



# GEF Vanuatu and SPREP Portfolio Evaluation (1991–2012)

## *Volume 2*

*Global Environmental Benefits Assessment*

*Regional Environmental Legal Framework*

*Review of Outcomes to Impact: Pacific Islands  
Renewable Energy Project (GEF ID 1058)*

*Review of Outcomes to Impact: Facilitating and  
Strengthening the Conservation Initiatives of Traditional  
Landholders and their Communities to Achieve  
Biodiversity Conservation Objectives (GEF ID 1682)*

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## Global Environmental Benefits Assessment

## SPREP AND VANUATU CONTEXT

### Context: SPREP Region

The Pacific Islands is a place of enormous diversity in physical geography, culture, languages, social-political organization, size and natural resource endowment. The area is also extremely vulnerable to environmental changes because its predominantly small islands and fragile environment are susceptible to natural and human-induced geologic and climatic hazards such as cyclones, droughts, and tsunamis, resulting from the global rise in greenhouse gas emissions, increasing populations, and unsustainable exploitation of its biodiversity and natural resources.

The Pacific Islands region includes 14 nation states and eight territories scattered over one third of the globe, covering an area of around 30 million km<sup>2</sup>. Of the total area, only 0.4% is covered by land, made up of between 20,000-30,000 small islands, with Papua New Guinea (PNG) covering 83% of the region's land area.

**Table 1: SPREP Countries' Key Statistics**

Countries	Land Area (km <sup>2</sup> )	Exclusive economic Zone (EEZ) Area (km <sup>2</sup> )	Population (est. mid-2009)	GDP/capita (USD)	GDP Growth Rate 2007 (est.)	Human Development Index
Cook Islands	237	1,830,000	15,636	10,007	0.4	.829
FSM	701	2,978,000	110,899	2,1830	.10	.716
Fiji Islands	18,272	1,290,000	843,8833	3182	-3.90	.718
Kiribati	811	3,550,000	98,989	656		0.597
RMI	181	2,131,000	54,065	2,851	2	.708
Nauru	21	310,000	9,771	2,820	0.20	.637
Niue	259	390,000	1,514	5,854		0.821
Palau	444	616,000	20,397	8,423	5.5	0.810
Papua New Guinea	462,840	3,120,000	6,609,745	1,062	6.2	0.437
Samoa	2,935	120,000	182,578	2,860	4.7	0.762
Solomon Islands	28,370	1,340,000	535,007	1,100	6.3	0.579
Tonga	650	700,000	103,023	1,874	-3.5	0.737
Tuvalu	26	900,000	11,093	1,563	3	0.691
Vanuatu	12,190	680,000	238,903	1,908	4.7	0.640

**Sources:** SPC and SOPAC databases Draft Pacific Human Development Report 2009, UN Statistics Division National Accounts Main Aggregates Database

As reflected in Table 1, the Pacific Island nations range in size and population, from Papua New Guinea, which is spread over 400,000 km<sup>2</sup> with a population of over 5 million, to Nauru with a population of less than 9,800 and a land mass of only 21 km<sup>2</sup>, and Niue with a population of roughly 1,500 residing on a land area of 259km<sup>2</sup>. Solomon Islands and Fiji have populations above 500,000, while Vanuatu, Samoa, Tonga, Kiribati, and Micronesia have populations of between 100,000 and 230,000. The remaining smaller island states of Nauru, Palau, Cook Islands, Niue, Tuvalu, and Marshall Islands have populations ranging from around 60,000 down to 1,400. The population growth rates for the region are relatively high, averaging 2.2% per annum. Countries that have high emigration rates such as Tonga, Samoa, and Tuvalu normally have less than 1% growth rates, while Niue and Cook Islands with New Zealand citizenship have had negative growth rates for the last 10 years.<sup>1</sup>

With the exception of PNG, the Pacific's populations predominantly reside in rural coastal areas, thus making them even more vulnerable to sea level rise and tsunamis.

<sup>1</sup> <http://www.spc.int/sdp/>

The Pacific economies are primarily dependent on agriculture (20-40% of GDP), fishing (10% of GDP) and tourism (up to 40%) of GDP in some countries.<sup>2</sup> For countries like Samoa and Tonga, remittances account for 25% and 32% of their respective GDPs. The continental high islands of the Melanesian group have extractive industries such as logging and mining as additional major contributors to their economies.

The resource-rich Melanesian states have higher GDPs than the Polynesian and Micronesian states. PNG has a GDP of USD\$7906 million, Fiji a GDP of USD\$3061 million, Solomon Islands a USD\$715 million GDP, and Vanuatu a USD\$729 million GDP. The rest of the region – which includes Samoa, Tonga, Niue, Cook Islands, Tuvalu, Federated States of Micronesia, Palau, Kiribati, Nauru, and the Marshall Islands – have GDPs ranging from USD\$523 million in Samoa to USD\$54 million in Nauru.

The 14 Pacific Island nation states have all signed and either ratified or acceded to UNFCCC, UNCBD, UNCCD, and Stockholm Convention on POPs for which GEF is the financial mechanism.

To have individual countries undertake national efforts to combat the environmental challenges is a difficult task due to small populations, limited economies, lack of technical knowledge base, and trans-boundary conditions. It is for these reasons that the Pacific Island countries established regional bodies such as the Secretariat of the Pacific Regional Environment Programme (SPREP) to coordinate regional efforts and support the countries' sustainable development efforts.

SPREP was established by Pacific Island governments and territories under the Agreement Establishing SPREP in 1993, "... to promote co-operation, and provide assistance in order to protect the environment and to ensure the sustainable development for present and future generations."<sup>3</sup> The key focal areas under SPREP are climate change, biodiversity and ecosystem management, waste management, pollution control, environmental monitoring and governance.

## Context: Vanuatu

The Vanuatu islands are located in a seismically and volcanically active region and have high exposure to geologic hazards, including volcanic eruptions, earthquakes, tsunamis, and landslides.<sup>4</sup> Vanuatu, formerly the Anglo-French condominium of the New Hebrides, is an irregular Y-shaped chain of some 80 islands, with a total land area of about 12,190 km<sup>2</sup>. The country's total population was estimated to be 240,000 people in 2010, and it has an annual population growth rate of 2.3 %.<sup>5</sup> In 2010, Vanuatu's GDP was approximately \$729 million with a growth rate of 4.7% and per capita income of \$1,908 as shown in Table 1. Agriculture and tourism are the main productive sectors contributing to Vanuatu's economy. Agriculture contributes 21.5% of GDP; tourism contributes 19% of GDP.<sup>6</sup> The vast majority of Vanuatu's population is engaged in informal subsistence economic activities. 79% of Vanuatu's population lives in rural villages, ranging from one family to a thousand people, meeting subsistence and cash needs from locally available terrestrial and inshore marine resources. The monetized commercial sector accounts for less than one third of all economic activity.

Vanuatu ranks 118<sup>th</sup> on the Human Development Index (HDI) and 52<sup>nd</sup> on the Human Poverty Index (HPI). Poverty levels stubbornly remain at about 40% of the population, with about 26% living on less than \$1 per day. The low economic and social statistics for Vanuatu are a major stumbling block

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<sup>2</sup> Pacific Regional Report for the 5 year review of Mauritius Strategy for Further Implementation of the Barbados Program of Action for Sustainable Development; 2010

<sup>3</sup> Agreement Establishing the Secretariat for the Pacific Regional Environment Programme (SPREP).

<sup>4</sup> [http://imagebank.worldbank.org/servlet/WDSContentServer/IW3P/IB/2010/02/25/000333037\\_20100225012651/Rendered/PDF/532100WPOP1120110VANUATU1ASSESSMENT.pdf](http://imagebank.worldbank.org/servlet/WDSContentServer/IW3P/IB/2010/02/25/000333037_20100225012651/Rendered/PDF/532100WPOP1120110VANUATU1ASSESSMENT.pdf) Website access: 7<sup>th</sup> November 2012.

<sup>5</sup> [http://imagebank.worldbank.org/servlet/WDSContentServer/IW3P/IB/2012/03/26/000356161\\_20120326004949/Rendered/PDF/E30040EA0P1126020Box367891B00353352.pdf](http://imagebank.worldbank.org/servlet/WDSContentServer/IW3P/IB/2012/03/26/000356161_20120326004949/Rendered/PDF/E30040EA0P1126020Box367891B00353352.pdf), Website access: 7<sup>th</sup> November, 2012.

<sup>6</sup> [http://www.wttc.org/site\\_media/uploads/downloads/vanuatu2012.pdf](http://www.wttc.org/site_media/uploads/downloads/vanuatu2012.pdf)

in implementing the national plans developed as part of the Rio Conventions as the limited national budget is spread thinly over several sectors of society.

## PACIFIC ISLANDS AND VANUATU GLOBAL ENVIRONMENTAL BENEFITS

The Global Benefits Index (GBI) is a measure of the potential of each country to generate global environmental benefits in a particular GEF focal area. Separate indices are determined for the biodiversity and climate change focal areas as shown in Table 2.

The GBI for Biodiversity seeks to measure the potential global benefits from biodiversity-related activities in a country. It reflects the complex, highly uneven distribution of species and threats to them across the ecosystems of the world, both within and across countries.

The **GBI for Climate Change** seeks to measure the potential global benefits that can be realized from climate change mitigation activities in a country. The approach reflects the objectives of the GEF climate change operational programs to address long-term priorities to mitigate climate change. Adaptation funding is through the Least Development Countries (LDC) Fund, the Adaptation Fund, and the Special Climate Change Fund, which is outside of the GBI calculations.

As shown in Table 2, the GBI's for the Pacific Islands for climate change are all zero, which suggests that there is no global environmental benefit to climate even from the region as whole. As for the biodiversity GBI, the assessment given below clearly shows how both the terrestrial and marine biodiversity exist in the region. This is the unfortunate issue as in reality, the Pacific is home to a very high and rich biodiversity, high endemism and are the most vulnerable to climate change due to the smallness of the islands and the tropical locations which bears the brunt of tropical cyclones and drought on a regular basis. This will be explained in detailed in the following sections.

**Table 2: SPREP Countries Global Benefit Index**

Pacific Island Countries	Climate Change GBI	% Share of GBI	Biodiversity GBI	% Share of GBI
Cook Islands	10	0	10.7	0.1
FSM	0	0	9.3	0.0
Fiji Islands	782	0	27.2	0.4
Kiribati	0	0	7.6	0.1
Marshall Is.	0	0	18.4	0.0
Nauru	41	0	0	0
Niue	2	0	2.6	0
Palau	78	0	8.8	0.1
Papua New Guinea	2144	0	179	2.4
Samoa	159	0	11.7	0.2
Solomon Islands	95	0	30.8	0.4
Tonga	75	0	6.8	0.1
Tuvalu	-	0	1.9	0
Vanuatu	193	0	14.7	0.2

Source: [www.thegef.org](http://www.thegef.org): Global Benefits Index (GBI) for Biodiversity: Initial and Revised July 2008

## SPREP COUNTRIES AND VANUATU GLOBAL ENVIRONMENTAL BENEFIT VALUES BY FOCAL AREA

### Biodiversity

The Pacific Islands region is one of the richest areas of terrestrial and marine ecosystems on earth, with habitats ranging from mountain forest ecosystems to volcanic islands and low lying coral atolls

and extensive coral reef systems. The New Guinea Islands (the west is part of Indonesia and the east is part of Papua New Guinea) alone is home to over 5% of global terrestrial biodiversity, with two thirds found nowhere else in the world, despite being less than 1% of the global landmass. The Western Pacific, which includes Melanesian countries and Palau, is recorded as having the highest marine biodiversity along with the most extensive coral reef system in the world. The region's isolated islands provide ideal conditions for the evolution of new species. As a consequence, Pacific islands have high numbers of "endemic" species, including more than 400 endemic bird species.<sup>7</sup>

The huge expanse of ocean supports the most extensive and diverse coral reefs in the world, the largest tuna fishery, the deepest oceanic trenches and the healthiest and in some cases, largest remaining populations of many globally rare and threatened species including whales, sea turtles, dugongs and saltwater crocodiles. The richness of biodiversity in the Pacific is evident in the presence of biodiversity hotspots that include both terrestrial and marine ecosystems. Eastern Melanesia, New Guinea Island and New Caledonia are recognised for their rich and diverse terrestrial areas.

The Coral Triangle hotspot is one of the richest marine biodiversity hotspots globally with over 600 coral species, and over 3,000 documented fish species are known to exist in the Coral Triangle, which includes the Melanesian countries of Vanuatu, Solomon Islands, Fiji and Papua New Guinea.

The Polynesia-Micronesia hotspot is home to approximately 5,330 native vascular plant species, of which 3,070 (58%) are endemic; 242 breeding native bird species, of which approximately 164 (68%) are endemic; 61 native terrestrial reptiles, of which 30 (49%) are endemic; 15 native mammals, all bats, 11 of which (73%) are endemic; and three native amphibians, all endemic. Although there are no true native freshwater fish, at least 96 marine species are found as adults in freshwater and 20 species are endemic. Knowledge of invertebrate diversity is very patchy.<sup>8</sup>

New Guinea Island's biodiversity as documented in the PNG National Biodiversity Strategy and Action Plan and the biodiversity literature is home to some 15,000-21,000 higher plants, 3,000 species of orchids, 800 species of coral, 600 species of fish, 250 species of mammals, 760 species of birds, and eight species of tree-kangaroos, of which 84 genera are endemic. Ecosystems range from lowland forests to montane forests, and alpine flora down to coastal areas which contains some of the most extensive pristine mangrove areas in the world.

**Table 3: Pacific Islands Biodiversity Hotspots**

Hotspot	Plants	Birds	Reptiles	Mammals	Corals	Fish
Polynesia-Micronesia	5330	242	61	15		
New Guinea Island	15-20,000 3000 (orchids)	760		250	800	600
East Melanesia	8000	360	42 (amphibians)	86		52( freshwater fish)
Coral Triangle					600	3000
Vanuatu	1100			13	297	469

Sources: [http://www.conservation.org/where/priority\\_areas/hotspots/asia-pacific](http://www.conservation.org/where/priority_areas/hotspots/asia-pacific)

Many of the unique plants and animals of the region are amongst the most endangered in the world, mainly because the tiny sizes of most of the islands also means the total populations of many species are naturally very small, which makes them especially vulnerable to any disturbance. The Pacific currently has about 25% of the world's threatened bird species and has already lost many species. Worldwide, the largest number of documented extinctions (28 between 1600 and 1899 and 23 in the twentieth century) has occurred on the islands of Oceania which now have more threatened species (110) than any other region. Estimates identify that there are roughly seven

<sup>7</sup> Pacific Regional Report for the 5 year review of Mauritius Strategy for Further Implementation of the Barbados Program of Action for Sustainable Development; 2010

<sup>8</sup> Conservation International, 2007, Polynesia-Micronesia Biodiversity Hotspot: Ecosystem Profile

times more endangered bird species *per capita* in the South Pacific than in the Caribbean, 50 times more than South America, and a hundred times more than in North America or Africa. The Polynesia-Melanesia hotspot is considered the epicentre of the current global extinction crisis.<sup>9</sup>

Long-standing cultural and spiritual foundations link Pacific Island peoples with their terrestrial, coastal, and marine ecosystems and the species they harbour. However, native species are in decline and ecosystems are being disrupted by human activity. For many years, growth in economies and populations has been driving unsustainable resource use and extraction. This has led to over-harvesting of vital coastal and pelagic fisheries. Unsustainable logging and forest conversion for plantation agriculture has often resulted in severe localised impacts on terrestrial ecosystems, fresh water and soil loss. On some larger high islands, poorly managed mining operations have had devastating environmental and social impacts.

Increasing transport and trade have brought invasive species to the Pacific Islands. These have severe ecological impacts on biodiversity, as well as economic impacts on major production sectors, tourism, and trade.

Protecting and sustainably managing these important biodiversity areas is something Pacific Islands countries cannot do alone with their limited technical, financial and human resources.

## Biodiversity in Vanuatu

Vanuatu belongs to the East Melanesian Islands biodiversity hotspot. As detailed in table 3 the hotspot is rich in biodiversity, and being islands are also very high in endemism with 26% of plant species 45% mammal species 42% bird, 90% amphibian and 6% of freshwater fish species.<sup>10</sup> A review on studies of the flora and fauna for the Vanuatu Biodiversity Strategy Action Plan noted the presence of more than 1,100 plant species, 297 coral species, 80 species of insects, 13 mammal species, and more than 469 shallow fish species. Vanuatu's terrestrial ecosystems are classified into five main vegetation types, mainly lowland rainforests, montane cloud forests, seasonal forest, scrub and grasslands, and coastal vegetation. The rich marine ecosystems include coral reefs, mangrove forests, sea grass beds, wetlands, and rare marine biodiversity such as sea turtles, whales, dugongs, and dolphins.

## Climate Change

The Pacific Islands, with large spans of untouched forests, mangroves and pristine inshore reefs, provide great carbon sequestration values, but are also the most vulnerable to human-induced and natural climate change and sea level rise. This is despite the region amongst emitting the least amount of carbon into the atmosphere.

Climate change is already disproportionately affecting the islands of the Pacific. Although islanders have done little to contribute to the cause – less than 0.03% of current global greenhouse gas emissions – they are among the first to be affected. Most islands are experiencing climate change impacts on communities, infrastructure, water supply, coastal and forest ecosystems, fisheries, agriculture, and human health as well as tourism.

Agriculture, which is mostly rain-fed in the region, is susceptible to changes in rainfall distribution. Intense and prolonged rainfall could damage seedlings, resulting in greater run-off and soil erosion and encourage conditions that promote pests and diseases. Droughts combined with higher temperatures would cause added thermal stress on plants. Projected increases in sea surface temperatures combined with increased ocean acidification (from increased CO<sub>2</sub> concentrations in

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<sup>9</sup> Conservation International, 2007, Polynesia-Micronesia Biodiversity Hotspot: Ecosystem Profile

<sup>10</sup> [http://www.conservation.org/where/priority\\_areas/hotspots/asia-pacific/East-Melanesian-Islands/Pages/biodiversity.aspx](http://www.conservation.org/where/priority_areas/hotspots/asia-pacific/East-Melanesian-Islands/Pages/biodiversity.aspx)



the atmosphere) are likely to put pressure on the marine food chain (particularly reef systems and other calcifying organisms such as planktons) which in turn potentially threatens aspects of marine food supply and associated livelihoods. The incidence of vector-borne disease such as malaria and dengue fever, and water-borne diseases such as dysentery and diarrhea are likely to increase and shift in distribution (malaria is likely to extend further southwards)<sup>11</sup>.

All 14 Pacific Island nations have submitted their First National Communications to the UNFCCC as shown in Table 3, through financial support of the GEF enabling activity. Through this, countries were also able to develop climate change policy frameworks which were used as guides for implementation of efforts to effectively reduce carbon emissions, and implement adaptation programs. For the least developed countries of the region, National Adaptation Programs of Action (NAPA) have been produced using the LDC Funds, which provide additional guidance on specific actions to address adaptation.

**Table 4: SPREP Country Parties to UNFCCC**

Agreements	SPREP Member Countries & Climate Change Conventions													
	CI	FSM	FIJ	KIR	RMI	NAU	NIU	PAL	PNG	SAM	SOL	TON	TUV	VAN
1 <sup>st</sup> National Communications	S	S	S	S	S	S	S	S	S	S	S	S	S	S
NAPA				S						S	S		S	S
Climate Policy	C	C	C	C	C	C	C	C	C	C	C	C	C	C

Source: [www.sprep.org](http://www.sprep.org) Key: S: submitted; C completed

The first National Communications under the UNFCCC for Pacific Island countries identified the greenhouse gas (GHG) emissions, which as shown in Table 4, are very low in all Pacific Island Countries (PICs). The carbon emissions per capita are also considered low. Most of the GHG emissions in the PICs are from the combustion of fossil fuels for power generation and in transportation. Power generation is only from fossil fuel in most of the PICs and the transport sector utilizes 100% fossil fuel. Petroleum accounts for an estimated 90% of commercial energy consumption. Other lesser sources of GHG emissions for the region are forestry and land use.

The PICs are at varying stages of developing their energy sectors. The rate of electrification ranges from 10-100% but in general about 70% of the people in the Pacific Islands still do not have access to electricity. The share of renewable energy in the power generation mix ranges from 0% in most PICs to more than 50% in some.<sup>12</sup>

The impacts of climate change and sea level rise on the Pacific Island nations are real and life threatening. For example, citizens on some of PNG's islands have been relocated in response to rising sea levels. Tuvalu and Kiribati have been seeking countries for its people to relocate to in the near future as the sea level continues to rise, inundating their low-lying atoll islands. Droughts and cyclones are threatening the national economies and livelihoods of Pacific people.

<sup>11</sup> Republic of Vanuatu, 2009, *National Action Program to address land degradation and mitigate the effects of drought*,

<sup>12</sup> PIGGAREP Project Document for GEF Council Approval, 2005

Table 5: Carbon Emissions and Carbon Sinks

Pacific Islands	CO <sub>2</sub> emission 000'mt	CO <sub>2</sub> emissions per capita	Energy Consumption (per capita kg oil equivalent)	% Forest Cover
Cook Islands	66	3.2	1195	65
Fiji	1458	1.8	541	55
Kiribati	33	0.3	107	15
Marshall Is.	99	1.9	537	70
Micronesia	62	0.6	not available	91.5
Nauru	143	10.8	4616	0
Niue	4	2.1	731	72
Palau	213	9.6	3473	87.6
PNG	3364	0.5	186	64.1
Samoa	161	0.8	161	60.4
Solomon Is.	198	0.4	123	79
Tonga	176	1.7	561	12
Tuvalu	-	-	?	33
Vanuatu	103	0.5	134	36.1

Sources: <http://data.un.org/CountryProfile> ;  
[http://www.psmag.com/wp-content/uploads/2010/11/mmw\\_CO2footprint\\_111510.pdf](http://www.psmag.com/wp-content/uploads/2010/11/mmw_CO2footprint_111510.pdf)

## Climate Change in Vanuatu

Vanuatu's location in the "ring of fire" and the "cyclone belt" of the Pacific makes it extremely vulnerable to a range of natural hazards. Vanuatu has often experienced volcanic eruptions, cyclones, earthquakes, droughts, tsunamis, storm surges, coastal and river flooding and landslides. In addition, it has suffered from extreme events associated with climate variability and sea level rise such as an increased frequency of tropical cyclones.

Since 1939 Vanuatu has experienced 124 tropical cyclones, of which 45 were categorized as having hurricane force winds. Several of these disasters have caused loss of human life, disrupted livelihoods and resulted in millions of dollars in infrastructure damages. Cyclone Prema, which occurred in 1993, caused some US\$60 million in damages, and Dani in 1999 resulted in damage estimated at US\$8 million. The Penama earthquake and tsunami of November 1999 affected 23,000 people.<sup>13</sup>

Vanuatu is also affected by the cycles of El Niño, which comes with changes in precipitation patterns (drought) associated with increased mean temperatures, and La Niña, which brings increased rainfall.

The country's vulnerability is further heightened by a number of socio-economic factors. The narrow economic base is comprised of subsistence small-scale agriculture, which contributes 65% of the country's GDP, with fishing, offshore financial services and tourism making up the remainder. Some 80% of the population are rural and depend on agriculture, but productivity is low and the domestic market for agricultural products is limited.

Vanuatu has completed both a National Adaptation Program of Action (NAPA) and a National Action Plan (NAP) for Disaster Risk Reduction. Additionally, the national government's commitment is reflected in the merging of the former National Advisory Committee on Climate Change (NACCC) and the National Disaster Management Committee (NDMC), and upgrading it to a National Advisory Board for Climate Change and Disaster Risk Reduction. The establishment of the Project Management Unit for Climate Change and Disaster Risk Reduction is resourced both by the Vanuatu Government and funding from the GEF and other development partners.

<sup>13</sup> GEF Project document: Increase climate resilience climate change and natural hazards in Vanuatu, 2010.

## International Waters

The Pacific Ocean covers an area of nearly 40 million km<sup>2</sup> (15.4 million square miles) or over 7.9% of the Earth's surface. This vast and complex marine system contains an enormous and largely undocumented array of biodiversity. This rich biodiversity includes the most extensive and biologically diverse reefs in the world, the deepest ocean trenches, deep-sea minerals, the world's largest tuna fishery, as well as an array of globally threatened species such as sea turtles, whales and dugongs.

The many thousands of islands are, with the exception of some larger Melanesian Islands, entirely coastal in nature, often with limited freshwater resources, and surrounded by a rich variety of ecosystems including mangroves, seagrass beds, estuarine lagoons and coral reefs.

Within the Pacific is the Coral Triangle which is considered one of the richest marine biodiversity areas in the world. This area stretches from Southeast Asia to encompass PNG, Solomon Islands, Vanuatu, Fiji and Palau.

The Pacific hosts the world's largest remaining stocks of tuna, providing approximately one-third of the world's catches of tuna and related species. The western and central Pacific Ocean tuna fisheries industry have a total landed value of around US\$2 billion/year and an estimated market value of US\$6–8 billion/year. About half of this annual catch is taken from the Exclusive Economic Zone (EEZs) of Pacific Small Island Developing States (SIDS). Annual licensing fees for the predominantly foreign fishing fleets provide revenues of about US\$60–70 million to the region. As a consequence, responsible and effective stewardship is a priority, recognising the scientific advice that over-fishing of two key species –big eye and yellow-fin tuna – now places stock levels in jeopardy.

The ocean and its resources have been the lifeline for Pacific people for millennia, but with declining fishery resources, rising sea levels, warming ocean temperatures, ocean acidification and pollution, the oceans are changing rapidly. These changes are degrading the livelihoods, and threatening the very survival of Pacific Islanders.

The Pacific Islands Strategic Action Plan on International Waters identified the degradation of their quality, degradation of their associated critical habitats, unsustainable use of their living and non-living resources as the main transboundary issues.

The root causes noted were those of the pollution of marine and freshwater (including groundwater) from land-based activities, physical, ecological and hydrological modification of critical habitats, and unsustainable exploitation of living and nonliving resources.

Predicated on strong national leadership and regional cooperation, the Pacific has embarked on an ambitious program called the Pacific Oceanscape initiative. This focuses urgent and timely attention on critical issues. The Pacific Oceanscape will expand protected areas and protected area networks that take into consideration entire archipelagos, and will foster collective effort to minimize climate change impacts. The Oceanscape will facilitate the sharing of information and lessons valuable to the sustainable management of the region's vast resources to secure Pacific Islanders' livelihoods and well-being for future generations. The Pacific Oceanscape initiative will entail collaboration amongst various national governments, regional and global agencies, and non-government organizations such as Conservation International and the International Union for Conservation of Nature.

The Pacific Oceanscape initiative follows from several other regional initiatives by Pacific governments to control and sustainably manage the region's marine resources. These include the Regional Seas Program under UNCLOS, the management of migratory fish straddling stocks, management of marine pollution, and conservation migratory birds under the Ramsar Convention.

## Land Degradation

All 14 Pacific Island states have ratified the UNCCD which addresses land degradation. Of these, only four have submitted to the UNCCD Secretariat their National Action Plans. The rest of the Pacific Parties have either completed but not officially submitted their NAPs or are in the final stages of the development. All these were made possible with enabling activity funding through the GEF.

Despite the absence of completed NAPs for most Pacific countries, information gleaned from reports and consultations suggests that land degradation is a pivotal issue for most of the smaller Pacific Island countries. Countries such as Nauru, which has no native forest left due to years of mining, while Tonga (12% remaining native forest), and Kiribati (15% remaining native forest) face problems for future land use and management. Land degradation from clearing of native forests for logging operations, commercial plantations and farms, and the increasing urban settlements poses additional problems such as the contamination of the underground water lens and resulting threats to the livelihood and food security of the resident populations.

### Land Degradation in Vanuatu

The volcanic origins of the Vanuatu archipelago make most of the islands steep and mountainous. About 36.7% of the country is forested and only about 9.8% of Vanuatu's total land area is considered to be arable. Approximately 60% of low-lying coastline areas is utilised for agricultural activities and human settlement and industrial activities.

There have been numerous changes in the way land is used in Vanuatu in the last decade, particularly in the urban areas of Vila and Louganville, and land under agricultural development or use in rural areas. In the rural communities, land remains primarily under customary ownership and a large proportion of it is under cultivation. The extent of land degradation in Vanuatu is largely unknown. The impacts of land degradation on local economic and subsistence activities and national economic and political aspirations have not been assessed.

The majority of the population that is engaged in the informal economy practices shifting subsistence farming (called "gardening") based on taro, yams, bananas, manioc, sweet potatoes and coconuts. Island cabbage (*Abelmoschus manihot*) and fruits such as pawpaw and mango are widely grown. Introduced vegetables such as onions, carrots, pumpkins and corn are grown to a lesser extent. Cultivated crops are supplemented by a wide range of leafy vegetables, fruits, and nuts harvested from nearby forests. Birds and other animals including giant fruit bats and wild pigs are hunted for their meat. Domestic pigs and chickens are also commonly raised. The near shore reefs are also commonly relied on for increasing household food security through reef gleaning and fishing activities. The long-term sustainability of land resources is critical for the survival of the people of Vanuatu.

### Persistent Organic Pollutants

All 14 Pacific Island nations have signed the Stockholm Convention on Persistent Organic Pollutants (POPs), but are in various stages of developing and implementing their National Implementation Plans (NIPs). Six of the countries from the region have completed and submitted their NIPs, with FSM, PNG, Solomon Islands, Tonga and Palau awaiting submission of their reports.<sup>14</sup> Vanuatu's National Implementation Plan is in its draft form.

In a regional study of hazardous waste conducted by SPREP in 13 Pacific countries except PNG, a total 131 tons of PCBs, and 10.4 tons of DDT were recorded at over 20 sites. The chemicals were

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<sup>14</sup> <http://chm.pops.int/Home/tabid/2121/mctl/ViewDetails/EventModID/7595/EventID/356/xmid/7598/Default.aspx>

mostly disposed by burial or sealing off from human contact.<sup>15</sup> The results of this study were used as the basis for the Pacific Regional POPs project under consideration for GEF5.

No POPs chemicals were recorded as commercially produced in the region, although DDT was used in the past for the eradication of malaria. These have since been banned and are not used anymore, but cleanup of the previous storage sites and leftover chemicals are the issues at hand.

PCB found in electrical transformers and capacitors was the only other POPs chemical found in adequate amounts within the region. Health waste incineration is identified as the main source of dioxin and furan release into the atmosphere. Although no accurate volumes could be estimated for this study, programs for improving healthcare waste incineration in most Pacific Island countries will address this concern moving into the future.

Much of the information from SPREP regional hazardous waste assessment has been used as the baseline for the preparation of NIPs for the POPs Convention. Unfortunately, because most of the Pacific countries still have not completed their national assessments and NIPs, a regional overview on the global environmental benefits could not be adequately ascertained. The completion of the NIPs at the national level will fold in well with the Regional hazardous waste.

### Persistent Organic Pollutants in Vanuatu

Vanuatu did not intentionally produce POPs nor are there any future plans to do so. There is no legislation governing the intentional production and use of POPs in Vanuatu.

Through the preparation of the National Implementation Plan, it was confirmed that DDT was used for the control of malaria carrying mosquitoes until it 1989, and some of the used stocks of electrical transformers in Vanuatu contained PCBs. The report for the inventory of chemical imports has shown that the main sources of dioxin and furan releases in Vanuatu are from the incineration of quarantine and medical wastes and uncontrolled burning, including landfills and backyard rubbish fires.<sup>16</sup>

Vanuatu lacks the capacity to record, control or monitor the releases of dioxins and furans. The knowledge and application of best available techniques (BAT) and best environment practices (BEP) for new or existing sources in Vanuatu is very limited or non-existent.

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<sup>15</sup> SPREP, 2000; Management of POP's in Pacific Island Countries

<sup>16</sup> Draft Vanuatu National Implementation Plan for the Stockholm Convention on POPs, 2008

## Regional Environmental Legal Framework

## A. BACKGROUND FOR THE ENVIRONMENTAL LEGAL FRAMEWORK

### A.1. Introduction

The environmental legal framework in the Pacific Islands consists of international and regional agreements that countries have signed and ratified/acceded to, non-binding strategies and plans endorsed at high-level international conferences, and national-level legislation and regulations, and accompanying institutional arrangements for their administration. For Pacific Islands States, the lines of demarcation between obligations and responsibilities at these different levels are often blurred in practice, in large part because obligations for reporting, information sharing, and implementation are often overlapping.

### A.2. Regional environmental legal and policy framework

Three regional conventions set the context for the regional environmental legal and policy framework: (i) the Apia Convention 1976, (ii) SPREP (Noumea) Convention 1986, and (iii) the Waigani Convention 1995. The conventions deal respectively with the conservation of biodiversity, the management of pollutants and pollution reduction, and hazardous wastes.

#### A.2.1 Regional Conventions

Table 1 summarizes the status of ratification of the regional conventions. A description of the conventions follows the table.

**Table 1: Status of Ratification of Regional Conventions**

	SPREP Member Countries													
	CI	FSM	FIJ	KIR	RMI	NAU	NIU	PAL	PNG	SAM	SOL	TON	TUV	VAN
Apia Convention	R	R	R						R	R				
Noumea (SPREP) Convention	R		R		R	R		S	R	R	R		S	
Waigani Convention	R	R	R	R		S	R	S	R	R	R	R	A	R

Source: SPREP. [www.sprep.org/attachments/MEA\\_database.pdf](http://www.sprep.org/attachments/MEA_database.pdf) Downloaded 25Jan2013.

Key: R = Ratified; A = Acceded; S = Signed.

#### *A.2.1.a. Apia Convention 1976*

Its objective is to take action for the conservation, utilization and development of the natural resources of the South Pacific region through careful planning and management for the benefit of present and future generations.

The main provisions require that Parties:

- a. Create protected areas to safeguard representative samples of natural ecosystems, superlative scenery, striking geological formations and regions and objects of aesthetic, historic, cultural or scientific value (art.2);
- b. Do not alter national parks so as to reduce their area except after the fullest investigation, their resources not to be subject to commercial exploitation, hunting and collection of species to be prohibited and provision to be made for visitors (art. 3);
- c. Maintain lists of indigenous fauna and flora in danger of extinction and to give such species as complete protection as possible (art. 5);

- d. Make provisions as appropriate for customary use of areas and species in accordance with traditional cultural practices (art. 6).

#### *A.2.1.b. Noumea (SPREP) Convention 1986<sup>17</sup>*

The objective of the Noumea Convention is to protect and manage the natural resources and environment of the South Pacific region.

Under the Noumea Convention, the Parties agree to take all appropriate measures to

- a. prevent, reduce and control pollution of the Convention area (art. 5), particularly pollution from vessels (art. 6), land-based sources (art. 7), exploration and exploitation of the sea bed (art. 8), airborne pollution (art. 9), dumping (art. 10) and the testing of nuclear devices (art. 12);
- b. ensure that the implementation of the Convention does not result in an increase in pollution in the marine environment outside the Convention area (art. 5.2);
- c. undertake to prohibit the storage of radioactive wastes in the Convention area (art. 11);
- d. take all appropriate measures to protect and preserve rare ecosystems and endangered flora and fauna, as well as their habitat, in the Convention area (art. 14);
- e. cooperate in taking all necessary measures to deal with pollution emergencies in the Convention area (art. 15).

#### *A.2.1.c Waigani Convention 1995*

The 1995 Waigani Convention bans the exporting of hazardous or radioactive waste to Pacific Islands Forum countries, and prohibits Forum Island countries from importing such waste. The convention has been ratified by Britain, France, Japan, Australia, New Zealand and Ten Pacific region countries including Cook Islands, FSM, Fiji, Kiribati, Niue, PNG, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu.

The objectives of the Waigani Convention are:

- e. To reduce or eliminate transboundary movements of hazardous and radioactive wastes into and within the Pacific Forum region;
- f. To minimize the production of hazardous and toxic wastes in the Pacific Forum region;
- g. To ensure that disposal of wastes is done in an environmentally sound manner and as close to the source as possible; and
- h. To assist Pacific Island countries that are Parties to the Convention in the environmentally sound management of hazardous and other wastes they generate.

### **A.3. International agreements**

All Pacific Island states are parties to a large number of Multilateral Environmental Agreements (MEAs), including the Convention on Biological Diversity (CBD), the United Nations Framework Convention on Climate Change (UNFCCC), and the United Nations Convention for Combating Desertification (UNCCD). Their participation reflects the serious regional concern regarding their vulnerability to transboundary impacts of environmental issues such as marine pollution, climate change, loss of biodiversity and ozone depletion. The MEAs provide for Pacific Island States not only access to a global stage on which to express their issues and sometimes grievances but also the

<sup>17</sup> Source: IUCN ELC, 08.2005, based on UNEP Register of International Treaties and Other Agreements in the Field of the Environment, 1996



opportunity to cooperate with the international community and to access financial resources to support the implementation of their activities.

The extent of Pacific Island States participation in MEAs is indicated in Table 2. Those of particular relevance to GEF – i.e., CBD, UNFCCC and UNCDD – are particularly well supported.

**Table 2: SPREP Member Countries and MEA Parties**

Agreements	SPREP Member Countries & MEA Parties													
	CI	FSM	FIJ	KIR	RMI	NAU	NIU	PAL	PNG	SAM	SOL	TON	TUV	VAN
<b>BIODIVERSITY</b>														
CBD	R	R	R	A	R	R	A	A	R	R	R	A	R	R
Cartagena Protocol			R	R	A	A	A	R	A	R	A	A		
Nagoya Protocol		S												S
CITES			A					A	A	A	A			A
Convention on Migratory Species	A							A		A				
Ramsar Convention			R					R	R	R				
World Heritage Convention	R	R	R	A	A	A	A	A	A	A	A	A		R
<b>CHEMICALS</b>														
Basel Convention	A	A		A	A	A		A	A	A		A		
Stockholm (POPs) Convention	A	S	R	R	A	R	R	S	R	R	A	R	A	R
<b>CLIMATE CHANGE</b>														
UNFCCC	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Kyoto Protocol	R	R	R	A	R	R	R	A	R	R	R	A	R	A
<b>LAND DEGRADATION</b>														
UNCDD	A	R	A	A	A	A	A	A	A	A	A	A	A	R
<b>MARINE POLLUTION</b>														
London Convention				R		R			R		R	R		R
London Protocol					R							R		R
MARPOL Convention	R		R	R	R				R	R	R	R	R	R
UNCLOS (Chpt 1&12)	R	R	R	A	A	R	R	A	R	R	R	A	R	R
<b>OZONE DEPLETION</b>														
Vienna Convention (Ozone)	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Montreal Protocol	A	A	A	A	A	A	A	A	A	A	A	A	A	A
<b>LAW OF THE SEA</b>														
UNCLOS	R	R	R	A	A	R	R	A	R	R	R	A	R	R
<b>WHALING</b>														
IWC				R	R	R		R			R		R	
SPRFMO Convention	S	S	S	S	S	S	S	S	S	S	S	S	S	S

Key: R = Ratified; A = Acceded; S = Signed. Source: [www.sprep.org/attachments/MEA\\_database.pdf](http://www.sprep.org/attachments/MEA_database.pdf).

#### **A.4. Other regional policy and planning frameworks**

Regional policies, plans and frameworks often endorsed at high-level international and regional meetings constitute an important part of the larger framework within which SPREP and its member countries operate. While these are not legally binding, compliance with them is important for political and other reasons, including that of access to financial resources. Many of these directly support international conventions and agreements. For instance, the *Pacific Plan 2005's* purpose (among others) is “... to guide the region’s efforts towards achieving the Millennium Development Goals (MDGs)” (PIFS, 2011)<sup>18</sup>. The *Action Plan for the Implementation of the Climate Change Framework*, noted the Pacific Islands Climate Change Roundtable (Madang, 2005), “... will also be guided by decisions and activities at the level of the UNFCCC and GEF ” (SPREP, 2009).<sup>19</sup>

Most regional frameworks are developed through highly inclusive and consultative regional processes and because they are formally endorsed and adopted by high-level meetings of Pacific leaders, they command a high degree of legitimacy and recognition both at the national level and with development partners.

The international and regional frameworks, strategies and plans widely recognized and used are thematically organized below:

#### ***Sustainable Development***

- a. Rio Declaration on Environment and Development (UNCED 1992)
- b. Agenda 21 and Capacity 2015
- c. Declaration of Barbados
- d. Programme of Action for the Sustainable Development of Small Island Developing States
- e. Millennium Declaration
- f. Millennium Development Goals
- g. Johannesburg Declaration on Sustainable Development
- h. Plan of Implementation of the World Summit on Sustainable Development
- i. Mauritius International Meeting to undertake the 10 year Review of the Implementation of the Programme of Action for the Sustainable Development of SIDS2005
- j. Mauritius Declaration
- k. Mauritius Strategy for the Further Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States
- l. Pacific Plan 2005
- m. The Future We Want (Rio+20, 2012)

#### ***Biodiversity***

- a. Action Strategy for Nature Conservation and Protected Areas in the Pacific Region 2008 -2012

<sup>18</sup> Pacific Islands Forum Secretariat. Aug 2011. *2011 Pacific Regional MDGs Tracking Report*. PIFs, Suva.

<sup>19</sup> SPREP. 2005. *Action Plan for the Implementation of the Pacific Islands Framework for Action on Climate Change 2006-2015*. 19<sup>th</sup> SPREP Meeting Paper 19SM/Officials/WP.9.2.1/Att.1

- b. Guidelines for Invasive Species Management in the Pacific
- c. MOU of the Conservation of Cetaceans and their Habitats in the Pacific Islands Region (Pacific Cetaceans MoU).
- d. Regional Whale and Dolphin Action Plan 2013-2017
- e. MOU on the Conservation of Migratory Sharks
- f. Pacific Islands Regional Plan of Action for Sharks
- g. MOU on the Conservation and Management of Dugongs and their Habitats throughout their Range
- h. Regional Dugong Action Plan
- i. MoU on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia
- j. Regional Marine Turtles Action Plan
- k. Regional Wetlands Action Plan for the Pacific Islands 2011-2013
- l. Pacific Islands Regional Ocean Policy and Framework
- m. Pacific Oceanscape

### ***Climate Change***

- a. Pacific Islands Framework for Action on Climate Change 2006-2015
- b. Pacific Islands Meteorological Strategy 2012-2021
- c. Pacific Disaster Risk Reduction and Disaster Management Framework for Action 2005-2015

### ***Pollution & Waste***

- a. Pacific Regional Solid Waste Management Strategy 2010-2015
- b. Pacific Oceans Pollution Prevention Programme (PACPOL) Strategy and Work Plan 2010-2014
- c. Regional Strategy WWII Wrecks
- d. Regional Strategy to Address Shipping Related Invasive Marine Pest in the Pacific Islands (SRIMP-Pac)
- e. Pacific Marine Oil Spill Contingency Plan (PACPLAN)
- f. An Asbestos-Free Pacific: A Regional Strategy and Action Plan 2011
- g. Pacific E-waste: A Regional Strategy and Action Plan 2012

### **A.5. Secretariat for the Pacific Regional Environment Programme (SPREP)<sup>20</sup>**

SPREP was established under the *Agreement Establishing SPREP* in 1993 "... to promote co-operation, and provide assistance in order to protect the environment and to ensure the sustainable development for present and future generations."<sup>21</sup> The Agreement calls on SPREP to promote co-operation, provide assistance in order to protect the environment and to ensure the sustainable development for present and future generations. It requires SPREP to formulate an Action Plan setting out strategies and objectives including the following:

<sup>20</sup> The SPREP name was changed from 'South Pacific Regional Environment Program' to the 'Secretariat for the Pacific Regional Environment Programme' following a decision of the 15<sup>th</sup> SPREP Meeting in 2004.

<sup>21</sup> Agreement Establishing the Secretariat for the Pacific Regional Environment Programme (SPREP).

- a. the coordination of regional activities addressing the environment;
- b. monitoring and assessing the state of the environment in the region including the impacts of human activities on the ecosystems of the region ...,
- c. promoting and developing programmes, including research programmes, to protect the atmosphere and terrestrial, freshwater, coastal and marine ecosystems and species, while ensuring ecologically sustainable utilisation of resources;
- d. reducing, through prevention and management, atmospheric, land-based, freshwater and marine pollution;
- e. strengthening national and regional capabilities and institutional arrangements;
- f. increasing and improving training, educational and public awareness activities; and
- g. promoting integrated legal, planning and management mechanisms.

The Secretariat is located in Samoa. It has a Director, and a complement of professional and support staff that implement the organization's annual work programme and respond to country-specific requests for assistance and support. In 2011, SPREP had a total of 69 professionals and support staff and an operating budget of US\$14.3 million<sup>22</sup>.

The Secretariat reports to the annual SPREP Meeting consisting of representatives of all 25 member states and territories. The Meeting approves the organization's annual budget and Work Programme. The current work programme addresses four strategic priorities: (i) climate change, (ii) biodiversity and ecosystem management (iii) waste management and pollution control and (iv) environmental monitoring and governance.

SPREP assists its member countries by (i) coordinating regional input and providing technical and legal advice for instance in conventions negotiations, and COPs participation; (ii) directly implementing regional programmes and activities in pursuit of its strategic priorities, including donor-funded programmes and projects, and (iii) directly responding to specific country requests for assistance.

SPREP, in collaboration with other regional and international organizations, has also been instrumental in setting up and supporting the operation of regional coordinating mechanisms that bring together and link a broad range of stakeholders including funders, international and regional NGOs, academic institutions and civil society groups. These coordinating mechanisms share a common interest, to collectively strategize and coordinate their activities, and to share information, resources and experiences. Two highly successful networks are the Pacific Islands Roundtable for Nature Conservation and the Pacific Islands Climate Change Roundtable.

## **B. THE NATIONAL ENVIRONMENTAL LEGAL AND POLICY FRAMEWORK OF VANUATU**

### **B.1. Political Context**

The political context within which sustainable development occurs is complicated and has significant implications for the planning and implementation of environmental management initiatives. The following section draws heavily on findings of a recent SPREP-funded capacity assessment study (Wickham, Kinch and Lal, 2009)<sup>23</sup>.

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

<sup>22</sup> SPREP. 2012. SPREP Annual Report – 2011. Apia.

<sup>23</sup> Wickham, Frank; Kinch, Jeff and Lal, Padma. 2009. *Institutional Capacity within Melanesian Countries to effectively respond to climate changes impacts, with a focus on Vanuatu and the Solomons Islands*. SPREP. Samoa. Pp. 76.

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<sup>24</sup>; Cox et al. 2007)<sup>25</sup>. The current political system can be viewed as impacting on sustained approach to development.

There are three levels of government in Vanuatu, the national government centred in the capital Port Vila, the provincial government consisting of six provinces, and the Local Government Councils (LGCs), which are highly autonomous entities operating at the local level.

The national government is organized around a series of departments which in turn fall under several ministries that are responsible for public policy and administration. The provincial governments' major functions are to promote rural development and undertake land use and physical planning, with the assistance of the centralized 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 Local Government Councils were established under the *1980 Decentralization Act*. There are 63 LGC's and most have one employee each with their main activity being tax collection (ibid.).

Subordinate governments in Vanuatu, at both provincial and local levels, are generally poorly resourced in both financial and human terms (Lane 2006)<sup>26</sup>.

## **B.2. Environmental Legal Framework**

Vanuatu's Constitution (revised 1988) holds that it is a fundamental duty of all "to protect the Republic of Vanuatu and to safeguard the national wealth, resources and environment in the interests of the present generation and of future generations." To implement this constitutional provision, the Government is empowered to enact specific laws and create institutions to protect and manage the environment.

The principal environmental legislation is the Environmental Management and Conservation Act No. 12 of 2002. The main parts of the Act deal with (i) administration; (ii) environmental impact assessments; (iii) biodiversity and protected areas; and (iv) offences under the Act. The Act provides for a department to develop, implement, and coordinate the Government's environmental policies and programs and makes it mandatory to (i) prepare and publish a national state of environment report at least once every ten years and (ii) maintain a publicly accessible environmental registry. The Act provides for establishment of a biodiversity Advisory Council, and specifically covers the issues of bio-prospecting and community conservation areas.

The Act also governs the management of persistent organic pollutants (POPs), with the Minister empowered to regulate (amongst other things) the environmental effects associated with the importation and transportation of hazardous substances, pests and weeds, waste management, and air and water pollution.

The Act bestows on the Director considerable powers including the power to, directly appoint staff from outside the Department, determine if a development application requires an EIA and the manner in which the EIA must be compiled, and to stop any specified activity due to non-compliance with the terms under which its EIA was approved. This discretionary authority has been a source of some controversy.

A major gap in Vanuatu's environmental framework is in waste management and pollution. To address these deficiencies, the Pollution Control Bill and the Waste Management Bill were drafted

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<sup>24</sup> Cited by Wickham, et al 2009.

<sup>25</sup> Ibid.

<sup>26</sup> Ibid.

and submitted to Parliament in 2012<sup>27</sup> and are expected to be enacted before June 2013<sup>28</sup>. Since 1994, the Public Health Act No. 22 of 1994 provides the basic requirements for sanitary systems for all dwellings in rural and urban areas. A National Waste Management Strategy and Action Plan 2010-2015 is now in place.

Additional information on the Environmental Management and Conservation Act, and the key environment-related legislation currently in place are given in Appendix 1.

### **B.3. Institutional Framework**

#### **B.3.1. Department of Environment Protection and Conservation (DEPC)**

Vanuatu's environment agency, previously called the Vanuatu Environment Unit, was upgraded to become the Department of Environment Protection and Conservation (DEPC) in 2009. It is hosted under the Ministry of Lands and Natural Resources and is responsible for the administration of the Environmental Management and Conservation Act (EM&C) 2002. The DEPC also leads the preparation of both the National Conservation Strategy and the National Biodiversity Strategy and Action Plan, and is involved in the development of the National Waste Management Strategy. It is the Operational Focal Point for international environmental conventions like the Convention on Biological Diversity (CBD), United Nations Framework Convention on Climate Change (UNFCCC), United Nations Convention to Combat Desertification (UNCCD), and the Convention on International Trade in Endangered Species (CITES), among others (SPREP-IWP 2004).

DEPC's capacity is limited. Prior to upgrading to a Department, the VEU was moved between different ministries with only few permanent staff while most were as project officers under projects financed through the GEF.

The institutional instability of the past and lack of capacity effectively means progress on the implementation of legislation, and international environmental treaties obligations were very slow to say the least. To its credit, however, notwithstanding its limited capacity, the DEPC has been successful in other areas, notably in promoting and facilitating the establishment of Community Conservation Areas which total registered area has increased from 194 km<sup>2</sup> in 2005 to 16,259 km<sup>2</sup> in 2008.

Although DEPC is not as well-resourced as it should be, the task of managing the environmental actions has taken on a more multisectoral approach such as the climate change division housed within the Ministry of Meteorology and Disaster Management. A number of agencies have responsibilities that are integral to the health of coastal environments<sup>29</sup> but the absence of policy leadership on integrated coastal management is likely to lead to sub-optimal management. This is important given the fact that 70 per cent of the population live on the coast.

#### **B.3.2. Climate Change and Disaster Risk Reduction Unit**

The Vanuatu government established a multi-sectoral Climate Change advisory committee in 1990 in the lead up to the Earth Summit of 1992 Climate Change Unit to coordinate national activities on climate change. This same committee continued until 2012 when it was changed to the National Advisory Board on Climate Change and Disaster Risk Reduction. With the change from an advisory

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<sup>27</sup> Vanuatu Daily Post. June 1, 2012. "Pollution and waste management scrutinized by stakeholder representatives". [www.dailypost.vu](http://www.dailypost.vu) Downloaded – Jan 24, 2013.

<sup>28</sup> Trinison Tari, Department of Conservation, Vanuatu; pers com. 28 Jan 2013.

<sup>29</sup> The DEPC, for instance, is responsible for biodiversity and environmental management through the 2003 *Environmental Management and Conservation Act*, and the Vanuatu Fisheries Department (VFD) has responsibility for managing the harvesting of marine resources, the 2005 *Fisheries Management Act, No.: 55*, and the 2008-2013 *Aquaculture Development Plan*.

committee to a Board, the Vanuatu government put emphasis on the climate change work with the establishment of a centralised project management unit for climate change within the Department of Meteorology and Geo-Hazard. The Climate Change and Disaster Risk Reduction Unit now has over 20 staff dealing with international conventions and policies, adaptation, mitigation, communications and corporate services.

The CCDRR Unit work is managed through the National Advisory Board made up of Permanent Secretary and Director level personnel from the all the relevant Government Agencies impacted by climate change. Despite not having climate change legislation, the PMU's work is guided by the Climate Change Policy Framework.

### **B.3.3 Other responsible national agencies**

Environmental management is also implemented through sector specific legislation (see Appendix 1). In the land sector, the Land Lease Act (1983) and the Urban Land Act (1993) guide the operations of Vanuatu's Land Use Planning Office. There are also many other land use policies formulated to ensure effective management of lands and related resources, such as the National Land Use Plan and Policy and the Provincial Land Use Plans and Strategies, Land Suitability Criteria, etc. Other laws that regulate the use of natural resources by other sectors are the: Mines and Minerals Act, Petroleum (Prospecting and Production) Act, Geothermal Energy Act, Forestry Act, Fisheries Act, Foreshore Development Act, the Pesticides Act, and others.

The Department of Geology, Mines and Water Resources under the Ministry of Lands and Natural Resources administers the Geothermal Energy Act of 1987, which regulates the exploitation of geothermal energy, as well as the Petroleum (Exploration and Production) Act of 1993 which regulates the searching for and producing of petroleum on land – including land beneath water, the seabed and the subsoil beneath the territorial seabed; and the seabed and the subsoil of the continental shelf or beneath the waters of the exclusive economic soil. The Ministry of Land and Natural Resources implements the Mines and Minerals Act (1986), which regulates the exploration and development of minerals and related matters through a licensing and permit system. Quarrying is the only current mining activity but presence of gold on Santo and Malekula has been confirmed. There may be reserves of petroleum, although this is not yet proven.

The following table lists various environmental-related legislation and their respective administrative arrangements:

**Table 3: Environmental Legislation and Responsible Agencies**

<b>Responsible Ministry</b>	<b>Legislation</b>	<b>Specific Line Agency Responsible</b>
Ministry of Land, Geology and Mines and Water Resources	Mines and Minerals Act 1986	Dept of Geology, Mines and Water Resources
	Geothermal Energy Act No. 6 1987	Department of Geology, Mines and Water Resources
	Petroleum (Exploration and Production) Act No. 13 of 1993	Department of Geology, Mines and Water Resources
	Water Resources Management Act 2002	Department of Geology, Mines and Water Resources
Ministry for Internal Affairs	Foreshore Development Act 1975	
	Ports Act Cap 26 of 1985	Dept of Ports and Harbours
Ministry of Agriculture, Quarantine, Fisheries and Forestry	Animal Importation and Quarantine Act No.7 of 1988	Vanuatu Quarantine Inspection Services (VQIS)
	Plant Protection Act 1997	
	Forest Act No. 26 of 2001	Department of Forests; Act also establishes Forests Board of Vanuatu (FBV)
	Forests Rights Registration and	Department of Forests; Act also establishes

Responsible Ministry	Legislation	Specific Line Agency Responsible
	Timber harvest Guarantee Act 2000	Forests Board of Vanuatu (FBV)
	Pesticides (Control) Act No. 11 of 1993.	Act establishes Pesticides Committee
	Fisheries Act Cap 158 (No.37 of 1982)	Department of Fisheries and Marine Resources
National Parks Board	National Parks Act No. 7 of 1993	
Dept of Environment and Conservation (until 2009 was called the Vanuatu Environment Unit)	Convention on Biological Diversity (Ratification) Act No. 23 of 1992.	VEU is presently hosted by the Ministry of Lands Act also sets up the Biodiversity Advisory Council
	Environmental Management and Conservation Act 2002	
	Wildbird Protection Act 1989	By an ad hoc arrangement with Dept of Agriculture who is legally responsible.
	International Trade (Flora and Fauna) Act 1989	
Ministry of Culture	Preservation of Sites and Artefacts 1965	
Ministry of Infrastructure and Public Utilities	Marine Zones Act Cap 138 (of 1981)	Department of Ports and Marine
	Shipping Act Chapter 53 (Queens regulation 1 of 1968 – order 15 of 1987)	Vanuatu Maritime Authority
	Vanuatu Maritime Authority Act 1998	Vanuatu Maritime Authority
	Maritime (Conventions) Act Cap 155 (No. 29 of 1982 & No. 29 of 1984)	Vanuatu Maritime Authority

Source: Based on Tom'Tavala, Y D and Hakwa, M T. 2004.<sup>30</sup>

#### **B.4. National environmental policies and strategies**

Vanuatu does not have a National Sustainable Development Strategy per se. However, a National Priority Action Agenda (PAA) includes sustainable development of Vanuatu's forests and marine resources. Vanuatu's first national conservation strategy was prepared in 1993 (Environment Unit 1993), with assistance from SPREP, AusAID, and IUCN. The highest priorities were identified as (i) improving environmental education and awareness; (ii) improving legislation and law enforcement; (iii) strengthening existing environment institutions; (iv) preserving natural resources and tabu places; and (v) using resources more efficiently.

Some of the strategies identified in 1993 were implemented, while many others were not (ibid.). Other national strategies and plans have since been developed; including some that were developed under GEF funded enabling activities:

- Forest Policy (1997)
- NBSAP (1999);
- NAPA (2005);
- National Waste Management Strategy and Action Plan 2010 - 2015

<sup>30</sup> Tom'Tavala, Yoli Desmond and Hakwa, Marie Tiana. 2004. Review of environmental legislation and policies of Vanuatu. IWP-Pacific Technical Report (International Waters Project) No. 7. SPREP. Apia.



- National Action Plan (NAP) for Disaster Risk Reduction 2006 - 2010
- Tuna Management Strategy (2009)
- National Water Strategy 2008 – 2018 (2008)
- National Energy Policy (draft only, 2009)
- National Tourism Development Master Plan (1994)

### **B.5 International Agreements**

Vanuatu is a party to the following international agreements and conventions:

**Table 4: Status of Ratification of MEAs signed by Vanuatu**

Name on MEA	Year of ratification or accession
Convention on Biological Diversity (CBD)	25 Mar 1993 (R)
United National Convention on Law of the Sea (UNCLOS)	10 Aug 1999 (R)
United Nations Framework Convention on Climate Change (UNFCCC)	25 Mar 1993 (R)
Kyoto Protocol	17 July 2001 (A)
Vienna Convention	21 Nov 1994 (A)
Montreal Protocol on Substances that Deplete the Ozone Layer	21 Nov 1994 (A)
UN Convention to Combat Desertification (UNCCD)	10 Sep 1999 (R)
World Heritage Convention	13 June 2002 (R)
Barcelona (MARPOL) Convention	1986 (A)
Convention on Persistent Organic Pollutants (Stockholm Convention)	19 Sept 2005 (R)
CITES Convention	15 Oct 1989

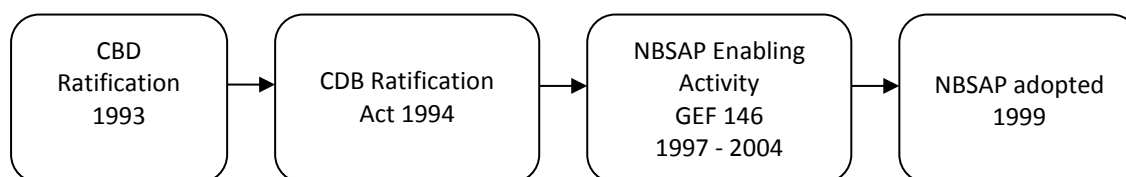
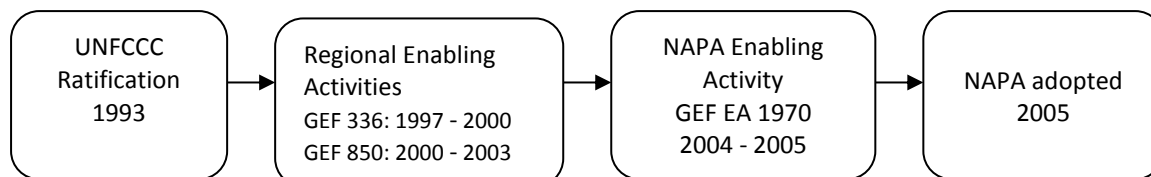
Source: [www.sprep.org/attachment/MEA\\_database.pdf](http://www.sprep.org/attachment/MEA_database.pdf) Key: R = Ratified; A = Acceded

### **B.6 Role of GEF-funded interventions in the development of national laws and policies**

The extent to which GEF-funded interventions contributed to the development and strengthening of the environmental legal framework in Vanuatu is partly evidenced in the explicit acknowledgement of GEF support expressed in national planning documents and reports, where one of the outputs of the GEF enabling activities were the production of these documents themselves. GEF influence can also be inferred from the timeline illustrated in Appendix 1, wherein different events including the ratification of conventions, enactment of national legislation and the adoption of national strategies and plans, and the periods of implementation of GEF projects, are sequenced along a horizontal time axis to illustrate their connections.

Examples of acknowledgements of GEF involvement are seen in the National Biodiversity Strategy and Action Plan (NBSAP), National Adaptation Plan of Action (NAPA) and the National Capacity Self Assessment (NCSA) Report.

The Timeline (Appendix 1) is a tool for showing the sequence over time in which events took place, to illustrate their connections. For example, the sequence of events resulting in the adoption of the NBSAP started with the ratification by Vanuatu of the CBD, the enactment of the CBD Ratification Act by the Vanuatu Parliament, before the start of implementation of the NBSAP Enabling Activity of which the NBSAP was produced. The development of the NAPA followed a similar sequence. Both sequences are illustrated below in Figures 1 and 2.

**Figure 1: Activities Sequence Leading to the Adoption of the NBSAP****Figure 2: Activities Sequence Leading to the Adoption of the NAPA****Key:**

GEF 146 – National Biodiversity Strategies, Action Plans and First National Report to CBD.

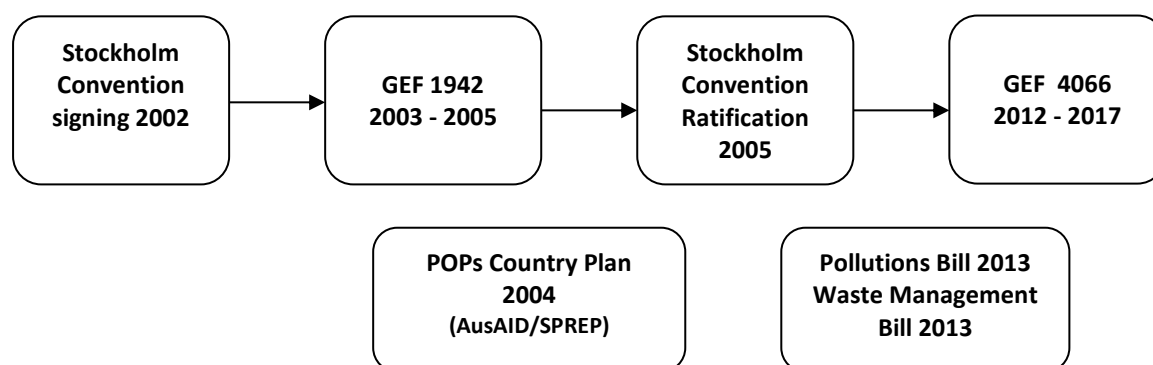
GEF 336 – Pacific Islands Climate Change Assistance Project (PICCAP – Phase 1)

GEF 850 – Expedited Financing of Climate Change Enabling Activities (PICCAP Phase 2)

In the case of the NAPA, two regional enabling activities (GEF 336 and 850) were implemented before the NAPA with a focus on gathering information for NAPA formulation, such as in the compilation of greenhouse gases (GHGs) inventories, identification and assessment of various options for climate change mitigation and adaption and the development of different scenarios of future changes in climate and sea level.

The influence of GEF funded interventions in strengthening the framework for the management of persistent organic pollutants took a different track relative to that taken in the development of NBSAP and NAPA. Where in the case of the former two plans, GEF assistance followed Vanuatu's ratification of the CBD and UNFCCC, in the case of the Stockholm Convention, GEF intervened to prepare the groundwork for ratification and initial reporting requirements. Vanuatu's subsequent ratification of the Convention paved the way for its participation in the GEF funded regional POPs project (GEF ID 4066)<sup>31</sup>, which is currently being implemented. The Pollutions Bill and a Waste Management Bill – both dealing with aspects of hazardous waste management and presently before Parliament for enactment - is not an intended output of the GEF project. However, its formulation and presentation before Parliament occurs at the time when the issue of hazardous waste management is topical and current, as a result of the GEF funded project, and possibly similar activities of other stakeholders. The two legislations will also address some of Vanuatu's obligations under the Stockholm Convention including obligations for appropriate legal and administrative measures under Article 3.

<sup>31</sup> PAS Pacific POPs Release Reduction Through the Improved Management of Solid and Hazardous Wastes

**Figure 3: Activities Sequence showing GEF's links to Vanuatu's POPs related Activities****Key:**

- GEF 1942 – Enabling Activity for the Stockholm Convention on Persistent Organic Pollutants
- GEF 4066 – Pacific POPs Release Reduction through Improved Management of Solid and Hazardous Wastes

GEF's influence in the development of environmental legislation in Vanuatu may also be seen not only in the way the NBSAP called for and supported the development of the Environmental Management and Conservation legislation, but also in setting in motion a process of stakeholder consultation that generated discussion and reached consensus on specific actions and provisions to be considered in the drafting of the legislation. The NBSAP made nine (9) specific recommendations of issues for inclusion in the Environmental Management and Conservation Act, and one proposed amendment for the Fisheries Act 1982. Those for the Environmental Conservation and Management legislation, were the following:

- Controls on the introduction of living materials;
- Management regulations for designated terrestrial species including measures for size limits, closed seasons for birds, flying foxes, crabs and freshwater prawns;
- Establishment of an EIA process
- Establishment of an Environment Trust Fund to fund biodiversity research and conservation work;
- Establishment of a legal mechanism to protect intellectual property rights of ni-Vanuatu with respect their knowledge and use of biodiversity;
- Appropriate controls for the import and export of rare species
- Appropriate controls for the importation and safe handling of living modified organisms;
- Establishment of a Scientific Research Council with responsibility to issue permits for environment and natural resource focused research within Vanuatu;
- Setting up a high level Environment Coordinating Committee with responsibility for the use and management of biological resources.

The enacted legislation (Environmental Management and Conservation Act 2002) contained provisions for four of the nine areas proposed for consideration. These are the (i) EIA (Part 3 sections 11 – 28); (ii) Bio-prospecting (Part 4; sections 29 – 34); (iii) LMOs (Part 6, Section 45(2)(a)(ii); and (iv) Regulating the harvesting of marine organisms (Part 6, Section 45(2)(b).

## Appendix 1: National Environmental Legislation of Vanuatu

### 1. Natural Resources Laws & Policies (Terrestrial)

#### 1.1 Constitution of the Republic of Vanuatu

The 1980 Constitution touches on natural resources or the environment in two places. Firstly, it imposes for every Ni-Vanuatu a fundamental duty to himself and his descendants and to others “to protect the Republic of Vanuatu and to safeguard the national wealth, resources and environment in the interests of the present generation and future generations”<sup>32</sup> (emphasis added). Although the fundamental duties in the Constitution are non-justifiable, they are still important in shaping laws and policies.

##### 1.1.1 Land tenure provisions under the Constitution

The other place where the Constitution provides for natural resources is chapter 12 (articles 73-81), which sets out broad outlines of the land tenure system of the country. It begins by stating that Ni-Vanuatu indigenous custom owners collectively own all land in the country in perpetuity.<sup>33</sup> It provides for the alienation of customary land through a system of national land laws. All land transactions between indigenous citizens and either a non-indigenous or a non-citizen is permissible only after consent of the Government is obtained<sup>34</sup>. The Constitution sets out the conditions of government consent, which is mandatory in all land transactions<sup>35</sup>.

#### 1.2. National Land Laws

The seven laws listed below set out the national land law as envisaged under articles 73, 74 and 75 of the Constitution. However, they have little to do with the protection, management and conservation of the environment.

##### 1.2.1 Land Leases Act (CAP.163)

This Act provides for the creation and disposition of leases on land, their registration and all dealings connected with leases. Standard agricultural, residential and commercial lease agreements have an indirect, albeit significant, part in environmental protection because they can impose conditions to preserve water resources or prevent soil erosion.

##### 1.2.2 Land Reform Act (CAP.123)

The stated purpose of this Act is to make interim provision for the implementation of chapter 12 of the Constitution. In particular, it protects the land interests of non-indigenous landowners (called “alienators”) by allowing them to remain on land they occupied on Independence Day until they entered into lease arrangements with or received compensation for improvements from customary land owners.

##### 1.2.3 Alienated Lands Act (CAP.143)

This Act prescribed the system for registration and dealing with the claims of alienators as recognized under the above Act.

##### 1.2.4 Land Acquisitions Act No. 5 of 1992

This Act sets out the process for the state to acquire land and easements in the public interest. Presently, there have been no state acquisitions of land for the purpose of conservation and environmental protection. Acquisitions have been limited to urban, commercial and government administration purposes.

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<sup>32</sup> Constitution of Vanuatu, 1980, Article 7(d)

<sup>33</sup> Constitution of Vanuatu, 1980, Article 75

<sup>34</sup> Constitution of Vanuatu, 1980, Article 79(1)

<sup>35</sup> Constitution of Vanuatu, 1980, Article 79(2)

### **1.2.5 Valuation of Land Act No. 22 of 2002**

This establishes the office of Valuer-General and makes provisions for valuation of land in order to improve the system of land tenure in the country. This Act is yet to be implemented and a Valuer-General appointed.

### **1.2.6 Land Valuers Registration Act No. 23 of 2002**

This provides for registration of valuers in order to ensure professionalism amongst their rank.

### **1.2.7 Strata Titles Act No. 29 of 2000**

This provides for establishment of strata titles to land. Although this Act is gazetted and is entered into force, other legal and administrative steps are required to enable the lawful registration of strata titles in the Land Records Office.

### **1.2.8 Customary Land tribunal (CLT) Act No. 7 of 2001**

Parliament enacted this Act to provide for a system based on custom to resolve disputes about customary land. This was done mainly in response to the inability of the earlier established courts to deal expeditiously with disputes concerning customary land. The CLT is currently undergoing review to identify further areas of development.<sup>36</sup>

## **2. Conservation of mineral resources and environmental regulations regarding mining and related activities**

### **2.1. Mines and Minerals Act 1986**

This Act was enacted to regulate exploration and development of minerals and related matters. For purposes of this Act, a mineral is “.....any substance, whether solid, liquid, or gaseous form occurring naturally in land, formed by or subject to a geological process, but does not include (a) water or (b) petroleum”<sup>37</sup>.

## **2.2 Regulation of Geothermal Resources**

### **2.2.1 Geothermal Energy Act 1987**

The Geothermal Act No. 6 of 1987 (CAP.197) regulates the exploitation of geothermal energy. The property in and control over all natural reserves of geothermal energy in land vested in the Republic of Vanuatu<sup>38</sup>. Geothermal energy is defined as:

*“.....energy derived or derivable from within the ground or there under by natural heat, and includes all steam, water or other fluid and any mixture of all or any of them that has been heated by such energy, and every kind of matter, fluid or mixture, but does not include water that has been heated by such energy to a temperature not exceeding 70 degrees Celcius”<sup>39</sup>*

### **2.2.2 The Petroleum (Exploration and Production) Act No. 13 of 1996**

This Act makes provisions with respect to searching for and producing petroleum on land – including land beneath water, the seabed and the subsoil beneath the territorial seabed; and the seabed and the subsoil of the continental shelf or beneath the waters of the exclusive economic soil.<sup>40</sup>

<sup>36</sup> Funding for this review was granted by the New Zealand Government.

<sup>37</sup> Mines and Minerals Act, 1986, section 1.

<sup>38</sup> Geothermal Energy Act, 1987, section 2

<sup>39</sup> Geothermal Energy Act, 1987, section 1(2), (3).

<sup>40</sup> Petroleum (Exploration and Production) Act No.13 of 1993, section 1 (1)

### **2.2.3 Foreshore Development Act of 1975**

This Act regulates all works carried out on the foreshore. Any developments on the foreshore of the coasts of any island in Vanuatu must first obtain consent from the Minister of Internal Affairs.

### **2.4 Control of Introduced Animal Species**

The Animal Importation and Quarantine Act No. 7 of 1988 (CAP. 201) regulates the control of animal importation including the importation of animal products and biological products into Vanuatu and related matters. It repeals sections of the Animal Imports (CAP.98) which are inconsistent with its provisions. The primary intention of this Act is to prevent diagnosed and suspected animal diseases from entering Vanuatu ports of entries.<sup>41</sup>

The definition of “animal” is taken to be “any living stage of any member of the animal kingdom except human beings and includes arachnids, birds, crustaceans, fish, insects and reptiles and also fertilized egg or ovum”<sup>42</sup> The importation of fish and fish products with the exemption of live fish is exempt from import permits.

### **2.8 National Parks and Nature Reserve**

#### **2.8.1 The National Parks Act No. 07 of 1993**

This Act provides for the declaration of national parks and nature reserve; for the protection and preservation of such areas and all related matters.

### **2.9 Convention on Biological Diversity (Ratification) Act No. 23 of 1992**

This is the instrument of ratification of the Vanuatu Government to the United Nations Convention on Biological Diversity (CBD) signed on the 5<sup>th</sup> day of June, 1992. By virtue of this law, the CBD became part of the domestic legislation of Vanuatu on 1<sup>st</sup> March 1993.

### **3.0 Environmental Management and Conservation Act 2002**

The stated objective of this Act is “to provide for the conservation, sustainable development and management of the environment of Vanuatu and the regulation of related activities.” In short, it builds on existing laws and is regarded as the main legislation that will foster sustainable use of resources and due protection of the environment of Vanuatu, “including its lands, air and waters”<sup>43</sup>

The Act introduces four main categories of regulatory provisions: (i) production and keeping of instruments (documents), (ii) Environment Impact Assessments (EIA), (iii) bio-prospecting and (iv) community conservation areas.

#### **a. Production and keeping of documents**

Establishes an Environmental Registry on which information about prescribed documents, applications, permits, approvals, regulations, standards, guidelines, codes, reports and plans have to be registered. The objective is to promote transparency.

#### **b. Environmental Impact Assessments (EIAs)**

Part 3 of the Act (sections 11 – 28) provides statutory linkages and inter-Government agency coordination for implementing EIAs. Subject to a few exceptions, this law states that EIAs are mandatory for all development activities, projects and proposals that cause or are likely to cause significant environmental, social and or customs impact.

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<sup>41</sup> Animal Importation and Quarantine Act No.7 of 1988, sections 9 (h), 18 (1) (a) and 19(1) (c), (d) and (e)

<sup>42</sup> Animal Importation and Quarantine Act No.7 of 1988, section 1.

<sup>43</sup> Environmental Management and Conservation Act No.12 of 2002, section 1.

It also empowers the Director to intervene on his or her own initiative and request an EIA for any proposed development if he/she sees fit.

c. Bio-prospecting

The Act establishes a Biodiversity Advisory Council (BAC) that is responsible for vetting all bioprospecting applications.

d. Community Conservation Areas

The Act empowers the Director of Environment to register a Community Conservation Area in the Environment Register where custom landowners agree to the formal protection of areas of biodiversity significance within their customary land. Upon registration, landowners will be obliged to manage the area for conservation purposes, and the Director will by the same legislation be required to assist technically and/or financially to support conservation area management.

**4. Preservation of Sites and Artefacts [Cap.39] (JR 11 of 1965)**

The Act provides for the preservation of sites and objects of historical, ethnological or artistic interest.

**4.1 Preservation of Sites and Artefacts JR11 of 1965, Order No. 12 of 1993**

On 13<sup>th</sup> April 1993, this subsidiary legislation provided for the classification of the Yasur Volcano on Tanna as a preserved site<sup>44</sup>.

**5. Plant Protection Act (No. 14 of 1997)**

The objective of this Act is "To provide for the exclusion and effective management of plant pests; and to facilitate exports of plant produce." The Act defines plant material as "any goods that are wholly or partly derived from a member of the plant kingdom or its excretions or secretions."<sup>45</sup> A plant pest is "any organism, including pathogen, which is known, suspected, or liable to be directly or indirectly harmful to plants or beneficial organisms and includes any noxious plant or weed and any product of any pest."<sup>46</sup> This wide definition extends to aquatic plants.

**6. Conservation of Forests**

The Forestry Act No.26 of 2001 commenced on 03 March 2003. It provides for the protection, development and sustainable management of forests and the forest industry. It repeals the Forestry Act [CAP147].

**7. Forestry Rights Registration and Timber Harvest Guarantee Act 2000<sup>47</sup>**

The objective of this Act is to provide for the registration of certain forestry rights granted in respect of land and to the harvesting and accreditation of timber plantations.

**8. Control of Pesticides**

The Pesticides Control Act No.11 of 1993 commenced in March 1998. The objectives of this Act are to make provision for the regulation and control of the importation, manufacture, sale, distribution and use of pesticides.

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<sup>44</sup> Official Gazette No.11 'Preservation of Sites and Artefacts JR11 of 1965 Regulations Order No.12 of 1993, 19 Qapril 1993 State Law office, Port Vila, section 6.

<sup>45</sup> Mines and Minerals Act, 1986, section 1

<sup>46</sup> Mines and Minerals Act, 1986, section 1

<sup>47</sup> Parliament of Vanuatu, Forestry Rights Registration & Timber Harvest Guarantee Act No.28 of 2000, Extraordinary Official Gazette No.10, 9 October 2000

## **9 Existing Domestic Laws in relation to POPs**

Section of the Environmental Conservation and Management Act No. 12 of 2002, provides the Minister with the power to regulate (amongst other things) the environmental effects of importation and transportation of hazardous substances; pests and weeds; waste management; air and water pollution. These powers provide opportunities to strengthen the Environment Department's capacity to monitor the environment for industrial waste, pollution and other chemicals or biological agents in relation to management of pests and weeds.

### **9.1 Municipality By-laws**

The Port Vila municipal council prohibition of deposition of litter and rubbish by-law 2 of 1990 prohibits the depositing of refuse and rubbish on any street, public place or unoccupied land. Refuse includes empty food or drink containers, rubbish derelict vehicles or parts of vehicles or any other material.<sup>48</sup>

## **10. Conservation of Fauna**

The objectives of the Wild Bird Protection Act 1989, is to protect wild birds listed in the Act itself.

## **11. International Trade (Flora and Fauna) Act of 1989**

The International Trade (Fauna and Flora) Act No. 56 of 1989 entered into force on 11 February 1991.<sup>49</sup> It provides for the implementation of Vanuatu's obligations as a party to the Convention of International trade in Endangered Species of Wild Flora and Fauna (CITES).

## **12. Water Resources Management Act 2002 (No. 9 of 2002)**

This Act provides for the protection, management and use of water resources in Vanuatu.

## **13. Waste Management**

Bills for the Pollution Control Act and the Waste Management Act have been developed with assistance of the South Pacific Regional Environment Programme (SPREP). Public consultations were reported in June 2012<sup>50</sup> and the bills are expected to be passed into law sometime this year.

## **14. Public Health Act No. 22 of 1994<sup>51</sup>**

The Public Health Act No. 22 of 1994 is lengthy with some 130 sections. It provides for general public health in Vanuatu including prohibition to pollution of water resources and the regulation of adequate sanitary systems. Relevant provisions include those prohibiting:

- Pollution of water supplies used for human consumption
- Prohibitions against pollution of all water courses including ground water
- Prohibitions against littering on the foreshore, estuary and harbour
- Restrictions against erection of latrines within 300 meters of a watercourse, and
- Obligations of local authorities to provide adequate drainage systems for all dwellings constructed.

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<sup>48</sup> Port Vila municipal council prohibition of deposition of litter and rubbish by-law 2 of 1990, Section 1(1).

<sup>49</sup> Official Gazette of the Republic of Vanuatu, No.5 'International trade (Fauna and Flora) Act No.56 of 1989'

<sup>50</sup> Vanuatu Daily Post 1 June 2012; [www.dailypost.vu](http://www.dailypost.vu)

<sup>51</sup> Extraordinary Gazette 'Public Health Act of 1994', State Law Office, 24 April 1995. Note that section 130 states that the Act shall come into force on such date as the Minister may be notice publish in the Gazette and the Minister may appoint different dates in relation to different provisions of the Act.



## **15. Marine Zones & Fishery Resources**

### **15.1 Maritime Zones Act Cap 138 (No. 23 of 1981)**

The stated objective of this Act is “To provide for the delimitation of the maritime zones of Vanuatu and other matters incidental thereto.” The marine zones claimed in 1981 reflect the crystallizing marine zones which were then being discussed at the Third United Nations Conference on the Law of the Sea and subsequently codified in the United Nations Convention on the Law of the Sea 1982.

### **15.2 Fisheries Act Cap 158 (No. 37 of 1982)**

The stated objective of the Act is “to provide for the control, development and matters incidental thereto.” It applies in respect of “Vanuatu waters” which is defined under section 1 to mean “waters of the exclusive economic zone, territorial sea, archipelagic waters, and internal waters as defined in the maritime Zones Act, Cap 138 and any other waters over which Vanuatu claims fisheries jurisdiction.”

The regulatory and planning provisions authorises the following:

- formulation and implementation of management and development plans
- provides for various aspects of access including the Minister entering into agreements with other states or association of foreign fishermen for access rights to fish in Vanuatu waters;
- conducting marine scientific research and
- Minister to impose conditions on fishing license to promote resource conservation;
- protection of mammals
- prohibition of fishing methods and gear, and
- allows for the establishment of marine reserves.

### **15.3 Maritime Act Cap 131 (No. 8 of 1981 & No. 36 of 1982)**

This Act provides “... for the establishment of a shipping register for vessels of Vanuatu engaged in foreign trade and for matters concerning therewith.” Its objective is to facilitate the registration of international ships under the Vanuatu flag and regulates their operations whilst engaged in foreign trade, being “the transportation of goods between the ports of Vanuatu and ports of foreign countries and between the ports of one foreign country and another.”

### **15.4 Shipping Act Chapter 53 (Queens Regulation 1 of 1968 – Order 15 of 1987)**

This Act “provides for the control and safety of Vanuatu vessels” being, any vessel engaged in commercial trade, game fishing, transport of passengers, etc. but does not include vessels registered outside Vanuatu.

### **15.5 Vanuatu Maritime Authority Act 1989 (No. 29 of 1998)**

This Act’s objective is to establish the Vanuatu Maritime Authority and to provide for the regulation, administration and promotion of the maritime transport industry.”

### **15.6 The Maritime (Conventions) Act Cap 155 (No. 29 of 1982 & No. 29 of 1984)**

The objective of this Act is “to provide for the application in Vanuatu of certain international maritime conventions” to which Vanuatu is a party. The Act says that the provisions of any Conventions listed in the schedule and to which Vanuatu is a party shall have the force of law and shall prevail over any domestic legislation that conflicts with their provisions. The scheduled Conventions are:

- Convention on the International Regulations for Preventing Collisions at Sea 1972;
- International Convention for the Safety of Life at Sea 1974;

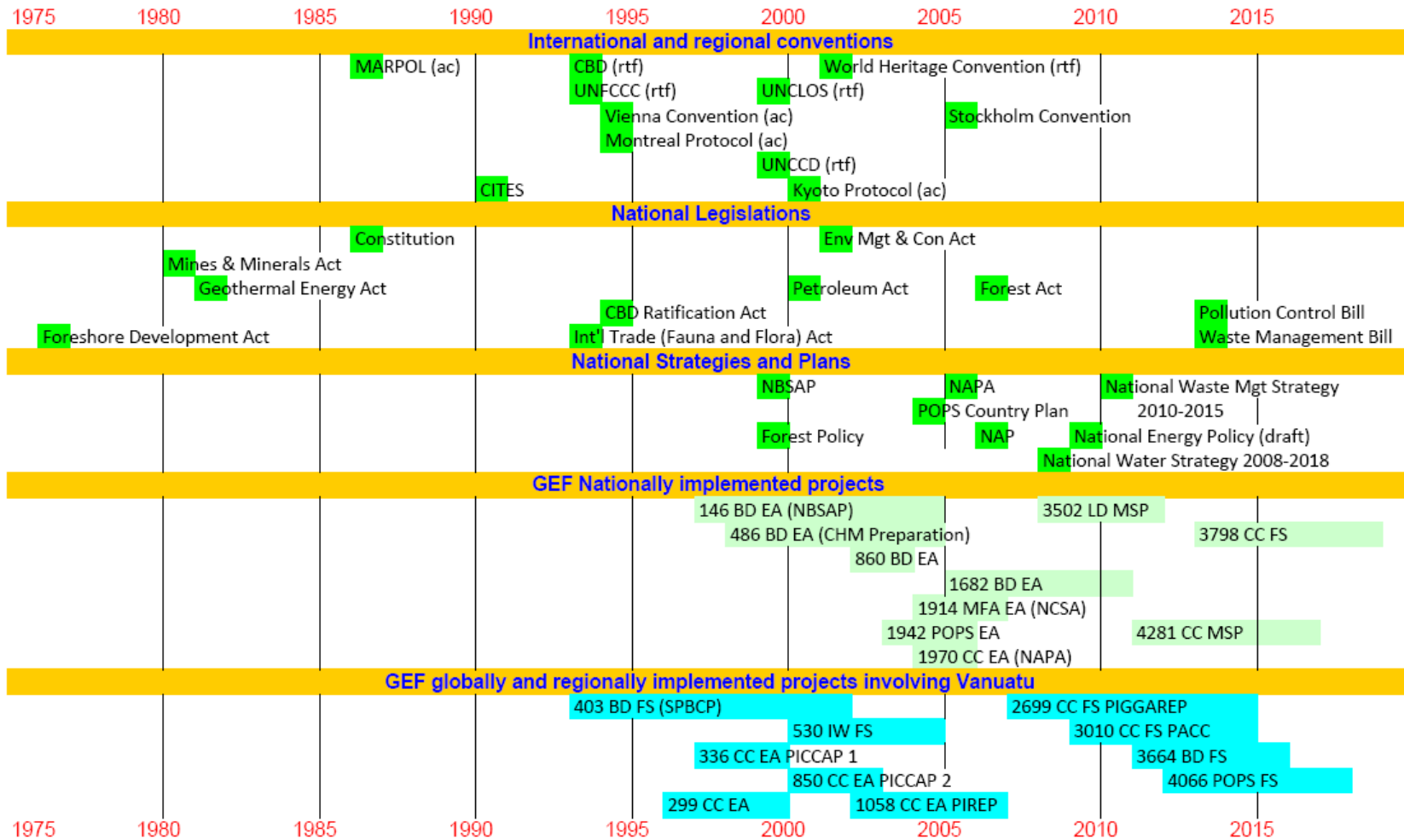
- Protocol of 1978, relating to the International Convention for the Safety of Life at Sea;
- International Convention on Load Lines 1966;
- International Convention on Civil Liability for Oil Pollution Damage 1969;
- International Convention for the Prevention of Pollution of the Sea by Oil 1951;
- International Convention on Maritime Pollution 1973
- International Convention on Tanker Safety and Pollution Prevention 1978;
- Regulations for the Prevention of Pollution by Oil and Guidelines for the Surveys Order Annex 1 of PARPOL 73/78.
- Convention on the International Regulations for Preventing Collisions at Sea 1972; as amended (COLREG1972);
- International Convention for Safe Containers 1972;
- Athens Convention Relating to the Carriage of Passengers and their Luggage by Sea, 1974;
- Protocol to the Athens Convention Relating to the Carriage of Passengers and their Luggage by Sea, 1974;
- Convention on Facilitation of International Maritime Traffic, 1965 (FAL 1965);
- Protocol of 1976 to the International Convention on Civil Liability for Oil Pollution Damage 1969;
- International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971 (FUND 1971);
- 1976 and 1984 Protocols Relating to the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971.

#### **15.7 Ports Act Cap 26 (JR 12 of 1957 – Act No. 6 of 1985)**

The objective of this Act is “to provide for the control of ports in Vanuatu.”

Provisions relevant to environmental management are found in Section 24 (dumping of refuse), which prohibits pollution from dumping and expectorating.

**APPENDIX 2: TIMELINE - VANUATU COUNTRY PORTFOLIO EVALUATION**



**Review of Outcomes to Impact: Pacific Islands Renewable Energy Project  
(GEF ID 1058)**

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## List of Acronyms

A	Assumptions
DEPC	Department of Environment Protection and Conservation
EPC	Electric Power Corporation
FSPI	Foundation of the Peoples of the South Pacific
GEF	Global Environment Facility
GEF EO	Global Environment Facility Evaluation Office Evaluation Office
GHG	Greenhouse Gas
ID	Impact Drivers
IEC	Information Education and Communication
IS	Intermediate States
MSP	Medium Size Project
NBSAP	National Biodiversity Strategy and Action Plan
NGO	Non-governmental Organization
O	Outcomes
PIC	Pacific Island Country
PIR	Project Implementation Report
PIREP	Pacific Islands Renewable Energy Program
RE	Renewable Energy
RET	Renewable Energy Technology
ROtI	Review of Outcomes to Impacts
SEFP	Sustainable Energy Financing Program
SGP	Small Grants Programme
SIDS	Small Island Developing States
SPREP	Secretariat for the Pacific Regional Environmental Programme (SPREP)
TE	Terminal Evaluation
TER	Terminal Evaluation Review
UNDP	United Nations Development Programme
VEU	Vanuatu Environment Unit

## 1. Introduction

This review is conducted as part of the Global Environment Facility Evaluation Office's Vanuatu and SPREP Portfolio Evaluation. The review aims at assessing concrete, measurable and verifiable results (outcomes and impacts) of the GEF in the Pacific Island Countries (PICs) using an impact evaluation methodology developed by the GEF Evaluation Office called the Review of Outcomes to Impacts (ROtI). The ROtI methodology assesses progress from project outcomes to impact-level results.

The focus of this ROtI analysis is the Medium-sized Project (MSP) Pacific Islands Renewable Energy Program (PIREP) (GEF ID 1058). The Secretariat for the Pacific Regional Environmental Programme (SPREP) was the executing agency with UNDP the GEF Implementing Agency for the project. Details are presented in Section 2 below.

There are several issues and challenges faced with the application of the ROtI methodology to the PIREP. Firstly, PIREP is not a typical MSP. It is an output-based, project preparatory exercise with no higher order outcomes (i.e. global environmental benefits) other than the gathering of information, the production of a series of national and regional assessment reports and the design of a regional program on renewable energy. In this case, the intended final end result or intended 'impact' is the PIGGAREP, another GEF-funded project that builds on PIREP and is presently in the final year of implementation.

The ROtI analysis also had to sieve through the changing objectives and outcomes of the Project, between the Project Document, to the Annual Progress Reports to the Final Terminal Evaluation (TE) report. Twenty-seven (27) outcomes were defined in the Project Document but only 13 were monitored and reported on by UNDP's APR and Quarterly Reports. The Terminal Evaluation further reduced these to only four (4), which it said "... more realistically describe PIREP." For the ROtI methodology, the TE is the starting point; therefore, the four outcomes of the TE are examined and analysed based on the theory of change for Outcomes-Impacts Pathways. The change in outcomes rendered the ProDoc's logical framework largely irrelevant for this exercise, as a guide to the underpinning thinking and assumptions that framed the project design.

The third issue is that the PIREP was completed in 2006 and many PIC officials with involvement in the PIREP have either moved on or were uninterested in responding to email requests. A limited amount of consultation was possible, but many reported activities and outputs produced for different countries were confirmed using sources within SPREP, individuals in Vanuatu and Samoa, and information available from the TE and monitoring reports of the Implementing Agency (UNDP).

## 2. Project Background Information and Description

The PIREP's effectiveness date (i.e. the project implementation start date in GEF terminology) was March 2003, and the actual closing date was 21 August 2006. Table 1 below presents the project milestones based on APR and TE reports.

**Table 1: PIREP Milestones**

Milestone	Expected Date	Actual Date	Time from previous milestone (total time)
Pipeline entry/received		29 June 2001	
GEF CEO approval		7 March 2002	8 months
Implementation start (effectiveness)	na	5 July 2002	4 months
Project Operational Completion	Nov 2004	31Aug 2006	21 months
Terminal Evaluation Completion	Oct 2006	July 12, 2007	9 months

The project justification is built largely on the PICs' heavy dependence on fossil fuels, the resulting high level of greenhouse gas emissions, and the extreme economic vulnerability of PICs to fluctuating and rising world prices that typifies its importation and use. The option of renewable energy (RE), mostly hydro, although potentially significant, was estimated to contribute less than 10% of each PIC's commercial energy use. The region is also characterized by scattered and fragmented efforts to promote RE technologies that are based on unreliable and unsubstantiated data on RE resource potential.

The Pacific Islands Renewable Energy Project (PIREP) proposed to facilitate the widespread implementation and ultimately, commercialization of appropriate RE technologies (RETs) within PICs through the establishment of a suitable enabling environment. The establishment of such an environment conducive to the region-wide adoption and commercialization of RETs would involve, as a first step, the identification and verification of a wide range of institutional barriers that should be dismantled, and capacity needs that should be built or strengthened, to accomplish this end. The barriers and needs are wide-ranging and diverse, involving legal, fiscal, financial, regulatory, market, technical, technological and information issues. The project would also involve the development of interventions for strengthening the relevant institutional structures and national capacity for the coordination and the sustainable management (design, implementation, monitoring, maintenance, evaluation and the marketing) of RE initiatives in each PIC.

The PIREP was implemented in 14 Pacific Island Countries with SPREP serving as the regional executing agency. The final project budget was US\$811,000 of which US\$700,000 was GEF's contribution and \$111,000 co-financing.

*The Project's Global Environmental Objective:*

*The goal of the project was preparation of a regional approach to removing barriers to the development and commercialization of renewable energy (RE) systems in the Pacific Island Countries (PICs) that influences country efforts to reduce the long-term growth of greenhouse gas (GHG) emissions from fossil fuel uses. (Project Appraisal Document)*

*Project Development Objective:*

*The project development objective was to facilitate adoption and commercialization of feasible and applicable renewable energy technologies, as part of the efforts to support sustainable development of the Pacific Island Countries through the removal of barriers to the widespread application of renewable energy technologies and the accelerated reduction of their implementation costs.(Project Appraisal Document)*

PIREP's main components and activities are presented below, with the APR/PIP rating –



## In-Country RE Initiatives

1. Activity 1: Capacity Building on RE Policy Formulation
  - Persistent policy-related barriers to RE development, as well as gaps between what needs to be done in the area of RE policy making and planning and what have been done, are verified and evaluated.
  - Capacity development needs of the PICs in the area of RE policy formulation, planning and decision-making are verified and evaluated, and relevant programs for training/continuing education in the policy aspects of RE development are recommended.
2. Activity 2: Dissemination of Information and Improving Public Awareness
  - Persistent barriers/issues related to information dissemination and awareness-raising in the area of RE development as well as lessons learned from previous information and advocacy programs on RE in the region are verified and evaluated.
  - Capacity development needs of the PICs in the area of RE information dissemination and RE advocacy campaigns are verified and evaluated, and relevant programs for technical/financial assistance on these aspects of RE development are recommended.
3. Activity 3: Institutional Strengthening and Improving Coordination of In-country and Regional Organizations
  - Institutional barriers in the facilitation, consultation, cooperation and coordination of all aspects of RE program implementation are verified and evaluated, and relevant programs for institutional capacity building are recommended.
  - Capacity development needs of the PICs in the area of program coordination and institutional strengthening are recommended.
4. Activity 4: Developing Market Strategies for RE Business
  - Persistent barriers/issues related to RE market development, as well as lessons learned from previous initiatives to develop and sustain RE markets in the region are verified and evaluated.
  - Capacity development needs of the PICs in effectively addressing/removing barriers to RE market development are identified and evaluated, and relevant programs for technical/financial assistance to address/remove the persistent market barriers are recommended.
  - Specific RE market development strategy is identified for each PIC.
5. Activity 5: RE Delivery Mechanisms
  - Persistent problems/issues affecting the facilitation of RE delivery mechanisms, as well as lessons learned from previous RE services projects in the member countries of the project, are verified and evaluated.
  - Capacity development needs of the PICs in effectively employing appropriate delivery mechanisms for RE services are identified and evaluated, and relevant programs for the promotion of, and training on, all aspects of delivery mechanism implementation are recommended.
6. Activity 6: Innovative Financing Mechanisms for RE Initiatives
  - Persistent barriers/issues related to financing of RE projects in the region, as well as lessons learned from the financing of previous RE initiatives in Small Island Developing States (SIDS) are verified and evaluated.
  - Individual capacity development needs of the PICs in effectively addressing financial barriers to RE development are identified and evaluated, and relevant programs for the promotion

of, and training on, all aspects of financing scheme design and implementation are recommended.

- Potential funding sources for RE projects in the region are identified and evaluated.

7. Activity 7: Developing Technical Assistance to RE Industry

- Persistent technical barriers to RE development, as well as gaps between what needs to be done in the area of RE technology application and what have been done, are verified and evaluated.
- Capacity development needs of the PICs in the area of design, installation, operation and maintenance of NRE systems are verified and evaluated, and relevant programs for the provision of technical training/continuing education as well as technical/financial support are recommended.

8. Activity 8: Identify Appropriate Resource and Technology-Specific Delivery Mechanisms

- Feasible RE projects employing delivery mechanisms are identified in different PICs for possible financing support for their implementation on a demonstration basis.

9. Activity 9: In-country Workshops

- Barriers/issues and lessons learned in the area of RE development in each PIC are confirmed including the measures recommended for the removal of the barriers, and the identified feasible demonstration schemes. The barriers are country and situation specific and not generic in their description.
- Interventions addressing the specific barriers are stakeholder driven and based on previous experiences.

### **Regional RE Initiatives**

10. Activity 10: Regional Planning and Consultative Meeting

- Clear understanding of project proponents is achieved on the objectives and outputs of the MSP implementation, in terms of: (1) responses/interventions to country-specific needs; and, (2) collective regional initiatives/interventions.

11. Activity 11: Regional RE Assessment Report

- Synthesis of all findings and recommendations in the country assessment reports is prepared highlighting common barriers/issues on RE development in the region, common approaches to addressing the identified barriers and measures, which would be specific to a particular PIC.

12. Activity 12: Design of Regional RE Programs

- Regional RE database is designed/strengthened.
- Regional website on RET development and promotion, including documentation of successful models of RE initiatives, is designed.
- An appropriate financing mechanism for supporting RE projects in the region is designed.
- A regional RE demonstration program showcasing the "business angle" of RE project delivery is developed.
- A regional RE technology support program is developed.

### 13. Activity 13: MSP Results Presentation Workshop

- Outputs and recommendations of all RE sector assessments (as described in the regional RE assessment report), are presented and disseminated to stakeholders on RE in the region and interested donor parties.

## 3. PIREP's Global Environmental Benefits

PIREP made no direct contribution to global environmental benefits, which in this case, is the reduction of greenhouse gas emissions. It was a project preparatory exercise aimed at preparing a follow-up regional project, i.e. PIGGAREP, that would contribute to the reduction of greenhouse gases by reducing dependence on fossil fuels through the greater use in PICs of renewable energy technologies.

The proposal for a GEF funded project preparatory grant<sup>52</sup> to develop a full sized regional initiative to promote and facilitate the removal of RE barriers and encourage the use of renewable energy technologies (RET) was formally endorsed by the 2000 SPREP Meeting in Guam<sup>53</sup>.

## 4. The PIREP Outcome-Impact Theory of Change

### 4.1. The ROTI: A theory-based approach to understanding impact

The project's logical intervention approach or theory of change is the expression of the strategy chosen to achieve the objective(s). Based on the strategy, the outputs and activities are designed to drive the expected intervention approach. Inputs and activities produce outputs, leading to outcomes and eventually impacts. As a whole these steps together define the outcome impact pathways.

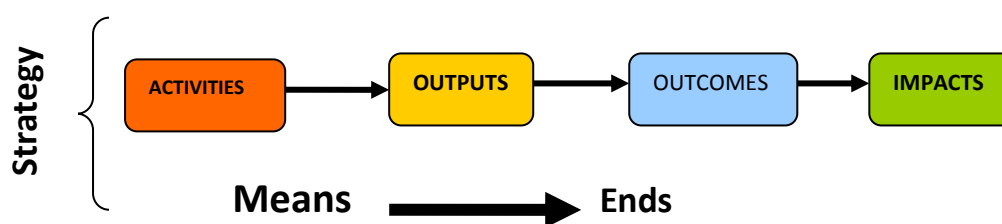
The generic project results chain that underlies the theory of change approach is illustrated in Figure 1 below. On the left of the diagram is the project **strategy**, which encompasses the entire results chain and comprises a set of **activities** that are designed to deliver certain defined **outputs**, which in turn aim to make a significant contribution to the achievement of a set of **outcomes**. Ultimately, the outcomes are in turn expected to result in a set of long-term project **impacts**, the ultimate goal of the project concerned. All levels of the results chain are connected through a series of logical **means-end pathways** (signified by the arrows connecting the boxes).

The diagram in Figure 1 shows a single results chain; however, in practice a project often involves several strategies, each having its own particular results chain, and which all together make up the project's theory of change, which is summarised in the project's **logical framework**.

<sup>52</sup> The proposal to GEF through UNDP was developed by SPC in collaboration with SPREP and SOPAC and had already been endorsed by 14 Pacific Island Countries when it was presented for SPREP endorsement in the 11<sup>th</sup> SPREP Meeting.

<sup>53</sup> Agenda Item 7.3.2.10: GEF Project Removing Barriers to Renewable Energy. On Page 13 of 11<sup>th</sup> SPREP Meeting Report. 2001.

Figure 1 Theory of Change - Means-Ends Pathways



The key elements for the ROTI analysis are the assumptions, impact drivers, and intermediate states, which are described in Table 2. Sustained changes in environmental resources require significant time because changes in the natural world occur slowly. The ROTI methodology acknowledges and recognizes that in most interventions targeted at improving environmental status (impact-level results), time is required following the end of the project for processes to occur, eventually leading from project outcomes to environmental impacts. The GEF EO's *Review of Outcomes to Impact (ROTI) Practitioners Handbook* provides further details about the ROTI methodology.<sup>54</sup>

Table 2: Definitions of Theory of Change Elements in the Outcomes-Impacts Pathways

Intermediate State (IS)	These are the transitional conditions between the project's outcomes and impacts that must be achieved in order to deliver the intended impacts.
Impact Drivers (ID)	These are the significant factors that, if present, are expected to contribute to the ultimate realization of project impacts, <u>and that are within the ability of the project to influence.</u>
Assumptions (A)	These are the significant factors that, if present, are expected to contribute to the ultimate realization of project impacts, <u>but are largely beyond the power of the project to influence or address.</u>

Source: GEF Evaluation Office (2011)

## 4.2. PIREP Outcomes-Impacts Theory of Change

The output-based nature of PIREP has been discussed in the previous section. It means that the impact sought from the logical progression of change from the production of outputs-to-outcomes-to-impacts is not a higher order change, i.e. global environmental benefit, but a more immediate and measurable change. In PIREP, this impact is *a regional approach to removing barriers to the development and commercialization of RE systems in the PICs influences country efforts to reduce the long-term growth of GHG emissions from fossil fuel uses.*

Consequently the means of verification are discrete and tangible outputs consisting of reports produced, workshops conducted, databases, websites, consultative activities completed and so on. The sources of information for verifying their completion are also therefore relatively reliable, i.e. GEF progress reports and Terminal Evaluation studies, with little need for qualitative and anecdotal evidence from interviews with project personnel and stakeholders to confirm and verify changes that may have taken place.

Having said this, the opportunity to discuss PIREP with regional SPREP staff and national representatives in Vanuatu was utilized. This was mainly for purposes of validation and to obtain a feeling of the kinds of stakeholder engagement that took place. As to be expected, with PIREP having

<sup>54</sup> GEF Evaluation Office. 2009. OPS4 Methodological Paper # 2: *Towards Enhancing the Impacts of Environmental Projects. The ROTI Handbook*. August 2009-09-02. GEF-EO – Conservation Development Centre.

been completed in 2006, some key people that would have shed light on project issues have moved on and therefore could not be consulted.

The project's logical framework was prepared with and appended to the Project Document. It shows the flow of logic from objectives, to outputs to outcomes. Importantly, assumptions made by the designers and underpinning these relationships were clearly stated.

The ROTI analysis reviewed these assumptions. Using the four TE outcomes, it also constructed an outcome-impact logframe to better clarify the relevant assumptions (A), key impact drivers (ID) and intermediate states (IS) that were at work in achieving the goal of a regional RET program that is acceptable to GEF and other funding partners.

The revised TE outcomes for the Project is the result of the TE Consultant's attempt to define "... a clearer set of objectives, outcomes and activities that more realistically describe PIREP."<sup>55</sup> The lack of clarity is acknowledged by UNDP as resulting from the formats used by UNDP and GEF for project formulation (project briefs, executive summary and project document) and progress monitoring (APR, PIR and quarterly reports) which "seem to change every 2 or 3 years"<sup>56</sup> and attempts to design PIREP as a typical MSP rather than the expanded PDF exercise that it was.

Table 3 below presents the key outcomes as identified in the final Terminal Evaluation Report.

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<sup>55</sup> Van der Akker, Jan. 2006. Final Evaluation of the UNDP/GEF/SPREP Project RAS/02/G35.

<sup>56</sup> Ibid.

Table 3: PIREP Outcomes-Impacts Theory of Change

<b>Project Strategies</b>	<b>Outcome</b> What was the situation at the end of the Project?	<b>Impact Driver/Assumption</b> What are the key factors for delivery of immediate states?	<b>Intermediate State</b> What needs to happen to achieve impact?	<b>Impact</b> What is the project ultimately aiming to achieve?
Strategy 1: Capacity Building for RE Policy Formulation	Outcome 1 – Barriers to RE development (policy and planning, information and awareness raising, institutional, market and delivery mechanisms, technology support and financial) are verified and evaluated, and capacity development needs (in these areas) and barrier removal measures are recommended.	<p>A.1. National and regional organizations holding relevant data/information were willing to make this information available to the Project.</p> <p>A.2. Key people with knowledge of capacity needs of participating PICs were available and willing to share their knowledge with the Project consultants.</p> <p>ID.1. Participating governments were providing the necessary logistical support and national staff (Country Teams) to support CTA and consultants engaged by the Project.</p>	IS. National assessment reports, three special topic reports and the regional synthesis report of barriers and capacity needs were completed satisfactorily.	PIGGAREP - a regional program is developed and endorsed by PICs for removing barriers to the development and commercialization of RE systems in the PICs – is approved for funding by GEF.
Strategy 2 : Project framework design	Outcome 2: Project framework designed for an envisaged RE program in the Pacific region.	<p>ID.1. Country reports, special topics studies and regional synthesis of barriers and capacity needs were completed and provided relevant &amp; useful information for project framework design.</p> <p>ID.2. There was a clear understanding among project proponents of the objectives and outputs of the MSP implementation, in terms of: (1) responses/interventions to country specific needs; and, (2) collective regional initiatives/interventions</p> <p>ID.3. Adequate co-financing was either secured or pledged by participating PICs and other donors.</p>	IS.1. Proposed project framework was endorsed by participating PICs, and satisfied GEF program design requirements.	

Strategy 3 : Stakeholder consultations and engagement	Outcome 3: Stakeholders are engaged in the design of the envisaged RE program and outputs; and recommendations and lessons learned are disseminated.	<p>A.1. Representatives of PICs in regional consultations for the design exercise became well versed with the background, goals and objective of the proposed RE program and with their respective national issues and priorities as identified in the national stocktaking exercises.</p> <p>ID.1 National and regional stakeholders contributed directly to the design of the RE program.</p> <p>ID.2. Adequate PIREP funds were available to support travel costs of key national representatives in regional consultations.</p>	IS. The regional program framework design reflected broad consensus and decisions reached via stakeholder consultations.	
Strategy 4: Effective coordination of project implementation	Outcome 4: Adaptive management, monitoring and evaluation.	<p>ID.1. CTA received full support of SPREP and participating PICs in the effective coordination of PIREP implementation.</p> <p>A.1. SPREP and CTA have the capacity and resources to respond effectively to all unforeseen circumstances that arose that could have adversely affected the successful delivery of PIREP activities and planned outputs.</p>	IS. All planned activities were properly implemented and all desired outputs produced satisfactorily	

Source: Based in part on the Project Document and the Terminal Evaluation Report 2006.

### 4.3. Assessment of Achievements of the Outcomes-Impacts Pathways

The analysis of the outputs-outcomes-impacts pathways was conducted based on a review of the project documentation, and information received via consultations with individuals that were in UNDP and SPREP during project implementation, and others who are current or ex staff of the SPREP, Department of Environment in Vanuatu and the Ministry of Natural Resources and Environment in Samoa. A list of those consulted is appended.

The assessment is broken down by individual strategies for the key outcomes. The following rating system for the field ROTI methodology is given in Table 4 below.

**Table 4: Field ROTI Rating System**

Rating	Description
0	Not achieved
1	Poorly achieved
2	Partially achieved
3	Well achieved

#### **4.3.1 Overall Assumptions Necessary for the Achievement of Outcomes**

There were two critically important assumptions that needed to hold true in order for PIREP to achieve its intended outcomes. The first critical assumption is that participating PICs are fully committed to supporting PIREP at the national level and to providing co-financing.

The second critical assumption is that stakeholder consultations are inclusive and effective. Effectiveness means the project's consultation process is successful in meaningfully engaging all key stakeholders despite the potential negative impacts of the proposed project on their own interests. To elaborate, some of institutional barriers are outdated legislation and political arrangements supporting and perpetuating monopolistic arrangements and unfair business practises in energy production and distribution. Private sector operators as suppliers of RET have self-serving objectives. In other words, some stakeholders are benefitting from the status quo and would lose profit margins by the removal of barriers and the introduction of other regulatory mechanisms as envisaged in PIGGAREP. There are also sensitive issues of poor coordination between government agencies, and overlapping jurisdictions and mandates between regional organizations (in particular SPREP and SOPAC) over renewable energy and climate change that could conceivably influence their willingness to provide information. In this broad context, it is critically important that the process of consultation not only brings together all relevant stakeholders including existing monopolies but that there is a genuine acceptance and commitment to serving the larger good as opposed to their respective vested interests.

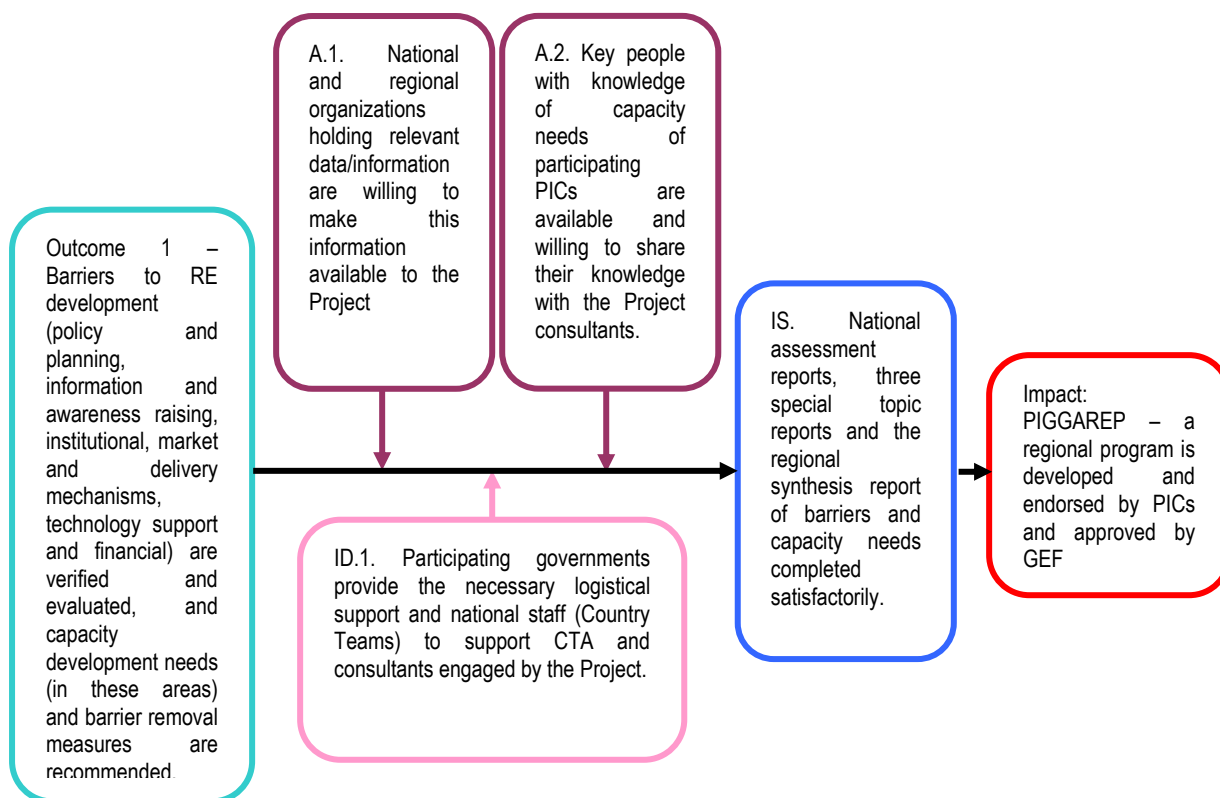
#### **4.3.2. Strategy 1: Capacity Building on RE Policy Formulation**

The stock taking exercise at the national level depended on the effectiveness of local and international consultants and the support of country teams provided by participating countries. Some delays in the putting together of country teams were reported, due to lack of staff within relevant agencies, delays in the recruitment of national coordinators and local consultants, and ineffective collaboration between international consultants and their local counterparts. The support of organizations and individuals in possession of relevant information was critical. Such includes the experience of private sector operators in the use of solar power in remote islands in some countries and the willingness of state monopolies such as the Electric Power Corporation (EPC) in Samoa to discuss issues and options that deviate from the status quo that is beneficial to them.

The Terminal Evaluation report noted that while national assessment reports vary in quality, all were delivered in time to contribute to the regional synthesis workshops and report compilation. Similarly, three special topics reports were prepared and delivered on time. It is important to recognize the useful role of governments in providing the logistical support and local staff that greatly facilitated the delivery of national-level outputs.



**Figure 2: Strategy 1 Outcomes – Impacts Pathway**



The main potential threat to the achievement of the desired impact within this pathway was with the quality of the national and regional assessment reports, and whether they provide compelling evidence of significant potential global benefits to justify a GEF-funded intervention. The fact that PIGGAREP is approved and under implementation answers this question unambiguously and reflects positively on the quality of the information gathered from these assessments.

**Table 5: ROTI for Strategy 1 – Capacity Building on RE Policy Formulation**

Theory of Change Component	Qualitative Assessment	Rating
Outcome 1 – Barriers to RE development (policy & planning, information & awareness raising, technology support & financial) are identified, verified and evaluated. Capacity development needs (in these areas) are identified & barrier removal measures are recommended.	All national assessments and verification studies, special topics reports and regional synthesis were satisfactorily completed albeit with minor delays in some PICs. This is confirmed by the TE final report.	3
A.1. National and regional organizations holding relevant information/data are willing to make this available to the project.	Relevant organizations and stakeholders were able to make available data and information on previous and ongoing projects to assist in the implementation of this outcome.	3
A.2. Key agencies and people with knowledge of capacity needs are available and willing to share their knowledge with project consultants.	There was good stakeholder participation through national SWOT exercises, national workshops, one-on-one meetings, and regional meetings. This is confirmed by both TE and individuals in Samoa and Vanuatu.	3
ID.1 Participating governments are providing adequate logistical support and national staff (Country Teams) to support CTA and consultants engaged by the project.	Overall, all participating PICs fulfilled their contribution in terms of country teams, logistical support etc. There were some issues reported related to delays in recruitment of national consultants and the effectiveness of their collaboration with international consultants.	2
IS.1. National and regional synthesis reports are completed and are endorsed by participating countries.	National report and regional synthesis reports were of varying quality mainly due to varying quality of information. But all were completed and contributed to the outcome.	2
Impact: PIGGAREP – a regional program is developed and endorsed by PICs and approved by GEF.	PIGGAREP proposal was approved by GEF in 8 June 2005 and endorsed by the GEF CEO in 6 September 2006.	3

**4.3.3. Strategy 2: Project Framework Design**

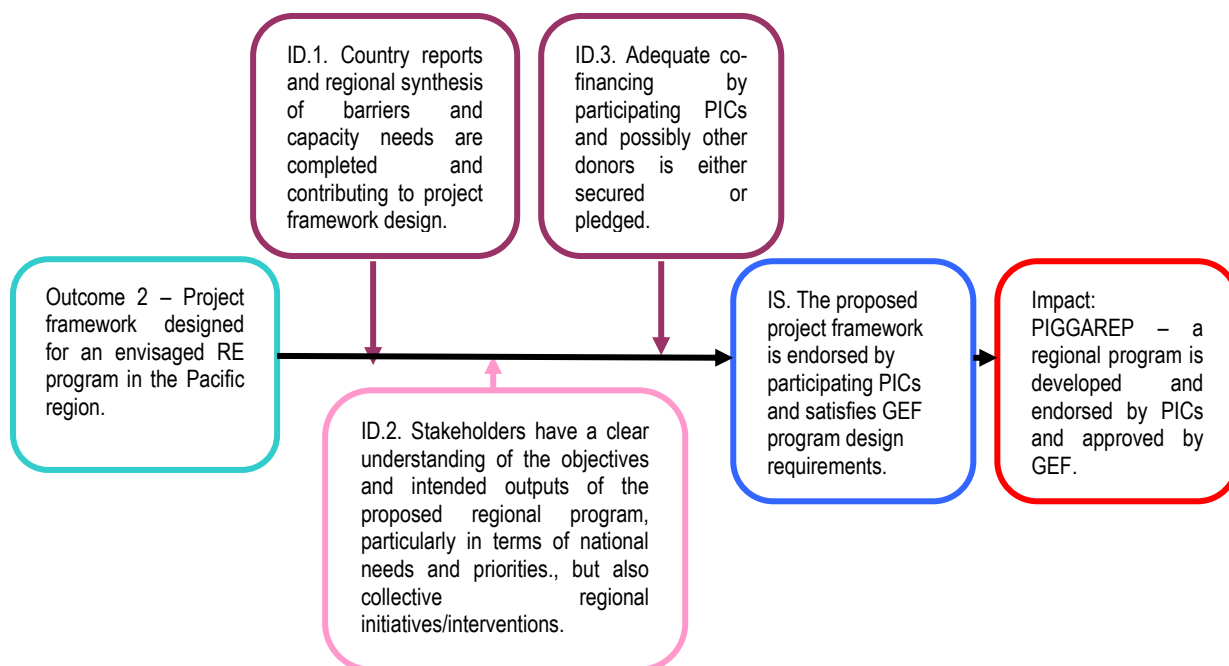
The effectiveness of change from the outcome to the desired impact through this pathway rests on two main factors: (i) the quality of the process that was used, and (ii) the quality and appropriateness of the design itself that resulted. Part of the discussion of process involves the issue of consultations and engagement of relevant stakeholders. This is discussed in Strategy 3.

The quality of the program design is satisfactory as it is now accepted by GEF. But there were initial issues that had to be addressed. The TE hinted at deficiencies in the proposed PIGGAREP design when it observed that there should have been more focus on PIGGAREP conceptualization, as opposed to the emphasis given to the formulation of assessment reports. According to the TE, PIREP had the resources and the time to do some of the activities that have been included in PIGGAREP. The original output from the MSP Regional Project design workshop had inadequate co-financing and the CTA did well to deal with this effectively with further visits to countries. There were also some concerns from people interviewed about balance, and the importance of striving for balance between country-specific activities and regional activities. This is important given the highly diversified needs and circumstances of the 11 participating PICs. Conversely, there are common activities wherein the regional approach was more cost-effective.

The importance of co-financing as an impact driver is its role in making PIGGAREP bankable with GEF. It is also a clear indicator of PICs’ commitment and of other multilateral co-funders (in this case, US\$1.0m from UNDP and others), which provided leverage for other donors including GEF. The level of co-financing secured in the end (US\$27,983,000) showed that this problem was effectively addressed.

The Intermediate State in this pathway is identified as the PIGGAREP framework design that is endorsed by PICs and satisfies GEF design requirements. The emphasis on PICs endorsement is important in pushing this forward in the best possible light for GEF consideration. In this sense, the proposed IS is also an impact driver. The quantification of global benefits in terms of potential CO<sub>2</sub> emission reductions (which was estimated to average 1.3% of annual growth in CO<sub>2</sub> emission in the first 15 years) is essential information for the GEF.

**Figure 3: Strategy 2 Outcomes – Impact Pathway**



**Table 6: ROtI for Strategy 2 – Project Framework Design**

Theory of Change Component	Qualitative Assessment	Rating
Outcome 2: Project framework designed for an envisaged RE program in the Pacific region.	Project framework design was completed based on input from national reports and regional synthesis wherein national priorities in terms of barriers for removal and capacity needs are identified. There were some activities in the PIGGAREP framework that could have been undertaken during PIREP, given its extended duration but were not.	2
ID.1. National reports and regional synthesis report have been completed and providing relevant information for the design exercise.	National reports and regional synthesis were prepared on time and provided the basis for determining national priorities of barriers for removal and capacity needs, national-level interventions and regional-level measures.	2
ID.2 Stakeholders and country representatives in the framework design exercise (esp. regional and national level workshops) have a clear understanding of the objectives and intended outputs of the proposed regional program, particularly in terms of national needs and priorities, but also collective regional initiatives/ interventions.	Regional workshops were attended mainly by national coordinators and energy planners from government agencies representing countries as well as representatives of regional organizations including SPREP and SOPAC. The national representatives were mostly involved in the national stock taking exercises and therefore were familiar with the issues and the objective of the intended outcome (regional program).	3
ID.3. Adequate co-financing by participating PICs and possibly other donors is either secured or pledged.	The final co-financing figure of US\$27,983,000 was confirmed to match GEF's total contribution of US\$5,225,000.	3
IS. The proposed project framework is endorsed by participating PICs and satisfies GEF program design requirements.	PICs' endorsement for the PIGGAREP design was received during the MSP Project Design workshop. Country co-financing commitments can also be said to reflect country endorsements.	3
Impact: PIGGAREP – a regional program is developed and endorsed by PICs and approved by GEF.	PIGGAREP proposal was approved by GEF in 8 June 2005 and endorsed by the GEF CEO in 6 September 2006.	3

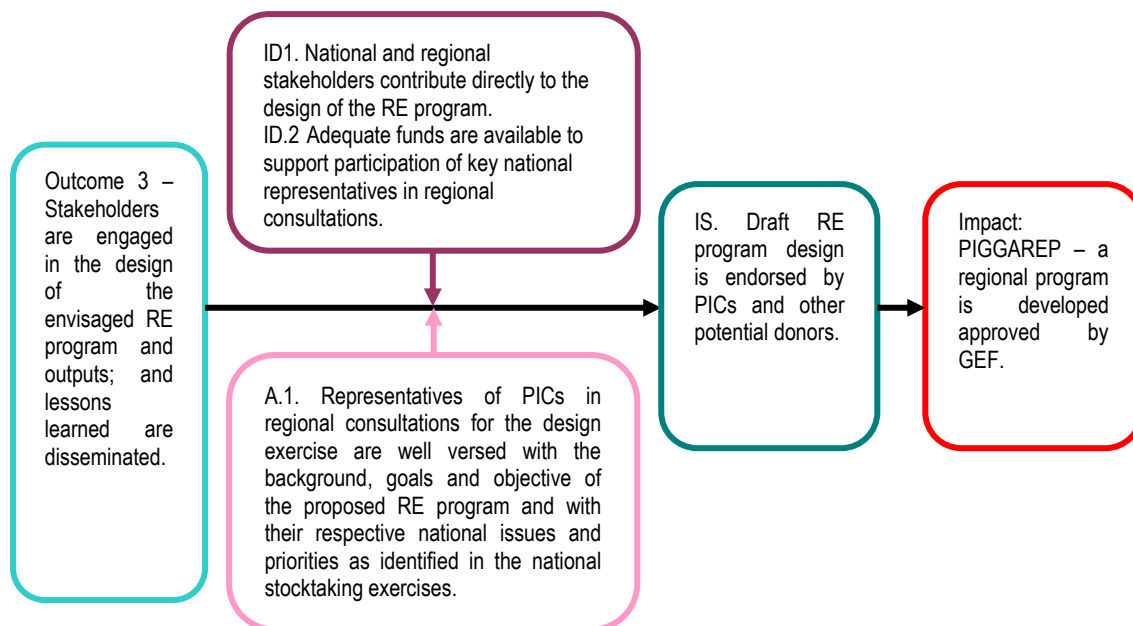
#### 4.3.4. Strategy 3: Stakeholder consultations and engagement

The critical requirement for Strategy 3 is the quality of stakeholder participation and engagement in the design process. Reports from the TE and from those interviewed suggested that consultations at the national level were well attended by representatives from all key stakeholder groups including government agencies, NGOs, and the private sector. The general impression gained from interviews conducted and project reports of the quality of the consultation process is also positive, in part due to the effective use of the SWOT tool in facilitated group exercises.

Stakeholder participation and engagement at the regional level, for PICs, were largely limited to national coordinators and government officials from energy agencies, representatives of regional organizations mainly of the CROP Energy Working Group, and bilateral and multilateral donor representatives. There were reportedly no private sector representatives, nor were there any attempts on the part of the project to encourage and support their participation at this level. On the other hand, those who attended for countries were well versed with the goals and objectives and national priorities.

The TE observed that more consultations could have been possible given the amount of funds available to engage more non-governmental stakeholders (utilities, renewable energy technology suppliers, NGOs, and financial intermediaries) in the design of the PIGGAREP concept as well as for having a more detailed planning and prioritization of project activities. Thus the Impact Driver identified in this pathway is valid even though this opportunity was not fully utilized by extending this assistance to non-governmental and private sector representatives.

**Figure 4: Strategy 3 Outcomes – Impact Pathway**



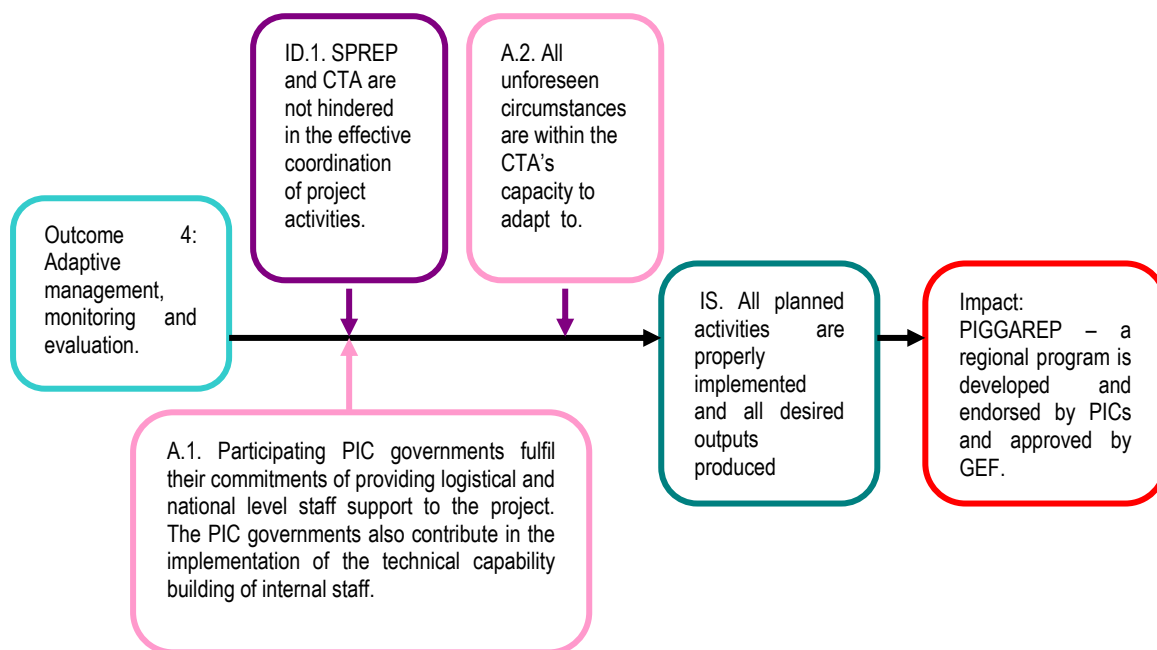
**Table 7: ROTI for Strategy 3: Stakeholder Consultation and Engagement**

Theory of Change Component	Qualitative Assessment	Rating
Outcome 3 – Stakeholders are engaged in the design of the envisaged RE program and outputs; and lessons learned are disseminated.	Stakeholder participation and engagement in the design phase is assessed by the TE as satisfactory. This is consistent with the views of individuals interviewed for the ROTI. The rating of 2 takes into account the inadequate participation and engagement of non-governmental and civil society representatives at the regional level.	2
A.1. Representatives of PICs in regional consultations for the design exercise are well versed with the background, goals and objective of the proposed RE program and with their respective national issues and priorities as identified in the national stocktaking exercises.	Most representatives are Country Team members and coordinators who are well versed with the background and the goal and objectives of PIREP, and were therefore able to contribute to the design exercise, possibly more than others who are less familiar. Regional consultations also included the Pacific Power Association, SPREP, CROP Energy Working Group and PIF.	2
ID.1 National and regional stakeholders contributed directly to the design of the RE program.	Satisfactory participation overall in national and regional level consultations, although key stakeholders including non-governmental and private sector representatives were not involved at the regional level.	2
ID.2. Adequate PIREP funds are available to support travel costs of key national representatives in regional consultations.	Adequate funds were available and could have allowed the participation of non-governmental and private sector representatives, but the opportunity was not utilized. The original inception meeting (Aug 2003), and MSP Results and Project Design workshop (July 2004) were well attended.	2
IS. Draft RE program design is endorsed by PICs.	Draft RE program design was endorsed with 11 PICs submitting a letter of support and making co-financing commitments.	3
Impact: PIGGAREP – a regional program is developed and endorsed by PICs and approved by GEF.	PIREP’s goal of designing a regional program PIGGAREP that would be accepted and approved for funding by GEF is achieved. There are also other positives – participating PICs’ capacity for planning and decision making is improved with the availability of up-to-date information produced by PIREP. Several PICs are developing funding proposals using this information.	3

**4.3.5. Strategy 4: Effective coordination of project implementation**

This pathway recognizes that PIREP has a wide range of outputs which all contributed to and ensured that the PIGGAREP proposal was not merely produced, but to a quality that GEF would accept. Project progress reports revealed continuing efforts on the part of the CTA and SPREP to find innovative ways to deal with a range of stumbling blocks that impeded progress, including slow recruitment of national coordinators, delayed start-up for some national level assessments, difficulties of finding competent local consultants in some PICs, issues of effective collaboration between international consultants and local counterparts, initially insufficient co-financing, etc.

**Figure 5: Strategy 4 Outcomes – Impacts Pathway**



The overall assessment of this strategy is satisfactory.

**Table 8: ROTI for Strategy 4: Effective Facilitation of Project Implementation**

Theory of Change Component	Qualitative Assessment	Rating
Outcome 4: Adaptive management, monitoring and evaluation.	Adaptive management could not have been easy with weaknesses found in the PIREP project design, and coordinating national and regional level activities involving 15 PICs. Having said this, PIREP achieved its ultimate goal of designing and producing a regional RE project that GEF is willing to fund. Several other donors are expected to contribute with co-financing.	3
A.1. Participating PIC governments fulfill their commitments of providing logistical and national level staff support to the project. The PIC government also contribute in the implementation of the technical capability building of internal staff.	With some variations between participating PICs, mostly in the timeliness with which local staff were recruited. Otherwise overall satisfactory.	2
A.2. All unforeseen circumstances that arose are within the CTA's capacity to adapt to.	A few minor issues with the hiring of national coordinators and local consultants in a few PICs and in coordinating the work of national and international consultants which together caused some delays. Anticipated difficulties with SPREP and SOPAC with regards to regional project execution of PIGGAREP never materialized. CTA was also proactive and effective in obtaining PICs commitment to co-financing, which at one stage did not look promising.	3
ID.1. SPREP and CTA are not hindered in the effective coordination of project activities.	SPREP and CTA received good support of the participating PICs. No major hiccups faced.	3
IS. All planned activities are properly implemented and all desired outputs produced satisfactorily.	According to the TE, all planned outputs were produced satisfactorily. The TE also noted that there were some activities in the PIGGAREP design that could and should have been implemented under PIREP.	2
Impact: PIGGAREP – a regional program is developed and endorsed by PICs and approved by GEF.	PIREP's goal of designing a regional program PIGGAREP that would be accepted and approved for funding by GEF is achieved. There are also other positives – participating PICs' capacity for planning and decision making is improved with the availability of up-to-date information produced by PIREP. Several PICs are developing funding proposals using this information.	2

#### 4.4 Overall PIREP ROTI Conclusions

The PIREP produced all its intended outcomes, to a large extent, satisfactorily. The PIREP was basically a project development exercise and, despite being a MSP, was not expected to generate global environmental benefits such as a reduction of greenhouse gas emissions or removal of barriers to renewable energy development. It only involved studies of barriers, capacity development needs and strategies, consultation meetings with stakeholders and project document formulation.

Notwithstanding, this ROTI analysis followed the pathways from the four outcomes defined in the Terminal Evaluation report to the intended 'impact' of the PIGARREP proposal's development and its ultimate approval for funding by GEF. It identified and discussed impact drivers and assumptions that underpin this progression, and the critical intermediate states (IS) that were attained at the penultimate stage of each of the four pathways that, when combined, produced the desired impact. It found that while the final impact (PIGGAREP produced and accepted by GEF) was achieved from the outcomes generated during project implementation, there were issues with the program design and the process that affected implementation effectiveness and the quality of the PIGGAREP proposal. For some of these issues, effective adaptive measures were taken by the CTA before the end of the project to address them effectively. But the opportunity to engage more inclusively with key non-governmental and private sector stakeholders in consultations at the regional level was not

used and is a weakness in the proposal. It is also an important lesson for the future. The opportunity to extend the scope of the PIREP further into detailed planning of some national level activities was not taken, despite the availability of funds and time. These were highlighted in the Terminal Evaluation report.

On the other hand, PIREP achieved more than was intended with some unanticipated but positive impacts. It raised awareness in PICs of the benefits of RET, as well as galvanized and generate interest in both government and private sectors in support of the wider use and commercialization of RET.

PIREP also strengthened the capacity of 15 participating PICs by producing baseline studies that have since been widely used for other planning purposes, such as in the development of national energy policies (as in the case of Samoa), the new WB/GEF-supported Sustainable Energy Financing Program (SEFP), which would be implemented in five PICs (i.e. Fiji, PNG, Marshall Islands, Solomon Islands and Vanuatu), as well as the UNDP/GEF MSP proposals ADMIRE (Marshall Islands) and SEDREA (Palau). According to the individuals consulted, the awareness in and knowledge of renewable energy technologies, barriers and capacity needs generated by PIREP have been the catalyst and the major source of information for the development of sector policies that have since taken place in many PICs, which have also been progressed further and supported by PIGGAREP.

The final milestone in the progression from PIREP outcomes to GEF approval of PIGGAREP is the formal endorsement of PIGGAREP during the 16<sup>th</sup> SPREP Meeting, and letters of endorsement from 11 PICs and the significant co-financing commitment that were essential parts of the PIGGAREP proposal. In this analysis, they were important elements in making the PIGGAREP proposal 'GEF-able'.

All things considered, the ROTI's overall assessment is therefore satisfactory. In the context of a regional exercise involving 15 Pacific Island Countries of diverse capacities and economic conditions, it is a commendable achievement. GEF approval for PIGGAREP is the ultimate measure of success and this has been achieved.

PIREP can also claim some credit for the global environmental benefits expected from the successful implementation of PIGGAREP. These include, but are not limited to the following:

- Installation and operation of renewable energy systems, such as solar PV systems, solar water heaters, biofuels and micro hydro;
- Impacts on end users and degree of socio-economic development;
- Development of policies, legislation and regulations that support RE development and utilization;
- Expansion of business and supporting services for RE technologies;
- Increase of financing availability and financing mechanisms;
- Improvement of awareness and understanding of technologies among producers, users and intermediary organizations;
- Change in energy consumption and fuel use patterns and resulting greenhouse gas reductions and other environmental impacts.

**Table 9: Overall Rating of the Project's Impact**

Theory of Change Component	Outcome-Impact Assessment
Strategy 1: Capacity building for RE policy formulation	3
Strategy 2: Project framework design	3
Strategy 3: Stakeholder consultations and engagement	2
Strategy 4: Effective coordination of project implementation	3
<p>Overall Rating Summary:</p> <p><u>Strategy 1: Capacity building for RE policy formulation.</u> PIREP 's outputs of reports on national barriers, capacity needs, the regional synthesis report and three special topic reports (financial mechanisms, technology support system and demonstration projects to showcase energy service delivery) provided for countries and the project team (CTA and consultants) the baseline information from which to build the PIGGAREP proposal. This is indispensable to the achievement of the intended impact. The various other uses of this information by countries for their national planning purposes may have been unintended, but highly significant. These include policy making in the energy sector and several national and sub-regional funding proposals from some PICs who opted out of the PIGGAREP initiative. The rating of 3 reflects the direct contribution of this strategy to both the intended impact of PIREP and the other unintended benefits that participating PICs have since gained.</p> <p><u>Strategy 2: Project framework design.</u> The PIGGAREP proposal was endorsed by PICs, approved by GEF and now in the final stages of implementation. This is the ultimate evidence that the design was sound.</p> <p><u>Strategy 3: Stakeholder consultations and engagement.</u> PIREP conducted consultations at the national and regional level. For all PICs, there have not been any expressed concerns about their inclusiveness in project reports, except a missed opportunity to engage more at the regional level from the non-governmental sectors, as noted in the TE. In light of the fact that there were adequate project funds to allow this, it is a valid observation. But overall the level of stakeholder consultations is assessed as adequate.</p> <p><u>Strategy 4: Effective coordination of project implementation.</u> Overall, all four main outcomes were satisfactorily delivered, and this is evidenced in the production of all outputs and the final PIGGAREP proposal. Some delays were reported in some national-level outputs and one can expect quality to vary as well. But those less visible elements of the project that contribute to its success – i.e. winning the endorsement of PICs, securing a high level of national and external donor co-financing, engaging the assistance of the Energy Working Group of CROP successfully, navigating successfully through sensitive CROP agencies politics to obtain agreement on SPREP to be the executing agency of PIGGAREP, and others - are important results that reflect effective coordination and good project management.</p>	

\*\*\*\*\*



## Appendix 1: References Consulted

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12. van den Akker, Jan. Oct 2006. *Final Evaluation of the UNDP/GEF SPREP Project RAS/02/G35 – Pacific Islands Regional Energy Project (PIREP)*. ASCENDIS.

## Appendix 2: Interview Consultations

### SPREP/Samoa –

1. Easter Galuvao – Biodiversity Adviser SPREP; ex UNDP Program Officer;
2. Tapa Suaesi – Environmental Planning Officer; SPREP; ex Principal Officer, Division of Environment and Conservation, MNRE, Samoa.
3. Wairarapa Young, Team Leader, Renewable Energy Division, Electric Power Corporation, Samoa.
4. Fonoti Perelini Perelini. Acting Project Manager. EPC Project Management Unit.

### Vanuatu –

5. Albert Williams – Director, Vanuatu Department of Environmental Protection and Conservation
6. Touasi Tiwok. Principal Environment Officer; Vanuatu Department of Environmental Protection and Conservation
7. Ernest Bani, ex Director, Vanuatu Department of Environmental Protection and Conservation. Managing Director, BECON Environmental Consultants. Port Vila.

### **Appendix 3: List of Renewable Energy Sites Visited**

#### **Samoa –**

1. Afulilo Hydropower Project, Richardson Rd and Taelefaga, Fagaloa
2. Biogas Digester Project, YWAM Campus, Falelauniu, Samoa.
3. Scientific Research Organization of Samoa (SROS), Bio-fuel Research Project, Papauta, Samoa.

**Review of Outcomes to Impact: Facilitating and Strengthening the  
Conservation Initiatives of Traditional Landholders and their Communities to  
Achieve Biodiversity Conservation Objectives (GEF ID 1682)**

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## List of Acronyms

A	Assumptions
DEPC	Department of Environment Protection and Conservation
FSPI	Foundation of the Peoples of the South Pacific
GEF EO	Global Environment Facility Evaluation Office Evaluation Office
GEF	Global Environment Facility
ID	Impact Drivers
IEC	Information Education and Communication
IS	Intermediate States
KAP	Knowledge, Attitude, and Practice
LCI	Local Conservation Initiatives
MSP	Medium Size Project
NBSAP	National Biodiversity Strategy and Action Plan
NGO	Non-governmental Organization
O	Outcomes
PIR	Project Implementation Report
ROtI	Review of Outcomes to Impacts
SGP	Small Grants Programme
TE	Terminal Evaluation
TER	Terminal Evaluation Review
UNDP	United Nations Development Programme
VEU	Vanuatu Environment Unit

## 1. Introduction

This review was conducted as part of the Global Environment Facility Evaluation Office's (GEF EO) Vanuatu and SPREP Portfolio Evaluation. This review aims to assess concrete, measurable and verifiable results (outcomes and impacts) of the GEF support in Vanuatu using an impact evaluation methodology developed by the GEF EO, called the Review of Outcomes to Impacts (ROtI). The ROtI methodology assesses progress from project outcomes to impact-level results.

The focus of this ROtI analysis is the Medium Size Project (MSP), *Vanuatu: Facilitating and Strengthening the Conservation Initiatives of Traditional Landholders and their Communities to Achieve Biodiversity Conservation Objectives* (GEF ID 1682), also known as the Local Conservation Initiatives (LCI) project. The United Nations Development Programme (UNDP) was the GEF Implementing Agency for the project. Project details are presented in Section 2.

There were several challenges in applying the ROtI methodology to the LCI. First, several project staff have transitioned to other employment and the organization has not retained institutional knowledge about the project. Second, the filing system with the Department of Environment Protection and Conservation (DEPC) contained limited information; therefore, obtaining information about the project depended heavily on interviews and focus groups. The evaluators were not able to travel to some of the islands where the project was implemented due to transportation infrastructure issues (flight logistics and roads).

Despite these challenges, the evaluation team conducted focus group discussions with several former project staff and others with connections to the project. All available documentation, which was from the GEF EO database, was used to supplement the input from the consultations.

## 2. Project Background Information and Description

Project implementation officially started in February 2005 after three years of preparation, which included the project concept, country endorsement, project proposal, and approval by the GEF and the GEF Implementing Agency (UNDP). However, actual implementation activities only started in early August 2005 following the recruitment of the project coordinator and the administrative assistant. The delay between submission of the project proposal and initial disbursement of funds created uncertainty about hiring project staff and procuring necessary equipment.

The project lasted 59 months, and extended 10 months beyond the initial proposed closing date. This was due to the initial delays in setting up the project, as well as staff transitions throughout the project including the LCI project team and the UNDP staff responsible for the project. The project milestones are presented in Table 1 below. The project was executed by the Vanuatu Environment Unit (VEU), which is now the DEPC.

**Table 1: Project Milestones**

Milestone	Expected Date	Actual Date	Time from Previous Milestone
Country Endorsement		17 April 2003	
Project Proposal		13 January 2004	9 months
GEF CEO Approval		10 March 2004	2 months
UNDP Approval		24 February 2005	13 months
Implementation Start	24 February 2005	August 2005	6 months
Completion	February 2009	31 January 2010	53 months
Terminal Evaluation	February 2010	September 2010	8 months

Source: GEF Terminal Evaluation Review

The MSP was initially designed by the VEU to continue the work initiated under the GEF-funded National Biodiversity Strategy and Action Plan (NBSAP) and the South Pacific Biodiversity Conservation Program, which emphasized the community-based conservation approach as most land in Vanuatu is under customary land ownership.

The LCI project also supplemented ongoing programs in Vanuatu by several organizations such as the Vanuatu Culture Centre on documenting and protecting traditional knowledge, the Wan Small Bag's environmental awareness programs, the Forestry and Fisheries Departments' work on conservation and sustainable harvesting of biodiversity resources, and the Foundation of the Peoples of the South Pacific (FSPI) project on community governance for sustainable forestry management and gardening.

The total project budget was USD\$1,455,843, with USD\$745,910 provided by the GEF grant and USD\$709,933 co-financing committed by the Government of Vanuatu and its NGO project partners.

The overarching goal of the project was: ***“The greater and more effective application of locally and culturally appropriate mechanisms to conserve Vanuatu’s internationally significant biodiversity.”*** The project defined three outcomes intended to support this goal:<sup>57</sup>

1. **Outcome 1:** Facilitate, adapt and strengthen traditional mechanisms to conserve biodiversity on Gaua, Tanna, and Santo Islands.
2. **Outcome 2:** Provide an enabling environment and strengthen government and non-government capacity to support community-based conservation initiatives and replicate successes in other areas of Vanuatu.
3. **Outcome 3.** Monitor the impact and effectiveness of landholder-based conservation areas to inform and direct work to adapt and strengthen traditional conservation approaches.

Project activities included the following:<sup>58</sup>

- Document local knowledge of internationally significant species, including their local use and management.
- Provide opportunities for networking and information exchange between communities engaged in biodiversity conservation areas.
- Establish participatory biodiversity documentation systems to improve knowledge of poorly known species of internationally significant biodiversity.
- Establish participatory monitoring of important species and project sites to document the benefits of community-based conservation initiatives.
- Promote awareness of the internationally significant species present in the local areas.
- Promote wider consideration of ecological issues and impact on community within local biodiversity conservation decisions.
- Promote successful local-level conservation initiatives.
- Support local site management initiatives, including self-policing mechanisms, strengthening mechanisms for chiefs/landowners to impose fines, introduction of bylaws, etc.

<sup>57</sup> A fourth intended outcome was “Effective and efficient administration and management of project activities.” The ROtI focuses on the first three objectives.

<sup>58</sup> *Project Document*, 3 October 2000.



- Encourage pride in traditional resource management systems and their benefits to biodiversity conservation.
- Foster initiatives to develop ecotourism, where feasible and appropriate.
- Conduct trial initiatives to reduce threats to internationally significant biodiversity as appropriate: control of invasive species, alternate subsistence and commercial resource management approaches, and diversification of the commercial resource base.
- Develop appropriate maps of conservation sites for government and community purposes.
- Strengthen the status of local conservation initiatives in government policy, legislation, and provincial governments.
- Promote cross-sector interaction so that locally protected biodiversity is recognized within government and provincial decision making.

The Terminal Evaluation (TE) summarizes the major issues that the project addressed under each of the three outcome areas listed above. In addition, the TE describes the outputs for each of the three areas, and provides ratings on performance in each category. This information is summarized in Table 2.

**Table 2: Terminal Evaluation Ratings**

<b>Objective 1: Facilitate, adapt and strengthen traditional mechanisms to conserve biodiversity (on Gaua, Tanna and Santo Islands).</b>		
<b>Main issues</b>	<b>Rating</b>	<b>Rationale</b>
1. Threats to local biodiversity	Satisfactory	<ul style="list-style-type: none"> <li>• Santo sees the increase of birds, coconut crabs, freshwater prawns both monoculture and integrated, local significant species</li> <li>• Tanna likewise sees the increase of Shear birds, plants, coconut crabs, etc.</li> <li>• Gaua witnesses the increase of reef species like fish, trochus, turtles, green snails, etc.</li> </ul>
2. Local Conservation Capacity	Satisfactory	<ul style="list-style-type: none"> <li>• In all three project sites, landowners learned and implemented their conservation sites</li> <li>• Combination of traditional and modern conservation practices are being used</li> <li>• Revival of traditional leadership of chiefs, church, women, youth, etc., to provide management to the project activities in all three sites.</li> </ul>
3. National and international conservation priorities	Satisfactory	<ul style="list-style-type: none"> <li>▪ Identification of the natural biodiversity and the articulation of their importance nationally and internationally</li> <li>▪ Landowners quickly caught on the national and international priorities</li> <li>▪ Book was printed on Tanna regarding endemic species</li> <li>▪ Celebrations were done on all 3 project sites with printing of t-shirts and string band competitions</li> <li>▪ Some replanting of trees on Tanna and Santo of endemic species such as trees.</li> <li>▪ Linking in with ecotourism projects on Tanna and Gaua</li> </ul>
<b>Objective 2: Provide an enabling environment and strengthen government and non-government capacity to support community based conservation initiatives and replicate successes in other areas of Vanuatu.</b>		
<b>Main issues</b>	<b>Rating</b>	<b>Rationale</b>
1. Capacity weakness of VEU and other relevant agencies to support community conservation	Satisfactory	<ul style="list-style-type: none"> <li>• The VEU was upgraded to the DEPC</li> </ul>

Main issues	Rating	Rationale
2. Use of Information Education and Communication (IEC) materials for ongoing conservation	Highly Satisfactory	<ul style="list-style-type: none"> <li>IEC materials were highly used with clarity and impact on all three sites</li> <li>Others, including school children, were able to use the materials</li> <li>People were able to understand information and learn</li> </ul>
3. Knowledge, attitude, and practice (KAP)	Moderately Unsatisfactory	<ul style="list-style-type: none"> <li>The first KAP survey was conducted and analysed</li> <li>The second KAP survey was conducted, but information was not analysed due to unavailability of funds</li> <li>Progress cannot be realistically determined</li> </ul>
<b>Outcome 3: Monitor the impact and effectiveness of landholder based conservation activities to inform and direct work to adapt and strengthen traditional conservation approaches.</b>		
Main issues	Rating	Rationale
1. Increasing the knowledge and skills of the community members to monitor their own resources	Highly Satisfactory	<ul style="list-style-type: none"> <li>In all three sites, community members are doing the monitoring checks</li> <li>School children were also involved</li> </ul>
2. Local Conservation Capacity	Satisfactory	<ul style="list-style-type: none"> <li>In all three sites, local landowners established their own conservation committees</li> <li>They set up their own management bodies and systems</li> <li>They implemented local conservation and management strategies</li> </ul>
3. National and international conservation priorities	Satisfactory	<ul style="list-style-type: none"> <li>All sites developed pride in their national and international biodiversity</li> <li>Celebrations were held in both Tanna and Santo with publication showcasing their endemic species</li> <li>A book was printed on endemic species in Tanna</li> </ul>

Source: Terminal Evaluation: *Local Conservation Initiatives Project*

The TE did not provide ratings for the development objectives. Thus for the purpose of the ROTI, the ratings used are a composite provided in the Terminal Evaluation Review (TER) by the GEF, as shown in Table 3 below.

**Table 3: Assessment of Development Objectives**

Assessment of Outcomes		TER Rating	TE Rating
a.	Relevance	S	S
b.	Effectiveness	MS	S
c.	Efficiency	MS	S
d.	Overall Project Outcome Rating	MS	Not rated
Comments and justifications: TE did not provide overall ratings, but ratings for each of the four Outcomes. The "TE ratings" shown above are composites of these outcome-level ratings. The reviewer assigned somewhat lower ratings in the TER compared to the TE.			

Source: GEF Terminal Evaluation Review

### 3. The Local Conservation Initiatives Project Global Environmental Benefits

GEF investments are intended to support projects that maintain or enhance global environmental benefits. For the LCI, this is clarified in the main project aim of *Greater and more effective application of locally and culturally appropriate mechanisms to conserve Vanuatu's internationally*

**significant biodiversity.** Specifically, the project focused on three islands with unique and internationally significant biodiversity, as described below.

### 3.1 TANNA

Tanna hosts internationally significant flora, which is restricted to remnant natural vegetation blocks and custom sites. Tanna is one of only three islands where the monospecific palm genus *Carpoxyton* occurs in the wild, and the only island known to host genetic variants of *Carpoxyton* (Benzie and Ballment, 199521). Tanna is one of two centres of genetic biodiversity for the culturally and commercially important plant *Piper methysticum* (Lebot and Cabalion, 198822). In addition, a number of endemic butterflies, orchids, and snails have been documented, mostly in association with natural vegetation.

### 3.2 SANTO

Santo's montane forests provide refuges for internationally significant endemic bird species including *Ducula bakeri*, *Charmosyna palmarum*, *Gallicolumba sanctaerucis* and *Aplonis santovestris*. *Megapodius freycinet*, a Vanuatu endemic species recognised within the International Union for the Conservation of Nature's Megapode Action Plan, remains widespread in forested areas. The island supports the endemic genus *Neolalage banksiana* and the endemic species *Halcyon farquahari*, *Ptilinopus tannensis*, *Phylidonyris notabilis* and *Zosterops flavifrons*. While not recorded in recent surveys, the rare endemic *Erythrura cyaneovirens* is thought to still occur in inland areas. Eight species of skink and eight geckos have been recorded from Santo, including populations of two endemic reptiles, *Emoia sanfordii* and *E. nigromarginata*.

The rare endemic kauri *Agathis silbiae* is only recorded from forests in northwest Santo. Endemic orchids, bryophytes, land snails, and freshwater fish have been described, but many have not yet been formally named and recorded. While biodiversity on the lowlands of eastern Santo is threatened through agricultural and subsistence pressures, and forestry activities, the biodiversity of the more significant montane and western coast areas are less affected by human activities. Invasive species are problematic in disturbed areas across the island.

### 3.3 GAUA

Gaua is a small volcanic cone with a total land area of some 330 square kilometers. The central caldera is occupied by a freshwater lake, Lake Letas, one of the largest bodies of freshwater in the Pacific. Almost surrounded by Lake Letas is Mt Garet, with continuous low-level volcanic activity represented by a cloud of mainly volcanic gases and steam. Water in Lake Letas accommodates a diversity of freshwater species and is believed to be an important reservoir for amphidromous species including eels and prawns in the Pacific Region.

A small island within Lake Letas is a nationally significant nesting site for waterfowl. Nineteen endemic plants have been recorded, including two endemic plants with a restricted range in Vanuatu *Oxera vanuatuensis* and *Pandanus halleorum*. Natural strands of the endangered palm *Pelagodoxa henryana* occur. Almost all plant species occurring are of importance to local communities, have local vernacular names and have specific uses.

Assessments conducted by the NBSAP recorded over 50% of Vanuatu's land and freshwater birds occurring in Gaua, including two-thirds of the country's endemic bird species, as well as 40% of Vanuatu's reptiles. Hot water and sulphur vents within the lake provide habitats for highly specialised invertebrates that have not yet been studied in detail.

Both endemic fruit bats, *Pteropus anetianus* and *P. fundatus*, have been recorded along with the primitive *Notopteris macdonaldi*, which is restricted to only a few locations in Vanuatu and Fiji.

## 4. The LCI Outcomes-Impact Theory of Change

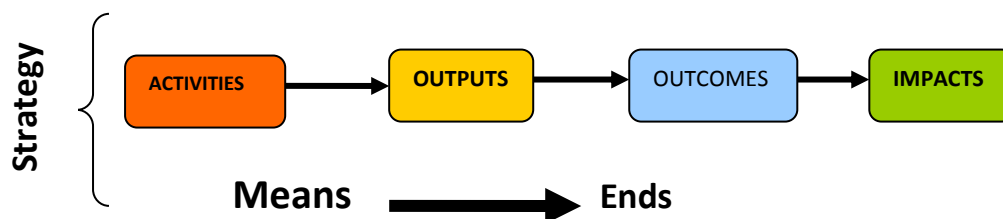
### 4.1 The ROTI: A Theory-Based Approach To Understanding Impacts

The project’s logical intervention approach or theory of change is the expression of the strategy chosen to achieve the objective(s). Based on the strategy, the outputs and activities are designed to drive the expected intervention approach. Inputs and activities produce outputs, leading to outcomes and eventually impacts. As a whole these steps together define the outcome impact pathways.

The generic project results chain that underlies the theory of change approach is illustrated in Figure 1 below. On the left of the diagram is the project **strategy**, which encompasses the entire results chain and comprises a set of **activities** that are designed to deliver certain defined **outputs**, which in turn aim to make a significant contribution to the achievement of a set of **outcomes**. Ultimately, the outcomes are in turn expected to result in a set of long-term project **impacts**, the ultimate goal of the project concerned. All levels of the results chain are connected through a series of logical **means-end pathways** (signified by the arrows connecting the boxes).

The diagram in Figure 1 shows a single results chain; however, in practice a project often involves several strategies, each having its own particular results chain, and which all together make up the project’s theory of change, which is summarised in the project’s **logical framework**.

Figure 2 Theory of Change - Means-Ends Pathways



The key elements for the ROTI analysis are the assumptions, impact drivers, and intermediate states, which are described in Table 4. Sustained changes in environmental resources require significant time because changes in the natural world occur slowly. The ROTI methodology acknowledges and recognizes that in most interventions targeted at improving environmental status (impact-level results), time is required following the end of the project for processes to occur, eventually leading from project outcomes to environmental impacts. The GEF EO’s *Review of Outcomes to Impact (ROTI) Practitioner Handbook* provides further details about the ROTI methodology.<sup>59</sup>

Table 4: Definitions of Theory of Change Elements in the Outcomes-Impacts Pathways

Intermediate State (IS)	These are the transitional conditions between the project’s outcomes and impacts that must be achieved in order to deliver the intended impacts.
Impact Drivers (ID)	These are the significant factors that, if present, are expected to contribute to the ultimate realization of project impacts, <u>and that are within the ability of the project to influence.</u>
Assumptions (A)	These are the significant factors that, if present, are expected to contribute to the ultimate realization of project impacts, <u>but are largely beyond the power of the project to influence or address.</u>

Source: GEF Evaluation Office (2011)

<sup>59</sup> GEF Evaluation Office. 2009. OPS4 Methodological Paper # 2: *Towards Enhancing the Impacts of Environmental Projects. The ROTI Handbook*. August 2009-09-02. GEF-EO – Conservation Development Centre.

The remainder of this study applies the ROTI methodology to assess the outcomes to impacts of the LCI project.

## 4.2 Local Conservation Initiatives Outcomes-Impacts Theory of Change

The LCI project achieved several important outcomes: conservation areas were established, management plans were developed, biodiversity was identified, and threats were addressed. The ROTI now looks at whether the successful outcomes at the conclusion of the project were sustained and whether they were catalytic in scaling up the results to achieve impacts at the national level and in communities throughout Vanuatu.

The project's theory of change was defined in the initial formulation of the project and remained consistent throughout the project. The TE and TER also used the same theory of change, providing a consistent foundation for the ROTI to assess the project's longer-term outcomes and impacts. Based on the progress made since the end of the project, the outcomes-impact theory of change is presented in Table 5 below. The table breaks out the outcomes-impacts pathway for the three strategies that were defined by the project and reaffirmed in the TE and TER.

Table 5: Local Conservation Initiatives Outcomes-Impacts Theory of Change

Project Strategy	Outcomes : <i>What was the situation at the end of the project</i>	Impact drivers/Assumptions <i>What are the key factors for the delivery of the intermediate state</i>	Intermediate state <i>What needs to happen to achieve the intermediate state</i>	Impact <i>What is the project ultimately aiming to achieve</i>
<b>1. Strengthen traditional mechanisms for the conservation of biodiversity in three Vanuatu communities</b>	<ol style="list-style-type: none"> <li>1. Revival of traditional leadership, to provide management for project activities in all three sites.</li> <li>2. Conservation areas established at the project sites, with management plans and monitoring systems developed</li> </ol>	<ol style="list-style-type: none"> <li>1. Traditional communities continue to undertake conservation area planning and monitoring (ID)</li> <li>2. Communities provide resources to assist with monitoring programs (A)</li> <li>3. Government provides technical and financial resources to support community-based conservation programs (A)</li> </ol>	<ol style="list-style-type: none"> <li>1. Integration of the conservation area management plans into provincial and national government programs</li> <li>2. Integration of conservation area management plans into Council of Chiefs programs and funding</li> <li>3. Replication in other communities around the country through the government and Council of Chiefs support</li> </ol>	Conservation of globally significant biodiversity in Vanuatu
<b>2. Strengthen Government capacity and mechanisms to support community-based conservation initiatives in other globally significant biodiversity areas in Vanuatu</b>	<ol style="list-style-type: none"> <li>1. Community Conservation Area Regulation drafted for government approval</li> <li>2. Vanuatu Environment Unit developed into the Department of Environment and Conservation</li> <li>3. Community conservation areas registered and integrated into provincial governments' work programs</li> <li>4. Threats to biodiversity identified</li> <li>5. Identification of the natural biodiversity and the articulation of its importance nationally and internationally</li> </ol>	<ol style="list-style-type: none"> <li>1. Three LCI communities continue to identify threats to biodiversity and use the information for planning (ID)</li> <li>2. Provincial governments endorse and support implementation of community conservation area initiatives in other Vanuatu islands and communities (A)</li> <li>3. Community Conservation Area Registration Regulation gets enacted (A)</li> <li>4. Department of Environment Protection and Conservation strengthened with staff and increased budget allocations (A)</li> </ol>	<ol style="list-style-type: none"> <li>1. Provincial governments providing support for community conservation area work in other Vanuatu communities</li> <li>2. Approval of DEPC organisational structure and required resources available to effectively undertake program nationally</li> <li>3. Biodiversity information and threats identified, and conservation initiatives implemented, in other communities in Vanuatu</li> </ol>	Conservation of globally significant biodiversity in Vanuatu
<b>3. Monitoring systems established to adapt and strengthen traditional conservation approaches</b>	<ol style="list-style-type: none"> <li>1. Biodiversity monitoring initiated and managed by the three communities</li> <li>2. Rehabilitation programs of threatened biodiversity initiated at project sites</li> <li>3. Communities' capacity built to implement, manage and enforce their resource management decisions</li> <li>4. Livelihoods improved in local communities</li> </ol>	<ol style="list-style-type: none"> <li>1. Communities continue the monitoring programs (ID)</li> <li>2. DEPC and other partners provide support for sustaining the project activities (A)</li> </ol>	<ol style="list-style-type: none"> <li>1. Communities analyse the information generated from community monitoring programs to improve conservation of threatened biodiversity</li> <li>2. DEPC and provincial governments maintain national biodiversity database and provide technical assistance to communities.</li> </ol>	Conservation of globally significant biodiversity in Vanuatu

### 4.3 Assessment of Achievements of Outcomes-Impacts Pathways

To provide an overall impression of the project and its possible impact, the evaluators conducted consultations with project stakeholders and reviewed the project documents. Using information from the consultations, focus groups and desk review, the ROTI provides the following assessment of the project’s achievement of its overall goals and intended environmental impact. The assessment is broken down by individual strategies for the key outcomes. Table 6 presents the rating system for assessing progress from outcomes to impacts.

**Table 6: Field ROTI Rating System**

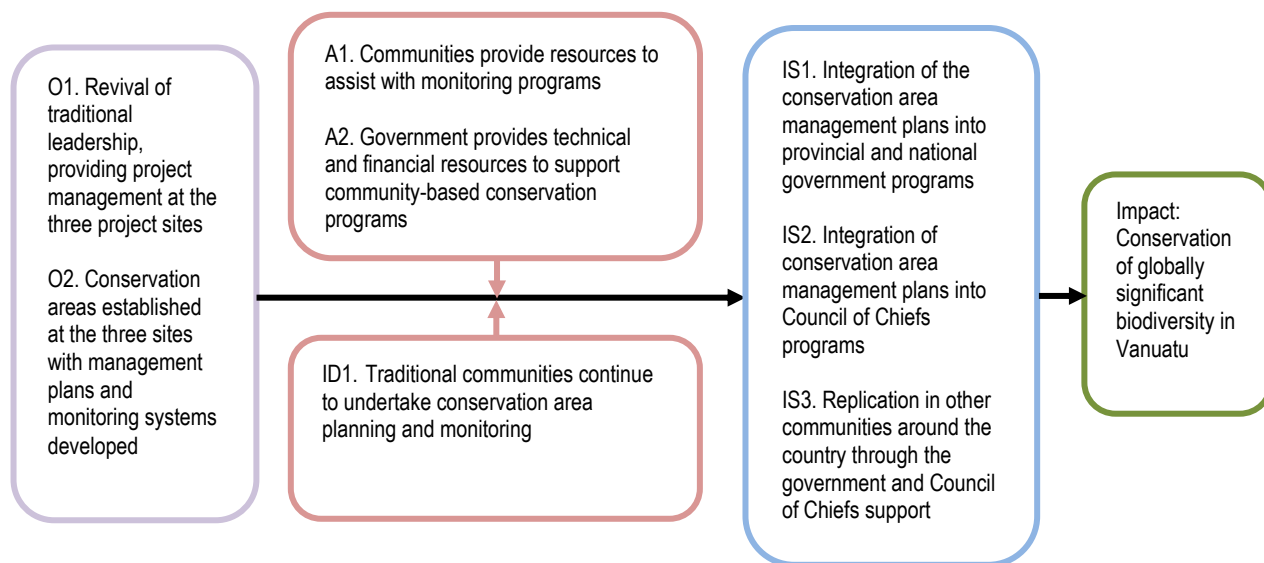
Rating	Description
0	Not achieved
1	Poorly achieved
2	Partially achieved
3	Well achieved

As stated above, the overall goal of the project is “Greater and more effective application of locally and culturally appropriate mechanisms to conserve Vanuatu’s internationally significant biodiversity.” As was identified in the three project strategies discussed above, the main goal is conserving globally significant and nationally important biodiversity.

#### 4.3.1 Strategy 1: Traditional mechanisms for the conservation of biodiversity identified and strengthened in three Vanuatu communities

With most land in Vanuatu under customary ownership, conservation efforts can only be effective if the landowners support and actively engage in implementing the required actions. Therefore, the first strategy was to revive these systems and engage the landowners. Figure 2 illustrates the outcomes-impacts pathway for Strategy 1.

**Figure 2: Strategy 1, Strengthen Traditional Mechanisms for the Conservation of Biodiversity in Three Vanuatu Communities: Outcomes – Impacts Pathway**



The three project sites established conservation areas with local input and support.<sup>60</sup> In Tanna, all conservation areas developed their own draft management plan; a management committee was developed in Loanamilo (Tanna); and another conservation area in Tanna developed eco-tourism guidelines. In Santo, rural communities began replanting sandalwood on the west coast of the island, and a Community Resource Center opened at Penoru. In Gaua, all six conservation areas developed draft management plans, five conservation areas established management committees, and survey management shifted from LCIP staff to local team leaders around Gaua. Overall, the communities in the three project sites continue to adhere to the conservation area management plans developed during the project as well as conducting regular biodiversity monitoring programs initiated during the MSP.

The conservation area committees established during the project are still in existence and have in fact been strengthened now with the participation of the provincial and government extension officers on the committees. The presence of these extension officers is very useful for ensuring that threats to biodiversity conservation from government developments are minimized. Their presence is also important for supporting community conservation efforts.

Project activities were also supported by civil society and NGO groups. However, the civil society and NGO community engagements were all funder-driven, in that they were able to participate and collaborate with the project only as long as there was funding either from their own projects or through the LCI. At the completion of their projects and LCI, they no longer work on these activities. However, some of the lessons learned and information generated from the project are used in their other projects. Table 7 provides the theory of change assessment for each component of Strategy 1.

**Table 7. Strategy 1: Strengthen traditional mechanisms for the conservation of biodiversity in three Vanuatu communities**

Theory of Change Component	Qualitative Assessment	Rating
Revival of traditional leadership of chiefs, church, women, youth, etc., to provide management to the project activities at all three sites <b>(O1)</b>	The outcome has been achieved. In all three project sites, landowners learned and implemented their conservation strategies at their sites using a combination of traditional and modern conservation practices.	3
Conservation areas established with committees organised using traditional mechanisms <b>(O2)</b>	Conservation areas were established in each community and committees were established to manage the resources. The committees still exist after the project ended, with the membership now not just landowners, but also representatives of provincial governments and extension officers based in the areas.	3
Traditional communities continue to undertake conservation area planning and monitoring <b>(ID1)</b>	The traditional communities continue to support the work, albeit to varying degrees of success	1
Availability of community resources to assist with monitoring programs <b>(A1)</b>	The communities continue to do monitoring at the local level, but the link with DEPC to do analysis is not functioning anymore.	1

<sup>60</sup> The examples in this paragraph are taken from the *Environment Project Landholders Conservation Initiatives: Final Evaluation Report* (John Liu, September 2010).

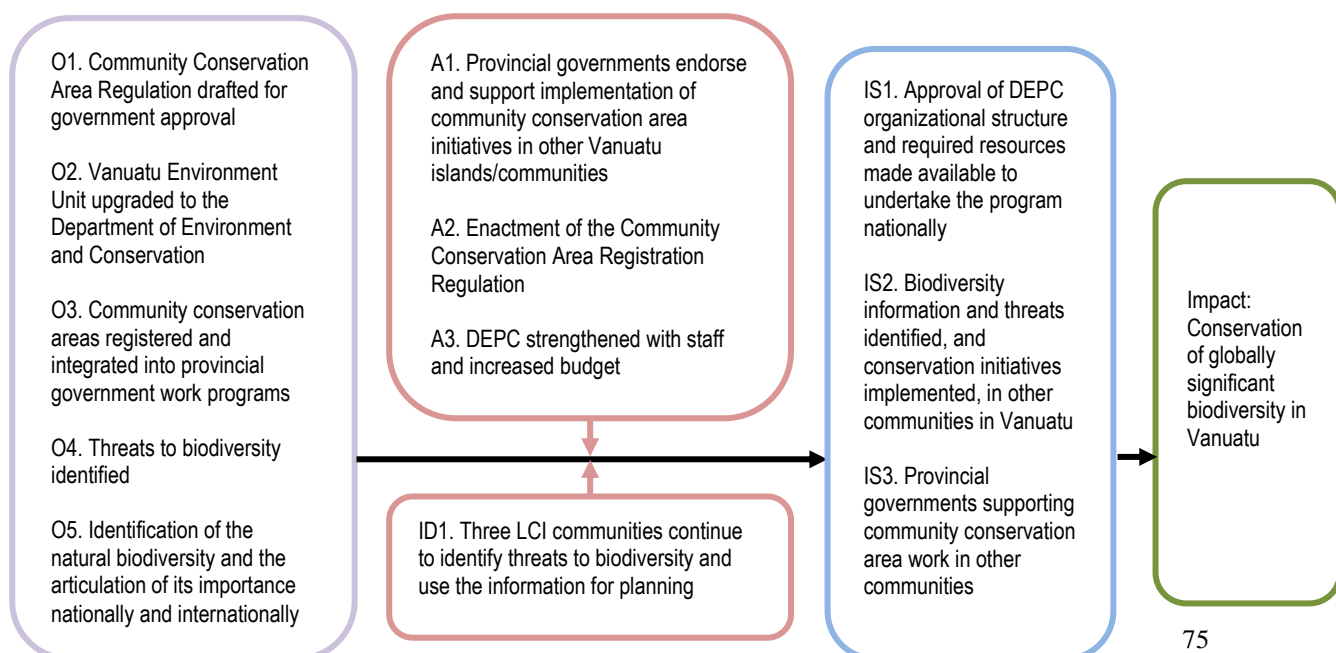


Theory of Change Component	Qualitative Assessment	Rating
Availability of government resources (technical and financial) to support community-based conservation programs (A2)	The provincial governments in the island communities are supportive, and most local committees now include provincial office representatives either as chairpersons or members.  Support from DEPC is quite limited, due largely to not having officers based in these provinces	2
Integration of the conservation area management plans into provincial and national government programs (IS1)	Provincial governments in the participating communities have integrated conservation area management plans into their programs and assigned provincial officials to participate in the conversation area committees. However, plans have not been fully integrated into national government programs.	2
Integration of conservation area management plans into Council of Chiefs programs and funding (IS2)	The Council of Chiefs endorsed the importance of biodiversity and conservation for land use agreements, but has not provided funding to continue the efforts after the LCI project ended	1
Replication in other communities around the country through the government and Council of Chiefs support (IS3)	The provincial governments for the three LCI communities replicated the project in other communities within their own province. However, the project has not been replicated in other provinces or communities around the country.	1

### 4.3.2 Strategy 2: Government capacity and mechanisms strengthened to support community-based conservation initiatives in other globally significant biodiversity areas in Vanuatu

The second strategy is based on the second outcome in the project logframe, which is ensuring that provincial and national government systems are strengthened to provide support to community conservation efforts. Figure 3 illustrates the outcomes-impact pathway for Strategy 2.

**Figure 3: Strategy 2, Strengthen Government Capacity and Mechanisms to Support Community-based Conservation Initiatives in Other Globally Significant Biodiversity Areas in Vanuatu: Outcomes – Impact Pathway**



The provincial governments for Santo, Tanna and Gaua have taken up the outcomes of the LCI and are working with the conservation areas. In Santo, the provincial government has employed a full-time staff member to assist the conservation area, and the province is using the land use maps for planning purposes. Furthermore, the provincial government is working on extending the conservation area to other communities and registering the conservation area. The provincial government in Tanna has also indicated support for the program, and is working with other traditional communities to see how the LCI lessons learned and approach can be used. In Gaua, the island communities continue to support the conservation areas, with Lake Letes and upland forests now included in the GEF PAS project (GEF ID 3819) on Forest Protected Areas and Conservation.

While results at the provincial level are promising, scaling the results to the national level has been more challenging. The capacity of the DEPC as an institution is still low due to funding and human resource constraints. Although the DEPC was upgraded to department-level status from its original designation as a unit, the organizational structure and increased budget requests by DEPC have not yet been granted, despite agreements on the importance of conservation work. The National Budget is overly stretched on all national priority activities. According to the Director of DEPC, the current proposed national budget is already several million dollars short. The DEPC's budget allocation is not sufficient to support the sustainability of LCI communities or to scale up and replicate project outcomes.

There is only one DEPC staff currently working on biodiversity issues. The DEPC Biodiversity Officer is using the biodiversity data generated from the project to compile the Vanuatu biodiversity database, as well as regularly giving advice to communities when time avails. She is also responsible for connecting the communities with the GEF SGP program to fund community activities, such as aquaculture farming, ecotourism, community resource center, and conservation area management plans.

After the project ended, several staff who were involved in the LCI project transitioned to other government agencies and non-governmental organizations. The transition of staff has mixed results: On one hand, the departure of knowledgeable staff represents a loss of institutional capacity for the DEPC and other organizations that participated in the project. On the other hand, many staff have carried the skills and expertise that they gained in the LCI project into their new employment. For example:

- One former DEPC staff became the Project Manager for Land Use Planning with the Ministry of Lands and Survey. This individual is using the land use maps from the project to review requests by different interest groups on land in the project areas. He is also currently working to have land use mapping conducted with communities throughout Vanuatu.
- Another staff person moved on from the project to become the Director of the Church of Melanesia's Community Conservation Program. The program is using the local community model that was established under the LCI project.
- A former staff at VEU is now the GEF Small Grants Programme (SGP) Manager and has been very active in taking the lessons learned and information from the LCI to her SGP work. As National Coordinator for SGP, she has also been able to provide funding for some of the community projects such as the resource centre in Santo, the coconut crab management plan in Tanna, and other smaller projects.
- The former Director of the Vanuatu Cultural Centre, which participated in the LCI project, is now a Member of Parliament. Prior to entering politics, he was instrumental in the Council of Chiefs Land Summit, which introduced the lessons learned and land use mapping to other

members of the Council of Chiefs. The Land Summit endorsed the importance of ensuring that future land lease agreements allow for the conservation of important biodiversity and ecosystems, and expressed support for the development of land use maps for each island. Unfortunately, there is currently no funding to support the implementation of the Council's resolution.

Regarding the national Community Conservation Area Regulation, it was drafted and submitted for government approval, but has not yet been enacted.

Table 8 provides ratings for each theory of change component for Strategy 2.

**Table 8. Strategy Two: Government capacity and mechanisms strengthened to support community-based conservation initiatives in other globally significant biodiversity areas in Vanuatu**

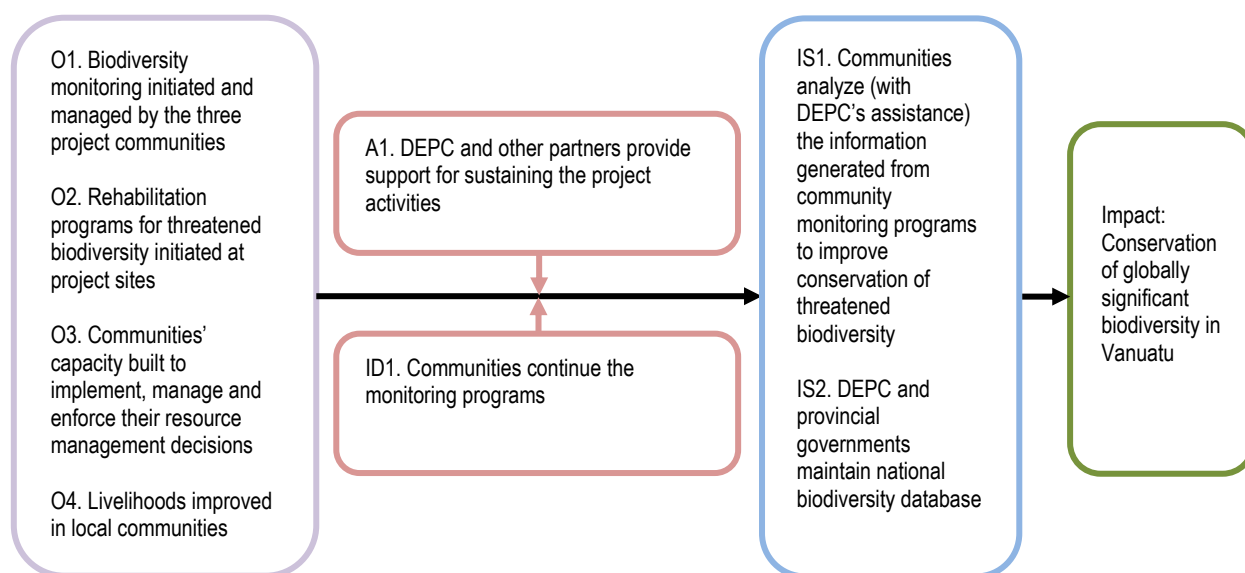
Theory of Change Component	Qualitative Assessment	Rating
Community Conservation Area Regulation drafted for government approval <b>(O1)</b>	The regulation was drafted, but it has not been enacted.	2
Vanuatu Environment Unit developed into the Department of Environment and Conservation <b>(O2)</b>	The project achieved the intended outcome of strengthening of VEU with the establishment of the DEPC, therefore raising the status of the environmental work at the national level. Unfortunately, this has not translated into increased funding or providing the necessary staff to support existing conservation areas or replicate the project to other areas	1
Community conservation areas registered and integrated into provincial government work programs <b>(O3)</b>	The provincial governments for Santo, Tanna and Gaua have taken up the outcomes of the LCI and are extending the LCI approach to other communities	3
Threats to biodiversity and globally significant biodiversity identified <b>(O4)</b>	This outcome was partially achieved as nationally and internationally important natural biodiversity were identified and publicised at the project sites.	2
Identification of the natural biodiversity and the articulation of its importance nationally and internationally <b>(O5)</b>	All sites developed pride in their national and international biodiversity. Celebrations were held in both Tanna and Santo with publication showcasing their endemic species. A book was printed on endemic species in Tanna.	3
Three LCI communities continue to identify threats to biodiversity and use the information for planning <b>(ID1)</b>	The three participating communities continue to identify threats to biodiversity and use the information for planning purposes	3
Provincial governments endorse and support implementation of threat reduction actions and conservation initiatives in other Vanuatu islands and communities <b>(A1)</b>	Provincial governments have integrated the community conservation area committees as part of their work activities with district officers now participating as members of the committees.  The provincial government and national agencies such as Department of Agriculture, Ministry of Lands and Department of Fisheries are all aware of the conservation area management plans and consider them when developments are proposed at the project sites.	2
Enactment of the Conservation Area Policy and	Drafting has started, but this has not been enacted	0

Theory of Change Component	Qualitative Assessment	Rating
registration started (A2)		
DEPC strengthened with staff and budget allocations (A3)	As noted above, the establishment of the DEPC has not resulted in additional staff or budget to support community-based conservation	0
Approval of DEPC organizational structure and required resources made available to undertake the program nationally (IS1)	The new organizational structure was approved, but resources have not been made available to undertake the program nationally. The capacity of DEPC is still quite limited.	1
Biodiversity information and threats identified, and conservation initiatives implemented, in other communities in Vanuatu (IS2)	Biodiversity information and threats were identified, and conservation initiatives implemented, in other communities in the provinces with the LCI communities. However, this approach has not been replicated in communities outside of the three provinces.	1
Provincial governments supporting community conservation area work in other communities (IS3)	As noted above, the provincial governments for the three LCI communities are working to extend the community conservation area work to other communities in their provinces.	2

### 4.3.3 Strategy 3: Monitoring systems established to adapt and strengthen traditional conservation approaches

This strategy aims to ensure that communities continue to adhere to the conservation area management plans developed during the project, and continue their programs to monitor biodiversity on an ongoing basis. Figure 4 illustrates the outcomes-impact pathway for Strategy 3.

**Figure 4: Strategy 3, Monitoring systems established to adapt and strengthen traditional conservation approaches: Outcomes – Impact Pathway**



The communities have continued some monitoring on their own, albeit it at a much smaller scale. The decline in the level of biodiversity monitoring is due largely to the absence of technical support

after the project ended. However, some communities have used the results of the project to develop projects that were funded through the SGP. Although communities continue to monitor biodiversity at a local level to some extent, the results are not being used at the national level due to the absence of a sustained relationship between the communities and the DEPC.

Local communities' capacity to manage their biodiversity resources was achieved and has been strengthened with the provincial governments and district officers participating in the community conservation area committees. However, replication at the national level is limited due to human and financial resource constraints and turnover among government staff.

As noted in the Project Implementation Reports (PIR), measuring the project's effect on livelihoods is difficult due to the many external factors that affect local economic conditions.<sup>61</sup> However, there is some anecdotal evidence that the project enhanced local livelihoods. For example, eco-tourism projects in Tana and Santo generated income for local communities. At least, it appears that the project's conservation goals have not interfered with development objectives.

Table 9 presents the assessment for the theory of change components in Strategy 3.

**Table 9. Strategy three: *Effective landholder-based conservation activities to strengthen traditional approaches***

Theory of Change Component	Qualitative Assessment	Rating
Biodiversity monitoring initiated and managed by the three communities <b>(O1)</b> 1. Audubon Shearwater and other birds, coconut crabs on Tanna 2. Reef checks on Gaua 3. Water prawn, fish and coconut crabs at Penoru, Santo 4. Terrestrial endemic biodiversity	This outcome, although achieved at the end of the project, has not been entirely sustained due mainly to the absence of technical support from the national level. Although the communities continue to monitor at the local level, the information is not being used at the national level due to absence of a sustained relationship with DEPC.	1
Rehabilitation programs of threatened biodiversity initiated at project sites <b>(O2)</b>	This outcome was achieved as rehabilitation programs were established for the identified threatened biodiversity. Monitoring programs were also established to assess the rehabilitation.	2
Communities' capacity built to implement, manage and enforce resource management <b>(O3)</b>	This outcome was achieved and has been strengthened with the provincial governments and district officer representatives participating in the community conservation area committees	3
Livelihoods improved in local communities <b>(O4)</b>	Although this measure is difficult to track, there is anecdotal evidence that the project enhanced local livelihoods. For example, eco-tourism projects in Tana and Santo generated income for local communities.	2
Communities continue the monitoring programs <b>(ID1)</b>	The communities continue with monitoring, but at a much lower scale. Some communities have used the results to develop projects that have been funded through the SGP.	2
DEPC and other partners provide support for	The conservation of globally significant and nationally important biodiversity at the local and provincial level is being sustained by the	1

<sup>61</sup> PIR 2009 and 2010.

sustaining the project activities <b>(A1)</b>	traditional leaders, but replication at the national level is limited	
Communities analyse the information from community monitoring programs to improve conservation of threatened biodiversity <b>(IS1)</b>	Communities are continuing to analyse information from the monitoring programs and are taking steps to conserve biodiversity	3
DEPC and provincial governments maintain national biodiversity database and provide technical assistance to communities <b>(IS2)</b>	Provincial governments for the three participating LCI communities are providing support to the participating communities as well as other communities in the provinces. However, DEPC's support is extremely limited due to technical and financial constraints.	1

#### 4.4 Local Conservation Initiatives ROTI Overall Conclusion

The project was designed to promote the conservation of globally significant biodiversity in three island communities in Vanuatu through the strengthening of traditional governance mechanisms. It is clear from the TE that at the conclusion of the project, the three communities have increased their knowledge of the globally significant biodiversity in their areas, and appropriate steps have been taken to conserve biodiversity at the community level. This is seen through the establishment of conservation area management plans with land use maps, community biodiversity monitoring systems, and committees to continue efforts to minimize threats and rehabilitate degraded and threatened biodiversity. The project also strengthened linkages with provincial governments to ensure the long-term sustainability of community efforts. The project further established some very important linkages with the GEF Small Grants Program and other NGOs to support biodiversity conservation activities in local communities. Furthermore, the traditional leaders have taken the results and lessons learned from the project and included them in the resolutions passed by the Council of Chiefs National Land Summit.

Where the project has been less successful is strengthening national government mechanisms to support community efforts, and scaling up and replicating the outcomes from the project to the national level. Technical constraints, lack of financial resources, and high staff mobility are barriers to extending the project's national reach and impact.

Table 10 provides an overall rating and summary of the project's impact.

**Table 10. Overall Rating of the Project's Impact**

Theory of Change Component	Outcomes-Impact Assessment
<b>Strategy 1:</b> Strengthen traditional mechanisms for the conservation of biodiversity in three Vanuatu communities	2
<b>Strategy 2:</b> Government capacity and mechanisms strengthened to support community-based conservation initiatives in other globally significant biodiversity areas in Vanuatu	1
<b>Strategy 3:</b> Effective landholder-based conservation activities to strengthen traditional approaches	2
<b>Overall Project</b>	2
<p><b>Overall Rating Summary</b></p> <p>The project was successful in that the targeted communities continue to adhere to the conservation programs developed during the project. The committees managing and monitoring the activities in the protected areas have continued their activities, albeit at a lower level, reducing threats to biodiversity in those areas.</p> <p>The provincial governments have shown strong support for the program and have integrated elements into provincial-level work as resources allow, but at a smaller scale than during the project.</p> <p>Unfortunately, although the VEU was upgraded to DEPC, the human and financial capacity is such that they are unable to support the project communities or replicate the work in other areas of the country.</p>	

## Appendix 1: References Consulted

1. GEF. *CEO Approval Letter for Vanuatu: Facilitating and Strengthening the Conservation Initiatives of Traditional Landholders and their Communities to Achieve Biodiversity Conservation Objectives*. 16 March 2004.
2. GEF. *Letter to GEF Council re: Vanuatu: Facilitating and Strengthening the Conservation Initiatives of Traditional Landholders and their Communities to Achieve Biodiversity Conservation Objectives*. 11 February 2004.
3. GEF/UNDP. *Project Brief*. (Undated.)
4. GEF/UNDP. *Project Document*. 3 October 2000.
5. GEF/UNDP. *Project Implementation Report 2009*.
6. GEF/UNDP. *Project Implementation Report 2010*.
7. GEF/UNDP. *Terminal Evaluation Review Form*. 29 October 2011.
8. Liu, John. *Environment Project Landholders Conservation Initiatives Final Evaluation Report*. September 2010.
9. Republic of Vanuatu. *Endorsement Letter re: GEF MSP Application: Facilitating and strengthening resource management initiatives of traditional landholders & their communities to achieve biodiversity conservation objectives*. 17 April 2003.



## Appendix 2: Interview Consultations

### Vanuatu –

1. Albert Williams – Director, Vanuatu Department of Environmental Protection and Conservation
2. Donna Kalftak – Senior Biodiversity Officer, Government of Vanuatu
3. Trinison Tari – Senior Information and Education Officer, Government of Vanuatu
4. Touasi Tiwok – Principal Environment Officer, Government of Vanuatu
5. Amos Kalo – Project Officer, Ministry of Lands and Natural Resources
6. Leah Nimoho – SGP/GEF Project Manager
7. Ralph Regenvanu – Member of Parliament, former Director of Vanuatu Cultural Centre
8. Ernest Bani – ex Director, Vanuatu Department of Environmental Protection and Conservation; Managing Director, BECON Environmental Consultants. Port Vila.

## **Appendix 3: Project Sites Visited**

### **Vanuatu –**

1. Port Vila
2. Efate