



# Pacific Ecosystem-based Adaptation to Climate Change (PEBACC)

## NISABULA!

Welcome to this sixth edition of the PEBACC newsletter.

In this edition, we showcase our ESRAM reports that are now available as SPREP documents.

These reports document the ecosystem and socio-economic resilience analysis and mapping work done at the national level in Fiji, Vanuatu and Solomon Islands and also at our six project sites, namely Taveuni and Macuata Province in Fiji; Port Vila and Tanna in Vanuatu, and Honiara and Wagina in Solomon Islands.

In addition we are pleased to announce the release of EbA options assessment reports for our project sites and synthesis reports for Taveuni, Port Vila and Honiara. The synthesis reports repackage the information in the technical reports into easy to read and graphically rich documents and are targeted at a non-technical audience.

We trust that you will find the reports useful in guiding your work on climate change adaptation planning using the much needed EbA approach.

The PEBACC team



DEVELOPMENT PARTNERS JOINING FORCES TO SUPPORT WORK ON TAVEUNI ISLAND

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The Pacific Ecosystem-based Adaptation to Climate Change Project is a five year initiative implemented by the Secretariat of the Pacific Regional Environment Programme (SPREP) in partnership with the governments of Fiji, Solomon Islands and Vanuatu.

The project is part of the International Climate Initiative (IKI). The German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) supports this initiative on the basis of a decision adopted by the German Bundestag.

The Project focusses on strengthening and protecting the role of natural ecosystem services to enhance resilience to climate change.



Supported by:



based on a decision of the German Bundestag



# PEBACC PUBLISHES ECOSYSTEM STUDIES AND ADAPTATION MASTER-PLANS

## V A N U A T U

## F I J I

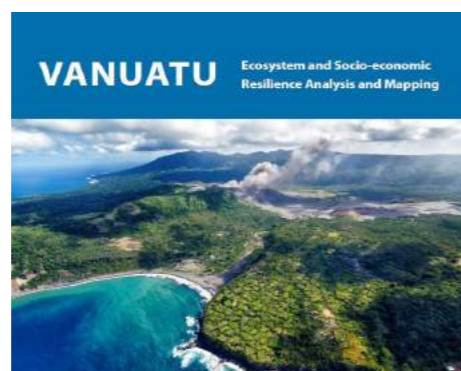
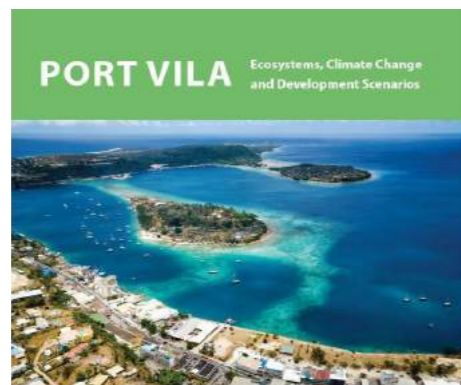
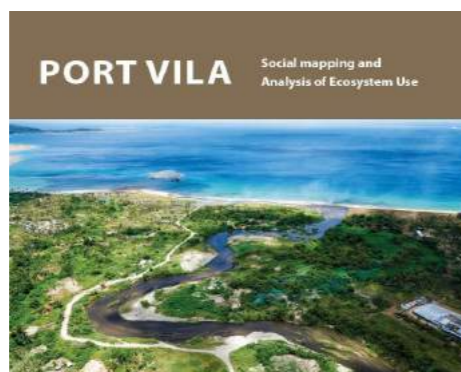
In 2016 the PEBACC project commissioned detailed assessments of social-ecological systems at different scales in Fiji, Vanuatu and Solomon Islands. Referred to as ESRAMs - Ecosystem and Socio-economic Resilience Analysis and Mapping - the assessments sought to build our understanding of the linkages between socio-economic and ecological systems and processes in the context of climate change.

ESRAMs map and assess the condition of ecosystems and evaluate the environmental goods and services that flow from them and how these contribute to social resilience.

This is accompanied by an analysis of the climate and non-climate factors that impact on the current and future ecological integrity of these complex social-ecological systems and the services that they provide.

As such ESRAMs are robust planning documents to inform the design and selection of tailored climate change adaptation interventions using the EbA approach.

Please contact Jilda Shem (jildas@sprep.org) should you be interested in receiving hard copies of any of the reports. Alternatively digital copies can be downloaded from the project webpage: [www.sprep.org/pebacc](http://www.sprep.org/pebacc).



This technical report provides detailed insight into the use of natural resources by the urban and peri-urban residents in Port Vila with commentary on how natural resources contribute to livelihoods and socio-economic resilience.

The study also identifies a range of additional services that these local ecosystems provide and highlights the local and global drivers of change that are adversely affecting their health and function.

Download the full report [here](#).

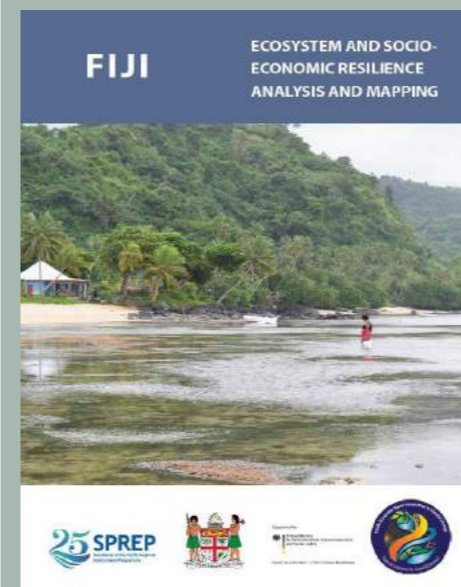
This report positions the above study on natural resource use within a broader context that takes into account the spatial distribution and ecological condition of Port Vila's ecosystems. It looks at the ability of these ecosystems to continue to provide essential services in the light of present and future development pressures as well as climate impacts. The report concludes by presenting three scenarios of possible future development pathways and describes the actions that would be needed to achieve sustainable development outcomes for the city in the context of climate change.

Download the full report [here](#).

This ESRAM report contains a national-level assessment of Vanuatu's social-ecological systems in the context of building resilience to climate change. It includes outcomes of the ESRAM conducted of Tanna island. The report contains:

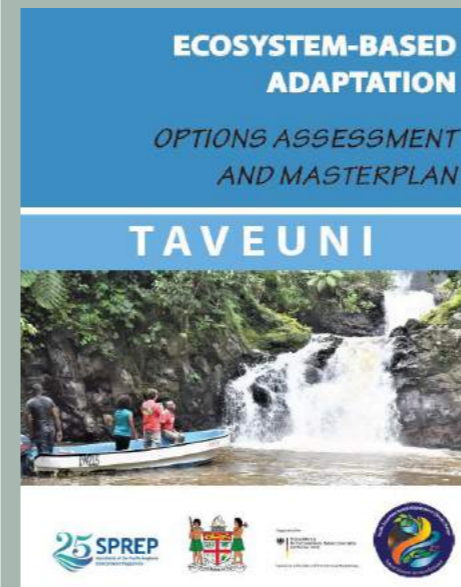
1. a mapping of key ecosystems for Vanuatu and Tanna in terms of their type, condition and the ecosystem services they potentially generate;
2. an economic evaluation of the benefits to local communities arising from these ecosystem services; and
3. an assessment of the risk to community sustainability from threats and pressures to ecosystem health, including climate change-related hazards, for three of the most important ecosystem/land use types: coral reefs, kastom forest, and subsistence gardens.

Download the full report [here](#).

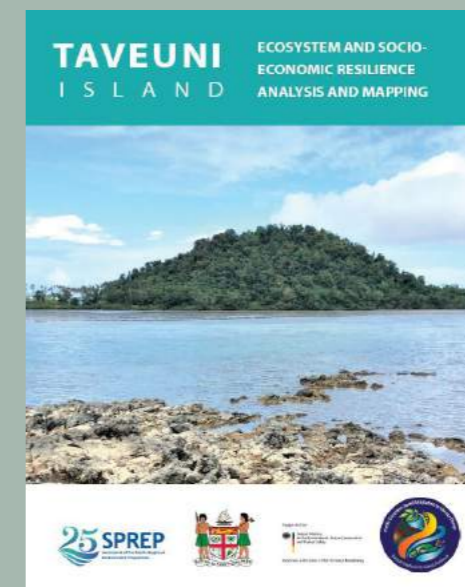


A national-level analysis and mapping of Fiji's ecosystems and their use in the context of pressures from development processes, natural resource use and climate change.

Report will be available soon.

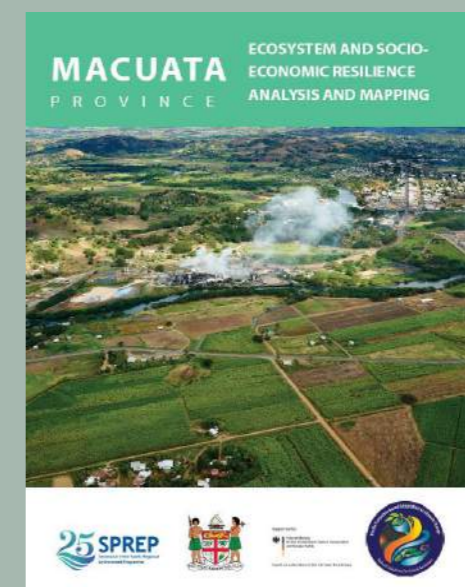


In this master-plan, a range of ecosystem-based adaptation (EbA) options are outlined and mapped for Taveuni. The options span a range of ecosystem restoration and conservation activities that are needed to place Taveuni on a more sustainable development pathway. Report will be available soon.



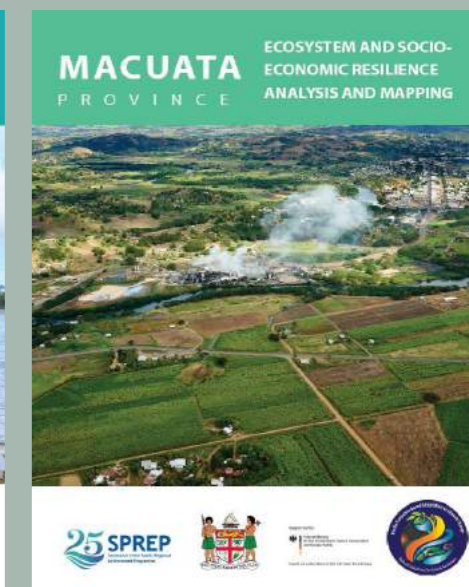
The focus of this report is Taveuni island, where decades of over-use of fragile soil resources for commercial agriculture is having far-reaching ecological and social repercussions leaving communities more vulnerable to climate change.

Report will be available soon.

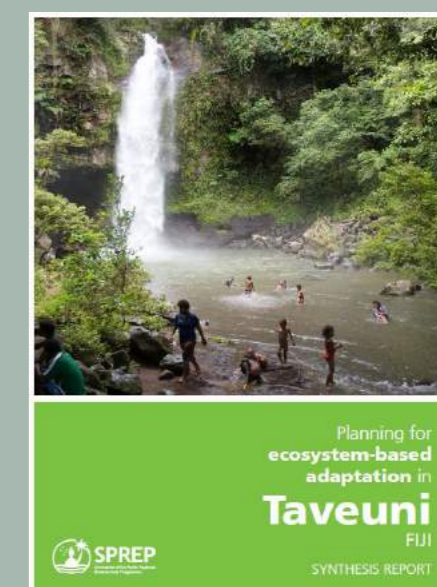


This report assesses ecosystem-based adaptation (EbA) options for Macuata province to adapt to climate change by managing the resilience and diversity of ecosystem services over time.

Report will be available soon.



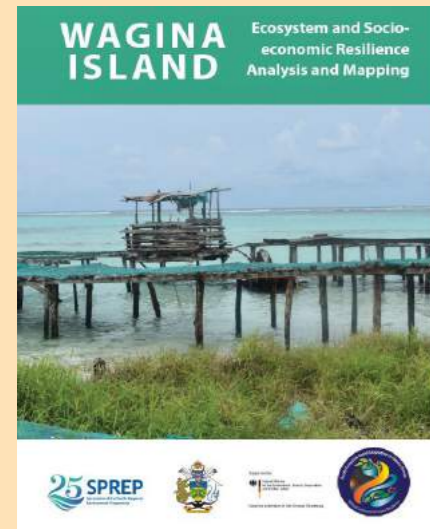
This ESRAM documents relationships between socio-economic and ecological systems in Macuata Province on Vanua Levu. The province is endowed with a diverse and productive array of ecosystems on which a number of industries are built (e.g. sugar farming, forestry, mining and fishing). Report will be available soon.



A synthesis report that provides an overview of the steps involved to identify, prioritise, and implement ecosystem-based adaptation (EbA) projects in Taveuni. Full report [here](#).

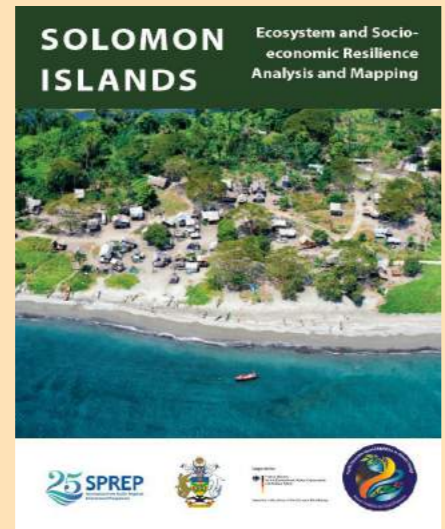


# SOLOMON ISLANDS



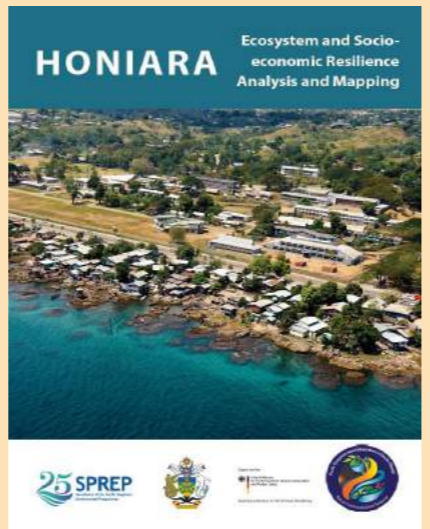
A report of the ESRAM study in Wagina island in Choiseul province, Solomon Islands.

Download a full report [here](#).



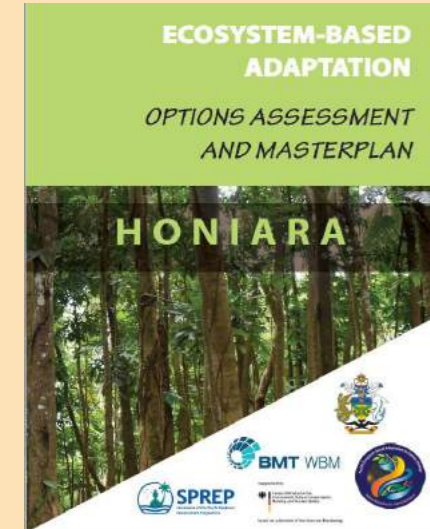
This report provides a description of the general ESRAM assessment approach used for the three locations in Solomon Islands and the results of the national scale ESRAM assessment.

Download a full report [here](#).



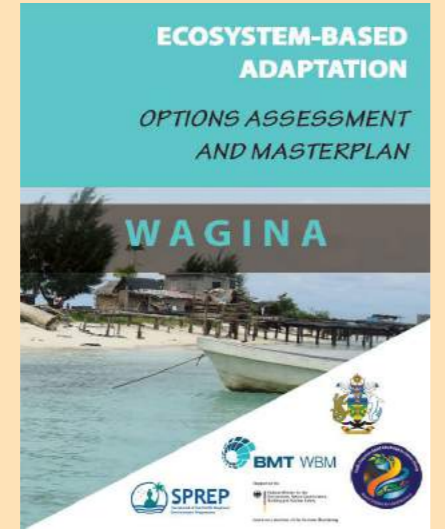
This report presents the ESRAM study in Honiara, Solomon Islands.

Download a full report [here](#).



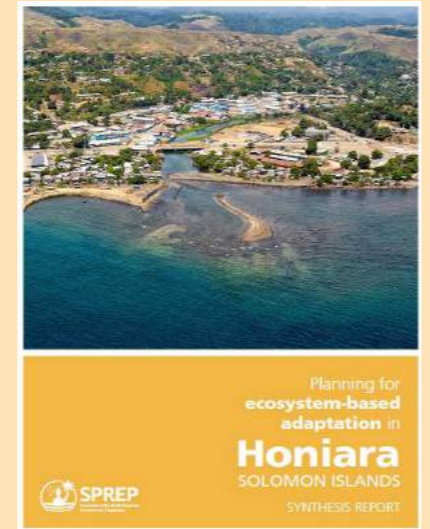
An EbA options analysis and prioritisation report for Honiara, Solomon Islands.

Download the report [here](#).



A report of EbA options analysis and prioritisation for Wagina island, Solomon Islands.

Download the report [here](#).



A synthesis report that provides an overview of the steps involved to identify, prioritise, and implement ecosystem-based adaptation (EbA) projects in Honiara.

Download the report [here](#).

## PEBACC seals partnership with WWF for Macuata work



SPREP's Director - Island and Ocean Ecosystems (right) and WWF-Pacific Representative signing the agreement at the SPREP office in Suva on the 26th of July

The Secretariat of the Pacific Regional Environment Programme (SPREP) and the World Wildlife Fund - Pacific signed an agreement this week in Suva, Fiji to work together to support two major environmental activities for Macuata Province in Fiji through funding by the Pacific Ecosystem-based Adaptation to Climate Change Project (PEBACC).

The first is to review and update the provincial Natural Resource Management Strategy (NRMS), and the second is to broaden the Qoliqoli Cokovata proposed Ramsar Wetlands Site management plan to include management requirements of a Ramsar site, that address land-based activities as well as cross-sectoral governance.

Speaking at the signing ceremony, SPREP's Acting Deputy Director General, Strategic Policy and Technical Programmes and Director - Island and Ocean Ecosystems, Stuart Chape welcomed the partnership as a great contribution to advancing environmental work at the provincial level.

Mr Chape also acknowledged WWF-Pacific's excellent long term support to Macuata Province.

"SPREP's approach is not to re-invent the wheel but to build on effective work by its partners that can meet joint project and programme objectives. The signing of the agreement today reflects this perspective and we look forward to working with WWF to further support Macuata Province."

"WWF was instrumental in facilitating the provincial Natural Resource Management

Strategy and Macuata Province is the first province in Fiji to have such a strategy. WWF has an active programme of support to the customary fishing grounds (qoliqoli) along much of Macuata Province's coastline. The largest qoliqoli (Qoliqoli Cokovata) is being viewed by government and conservation stakeholders as a priority entry point in having the entire Great Sea Reef system established as a Ramsar Wetlands Site."

"WWF is therefore a logical and appropriate choice as local partner for the joint implementation of PEBACC activities in Macuata Province." Mr Chape said.

In her remarks, WWF-Pacific Representative, Kesaia Tabunakawai thanked SPREP for the funding and confirmed WWF's commitment to the work in Macuata.

"We are committed to helping Macuata Province. When we facilitated the development of the current Macuata Natural Resource Management Strategy,

it was broad and it is now time to go back and see what was achieved and what was not and also learn about new developments." Mrs Tabunakawai said.

The signing ceremony was also witnessed by Roko Tui Macuata's representative, Provincial Conservation Officer, Makelesi Raciri.

"On behalf of Roko Tui Macuata, I would like to thank SPREP and WWF for the support to strengthen sustainable resource management in Macuata with a focus on land use and conservation. We look forward to the opportunity to work with you." Ms Raciri said.

Part of the work through this partnership will focus on reviewing and updating the Macuata NRMS that ends in 2018. The NRMS is key to strengthening environmental planning and management, and hence ecosystem-based adaptation, across the province.

The second intervention will address land-based activities in the Dreketi river catchment that negatively impact on the health and condition of Qoliqoli Cokovata.



## PEBACC and RESCCUE take environmental impact assessment training to Vanuatu officials



PARTICIPANTS OF THE TANNA WORKSHOP, TAFAE PROVINCIAL COUNCIL HEADQUARTER, TANNA, JUNE 2018

In the month of June, PEBACC and the Restoration of Ecosystem Services and Adaptation to Climate Change Project (RESCCUE) supported a series of workshops for national and provincial government officials on the Vanuatu island of Tanna and in the capital Port Vila.

At the workshops, the participants expressed that it is crucial that Government officials gain a greater understanding of the impacts of development projects on the environment. This is needed to ensure leaders at all levels make informed decisions that minimise damage to the natural environment while still ensuring economic growth.

The workshops highlighted the benefits of Environmental Impact Assessments (EIAs), Strategic Environmental Assessments (SEAs) and the Mitigation Hierarchy.

Tafea Provincial Acting Secretary General, Mr. Etienne Ravo acknowledged The Pacific Community (SPC) and the Secretariat of the Pacific Regional Environment Programme (SPREP) through the RESCCUE and PEBACC projects, for making the learning opportunity available to the Tafea provincial leaders.

"This workshop has been very useful, Tafea province is developing its five yearly strategy, having this information will help that planning process and assist us in making better decisions" Mr. Ravo said.

SPREP's PEBACC Country Manager, Mr. David Loubser said it was encouraging to have community leaders present at the workshop.

"The workshop at the Tafea provincial headquarters was very hands on with provincial government and other traditional and community leaders undertaking an exercise to map current and future developments and proposed changes in land-use as a precursor to developing a spatial database to assist with environmental decision making."

"Increasing pressure placed on the island environments as a result of development activities that involve construction of infrastructure and unplanned land-use changes could result in irreversible environmental damage. Collectively, we need to make more informed decisions to ensure impacts on our environment are avoided as far as possible and reversed if any damage occurs."

"We need to educate our leaders to understand the tradeoffs between economic development and environmental degradation and to be passionate advocates of environmentally responsible development." Mr. Loubser added.

At the workshop, a tool called Mitigation Hierarchy that focuses on minimizing the negative impacts of any development project on the environment was introduced.

The innovative tool is increasingly being used internationally as a way to achieve no net loss

or even achieve net gains of biodiversity and ecosystem services when managing impacts from development projects.

The Port Vila workshop focused on National Government partners.

This collaboration between SPREP, SPC and the Department of Environmental Protection and Conservation follows a very successful regional workshop held in Nadi in November 2016. The concepts shared this week will help the provincial and national Government make informed decisions regarding development in a rapidly growing Vanuatu.

In Port Vila the workshop focused on discussions around the Government's new EIA regulations, Asian Development Bank (ADB) and World Bank Environmental Safeguards and SPREP's regional EIA guidelines.

Practical exercises in the implementation of the Mitigation Hierarchy were also undertaken and the workshop closed with the development of a plan and a pathway to integrating SEA regulations into Vanuatu's environmental legislation.

The SEA/EIA and Mitigation Hierarchy workshop on Tanna happened on the 12th and 13th of June while the Port Vila workshop from 14th to 15th June 2018.

## Partners join forces for Taveuni work

Key partners working on sustainable land, forest and marine resource management in Taveuni agreed in June 2018 to work together to support a resilient island.

Agreement was reached at a meeting at the SPREP Suva office in June with Conservation International (CI), Food and Agriculture Organisation (FAO), The Pacific Community (SPC) and Scientific Forestry Services (SFS), private forestry company.

Herman Timmermans, PEBACC Project Manager, confirmed that all partners are supportive of an integrated programme to promote reforestation and sustainable agroforestry across Taveuni based on spatial planning products developed by PEBACC for 'ecosystem-based adaptation to climate change'.

According to Mr Timmermans, PEBACC will provide funding to initiate the programme over the next two years (until mid-2020). Other funding opportunities will be pursued to sustain the activities into the future.

Mr Timmermans noted that the Department of



MEETING WITH TRADITIONAL LEADERS IN TAVEUNI, JUNE 2018

Forestry and FAO through Teitei Taveuni are already actively promoting reforestation and agroforestry in Taveuni and that PEBACC will build on these existing initiatives.

In late June, another meeting was convened with Taveuni traditional landowners to update them on the latest project developments.

The traditional leaders were also informed that CI, SPC and SFS will be responsible for implementation on the ground (trainings and technical planting support).

## Taveuni villages learn about threats to coral reefs

In April 2018, SPREP through the Pacific Partnership on Ocean Acidification (PPOA) and the PEBACC project engaged Taveuni communities in a series of learning workshops on coral reef ecosystems as part of efforts to protect coral reefs on the island.

Marine Biologist and PPOA consultant, Ms Shannon Langton who facilitated the learning sessions spoke about coral reefs as a critical source of food and protection for Pacific coastal communities.

"Coral reefs continue to provide much of the food for Pacific islanders. They protect coastlines from the damaging effects of waves and provide habitats and shelter for many marine organisms."

Ms Langton also highlighted the sad reality facing this critical food source and ecosystem.

"Coral bleaching is a big problem that is destroying our coral reefs. This is due to increasing sea surface temperatures as a consequence of climate change and more intense El Niño events."

"Every day carbon dioxide from human activities is released into the atmosphere. The carbon dioxide gets absorbed by the ocean. With increased carbon dioxide, more is being absorbed into the ocean causing sea water to warm up and become more acidic by altering ocean chemistry. Corals are particularly sensitive to these changes with acidification making it difficult for corals to absorb the calcium carbonate they need to maintain their skeletons."

The sessions also focused on human pressure on coral reef ecosystems. Discussions on human pressure included everyday pollution and its damaging impacts on the marine environment, particularly the coral reefs.



PPOA CONSULTANT, MS LANGTON FACILITATING A FEEDBACK SESSION DURING THE WORKSHOP, APRIL 2018

Maria Eleni, a youth participant at the Naselesele workshop is concerned about the level of pollution on the island.

"Our beaches are so polluted with plastics. We need to put up sign boards to educate our people about proper rubbish disposal and how to reduce and reuse plastics."

"We also need to encourage the communities to re-plant more trees."

"I have spoken to my father who is the village spokesperson in my community to call a meeting to stop the cutting down of mangroves for firewood in our area. With the help of the other participants and the information shared at this workshop, I plan to speak about it at the meeting. We need to do something about these wrong practices now."

Ratu Jone Nakota is the headman for Naselesele village. He is keen to see more permanent marine protected areas in his area.

"In the past we placed a ban on fishing in our area and we witnessed the change. It would be good to have some permanent protected areas to allow for the fish and other marine life to thrive and replenish our fishing grounds. Our population is growing and there has been migration from other islands to Taveuni. As a result, there is increased pressure on the resources. We must manage our resources or we will have nothing left."



# PEBACC support to community nature park praised



GUESTS AT THE CELEBRATION OF WORLD ENVIRONMENT DAY IN BARANA (BACK ROW, LEFT TO RIGHT), BARANA CHIEFS, PERMANENT SECRETARY, DR MATAKI, PEBACC COUNTRY MANAGER, MR FRED PATISON, GUADALCANAL PREMIER, MR ANTHONY VEKE AND (FRONT ROW) GARLANDING LADIES FROM BARANA COMMUNITY

TREE PLANTING ACTIVITY AT BARANA PARK ON WORLD ENVIRONMENT DAY, 2018

An initiative to establish a nature park in the Barana area on Mt Austen, outside Honiara town, championed by the people of Barana in partnership with SPREP through the PEBACC project has received much praise from the Solomon Islands Government.

Addressing the Barana community on World Environment Day, 5 June 2018, Permanent Secretary for Environment, Climate Change, Disaster Management and Meteorology (MECDM) Dr. Melchoir Mataki hailed the efforts saying it is encouraging to see a shift towards not only protected areas but sustainable natural resources management at both provincial and community levels.

"The establishment of a community nature park is part and parcel of the government's efforts to promote sustainable natural resources management throughout the country.

"I would also like to urge the community of Barana and Guadalcanal province to take ownership of the community nature park that SPREP through the PEBACC project is establishing here at Barana.

"The SPREP PEBACC project will only be here for a limited time and the community and the province will need to think about the long term sustainability of the work. It requires strong commitment, honesty, accountability and hard work by all members of the community with support from both the national and provincial government. All of us here must take ownership of this project," Dr Mataki said.

The Premier of Guadalcanal Province, Mr Anthony Veke was also a guest at the event and he reiterated that the project is not just about climate change resilience for Barana but also for Honiara city as a whole.

"I note with interest the focus on ecosystems and services such as water, forests, good soil and stability of the natural environment. All these services support the livelihood of the people of Barana and Honiara," Mr Veke said.

According to PEBACC Solomon Islands Country Manager, Fred Patison, the Barana community nature park is an initiative to promote ecosystem-based adaptation to climate, re-enforcing the role of nature to strengthen

community resilience to climate change.

"It is encouraging to see a community in Guadalcanal standing up to take action on a critical environmental issue. Our communities must be guided to see the important functions of these ecosystems and their preservation for our needs and survival today and into the future.

"PEBACC sees this as an opportunity to work with the community to address environmental sustainability.

"Let me convey to the Barana community that SPREP and the other partners are here only to re-enforce the messages of environmental protection, restoration and so forth. Your commitment and support now is your investment in yourselves, your children and your future," Mr Patison added.

World Environment Day celebration at Barana community was a success with an official ceremony in the morning followed by tree planting, a clean-up around the community and the school and a hike to the Barana nature park.