



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

## Bula Vinaka!

Welcome to another edition of the PEBACC newsletter.

As we review the events of this quarter, we are pleased to showcase some of our stories from the field in our project countries.

In Fiji, the Taveuni Reforestation and Agro-forestry Programme commenced accompanied by the launch of the Wakatu Taveuni communications campaign. Exchange programmes took place with stakeholders from Kadavu and Ra provinces and work in the Dreketi river catchment in Macuata province also started during the period under review.

In Vanuatu, an urban forestry project was launched to intensify tree planting in and around Port Vila for urban greening, food trees, riparian and coastal protection. PEBACC also actively supported Vanuatu's National Forestry Week with its theme of 'Forests and Sustainable Cities'.

In Honiara, the project worked with key partners to revive and strengthen the management of the botanical gardens, an important green space for the city.

It is exciting to witness the implementation of activities on the ground and we sincerely thank our partners for their great support thus far.

The PEBACC team



KADADU STAKEHOLDERS EXPLORING THE P3DM MAP OF TAVEUNI DURING AN EXCHANGE PROGRAMME SUPPORTED BY PEBACC IN SEPTEMBER 2018

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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.



**SPREP**  
Secretariat of the Pacific Regional  
Environment Programme

Supported by:



Federal Ministry  
for the Environment, Nature Conservation  
and Nuclear Safety

based on a decision of the German Bundestag

## Urban forestry project - Port Vila

SPREP and Vanuatu's Department of Forestry this quarter signed a letter of agreement for the commencement of an urban forestry project in Port Vila, Vanuatu.

Speaking at the signing ceremony, Vanuatu's Director of Forestry Department, Mr. Hannington Tate highlighted the importance of protecting riparian forests in urban areas.

"These forests are the filters of our water, without them, the rivers would choke and die." Mr Tate said.

SPREP's Vanuatu Country Manager, David Loubser highlighted that the urban forestry component under the PEBACC project will include Tagabe River riparian restoration and the establishment of community based tree nurseries.

"Our aim is to intensify tree planting in and around Port Vila for urban greening, food trees and riparian/coastal protection. In addition, we want to increase people's understanding of the propagation of tree crops such as natangura and pandanus." Mr. Loubser said.

To ensure seedling availability, the project will support the establishment of a network of tree nurseries across the greater Port Vila area.

A specific component of the re-planting will focus on the Tagabe River banks and mouth.

"We look forward to working with the Blacksands community to revegetate the lower reaches of the Tagabe River banks as well as investigate and trial the re-establishment of mangroves at the river mouth." Mr. Loubser added.

The signing of the agreement took place on 5 September at Blacksands community in the presence of SPREP and Forestry staff, Ifira Marine Management team representatives, representatives of the GEF funded SPC "Ridge to Reef" project and the chiefs of Blacksands who greatly welcomed the Tagabe River Catchment Management Project.

SPREP PEBACC also supported the Shefa Tanvasoko Area Council Youth Committee with a clean-up of the Tagabe River.

A total of 600 garbage bags of rubbish were collected during the clean-up initiative and disposed at the Port Vila landfill.

The clean-up took place as part of World Clean Up and World Ozone Day hosted by the Vanuatu Department of Environmental Protection and Conservation.



VANUATU'S DEPARTMENT OF FORESTS DIRECTOR, MR TATE (IN GREEN) AND COMMUNITY REPS AFTER THE SIGNING CEREMONY, BLACKSANDS COMMUNITY, PORT VILA



VANUATU DEPARTMENT OF FORESTS NURSERY, TAGABE STATION, PORT VILA



RUBBISH COLLECTED FROM TAGEBE RIVER DURING WORLD CLEAN-UP DAY READY TO BE TAKEN TO ETAS LANDFILL, PORT VILA

## Campaign launched to restore Fiji's garden island



ALUMEICI NAKEKE FROM CCHANGE FACILITATING TRAINING ON WAKATU FOR TAVEUNI CHAMPIONS BEFORE THE LAUNCH OF THE CAMPAIGN, AUGUST 2018

Residents of Fiji's third largest island, Taveuni, launched a campaign in August 2018 to restore its reputation as the 'Garden Island' of Fiji.

The Wakatu Taveuni campaign encourages the island's leaders and communities to take action to address the causes of ecosystem degradation and to invest in more ecologically sustainable forms of land use.

The campaign was launched in Welagi village by the iTaukei Land Trust Board General Manager of the Northern Division Mr Josaia Waqatairewa together with Welagi's Reforestation of Degraded Forests project, a first for Taveuni.

In his opening address, Mr Waqatairewa acknowledged the important role played by the island's rich and diverse ecosystems in helping develop Taveuni's economy. However it was concerning to note that the condition of many of these ecosystems was in decline as a result of poor environmental stewardship over the years. This in turn posed a threat to the future development of the island and the resilience of its people. "The removal of trees to clear new land for cultivation continues to take place at an alarming rate and as a result some parts of the island are now experiencing droughts and water shortages. Bush fires and over-use of agricultural inputs such as fertilisers, herbicides and pesticides are also impacting negatively on the island's ecology and

unique biodiversity" Mr Waqatairewa said.

"Clearly, we need to re-examine our agricultural and other practices that are impacting on Taveuni's ecosystems.

"Wakatu has been designed to help you to better understand how your actions impact on the environment and the things you need to do to protect your environment for present and future generations," Mr Waqatairewa added.

"Government will be there to support you but at the end of the day the future of your island is in your hands."

A key feature of the Wakatu Taveuni campaign is the training and equipping of a network of local champions to foster dialogue and motivate others for more sustainable use of natural resources in Taveuni.

In conjunction with the campaign launch, cChange, a regional communications NGO, conducted a 'train the trainer' workshop in Somosomo for 30 participants from Cakaudrove, Vuna and Wainikeli districts.

Ratu Jone Lewenilovo of Somosomo village, Cakaudrove who participated in the workshop is inspired to be a champion for Wakatu Taveuni.

"I am saddened by the state of our environment on the island. Our streams are drying up, water levels in our rivers are dropping and the island is very dry. We must stop the cutting down of our native forests."

"Through the workshop, I now realise how important it is to take care of our environment

to continue to enjoy its blessings and as a chief I am motivated to take this message to my people. We must take the steps now for change."

The Wakatu Taveuni campaign is supported by SPREP through PEBACC in partnership with the Ministries of Environment, Economy, Forests, Agriculture, iTaukei Affairs, FAO, and cChange.

"This campaign is designed to get people to reflect on the negative impacts their actions are having on the environment and how their present and future well-being is being compromised as a result. It will also help them identify things that they can do to place Taveuni on a more sustainable development pathway, which is especially important in the context of climate change." Mr Herman Timmermans, PEBACC Project Manager said.

"We are encouraged by the positive response to the campaign thus far and we are grateful to Taveuni born professional rugby player, Semi Radradra, who is using his influence and reputation to spread the Wakatu Taveuni message as the campaign's first celebrity champion." Mr Timmermans added.

Wakatu Taveuni is part of a national Wakatu Fiji campaign that was developed in 2016 by cChange, a Fiji based communications organization with support from FAO to promote actions at all levels in Fiji to sustainably use land and forests, and ensure communities continue to benefit from healthy natural resources.

# Committee to revive Honiara's botanical garden



MATURE TREES AT THE BOTANICAL GARDEN IN HONIARA, SEPTEMBER 2018

With support from PEBACC, a national management committee was established in September 2018 to oversee the rehabilitation of Honiara Botanic Gardens.

Once a showpiece of Honiara, the botanic gardens was established in the 1960s with a diverse collection of native and introduced trees. However neglect during the 1980's led to a deterioration of the condition of the Gardens.

Speaking at the first committee meeting, Honiara City Council Clerk and co-chair of the committee, Mr Charles Kelly said 'this initiative is greatly welcomed by the council'.

"The Honiara Botanic Gardens was once a forest in the city where families and visitors could visit and enjoy picnics but it is gone. We are pleased that this initiative will help revive it although we know it will require a lot of logistical work. Having a management committee in place to oversee this work is a great first step."

The key role of the management committee is to oversee, provide technical advice and coordinate all activities and projects amongst national stakeholders for the botanical garden, lead the formulation of the botanical garden management and business plan and its subsequent implementation.

SPREP through PEBACC is a partner in this initiative to restore and protect this important ecosystem that has potential to provide essential services to Honiara city. PEBACC Country Manager, Fred Patison



MEMBERS OF THE BOTANICAL GARDEN NATIONAL MANAGEMENT COMMITTEE AT THEIR FIRST MEETING IN SEPTEMBER 2018

explained that the Honiara Botanic Gardens, "provide a unique greenspace in that it is relatively large in area and is dominated by forest trees, including some trees that are rarely found elsewhere in Honiara."

"Protecting this green space also means that we are protecting our water catchment, our native trees, our supply of fresh air, home for our native birds and other biodiversity that are unique to Solomon Islands and at the same time educating our people about protecting our environment."

"It is encouraging to see the new management committee of the Botanic Gardens being led by Honiara City Council and the Ministry of

Forestry and Research." Mr Patison said.

An ecosystem study of Honiara commissioned by PEBACC in 2016 highlighted that "the Botanic Gardens maintain a linear fauna corridor along Rove Creek, with continuous habitat connectivity to the upstream reaches of this small coastal watershed due to relatively intact riparian vegetation.

"The large area of forest also provides hazard reduction services through storm water regulation and flood control, while reducing the sediment load entering Rove Creek and regulating water quality." The study reported.

# Central nursery and seed collection - Taveuni

The Fiji Ministry of Forests and PEBACC signed an agreement this quarter to establish a central tree nursery in Taveuni.

A key output of the agreement is for a qualified nurseryman to be seconded to Taveuni to construct and bring into operation a tree seedling nursery at Mua Agricultural Research station for native tree species to support the reforestation and agroforestry programme on the island.

PEBACC Project Manager, Mr Herman Timmermans explained that extensive research and consultations by PEBACC with landowners at Taveuni has reinforced the critical need for investment in reforestation and associated agroforestry.

"It is common knowledge that Taveuni has experienced significant deforestation linked to ecologically unsustainable root crop cultivation over the years and much of its soils and water resources have become depleted.

"iTaukei and other land owners that we have consulted recognize the adverse ecological impact that past and present agricultural practices have had on their island and the local vanua leadership is motivated to address the problem through the promotion of reforestation and agroforestry and related interventions.

"Despite the urgent need for reforestation and agroforestry support in Taveuni, the supply of native and non-native tree seedlings in Taveuni is currently very limited and not sufficient to supply the areas identified for reforestation."

In light of this, the PEBACC project commissioned a scoping and design study for a tree seedling nursery and supply system for Taveuni earlier this year.

"In June, a meeting with senior forestry and agriculture stakeholders decided that the best way forward would be to use the existing nursery infrastructure at Mua Agricultural Research station as a central nursery to supply the reforestation and agroforestry programme.

"A follow-up meeting with Taveuni natural resource management committee (also known as YMST) included a visit to Mua. It was recommended that a new nursery be constructed on a flat piece of cleared land allocated by Agriculture because the existing nursery is too small for the purposes of the project.

"I am pleased that we now have an agreement in place and a nurseryman will be seconded this month to Taveuni for a period of three months to oversee and coordinate the construction and stocking of the nursery. PEBACC is committed to supporting this work." Mr Timmermans added.

Seed collection on Taveuni has also begun this quarter with support from FAO. The seed collection took place from the 3rd to 6th of October.

According to FAO National Project Coordinator, Mr Maika Daveta, this is the first ever seed collection mission in Taveuni by Forestry Research and FAO is pleased to have supported this.



POTTING OF SEEDS ON TAVEUNI WILL COMMENCE THIS MONTH TO PREPARE FOR PLANTING ACTIVITIES IN 2019



SOME OF THE SEEDS COLLECTED BY FORESTRY RESEARCH THIS QUARTER. PHOTO: E.YOUNG AND L.LILI

"Seeds from a total of 11 tree species were collected and these are trees identified by farmers and communities as high value trees due to their ecological, cultural and economic significance. During this trip, the team collected what was fruiting and also conducted a phenology of the trees on the island. This will guide the next seed collection planned for November.

"In terms of ecological contributions, the trees are used as shade from the sun as well as for soil improvement, flood/runoff control, pollination, wind protection, erosion control, coastal protection, wild animal food and protection from salt spray.

"For cultural and economic uses, the trees provide valuable timber for houses, boatbuilding, sails, tools, weapons, woodcarving, rubber, tannin, oils, decoration, body ornament, dyes, ritual exchange, poisons, insect repellents, recreation, totems, scents/perfumes, honey production, firewood and others."

"So when planting these trees, communities are restoring their land, improving soil fertility, reducing erosion, run-offs and other benefits." Mr Daveta added.

# Forest week promotes planting of trees in urban areas



DISPLAY BOOTHS AT THE SEAFRONT DURING THE FORESTRY WEEK IN VANUATU, AUGUST 2018

The Vanuatu Government through the Department of Forests led a successful national forestry week in Port Vila at the end of August with the theme of 'Forests and Sustainable Cities.'

The week-long celebration at various locations in Port Vila promoted the re-planting of trees in urban centres, along river banks and coastal and degraded land areas.

SPREP through PEBACC supported a planting activity along the lower reaches of the Tagabe River, one of the main rivers in Port Vila.

PEBACC Country Manager, David Loubser highlighted that clearing of trees along the Tagabe River has resulted in problems such as flooding and erosion.

"The planting activity provided a great opportunity to educate the people residing along the river about the importance of protecting and restoring riparian forests to prevent future flooding and erosion." Mr Loubser said.

"As part of the PEBACC project, we encourage the establishment of protected areas, planting fast growing firewood trees in gardens to increase personal firewood supply, planting food trees and clean-up programmes as ecosystem-based adaptation activities to restore the ecosystems that



PANELISTS FROM KEY GOVERNMENT DEPARTMENTS AND PEBACC COUNTRY MANAGER, DAVID LOUBSER (THIRD FROM RIGHT) AT ONE OF THE PANEL DISCUSSIONS AT PORT VILA'S SEAFRONT STAGE

support the population of Port Vila and the surrounding settlements." Mr Loubser added.

National Forestry Week included a number of panel discussions for the public at the seafront stage in Port Vila on relevant forestry related topics.

The discussions engaged speakers from Forestry, Agriculture, Tourism, SPREP, community farmers,

chiefs and community leaders.

The week ended with a local FM station providing live coverage of the closing at the Department of Forestry's Tagabe nursery, where more awareness was given out on the theme of forests and sustainable cities to listeners' through-out Vanuatu.

# Taveuni reforestation and agro-forestry programme commences

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' has commenced this quarter.

At a recent stakeholders meeting on the 23rd of October, key partners supporting the work on the ground namely Conservation International (CI), Food and Agriculture Organisation (FAO), The Pacific Community (SPC) and Scientific Forestry Services (SFS), a private forestry company reported on their activities thus far.

Mr Eliki Senivasa of CI in his report highlighted that fieldwork had started in the month of October in the Wainikeli district with the aim to plant around 300 hectares of upper elevation, riverine and coastal native and exotic commercial trees.

"We are also looking at establishing three model agro-forestry farms in the district." Mr Senivasa said.

In the Vuna district, Mr Usa Tukana of Scientific Forestry Services (SFS) confirmed that they are currently doing outreach work, seed sourcing and forming planting groups to prepare for the planting activities for the programme.



COCONUT SEEDLINGS AT THE MUA AGRICULTURE RESEARCH STATION, TAVEUNI

"Our first planting is scheduled for January to March 2019 and additional seedling preparation in April to June before another planting activity in October to December."

In the Cakaudrove district, The Pacific Community (SPC) is looking at the development of participatory land use plans before commencing with planting support.

The meeting participants were also informed of a seed collection activity in October that was funded by FAO. During the seed collection visit, native tree seeds were collected and are now stored at the Korotari nursery in Labasa.

The meeting provided an opportunity for the various partners to share work-plans with each other and with local stakeholders, learn about possible support from the Ministry of Forests and Ministry of Agriculture and to chart the way forward.

PEBACC is supporting the programme in Taveuni over the next two years (until mid-2020). Other funding opportunities will be pursued to sustain the activities into the future.

# Baseline study of Dreketi river, Fiji is underway

A technical baseline study of the Dreketi river in Vanua Levu, Fiji has begun this month by the World Wildlife (WWF) Pacific in partnership with PEBACC.

WWF Macuata Field Officer, Opeti Vateitei confirmed that water sampling activities have taken place to examine the quality of water and the sources of sedimentation and water pollution into the river.

"We have begun the collection of water samples for testing to gauge the level of soil erosion/siltation in the river as well as to gauge if there is any chemical contamination or runoffs from the catchment into the river and the associated marine ecosystems.

"This is to help us identify the hot spots to focus stakeholder out-reach on." Mr Vateitei explained.

The baseline study is part of a project initiated by WWF Pacific and PEBACC to broaden the Qoliqoli Cokovata Ramsar plan to include the Dreketi River, the largest of the fourteen river catchments linked to the qoliqoli.

PEBACC Project Manager, Herman Timmermans explained that a key concern for the management of Qoliqoli Cokovata and its marine and coastal ecosystems is the amount of



WWF-PACIFIC AND PEBACC STAFF COLLECTING WATER SAMPLES FROM THE DREKETI RIVER, OCTOBER 2018

sediment that is discharged from the Dreketi river.

"High levels of sediment loading increases the turbidity of the water and reduces its quality. This generally has a negative impact on the marine and coastal habitats, making them less able to support marine life.

"Corals, seagrass meadows and mangroves are all threatened by high levels of sedimentation, as are shellfish, fish and marine mammals that require clear and sediment-free water." Mr Timmermans said.

In 2017, a study of the catchments of Vanua Levu by Brown et al. estimated that the sediment yield from the Dreketi river is in the region of 62,724 tons per annum, the



highest of all the catchments on the island.

Therefore it is important that work is extended to target the river catchment to contribute to addressing this issue.

Other activities that will be supported through this project include:

- Practical training in sustainable land management, sustainable forest management, river care and community based river monitoring

- Development of an integrated catchment management plan (ICMP) for the Dreketi river

Partners engaged in this project include the Labasa Cane Producers Association, Macuata Provincial Office and the District Reps in the Dreketi Catchment.

# Environmental exchange programme



VISIT TO A NURSERY DURING THE EXCHANGE PROGRAMME TO KADAVU ORGANISED BY PEBACC AND RESCCUE IN SEPTEMBER 2018

An exchange programme in Fiji for Taveuni and Kadavu traditional leaders has proven effective in encouraging sharing and learning about sustainable development and planning issues at the island level. The exchange was organised to better equip decision-makers to integrate environmental management into their respective development planning processes.

Supported by the (SPREP) through the (PEBACC) project, and the Restoration of Ecosystem Services and Adaptation to Climate Change (RESCCUE) Fiji project of the Pacific Community (SPC) as coordinated by the Institute of Applied Sciences at the University of the South Pacific (USP), the exchange programme provided an opportunity for stakeholders from both islands to benefit from direct exposure to each other's environmental initiatives.

Mr Herman Timmermans, Project Manager of SPREP's PEBACC project, explained that "as the third and fourth largest islands in Fiji, Taveuni and Kadavu share similar geographic scales, cultural organisation, governance, and economies. They also experience similar problems with regard to the impacts of agriculture (subsistence and cash crop) on the health and well-being of terrestrial and marine ecosystems."

"Of particular relevance is the cultivation of yaqona with Kadavu and Taveuni being the primary supply areas of this popular crop in Fiji. Shortages in the availability of yaqona following the damage caused by cyclone Winston in 2016, has led to a highly inflated market price. As a result there is a strong financial incentive for farmers to increase the size of their yaqona

holdings, often at the expense of native forest which is cleared in the process."

"There has also been an over-use of fertilisers, pesticides and herbicides, with Taveuni being more heavily impacted as a result of its history as the primary producer of copra and taro for the export market."

"We are trying to encourage land owners and resource managers in Taveuni to strengthen their systems of land management, to reduce the negative impacts that agricultural activities have on land, forests, soil and biodiversity."

"The best way to explain to people is for them to see it with their own eyes and in my experience this is one of the most effective ways to encourage learning."

"So this exchange with Kadavu is important because the delegation from Taveuni are getting to see and learn that Kadavu's traditional way of life and farming is more intact." Mr Timmermans said.

For the Kadavu participants, RESCCUE's Project Manager, Isoa Korovulavula highlighted that "the exchange provided information and lessons that were new to the Kadavu partners that came to Taveuni. For example, the Kadavu participants were disturbed to see the amount of deforestation and the resulting water issues that Taveuni is experiencing."

"In terms of traditional farming practices, the RESCCUE project is promoting organic yaqona farming in Kadavu, something that farmers from Taveuni came to see and appreciate."

"There are differences that made the participants of the two islands realize the

balance between profitability and protecting the environment."

Chairman of the Kadavu Provincial Council, Mr Malakai V. Masi who was part of the team that visited Taveuni believes that the exchange will impact on them in many ways.

"We can modify existing similar projects to become better and each new idea can open our minds to broaden our sustainable development goals for our environment, and also the lessons learnt will always be a major driving factor forward in our lives in Kadavu." Mr Masi said.

The exchange programmes in Taveuni and Kadavu took place from 3-6 September and 10-13 September 2018 respectively.

The RESCCUE and PEBACC projects also supported an exchange programme for a team of stakeholders from Ra and Macuata provinces in late August. The exchange programme provided an opportunity for the stakeholders who are engaged in environmental management planning to share experiences and lessons learnt to strengthen their respective planning processes.

The RESCCUE and PEBACC projects share similar objectives in promoting ecosystem-based approaches to climate change adaptation.

Both projects are exploring interventions to place local agriculture on a more sustainable footing and through initiatives such as these exchange programmes both projects hope to encourage sound environmental development practices. In Fiji, PEBACC project sites are Taveuni and Macuata province while RESCCUE sites are Kadavu and Ra province.