Nauru.	Government Report Field Survey	Groundwater investigation is carried out as planned by Government.
Output 2.10.1b: Measures identified in the Guidelines (2.10.1a) demonstrated in Anabar district (with co-financing support).	**2.10.1b** Number of designs combining current community water supply and storage and groundwater sources demonstrated.	No such design exists or demonstrated.	By the end of the project, at least 1guidance is developed and demonstrated in a pilot situation in Nauru.	Government Report Field Survey	Groundwater investigation is carried out as planned by Government.

Project Strategy	Indicator*	Baseline value	Target and benchmarks	Sources of verification	Risks and Assumptions
Output 2.11.1a: Guidelines for design of water storage systems on a raised atoll island to enhance resilience to drought events.	**2.11.1a** Number of instances of practical guidance being used.	No previous experience in such design.	By the end of the project, at least one (1) practical guidance is in place and five (5) officers trained on the use of the guide.	Guide document Training report	All stakeholders provide necessary support.
Output 2.11.1b: Measures identified in the Guidelines (2.11.1a) demonstrated in Liku to Avatele district (with co-financing support).	**2.11.1b** Number of improved water storage systems on a raised atoll island to enhance resilience to prolonged drought situations in place.	No previous experience in place.	By the end of the project, at least 1 guidance to improve water storage systems is demonstrated in a pilot situation in Niue.	Government Report Field Survey	All stakeholders provide necessary support.
Output 2.12.1a: Guidelines for water resource use and management response to increased ENSO frequency.	**2.12.1.a** Number of guidance in place.	No previous experience in such design.	By the end of the project, at least 1 practical guidance document is produced in Tonga.	Government Report Field Survey	All communities concerned support the project interventions.
Output 2.12.1b: Measures identified in the Guidelines (2.12.1a) demonstrated in Hihifo district (with co-financing support).	**2.12.1b** Number of interventions to improve water management during ENSO in place.	None is available at present.	By the end of the project, at least 1 guidance is demonstrated in Tonga	Government Report Field Survey	
Output 2.13.1a: Guidelines for climate proofing integrated water management plans.	**2.13.1a** Number of instances of guidance.	This activity has never been carried out.	By the end of the project, a guide on how to climate proof water management plans in place.	Government Report Field Survey	All stakeholders support the process.

Project Strategy	Indicator*	Baseline value	Target and benchmarks	Sources of verification	Risks and Assumptions
Output 2.13.1b: Measures identified in the Guidelines (2.13.1a) demonstrated in Fogafale village (with co-financing support).	**2.13.1b** Number of interventions to climate proof current integrated water management plan demonstrated.	No previous in carrying out this work.	By the end of the project, Tuvalu's current integrated water management plan is climate proofed.	Climate proofed water management document developed and disseminated.	All stakeholders support the process.
Outcome 3: Capacity to plan for and respond to changes in climate related risks improved.	Number of instances of technical support provided to the 13 PICs and acceptance.	Carried out in ad hoc arrangements.	By the end of the project, the 13 PICs rate that the quality of support received as a 1 (out of 4, with 1 being excellent and 4 being poor).	Country reports PACC Annual Reports Workshop Reports Evaluations	All stakeholders support the process.
Output 3.1.1: Technical advice for implementation of national adaptation	**3.1.1** Number of instances of technical guidance provided and accepted.	Regional support mechanisms ad hoc in nature.	By the end of year 2, the Support Mechanism for the Project is in place and receives positive comments from all PICs.	Country comments in quarterly reports Evaluations	All stakeholders support the process.
Output 3.1.2: Best practices and lessons exchanged among countries through SPREP.	**3.1.2** Number of lessons exchanged.	No climate change adaptation lessons have been shared around the region in a systematic fashion.	By the end of year 4, at least 52 lessons are documented and exchanged (four lessons for each of the 13 PICs).	Country reports PACC Annual Reports Workshop Reports Evaluations Publications	All stakeholders at the national and regional level play their part in capturing, documenting and sharing lessons.
Output 3.1.3: Project website established at SPREP.	**3.1.3** Project website functioning	No specific website targeted at climate change adaptation.	By the end of the 2nd year of the project, the PACC project website is established at SPREP	Website address and site.	All stakeholders support the development of the site.

SECTION III: Total Budget and Workplan

Table 12.0 PACC Financing Table

Project Outcomes/ Atlas Activity	Responsible Party	Sources of Funds	ERP/Atlas Budget Code	Budget Description	PLANNED BUDGET Year 1 US$ 2008	Year 2 (US$) 2009	Year 3 (US$) 2010	Year 4 (US$) 2011	Year 5 (US$) 2012	Total Budget (US$)	Notes
Outcome 1	SPREP	GEF	71200	International Consultants.	50,000.00	160,000.00	160,000.00	130,000.00	100,000.00	600,000.00	1
			71300	Local Consultants.	40,000.00	100,000.00	100,000.00	80,000.00	80,000.00	400,000.00	2
			71400	Contractual Services - Ind	50,000.00	60,000.00	80,000.00	60,000.00	25,000.00	275,000.00	3
			71600	Travel	57,000.00	57,000.00	57,000.00	57,000.00	57,000.00	285,000.00	4
			72100	Contractual Services - Co	80,000.00	200,000.00	250,000.00	250,000.00	187,000.00	967,000.00	5
			72500	Supplies	5,600.00	5,600.00	5,600.00	5,600.00	5,600.00	28,000.00	6
			72800	Information technology and Outreach	9,800.00	9,800.00	9,800.00	9,800.00	9,800.00	49,000.00	7
			74200	Printing, Publishing & Production	7,000.00	7,000.00	7,000.00	7,000.00	7,000.00	35,000.00	8
			Subtotal		**299,400.00**	**599,400.00**	**669,400.00**	**599,400.00**	**471,400.00**	**2,639,000.00**	
Outcome 2	SPREP	GEF	71200	International Consultants.	100,000.00	150,000.00	150,000.00	100,000.00	100,000.00	600,000.00	1
			71300	Local Consultants.	160,000.00	160,000.00	160,000.00	160,000.00	160,000.00	800,000.00	2

			71400	Service Contracts - Ind	100,000.00	350,000.00	350,000.00	350,000.00	325,000.00	1,475,000.00	3
			71600	Travel	60,000.00	60,000.00	60,000.00	60,000.00	60,000.00	300,000.00	4
			72100	Contractual services - Co	400,000.00	700,000.00	1,000,000.00	800,000.00	700,000.00	3,600,000.00	5
			72200	Equipment & Furniture	30,500.00	30,500.00	30,500.00	30,500.00	30,000.00	152,000.00	6
			72500	Supplies	100,000.00	180,000.00	200,000.00	180,000.00	100,000.00	760,000.00	7
			72400	Equipment and Communication	60,300.00	60,300.00	60,300.00	60,300.00	60,300.00	301,500.00	8
			72800	Information Technology Equipment and Outreach	47,000.00	47,000.00	47,000.00	47,000.00	47,000.00	235,000.00	9
			74200	Printing and Publications	48,500.00	48,500.00	48,500.00	48,500.00	48,500.00	242,500.00	10
			Subtotal		**1,106,300.00**	**1,786,300.00**	**2,106,300.00**	**1,836,300.00**	**1,630,800.00**	**8,466,000.00**	
Outcome 3	SPREP	GEF	71200	International Consultants	31,200.00	31,200.00	31,200.00	31,200.00	31,200.00	156,000.00	1
			71600	Travel	52,000.00	52,000.00	52,000.00	52,000.00	52,000.00	260,000.00	2
			72100	Contractual Services - Co	90,800.00	90,800.00	90,800.00	90,800.00	90,800.00	454,000.00	3
			Subtotal		**174,000.00**	**174,000.00**	**174,000.00**	**174,000.00**	**174,000.00**	**870,000.00**	
Project	SPREP	GEF	71300	Local Consultants.	230,000.00	230,000.00	230,000.00	230,000.00	230,000.00	1,150,000.00	1
Management			**Subtotal**		**230,000.00**	**230,000.00**	**230,000.00**	**230,000.00**	**230,000.00**	**1,150,000.00**	
			Total		**1,809,700.00**	**2,789,700.00**	**3,179,700.00**	**2,839,700.00**	**2,506,200.00**	**13,125,000.00**	

Budget Notes

Outcomes	Budget Code	Amount $	Narrative
1	71200	600,000.00	1. Review of climate information, development of scenarios, development plans NSDS, sectoral policies and plans, technical support, support policy for installing alternative water sources and storage in new public buildings, economic evaluations of adaptation options.
	71300	400,000.00	2. Support policy, legislation, planning and institutional change; support provincial and local level database system for climate change; support development of appropriate post harvest technology taking into consideration shelf life, new products and income generation; demarcation of coastal crab/clam/milkfish farming (policy guidance needed).
	71400	275,000.00	3. Develop mainstreaming Guidelines and framework, development of economic model including technical support from CROP, Incorporate the design and experiences of underground irrigation into NADP.
	71600	285,000.00	4. Support travel to outer islands using cargo boats, or hire if circumstance justifies. Also support local air travel.
	72100	750,000.00	5. Support implementation of mainstreaming Guidelines at the national/provincial/community level as detailed in the annual work plans of countries. E.g. of policies and legislations include; Environment Act, NSDS, Agricultural plans and policies, water policies and plans and coastal management policies and plans; packaging of appropriate information to target different stakeholders; including technical support from CROP.
	72500	28,000.00	6. Papers, ink, consumables.
	72800	49,000.00	7. Support the identification of information gaps on CC adaptation within the middle to senior decision makers in relevant government departments; training module; development of appropriate information for decision makers; training workshops on CC adaptation; information dissemination; seminars for different stakeholders.
	74200	35,000.00	8. Design, layout, proofing, publication, print management support.
2	71200	600,000.00	1. Support work on evaporation rates using current data and future scenarios; develop adaptation scenarios including technical support, support demonstration of alternative water source using alternative energy sources.
	71300	800,000.00	2. Participatory assessments, assessment of vulnerabilities, support assessment of current and future climate change precipitation scenarios evaluation of adaptation options, development of adaptation measures, awareness-raising on Pilot Project concept; Evaluation and selection of salt water tolerant taro varieties; propagation and distribution; Monitoring on site performance; support utilization of appropriate post harvest technology taking into consideration shelf life, new products and income generation; support sea surface temperature, salinity and sea level change assessment in aquaculture system and how it impacts on growth rate of clams and crabs, bleaching and survival rates.

	71400	1,475,000.00	3. Support assessment of current and future climate change in-country; precipitation and temperature change scenarios; evaluation of adaptation options; development of adaptation measures; awareness-raising on demonstration concept, support demonstration of alternative water source using alternative energy sources; technical support.
	71600	300,000.00	4. Support travel for specific activities e.g. to identify and collect salt water tolerant taro varieties local and regional, monitoring on site performance, travel to outer islands using cargo boats, or hire if need be.
	72100	3,600,000.00	5. Support for the implementation of the Guidelines developed at the national/provincial/community level as detailed in the annual work plans of countries; ground-truthing and climate change assessment of pilot area Construction and engineering support, improving, Design project specification, irrigation and water entrapment scheme/system, support demonstration of alternative water source using alternative energy sources including technical support, identification of traditional and contemporary water management practices in taro production; support improved clam and crab farming techniques using climate data.
	72200	152,500.00	6. Equipment for coastal works, small scale agriculture equipments, and water monitoring equipments, pipes, salinity meters, pumps, transportation.
	72500	760,000.00	7. Equipment for coastal works, small scale agriculture equipments, and water monitoring equipments, pipes, salinity meters, pumps, water purification gadgets, equipment and travel insurance, GIS mapping equipments, data capture and storage, imagery, surveying, boat and engine for salinity and sea surface temperature assessment and monitoring to develop guide.
	72400	301,500.00	8. Telephone landline charges, Mobile, Video camera, digital cameras, microphone and web cameras, connection charges, computer hardware and software, fax machines.
	72800	235,000.00	9. Capacity building of technical officers and targeted farmers on irrigation farming, salinity reduction, drought tolerant crop varieties, drainage designs and layout, water harvesting and storage, future changes in climate scenarios. Support the identification of information gaps on CC adaptation within the middle to senior decision makers in relevant government departments; development of appropriate information for decision makers; training workshops on CC adaptation; information dissemination.
	74200	242,000.00	10. Design, layout, proofing, publication; print management support.
3	71200	156,000.00	1. Technical support.
	71600	260,000.00	2. Travel within the region on annual meetings and exchange of lessons learnt.
	72100	454,000.00	3. Monitoring and evaluation support.
4	71300	1,150,000.00	1. National Coordinators salary.

SECTION IV: ADDITIONAL INFORMATION

PART I: Other agreements (LOEs and Co-financing letters are attached)

PART VI: Terms of References for key project staff and main sub-contracts

TERMS OF REFERENCE

Regional Project Manager (RPM)

Background

Climate change will be a major impediment to the achievement of sustainable development in Pacific islands countries (PICs), as all economic and social sectors are likely to be adversely affected, and the cost of adaptation will be disproportionately high, relative to GDP. In attempting to mainstream adaptation strategies into their sustainable development agendas, PICs SIDS have been confronted by many challenges including insufficient resources, equity considerations, prioritization of adaptation measures and uncertainties over climate change projections and adaptation strategies.

Climate change, climate variability and sea-level rise are not only environmental issues but also of economic, social and political issues for the PICs. The impacts and particularly the related economic and social shocks pose serious political and financial management issues as extreme climatic events can adversely affect gross domestic product, balance of payments, budget deficits, foreign debt, unemployment and living standards. Many PICs, given their smallness, location of their populations, agricultural activities, socioeconomic activities and key infrastructure at or near the coastal zone, any climate extremes and rise in sea-level will have significant and profound effects on their economies and their living conditions.

Current work in helping vulnerable populations adapt to climate change and variability has shown that socioeconomic, environmental and climatic stresses are all connected and therefore the full range of potential future stresses must be considered in adapting to the adverse impacts of climate change. Given the lack of human, financial and technological resources, partly due to their geography, accessibility, the smallness of the economic base and fragile economies vulnerable to external shocks, PICs' ability to adapt to climate change remains a major challenge for sustainable development.

The need to implement adaptation measures in small islands has been highlighted by the IPCC TAR where it was suggested that risk-reduction strategies together with other sectoral policy initiatives in areas such as sustainable development planning, disaster prevention and management, integrated coastal zone management and health care planning should be employed. Given this urgency for adaptation in small island states there has been an increase in *ad-hoc* stand alone projects, rather than a programmed or strategic approach to the funding of adaptation options and measures.

The Pacific Adaptation to Climate Change Project (PACC), is aimed at building resilience to impacts of climate change in selected countries in the key vulnerable socio-economic sectors of coastal zone and associated infrastructure, water resources, food production and food security. PACC will also assess the range of financial instruments and investments needed at the national and regional level so that adaptation financing is sustainable.

Duties and Responsibilities

The RPM will be responsible for the overall coordination and management of the PACC project. He/She will report to the SPREP Director or his/her designated representative through the Manager of the Pacific Futures Programme. He/She will liaise with the National Project Managers; National Climate Change Country Teams (NCCCTs), the Project Executive Group (PB) as well as UNDP-Samoa, in coordinating the implementation of the annual work plan for the project. The work plan will provide guidance on the day-to-day implementation of the project activities and on the integration of parallel co-financing initiatives. He/She will be responsible for the project execution, which will be fully in line with UNDP national execution procedures, as described in the NEX Manual, and for the achievement of project development objectives. He/She will also be responsible for providing to UNDP all required reports, including the submission of work plans and financial reports. The SPREP on the advice of the RPM shall recruit as appropriate experts to undertake activities at regional and national levels in cooperation with the participating PICs and the PB. The RPM shall be responsible for all substantive, managerial and financial reports from the project. In the context of SPREP, the RPM will work exclusively with the PACC project.

The RPM will consult and coordinate closely with the Resident Representative of the UNDP country office in Samoa or his/her designated representative on developments and progress on the project.

<u>In particular the RPM will</u>:

- Assume overall responsibility for the day-to-day management and implementation of all project activities and ensure the realization of project objectives in accordance with UNDP Guidelines;
- Assume overall responsibility for all the reporting obligations of the project to UNDP, including inception report, annual work plans and budgets, quarterly progress and financial reports, APR/TR, and annual project audit reports, and all other reporting requirements as per standard UNDP/GEF procedures;
- Ensure effective coordination of all PACC activities, both additional and baseline (particularly co-financed) activities;
- Coordinate and monitor the implementation of the activities described in the work plan;
- Assume overall responsibility for all project consultation meetings including annual meetings of PB and meetings with the National Project Managers (or National

Coordinators) donor roundtable meetings, Multipartite Review Meetings; Inception workshop and others as relevant;

- Coordinate in-country studies and implementation activities with the PACC Project Managers/National Coordinators;
- Coordinate and manage all procurement requirements (e.g. contracts and consultancies in the project, including reviewing consultancy reports);
- Provide guidance to contractors and consultants engaged by the project;
- Facilitate liaison and networking between and among the 11 participating countries, regional organizations, key stakeholders and other individuals involved in project implementation.
- Assume overall responsibility for the widespread awareness on the PACC and widespread dissemination of PACC best practices and experiences as well as highlighting GEF's and UNDP's roles in the project.
- Ensure the PACC is consistent with the Pacific Islands Framework for Action on Climate Change.
- Serve as Head of the Project Management Office housed within SPREP.
- Serve as Secretary to the PB.
- Represent the Project as appropriate in regional and international fora.

Deliverables

The RPM is responsible for the submission of the following deliverables to UNDP, among others: a) Project Inception Report; b) Quarterly Project Progress and Financial reports, c) APR/TR reports, d) meeting and workshop reports, e) mid-term evaluation report f) reports on implementation of project activities, and g) other reports as needed (if any).

Duration

The duration of the project is over a 5 year period; however, the RPM will be recruited on a three-year contract initially, as is the practice among CROP agencies and to be renewed for the remainder of the project based on mutual agreement.

Qualifications & Experience

The RPM shall have the following basic required qualifications and expertise:

- Advanced university degree (at least MSc. or equivalent) in geography, environmental science or other field relevant to the project;
- Extensive knowledge and experience with the climate change, adaptation and development issues of the PICs;
- Proven track record of technical and managerial experience of an adaptation implementation project;

- Proven track-record of management experience with GEF- and UNDP-funded projects or similar regional/multi-country projects in small island developing countries;
- Demonstrated experience in project leadership and management;
- Ability to manage the work of consultants/sub-contractors;
- Proven ability to work as part of an interdisciplinary and/or multi-cultural team;
- Ability to meet project deadlines; and an ability to live and work within Pacific island communities;
- Excellent working knowledge of English;
- Skills and experience in communications and public presentations; and,
- Minimum of 5 years of working experience in the area relevant to the project.

TERMS OF REFERENCE

Project Officer (PO)

Background

Climate change will be a major impediment to the achievement of sustainable development in Pacific islands countries (PICs), as all economic and social sectors are likely to be adversely affected, and the cost of adaptation will be disproportionately high, relative to GDP. In attempting to mainstream adaptation strategies into their sustainable development agendas, PICs SIDS have been confronted by many challenges including insufficient resources, equity considerations, prioritization of adaptation measures and uncertainties over climate change projections and adaptation strategies.

Climate change, climate variability and sea-level rise are not only environmental issues but also of economic, social and political issues for the PICs. The impacts, and particularly the related economic and social shocks, pose serious political and financial management issues as extreme climatic events can adversely affect gross domestic product, balance of payments, budget deficits, foreign debt, unemployment and living standards. Many PICs, given their smallness, location of their populations, agricultural activities, socioeconomic activities and key infrastructure at or near the coastal zone, any climate extremes and rise in sea-level will have significant and profound effects on their economies and their living conditions.

Current work in helping vulnerable populations adapt to climate change and variability has shown that socioeconomic, environmental and climatic stresses are all connected and therefore the full range of potential future stresses must be considered in adapting to the adverse impacts of climate change. Given the lack of human, financial and technological resources, partly due to their geography, accessibility, the smallness of the economic base and fragile economies vulnerable to external shocks, PICs' ability to adapt to climate change remains a major challenge for sustainable development.

The need to implement adaptation measures in small islands has been highlighted by the IPCC TAR where it was suggested that risk-reduction strategies together with other sectoral policy initiatives in areas such as sustainable development planning, disaster prevention and management, integrated coastal zone management and health care planning should be employed. Given this urgency for adaptation in small island states there has been an increase in *ad-hoc* stand alone projects, rather than a programmed or strategic approach to the funding of adaptation options and measures.

The Pacific Adaptation to Climate Change Project (PACC) is aimed at building resilience to impacts of climate change in selected countries in the key vulnerable socio-economic sectors of coastal zone and associated infrastructure, water resources, food production and food security. PACC will also assess the range of financial instruments and investments needed at the national and regional level so that adaptation financing is sustainable.

Duties and Responsibilities

The PO will be responsible for the financial and administration of the PACC project. He/She will be reporting to the Director of SPREP or his/her designated representative through the PACC Regional Project Manager. He/She will liase with the National Project Managers, SPREP Finance Section as well as UNDP-Samoa with relation to the financial and administration requirements of the project. He/She will ensure that all PACC financial transactions and reporting are fully in-line with UNDP national execution procedures, as described in the NEX Manual. He/She will also be responsible for providing to UNDP all required reports, including the submission of work plans and financial reports.

The PO will consult and coordinate closely with the PACC Regional Project Manager on developments and progress on the project.

In particular the RPM will:

- Assume financial and administrative responsibility of the PACC project and contribute to the realization of project objectives in accordance with the ProDoc and UNDP National Execution Manual;
- Assume responsibility for the reporting obligations of the project to UNDP, in particular, annual work plans and budgets, quarterly progress and financial reports, and annual project audit reports, and all other reporting requirements as per standard UNDP/GEF procedures;
- Ensure regular and timely receipt of progress reports on the various activities of the project at the national and regional level;
- Provide guidance and terms of reference to contractors and consultants;
- Coordinate and manage all procurement requirements (e.g. contracts and consultancies in the project);
- Facilitate liaison and networking between and among the 13 participating countries, regional organizations, key stakeholders and other individuals involved in project implementation.

Deliverables

The PO is responsible for the submission of the following deliverables to UNDP, among others: a) Project Inception Report; b) Quarterly Project Progress and Financial reports, c) APR/TR reports, d) meeting and workshop reports, e) mid-term evaluation report f) reports on implementation of project activities, and g) other reports as needed (if any).

Duration

The duration of the project is over a 5 year period; however the PO will be recruited on a three-year contract initially, as is the practice among CROP agencies and to be renewed for the remainder of the project based on mutual agreement.

Qualifications & Experience

The PO shall have the following basic required qualifications and expertise:

- Advanced university degree in economics or accounting or other field relevant to the project;
- Extensive knowledge and experience with the climate change, adaptation and development issues of the PICs;
- Proven track-record of administrative and financial management experience with GEF- and UNDP-funded projects or similar regional/multi-country projects in small island developing countries;
- Demonstrated very good and adequate capacity for project leadership and management;
- Ability to manage the work of consultants/sub-contractors
- Proven ability to work as part of an interdisciplinary and/or multi-cultural team
- Ability to meet project deadlines; and an ability to live and work within Pacific island communities; and,
- Excellent working knowledge of English;
- Minimum of 3 years of working experience in the area relevant to the project.

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TERMS OF REFERENCE

NATIONAL PROJECT MANAGER/COORDINATOR (NPM/NPC)

Background

Climate change will be a major impediment to the achievement of sustainable development in Pacific islands countries (PICs), as all economic and social sectors are likely to be adversely affected, and the cost of adaptation will be disproportionately high, relative to GDP. In attempting to mainstream adaptation strategies into their sustainable development agendas, PICs SIDS have been confronted by many challenges including insufficient resources, equity considerations, prioritization of adaptation measures and uncertainties over climate change projections and adaptation strategies.

Climate change, climate variability and sea-level rise are not only environmental issues but also of economic, social and political issues for the PICs. The impacts, and particularly the related economic and social shocks, pose serious political and financial management issues as extreme climatic events can adversely affect gross domestic product, balance of payments, budget deficits, foreign debt, unemployment and living standards. Many PICs, given their smallness, location of their populations, agricultural activities, socioeconomic activities and key infrastructure at or near the coastal zone, any climate extremes and rise in sea-level will have significant and profound effects on their economies and their living conditions.

Current work in helping vulnerable populations adapt to climate change and variability has shown that socioeconomic, environmental and climatic stresses are all connected and therefore the full range of potential future stresses must be considered in adapting to the adverse impacts of climate change. Given the lack of human, financial and technological resources, partly due to their geography, accessibility, the smallness of the economic base and fragile economies vulnerable to external shocks, PICs' ability to adapt to climate change remains a major challenge for sustainable development.

The need to implement adaptation measures in small islands has been highlighted by the IPCC TAR where it was suggested that risk-reduction strategies together with other sectoral policy initiatives in areas such as sustainable development planning, disaster prevention and management, integrated coastal zone management and health care planning should be employed. Given this urgency for adaptation in small island states there has been an increase in *ad-hoc* stand alone projects, rather than a programmed or strategic approach to the funding of adaptation options and measures.

The Pacific Adaptation to Climate Change Project (PACC) is aimed at building resilience to impacts of climate change in selected countries in the key vulnerable socio-economic sectors of coastal zone and associated infrastructure, water resources, food production and food security. PACC will also assess the range of financial instruments and

investments needed at the national and regional level so that adaptation financing is sustainable.

Duties and Responsibilities

The NPM/NPC will be recruited by the PIC government and hosted in a designated agency as agreed to by SPREP and the PIC government. This position will be funded by the PACC. Under the direction of the designated government agency and in consultation with the National Climate Change Country Team and the RPM, the NPM/NPC shall carry out the following tasks:

- Serve as the technical focal point for the national level activities of the PACC within the designated government agency in the country;
- Responsible for the day-to-day management and implementation of all national project activities;
- Responsible for the formulation and preparation of annual and quarterly work plans and budgets;
- Responsible for all project consultation meetings including meetings of the NCCCTs and any other project related meetings in the communities or project sites;
- Ensure the achievement of project objectives in accordance with the ProDoc and the country-specific annual and quarterly work plans;
- Assume overall responsibility for all the reporting obligations of the project to the designated host government agency, the Country Team and RPM/SPREP, including annual work plans and budgets, quarterly progress and financial reports;
- Ensure an effective coordination of all PACC activities with all national project partners, particularly those who are implementing and/or funding co-financed activities in the country;
- Coordinate and monitor the national activities described in the work plans;
- Serve as the national representative to the annual meetings of the PB;
- Manage all necessary nationally-managed contracts and consultancies in the project, including reviewing consultancy reports;
- Ensure regular and timely receipt of progress reports on the various parallel funded activities of the project at the national level;
- Coordinate in-country studies and activities;
- Provide guidance and terms of reference to contractors and consultants;
- Facilitate liaison and networking between and among the country teams;
- Foster and establish strong links with all national co-financing activities within the country;
- Assume overall responsibility for awareness-raising and widespread dissemination of PACC best practices and experiences as well as highlighting GEF's and UNDP's roles in the project;
- Ensure that the national level PACC activities are consistent with national policies and strategies;
- Liaise with the PACC PMO on the work programmes and budgets.

Deliverables

The NPM/NPC is responsible for the submission of the following deliverables: a) Project Progress and where required, financial reports, b) national meeting and training workshop reports, c) reports on all nationally-managed project studies and consultancies; and, (d) progress reports on the various parallel funded activities of the project at the national level.

Qualifications & Experience

The NPM/NPC shall have the following basic required qualifications and expertise:

- An university degree or equivalent in energy, environment or a related field;
- At least 5 years of project management/coordination experience;
- Proven track record of project management/coordination experience with GEF- and UNDP-funded projects or similar national projects;
- Ability to coordinate the work of consultants/sub-contractors;
- Proven ability to work as part of an interdisciplinary team;
- Ability to meet project deadlines;
- Practical experience with climate change vulnerability and adaptation; projects/programmes;
- Excellent interpersonal skills; and,
- Excellent working knowledge of English

TERMS OF REFERENCE

NATIONAL CLIMATE COUNTRY TEAM (NCCCT)
NATIONAL ADVISORY COMMITTEE ON CLIMATE CHANGE (NACCC)

Background

Climate change will be a major impediment to the achievement of sustainable development in Pacific islands countries (PICs), as all economic and social sectors are likely to be adversely affected, and the cost of adaptation will be disproportionately high, relative to GDP. In attempting to mainstream adaptation strategies into their sustainable development agendas, PICs SIDS have been confronted by many challenges including insufficient resources, equity considerations, prioritization of adaptation measures and uncertainties over climate change projections and adaptation strategies.

Climate change, climate variability and sea-level rise are not only environmental issues but also of economic, social and political issues for the PICs. The impacts, and particularly the related economic and social shocks, pose serious political and financial management issues as extreme climatic events can adversely affect gross domestic product, balance of payments, budget deficits, foreign debt, unemployment and living standards. Many PICs, given their smallness, location of their populations, agricultural activities, socioeconomic activities and key infrastructure at or near the coastal zone, any climate extremes and rise in sea-level will have significant and profound effects on their economies and their living conditions.

Current work in helping vulnerable populations adapt to climate change and variability has shown that socioeconomic, environmental and climatic stresses are all connected and therefore the full range of potential future stresses must be considered in adapting to the adverse impacts of climate change. Given the lack of human, financial and technological resources, partly due to their geography, accessibility, the smallness of the economic base and fragile economies vulnerable to external shocks, PICs' ability to adapt to climate change remains a major challenge for sustainable development.

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investments needed at the national and regional level so that adaptation financing is sustainable.

Duties and Responsibilities

The National Climate Change Country Team (NCCCT) will be responsible for supervising project execution. This will include evaluating project outputs to ensure that project activities are being carried out in a timely manner and to acceptable levels of quality, and reviewing the status and needs of country throughout project implementation. The NCCCT will provide a policy and technical platform for the project and in that context it will have the following duties:

- Ensuring that PACC in-country activities are consistent with national development priorities and objectives;
- Ensuring that all relevant stakeholders of PACC project in the country are kept informed and consulted on the progress of implementation of activities;
- Lay down policies defining the functions, responsibilities and delegation of powers for the local implementing agency or project management unit of PACC;
- Coordinate and manage in consultation with the NPM/NPC the overall project activities and the budget as described in the work plan;
- Be responsible for the PACC in-country activities that are to be implemented by the various implementing partners;
- Provide guidance on the implementation of specific national activities as agreed in the work plans.
- In consultation with NPM/NPC and through RPM/SPREP, request the use of regional/international consultants and experts to implement the various activities, where relevant;
- Cooperate and coordinate with external experts (regional organisations, national consultants, regional consultants and/or international consultants) and provide them with necessary input and assistance;
- Review draft reports by consultants and experts engaged by the NCCCT;
- Review and endorse quarterly progress and financial report prepared by NPM/NPC for submission to RPM/SPREP.
- Facilitate coordination of project activities across institutions;
- Review the project activities, and their adherence to the work plan set forth in the project document;
- Take decisions on the issues brought to its notice by UNDP and other cooperating institutions, and provide advice regarding efficient and timely execution of the project;
- Initiate remedial action to remove impediments in the progress of project activities that were not envisaged earlier;
- Monitor and review the progress of the project implementation against its stated outputs, including progress reports prepared by the NPM/NPC;
- Review and approve the project work plans and budgets;
- Review and approve the monitoring and evaluation timetable;

- Providing strong political support and overall policy advice for the development and realization of the project;
- Assist in mobilizing available data and expertise;

Members

The National Climate Change Teams or National Advisory Committee on Climate Change already exists within each of the participating countries. In the PDBB Phase of PACC, the NCCCT have been used to determine the priorities for adaptation implementation within each country. However, given that PACC is focused on implementing adaptation activities in pilot sites of each country it will be important for the membership to include:

- Representatives of civil society organisations and relevant NGOs, particularly working within communities where the project is set;
- Representatives of island/community/village, local-level, and provincial governments;

The NPM/NPC will serve as secretariat to the NCCCT.

Meeting Frequency

The NCCCT will meet once a month, and when the need arises.

PROJECT BOARD (PB)

Background

Climate change will be a major impediment to the achievement of sustainable development in Pacific islands countries (PICs), as all economic and social sectors are likely to be adversely affected, and the cost of adaptation will be disproportionately high, relative to GDP. In attempting to mainstream adaptation strategies into their sustainable development agendas, PICs SIDS have been confronted by many challenges including insufficient resources, equity considerations, prioritization of adaptation measures and uncertainties over climate change projections and adaptation strategies.

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Purpose

The Project Board will monitor the conduct of the project and provide strategic guidance and direction to the implementation of PACC at the national and regional levels. It will be established with the following composition; representatives of UNDP-Samoa, UNDP-GEF New York, SPREP, country representatives, representative of relevant CROP agencies, collaborating organizations/institutions as well as co-financing partners. The PB will meet at least once a year and as and when the need arises.

UNDP Samoa will Chair the PB. Regional project Manager for the Project will serve as the Secretary to the Committee. Secretariat services will be provided by the Implementing Partner (SPREP).

Duties & Responsibilities

The PB shall be responsible for the following functions:

- Providing policy guidance to the Implementing Partner in the implementation of the project;
- Facilitating the coordination and implementation of project activities across institutions both at the regional and national levels;
- Reviewing the project activities, and their adherence to the work plan set forth in the project document and approve any modifications/revisions as may be necessary;
- Reviewing and approving the annual work plan and budget;
- Approving major project deliverables;
- Making decisions on the issues brought to its notice by UNDP and other collaborating institutions, and advise regarding efficient and timely execution of the project;
- Reviewing issues raised and agreeing to action plans for their resolutions;
- Initiating remedial action to remove impediments in the progress of the project activities that were not earlier envisaged;
- Monitoring the continued applicability of project benefits;
- Approving requests for changes (e.g. scope changes, schedule alterations, personnel);
- Ensure that the project activities are fully in line with existing policies and climate change negotiation position of the region; and,
- On request of the RPM/SPREP, provide guidance on the execution of national level activities under the PACC framework.

Members

The following will be the members of the PB:

- 13 Country representatives
- UNDP Samoa, UNDP Fiji and UNDP-GEF (Samoa)
- SPREP
- Representatives of collaborating organisations and co-financing partners
- CROP agencies

PART VII: ANEXES

ANNEX A – Pacific Islands Climate Change Framework 2006-2015

In this framework, Pacific Island Countries and Territories (PICTs) refers to American Samoa, Cook Islands, Fiji Islands, French Polynesia, Guam, Kiribati, Commonwealth of the Northern Marianas, Marshall Islands, Federated States of Micronesia, Nauru, New Caledonia, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu, Wallis and Futuna.

The timeframe for this Framework is 2006-2015. This Framework builds on The Pacific Islands Framework for Action on Climate Change, Climate Variability and Sea Level Rise 2000-2004

In this Pacific regional framework, climate change refers to any change in climate over time both as a result of human activity and natural variability.[32]

I. Preamble

The adverse effects of climate change and sea level rise present significant risks to the sustainable development of Pacific Island Countries and Territories (PICTs) and the long-term effects of climate change may threaten the very existence of some of them. This was agreed to generally by Small Island Developing States together with the international community most recently in the Mauritius Strategy for the Further Implementation of the Barbados Programme of Action for Sustainable Development of Small Island Developing States.

PICTs' priorities and needs in the area of climate change are reflected in international documents such as the Mauritius Strategy. These are also reflected in national communications, the outcomes of the UNFCCC Conferences of the Parties and the outcomes of related international meetings.

At the regional level, PICTs' priorities and needs have been reiterated for over a decade in relevant documents such as Forum Leaders Communiqués, regional policy frameworks and related action plans together with the strategic plans of the regional intergovernmental and non-governmental organizations.

At the national level, PICTs are also taking action to address climate change through their national sustainable development strategies, or their equivalent, which are linked to national budgetary and planning processes.

[32] Refer to Intergovernmental Panel on Climate Change (IPCC) and the United Nations Framework Convention definition of climate change.

PICTs recognize their commitment to sustainable development is a national responsibility but realise that this cannot be achieved without development partner support. Within this context the Framework identifies broad priorities for PICTs. It provides a strategic platform not only for use by policy and decision makers at all levels, but also for the development and strengthening of partnerships for implementation of national and regional initiatives.

The Framework runs from 2006-2015 and is consistent with the timeframes of the Millennium Declaration, the Johannesburg Plan of Implementation and the subsequent work of the UN Commission on Sustainable Development. It does not create legal rights or impose obligations under international law.

The Framework is intended to promote links with, but in no way supercedes, more specific regional and national instruments and plans across specific sectors that link to weather and climate including: water, agriculture, energy, forestry and land use, health, coastal zone management, marine ecosystems, ocean management, tourism, and transport.

Addressing the issues of climate change requires an integrated, multi-stakeholder approach. Furthermore, a strategic programmatic approach is required rather than an increase in stand-alone project initiatives.

II. Pacific Context

PICTs experience a high level of risk from the effects of extreme weather and climate variability. Climate models suggest that the tropical Pacific region will continue to warm. This warming has the potential to alter and indeed increase such risks, through changing the frequency and/or intensity of extreme weather or climate variability phenomena or through accelerated sea-level rise. The impacts of these climate events will exacerbate already stressed marine, freshwater and terrestrial environments.

Reducing the risks associated with the impacts of extreme weather and climate variability is a fundamental developmental challenge faced by PICTs. This must be urgently addressed in order to contribute to improving livelihoods, economic wellbeing and health, as well as maintaining biodiversity and culture.

An integrated and multi-stakeholder approach that considers the complete cycle of interlinked causes and effects, within the context of risk management across all sectors, is vital. A high priority is the need to develop and strengthen community-centered initiatives.

III. Vision

Pacific island people, their livelihoods and the environment resilient to the risks and impacts of climate change.

IV. Goal

Ensure Pacific island people build their capacity to be resilient to the risks and impacts of climate change with the key objective to deliver on the expected outcomes under the following Principles:

- implementing adaptation measures;
- governance and decision making;
- improving our understanding of climate change;
- education, training and awareness;
- contributing to global greenhouse gas reduction; and,
- partnerships and cooperation.

V. Principles

Principle 1. Implementing adaptation measures

Building resilience through adaptation to climate change, climate variability and extreme weather events has been identified as the key priority for PICTs. All PICTs agree that they are already witnessing the adverse effects of climate change. Atoll states in particular believe that their very survival is threatened.

The ecological fragility, economic and social vulnerability, and the remoteness of many PICTs makes recovery from extreme weather events very difficult.

Adaptation now will greatly increase our capacity to better adapt to future climate change impacts. Appropriate adaptation measures using a multi-stakeholder approach need to be integrated into national/sectoral sustainable development strategies or their equivalent.

PICTs will encourage adaptation measures based on the principles of risk management and where this is not possible the "no regrets" or precautionary approach with a focus on improving the livelihoods of their people including safety and security.

Expected Outcomes by 2015:

1.1 Adaptation measures to the adverse effects of climate change developed and implemented at all levels.

1.2 Identification of vulnerable priority areas/sectors and appropriate adaptation measures using available and appropriate information recognizing that such information may be incomplete.

1.3 Adaptation measures in vulnerable priority areas supported by existing data sets and traditional knowledge, or new data developed in some instances as necessary.

1.4 Appropriate adaptation measures integrated into national/sectoral sustainable development strategies or their equivalent and linked to the budgeting process.

Principle 2. Governance and decision-making

PICTs recognize that they have a national responsibility for addressing the risks and effects of climate change in the context of their national sustainable development strategies, reflecting the principles of sustainable development and good governance.

All stakeholders have a role to play in developing individual and collective resilience through adapting, preventing and/or mitigating the adverse effects of climate change. Climate change and its effects is a shared responsibility, which also requires effective partnership with all relevant stakeholders in decision-making and implementation of strategies and actions at all levels.

Recognizing the presence of limited technical and financial resources and institutional capacity at the national and regional levels, collaboration and partnerships between CROP agencies in support of national efforts, consistent with the Pacific Leaders' vision, is critical for harnessing key disciplinary skills and expertise across the region.

Good governance ensures the adoption of core principles of accountability and transparency by all stakeholders and at all levels, which is critical for cost effective adaptation against the risks of climate change and greenhouse gas reduction activities .

Expected Outcomes by 2015:

2.1 Climate change considerations mainstreamed into national policies, planning processes, plans and decision-making at all levels and across all sectors.
2.2 Partnerships and organizational arrangements between government agencies, private sector, civil society, community and other stakeholders strengthened.
2.3 CROP agency partnerships coordinated, harmonized and strengthened to ensure country, and outcome, focused delivery of services.
2.4 Good governance by all stakeholders in climate change activity management at regional, national and local levels strengthened.

Principle 3. Improving our understanding of climate change

Better understanding of climate change, variability and extreme weather events is needed to inform local, national and regional responses. This will mean enhancing human resource capacity for generating, analyzing and managing climate related data sets; sustaining and upgrading existing observation and application systems; developing and strengthening technical data sets and tools for climate observations; establishing baseline data in different sectors; and maintaining the collection of the latest information on sea level rise.

A basis for improving our understanding of climate change is the ongoing need to engage research into improving understanding in the variations, circulations and climatic patterns in the Pacific region.

Translating climate change science into applicable information products through user-friendly materials and tools is necessary to inform the decision-making process at all levels.

Expected Outcomes by 2015:

3.1 Existing meteorological, hydrological, oceanographic and terrestrial institutional capacity including data collection systems sustained and upgraded.

3.2 Technical data sets integrated with relevant climatic, environmental, social and economic information and data sets, and traditional knowledge for risk management.

3.3 Analytical frameworks, models and tools for projections of regional climate change and variability, risk assessment and management strengthened.

3.4 Develop, and strengthen where, necessary datasets and information required to underpin, strengthen and monitor vulnerable priority areas, sectors and adaptation measures.

Principle 4. Education, Training and Awareness

PICTs' capacity to use economic, scientific and traditional knowledge to monitor, assess and predict environmental, social and economic risks and effects of climate change needs strengthening. This is critical for developing and implementing viable and sustainable national programmes on cost effective adaptation and greenhouse gas reduction measures.

Concerted efforts need to be undertaken to enhance human capacity in the assessment of the risks and impacts of climate change, climate variability and extreme weather events. A pool of informed resource persons conversant with development and application of practical steps in adaptation tools and methods is critical. Increased awareness and understanding of risks and effects of climate change is particularly important at the community level to increase their resilience.

Expected Outcomes by 2015:

4.1 Strengthened human capacity to monitor and assess environmental, social and economic risks and effects of climate change.

4.2 Strengthened human capacity to identify, analyse and implement cost effective adaptation measures as well as greenhouse gas reduction measures and creation of a pool of informed resource persons conversant with development of practical steps in adaptation tools and methods.

4.3 Strengthened human capacity to identify and integrate economic, scientific and traditional knowledge into adaptation and greenhouse gas reduction practices.

4.4 Better informed public on climate change issues.

Principle 5 Contributing to global greenhouse gas reduction

PICTs' contributions to the total global emission of greenhouse gases are insignificant compared to the rest of the international community. Nonetheless, PICTs wish to contribute to the global effort to reduce emissions. As part of their national policies, PICTs will promote cost effective measures to reduce greenhouse gas emissions, including increased energy efficiency and increased use of appropriate low carbon and renewable energy technologies.

There may be the opportunity to work with developed countries on Kyoto Protocol Clean Development Mechanism projects to support these efforts. Complementing the effort will be national plans and policies to ban the use of ozone depleting substances.

Expected Outcomes by 2015:

5.1 Energy efficiency actions and cost effective technologies promoted and implemented.
5.2 Cost effective renewable energy technologies and local sources promoted, shared and implemented.
5.3 Commitments met on ozone depleting substances.
5.4 Clean Development Mechanism initiatives developed and implemented, where appropriate.

Principle 6. Partnerships and Cooperation

Partnerships and cooperation provide an enabling environment and are an essential part of PICTs' efforts to build resilience to the adverse effects of climate change.

PICTs will continue to advocate for the reduction of greenhouse gas emissions and to advance adaptation internationally. Networks and partnerships to inform policy development for harmonized regional, national and local responses to climate change are necessary.

Additional resources will need to be accessed through multilateral and bilateral funding. One of the roles of regional organizations is to support national efforts to access this assistance and to coordinate existing and new innovative projects and programmes, including the Pacific Partnership Initiative for Adaptation to Climate Change launched by Pacific leaders at the World Summit on Sustainable Development. Efforts will be taken to ensure climate change partnerships are strategic and well coordinated.

Expected Outcomes by 2015:

6.1 Existing and emerging international partnerships for the Pacific islands region on climate change and related issues strengthened and established.

6.2 Enhanced coordination of regional action on climate change issues.

6.3 Climate change related assistance from development partners coordinated and harmonized to maximize benefits to PICTs.

6.4 Access by PICTs to secure increased resources from funding mechanisms related to climate change instruments optimized.

6.5 Promote significant international support through advocacy for further reduction in greenhouse gases and securing resources for adaptation.

VI. Implementation Strategy

PICTs recognise that the implementation of this Framework, the Mauritius Strategy, Agenda 21 and the Johannesburg Plan of Implementation, as well as the achievement of the internationally agreed development goals, including those contained in the Millennium Declaration, are mutually reinforcing.

The implementation of this Framework will be further elaborated in the Pacific Islands Action Plan on Climate Change 2006-2015. It will require more focused and substantially increased effort by PICTs and appropriate support from their regional organisations and the international community. PICTs recognize that each country has primary responsibility for its own development and that the role of national policies, development strategies and the allocation of dedicated financial resources cannot be overemphasized.

VII. Monitoring Progress and Updating this Framework

Targets and indicators will be established within the Action Plan linked to the Framework and set at the appropriate levels. The framework will be subjected to a mid-term review in 2010 to determine overall progress.

Evaluating progress towards achieving the outcomes of this Framework will be measured every two years against the agreed national and regional indicators with the support of regional organizations and the international community. This will require PICTs to identify progress towards achieving the principles contained in this Framework, and to identify emerging gaps requiring priority action and adjustment of priorities in future. The regional organizations will, where necessary, provide support and a coordinating role for regional and international reporting.

ANNEX B – Lead Agency and Other Participating Agencies

Stakeholder Participation Table for PACC

Countries	Lead Agency	Other Participating Agencies
Cook Islands	Aid Management Division in collaboration with the National Environment Service	Ministry of Agriculture Office of the Prime Minister Office of the Minister for Islands Administration Meteorological Services Ministry of Works, Energy, and Physical Planning Cook Islands Investment Corporation Emergency Management Cook Islands and Cyclone and Emergency Assistance Loan Project Island Sustainability Alliance Cook Islands (ISACI) and Climate Action Network (CAN)
Fiji	Land and Water Resources Division of the Ministry of Agriculture in collaboration with the Department of Environment.	Land Resource Planning and Development of the Ministry of Agriculture Ministry of Finance and National Planning Ministry of Multi Ethnic Affairs Ministry of Fijian Affairs, Land and Provincial Development Ministry of Rural Development Commissioner Centrals Office Tailevu and Serua Provincial Councils
Federated States of Micronesia	Kosrae Island Resources Management Authority in collaboration with Public Works;	Survey and Mapping Forestry/Wildlife Historic Preservation Tafunsak Municipality Land Management Plan Department of Construction & Engineering Office
Marshall Islands	Office of Environmental Planning & Policy Coordination in collaboration with Republic of the Marshall Islands Environmental Protection Agency	Majuro Water Sewer Company Marshalls Energy Company National Weather Service Environmental Protection Authority Resource & Development Land Grant - CMI Land Grant College of the Marshall Islands Office of Environmental Planning & Policy Coordination Majuro Atoll Local Government Internal Affairs Economic Policy Planning & Statistic Office
Nauru	Department of Environment in collaboration with the Nauru Rehabilitation Corporation.	Nauru Fisheries and Marine Resources Authority (NFMA) Agriculture Environment Nauru Rehabilitation Corporation Aid Management Development Planning and Policy Division
Niue	Department of Environment in collaboration with Public Works.	Department of Meteorology and Climate Change

		Department of Works Department of Agriculture, Forests and Fisheries Department of Health Reef Fishing Company Department of Planning and Finance
Palau	Office of Environmental Response and Coordination in collaboration with the Ngatpang State Government and Maritime Authority	OERC – Office of Environmental Response and Coordination Palau Community College Palau Community Action Agency Bureau of Agriculture, Ministry of Resources & Development Bureau of Marine Resources, Ministry of Resources & Development Palau Environmental Quality Protection Board Palau Automated Land and Resource Information Systems (PALARIS) Ngatpang State Government Ngatpang Maritime Authority
PNG	PNG – Land Use Division, Department of Agriculture in collaboration with DEC;	NCCCT-natinal climate change country team DAL, NCCCT, UNDP and SPREP PACC-PNG
Samoa	Planning and Urban Management Agency (PUMA) of the Ministry of Natural Resources, Environment and Meteorology	Ministry of Natural Resources, Environment and Meteorology Ministry of Works, Transport and Infrastructure Ministry of Finance Ministry of Health Red Cross NGOs – Siosiomaga Society
Solomon Islands	To be discussed in the Inception Meeting.	Department of Environment and Conservation Meteorological Services Department of Mines and Energy – Water Resources Division Ministry of Agriculture and Livestock Ministry of Transport, Work and Public Utilities
Tonga	To be discussed in the Inception Meeting.	Ministry of Lands, Survey and Natural Resources (MLSNR) Tonga Water Board (TWB). Village Water Committees Ministry of Health (MOH) Central Planning Department (CPD) Tonga Meteorological Services (TMS) Water Resources Committee Ministry of Works (MOW) Ministry of Agriculture & Forestry (MOW) Ministry of Finance (MOF) Private Consumers and NGOs.
Tuvalu	To be discussed in the Inception Meeting.	Public Works Department of Environment Department of Lands and Surveys Public Works Department Department of Agriculture NGOs
Vanuatu	Vanuatu – Public Works in collaboration with the Department of	Ministry of Agriculture Fisheries and Forestry

	Meteorology.	Ministry of Lands, Geology, Mines, Energy, Environment and Water Resources. Health Department Economic Planning Disaster Management Ministry of Trade and Industry

ANNEX C – PACC Project Stakeholders

Table 11.0 PACC Stakeholders at the national and regional level

Organisation	Role	Responsibility
Project Steering Committee	Guides strategic direction of project	Provides policy and strategic direction to project. Comprises all major stakeholders. Reports to UNDP, SPREP, Country Team's.
Government through Country Team	Collegiate body composed of representatives from several Ministries (Environment, Public Works, Agriculture, Water, Energy, Foreign Affairs) as well as, NGOs.	Country contact. Reports on progress in country to SPREP, and receives progress reports from Communities. Requests and disburses funds to and Communities
Ministry of Environment	Coordinates all Climate Change Programmes at the national level. Usually the Head of Environment chairs the inter-sectoral Climate Change Country Team. A coordinating mechanism at the national level.	Will be directly involved in coordination of PACC at the national level or assist the national level implementing agency of PACC.
Community through Committee or Council	Assist with implementation at the community level. A representative is also part of the National Country Team.	Involved in all aspects of project and country teams. Reports on progress through the National Coordinator.
University of the South Pacific (USP)	The USP's role in PACC is as a potential collaborator or consultant to implement those PACC project components that may require capacity building expertise.	USP is the regional tertiary education and research institution that has done considerable work on climate change. Under the GEF/UNDP PICCAP programme, a postgraduate course on vulnerability assessment was developed between the USP and the University of Waikato. Currently, USP is running the V&A programme on an annual basis.
Secretariat of the Pacific Community	The SPC's role in PACC is as a potential collaborator or consultant to implement those PACC project that deals with food production and food security.	SPC is the regional organization that deals with food production and food security.
Non Government	Links with NGOs will be	There are five main environmental

Organizations	established during consultations and they have an active role to participate in during the implementation of the project given the vast experiences they have on community development. National Coordinator will be responsible for in-country links with NGOs at the national level.	NGOs active on a regional or semi-regional basis in the Pacific Islands region: Pacific Concerns Resource Center (PCRC), Greenpeace, The Nature Conservation (TNC), the South Pacific Action Committee for Human Ecology and the Environment (SPACHEE) and the World Wide Fund for the Conservation of Nature and Natural Resources (WWF).
National Technical Assistance	Assist with Implementation at the national level when the need arises.	Present in PICs are government and private institutions that have the necessary technical expertise to assist in the implementation of the PACC if so required.

Annex D – Overview of SPREP

The Secretariat of the Pacific Regional Environment Programme (SPREP) is an intergovernmental organisation established in 1993 to promote cooperation in the Pacific region and to provide assistance in order to protect and improve its environment and to ensure sustainable development for present and future generations. The membership of SPREP comprises American Samoa, Australia, Cook Islands, Federated States of Micronesia, Fiji, France, French Polynesia, Guam, Kiribati, Marshall Islands, Nauru, New Caledonia, New Zealand, Niue, Northern Mariana Islands, Palau, Papua New Guinea, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, the United States of America, Vanuatu and Wallis and Futuna. It is based in Apia, Samoa, with approximately 70 staff.

History - SPREP has grown from a small program attached to the South Pacific Commission (SPC) in the 1980s to become an autonomous intergovernmental organisation with the negotiation of the *Agreement Establishing SPREP*. SPREP is the Pacific region's lead environmental agency. It also functions as a regional hub for multilateral environmental agreements (MEAs) and other environmental instruments including Agenda 21, Barbados Program of Action, UNFCCC and Kyoto. In this role SPREP provides support to PICs in their participation in MEAs, focussing on ratification/accession, negotiations, reporting, and legal compliance.

Vision - People of the pacific better able to plan, protect, manage and use their environment for sustainable development.

Focal Areas - The SPREP Action Plan (2005-2009) focuses on environmental priorities towards achieving sustainable development. In 2003 the Secretariat moved from a Key Results Area structure to a thematic program structure consisting of 2 operational programmes:

- *Island Ecosystems* – support members to manage island resources and ocean ecosystems in a sustainable manner that support life and livelihoods. This has the following components:
    - Terrestrial ecosystems management
    - Coastal and marine ecosystems management
    - Species of special interest
    - People and institutions

- *Pacific Futures* – supports members to plan and respond to threats and pressures on island and ocean ecosystems. This has the following components:
    - Multilateral environmental agreements and regional coordination mechanisms
    - Environment monitoring and reporting

- Climate change, climate variability, sea level rise and stratospheric ozone depletion
- Waste management and pollution control
- Environmental policy and planning

The corporate processes of SPREP are provided by the *Executive Management and Corporate Support* program.

Executive Management provide the overall strategic direction and executive management support particularly in the coordination, integration, monitoring and evaluation of the programme/projects that are executed/implemented by SPREP.

The Corporate Support represents the generic financial management and accounting services and administration and corporate services support provided to programmes/projects executed/implemented by SPREP. All financial and accounting services for SPREP executed programmes/projects are managed, reviewed, monitored and reported by SPREP's Finance in close collaboration with Project Managers. These include receiving and receipting all payments of Donor contributions to fund project activities according to project documentation. This service also includes the processing of expenses incurred in the implementation of programmes/projects including payment of airfares, per diems and accountable advances for the participating countries. It also involves the preparation and submission of quarterly project financial reports and statements to Donors and for auditing according to auditing standards. The periodic financial reports required from participating countries are checked and submitted according to donor requirements.

Annex E – Audit Terms of Reference

SPREP
South Pacific Regional Environment Programme
PROE
Programme régional océanien de l'environnement

ATTACHMENT A

TERMS OF REFERENCE

FOR

CONSULTANCY AGREEMENT

SPREP and Lesa ma Penn

(1) Background

SPREP is the intergovernmental organisation responsible for environmental matters in the Pacific Islands region. SPREP's members are twenty-one Pacific Island countries or administrations, and four metropolitan countries. SPREP's aim is to promote cooperation in the region, and to provide assistance in order to protect and improve its environment and to ensure sustainable development for future generations.

The accounts of SPREP are prepared on a 31 December calendar year basis. Audits to be carried out under this tender are for each of the two financial years ending 31 December 2006 and 31 December 2007.

(2) Financial Audit Requirements

In accordance with SPREP Financial Regulations, the Auditors shall:

a) Conduct their audit each year in accordance with generally accepted international auditing standards;

b) Prepare a report expressing an opinion as to the fairness of SPREP's financial statement. The Auditors in their report on the financial accounts, shall include:

i. the extent and character of their examination and any changes in accounting practice;

ii. matters affecting the completeness or accuracy of the accounts;

iii. the accuracy or otherwise of the supplies and equipments records as determined by stocktaking and examination of the records;

iv. the adequacy of financial procedures of SPREP including internal control matters and adherence to the financial regulations;

v. the adequacy of insurance covers for the buildings, stores, furniture, equipment and other property of SPREP;

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vi. any other matters which should be brought to the notice of the SPREP Meeting.

c) Conduct, at the request of the SPREP Meeting, additional specific financial examinations and submit separate reports on the results of these examinations.

(3) Accounting System

The accounting package used is ACCPAC for Windows. This is a multi currency system and the modules used are General Ledger, Accounts Payable, Common Services, Administrative Services, Asset Management and Cashbook. All these modules are integrated.

SPREP accounts are prepared in US dollars. The annual expenditure of the organisation has steadily increased from USD$2.4 million in 1992 to USD$7.2 million in 2005.

SPREP currently has around 140 active project accounts within 2 Programmes in the financial system in 2006. SPREP maintains at least nine bank accounts (including foreign currency accounts) and at least twenty foreign currency term deposits with commercial banks in Apia, Samoa. There are in excess of 1,200 transactions per annum in the foreign currency bank accounts and over 1,800 transactions per annum in the Samoan tala bank accounts.

(4) Reporting Requirements

The operational functions of SPREP fall under two categories, Core Fund and Programme Fund.

The SPREP Financial Regulations require its accounts to be prepared in accordance with generally accepted accounting principles and modified to exclude provision for depreciation. Income is to be accounted for on a cash basis, except for interest income.

The Financial Regulations require the financial statements for the year ended 31 December to be completed and submitted to the Auditor by 31 March of the following year. The Auditors are required to submit the Financial Audit Report to the Director as soon as possible following the end of the fiscal year to which it related.

The format of the financial audit report would be expected to accord with International standards, addressing the issues detailed above.

The auditors should be available to carry out the audit in Apia, during February/March year, preferably to be completed by early April.

(5) Specific Project Account Financial Audits

As some donors require SPREP to conduct specific project account financial audits, at various times throughout the two financial years (2006 and 2007), the Auditor should ensure:

- the availability of audit staff to perform such additional audits in Apia;
- the audit fee rates will be negotiated separately for each specific audit.

SIGNATURE PAGE

Cook Islands, Federated States of Micronesia, Fiji, Marshall Islands, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Island, Tonga, Tuvalu and Vanuatu

	Outcome(s)/Output(s)	Indicator(s)
UNDAF Outcome(s)/Indicator(s):		
Expected Outcome(s)/Indicator (s):	**Outcome 1:** Policy changes to deliver immediate vulnerability- reduction benefits in context of emerging climate risks defined in all 13 PACC countries. **Outcome 2:** Demonstration measures to reduce vulnerability in coastal areas and crop production (in Fiji, Papua New Guinea and Solomon Islands) and in water management (in Nauru, Niue, Tonga and Tuvalu) implemented. **Outcome 3:** Capacity to plan for and respond to changes in climate related risks improved.	Number of references to coastal, crop production and water sector climate change risks in relevant plans and programmes. Number of adaptation measures implemented at the national level Number of adaptation measures implemented at the sub-national level Number of adaptation measures implemented at the local (community) level. Number of instances of technical support provided to the 13 PICs and acceptance.
Expected Output(s)/Annual Targets:		

Outputs	Sector	Countries	Indicator
Output 1.1: Develop methodology and tools to assist Pacific Island countries mainstream climate change into their current national development plans and priorities.	**Mainstreaming**	**Regional for all 13 PICs**	**1.1.1** Number of instances where the Guidelines on climate change risk management have been applied in national and sub-national coastal, crop production and water sector related plans and programmes. **1.1.2** Number of plans that integrate climate change risk issues related to coastal, crop production and water sector management.
Output 1.2: Climate change economic tools for evaluation of adaptation options developed and utilized.	**Tools Development**	**Regional for all 13 PICs**	**1.2.1** By the end of year two, a report of the findings of economic costing of adaptation options disseminated.
Output 2.1.1a: Guidelines to integrate coastal climate risks into an integrated coastal management programme. **Output 2.1.1b** Demonstrating risk reduction practices in Manihiki Communities (with co-financing support).	**Coastal Management**	**Cook Islands**	**2.1.1a** At the end of year two, a Guidelines is developed and is applied to two (2) national and sub-national coastal sector related plans and programmes. **2.1.2b** At the end of year four, one (1) measure to reduce climate change risks on coastal systems is

			in place.
Output 2.2.1a: Guidelines to integrate climate risks (e.g. intense rainfall and storm surges) into coastal road designs. **Output 2.2.1b:** Demonstrating integration of climate change risks in road designs in Walung community, Kosrae (with co-financing support).	**Coastal Management**	**Federated States of Micronesia**	**2.2.1a** At the end of year two, a Guidelines is developed and applied to two (2) national and sub-national coastal road management plans and programmes. **2.2.1b** At the end of year four, one (1) climate change resilient coastal road design system is in place.
Output 2.3.1a: Guidelines to incorporate climate risks into an integrated community based coastal management model. **Output 2.3.1b:** Demonstrating climate change risk reduction through community interventions in Vaa o Fonoti to Gagaifomauga district (with co-financing support).	**Coastal Management**	**Samoa**	**2.3.1a** At the end of year two, two (2) national or sub-national coastal management policies/plans developed and adopted. **2.3.1b** At the end of year four, one (1) coastal community defense and erosion control model (in the form of a plan) taking climate risk into consideration is in place.
Output 2.4:1a Guidelines that incorporate multistakeholder decision-making in the redesign and relocation of roads due to the impacts of climate change. **Output 2.4:1b** Demonstrating integration of climate change risk reduction in road design in Epi, Shefa Province (with co-financing support).	**Coastal Management**	**Vanuatu**	**2.4.1a** Number of instances where a multi-stakeholder decision-making system in place. **2.4.1b** Practical guidance provided through demonstration project.
Output 2.51a: Guidelines for design of drains and drainage networks to adapt to future rainfall regimes. **Output 2.5.1b:** Demonstrating integration of climate change risk reduction in drains and drainage networks in Tailevu/Rewa and Serua Namosi Province (with co-financing support).	**Food Production and Food Security Sector**	**Fiji**	**2.5.1a** Practical guidance is approved by relevant authorities. **2.5.1b** Number of drainage schemes implementing the new design.
Output 2.6.1a Guidelines to improve resilience of coastal food production systems to the impacts of climate change. **Output 2.6.1b** Demonstrating integration of climate change risk reduction in coastal food production systems in Ngatpang State/Communities (with co-financing support).	**Food Production and Food Security Sector**	**Palau**	**2.6.1a** Number of Guidelines developed and applied. **2.6.2b** Number of measures demonstrated.
Output 2.7.1a: Guidelines for design of underground irrigation networks to adapt to future rainfall regimes. **Output 2.7.1b:** Demonstrating integration of climate change risk reduction through irrigation networks in Kivori Poe, Kairuku district, Central Province (with co-financing support).	**Food Production and Food Security Sector**	**Papua New Guinea**	**2.7.1a** Number of Guidelines developed and applied. **2.7.1b** Number of measures demonstrated.
Output 2.8.1a Guidelines for reducing vulnerability of small isolated island communities' to the effects of climate change in the food production and food security	**Food Production and Food Security Sector**	**Solomon Islands**	**2.8.1a** Number of Guidelines developed and applied. **2.8.1b** Number of measures

sector. **Output 2.8.1b** Demonstrating community based management of climate change risks in agriculture in Ontong Java Island (with co-financing support).			demonstrated in small island communities.
Output 2.9.1a Guidelines for improving water retention through redesign and retrofit of existing water-holding tanks to enhance resilience to drought events. **Output 2.9.1b** Demonstrating climate change risk management in water holding tanks in Majuro town (with co-financing support).	**Water Sector**	**Marshall Islands**	**2.9.1a** Number of instances of practical guidance prepared and approved. **2.9.1b** Number of measures demonstrated.
Output 2.10.1a Guidelines for design of alternative water supply systems to enhance resilience to drought events. **Output 2.10.1b** Demonstrating an alternative water supply system in a in Anabar district (with co-financing support).	**Water Sector**	**Nauru**	**2.10.1a** Number of designs combining current community water supply and storage and groundwater sources. **2.11.1a** Number of instances of practical guidance being used.
Output 2.11.1a Guidelines for design of water storage systems on a raised atoll island to enhance resilience to drought events. **Output 2.11.1b** Demonstrating a water storage system that will overcome water pressures during a normal drought in Liku to Avatele district (with co-financing support).	**Water Sector**	**Niue**	**2.11.1b** Number of improved water storage systems on a raised atoll island to enhance resilience to prolonged drought situations in place.
Output 2.12.1a Guidelines for water resource use and management response to increased ENSO frequency. **Output 2.12.1b** Demonstrating climate change risk management practices for water in Hihifo district (with co-financing support).	**Water Sector**	**Tonga**	**2.12.1.a** Number of guidance in place. **2.12.1b** Number of interventions to improve water management during ENSO in place.
Output 2.13.1a Guidelines for climate proofing integrated water management plans. **Output 2.13.1b** Demonstrating the enforcement of a integrated water management plan in Fogafale village (with co-financing support).	**Water Sector**	**Tuvalu**	**2.13.1a** Number of instances of guidance. **2.13.1b** Number of interventions to climate proof current integrated water management plan demonstrated.
Output 3.1.1: Technical advice for implementation of national adaptation	**All 3 Sectors**	**All 13 PICs**	**3.1.1** Number of instances of technical guidance provided and accepted.
Output 3.1.2: Best practices and lessons exchanged among countries through SPREP.	**All 3 Sectors**	**All 13 PICs**	**3.1.2** Number of lessons exchanged.
Output 3.1.3: Project website established at SPREP.	**At SPREP**	**Links to 13 PICs**	**3.1.3** Project website functioning.

Implementing partner:	Secretariat of the Pacific Regional Environment Programme (SPREP)
Other Partners:	Government of Cook Islands, Federated States of Micronesia, Fiji, Marshall Islands, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Island, Tonga, Tuvalu and Vanuatu, CROP agencies, UN agencies, private sector and civil society entities

Programme Period: 2008-2012
Programme Component:
Project Title: Pacific Adaptation to Climate Change Project (PACC)
Project ID:
PIMS ID: 2162
Project Duration: 2008/2012
Management Arrangement: National Execution (NEX)

Total budget:	US$57,628,799
Allocated resources:	
• PIC governments	US$44,303,799
• Other:	
GEF	US$13,125,000
SPREP	US$ 100,000
UNDP	US$ 100,000

SPREP (*signing on behalf of countries*)

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Signature Date Title

UNDP Samoa

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Signature Date Title

UNDP Fiji

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Signature Date Title

UNDP PNG

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Signature Date Title