Institutional capacity within Melanesian countries to effectively respond to climate change impacts, with a focus on Vanuatu and the Solomon Islands

Frank Wickham, Jeff Kinch and Padma Lal

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Table of Contents

Annexes

List of Tables

List of Figures

List of Boxes

Acronyms

ADB	Asian Development Bank
AusAID	Australian Assistance for International Development
CBDAMPIC	Capacity Building for the Development of Adaptation Measures in Pacific Island Countries
CBSI	Central Bank of Solomon Islands
CLIP	Climate Livelihood and Production in the South-West Pacific
COP	Conference of the Parties
CRP	Comprehensive Reform Program
CV&A	Community-based Vulnerability and Adaptation Assessment
DEH	Department of Environment and Heritage
EC	European Commission
EIA	Environmental Impact Assessment
EMCA	*Environmental Management and Conservation Act*
GEF	Global Environment Facility
GDP	Gross Domestic Product
HDI	Human Development Index
ICZM	Integrated Coastal Zone Management
IGCI	International Global Change Institute
IPCC	Intergovernmental Panel on Climate Change
KGA	Kastom Gaden Association
LDC	Least Developed Country
LEG	Least Developed Country Working Group
LGC	Local Government Councils
LMMA	Locally Managed Marine Areas
MECM	Ministry of Environment, Conservation and Meteorology
MoH	Ministry of Health
MTDS	Medium Term Development Strategy
NACCC	National Advisory Committee on Climate Change
NAPA	National Adaptation Programmes of Action
NCSA	National Capacity Self Assessment
NDMO	National Disaster Management Office
NGO	Non-government Organisations
NSRC	National Scientific Research Council
OECD	Organisation for Economic Co-operation and Development
PAA	Priorities and Action Agenda
PACC	Pacific Adaptation to Climate Change
PICCAP	Pacific Islands Climate Change Adaptation Project
PICT	Pacific Islands Countries and Territories
PNG	Papua New Guinea
RAMSI	Regional Assistance Mission to the Solomon Islands
SEG	Scientific Expert Group on Climate Change
SoE	State of the Environment
SPREP	Secretariat of the Pacific Regional Environment Programme
TAR	Third Assessment Report
UNCBD	United Nations Convention on Biodiversity
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
V&A	Vulnerability and Adaptation Assessment
VEU	Vanuatu Environment Unit
VFD	Vanuatu Fisheries Division
VLD	Vanuatu Lands Department
VNMS	Vanuatu National Meteorological Services

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The Bishop Museum for placing special emphasis on the Melanesia sub-region with its globally important biodiversity and diverse cultures that are threatened by the impacts of climate change and enabling the various scientific and socio-economic and capacity assessments to be undertaken. SPREP values the collaborations with the Bishop Museum and looks forward to future partnership opportunities.

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Executive summary

It is now widely acknowledged that the causes of climate change are mostly anthropogenic in nature and that its effects will have far reaching consequences across the globe. Governments have been exhorted by the world's scientists to expedite and scale up implementation of mitigation measures and prepare to adapt in order to "avoid the unmanageable and manage the unavoidable" (SEG 2007). This will require concerted and coordinated action by all parties affected at the global, regional, sub-regional, and national and community levels. While international cooperation is essential, each country will need to prepare for and adapt to environmental and socio-economic changes brought about by changes in temperatures, sea level, weather patterns, etc, which are expected to impact people and environment in different ways. The extent to which a country is able to mobilise and manage resources to mitigate and/or adapt to these impacts will depend largely on the capacity of its institutions and people, commonly described in this report as "institutional capacity".

This report presents findings from an assessment of institutional capacity within Melanesian countries to address climate change impacts. The assessment covers the four independent countries of Melanesia with a particular focus on the archipelagic countries of Vanuatu and the Solomon Islands.

The assessment has been made possible with funding from the MacArthur Foundation through the Bernice P. Bishop Museum, commonly known as the Bishop Museum and executed by the Secretariat of the Pacific Regional Environment Programme (SPREP) during August to December 2008. The John D. and Catherine T. MacArthur Foundation, commonly known the "MacArthur Foundation,." has identified Melanesia as one of its geographic priorities and is focussed on conservation of biodiversity in marine and coastal areas.

The Bishop Museum is a leading natural and cultural institution in the Pacific involved in a range of heritage and development initiatives including conserving the Pacific's cultures and the environment. SPREP is a Pacific inter-governmental organisation with a mandate 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 institutional capacity assessment involved a review of literature on global climate change agenda and issues; capacity development; institutional capacity; national programmes and projects and vulnerability and adaptation (V&A) assessment work undertaken in Melanesia; and in-country consultations in the two archipelagic countries of Melanesia – Vanuatu (Port Vila) and the Solomon Islands (Honiara). A framework used for the assessment distinguishes two categories of institutional capacity, each with a set of components. These two main categories include: "enabling institutional capacity," or the minimum capacity needed to provide an enabling environment to support V&A work; and "adaptive institutional capacity," i.e. the capacity needed to coordinate, integrate, mainstream and up-scale actions to implement vulnerability and adaptation assessments as well as to prioritise and implement adaptation actions. The assessment also benefited findings from consultations undertaken and documented as part of the GEF-funded National Capacity Self Assessment (NCSA) project, Second National Communication Project and the National Adaptation Program of Action (NAPA) project.

The report begins with an overview of vulnerability situation in Melanesia, establishes working definitions for the main terms and concepts used in the assessment and presents a summary review of institutional capacity in the independent states of Melanesia to respond to climate change impacts on the coastal and marine environments including identification of the main institutional capacity impediments and gaps. This is followed by recommendations on opportunities and options to develop institutional capacity which are grouped into immediate/short-term and on-going measures. Recommendations are also provided as to the types of assistance that will be needed to implement institutional capacity initiatives and key institutional variables that can be used in a spatially derived vulnerability assessment to gauge institutional resilience.

Melanesia is a development paradox. While rich in biodiversity and cultural diversity and well endowed with

renewable and non-renewable natural resources, it is also a very vulnerable sub-region when assessed against a number of development indicators and the predictions of relatively higher effects of temperatures and sea-level rise in the future, compared to other regions of the Pacific. Its human development indicators are very low compared with neighbours in the Pacific that are less endowed with natural resources. Its track record with governance, transparency and gender is poor, giving rise to a general situation of very low social capital. On the political front its governments have experienced military and civilian coups, periods of social unrest and political instability. The culturally diverse population, with the majority living in rural areas, has the potential to play a greater role in social and economic development but is poorly linked to government systems and services.

There is an urgent need to strengthen institutional capacity in the countries of Melanesia to implement measures that address the impacts of climate change on coastal and marine environments. The assessment has found that there is an emerging "enabling institutional capacity" to address climate change impacts: appropriate government and community structures and regulatory frameworks are in place that can contribute to enhancing adaptation to climate change; understanding and awareness of climate change mainly within central government agencies is rising; political commitment to global and regional climate change agendas has been established (though still needs strengthening); lead agencies have been established (albeit poorly resourced); and generally good progress is being made in the development of climate change policies and strategies.

However, there is currently very weak institutional capacity to scale up and harness broad stakeholder involvement in the implementation of vulnerability and adaptation assessments and in the planning and implementation of adaptation actions. This category of institutional capacity, referred to in this report as "adaptive institutional capacity," is weak due to a number of impediments, including: inadequate coordination mechanisms; very limited mainstreaming of climate change in sector policies and strategies; very limited capacity across a wide range of agencies and actors to undertake vulnerability and adaptation assessments; limited understanding by the majority of the rural population of links between observed changes in weather patterns and climate change predictions; generally a narrow base and low level of participation and partnerships; limited scope of national adaptation programs; very limited knowledge management; limited access to tools for V&A work; and limited sharing of western and indigenous knowledge, skills and experiences to enhance coping and adaptation capacity.

A well-coordinated, sustained, incremental and catalytic approach to capacity development is needed to scale up vulnerability and adaptation assessments and begin adaptation work across sectors and different levels in society. This report identifies and recommends existing and new options and opportunities to strengthening institutional capacity of Melanesian countries to address the impacts of climate change on the coastal and marine environments and develop adaptive capacity. These are divided into immediate and short- to medium-term institutional capacity development, targeting "adaptive capacity", and on-going institutional capacity development targeting "enabling capacity."

The immediate and short-term options and opportunities include: raising public awareness and understanding, strengthening capacity of national lead agencies, reviewing, revising and developing climate change adaptation policies and strategies, strengthening coordination mechanisms, developing national programmes, broadening and strengthening participation and partnerships, strengthening V&A capacity, mainstreaming climate change adaptation into national plans and budgets, and improving knowledge management. The on-going options and opportunities include: strengthening links between government and communities for V&A work, strengthening political commitment, strengthening political commitment, enhancing participation in global agendas, and reforming and strengthening regulatory framework to enhance adaptation capacity.

The report also identifies a number of areas where Melanesian countries may need support for planning and developing measures to strengthen institutional capacity to address the impacts of climate change on the coastal and marine environments and presents some key institutional variables for use in a spatially derived vulnerability assessment to gauge institutional resilience.

Over the coming years the influx in numbers, types and different size of climate change adaptation projects

in Melanesia will place strain on government resources and there is the danger that this likely "overload" may actually weaken overall institutional capacity. This in itself can lead to another form of vulnerability but can be countered if institutional capacity is strengthened. While the important enabling capacity issues such as legal frameworks, policies and mainstreaming will continue to be a challenge, taking a catalytic approach to institutional capacity development which includes strengthening awareness, participation, partnerships knowledge management and V&A capacity, can go a long way to minimise vulnerability and enhance resilience in Melanesia.

1:0 Introduction and background

The Bishop Museum is currently conducting a series of assessments and studies on the impacts of climate change on Melanesian countries with a special focus on coastal and marine biodiversity, with funding from the John MacArthur Foundation. These assessments are part of several global projects funded by the MacArthur Foundation aimed at gauging the vulnerability of important biodiversity hotspots (e.g. Melanesia and Madagascar) which is intended to lead to the development of adaptation strategies that are appropriate for different local circumstances and are based on local information, good governance and strengthening of conservation practices. The project is also intended to assess information gaps and capacity needs for implementing adaptation.

The Secretariat of the Pacific Regional Environment Programme (SPREP) is an inter-governmental organisation with a mandate 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" (SPREP 2005). SPREP's Action Plan and Strategic Programmes include biodiversity conservation, climate change, support to meteorological services, waste management and pollution prevention and a range of cross-cutting issues including environmental impact assessments, mainstreaming, environmental reporting, laws and regulations, information management, education, awareness and capacity development.

The Bishop Museum and SPREP are undertaking an initial Vulnerability and Assessment (V&A) study within the framework of the "Climate Change and Biodiversity in Melanesia" project. SPREP's involvement was formalised through a service agreement with the Bishop Museum in August 2008. Under this agreement both parties agreed for SPREP to:

- review and assess the socio-economic impacts of climate change, and
- review and assess institutional capacity for responding to climate change.

Annex 1 outlines the specific tasks required under the institutional capacity assessment. Between September and November 2008, SPREP officers with the support of a regional consultant undertook reviews and in-country consultations which led to the development of this report. Vanuatu and Solomon Islands were chosen for the in-country consultations because of their similarities in being large archipelagic countries (see Annex 2). The scope of the review and assessments in Melanesia also covered the independent countries of Fiji and PNG but did not include New Caledonia because it was thought that it had adequate support through the Secretariat of the Pacific Community and the French government.

This review and assessment has also drawn from the experiences and information generated from a number of major initiatives addressing climate change in Melanesia. This includes the GEF-funded National Adaptation Program of Action (Vanuatu and Solomon Islands), implementation of the Canadian-funded Capacity Building for the Development of Adaptation Measures in Pacific Island Countries (Vanuatu), the design of the GEF-funded Pacific Adaptation to Climate Change (Fiji, PNG, Solomon Islands and Vanuatu) and the implementation of the GEF-funded Second National Communication (Fiji, PNG, Solomon Islands and Vanuatu). These four countries have also benefited from GEF funding to implement a National Capacity Self Assessment (NCSA) Project aimed at assessing the capacity of countries to address requirements under the UNFCCC, UNCBD and UNCCD. The Solomon Islands and Vanuatu have completed their NCSA's while PNG and Fiji are still undertaking assessments.

1:1 Melanesian paradox – well endowed and very vulnerable

Vulnerability to climate change is defined as a function of an entity's exposure to climate factors, sensitivity to change, and capacity to adapt to that change (IPCC TAR 2001) (DEH Australia 2005). Application of this definition within the context of countries in Melanesia presents one with a paradox. While Melanesian countries represent a diverse and rich sub-region in the Pacific by way of social and natural capital, the types and extent of vulnerability of Melanesian countries to the impacts of climate change can easily be considered to be of a much larger dimension to that of other Pacific Island countries and territories (PICTs).

Melanesia has the biggest land area in the region (511,700 sq km). Papua New Guinea is the the largest country in Melanesia, both in land area and population. Close to 80 per cent of PNG's population lives in the coastal areas and this rate is growing at an average of approximately 2.5 per cent annually. The sub-region is home to some of the most diverse and abundant marine and terrestrial biodiversity by global standards, has many very low lying islands and contains an abundance of natural resources, such as minerals and timber resources.

The sub-region also has the most potential in the Pacific for generating its own renewable energy with its vast coastlines and mountain ranges, many geothermal sites and abundance of rivers. Its natural and planted forests represent the biggest carbon sink in Oceania. Sadly, much of its terrestrial biodiversity may be fast disappearing due to unsustainable logging practices and the rapidly increasing population's demand for fuel wood, building materials and agricultural land.

The extent of the region's vulnerability can be gauged from a number of dimensions. Politically most of the countries – PNG, Solomon Islands and Fiji Islands – have been dubbed fragile or weak states and have been publicised as being unstable and demonstrating very weak governance. Fiji has seen a number of coups in the past years and is currently under a military government. The Solomon Islands is recovering from an ethnic and political crisis that nearly brought the country to its knees were it not for the intervention of its Pacific neighbours through the RAMSI. While New Caledonia has experienced some political disturbances in the past, it is now relatively stable and experiencing relatively favourable economic growth compared to its Melanesian cousins through support from the Government of France. Political analysts and development experts predict future instability in Vanuatu if land issues are not handled carefully and if wealth generated from the bourgeoning tourism and agriculture industry does not impact positively on the majority of the population in the rural areas. This has implications for the capacity of governments and communities to respond to the challenge of not only national development but also to the challenges of climate change.

From a social dimension the Human Development Index for Melanesian countries features amongst the poorly developed nations in the world. Even when compared to countries such as Samoa, the bigger of the Polynesian islands in the region, human development in Melanesian countries is low (see Table 1 below). Literacy rates are generally low and, in the case of PNG, health services are under immense strain with HIV/AIDS predicted to go pandemic. As inequality is a major contributor to vulnerability, the marked gender inequalities in Melanesia will also exacerbate its general vulnerability. Official corruption is generally high. The 2008 Transparency International Corruption Perceptions Index placed PNG 151st with the Solomon Islands and Vanuatu tied for 109th out of 180 countries (Transparency International 2008). In PNG and Solomon Islands this is manifested in the rate and extent of uncontrolled extraction of natural resources and distribution of revenue earned from logging, fishing and mining.

Table 1: Melanesian countries HDI compared to Samoa (2008)

Human Dev and GDP Index	Fiji	PNG	Sol Is	Vanuatu	Samoa
HDI Value	.762	.530	.602	.674	.785
GDP per capita (USD,PPP)	6,049	2,563	2,031	3,225	6,170
Human Poverty Index	50	90	53	56	-
Combined gross enrolment ratio (%) for primary, secondary and tertiary)	74.8	40.7	47.6	63.4	73
Adult literacy rate	-	57.3	76.6	74	98
Overall ranking	92	145	129	120	77

Source: Adapted from UNDP 2008. HDI Reports: http://hdrstats.undp.org/countries/

Cultural diversity also makes the countries very vulnerable. Communicating development messages can also be very difficult in countries with so many languages like PNG (approximately 800 languages), Solomon Islands (approximately 95 languages) and Vanuatu (109 languages). Due to cultural and language diversity, governments also have difficulty in development planning and implementation of initiatives

aimed at meeting the needs and aspiration of the people as well as in maintaining equity in the delivery of services and economic growth across its culturally-diverse and geographically-scattered constituents. Unit cost of service delivery is often very high. These challenges are expected to increase with the increasing demands for greater autonomy of provinces, fuelled by local politics. Politics, usually based on patronage and the "big man" patrimonial system, is deeply rooted in tradition and culture, and continues to hold sway affecting response to natural disasters, which often cause significant impacts, further increasing vulnerabilities.

Natural disasters through volcanic activity, earth tremors and tsunamis have also caused economic losses, deaths and environmental damage in the past. The majority of the rural population lives along vast stretches of coastline and is exposed to cyclones and sea-level rise. Population growth rate is high, with the coastal population in Melanesia expected to double in less than 20 years, resulting in increased pressure on marine and terrestrial resources that generally support rural livelihoods. The tropical and humid conditions coupled with vast areas of swamps, bush land and forests provide perfect breeding grounds for mosquitoes that cause malaria and dengue fever.

By overlaying the socio-economic and environmental vulnerabilities of the countries of Melanesia with the predicted climate change impacts and consequences, the gravity of the vulnerability of local communities, including to climate related disasters, becomes evident. To improve resilience, urgent concerted actions are needed.

Climate change will aggravate the situation and response to climate change will stretch the capacity of national institutions and communities in these countries. The incremental costs expected to be borne by Pacific Island countries is likely to be significant as a result of climate change and will be an added burden on national budgets and community resources. It has been predicted that small island states could face losses far exceeding 10 per cent of their GDP (Berz 2001) and that the Asia Pacific region in general, will be where much of the "human drama of climate change will be played out" (Australian Human Rights Commission 2007). According to recent models and predictions on sea temperature increases, the Melanesian sub-region may be the most affected area in the Pacific with potentially significant losses in marine biodiversity due to likely future occurrences of coral bleaching (Coles 2008). Studies on the effects of climate change on disease incidence in the Pacific have predicted that cases of malaria and dengue are expected to increase significantly in the coming years in Fiji, PNG, Vanuatu and the Solomon Islands (Potter 2008).

There is now a growing need for countries to be more proactive and take risk-reduction and 'no regrets' measures that can be more cost effective rather than retrospective adaptation which would incur far greater costs (World Bank 2000). Enhancing capacity to plan and prepare for adaptation will mean *inter-alia:* strengthening and scaling up vulnerability and adaptation assessments at different levels and across sectors, strengthening risk-reduction capacity, and promoting and securing wider participation of stakeholders. These measures will require the leadership and facilitation of national governments and the strengthening of national institutional enabling environment and governance systems.

The ability of governments and communities in Melanesia to adapt to the impending impacts of climate change and climate variability will depend largely on the capacity of its people and institutions. Weak institutional capacity and poor governance systems are closely interrelated and widely recognised as obstacles to effective planning and delivery of development including actions addressing the causes and effects of climate change. Strengthening institutional capacity and improving governance are therefore critical requirements for enhancing the ability of a country to adapt to the impacts of climate change. Before we address institutional capacity development issues, it is useful to first define key concepts used in the report, particularly since many different definitions are found in the literature

1:2 Working definitions and approaches

Capacity

Many different definitions have been used for the term capacity, which while commonly advocated and used, remains an elastic, sometimes confusing and somewhat elusive concept. Some development organ-

isations define it as "the ability of individuals, institutions and society to perform functions, solve problems and set and achieve objectives in a sustainable manner" (UNDP 2006). Others have described it to be the ability of individuals, institutions, and societies to solve problems, make informed choices, define their priorities and plan their futures. Kaplan (1999) applies the concept to organisations and describes it as, "the ability of an organisation to function as a resilient, strategic and autonomous entity."

The concept was initially applied to smaller units such as individuals and institutions and has evolved over time to include broader and more complex systems such as organisational arrangements, inter-agency relations, the external socio-political environment and governance. It has also evolved from its origins of addressing tangibles such as structures, equipment, skills etc to include the intangibles or aspects of social capital such as trust, interpersonal relationships, and social organisation, (Pelling 2005), empowerment, values, and power relations, which are now recognised as essential attributes of capacity.

Morgan (2006) identifies five central characteristics of the concept of capacity including empowerment and identity, collective abilities, involving systems, a potential state, and a creation of public value. It is also generally accepted that capacity does not equate to performance, although they are closely related concepts and both are about the overall ability of a system to create value.

This report uses the following definition of capacity:

"The ability of individuals, institutions and society to perform and adapt functions, solve problems and set and achieve objectives in a sustainable manner."

Institutions and institutional capacity

Like capacity, the concept of institutions and institutional capacity has also evolved over the years, and acquired many different meanings and definitions. Its meaning has expanded beyond individual organisations, their mandates, structures and processes, to what Lehan refers to as "administrative stock" (Lehan 1975). Institutional capacity includes *inter-alia*: empowerment, social capital, the enabling environment and power relations (Segnestam et al. 2002). Strengthening institutional capacity also entails improving vertical and horizontal coordination and integration across organisations, ensuring ownership, supporting endogenous growth, knowledge management and learning and enhancing the enabling environment (policies, coordination mechanisms etc) to support individual and collective actions. Leadership can also be an aspect of institutional capacity as well as a strategic asset. (Pasternack et al. 2001)

This study uses the term "institution" to mean **institutions, organisations and communities functioning within a contextual setting of relationships, collaboration and coordination mechanisms, regulatory framework, power relations etc.**

"Institutional capacity" is the **ability of this broadly defined system of institutions, organisations, communities, rules, relationships and values, within their different contexts, to achieve organisational and societal goals.**

The ubiquitous term "governance" is closely related to the term "institutional capacity". The term "governance" is broader in meaning than "institutional capacity", which as seen earlier refers to institutional and decision-making structures (Leftwich 1993), although the two concepts share some similarities in meaning. Both are context dependent, relate to institutional environments through which citizens and government interact, and are influenced by value systems and power relations. Governance stretches its definition beyond that of institutional capacity to include and emphasise principles of accountability of stakeholders, equitable participation, transparency and predictable legal and regulatory frameworks (ADB 2006). "Good governance" usually refers to situations where the above principles are observed and applied.

In many modern development approaches, both Western as well as traditional forms of governance are recognised, albeit to different degrees. In Melanesia, traditional governance systems have been in place since time immemorial and have evolved to their current meanings and practices. Such systems usually

comprise tribal and clan units held together by traditional leadership and kinship systems, customs, values and territorial boundaries. At times traditional governance may exist in parallel to the introduced governance arrangements. Finding the right balance and resolving tensions between modern expectations of good governance and the traditional practices and kinship systems continue to be a challenge for Melanesia.

Capacity development

"Capacity development" refers to actions needed to enhance the ability of individuals, institutions and systems to make and implement decisions and perform functions in an effective, efficient and sustainable manner (CDI 2000). It has also been referred to as a process by which people and organisations create and strengthen their capacity over time (Willems and Baumert 2003, OECD 2003). It is complex, involves multiple levels and actors, power relationships and linkages (Lusthaus et al. 1999). Emphasis on capacity development has shifted from targeting institutions and individuals to also include the broader enabling environment, requiring a more nuanced, multilayered and synchronised approach and a result-oriented approach (Boesen 2005).

The terms "capacity development" and "capacity building" have often been used interchangeably and at times have caused some confusion amongst users. Generally, the former is referred to as an on-going gradual, endogenous and iterative development process building on existing capacities, while the latter (capacity building) has been associated with externally driven interventions aimed at creating new capacity (UNDP 2008). For the purpose of this assessment and report "capacity development" is the preferred term.

While there are no silver bullets for capacity development, past experiences provide some lessons and guidance for future planning and implementation of capacity development programmes. Notably, country ownership and endogenous process of change are essential principles when defining capacity development initiatives. Beneficiaries need to also be supported to "define their own needs and shape their learning process" (Newman 2001). Capacity development needs to be framed within the context of national politics, institutional arrangements, culture, tradition and historical backdrops. It is inextricably linked with power relations, competition and levels and types of control over resources exerted by different stakeholders (Morgan 1997).

Institutional capacity is therefore a broad concept that constitutes factors such as: technical ability, leadership, legitimacy of organisations, political support, supporting enabling environment, e.g. legal frameworks and coordination arrangements etc. Each of these constituent parts are interrelated and, if strengthened can contribute to the overall strengthening of institutional capacity. In Section 2 of this report, a range of factors of institutional capacity are used in an assessment framework to ascertain the level of institutional capacity in Melanesian countries and the capacity gaps.

Vulnerability and Adaptation to Climate Change

The IPCC Second Assessment Report (SAR) defines vulnerability as: "The extent to which a natural or social system is susceptible to sustaining damage from climate change". It is a "function of the sensitivity of a system to changes in climate, including beneficial and harmful effects" and adaptive capacity. Adaptive capacity is referred to as the "degree to which adjustments in practices, processes or structures can moderate or offset the potential for damage or take advantage of opportunities created by a given change in climate" (IPCC 1996).

There are spatial (local, national, regional) as well as sectoral considerations to adaptation. Adaptation actions can be one or any combination of physical, technological, regulatory, or market actions, among others. Adaptation actions can be undertaken by one or more actors and can take place over different climatic zones and at different economic levels. From a temporal perspective adaptation to climate change can be viewed at three levels:

- responses to current variability including learning from past adaptations to historical climates;
- responses to observed medium to long term trends in climate; and
- anticipatory planning in response to model-based scenarios of long term climate change.

2:0 Institutional Capacity Assessment Methodology

This institutional capacity assessment is largely based on review of literature on capacity development needs, strengthening capacity in the Pacific. Many of these reports, project documents etc. were based on extensive stakeholder consultations in Melanesian and other PICTs in relation to capacity needs and experiences with climate change. Table 2 presents examples of a number of projects, strategies and action plans developed and implemented that have included consultations on climate change impacts and other related issues. In particular, this study draws on community-based vulnerability assessment consultations undertaken by the NAPA team and NGOs to identify common climate change related capacity issues and options and opportunities for addressing them.

Table 2: Past programmes and projects involving major consultations on climate change and related issues in Fiji, PNG, Vanuatu and the Solomon Islands

Project / Consultations	Donor	Coverage	Year
Pacific Islands Climate Change Adaptation Project (PICCAP)	GEF	Vanuatu Solomon Is, Fiji, PNG	1996-2000
1st National Communication to the UNFCCC	GEF	Vanuatu Solomon Is	1996-2000
National Capacity Self Assessment (NCSA) project aimed at assessing the capacity of the country at the individual, institutional and systemic levels to address issues and obligations related to the UNCBD, UNFCCC and UNCCD.	GEF	Vanuatu Solomon Is Fiji, PNG	2005-2008
Development of National Action Plan (NAP) on Disaster Risk Management (DRM)	World Bank	Vanuatu	2007
Development of National Action Programme (NAP) to address land degradation and mitigate the effects of drought.	UNDP	Fiji, PNG Vanuatu Solomon Is	2004-2008
Development of a National Adaptation Programme of Action (NAPA) to address Climate Change	GEF	Vanuatu Solomon Is	2006-2008
Capacity building to develop adaptation measures in Pacific Island Countries (CBDAMPIC) Project	CIDA	Fiji Vanuatu	2002-2006
CLIP Research Project – Sustainable resource use or imminent collapse? Climate Livelihood and Production in the South-West Pacific	Danish funding agencies	Solomon Is	2007
Design of Pacific Adaptation to Climate Change (PACC) Project	GEF	Fiji, PNG Vanuatu Solomon Is	2006-2008
2nd National Communication to the UNFCCC	GEF	Fiji, PNG Vanuatu Solomon Is	2006-2008

In addition to drawing on the above consultations and assessments, this literature review also accessed assessments and reviews on material produced on subjects such as governance and state building. Government reports, corporate plans and strategies were also studied to gauge the extent to which climate change and related issues are beginning to be mainstreamed. To provide validation of the observations derived from published and grey literature, the research team also used semi-structured consultation/discussions with key stakeholder groups.

2:1 Assessment framework and scope

To systematically assess institutional capacity, the team used an assessment framework adapted from the approach used by Willems and Baumert (2003). William and Baumert distinguishes two main categories of capacity needed to address impacts of climate: "climate specific capacity" and "climate related capacity". The former refers to the minimal level of capacity needed to plan and implement climate change specific (direct) actions, while the latter refers to other socio-economic capacity that need to be developed to bring about enhanced adaptive capacity (which may be regarded as capacity that deals with basic economic and

human development conditions (see Lal et al for a discussion of this economic and human development-related capacity issues).

This institutional capacity assessment focuses on "climate specific capacity". Drawing on various international reports (reference the LEG; IPCC guidelines), and as discussed earlier, this assessment examines two groups of inter-related components. These include:

Institutional enabling capacity – Ability of institutions to initiate and support the planning, implementation and strengthening of adaptation actions. These can also be referred to as the minimal capacity needed in the country to plan, initiate and coordinate vulnerability assessment and adaptation work.

Institutional adaptive capacity – Ability of institutions to effectively integrate, coordinate broad stakeholder involvement and scale up V&A work in the country.

The two categories and different components of institutional capacity are presented in Figure 1 below as building blocks. While not typically a component of institutional capacity, V&A Assessment Capacity is included as one of the building blocks because of its importance as the main tool for assessing vulnerability and adaptation options involving a process that needs to be coordinated and managed.

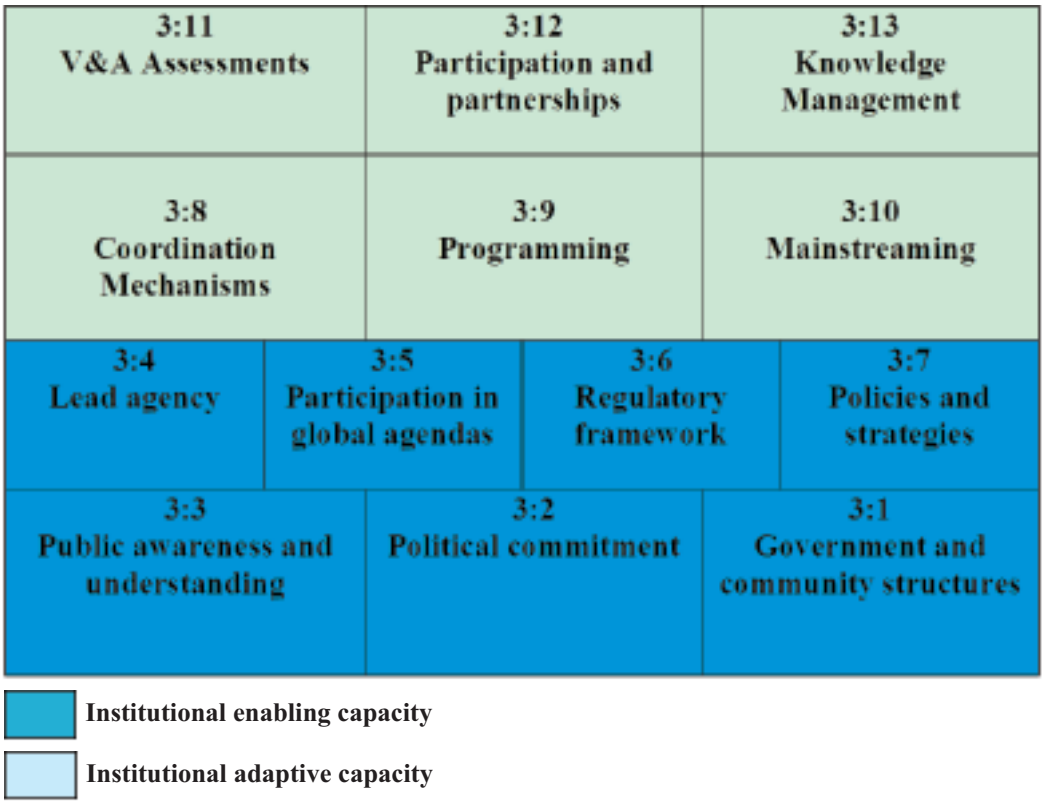

Figure 1: Building blocks for institutional capacity to respond to climate change

The above categories of institutional capacity and their components are closely inter-connected and need to co-exist in various degrees to ensure effective planning, implementation and monitoring of V&A assessment and adaptation actions across different spatial and temporal situations.

2:2 Key institutional variables for use in a spatially derived vulnerability assessment to gauge institutional capacity

The Assessment Framework discussed earlier in this report is used as the basis through which a range of variables has been developed to gauge institutional capacity and resilience. The framework and the set of variables can be used to gauge:

i) Institutional capacity at the national, province or local government level to address climate change impacts on the coastal and marine environments.

ii) Institutional capacity at the organisational level to address climate change impacts on the coastal and marine environments.

These are presented in the "Institutional Capacity Diagram" in Figure 2 below. These are to be used as a guide in assessing for institutional capacity. Very detailed assessments are not necessary in a context like Melanesia as institutional capacity is a 'moving target' and is subject to changes.

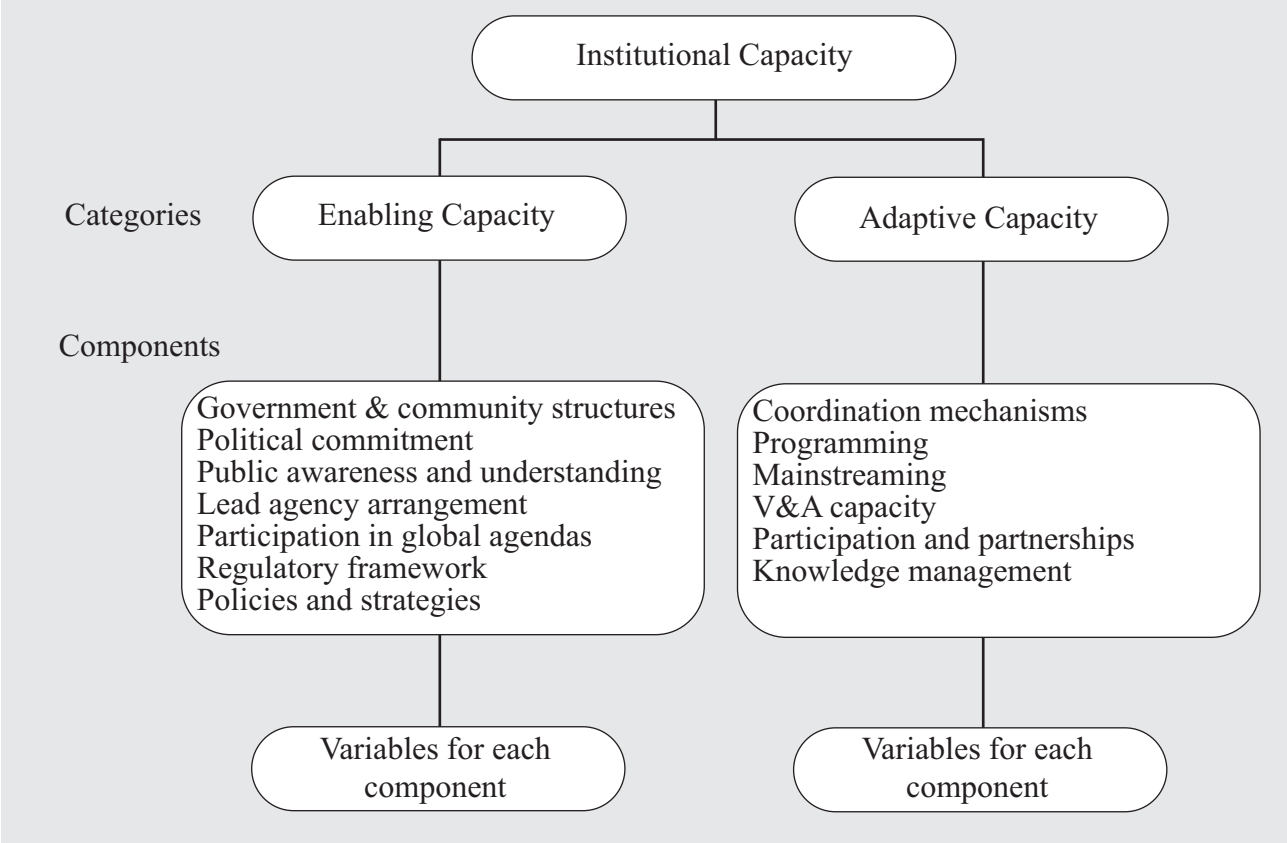

Figure 2: Institutional Capacity Diagram

2:2:1 Institutional capacity variables

Components

Government and community structures

- formal and legal links exist between the different levels of government;
- links exist between government and communities;
- extent of resourcing of provincial and local governments by national governments; and
- extent of support for community projects by national and provincial governments.

Political commitment

- formal political agenda to support climate change adaptation;
- political agenda reflected in national policies and strategies; and
- political agenda reflected in government programmes and budgets.

Public awareness and understanding

- existence of a communication strategy on climate change and adaptation, including indicators;
- extent of implementation of communications and awareness raising; and

- extent of awareness and understanding of climate change impacts on coastal and marine environments by government, stakeholders and people.

Lead agency

- national lead agency has formal mandate and a strategic plan including indicators;
- provincial and sectoral lead agencies has formal mandate;
- extent of resources (personnel, financial, equipment etc) available to the lead agencies to successfully implement its strategy and work plans;
- extent of coordination by lead agencies of programmes and initiatives aimed at addressing impact of climate change on the coastal and marine environments;
- existence of a communication strategy and resource mobilisation strategy amongst lead agencies; and
- quality of leadership by heads of lead agencies.

Participation in global agendas

- extent of participation in global and regional conferences and meetings;
- extent of briefings and communications to national stakeholders prior to and after conferences and meetings; and
- extent of communications on important decisions and technical and funding support opportunities to national stakeholders.

Regulatory framework

- number and types of laws and regulations that directly or indirectly contribute to enhancing resilience of coastal and marine environments against the impacts of climate change;
- extent of communication and awareness of laws and regulations; and
- extent of enforcement and compliance.

Policies and strategies

- number and types of policies and strategies addressing climate change impacts on coastal and marine environments;
- extent of awareness by government officers, stakeholders and communities of policies and strategies;
- extent to which policies and strategies are used to guide plans and actions to address impact of climate change on coastal and marine environment;
- extent of coordination single policies and strategies; and
- extent of coordination of related policies and strategies.

Coordination mechanisms

- number and types of coordination mechanisms for planning, implementation and monitoring of V&A addressing climate change impacts on the coastal and marine environments;
- extent of coordination beyond government departments and beyond projects;
- type and clarity of TOR for coordinating teams including indicators;
- type and extent of resources used for coordination purposes;
- type and extent of communications used to maintain and strengthen coordination; and
- extent of linkages between related coordination mechanisms.

Programming

- type and quality of resources available to develop national V&A programmes;
- type and extent of mandate and scope of Climate Change Adaptation Programme;
- extent of links between programmes and national policies and strategies;
- extent to which programme outcomes and outputs can be measured;
- extent of participation by provincial and community level stakeholders in the programme; and;
- extent of donor support and involvement in national climate change adaptation programmes.

Mainstreaming

- level of awareness and understanding by government and stakeholders on mainstreaming, and
- extent to which climate change is included in programmes and budgets of governments, NGOs, private sector organisations.

V&A Assessment

- extent to which V&A work is included in strategies, programmes and budgets of lead agency, other government ministries, provincial government agencies, NGOs and private sector organisations;
- level of awareness and understanding on V&A approaches and tools by staff of organisations;
- competency levels of staff of organisations and community members for using V&A approaches and tools;
- type and effectiveness of V&A networks at the national, sectoral, provincial and community level;
- number of organisations and people receiving training in use of V&A approaches and tools;
- extent to which organisations and communities can access funding and expertise to undertake V&A;
- extent of funding, personnel and other resources committed to V&A work; and
- extent to which organisations and communities can access information on V&A including lessons learnt best practice etc.

Participation and partnerships

- number of organisations and communities involved in V&A work;
- type, effectiveness and sustainability of partnership arrangements;
- type and extent of participation by organisations and individuals in V&A work;
- extent and effectiveness of role of lead agencies to promote and monitor partnerships and participation;
- extent of empowerment by organisations and individuals as a result of their participation in V&A programmes and initiatives;
  extent in use of gender considerations and analysis during planning and implementation of V&A work;
- extent and quality of involvement by women, elderly and youth in V&A work; and
  number of conflicts arising between organisations and individuals involved in V&A work and successfully resolved.

Knowledge management

- extent of awareness and understanding on importance of knowledge management in organisations and communities;
- extent to which knowledge management is promoted within and across organisations;
- type and extent of networking to promote and enhance knowledge management; and
- extent to which information and knowledge is shared and used across and between levels of organisations including communities.

3:0 Institutional capacity in Melanesia – existing capacity, impediments, priority gaps

This section discusses institutional capacity in Melanesia to address the impacts of climate change on the coastal and marine environments, with particular focus on Vanuatu and Solomon Islands. The assessment framework described above guide the assessment of the existing capacity situation, the main impediments (vulnerability factors) and priority gaps in relation to each of the components or "building blocks" described in Figure 1.

3:1 Government and community structures

Government and community structure provide the overall context within which institutions across all levels of government and actors make decisions. All four Melanesian countries have multi-tier government systems in an approach to decentralise government and involve wider participation. Table 3, below, presents an overview of the government and community structures in the four countries.

Table 3: Formal government and community structures in Fiji, PNG, Solomon Islands and Vanuatu

Structures	Fiji	PNG	Solomon Is	Vanuatu
National Governments	Fiji and Vanuatu are republics with the President as Head of State. PNG and Solomon Is have the Governor General as the Queen's representative and Head of State. All countries have electoral constituencies represented by a Member of Parliament.			
Members of Parliament	71	109	50	52
Provincial Governments	4 Divisions having a total of 14 Provinces	19 Provincial governments headed by a Governor	9 Provincial governments headed by a Premier	6 Provincial governments headed by a Premier
Local Councils	Administrative sub-units called *Tikinas and Districts* that are overseen by the Fijian Affairs Board *(only for Fijian community. Indo-Fijians have their own advisory council set up.)*	Local councils recognised by PNG Organic Law	Local Councils were abolished in 1980 but each Province has Electoral Wards represented by a Provincial Government Member	63 Local Government Councils distributed across the Provinces
Village councils	Referred to as *Koro* and overseen by the Fijian Affairs Board	No formal village structures established in the government systems however all villages have their traditional leadership structures.		Village councils
Traditional leadership institutions	Chiefs representing different levels of land owning units and a Great Council of Chiefs	No formal national traditional leadership institutions exist although certain islands and regions have their "council of chiefs'		National Council of Chiefs (Malvatumauri)

Given the current organisational structures, Fiji and Vanuatu are better positioned than PNG and Solomon Islands in terms of the potential for government agencies and development partners to reach and collaborate with village local government and communities through formal government and traditional structures. In theory they should also be in a better position to coordinate and implement measures to enhance adaptation of coastal and marine ecosystems to climate change. In practice however, the reality is quite disheartening across all four countries. In PNG the decentralised system is fraught with problems. An ADB Thematic Assessment Report on Governance in PNG has observed that decentralisation has actually contributed to a decline in accountability at all levels and institutional weaknesses continue to undermine links between policy, budgeting and implementation (ADB 2008). Studies on coastal governance in Van-

uatu (Lane 2006a) and Solomon Islands (Lane 2006b) echo the same issues and concerns. Similar constraints are also observable in Fiji.

Recent studies on coastal governance in Solomon Islands (Lane 2006b) highlight the serious disconnect between the central government and entities involved in local level governance i.e. villages, communities and provincial governments. Many village people still view the modern governance system and central governments as foreign and disempowering (Wairiu et al. 2003). The same can be said of other countries in Melanesia and this is clearly one of the main impediments to linking community-level with national level planning and implementation of V&A assessments and organising adaptation actions. Provincial government officials in Solomon Islands have complained that donors do not help strengthen this link when they bypass local institutions and engage directly with local communities. (SIG 2007; Schoeffel and Turner 2003)

There is a strong potential for greater involvement of traditional leaders and systems in adaptation work as chiefs or other village and clan leaders play an important role across Melanesia in mobilising people, resolving conflict and supporting government programmes. The Vanuatu National Council of Chiefs (Malvatumauri) established in 1977 and the National Cultural Centre are good examples of formal institutions established to promote and coordinate the role of custom and custom chiefs in development. Similarly, in Fiji the presence of the Fijian administration system, has the potential to engage with the Fijian people, at least, in addressing adaptation to climate change. However, here, too, the disconnect between the national governance machinery and the traditional decision-making process and governance arrangement is a major impediment to coordination and systematic approach to management

Despite this disconnect between national governments and rural governance structures and mechanisms, there is a large potential and resilience of the rural population to cope with adversities. For example, Solomon Islands and Fiji have experienced political upheavals that have handicapped national institutions but their rural populations continued with subsistence and economic activities. In Solomon Islands, rural communities and the private sector provided the main source of economic stability during the height of the recent ethnic tension and the turnaround of the country's economy has been attributed to their hard work and resilience (CBSI 2003). While the rural population that make up between 80-90 per cent of the population in most of Melanesia do not enjoy the luxury of services such as electricity, roads and television, etc. they are very capable of mobilising and using traditional knowledge and skills to contribute to V&A work. With incremental and coordinated support and strengthened links between the central government and rural communities this resilience or coping capacity can be harnessed and enhanced to address climate change impacts.

3:12 Case Study 1 – Governance in Vanuatu

Vanuatu gained independence in 1980 after being governed as an Anglo-French condominium since 1906. For most of the period since independence, two political parties, one anglophone and the other francophone, has dominated parliament. Since the 1990s, politics in Vanuatu has been fragmented and is characterised by a high degree of instability, which has caused long periods of policy paralysis and economic mismanagement (Schoeffel and Turner 2003; Cox et al. 2007). The current political system in Vanuatu generally follows "traditional" avenues of politics, and is thus described as one being based around patronage, characterised by fierce infighting amongst unstable coalitions. This system of patronage also drives corruption at the highest levels, leading to chronic "short-termism" that undermines any sustained approach to development. Policy initiatives also tend to be inconsistent and short-lived, driven by immediate reaction to constituents' concerns, rather than advice from an informed executive, with policy-making at its weakest in multi-annual planning and cross-sectoral prioritisation. This causes concern when looking at governance issues in relation to "longer-term" projections of climate change in Vanuatu.

To help address these problems of governance and to improve service delivery, a Comprehensive Reform Programme (CRP) was underwritten by the Asian Development Bank (ADB) and other aid donors in 1997, which culminated in the development of the Priorities and Action Agenda (PAA) for the country in 2003 (Lane 2006a). The PAA involved improving service delivery in rural areas by expanding market access to rural produce, the lowering of credit and transportation costs, and ensuring sustainable use of

natural resources; raising private investment by removing obstacles to private enterprise and facilitating long-term secure access to land, and providing better support services to business; increasing general equity in access to income and economic opportunity by enabling universal access to primary education and basic health services, and inducing increased employment opportunity for those seeking work; improving governance and public service delivery by providing policy stability and fiscal sustainability via a strengthened law-enforcement and macro-economic management capacity and a small, efficient, and accountable government; and enabling greater stakeholder participation in policy formulation by institutionalising the role of chiefs, non-governmental organisations (NGOs), and civil society in decision-making at all levels of government (Williams 2006).

There are three levels of government in Vanuatu, and for a country that is small in both demographic and geographic terms, this is a complex and cumbersome arrangement. The national government, centred in the capital, Port Vila, is organised around a series of departments which in turn fall under several ministries that are responsible for public policy and administration. The six provinces are administerd by provincial governments. The major functions of the provincial governments are to promote rural development and undertake land use and physical planning with the assistance of the centralised Department of Provincial Affairs. These provincial governments are under-resourced and largely unable to deliver services outside the provincial headquarters (Cox et al. 2007). The provincial structure is commonly seen as artificial and ineffective. Part of the provincial structure are the two municipalities of Luganville and Port Vila, which are constituted under the auspices of the 1980 *Municipalities Act*.

Local Government Councils (LGCs) are highly autonomous entities established under the 1980 *Decentralisation Act*, and have powers to prepare development policies. These LGCs, numbering 63, are the lowest formal level of government, with most having only one employee each, and are active mainly in tax collection.

Many of Vanuatu's LGCs and municipalities suffer from a lack of planning, and this is particularly evident in Port Vila. Subordinate governments in Vanuatu, at both provincial and local levels, are generally poorly resourced in both financial and human terms (Lane 2006). There is also little coordination between the provincial administrations and central government departments, resulting in limited reach of the State outside the capital, Port Vila. Apart from primary schools and first aid posts, most ni-Vanuatu in fact have little contact with the State. In terms of environmental management and climate change adaptation and mitigation, the geographic focus of policy activities means that the central government finds it difficult to be active in areas away from the capital.

While a number of agencies have responsibilities that are integral to the health of coastal environments (the VEU, for instance, is responsible for biodiversity and environmental management through the 2003 *Environmental Management and Conservation Act*, and the VFD has responsibility for managing the harvesting of marine resources , the 2005 *Fisheries Management Act, No.: 55*, and the 2008-2013 *Aquaculture Development Plan*) no line agency has a policy objective centred on integrated management. Given that 70 per cent of the population live on the coast, the absence of policy leadership on integrated coastal management is likely to lead to sub-optimal management of coastal resources, particularly when the added impacts of climate change are also considered.

3:12 Case Study II – Governance in Solomon Islands

Solomon Islands gained independence from Great Britain in 1978. On independence, it inherited a Westminster system of government and established a governing structure comprising a national government, nine provincial governments and local area councils. The councils were abolished in 1996/7. National unity and state-building was seriously threatened during 2000 onwards following tensions between people from the two big provinces of Malaita and Guadalcanal, which escalated into armed conflict. Government operated under duress from then until 2003 when the Regional Assistance Mission to Solomon Islands (RAMSI) led by Australia and supported by Pacific Forum countries intervened to restore law and order.

Today the country of about 900 islands and nearly 500,000 people, expected to double in 20 years' time, is being provided the opportunity to re-build with the help of RAMSI. The Coalition of National Unity

and Rural Advancement (CNURA) government which came to power at the end of 2007 has recently developed a Medium Term Development Strategy (2008-2012) and is determined to make strong progress, with support from RAMSI and donor partners, in the areas of public service, fiscal and economic reform and strengthening of the police and judiciary.

Provincial governments have been in decline over the past years with ill-defined responsibilities from sector to sector and a heavy reliance on the national government for service grants and technical expertise. They are able to pass ordinances that are not in conflict with the national laws and their revenue-raising ability is limited to charging for business licenses. Development assistance is channelled to rural communities in the provinces through various conduits including: ministry programmes and operations, discretionary funding from members of parliament, NGO funding, church projects, private sector investment and donor projects. In many situations provincial governments have been "marginalised by prevailing aid-supported approaches to development management, which either rely on centralised delivery by line ministries or channel financial and technical assistance directly to the grassroots through CBOs and NGOs" (SIG MTDS 2008).

Recent studies on Coastal Governance in the Solomon Islands (Lane 2003) highlight the serious disconnect between the central government and entities involved in local level governance i.e. villages, communities and provincial governments. Many village people still view the modern governance system and central governments as foreign and disempowering (Wairiu et al. 2003) and are more strongly affiliated with informal governance entities such as churches, house of chiefs, council of chiefs, community-based organisations and village committees.

The current national government recognises the need to strengthen institutional capacity at the provincial level and is addressing this through a UNDP-funded Governance and Institutional Strengthening Project aimed at improving the capacity of provincial governments to allocate and spend public resources, deliver infrastructure and services, manage natural resources and promote local economic development.

3:2 Political commitments to address climate change impacts

Climate change is a relatively 'new' phenomenon, and one which requires substantive change in mindset of all level of decision makers, including political commitment at all levels of government. This assessment uses a set of indicators to gauge the extent by which national leaders and governments show political commitment to addressing climate change impacts. They include:

- political endorsement of global and regional climate change agendas and targets;
- explicitly addressing climate change in national development strategies;
- establishment and adequate resourcing of a clearly identified lead agency;
- directing the mainstreaming of climate change in sector policies and strategies; and
- directing the development, financing and implementation of national climate change programmes.

Table 4 on the next page presents an overview of the extent to which progress has been made by the independent countries of Melanesia in relation to the five introduced indicators.

Generally, all four countries have demonstrated a relatively strong and consistent political commitment at the higher levels of planning and strategising, e.g. global, regional, national strategies and policies. PNG is a lead player in the mitigation arena and has been at the forefront of international negotiations on use of forest resources for emissions trading in the growing global carbon market. Leaders of these countries continue to make public their concerns about climate change and its impact on the pillars of sustainable development and continue to make representation on behalf of their countries during important global forums such as the UNFCCC COP. Over time this commitment will be tested as more national resources will be needed to address climate change impacts. At the regional level, too, Melanesian countries, along with other Forum members, have made a strong commitment to the ongoing development and implementation of Pacific-tailored approaches to combating climate change" (2008 Pacific Islands Forum Communiqué p 2). At the national level, the Leaders have also called for the operationalisation of the PIFACC and closely related DRR&DM Plan of Action. Countries are making an effort to meet this commitment

albeit on what appears to be on an ad hoc basis and without a cohesive countrywide coordinated approach (as discussed below).

Across all Melanesian countries, although lead agencies have been established, they are poorly resourced. Project-based programming and mainstreaming initiatives have largely been prompted and supported by donor funded projects such as the GEF-funded NAPA in Vanuatu and the Solomon Islands, CBDAMPIC project in Fiji and Vanuatu. The proposed GEF-funded PICCAP programs in all four countries also include mainstreaming as an integral component.

Increased efforts at V&A work using scientific models and community based approaches are needed and the application of cost-benefit analysis and economic assessments need to be supported so that both science and economics can be used to prompt politicians to take proactive action.

Table 4: Extent of political commitment by government in countries of Melanesia to addressing climate change impacts.

Countries	Indicators of political commitment				
	Endorsement of global and regional climate change agendas	Climate change addressed in national development strategies	Establishment and resourcing of a national lead agency	National climate change programmes initiated by government	Political approval to mainstream climate change into sector policies
Fiji	All four countries are Parties to the UNFCCC, Kyoto Protocol and have provided political endorsement to the PIFACC and Climate Change Objectives in the SPREP Action Plan	Climate Change Policy framework approved by the Fiji Interim Government in 2007	Climate change unit within the Department of Environment	No national climate change programme initiated by government in all four countries except for projects funded through multilateral programmes e.g. GEF.	Mainstreaming approaches introduced mainly through projects
PNG		Climate change does not feature in the 2005-2010 MTDS	Office of Climate Change & Environment Sustainability recently (May 2008) approved		
Solomon Is		Climate change addressed in the 2008-2010 MTDS	Climate Change Division endorsed by Cabinet in 2008 with staff of 3		
Vanuatu		Climate change and disasters identified as a key issue and challenge and included in priorities and strategies	Climate change unit established within the VNMS		

The recently developed MTDS in Solomon Islands is perhaps the first high-level national strategy in Melanesia that specifically addresses climate change. See Box 1.

Most politicians' planning and strategies are limited to their tenure in parliament i.e. an average of four years in all four countries. Senior planners and technocrats consulted in Solomon Islands lament the difficulties in getting politicians to commit to longer-term issues such as climate change. A suggested way

forward would be to guide politicians to understand how climate change will continue to impact on their electorates and why proactive adaptation measures are essential to safeguard people's livelihoods and ecosystem services.

Box 1: Climate change considerations in Solomon Islands Medium Term Development Strategy

Environmental Protection and Management
(a) Contribution to National Objectives
Recognising the importance of environmental management to maintain natural resources in sound and productive condition, the Policy Statements set a National Objective to "ensure sustainable utilisation and conservation of natural resources, protection of the environment and successful adaptation to climate change".

(b) Sectoral Objectives and Strategies
The Policy Statements set a policy goal "to act as the focal point for all international, sub-regional conventions, treaties and protocols relating to environment, conservation, global warming, climate change, and others in addressing environment, conservation and meteorological issues, to integrate national issues, in a holistic way so as to adapt to climate change, halt deterioration of ecosystems, restore damaged eco-systems and ensure their survival in the long term". The following strategies will be implemented: (i) protection, restoration and enhancement of the quality of the environment; (ii) strengthen institutional and technical capacity: and (iii) ensure effective mitigation of and adaptation to climate change.

Source: Solomon Islands Medium Term Development Strategy 2008-2010.

The main impediments to enhanced political commitment to addressing climate change include:

- *limited understanding by politicians of the extent in impacts of climate change on the coastal and marine environments and looming threat to biodiversity, ecosystem services and livelihoods;*
- *focus of politicians on immediate livelihood needs of their constituents;*
- *limited ability of the small pool of national experts and policy makers to use and simplify science and economics to influence political leaders; and*
- *limited opportunities for the national climate change team to brief cabinet and Members of Parliament of the impacts of climate change and the importance of taking urgent adaptation actions.*

3:3 Public awareness and understanding

Generally the level of public awareness and understanding of climate change scenarios and impacts amongst communities and the general public in Melanesia is still very low. The NCSA reports from Vanuatu and Solomon Islands identify awareness-raising as an important capacity issue as well as the need to incorporate climate change in the national curricula (Vanuatu NCSA Report 2007; Solomon Islands NCSA report 2007).

Public awareness and understanding of climate change and its impacts need to be raised in order to enhance coping strategies and capacities. As a result of past and recent GEF and other donor projects there is growing awareness and understanding amongst technocrats and bureaucrats within governments in Melanesia about climate change and its impacts. In Vanuatu and Solomon Islands past climate change projects such as the Initial National Communications to the UNFCCC; the NAPA, NCSA and CB-DAMPIC have involved and supported media campaigns, radio and television programs, public talks, drama, distribution of leaflets etc. on climate change. These have targeted the public, mainly in townships and peri-urban communities, and will continue intermittently with government and donor support. In Vanuatu, the Wan Smol Bag Theatre group has been using drama very effectively to convey development messages and have included climate change in their productions.

At the rural level people have begun experiencing doses of climate variability in the changing weather patterns and sea-level rise that can be attributed to climate change. However many are not aware of the links to global development issues and the gloomy outlook predicted by climate scientists. Community-

based consultations undertaken through the CBDAMPIC and PACC projects in Vanuatu, Fiji and PNG and field studies such as those carried out by research institutions and NGOs in Solomon Islands (Kastom Gaden 2007) and Vanuatu (Warrick 2007) have been able to record rural people's experiences and reflections on these changes particularly increased salt-water inundations, increased frequency of flooding, coastal erosion as well as prolonged and heavier rainfalls. A study on coping strategies of Polynesian communities in the outlying islands of Solomon Islands undertaken by a team from a number of scientific organisations have found that there is a marked discrepancy regarding the awareness between government agencies in the national capital and the people on the island of Bellona, regarding the threats of climate change (CLIP 2007). While communities in these outlying islands have developed a very good understanding of climate change variability and have traditional coping strategies, they are not aware of the global trends in climate change and the predicted impacts for the region of Melanesia. This means that their planning horizon is shorter placing them in a very vulnerable situation.

The "climate change message" is being delivered throughout Melanesia by different entities with variations in medium and content. There has not been a formal assessment or evaluation of climate change communications in the sub-region and there are concerns about mixed or wrong messages being conveyed. There is currently an absence of a government-led communication strategy on climate change in these countries to guide communications and awareness raising programmes and activities. Such a strategy can be stand-alone or be part of the NAPA. They need to be developed and guided by communication and social-marketing principles and make use of science and up-to-date information from reliable sources such as the IPCC Reports, Pacific Islands Global Ocean Observing System (PI-GOOS), the Pacific Islands Global Climate Observing System (PI-GCOS), and the Pacific Islands Hydrological Cycle Observing System (Pacific HYCOS).

Experiences and perceptions of people at the grassroots -level need to be recognised and recorded as they can contribute to the pool of knowledge on vulnerability assessments and adaptation planning. Climate change communication strategies usually include components such as: understating different audiences and their perceptions of climate change and impacts on their livelihoods, framing key messages, identifying appropriate mediums and tools etc. Government agencies and NGOs that have staff posted in rural locations, provincial governments and churches all have a role in communicating climate change but have very limited knowledge, skills and tools. In the area of formal education, national primary and secondary school curricula in the two countries are beginning to incorporate information and teaching resources on climate change and will need significant funding support to make such resources available to all schools in the country.

Climate change communication strategies should also include actions to support rapid expansion and upscaling on knowledge and understanding of climate change. International NGOs, donors and development partners need to play a proactive role in supporting climate change communications. For example, in Solomon Islands, the Red Cross has held awareness sessions for its board, staff and volunteers and has been participating actively in the national consultation processes to develop the NAPA.

Main impediments to effective communication throughout the countries on the impact of climate change on the coastal and marine environments and options and opportunities for adaptation actions:

- *absence of a national communication strategy on climate change;*
- *limited capacity of the national government to organise and develop a national communication strategy to be coordinated by the lead agency and used to support communications by other national stakeholders;*
- *limited access to and funding to develop communication tools and use a range of mediums; and*
- *limited capacity of the lead agencies and government ministries to continue updating the public and policy-makers on emerging climate change issues, scientific findings, experiences of other countries and funding opportunities.*

3:4 Lead agency arrangement

Climate change is a cross-cutting issue that requires an integrated and coordinated approach, with a lead agency that can play the critical role in leading and coordinating climate change initiatives. When such an agency is ineffective the link between policy (central governments) and action becomes weak and uncoordinated.

Governments in the Melanesian countries have made good progress in establishing lead agencies to oversee climate change work. Vanuatu has established a Climate Change Unit within the Vanuatu National Meteorological Service (VNMS) which is also the focal point for any climate change projects in Vanuatu. The Climate Change Unit is staffed by one officer and works in close relation with the Vanuatu Environment Unit (VEU). Solomon Islands has established a Climate Change Division within the Ministry of Environment, Conservation and Meteorology (MECM). The division is staffed by a director and two officers. In Vanuatu and Solomon Islands the lead agencies are responsible for coordinating and monitoring the implementation of the NAPA, National Communications, PACC project and upcoming adaptation projects to be funded under the GEFPAS. The government of PNG recently endorsed the establishment of the Climate Change and Environment Sustainability Office (PNG Office of the Prime Minister 2008) while the Environment Department continues to be the lead agency for climate change in Fiji.

Lead agencies therefore need to focus their limited resources and efforts at guiding, coordinating and facilitating mitigation and adaptation actions instead of directly implementing projects which can be left to other sector agencies, NGOs and the private sector. The capacity of lead agencies will need to be strengthened to facilitate and monitor the growing number and scope of climate change initiatives and effectively link scientific and technological developments and funding resources with needs and priorities of government, national stakeholders and communities.

NCSA reports for Vanuatu and Solomon Islands and records of capacity constraints in PNG and Fiji have identified the following as main impediments to lead agencies effectively carrying out their roles:

- *lead agencies lack of a strategic plan, prioritised core functions and accountabilities to lead, coordinate and facilitate climate change policy and strategy implementation in the country that includes strategic out comes and actions, performance indicators and resource requirements;*
- *absence of lead agencies at the provincial government and local government levels to coordinate climate change work;*
- *limited linkages between national lead agency and focal points of other government, NGO, private sector and community entities;*
- *limited personnel, equipment and operational budget to support annual work plans of lead agencies at the national and provincial government levels;*
- *limited technical, leadership, coordination and resource mobilization skills of staff involved in coordination roles; and*
- *limited access of lead agencies' teams to appropriate tools for effective coordination e.g. websites, e-discussions and regular forums and meetings.*

3:5 Participation in global and regional agendas

LDCs and PICTs can no longer afford to be passive players in the global climate change agenda. While strongly urging developed countries to cut back on emission levels, they must also strive to make the most of growing funding sources and technology to support and supplement national adaptation efforts. One measure of institutional capacity at the national level is the ability of its political leaders and lead agency to engage in, influence and derive benefits from the range of global and regional agendas on climate change. Global agendas such as the UNFCCC and other Rio Conventions and their main financing mechanism, the GEF, are at the forefront of addressing climate change and provide opportunities for LDCs and SIDs to obtain support for climate change related work. Many multilateral and bilateral organisations also have climate change programmes that can benefit Pacific Island countries and territories. Strong lead agencies can also guide and support NGOs to find ways of leveraging external funding for climate change projects and provide coordination to support their implementation.

Over the past years representatives from government lead agencies in Melanesian countries have been participating in many climate change conferences overseas and have engaged in climate change negotiations. Some have also benefited from training in MEA negotiations and other related capacity-building activities organised by SPREP and its development partners. There is, however, a disconnect between country involvement and engagement in international and regional fora and national level actions. As a result, one of the recurring complaints from within government agencies and other national stakeholders interested in the global climate change agenda is that these representatives do not provide pre-conference and post-

conference briefs to update national stakeholders on recent developments, trends and opportunities. Nor is there much effort made by the lead agencies to coordinate response to climate change. Agencies are often left to develop, resource and implement their own climate change initiatives, making it difficult for institutions in the country to align their work, and to effectively play their role in communicating climate change information and opportunities to the general public.

Table 5 below presents the range of climate change related global and regional agendas that Vanuatu, Solomon Islands and other Pacific Island countries are involved in.

Table 5: Global and regional climate change related Multilateral Environmental Agreements (MEA) and agendas that Pacific Island Countries are involved in.

Global agendas
Millennium Development Goals (MDG)
Mauritius Strategy of Implementation
UNFCCC
UNCCD
UNCBD
Kyoto Protocol
WSSD and JPOI
Regional agendas
Pacific Plan
Pacific Islands Framework for Action on Climate Change
DRR&DM Framework of Action
Pacific Islands Forum Communiqués

Main impediments to governments and national stakeholders making full use of and benefiting from participation and engaging in the global climate change agenda:

- *limited awareness by those outside of the lead agencies of trends and opportunities presented by the global climate change agenda particularly in connection with opportunities relating to a range of information, tools, technical assistance and project funding; and*
- *disconnect between international and regional level engagement and national actions lead agency officers not consistently and clearly communicating to the public and partners through pre and post-conference/meetings/workshop briefings.*

3:6 Regulatory framework

"[T]he need to enact environmental legislation must be carefully justified rather than assumed, and the precise components of that legislation must be tailored to the policy context and needs of PICs and not based on imported models from developed countries…more attention needs to be given to the development of community-driven, strategic land use planning processes". (Farrier 2003)

Since the attainment of political independence the legal systems in Vanuatu and Solomon Islands, as in most of Melanesia, were based on their colonial governments' (British and French) jurisprudence and have evolved in similar fashion. Many of these have since been reviewed in light of changing national interests and circumstances, and have also identified conflicting provisions, overlaps and gaps. Table 6 presents some of the past review work undertaken in Melanesia.

A number of challenges confront countries of Melanesia wishing to strengthen and reform their laws to enable joint management of natural resources by traditional resource owners and the State. The national constitution in most Melanesian countries recognises the customary and traditional rights of its people over land and natural resources. This places indigenous resources owners in a powerful role to plan and implement development as they see fit, but makes it very difficult for national governments to play their part in guiding and controlling resource use to achieve national development goals and aspirations.

Table 6: Review of Environment Legislation in Melanesian Countries

Reviews	Main reviewer/s	Donor	Year
Fiji			
Natural resources and environment in Fiji – A review of existing and proposed legislation (SPREP – IWP)	Evans	UNDP-GEF	2006
Papua New Guinea	Law Reform Commission of PNG	Govt of PNG	On-going
Solomon Islands			
Review of legislation and regulation – National Assessment of Environment, Natural Resources and relevant related legislation and regulation in Solomon Islands (SPREP – IWP)	Boer et al. Hauirae Lane	IUCN UNDP – GEF UNDP-GEF	2003 2006
Vanuatu			
Review of Environmental legislation and policies in Vanuatu (SPREP-IWP)	Desmond et al. Lane	UNDP-GEF UNDP-GEF	2004 2006

For example in Vanuatu, because constitutionally recognised land ownership extends to inshore reefs and marine areas, customary tenure is a crucial issue in environmental policy and climate change management. Customary tenure also creates a number of important complexities for effective environmental governance and climate change adaptation in Vanuatu. First, the shared locus of environmental authority (between government and communities) creates ongoing policy tensions and confusion. Second, the village-dwelling, subsistence population is materially poor and in need of a cash income. The natural resources they control constitute their major source of food and their only source of capital. This duality limits the ability of government to achieve national conservation and resource management standards (see Alley, 1999). The attenuation of government regulatory ability, and the operation of this dual system limits the national government to a few strategies for raising community awareness and promoting community-based climate change adaptation.

Furthermore, much of the resources (land and marine) are owned collectively by tribes and clans with individuals having user rights. This system of tenure has supported Melanesian societies over the years and continues to be a "safety net" and a form of livelihood security. Custodianship over land and marine resources is vested in traditional leaders, however more recently in parts of PNG and Solomon Islands, the educated elite have successfully written themselves into resource extraction agreements and concessions, as trustees representing tribes or clans. This has contributed to further mistrust of the "educated" leaders by rural communities and has been the cause of disharmony within and between tribes and communities.

Recent studies on coastal governance in the Solomon Islands (Lane 2006b) and Vanuatu (Lane 2006a) has highlighted the range and extent of governance problems in the area of coastal zone management. The studies recommend that systemic institutional reform would be needed to delineate roles and legal responsibilities of traditional resource owners and the State if community-based ecosystem management is to be an effective component of overall environmental governance. In theory this would be the ideal arrangement. However in practice, until such a time when this breakthrough is achieved and when adequate resources are available, government and community institutions in Melanesia will need to build on the limited institutional capacity already established and identify and implement capacity development initiatives in incremental fashion that also have a catalytic effect. These are recommended later in this report.

In the context of climate change, the various provisions in the range of existing national laws and regulations of countries in Melanesia can contribute more to enhancing the capacity of communities to minimise risks and adapt to the impacts of climate change on the coastal and marine ecosystems. Some of these include: provisions for EIA, code of logging practice, fisheries management, watershed management. Unfortunately, compliance is not always guaranteed and enforcement measures are minimal and often ineffective due to very limited human and financial resources and corrupt practices. Compounding this situation is the fact that many rural communities are not well aware of the laws and regulations that govern

the use of natural resources. If and when this eventuates they may still find it difficult to understand and accept how a central government that is far removed from their lives can make rules that govern how they use their resources.

Until such a time when legislative reforms are carried out and enforcement capacity is strengthened, voluntary compliance and pro-active adaptation measures will need to promoted and up-scaled including through education, targeted awareness raising, practical demonstrations that show benefits to resources owners and use of traditional governance systems and resource management practices. In other words community-based sustainable development principles and practices, supported where possible by legislation, stand a better chance of being used to guide adaptation actions by rural communities of Melanesia over the coming years.

Efforts to develop and enforce appropriate laws for better management of natural resources should begin with and focus on protecting ecosystems and ecosystem services that are known to be seriously threatened by development practises and that pose a serious threat to the resilience of communities e.g. watersheds, marine areas, coastal buffer zones (mangrove areas).

Main impediments for development, use and enforcement of laws and regulations that address climate change impacts on the coastal and marine environments:

- *limited awareness of the majority of resource owners and communities on appropriate laws and regulations;*
- *difficulties in applying laws and regulations on customary owned land and marine resources;*
- *limited capacity of regulators and environment staff to raise awareness on how laws and regulations can build resilience and enhance coping capacity; and*
- *very limited capacity of law enforcement and government agencies to enforce relevant laws and regulations.*

3:7 Policies and strategies

National policies and strategies are important components of overall institutional and enabling capacity needed to support V&A Assessment and action in developing countries. Together with laws and regulations there are also many national policies and strategies in countries of Melanesia that can contribute to minimising vulnerabilities and enhancing adaptive capacity. Table 7 below presents the Climate change specific and related policies and strategies in Melanesia countries.

Table 7: Climate change and related policies and strategies in countries of Melanesia.

Country	Policies/Strategies	Status
Fiji	Climate Change Policy	Endorsed by Cabinet in 2007
Papua New Guinea	Climate Change Policy	Draft developed
Solomon Islands	National Implementation Strategy National Action Programme to address Land Degradation and Mitigate the Effects of Drought	Draft developed in 2003 and still to be endorsed Draft about to be developed
Vanuatu	Climate Change Policy Disaster Risk Management National Action Plan National Action Programme to address Land Degradation and Mitigate the Effects of Drought	Draft developed in 2007 Endorsed by Cabinet in 2007 Draft developed

Two approaches to integrating climate change into national policies and strategies are being taken in countries of Melanesia. The first approach involves integrating or mainstreaming climate change considerations into other sector policies and strategies e.g. agriculture, fisheries, land-use policies and strategies. The second involves having a specific national climate change policy and/or strategy. The former approach is at a very early stage of development while more progress has been made on the latter. This may be necessary for central government control and lead agency coordination; however, greater attention to enhancing adaptive capacity in priority sectors have a better chance of being expedited if more effort is placed on supporting the former approach. Governments will need assistance to attend to this as the policy review and revision process requires time, personnel and funding, all of which are in short supply across government departments. With limited resources it would be necessary to prioritise the sector policies that need "climate-proofing" based on priority vulnerabilities. In the case of Solomon Islands and Vanuatu these are already identified in the NAPA.

As parties to the UNCCD, the independent countries of Melanesia have committed to developing a National Action Programme (NAP) to Combat Land Degradation and Mitigate the Effects of Drought. Also as a signatory to the Hyogo Framework for Action (2005-15) on Disaster Risk Reduction and the Pacific Disaster Risk Reduction and Disaster Management Regional Framework for Action 2005 (2005-2015), these same countries have committed to developing a Disaster Risk Management National Action Plan (DRM NAP). The UNCCD NAP focuses more on addressing land degradation but there is expected to be a component that addresses drought preventative and mitigation measures. The DRM NAP is a comprehensive multi-sector action plan that includes minimising risk to a range of disasters including those associated with climate change. Table 8 below presents the status of these programmes and plans across the four countries.

Table 8: Status of UNCCD NAP and DRM NAP in four countries of Melanesia.

Country	Status of UNCCD NAP	Status of DRM NAP
Fiji	Draft being developed	Draft yet to be developed
Papua New Guinea	Draft being developed	Draft yet to be developed
Solomon Islands	Draft being developed	Draft to be developed in early 2009
Vanuatu	Draft completed	NAP completed and endorsed by Cabinet

From the above information, Vanuatu is clearly ahead of the other Melanesian countries with putting in place national climate change and related risk reduction policies and strategies. But having more than one policy and/or strategy addressing similar issues requires a certain degree of integration and coordination. Without this there will likely be on-going unnecessary competition for scarce resources, duplication and overlaps. Expert guidance and funding will be needed to progress this as it will take a very long time if the currently overstretched government resources are expected to be used to undertake this task.

Main impediments to effective use of national policies and strategies to address climate change impacts on the coastal and marine environments and to developing adaptive responses:

- *limited awareness of government policies and strategies by the majority of rural communities;*
- *limited capacity (time, personnel and funding) of government to analyse, review and formulate national policies and strategies and integrate climate change and disaster risk reduction considerations;*
- *limited awareness by government, stakeholders and communities on how national policies and strategies can address climate change and help strengthen adaptive capacity;*
- *lack of coordination of national policies and strategies; and*
- *very limited use of vulnerability and adaptation indicators in national policies and strategies*

3:8 Coordination mechanisms

Good coordination is important for a multi-stakeholder approach to addressing a complex and cross-cutting issue like climate change. It entails having an appropriate lead coordinating agency and participation by appropriate stakeholders. Some of the indicators of effective coordination mechanisms include: good leadership by the appropriate lead agency, an effective lead coordinating team, clear terms of reference outlining roles of the lead coordinating team and intended outcomes, representation in the coordination

team by a good selection of stakeholder representatives, strong ownership by the coordinating team members of the intended outcomes, active participation by team members, timely distribution of relevant information and efficient use of time and resources for coordination purposes. In a geographically spread and diverse setting as in the countries of Melanesia, there is a need for a network of teams to coordinate climate change work.

Across Melanesia climate change coordinating teams usually become fully operational and effective when projects are implemented. The first climate change coordinating teams were established under the PICCAP project and were primarily responsible for coordinating project activities. Most continue to exist on paper after project closure and become active again when a new project comes along. Recent climate change projects such as the CBDAMPIC in Vanuatu and Fiji, the NAPA in Vanuatu and Solomon Islands and now the Second National Communication (2NC) and PACC in all four countries, have given new life to the coordinating teams. The 2NC will be establishing Thematic Working Groups which will enable additional coordination teams to be established at the sector level. It is not yet clear how the provincial governments and communities will be involved and which lead agency will coordinate teams at the provincial and local levels. The proliferation of project committees has given rise to concerns over duplication and inefficient use of resources. This has led governments to establish one, over-arching coordinating body for all environment related projects.

In Solomon Islands an attempt at coordination of similar or related policies and strategies took place in 2005 with the development of the Solomon Islands Sustainable Development Advisory Council (SISDAC). This initiative was led by the then Department of Environment. The initiative encountered difficulties when the Department of Planning and Aid Coordination realised that the Permanent Secretary of the Ministry of Forest Environment and Conservation was the designated chair of the council. Meetings called by the chair could not form a quorum and eventually the chair lost enthusiasm to convene any meeting. Recently, the MECM has established a Technical Committee (TeCOMM) to provide the coordination role for environment related projects and be the mechanism for coordinating climate change and its closely related national policies and strategies.

In Vanuatu, the National Advisory Committee on Climate Change (NACCC), initially established in 1989, is the body mandated by the government to oversee the coordination of all climate change initiatives or programmes emanating from the UNFCCC processes (see Annex 3 for the NACCC's terms of reference). It is made up of relevant government and civil society personnel that meet on a regular basis to inform policy formation and project implementation activities.

The NACCC has subsequently overseen the implementation of several major projects including the NAPA that have assisted in identifying and reducing Vanuatu's vulnerability to climate change, while at the same time contributing to the country's wider sustainable development goals. These projects include:

- Pacific Islands Climate Change Assistance Program;
- National Communications to the UNFCCC;
- National Capacity Self Assessment (NCSA);
- Capacity Building for the Development of Adaptation Measures in Pacific Island Countries (CBDAMPIC) project;
- Pacific Adaptation to Climate Change (PACC) project;
- Pacific Islands Renewable Energy Program (PIREP);
- Pacific Islands Energy Policies and Strategic Action Planning;
- Pacific Islands Greenhouse Gas Abatement through Renewable Energy Project (PIGGAREP);
- Pacific Islands Global Climate Observing System (PIGCOS); and
- activities relating to the United Nations Convention on Combating Desertification and United Nations Convention on Biodiversity Diversity.

While the Vanuatu government's *Priorities and Action Agenda* provides for clear lines of communication and authority within individual agencies, it does not address the coordination of information and strategies across government. In addition, the national government's organisational structure exhibits duplication and policy gaps as well as programmatic fragmentation. Some departments lack clarity in the delineation

of responsibility between departments. In environmental management in particular, it is clear that there is a need for a cross-sectoral analysis of those agencies centrally engaged in different aspects of this policy domain, leading to a re-specification and perhaps reconfiguration of responsibilities (see Lane 2006a).

These impediments to effective coordination are similar across the other Melanesian countries and represent a major constraint on the ability of national governments to link environment and development strategies with climate change impacts. They also constrain efforts to move toward more coordinated and integrated approaches to climate change adaptation. Improving horizontal (cross-sectoral or agency) as well as vertical (between national, local government and communities) integration and coordination is crucial to development of more systematic responses to climate change problems.

Main impediments to effective use of multi-level and multi-sector climate change coordination mechanisms to address climate change impacts and strengthen adaptive responses:

- *absence of national climate change policies and strategies make coordination difficult, ad-hoc and project-driven;*
- *coordination mechanisms usually exist only at and for the central government level and stakeholder representatives based in the capitals, and are usually project-driven;*
- *limited use of indicators to guide and monitor the work of coordination teams;*
- *limited participation by provincial and local government and communities in coordination mechanisms;*
- *limited access by rural teams to cheap and reliable communication for coordination purposes; and*
- *links between climate change coordinating mechanisms and other national coordinating mechanisms addressing coastal and marine resources is yet to be established.*

3:9 Programming

National policies and strategies are usually implemented through government programmes or a cluster of projects. Programming has also taken the form of "National Action Programmes" (UNCCD), National Action Plans (DRR and DRM), National Implementation Plans (Montreal Protocol) and NAPA (UNFCCC). The move from project-based implementation to a broader integrated and coordinated programmatic approach or programme-based implementation relies on, inter-alia: good teamwork, strong leadership, effective communication and information management, and strong inter-agency partnerships. The extent to which these are present or effective can be an indicator of institutional capacity. None of the Melanesian countries to date has a long-term V&A programmatic approach that addresses multiple sectors, includes multiple layers of government and communities. The closest so far is the NAPAs in Vanuatu and Solomon Islands, however these are intended to address urgent and priority adaptation needs and are primarily targeted at GEF funding.

The Vanuatu NAPA project commenced activities in October 2004, and is being executed by the Vanuatu National Meteorological Services (VNMS). The VNMS is the focal point for any climate change projects in Vanuatu and works closely with the Vanuatu Environment Unit (VEU). It has recently established a designated Climate Change Unit.

The objective of the NAPA project for Vanuatu was to develop a country-wide programme of immediate and urgent project-based adaptation activities in priority sectors in order to address the current and anticipated adverse effects of climate change, including extreme events. Activities proposed through the NAPA were those where it was thought further delay would increase vulnerability or lead to increased costs at a later stage. The NAPA therefore provided an opportunity to facilitate dialogue and consultations. The purpose being to identify and elaborate on the immediate and urgent adaptation issues and appropriate activities by conducting an assessment of the available and necessary information on Vanuatu's vulnerability to climate change and of the response measures and other activities needed to enhance the resilience of the most threatened parts of Vanuatu's environment, society and economy. Given Vanuatu's vulnerability status with regards to climate change and sea-level rise, the NAPA also served as an avenue to raise awareness and understanding at all levels in society.

To assist in determining climate change impacts, a scenario generator was used by the VNMS to generate climatic scenarios for the country. The results using two Global Circulation Models were compared with

analogue predictions based on observation of past trends. The two climate change scenarios predicted similar increases in temperature of between one and two degrees Celsius up to 2050, but varied significantly with respect to rainfall, and predicted a sea-level rise of 50 cm over the next 100 years. One model also indicated there may be more frequent El Niño type conditions associated with prolonged dry seasons. (Brian Phillips – personal communication)

The outcomes of the NAPA, stressed that several core issues were relevant to all sectors and should be integral to any proposed climate change adaptation and mitigation activities. These were:

- Awareness raising at all levels;
- Capacity-building including institutional capacity;
- Research and development;
- Promotion of appropriate traditional knowledge and practices;
- Technology Transfer;
- Education and training;
- Mainstreaming climate change issues; and
- Biodiversity issues are essential considerations in all issues relevant to marine terrestrial, forestry, land and agriculture.

Vanuatu is now attempting to implement the NAPA project which would see the following priority sectors targeted because of their vulnerability to the impacts of climate change and climate variation and sea-level rise. Focal areas are:

- Water resources, especially rural water supply;
- Coastal zone management;
- Infrastructure of national, provincial and community importance;
- Human settlements, both urban and rural; and
- Food security, including subsistence and commercial agriculture and fisheries.

Solomon Islands has also completed its NAPA and recently had it endorsed by Cabinet. It is similar in purpose, structure and content to the Vanuatu NAPA and is the product of excellent collaboration between national stakeholder representatives and guidance from an international consultant with effective coordination by the new Climate Change Division within the recently established Ministry of Environment, Conservation and Meteorology (MECM). The exercise has provided valuable experience in V&A work for the NAPA teams that undertook consultations in various parts of the country. Using V&A methodology and tools similar to those used in Vanuatu, the NAPA teams facilitated community-based V&A assessments, documented the findings and proceeded to use a set of established criteria for prioritising adaptation needs. This resulted in the following issues or themes being identified as priority vulnerabilities that require urgent adaptation actions in Solomon Islands:

- Food security and agriculture;
- Water resources management;
- Human health; and
- Coastal zones (biodiversity and infrastructure).

Several adaptation project profiles and an implementation strategy were then developed as part of the NAPA to address these priority vulnerabilities. These are to be used to develop project proposals to be presented to the GEF Climate Change LDC fund through the GEF PAS framework.

The NAPA represents a major initiative in these countries to assess, plan and implement adaptation to climate change. While primarily intended for LDCs, there is a strong interest by other SIDS and donors in the NAPA approach and it is hoped that SIDS in Melanesia (PNG and Fiji) will also get to develop their NAPAs. As mentioned earlier the NAPA focuses on urgent and priority adaptation needs and is intended for the GEF, particularly the LDC Climate Change Fund. There are also other projects that are being planned and are about to be implemented that are in effect outside of the NAPA. These include the Coral Triangle Initiative that has a component on adaptation to climate change (See Annex 4) and the GEF PACC. AusAID is also currently planning a regional climate change adaptation programme and an EC-funded project, to be implemented through UNEP and executed by SPREP, to support countries in addressing capacity development needs to implement MEAs, including the UNFCCC. The Government of

Japan "Cool Earth" programme also presents opportunities for adaptation funding. The coming years will most likely see an increase in funding for adaptation to climate change. This situation may require governments to consider taking a programmatic approach to climate change adaptation.

Some of the main advantages of taking a programmatic approach to climate change V&A work include:

- potential for galvanising and mainstreaming climate change work across government agencies and other national partners;
- better coordination, collaboration, integration and monitoring of V&A work;
- greater opportunities for leveraging additional donor funding for adaptation; and
- greater opportunities for entities at the provincial government and community level to be involved in implementation.

There is on-going debate between developed and developing countries on the merits of taking a programmatic approach. During the recent UNFCCC COP in Poland, Pacific island countries were wary of considering this approach as they feared it might be perceived by developed countries as normal development programming. Further, developing countries may run the risk of losing out on adaptation funding intended to address incremental costs, as guided by the UNFCC. This can be a sensitive issue and will need to be progressed with care. Pacific countries will have to strengthen capacity in order to identify and justify funding proposals intended to address adaptation and incremental costs. The argument for taking a programmatic approach is still a strong one considering the growing emphasis on taking 'no-regrets' risk reduction and adaptation measures.

Main impediments and gaps to development and use of a programmatic approach to addressing climate change impacts and strengthening adaptive capacity:

- *limited governmental capacity to design, develop, implement and coordinate a programmatic approach;*
- *concerns from government leaders about the implications of taking a programmatic approach;*
- *likelihood of donors pursuing their own 'agenda' and continuing with funding projects; and*
- *absence of national policies and national strategies that can guide a programmatic approach.*

3:10 Mainstreaming

Mainstreaming climate change has been described as the integration of climate change issues into policies, plans and budgetary processes of governments (Nakalevu et al. 2005). It implies factoring adaptation costs into national budgets and has thus been addressed with some uneasiness by SIDS because the additional or incremental costs of adapting to climate change is the result of developed countries' excessive and unbridled emissions of green house gases causing global warming. Once considered a fine line for developing countries to walk, it is now considered an imperative, especially when the major financial mechanisms for the UNFCCC, the GEF, and other donors expect developing countries to provide co-financing for adaptation projects. The design of projects to implement the priorities identified in the NAPA as well as the design work on the PACC is providing Melanesian countries with good experience in identifying incremental costs, however there currently is limited progress in mainstreaming climate change into national and sectoral policies.

Moves to make provisions for supporting climate change work in national work programmes and budgets is at its early stages, although one can argue that the extent of in-kind co-financing provided by governments towards the GEF-funded PACC projects already represents a form of mainstreaming. One of the main indicators of "mainstreaming" is the extent to which the issue or theme is addressed in the operational budgets of government ministries.

In Solomon Islands, one of the many challenges experienced by the Department of Development Planning and Aid Coordination is how to deal with mainstreaming. According to a senior planning officer, "just about everything is expected to be mainstreamed e.g. gender, climate change, sustainable land management, biodiversity, disaster-risk reduction etc and it is difficult to guide government departments on how this can be practically done." The Pacific inter-governmental organisations are aware of this challenge and convened a meeting in 2007 to develop "mainstreaming" guidelines for countries.

The main impediments to mainstreaming climate change to enhance adaptation:

- *limited understanding by many in government on the recently promoted concept of "mainstreaming" and how it can be done;*
- *difficulty of politicians to consider climate change as a development issue and the concerns that allocating resources for climate change work may reduce support for other pressing livelihood and economic needs;*
- *limited understanding by politicians and policymakers of the looming threat of climate change and its links with, and implications for, ecosystems and livelihoods; and*
- *limited ability of government technocrats to use science and economic tools to convince politicians and policy-makers to appreciate the need to support actions to support mitigation and adaptation measures.*

3:11 V& A Assessment

V&A assessment is regarded as the main approach for assessing vulnerability and planning actions to address climate change. Although not specifically a component of institutional capacity, it is considered one of the building blocks and accorded special attention because of its central role in climate change adaptation work and because it involves a process that strongly relies on the other components of institutional capacity discussed in this assessment.

The V&A "tool box" used by both developed and developing country governments, donors and development agencies continues to expand and contains various versions of V&A tools ranging from "top-down" complicated modelling tools to "bottom-up" community-based participatory methods (UNFCCC 2008). Experiences in the Pacific have led to the recommendation that V&A work is most effective when a mixed approach is taken including top-down modelling and bottom-up community-based assessments (Nakalevu et al. 2005). Table 9 below presents some of the V&A Assessments tools that have been developed for use with governments and communities in the Pacific.

Table 9: V&A Assessments tools used in the Pacific

Tools	Used by
For use with community consultations	
Community Vulnerability and Adaptation (CV&A) Assessment Tool kit	SPREP, Vanuatu, Cook Islands, Samoa, Fiji through the CBDAMPIC Project
Climate Witness Tool Kit	WWF – Pacific Programme
NAPA Guide	Solomon Islands, Vanuatu, Kiribati, Tuvalu, Samoa
Vulnerability Capacity Assessment (VCA)	Solomon Islands Red Cross
National climate risk profiling	Samoa
IPCC Guide for V&A Assessments	Pacific Island countries
V&A Modelling Tools	
CHARM	SOPAC, Vanuatu
VANDACLIM	USP for the V&A training
PACCLIM	Pacific Island countries
SIMCLIM	Pacific Island countries
SOLCLIM	Solomon Islands Government

Discussions with regional experts and some government officials in Vanuatu and the Solomon Islands have revealed that top-down modelling programmes (tools) such as those listed in the table above are seldom used and updated due to limited access to data, insufficient resources allocated to support their use and maintenance and limited opportunities for using them by trained staff who also have other day to day duties to perform. In the Pacific a few countries have acquired V&A modelling software from the producers, International Global Change Institute (IGCI) of New Zealand including; Fiji (VITICLIM), Cook Islands (COOKSCLIM) and Solomon Islands (SOLCLIM). The Solomon Islands Government has just purchased SOLCLIM software from IGCI and training was recently carried out on its use. Feedback from officers from these countries indicate that the modelling tools are not fully utilised in terms of input of new information and generation of maps and reports. Generally models will continue to be effective V&A tools but governments will need to maintain the appropriate human resources and budgets to maintain and make good use of them.

The bottom-up community based participatory V&A approaches can be very effective in generating very useful information on experiences and perceptions of vulnerability by communities and documentation of introduced and indigenous coping strategies. While there are variations to community-based V&A approaches they are all based on established participatory approaches and can be effective when facilitated by a multi-disciplinary team and complemented by social and scientific assessments. Figure 3 presents the main process involved in a CV&A approach used in the CBDAMPIC project.

The majority of personnel across the Melanesian countries that have been trained in V&A methods are government employees. Most have received their training through workshops and a handful has been fortunate to undergo a four month V&A training offered by the USP. These have all been project funded activities and V&A work usually do not continue after projects are closed because most technical staff are back to their regular duties, the ministry work plans and operational budgets do not cater for V&A work and outside of a project setting it is not very easy to mobilise multi-disciplinary teams comprising mainly of government officers on a regular basis. Despite the training sessions attended these officers now need to engage more in practical V&A work to develop confidence in use of a range of tools e.g. models, socio-economic reports, participatory methods etc.

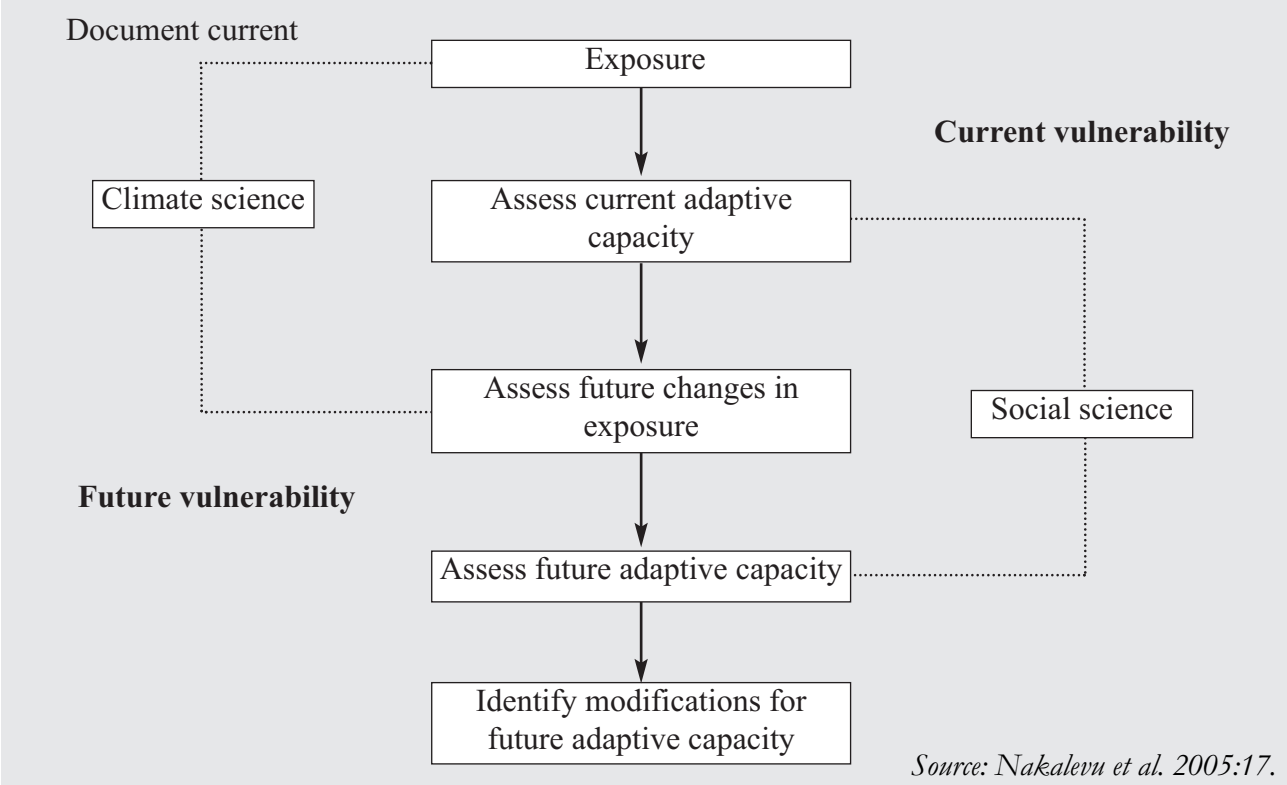

Figure 3: Components of the CV&A process used in the CBDAMPIC Project

In addition to the V&A work led by government agencies work has also been undertaken by NGOs and academic communities. WWF has undertaken V&A work with communities in Fiji, Solomon Islands and PNG, which has included baseline assessments and training for communities to enhance the coping abilities of important ecosystems and species. In Solomon Islands the Red Cross has facilitated V&A assessments amongst families and communities living on "artificial islands" in the Lau Lagoon of the Solomon Islands and the Kastom Gaden Association has facilitated community-based assessments and reported on vulnerabilities and coping strategies of communities in Solomon Islands living in remote and very difficult environments.

In Fiji, the USP Institute of Applied Science and Pacific Centre for Environment and Sustainable Development has started to develop experience and expertise in both modelling work and community based V&A. In PNG, the University of Papua New Guinea has established an Environment Centre and has begun work in assessing climate change issues. Macquarie University of Australia has also supported studies in the use of Western and indigenous coping mechanisms (Mercer 2008). All these assessments con-

tinue to provide governments and communities with valuable information to use in planning and implementing measures to enhance resilience and coping capacity but are yet not linked to any coordinated national V&A programme.

NGOs and tertiary institutions in Melanesia have strong comparative advantage in working with communities to undertake V&A with the aim of enhancing ecosystem resilience. Both are able to mobilise scientific expertise and have developed strong capacity in using participatory methods. NGOs in particular continue to work closely with communities and at times can do V&A work at a lower unit cost than government officers. In Solomon Islands the Red Cross has been able to mobilise and use its volunteers to assist with community-based vulnerability assessments.

Of relevance here is the David and Lucille MacArthur Foundation-funded project, "Enhancing Coastal and Marine Ecosystems Resilience to Climate Change Impacts through Strengthened Coastal Governance and Conservation Measures", implemented by SPREP. This project has been given by the NACCC to the Vanuatu Fisheries Division (VFD) to implement, and has the following objectives, which are very much in line with Concept Project, No.: 3 of the NAPA entitled "Community-based Marine Resource Management Programmes." These objectives are:

- the development of an Integrated Coastal Zone Management (ICZM) framework and establishment of appropriate institutional mechanisms for implementation for long-term adaptation to climate change;
- the provision of technical support and training opportunities for government officials and local communities in integrated coastal management approaches and site-based adaptation measures based on maintaining functioning coastal and marine ecosystems;
- the facilitation and implementation of measures in demonstration sites in areas experiencing high vulnerability to coastal degradation and erosion and climate change impacts; and
- the raising of awareness and understanding of the linkages between climate change and biodiversity, the application of integrated coastal management and targeted adaptation measures as long-term adaptation strategies to climate change impacts and disseminate lessons learnt through national, regional and international fora.

An added opportunity to scale up V&A work can be found in the field of disaster management, particularly with the recent shift in discourse and practice from Disaster Risk Management (DRM) to Disaster Risk Reduction (DRR) (see Table 10 below). The increase in attention to DRR is driven by predictions that climate change will increase the severity of climate-related hazards. As such DRR is now recognised as an important element of adaptation planning (IPCC 4AR 2008) offering the potential for synergies between the two approaches. A recent UNFCC technical report dedicated to promoting this opportunity has identified a range of challenges and opportunities for initiating and scaling up the integration of DRR and adaptation (UNFCCC 2008) and proposes a menu of interventions under each of the following themes of 1) establishing, streamlining and scaling up financial support for adaptation, and 2) enhancing knowledge-sharing at national, regional and international levels.

Table 10: The established shift of disaster management to disaster risk reduction agenda

From	To
Focus on hazards	Focus on vulnerability
Reactive	Proactive
Science- or expert-driven	Partnership with a wide range of stakeholders including those at risk
Response management	Risk management
Symptoms	Causes
Local focus	Broader context

Source: Salter J. 1998. Risk Management in the emergency management context. *The Australian Journal of Emergency Management.* 12(4) and Handmer J. 2000. Flood hazard and sustainable development. In: DJ Parker (ed). *Floods: Volume II.* Routledge. p.278

All the Melanesian countries have established disaster management offices (DMO) and national and provincial disaster committees, through Acts of Parliament. Over the years these entities have gradually improved on their capacity to promote risk reduction measures and address disaster situations. DMOs have very close working partnerships with the provincial governments, private sector, NGOs and communities and continue to implement and support advocacy, awareness raising and training activities. The Solomon Islands DMO now has a Disaster Coordinator in each of the nine provinces actively involved in awareness and training activities and participating in the coordination of disaster relief operations. DMOs also have good experience collaborating with donors and are supported by strong global and regional networks. In the Pacific, DMOs and the public can now access information, tools on DRR and DM using the Pacific Disaster Net, a website established with leadership from SOPAC to promote and support DRR and DM work in the Pacific. On many fronts DMOs are a fitting partner to work very closely with lead agencies coordinating climate change work in Melanesia. There are many best-practices and lessons to learn from disaster work in Melanesia. In terms of framing a strategic approach the DRR DRM NAP currently promoted by SOPAC and a range of partners have developed a very good approach that can be used to guide strategies for V&A work related to climate change.

Vanuatu is the first Pacific country to develop a DRR and DM National Action Plan (NAP). Solomon Islands will have one completed by mid-2009 and hopefully the other Melanesian countries and New Caledonia will be able to have their NAPs developed during 2009. Compared to the NAPA, which focuses on priority and urgent adaptation needs, the DRR and DM NAP is a broader and more comprehensive framework that includes: guiding principles, specific objectives, themes, strategies and key actions with associated key results, responsible agencies and performance indicators. Strategies in the NAP include: strengthening of national policy, mainstreaming, strengthening organisational arrangements and processes for mainstreaming, information and knowledge management, capacity development and monitoring.

Table 11 below presents one of the actions from the Vanuatu DRR and DM NAP together with their related expected results and indicators corresponding to one of the NAP Strategies under the theme on capacity development.

Table 11: Vanuatu DRR and DM NAP – Example of a Strategy and its related Action, Expected Results and Performance Indicator

Theme	Capacity Development	
Strategy	Strengthen individual and community capacity in DRR&DM.	
Action	**Expected Results**	**Indicator**
Assess needs and develop programs for strengthening capacity at the community level in addressing vulnerability to hazards and disasters in their community.	Local capacity enhanced to do their vulnerability assessment, prepare for risk reduction and response to their priority disasters.	Number of communities that take actions to reduce risks and prepare for disasters.

Source: Government of Vanuatu, 2007. Vanuatu DRR and DM National Action Plan (2006-2016)

Given the strong complementarities and potential for synergies between DRR and Climate Change Adaptation (CCA) there is benefit in working towards establishing institutional capacity to integrate the DRR DM NAP and the NAPA. The Government of Vanuatu PIF (concept paper) recently developed and presented to the GEF for funding under the LDC fund and within the framework of the GEF PAS, which includes a component on mainstreaming with the following activities:

- Incorporating CCA and DRR into national, provincial and community-level policy, planning, fiscal and budgetary processes
- Awareness and education to foster links between national, provincial, community levels of governance on CCA and DRR
- Strengthening the integration of CCA and DRR at the institutional level (departmental and coordination entities) and improve organisational arrangements. (GEF 2008)

Some of the impediments to up-scaling V&A work in Melanesia include:

- *absence of a national strategy or programme on V&A, coordinated by lead agencies and involving broad stakeholder participation;*
- *V&A yet to be a permanent feature in the work programmes and budgets of line Ministries and NGOs; absence of a network of V&A practitioners in the countries and limited capacity of lead agencies to manage and coordinate such networks;*
- *relatively small amount of personnel who have had training and practical experience with V&A work; limited financial resources to maintain and expand V&A work;*
- *project funding not efficiently utilised to up-scale V&A work;*
- *weak partnership arrangements between lead agency and partners; and*
- *limited capacity of lead agency to manage and disseminate information generated from V&A work.*

3:12 Participation and partnerships

The far reaching impacts of climate change will need adaptation actions that require strong participation and partnerships across sectors and between different levels of governments and societies. An important component and indicator of institutional capacity is the quality and extent of stakeholder participation, the quality and types of partnerships forged to address common goals and how these are coordinated and managed. The ubiquity of participatory tools and approaches reflects the on-going concern by both development agencies and developing countries about the extent to which target audiences are taking ownership of and benefiting from consultations and development initiatives. V&A approaches are essentially participatory in nature and can be very effective when involving networks and multi-disciplinary teams and ensure ownership of communities over the process and the outcomes.

Participatory approaches have been used in Melanesia over the years in a number of development sectors. Much experience in participatory rural appraisal (PRA) and similar methods have been built up over the years by agriculture research and extension officers as well as forestry and fisheries field officers. The SPC Development of Sustainable Agriculture in the Pacific (DSAP) Programme has received commendations for promoting and applying participatory approaches in assisting farmers and rural communities assess and identify sustainable farming options, while the CBDAMPIC project in Vanuatu, Fiji, Samoa and Cook Islands has promoted and used participatory methods in the community-based vulnerability assessments. NGOs have long promoted and used participatory approaches in village consultations such that it has now become one of their comparative advantages.

Partnership arrangements and participation by stakeholders in V&A work across Melanesia is gaining momentum but currently far from being adequate. NGOs in Melanesia are gradually increasing in numbers over the years and are becoming active in the rural areas. Together with church organisations they continue to be important partners of the government and can play a big role in scaling up V&A work in the rural areas. Private sector-government partnerships to address climate change have also begun. In Fiji, the tourism industry and the Government has collaborated in a national workshop on "Adaptation to Climate Change in the Tourism Sector in the Fiji Islands" (Government of Fiji 2006). The workshop identified likely impacts and potential adaptation and risk reduction measures, links to protection of biodiversity, institutional capacity impediments and capacity development needs. The NAPA, PACC, CBDAMPIC and Second National Communications work in Melanesia has contributed significantly to increasing partnerships and participation for V&A work.

There is also a growing number of networks established to address various conservation and sustainable development issues in Melanesia. Some of these networks include:

- Locally Managed Marine Areas Network (Fiji, PNG, Solomon Islands);
- Melanesian Farmer First Network (PNG, Vanuatu, Solomon Islands);
- Pacific Invasive Learning Network (Fiji, Vanuatu); and
- Pacific Disaster Risk Management Network.

These networks are addressing marine and coastal ecosystem management and conservation but are yet to be formally incorporated into national V&A plans and strategies in Melanesia.

There is yet no strategy and mechanism for up-scaling and improving the quality of partnerships and participation across each of the countries. Capacity development assessments and initiatives to strengthen partnerships must include tangible practical implementation and outcomes, otherwise stakeholders may lose interest from "consultation fatigue". Member countries have recently experienced "consultation fatigue" which stem not only from stakeholders getting tired of the increasing number of consultations but also the number of consultations that do not result in any tangible benefits to those consulted. This message was made clear during consultations held as part of this assessment.

The main impediments to scaling up and maintaining the relevance and quality of partnerships and stakeholder participation for V&A work in Melanesia include:

- *absence of a policy or strategy providing the basis and guidance for up-scaling participation and participatory approaches to V&A work;*
- *limited understanding and awareness by government agencies, some NGOs and field staff on climate change impacts and V&A approaches;*
- *limited training opportunities for government agencies, NGOs and field staff to incorporate V&A in their programmes and work plans and apply it in their field work;*
- *limited capacity of lead agencies to coordinate and promote partnerships and participatory approaches;*
- *lack of tools and medium to disseminate information that can contribute to promoting and strengthening partnerships and participatory approaches;*
- *limited feedback mechanism whereby documentation of V&A results are made available to communities for use in on-going adaptation work; and*
- *limited funding and necessary resources (transport, equipment etc) to expand V&A work in rural communities as part of normal work of government agencies and NGOs.*

3:13 Knowledge management

Data is not information, information is not knowledge and knowledge is not wisdom. (Clifford Stoll)

Knowledge management basically refers to the capture, documentation and dissemination of knowledge or the sharing of intellectual assets to enhance performance. Used in an organisational context it usually means using data and information to generate and communicate new knowledge. Knowledge management is important for enhancing institutional capacity whether it be individual organisations, inter-agency processes, team approaches, and is essential for fostering and maintaining participation and partnerships. Climate change brings with it a new dimension to development work, is loaded with science and requires fresh self-reflections, new investigations and careful observation of cause and effect relationships to bring about new ways of adapting to its effects.

In the Pacific, new data, information and knowledge continue to be generated on climate change issues from scientific studies, community-based assessments etc. Climate change has also prompted many communities to reflect on historical events, changes in tradition and practices and to start drawing from the rich well of indigenous knowledge on adaptation to hazards and risks. There is growing recognition that traditional adaptation practices are more effective than top-down approaches (World Bank 2000). Government institutions, NGOs and the private sector organisations also need to start preparing to adapt to the effects of climate change on their mandates and ways of doing business. Lead agencies and relevant national institutions have an important role in spreading information and knowledge about climate change to national stakeholders.

To date there is limited progress in countries of Melanesian with respect to strengthening capacity for knowledge management including development of baseline information. Climate change and related information is stored in various locations and is not easily accessible by the public. With funding from the EU, SPREP has established the Pacific Environment Information Network (PEIN) and is assisting countries strengthen capacity to capture and disseminate environmental information. This initiative is experiencing difficulties including: upkeep of hardware, engagement of full-time personnel, support with operational expenses and limited capacity for networking amongst government agencies and other stakeholders. The absence of any policy or strategy on knowledge management by institutions established as the PEIN hubs, as well as the climate change lead agencies, further hampers capacity development in this area.

In Vanuatu, there is a considerable amount of meteorological data at the VNMS with some records extending as far back as the late 1960s. However, the VNMS has in the recent past experienced problems in terms of processing historical data, maintaining high observation standards and further developing services due to funding, training and staffing constraints. This presents a problem since the data will contribute to the assessment of how vulnerable a system is to climate change. Presently, the Vanuatu National Meteorological Services (VNMS) is converting its outlier weather observing stations into better-equipped climate stations. It is also operationally changing from a routine simple weather recording to include a wider range of weather/climate observations as well as hosting communications systems for the delivery of up-to-date local and regional weather forecasts and a host of other related information products to better serve information demands. These are being supported by Australian and New Zealand meteorology departments.

Currently, basic environmental information and associated research in Vanuatu is underdeveloped and, as a result, government and communities face significant impediments in addressing and responding to climate change impacts. There is also an absence of mechanisms that ensure that scientific and other valuable environmental information is shared across government and civil society sectors. The Coral Reef Initiative for the Pacific has been implementing a project with the Vanuatu Lands Department (VLD) that allows for increased governance and information sharing across government sectors by developing adequate Global Information Systems software and training. The recent establishment of the National Scientific Research Council (NSRC) will also assist in improving the quality of information available to policy-makers.

It has been suggested by Lane (2006a) in relation to the development of an ICZM policy that a return of State of the Environment (SoE) reporting would be a cost effective way of improving the level of information available to all government departments as well as civil society in Vanuatu, and signal high-priority environmental issues for which a response is required. The production of SoE reports would also be highly important for the understanding and monitoring of climate change impacts. Under the 2003 EMCA, SoE reports are to be completed at least once every 10 years. These SoE reports are to include:

- an assessment of the state of all natural resources,
- a review of the current use of natural resources,
- an assessment of the quality of Vanuatu's environment;
- an assessment of social and economic development trends and their likely impact upon the environment;
- a summary of government and private sector policies, programs and initiatives to address and monitor environmental management and conservation issues; and
- such other matters as the minister considers appropriate.

It is suggested that these SoE reports be modified to incorporate climate change data as one of its information criteria. The ADB was to develop a comprehensive and compatible SoE database with the Vanuatu Statistics Unit; this needs to be revisited so as to allow for relevant capture of sectoral environmental indicators or data.

The main impediments to enhance knowledge management to support V&A work include:

- *poor baseline information;*
- *limited understanding and knowledge within government and lead agencies on knowledge management;*
- *absence of guiding policies and/or strategies on knowledge management;*
- *very limited capacity (personnel, equipment, operational budgets) to promote and enhance knowledge management in lead organisations;*
- *limited networking of government and NGO entities to promote and enhance knowledge management;*
- *lack of commitment by governments and policy for information management that promotes government-wide information sharing; and*
- *CROP and donor agencies promoting separate information networks instead of an integrated system.*

4:0 Opportunities to strengthen institutional capacity, and implementation needs

The preceding sections have described the range of institutional capacity constraints or impediments faced by Melanesian countries to effectively respond to climate change impacts. This section presents the options to address the main impediments to institutional capacity and the opportunities available to address the options. While most of these can be addressed in the short- to medium-term future there are some that will require on-going work over the medium to long term future. These include: strengthening links between government and communities, strengthening political commitment to addressing climate change, enhancing participation in the global climate change agenda, and reforming and strengthening regulatory frameworks. From records of experiences in Melanesian countries, the latter will be the most challenging.

It is divided into two parts: 1) short to medium or more immediate measures; and 2) on-going measures to strengthen enabling institutional capacity. Many of the options and opportunities presented focus on the more urgent measures and the components of adaptive institutional capacity. This is in response to the overall findings of the assessment, that while an enabling institutional capacity has been established and still needs strengthening, stronger focus and emphasis over the short to medium term should be on up-scaling and strengthening V&A work through a catalytic capacity development approach which basically entails strengthening all the components of "adaptive institutional capacity." Many of these options are also reflected in the Pacific Islands Framework for Action on Climate Change (2006-2015) and its Action Plan which have been endorsed by leaders of the Pacific Countries and Territories.

4:1 Short to medium term institutional capacity development options and opportunities

4:1:1 Raise public awareness and understanding

Options	Opportunities for addressing the options
Development of a guide to assist countries incorporate communication strategies in the national climate change policies and strategies and in the role of lead agencies and relevant organisations	Conduct a review of the range of communication tools and medium being used by various organisations in the country. There are a number of opportunities to use existing or proposed projects to provide funding to address the options SPREP has been assisting its Members develop communication strategies in a range of projects and programmes There are already a number of communication strategies developed for climate change related strategies, projects etc which can be used as guidelines Investigate opportunities with volunteer sending organisations to place volunteers to assist with communications work and provide counterpart training
Conduct a detailed capacity needs assessment for development, implementation and monitoring of a climate change communication strategy by lead agencies and relevant organisations	
Conduct a review of lessons learnt and best practices in the development of climate change communication strategies in SIDS with special focus on climate change impacts on coastal and marine environments	
Plan and conduct national level training on developing communication strategies including practical session on development of strategies to communicate impacts of climate change on coastal and marine environments.	

4:1:2 Strengthen capacity of national lead agencies

Options	Opportunities for addressing the options
Adopting a stakeholder participatory approach review the role of the lead agency(ies) at the national level and identify lead agencies and their roles at the provincial levels	Obtain information on role of leading agencies and strategic plans in other SIDS or with other agencies within the Melanesian countries SPREP has been assisting Environment Units develop strategic plans and will be able to support NGOs have developed very good capacity in strategic planning and will have some good examples to share The number of climate change projects currently or about to be implemented in the four countries may have provision to support strengthening of lead agencies. PNG has a new Office of Climate Change and Environment Sustainability and is in a good position to clearly establish and seek resources for role of the lead agency
Conduct training with stakeholders to develop a strategic plan for the lead agency based on identified roles and which includes priority core functions and accountabilities, resource requirements and performance indicators.	
Conduct stakeholder analysis to determine the types of organizations that have potential for involvement in V&A work targeting the coastal and marine ecosystems and establish a network linked to lead agencies	
Based on strategic plan of lead agencies develop priority resource requirements, including for coordination purposes, and identify opportunities for funding within existing projects and government budgets as well as by donors	
Conduct training for staff in lead agencies on leadership, coordination, communication and project management	

4:1:3 Review, revise and develop policies and strategies

Options	Opportunities for addressing the options
Develop and provide training on how to develop climate change policies and strategies and/or incorporate climate change issues and risk reduction into policies and strategies including use of indicators, coordination arrangements, consideration of climate change impacts on coastal and marine environments. This will depend on status of policies and strategies in the countries.	Projects under the DRR DRM NAP and Climate Change programmes e.g NAPA, PACC, 2nd NC should be able to provide support to address the capacity development options SPREP, SOPAC and WWF provides policy advice to countries on climate change
Develop and conduct training for stakeholders on opportunities for making use of the policy and strategy to do V&A work targeting the coastal and marine ecosystems	
Develop a communications package on national policies and strategies for use during community consultations and awareness raising programmes	

4:1:4 Strengthen coordination mechanisms

Options	Opportunities for addressing the options
Following development/revision of climate change policies and strategies conduct training for lead agency staff and stakeholder representatives on coordination mechanisms, processes, principles, identification of focal points, use of indicators and key skills. This should have a special focus on coordinating with V&A work in the field with special emphasis on coastal and marine environments.	Projects under the DRR DRM NAP and Climate Change programmes e.g NAPA, PACC, 2nd NC should be able to provide support to address the capacity development options

4:1:5 Develop national programmes

Options	Opportunities for addressing the options
Develop a template and guideline for a national climate change V&A programme building on the NAP and distribute to countries.	Use the process of DRR DRM NAP development in Solomon Islands, Fiji and PNG to look into possibility of integrating climate change adaptation Seek donor interest and coordinate discussions on a multi-donor integrated approach to supporting national V&A programmes in Melanesia
Conduct consultations with countries to identify needs and approach to developing a national climate change V&A programme building on the NAPA	
Conduct training and develop a national V&A programme incorporating coastal and marine ecosystems including resource requirements and indicators, and establish a MOU between agencies on roles and focus areas for V&A work in relation to coastal and marine ecosystems	

4:1:6 Broaden and strengthen participation and partnerships

Options	Opportunities for addressing the options
Develop a template and guideline for a national climate change V&A programme building on the NAP and distribute to countries.	Use the process of DRR DRM NAP development in Solomon Islands, Fiji and PNG to look into possibility of integrating climate change adaptation Seek donor interest and coordinate discussions on a multi-donor integrated approach to supporting national V&A programmes in Melanesia
Conduct consultations with countries to identify needs and approach to developing a national climate change V&A programme building on the NAPA	
Conduct training and develop a national V&A programme incorporating coastal and marine ecosystems including resource requirements and indicators, and establish a MOU between agencies on roles and focus areas for V&A work in relation to coastal and marine ecosystems	

4:1:7 Strengthen V&A capacity

Options	Opportunities for addressing the options
During training related to policies, strategies programming and coordination, ensure incorporation of V&A strategies including roles, resource requirements and indicators	Assess current and pipeline climate change projects (e.g. PACC, Coral Triangle Initiative, GEFPAS Adaptation Projects) to identify opportunities to maximise project resources for V&A training targeting the coastal and marine ecosystems. Identify opportunities under the proposed AusAID and Govt of Japan (Cool Earth Programme) as well as other donors to support V&A work targeting the coastal and marine environments. The Pacific Invasive Learning Network (PILN) approach currently implemented by SPREP and partners and proving to be effective provides a good model for catalyzing and scaling up capacity development for V&A. The CBDAMPIC provides a number of lessons learnt and best practices in Community based V&A. The NGO community has very good examples of leadership training packages which can be adapted for V&A leadership training. V& A leadership training packages can be adapted for use in national public service training programmes.
Following development of a national V&A strategy conduct detailed capacity assessment of government agencies and NGOs on V&A and identify priority needs and resource requirements.	
Design, develop and implement a capacity development programme for government, NGO and other national institutions on V&A approaches and tools targeting the coastal and marine ecosystems.	
During training activities establish a national and sub-regional network of V&A practitioners coordinated by lead agencies and SPREP as part of the PIFACC Action Plan	
Conduct training for government agencies, NGOs and other national institutions on resource mobilization strategies and implementation for V&A work including development of project proposals, project management etc	
Identify range of information, tools etc on V&A work in SIDS for dissemination by lead agency to national partners and teams.	
Establish a team of trainers from government, NGOs and other national institutions that is able to provide on-going V&A training to partners and communities.	
Assist the lead agency and climate change teams to develop a resource mobilisation strategy for supporting V&A work.	
Develop V&A leadership training modules and implement training activities for V&A teams at the national, sector, provincial and community levels.	

4:1:8 Mainstreaming

Options	Opportunities for addressing the options
Develop a guideline on mainstreaming climate change and distribute to countries seeking feedback on interest and capacity development needs for mainstreaming.	CROP agencies have developed a guide for mainstreaming and SPREP will be convening a training workshop on mainstreaming in 2009 under the EC MEA Capacity Development Project. SPREP and Forum Secretariat provides on-going support for mainstreaming to PICs.
Conduct training on mainstreaming for government officials and policymakers	

4:1:9 Improve knowledge management

Options	Opportunities for addressing the options
Develop a guideline on knowledge management and distribute for countries to use during development of policies, strategies and programmes.	Support from SPREP by way of technical advice and development of in-country information network Use upcoming EC MEA project to ascertain specific needs of countries and respond with targeted capacity development activities. Seek technical advice from Macquarie University in Australia and other education and research institutions involved in documenting traditional coping mechanisms to develop a programme of documenting and making available information on traditional knowledge regarding adaptation and coping mechanism.
Develop a module on knowledge management for Climate Change and offer training during other V&A and climate change training workshops.	
Develop and implement training programme on documentation of traditional/indigenous adaptation and coping mechanisms for target audience in Melanesia	
Train staff on role of lead agencies in promoting and coordinating knowledge management initiatives targeting climate change impacts and V&A focussing on the coastal and marine ecosystems.	
Establish a climate change V&A component of the Pacific Environment Information Network and use other existing websites to store and disseminate information.	
Seek donor assistance to support funding of scholarship for graduates in Melanesia to undertake research and document	

4:2 Longer term institutional capacity development measures and implementation needs

4:2:1 Strengthen links between government and communities for V&A work

Options	Opportunities for addressing the options
Despite the relatively weak links at the political-administrative level V&A work can help strengthening linkages between central government, provincial government and communities in climate change adaptation work. Suggested approach to making this happen include: • Engage expertise to hold consultations, design and develop a V&A Learning Network comprising teams at national level, provincial level and communities. • Use existing and proposed climate change projects to support the development of a V&A learning network coordinated from within the lead agencies	SPREP, Nature Conservancy and other NGOs have been involved in learning networks and will have the experience and expertise to assist with the development of V&A Learning Networks. Use current and proposed climate change projects to support the development and coordination of networks. Utilise the experience and expertise of disaster management staff at the national and provincial levels to assist with V&A networking.
Assess the possibility and sustainability of having a sub-regional network of V&A practitioners in Melanesia	
Formalise links between national and provincial governments for V&A coordination and include in policies, strategies and programmes.	

4:2:2 Strengthening political commitment

Options	Opportunities for addressing the options
Seek technical expertise to develop climate change and socio-economic impact scenarios on sectors, vulnerable islands etc and use findings to develop communication tools.	The GEF-funded Second National Communication implemented in all four countries will be assisting with capacity development for V&A including use of modelling. The proposed AusAID Adaptation to Climate Change Project will also support countries strengthen capacity for V&A work including strengthening use of science and economics.
Plan and implement communications initiatives targeting national leaders and policymakers.	

4:2:3 Enhance participation in global agendas

Options	Opportunities for addressing the options
Develop standard briefing and de-briefing process, templates and guide for use by national officers to report on important outcomes from global and regional conferences and meetings.	SPREP and FIELD have been providing training and assistance to Pacific Island countries in relation to preparations and negotiations during international conventions and meetings.
Establish a distribution list for disseminating briefings to other national stakeholder contact points.	

4:2:4 Reform and strengthen regulatory framework

Options	Opportunities for addressing the options
Based on priority vulnerabilities and urgent adaptation actions identified in the NAPA and related exercises conduct a review of related laws and regulations with the intention of having them climate-proofed (incorporate climate change considerations) to support V&A and enhance adaptation.	While this could be part of an on-going process of reviewing and revising laws and regulations in countries the existing and proposed climate change projects could be used to assist with funding reviews and revisions.
Promote use of EIA, how it can be an effective V&A tool and provide EIA training for staff working in priority vulnerable sectors and those in other support institutions.	SPREP, SOPAC and USP are providing EIA training for countries and SPREP has been collaborating with Carribbean countries on the use of EIA in V&A. Donors such as JICA and EU also provide EIA training linked to project feasibility assessments.

5:0 Support needed to implement recommended capacity development measures

Over the next three to five years the independent countries of Melanesia will be supported with a number of climate change projects that have components to strengthen capacity for V&A. Those that are to be funded by the GEF are presented in Table 12 below.

Table 12: GEF PAS Climate Change Adaptation Projects to be implemented in PICs over the coming years beginning 2009

Projects	Donor	Countries and allocations (USD Million)				Duration
		Fiji	PNG	S.I.	Van	
Pacific Adaptation to Climate Change Project (PACC)	GEF	0.8	0.8	0.8	0.8	5 years
NAPA Implementation (LDC fund)	GEF			3.5	3.0	5 years
2nd National Communication	GEF	0.4	0.4	0.4	0.4	3 years
Coral Triangle Initiative (CTI)	GEF/USAid and others		2:0	1:0		5 years

In addition to the above projects, AusAID and Government of Japan, EC and GTZ are also making available funding for climate change projects from which the countries of Melanesia could seek assistance. Vanuatu is beginning to implement the project "Enhancing Coastal and Marine Ecosystems Resilience to Climate Change Impacts through Strengthened Coastal Governance and Conservation Measures," funded by the MacArthur Foundation through the Bishop Museum and SPREP. AusAID and SPREP are currently holding discussions for a Pacific region project that strengthens V&A to address the impacts of climate change on the coastal and marine environments. Closely related to these specific climate change projects are the projects intended to strengthen meteorological services and disaster-risk reduction. These can also contribute to strengthening V&A capacity.

This sudden increase in projects across the countries will place some strain on government resources and result in concerns about 'absorption capacity'. To avoid these initiatives being seen as supply driven, there is an urgent need to strengthen institutional enabling capacity as well as adaptive capacity and help increase the effectiveness of management and coordination of all these projects and interventions in a programmatic approach. This can also be assisted by helping countries to develop sound policies and effective strategies. The NAPAs in their current form and scope, and the existing governance arrangements are not able to provide the necessary guidance. The capacity of government ministries and other national institutions, such as training and research institutions, NGOs and community-based organisations (CBOs) will need to be strengthened over the coming years to undertake and scale up V&A work.

Based on the findings from this assessment including the short- to medium-term capacity development measures, Melanesian countries will need assistance in the following areas to enable them to implement capacity developments actions that strengthens V&A to address climate change impacts on the coastal and marine environments:

i) Assist governments to consider and plan the development of a programmatic approach for climate change adaptation, building on the NAPA and utilising resources from the various climate change projects currently or about to be implemented.
ii) Assist lead agencies expedite the development and completion of national climate change policies, programmatic approach and a strategic plan.
iii) Assistance with development of V&A approaches and training activities targeting the impacts of climate change on coastal and marine ecosystems
iv) Assist governments and lead agencies develop a resource mobilisation strategy

Considering the predictions on the relatively significant effects of climate change, particularly temperature

and sea-level increases on the Melanesian sub-region and the serious threats to ecosystems and livelihoods, it is recommended that SPREP consult with the Melanesian countries and with other regional and international partners to hold a sub-regional conference aimed at discussing the issues and needs with the aim of taking actions to address the options and opportunities to strengthen institutional and V&A capacity that are presented in this report. Alternatively SPREP can hold consultations with each country separately and on an appropriate approach. With the advantages and synergies that can be achieved from partnerships and collaborations it would be much more beneficial to all countries if a sub-regional approach is taken.

6:0 Conclusion

Climate change impacts and the generally weak institutional capacity will exacerbate Melanesia's already vulnerable situation. In general, institutional capacity and governance in Melanesia, particularly Fiji, PNG, Solomon Islands and Vanuatu is weak and will take some time to be strengthened. Also, human development indicators reveal a situation of generally low social capital in these countries and the rapid rise in populations will place increasing pressures on coastal and marine ecosystems. Together these situations place these countries in a very vulnerable situation. Enter climate change, and vulnerability takes on a new dimension with a potentially much greater scale. The future impact of climate change on the Melanesian region is being assessed and already the predictions are worrying. Melanesia is indeed a paradox – well endowed and very vulnerable.

The assessment has found that institutional capacity needed to effectively address the impacts of climate change on the coastal and marine environments is generally weak in Melanesia, particularly in relation to the types and extent of participation by actors and stakeholders including organisations and communities across different sectors and levels.

There is an urgent need to develop and strengthen institutional capacity in Melanesia in light of the current weak institutional capacity to address the impacts of climate change on the coastal and marine environments.

Based on the identification of a range of institutional impediments/vulnerability factors, a two-pronged approach to developing and strengthening institutional capacity has been recommended in this report for effective consideration of climate change impacts on coastal and marine ecosystems and development of adaptive responses

The first approach is to develop and strengthen the 'enabling institutional capacity' including policies, strategies, legal frameworks and an effecitve lead agency, as well as developing a good level of awareness and understanding of climate change issues. This should provide the enabling environment within countries to progress measures to address climate change impacts on the coastal and marine environments. The report recognises that good progress is being made by the countries in this area and that incremental improvements can be expected as reviewing and revising laws, regulations and policies is a lengthy process and even after they are revised, compliance and enforcement capacity will need to be enhanced.

The second approach and one that needs more focus and resources, involves the development and strengthening of 'adaptive institutional capacity' including; enhancing collective, integrated and coordinated action by communities and organisations, strengthening systems, networks and capacity of a broad range of actors and stakeholders to undertake on-going V&A work and promoting and strengthening knowledge management. This approach has the potential of involving a wider range of stakeholders over a relatively shorter period of time in an inclusive, sectorally and vertically integrated approach to V&A work.

There are options and opportunities to strengthen institutional capacity in Melanesia to address the impacts of climate change on the coastal and marine environments over the coming years. Within each of the two approaches, this report has identified a range of options and opportunities for strengthening institutional capacity.

Over the coming years there will be an increase in numbers and types of climate change adaptation projects in Melanesia. Some of these have been identified in this report and will provide a lot of opportunities to strengthen the different categories and components of institutional capacity identified. These projects can also potentially place strain on governments' resources and there is the danger that this likely 'overload' may actually weaken overall institutional capacity. This may give rise to another form of vulnerability.

A strong lead agency guided by a strategic plan and a programmatic approach is needed to lead, support, coordinate and monitor V&A work in countries.

The report recommends that the capacity of national lead agencies as well as the lead agencies within the different sectors and NGOs be strengthened to support, lead, coordinate and monitor work on climate change adaptation that is expected to expand across different sectors and stakeholders over the coming years.

Coordination amongst donor governments and agencies, philanthropic organisations, international NGOs and Pacific regional inter-governmental organisations planning to support Melanesian countries over the coming years with funding, technical assistance and advice is important.

SPREP is the coordinator of the Pacific Islands Framework for Action on Climate Change and its Action Plan, which was approved by SPREP Members in 2008 (See Annex 5). It is recommended that SPREP liaises with national governments and donors and other funding bodies of the countries and offer support to strengthen capacity of lead agencies to provide leadership, coordination and monitoring of V&A activities and promote and support scaling up of V&A work in the countries to address climate change impacts on the coastal and marine environments. Many of the immediate options and opportunities for doing this are presented in this report.

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Annex 1:

Specific Tasks for the Institutional Capacity Assessment under the Bishop – Museum Service Agreement

- Review existing information on **legal, policy, management systems, and institutional mechanisms (national, provincial, local) and initiatives** and how they address impacts of climate change on coastal and marine environments in Melanesia.

- Undertake in-country consultations with government, community leaders and other stakeholders in at least two countries to:
  - Identify **impediments/vulnerability factors** for effective consideration of climate change impacts on coastal and marine ecosystems and development of adaptive responses such as integrated coastal and marine resource management (awareness, information availability, political will, legislation, policy, IDP etc.);
  - **Identify existing and new opportunities and propose solutions**, including traditional management systems and knowledge **to strengthen institutional capacity** to incorporate and undertake vulnerability and adaptation assessments as part of coastal and marine resource management;
  - Identify implementation needs to strengthen institutional capacity for integrated coastal marine resource management and other management tools to enhance resilience to climate change impacts (e.g. networks of marine managed areas);

Propose key institutional variables (and datasets as available) that could be included in a spatially derived vulnerability assessment to provide guidance to policy makers on institutional resilience.

Annex 2:

People and teams consulted in Vanuatu and Solomon Islands

a) People consulted in Vanuatu

Name	Position	Organisation
Adele Issachar	Research Officer	Department of Tourism
Anthea Toka	Manager	Oxfam
Augustine Garae	Disaster Officer	Red Cross
Benjamin Jesse	Managing Director	Energy Unit
Brian Phillips	Coordinator, NACCC	Meteorology Department
Catherine Malosu	Environment Officer	Millennium Challenge Account
Donald Douloige		Civil Aviation
Francis Hickey		Vanuatu Cultural Commission
George Kanegal		Department of Agriculture
George Petro	Marine Species Officer	Wan Smol Bag
George Taleo	Vector Borne Disease Manager	Public Health Department
Henry Vira	Secretary General	VANGO
Iona Viji		Department of Forestry
Jason Raubani	Policy Officer	Department of Fisheries
Jerry Samson		Department of Provincial Affairs
Jo Dorras	Managing Director	Wan Smol Bag
Job Esau	Managing Director	Ministry of Disaster Management
Jocelyn Loughman	Manager	World Vision
Joe Lautu	Travel/Trade Officer	Vanuatu Tourism Office
Jotham Napat	Managing Director	Meteorology Department
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Mathew Temar	GIS Officer	Department of Lands
Myriam Abel	Director General	Ministry of Health
Nelly Wouloseje	Water Quality Officer	Public Health Department
Pakoa Rarua	Waste Management Officer	Public Health Department
Patrick Haines	Operations Manager	AusAID
Pita Toa	Senior Statistician	National Statistics Office
Rachel Young	Secretary	AusAID
Ralph Regenavu	Director	Vanuatu Cultural Commission
Russell Nari	Director General	Ministry of Lands, Geology, Mines, and Environment
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b) People consulted in the Solomon Islands

Name	Position	Organisation
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Ella Kauhue	General Secretary	National Council of Women
Fred Siho	Chief Field Officer	Environment and Conservation Division – MECM
Gabriel Hiele	Project Officer	Department of Agriculture and Livestock
George Baragamu	Senior Officer	Solomon Is Red Cross
Gordon Konairamo	Commissioner of Forests	Department of Forestry
Hon. Gordon Darcy Lilo	Minister	MECM
Inia Barry	Officer in Charge	Solomon Islands Kastom Gaden Association
Jack Filiomea	Principal Officer	Environmental Health
Jean Qalo	Senior Field Officer	Department of Agriculture
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Julian Makaa	Communications Officer	Disaster Management Office
Julie Webb	Officer	Solomon Islands Red Cross
Jimmy Saelea	Director of Research	Department of Agriculture
Loti Yates	Director	Disaster Management Office
Moses Pelomo	General Manager	Commodities Export Marketing Authority
Nesta Leguvaka	Coordinator – 2nd National Communications Project	Climate Change Division – MECM
Agnetha Vave Karamui	Senior Environment Officer	Conservation Division - MECM
Alex Makini	Lecturer	School of Natural Resources - SICHE

Annex 3:

Vanuatu National Advisory Committee on Climate Change Terms of Reference

The National Advisory Committee on Climate Change (NACCC) is a multi-disciplinary team that draws its membership from different government agencies, civil society and other relevant stakeholder. Its terms of reference include:

- Provision of operational directives to the NACCC Secretariat;
- Make informed consensus decisions on issues arising from the Climate Change Convention, Kyoto Protocol and any future Plans for Action as decided by the Conferences of the Parties;
- Facilitating political inclusion in the national climate change process, particularly to encourage appropriate policy development to enable effective national responses to climate change;
- Coordinate international climate change negotiations, ensuring consistency, relevancy and real benefits to Vanuatu in participation;
- Inform respective departments on Climate Change issues, particularly consideration of climate change issues in sectoral policies and other department plans;
- Monitor and facilitate the work of the Greenhouse Gas Inventory Network, detailed in Chapter 6 of the National Climate Change Policy, and including any relevant data collection and information systems;
- Ensure that the Department responsible for settling the financial contributions of Vanuatu to the UNFCCC is accorded;
- Recognise and encourage human resource development in the field of scientific research and development, including the formulations of projects and joint projects, particularly in the context of Climate Change;
- Establish and coordinate the work of the National Group of Experts;
- Ensure appropriate climate change act/legislation is enacted; and
- Facilitate access to funding for the national climate change effort.

Annex 4:

Coral Triangle Initiative's Climate Change adaptation Measures

GOAL #4
CLIMATE CHANGE ADAPTATION MEASURES ACHIEVED

REGION-WIDE *EARLY ACTION PLAN FOR CLIMATE CHANGE ADAPTATION* FOR THE NEAR-SHORE MARINE AND COASTAL ENVIRONMENT AND SMALL ISLANDS ECOSYSTEMS DEVELOPED AND IMPLEMENTED	2012 (plan)
A region-wide *Early Action Plan for Climate Adaptation* for the near-shore marine, coastal environment, and small islands ecosystems is completed, followed by full implementation in each CTI country – addressing economic and livelihood needs of coastal communities heavily dependent on marine and coastal resources, and biodiversity conservation objectives.	2015 (full implem)

Annotations explaining Target #1

- **The Plan will serve as a major step toward implementing the climate change adaptation obligations (in each country) of the CT governments under the UN Framework Convention on Climate Change (UNFCCC).**
- **The Plan will draw upon ecological and social resilience models and a series of vulnerability assessments, and define priority climate adaptation steps that need to be taken in the *short-term*, even in the face of scientific uncertainties associated with future climate change impacts.**
- **The Plan will include *regional collaborative* actions, *general* actions to be taken in each CTI country, and *more specific actions* in each country, covering a range of management scales and frameworks (e.g., trans-boundary seascape management plans; integrated coastal zone management plans for districts, provinces, and single-country seascapes; MPA network plans).**
- **Two overall objectives of the Plan will be (i) to maintain the *biological diversity* and the *ecosystem services* provided by marine and coastal resources that are particularly critical to income, livelihoods and food security of coastal communities; and (ii) to support *livelihood diversification strategies* that assist coastal communities in adapting to future adverse impacts of climate change on marine-based livelihoods.**

REGIONAL ACTION #1

Identify the most important and immediate adaptation measures that should be taken across all Coral Triangle countries, based primarily on analyses using existing models	2011

Through analyses and expert workshops, identify general adaptation steps that should be taken in all CT countries in the short-term. As a starting point, drawing on existing models, the frame for identifying these short-terms steps will include the following:

- Map vulnerability. Produce maps that incorporate information on populations and human settlements, hazard vulnerability, inundation vulnerability, habitats, infrastructure, economic centers, and environmental services – identifying geographic areas and marine/coastal resources most vulnerable to climate change impacts, which would then be prioritized for early adaptation actions.
- Spread risks by protecting multiple habitat examples. Minimize risks to address uncertainties by protecting multiple representatives of resilient habitats covering a range of physiographic conditions.
- Conserve inherently resilient areas. Prioritize areas that have physiographic characteristics that make them inherently resilient to climate change; these areas can serve as refuges to reseed affected areas.
- Maintaining ecological connectivity. Maintain important ecological connectivity linkages, such as "source" /"sink" linkages among associated reefs and other habitats.
- Reduce major non-climate stressors. Reduce other major non-climate change stresses on marine, coastal and small islands ecosystems that directly decrease the capacity of these ecosystems to endure climate change.
- Emphasize social resilience. Build "social resilience" into adaptation strategies, with a focus on sustainable management of coastal fisheries and livelihood diversification as responses to anticipated future adverse impacts on marine-based livelihoods.
- Increase awareness and understanding. Increase awareness and understanding of CT stakeholders on climate change impacts and practical adaptation measures that are available.

REGIONAL ACTION #2

Identify the most important and immediate adaptation measures that should be taken in each Coral Triangle country — 2011

Drawing on the results of Regional Action #1 (above), identify *country-specific* steps needed in each CT country (as part of national adaptation strategies being developed under UNFCCC obligations). These steps will support the other Goals and Targets in the *CTI Plan of Action*, and include, for example:
- finer-scale modeling;
- country-tailored vulnerability assessments and monitoring activities;
- country-tailored ecosystem protection and livelihood diversification programs;
- specific legal and policy reforms; and
- specific strategies to communicate climate change impacts and adaptation issues to targeted audiences in the country.

REGIONAL ACTION #3

Complete and implement a Region-wide Early Action Plan for Climate Change Adaptation

Based on the two actions described above, jointly complete a region-wide *Early Action Plan for Climate Change Adaptation* for near-shore marine, coastal environments and small islands ecosystems (including identification of domestic and international funding to implement the Plan), and fully implement the Plan in each CT country. A multi-sector *forum or committee* on this topic in each country may be a useful mechanism to support collaborative and well-coordinated action. — 2012 (plan); 2015 (full implem)

REGIONAL ACTION #4

Conduct capacity needs assessments and develop capacity building programs on climate change adaptation measures — 2011

Based on capacity needs assessments, develop capacity building programs in each country, likely to be centered *initially* around concrete technical assistance in developing national adaptation plans.

REGIONAL ACTION #5

Mobilize resources including through collaborative efforts, to finance the implementation of the measures contained in the Region-wide Early Action Plan for Climate Change Adaptation — 2011

TARGET #2

NETWORKED NATIONAL CENTERS OF EXCELLENCE ON CLIMATE CHANGE ADAPTATION FOR MARINE AND COASTAL ENVIRONMENTS ARE ESTABLISHED AND IN FULL OPERATION — 2013

A regional network of *National Centers of Excellence on Climate Change Adaptation for Marine and Coastal Environments* is established, with national centers operational in each CT country, designed to (i) improve understanding of future climate change impacts and related issues; and (ii) support comprehensive application of effective adaptation measures to mitigate these impacts, with a focus on biodiversity conservation and economic and livelihood needs of communities heavily dependent on marine and coastal resources.

Annotations explaining Target #2

- These national centers of excellence will represent important steps toward fulfilling UNFCCC obligations of CT governments related to climate change adaptation.
- These national centers are likely to take a variety of forms, and will build on existing mechanisms and designated focal points. The essential concept is to establish an effective "focal point" in each country for climate change adaptation measures for the marine and coastal environment, to facilitate data and information management (e.g., episodes of coral bleaching, eutrophication and Harmful Algal Bloom) and support coordinated action. For some countries, these centers may need to start off quite modestly (e.g., a working group, a virtual center, or an existing office or small unit designated within a relevant ministry). For other countries, a more complex and advanced model could be considered, even at the outset.
- These national centers could coordinate the early capacity building activities needed, and coordinate the development of the National Adaptation Plans referenced above.
- Over time, such centers of excellence could be designed to (i) *generate projections* of climate change vulnerabilities and impacts related to coastal communities and marine and coastal resources—for the region as a whole (through collaborative efforts) and for specific geographies, drawing on advanced modeling tools; (ii) commission and support *targeted research* on adaptation strategies; (iii) provide *practical training* and various other forms of technical support for field applications and piloting of adaptation measures and resilience models; (iv) provide *tools, case studies, and technical advice* on ways to incorporate adaptation measures in governmental plans (e.g. spatial plans, poverty reduction strategies); and (v) provide *communications tools* on climate change and adaptation strategies.
- National centers could be networked through a regional coordination mechanism of some kind (to be determined).
- National centers will collaborate with leading scientific institutions working on climate change adaptation issues.

REGIONAL ACTION #1

Collaborate around the design and implementation of a Pilot Phase for *National Centers of Excellence*	**2012**
Share models, tools and information and jointly mobilize support around the pilot phases of national centers in each country, which will include the following types of actions:	Design of pilot phase complete
• Complete "business plans" for national centers in each country, describing overall design elements of the Centers as well as activities under a pilot phase.	
• Implement Pilot Phases for the national centers, emphasizing a practical national work program, as well as a regional networking component (e.g., sharing models, tools and approaches; collaborating around regional assessments). Wherever possible, national centers will build upon *existing institutions* working on climate change and adaptation issues. Some foundational activities under pilot phases could include:	2014
?*Studies of the economic costs of inaction (and the economic benefits of action).* Estimate the economic costs of *inaction*, and analyze costs and benefits of various actions, to support decision-makers in making sound decisions related to budgeting and planning.	Fully implement pilot phase
?*Communications strategies and programs.* Develop effective communications strategies and programs, such as: (i) case studies and testimonials of local communities already witnessing and experiencing climate change impacts, to help communicate to other local communities and decision-makers the urgency for action; (ii) user-friendly print and video materials customized for decision-makers; and, (iii) learning networks and other information sharing mechanisms.	
• Mobilize funding and technical support for pilot phases. This will include, as appropriate, some *joint* approaches to external funding agencies and technical assistance providers (e.g., scientific institutions).	

Annex 5:

Action Plan for the Implementation of the Pacific Islands Framework for Action on Climate Change 2006-2015

1. Implementing Adaptation Actions

Adaptation measures will have to be identified at the national and local levels, with regional support and backstopping provided through agreed modalities. Linkages will be maintained with regional and national projects such as PACC. Adaptation measures and information on adaptation technologies will be compiled by SPREP on the climate change portal and listed and updated on a regular basis. In particular it is crucial to encourage community participation in planning, management and implementation of adaptation measures.

Expected Outcomes by 2015 as presented in the Framework are:

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

a) National Actions

A step-by-step process should be identified according to national circumstances so as to ensure that individual adaptation actions are consistent with national priorities. Such a framework could involve:

- clearly identifying national adaptation priorities;[1]
- engaging with stakeholders in priority sectors to discuss impacts and appropriate adaptation responses;
- developing national adaptation plans based on the priorities identified, with appropriate support from regional organisations and donors;[2]
- designing national adaptation programmes, with appropriate support from regional organisations and donors, to implement these plans that address underlying vulnerabilities and support resilience building;
- committing national budgets for adaptation programmes as appropriate.

Elements that could be considered as part of such a process include: establish integrated coastal management and adaptation measures to increase the resilience of coastal systems; protect, inter alia, coral reefs, coastal communities, and mangroves, and promote sustainable in-shore fisheries; protect freshwater resources and promote watershed management; diversify economic opportunities in agriculture, biodiversity conservation and management; protect human health from climate change related diseases; formulate appropriate building and zoning codes and promote integrated early warning and response systems. Account should also be taken of social and gender impacts of climate change so remedial actions can be prepared. Community-based approaches developed in the region[3] should also be considered.

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[1] LDCs can undertake this through their NAPAs; other PICTs through a NAPA-like process (if approved by the FCCC COP), the national communications process or other means
[2] For the purposes of this action plan, the phrase "regional and international partners" includes national and regional non-governmental organisation, civil society organisations and other agencies active in the region.
[3] CBDAMPIC (SPREP) or IAAMCCSD (USP)

b) Regional Actions:

Regional organisations and international partners[4] can provide the following support as requested:

- assist with the design, financing and development of national adaptation measures, such as those referred to above;
- provide capacity building and training for the implementation of national adaptation measures;
- map existing adaptation projects in the region to support co-ordination and limit duplication and promote regional adaptation projects that involve local communities and promote livelihoods;[5]
- facilitate regional exchange on best practices and lessons learned from adaptation activities that can be replicated within the Pacific Islands context;
- assist in accessing adaptation funds and the development of proposals including through the provision of advice on the drafting of project proposals;
- develop or enhance integrated early warning and response systems;
- establish close linkages with the Pacific Nature Conservation Roundtable process.

Relevant ongoing activities on adaptation include the Pacific Adaptation to Climate Change Project, the Kiribati Adaptation Project phase II, National Adaptation Programmes of Action (for the Pacific LDCs) (NAPAs), as well as aspects of the development of 2nd National Communications to the UNFCCC (2nd NatComs).

2. Governance and decision making

In order to situate climate change at the appropriate level of governmental decision-making processes it will be necessary to ensure that national sustainable development strategies and planning give prominence to climate change issues.

Expected Outcomes by 2015 as presented in the Framework are:

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 organisational arrangements between government agencies, private sector, civil society, community and other stakeholders strengthened;
2.3 CROP agency partnerships coordinated, harmonised and strengthened to ensure country, and outcome, focused delivery of services; and
2.4 Good governance by all stakeholders in climate change activity management at regional, national and local levels strengthened.

a) National Actions

In order to establish the appropriate governance and enabling environment for climate change, the following activities could be considered:

- promote adaptation action at both the national policy level (top-down) and at the community level (bottom-up) and incorporate adaptation and mitigation into national planning, policies and regulations;
- promote closer links between climate change teams, environment agencies and budgeting agencies to enhance the influence of the climate change teams and the environment agencies on funding decisions related to climate change;
- promote communication and coordination between the national agencies involved in engaging donors so that climate change funding is optimised;
- require that risk assessment are carried out as part of project appraisals, including environmental impact assessment for all major infrastructure and economic

[4] CBDAMPIC (SPREP) or IAAMCCSD (USP)
[5] For example the Fiji School of Medicine Piloting Climate Change Adaptation to Protect Human Health project, the SPREP PACC, Kiribati national KAP II project, etc.

development projects;

- identify, assess and implement suitable regulatory and incentive based strategies and instruments to climate proof communities and physical infrastructure and incorporate future climate risk into hazard mapping and decision making, including national energy policies and action plans that identify and promote low-emission and cost effective measures to reduce greenhouse gas emissions and meet national energy needs.

b) Regional Actions

Regional organisations and international partners, through a multidisciplinary team of technical experts, where necessary, can provide the following technical and scientific support:

- the development of decision-making processes for prioritisation and resource allocation at the national level to reflect effects of climate change;
- the documentation and dissemination of best practices in the formulation of national sustainable development strategies, using existing networks where appropriate;
- guidance on how to integrate climate change considerations into national sustainable development policies and strategies through the use of risk management tools, economic and social assessment of options, prioritisation and decision-making process, scientific and technical assessment supporting capacity building;
- the integration of links between all regional centres compiling data on climate change, extreme climatic events and sea level rise[6] and linkages to the regional natural disaster management process;
- support to PICTs to develop and implement legislations and support informal institutions to climate-proof communities and infrastructure, and provision of technical assistance to build the capacities of PICTs for the integration of comprehensive risk management into sustainable development planning; and
- support to completing needs assessments that may be required to access additional funds.

Relevant ongoing activities on governance and decision-making include work done by the Pacific Plan Action Committee (PPAC), the development of national sustainable development strategies as well as aspects of the development of 2nd NatComs.

3. Improving our understanding of climate change

Developing scientific capacity in the region will be an important element of this Action Plan. The need to communicate climate change science to stakeholders and climate change officials is also important. There will be a need to link in with the scientiic and meteorological work undertaken by PI-GCOS to ensure that the projects under the PI-GCOS implementation plan that are already budgeted and planned are implemented as a matter of priority.

Expected Outcomes by 2015 as presented in the Framework are:

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; and

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

[6] Fiji regional cyclone centre, SPREP, SOPAC (SPSLCMP), USP etc.

a) National Actions

In order to improve knowledge and understanding of climate change the following actions could be considered:

- enhance existing institutional capacity of national meteorological, hydrological and oceanographic services and enhance human capacity to observe, predict and monitor climate change and climate variability, and enhance use of climate prediction by National Meteorological Services staff and potential users in climate sensitive industries;
- develop national data policies on how institutional capacity to sustain observational collection systems, networks and technical data sets, and convert existing climate data into digital form;
- install affordable and user-friendly observation and application systems for local communities; and
- maintain and enhance basic instrumentation[7] needed for weather, hydrological, terrestrial and oceanographic forecasting and prediction.

b) Regional Actions

Regional organisations and international partners can provide the following support as requested:

- improve paleoclimatic understanding of the Pacific;
- facilitate implementation of the PI-GCOS Implementation Plan and of the Meteorological Services Needs Analysis Projects, build on the South Pacific Sea Level and Monitoring Project (SPSLCMP), and promote regional mechanisms that focuses on synergies and efficient delivery of these and other relevant regional plans;
- establish a Regional Clearing House on Climate Change Information[8] and promote improvements in telecommunications capacity across the region and provide this Clearing House with relevant documentation on climate change and extreme events, and monitoring and characterisation of the impacts of sea level rise and storm surges;
- facilitate assistance for the maintenance of meteorological equipment, and the collection and security of climate data to ensure ongoing reliable data at the national level and satellite/remote sensing with in-situ monitoring and to ensure the data is secure, accessible and in a form capable of being utilised in the mitigation of adverse impacts of climate change and climate variability;
- increase capacity for climate change and health research in the Pacific, and improve regional and international collaboration in this regard.

Relevant ongoing activities on improving our understanding of climate change are the PI-GCOS implementation projects, the SPSLCMP as well as regional implementation of the UNFCCC Nairobi Work Programme and Research and Systematic Observation.

4. Education, training and awareness

Climate change in the context of sustainable development necessitates a holistic approach conducive to a better quality of life within a long-term time frame, rather than one aimed at short-term gains. Sustainable development strategies are multifaceted, taking into consideration economic, social, cultural, environmental, participatory, and political factors that affect human welfare. An optimal level of understanding of climate change in PICT communities can only be fruitfully and effectively realised if the stakeholders are adequately educated to understand the values underpinning sustainable development and to participate in relevant and appropriate action on climate change. Even more so, public education and awareness are prerequisites for behavioural change and for gaining support among the general public for actions to implement climate change action for sustainable development.

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[7] in-situ measurements and instrumentation systems such as satellites, ARGO floats, etc.
[8] This Clearing House Mechanism could be a virtual network to be established at SPREP within the climate change portal.

Expected Outcomes by 2015 as presented in the Framework are:

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; and
4.4 Better informed public on climate change issues.

a) National Actions

In order to ensure that education, training and awareness are given appropriate attention the following actions could be considered:

- appoint national focal points for education, training and awareness[9] and seek resources to complete the needs assessment under relevant articles of UNFCCC for appropriate community-level training, development of curriculum for all levels and translation of educational material into local languages for advocacy and awareness purposes;
- develop national communications strategies appropriate to local and national needs;[10] strengthen the expertise of local staff for the effective management and coordination of climate change activities;
- disseminate information and tools about climate change, variability and extreme events[11], and on issues related to economic and social implications and health risks, to policy-makers, landowners, private sector, the general public and outer island and remote communities, acknowledging the importance of individual responsibilities in tackling climate change issues;
- promotion in schools of the range of career opportunities in climate science, targeting both boys and girls;
- incorporate climate change adaptation into public awareness programmes on conservation of biodiversity;
- establish exchange, secondment and mentoring programmes for training of scientific, technical and managerial personnel and for the media, including on climate change negotiations; and
- develop and implement training programmes that enable local implementation, management and ongoing maintenance of renewable energy technologies.

b) Regional Actions

Regional organisations and international partners can provide the following support as requested:
the development and maintenance of regional expertise for research and development focused on climate change, climate variability and sea level rise;
developing a directory of regional and national organisations and individuals, with a view to building active networks in the implementation of climate change activities, and increase the capacity of regional educational and research institutions;
providing resources to facilitate the capacity development of PICTs working on climate change and climate variability related issues through intra-regional cooperation and training;
regional workshops to prepare for climate change negotiations;
regional scholarship funds, mentoring programs and expert training in support of national actions outlined above, including for climate change negotiations;

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[7] in-situ measurements and instrumentation systems such as satellites, ARGO floats, etc.
[8] This Clearing House Mechanism could be a virtual network to be established at SPREP within the climate change portal.

coordinate the collection and dissemination of information, advice, training, networking and linkages to ongoing research in CROP, at USP and other tertiary institutions, through the Clearing House Mechanism.

Relevant ongoing activities on education and awareness include work done on UNFCCC Article 6, as well as communications strategies under development in the context of 2nd NatComs.

6. Partnerships and cooperation

The success of this Action Plan will be directly linked to the commitment and political will of the partners. Engagement by all relevant stakeholders, coupled with integrated national and local partnerships will be important. At the regional level coordination is ongoing, but there is also a corresponding need for national coordination between the various relevant agencies engaged in climate change and sustainable development. Building capacity is vital to greater national coordination in PICTs. Key challenges include the need for measurable partnership targets, maintaining momentum and for securing a sustainable financial base. A range of concrete outcomes could be pursued under this component, including regional information-sharing networks; capacity-building activities at the local level; utilising non-climate change related festivals and conferences; and the launch of a number of new partnerships on specific climate change areas.

Expected Outcomes by 2015 as presented in the Framework are:

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 harmonised to maximise benefits to PICTs;
6.4 Access by PICTs to secure increased resources from funding mechanisms related to climate change instruments optimised; and
6.5 Promote significant international support through advocacy for further reduction in greenhouse gases and securing resources for adaptation.

a) National Actions

In order to enhance partnerships and cooperation the following actions could be considered:
seek to promote increased bilateral and international partnerships from traditional and non-traditional partners to address national climate change issues and to secure funding and seek access to financial and technical assistance under all currently available sources;[12]
participate actively in the development and implementation of relevant international programmes[13] and provide high level and consistent national representation to climate change negotiations meetings;
seek the support of the private sector in national climate change initiatives; and
prepare reports on national activities taken to implement the Pacific Islands Framework for Action on Climate Change and this action plan.

b) Regional Actions

Regional organisations and international partners can provide the following support as requested:

- promotion of joint climate change projects between international organisations, education and research institutions and PICTs;
- assistance in convening regular Pacific Climate Change Roundtable Meetings to promote

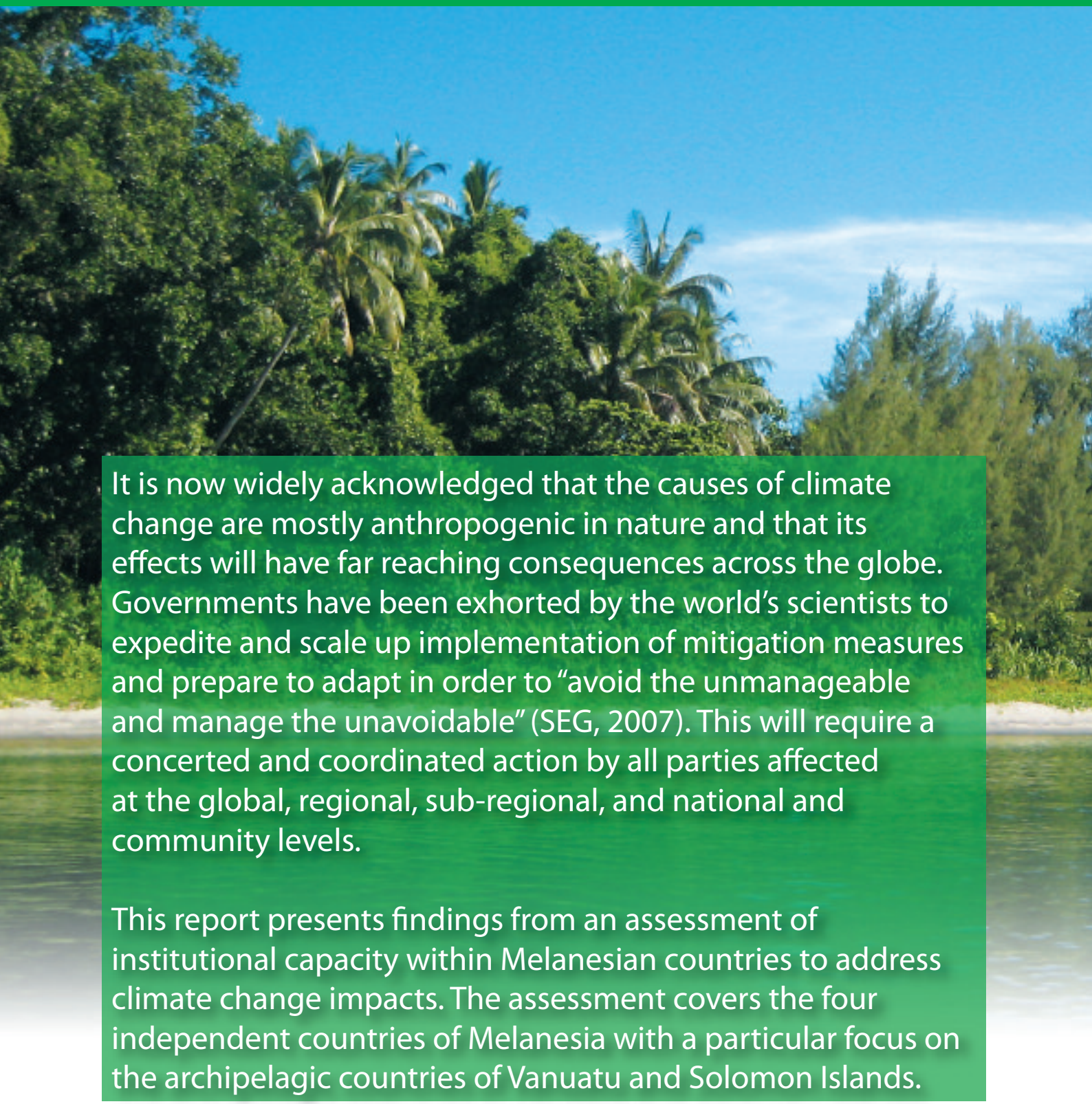
[12] NAPA's, Second National Communications, Special Climate Change Fund, GEF Adaptation Pilot funds, Clean Development Mechanism Adaptation Fund, UNDP Small Grants Scheme etc.
[13] For example, the UNFCCC Nairobi Work Programme on Impacts, Vulnerability and Adaptation.

the Framework and this Action Plan;

- assistance in updating the regional climate change matrix to be developed for consideration at Roundtable meetings;
- facilitate the involvement of international and regional private enterprises in climate change activities at the national and regional level;
- facilitate national access to all available climate change funds through technical support, and assist PICTs to mobilise additional financing for the region; and
- maintain high level advocacy on the climate change challenges faced by PICTs through partnerships within CROP, the Alliance of Small Island States and the GEF Council constituency, and to continue to provide relevant briefings to international meetings on climate change.

Notes

Notes



It is now widely acknowledged that the causes of climate change are mostly anthropogenic in nature and that its effects will have far reaching consequences across the globe. Governments have been exhorted by the world's scientists to expedite and scale up implementation of mitigation measures and prepare to adapt in order to "avoid the unmanageable and manage the unavoidable" (SEG, 2007). This will require a concerted and coordinated action by all parties affected at the global, regional, sub-regional, and national and community levels.

This report presents findings from an assessment of institutional capacity within Melanesian countries to address climate change impacts. The assessment covers the four independent countries of Melanesia with a particular focus on the archipelagic countries of Vanuatu and Solomon Islands.