

Annex 4.2.5 Project newsletter vol. 1 – 9

CEPA - JICA

Biodiversity Project

News Letter



ISSUE: December 2015
Volume 1
(JUL – DEC 2015)

This newsletter is aimed at introducing progress news on the CEPA-JICA Project for Biodiversity Conservation through Implementation of the PNG Policy on Protected Areas.

Introduction

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2. **The Varirata National Park (VNP) is enhanced as a terrestrial PA management model in accordance with PPA.**
3. **A model of establishing a new marine PA is developed as per the provision of PPA and concerned laws.**
4. **Public relations/awareness for biodiversity conservation is improved by disseminating project related information.**

Kickoff Seminar for CEPA-JICA Biodiversity Project

29 July, 2015

The CEPA-JICA Project, a core-funded project by CEPA and JICA hosted its Kickoff Seminar at Holiday Inn. The theme of the workshop was on "collaborative efforts to implement CEPA-JICA Biodiversity Project". A total of 94 invitees attended the workshop.

This Biodiversity Project will run for a period of five (5) years commencing in June 2015. The primary purpose of the project is to institutionalize and strengthened capacity of CEPA for Protected Area (PA) management through enhancing national-level PA governance and sustainable use of natural resources with local communities in the model PA(s) as per the Policy on the Protected Areas(PPA).

The workshop was organized to engage other Government Institutions and key stakeholders to seek their views on linking the Policy on PPA, which was approved by NEC in December 2014, with other national level sector policies, including the National Sustainable Land Use Policy (NSLUP) that was developed by the Department of Lands and Physical Planning. The workshop was significant for CEPA-JICA Project in order to identify the key actors or stakeholders, understand better the stakeholder engagement and through the collaborative conservation efforts the implementation of the PPA and related policies can be realized.

Inception workshop for Koiari

22 October, 2015

A inception workshop for Koiari was held at Kokoda Trail Hotel. At least 73

invitees attended the workshop. From this, 52 were participants from the Koiari Rural LLG including the local communities and reps from Tourism Promotion Authority. The primary purpose of this workshop was focused at "Role Sharing, Benefit Sharing and Livelihood Development in Koiari LLG". This workshop was significant for CEPA-JICA Project in order to identify the relevant and appropriate mechanisms for role sharing, benefit sharing and understand better the stakeholder engagement.

Project Design Phase

A Japanese Detailed Planning Survey Team organized JICA visited PNG to discuss the formulation of a Technical Cooperation Project for "the Project for Biodiversity Conservation towards Achieving PNG Protected Area and the Aichi Target".

An agreement was reached between the two parties for a Japanese Technical Cooperation to provide support to the Government of PNG for the implementation of PPA.

The Project was timely as the PPA was launched by the Government of PNG in December 2014. The focus of the PPA was to address biodiversity conservation and support the development and management of a National Protected Area for PNG.



CEPA - JICA Biodiversity Project

Reconnaissance survey of coastal & marine systems of Bootless Bay

CEPA-JICA undertook a preliminary survey of the surrounding mangrove habitats, NFA facilities deployed at the site and other marine ecosystems within Bootless Bay. It was observed that unregulated development were taking place along the mangrove areas within the Bootless Bay and the Tuna Bay areas. Such unregulated development taking place in those areas are very sensitive to the mangrove vegetation's since mangroves are critical habitats for coastline erosion as well as mangroves are the breeding grounds of the marine life. The Tuna Bay is a sensitive place as well for any development to take place because it is the spawning site for tuna which has been used traditionally by the locals around the Bootless Bay area, Pari and Taurama villages.



Varirata NP

Varirata National Park (VNP) was the first National Park declared in PNG and was officially opened on 8th October 1973. It is on State land and covers an area of 1,063 ha. It is located on the Sogeri Plateau appropriately 48 km east of Port Moresby city and is accessible by road.

VNP is situated at an elevation of 600 – 800 m with an average annual rainfall of 1400 mm. It has closely spaced narrow accordant ridges and rocks consisting of balastic lava, agglomerate, tuff and dyke origins.

The land was locally called *Wodobonumu* and was the traditional hunting grounds of Koiari people.

VNP has scenic views and beautiful forests comprising of rainforest, savannah, grassland, gallery forest and secondary regrowth. It is also inhabited with some unique plants and animals such as Rosa deer, cassowaries, forest wallabies, possums, bandicoots, butterflies, beetles, pythons, monitor lizards, Raggiana Bird of Paradise and other extraordinary bird species.

The main picnic area and the information center were once a coffee nursery established in 1950's. The same area was previously logged by Sandis and Burns Philip (NG) Ltd, respectively. Later a piggery and poultry farms were established. The concrete basements are the only remnants today.

CEPA-JICA Project acknowledged by KLLG

23 December, 2015

A reception was organized by the Koiari Local Level Government (LLG) to show their appreciation to the partner agencies for their active collaboration and successful implementation of joint activities in 2015, at the Fugui Restaurant in Port Moresby on 23th December, 2015. This was one of the annual events of the local Koiari LLG to bring its ward councilors, LLG administrative staff, and relevant key partners who implement projects in the Koiari and Sirinumu Catchment Area. Over 50 people attended the reception including 17 ward councilors and their spouses, 5 Koiari LLG staff and their spouses.

CEPA-JICA Project including eight (8) other organizations were invited to grant the certificates and gifts. The Project was presented with a "Certificate of Appreciation" and a traditional bilum (or string bag) from the highlands of PNG as a token of appreciation by the Koiari LLG Council President, Mr David Ogi. The Technical Coordinator was given the opportunity to give a short speech on behalf of the CEPA-JICA Project for the effective and successful partnership with the Koiari LLG and the local people of Koiari.

JICA Donates Project Vehicle

December, 2015

The Project Team was presented with a vehicle for the implementation of the CEPA-JICA Biodiversity Project in December, 2015.

The handover ceremony for the Toyota Land cruiser from Ela Motors by JICA PNG Office was facilitated at the CEPA parking lot. The formalities of signing the agreement of the vehicle was made at the CEPA Board room.

The presentation was made by Mr. Shigeru Shugijama, Chief Representative of JICA PNG Office (at that time), to DIRECTOR of CEPA (Ms. Kumaras Kay Kalim) on behalf of the Managing Director.

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CEPA - JICA

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CEPA Launches Bird Watching MoU

19 February, 2016

The Memorandum of Understanding (MoU) for the bird watching project was signed at Lamana Hotel on 19th February, 2016. The MoU was signed by the Managing Director of CEPA (Mr. Gunther Joku), Acting Chief Executive Officer of PNGTPA (Mr. Eric Mossman), Vice Chancellor of PAU (Professor Ben Thomas), Council President of Koiari LLG (Mr. David Ogi) including the Chief Advisor of the CEPA-JICA Project (Mr. Koji Asano). The objective of the MoU is for the parties to maintain cooperation, enhance planning and information exchange to develop and promote the bird watching activities in the Varirata National Park, PAU campus and Sirinumu/Laloki Catchment areas in Central Province. Thus, this project will create an environment for mutual understanding for research, training, and capacity building for all parties, local resource

owners and partner organizations in order for better planning to achieve the tangible results from the bird watching and eco-tourism related activities.

The birding project will also promote conservation initiatives and sustainable livelihood of the local communities in Koiari and Hiri regions of Central Province.

At least six (6) bird watching sites will be identified and will provide the unique opportunity for bird watchers and residents of Port Moresby or travelers to observe different kinds of birds and at the same time enjoy the natural biodiversity and the scenic sites.

Camera traps assist monitoring and management of VNP

Twenty (20) camera traps have been installed within the Varirata National Park (VNP) for the monitoring and management of the Park. There are two sets of 10 digital camera traps comprising 10 cameras for obtaining still photographs and another 10 for capturing motion or videos. These have been installed along ten specific sites within the Park. These sites were marked, mapped and photographs

Camera Traps Photo



Wallaby at Scarp Track
19 Nov, 2015, 10:32am



Yellow-legged brush turkey
at Circuit Track
13 Oct, 2015, 10:04am



taken as trial monitoring stations. These cameras were first installed on 22 September, 2015, and retrieval of data has been made monthly. The images of the fauna have been captured by these camera traps.

CEPA - JICA Biodiversity Project

Promotes livelihood development for local Koiari communities

25 February, 2016

A follow-up workshop for the local communities of Koiari was held at the Sogeri Lodge. The workshop was focused on livelihood development and bird watching in the Koiari area. Also, a draft proposal of livelihood development option was presented to the local participants. A total of 25 participants attended from 4 local clan groups (Ianari, Nadeka, Omani and Narime), 2 Council Ward areas (Furimuti-ward 4, Depo –ward 5), 7 reporters/camera crews from 5 different media organization's (Post Courier, The National, NBC TV, EMTV, and Sunday Chronicles).

The preparatory work on the exposure (packaged) tour for tourists (including international/local) has begun and appropriate agencies including the PNGTPA and tour operators will be consulted in order to develop a package suitable for the communities in Koiari. The spin-offs from these activities will in the long-term benefit and sustain the livelihood of the local people.

The VNP landowner WS on livelihood development

19 May, 2016

A total of 19 local landowners representing four (4) clans and two (2) ward council areas participated at the workshop. The key message of the meeting was for the local people to understand the livelihood development option for the management of the VNP. CEPA and JICA are also insisting for the local community to establish a representative and recognized group which can fairly represent the community in terms of the coordination, planning and management of the livelihood development activities such as eco-tourism, bird watching, cultural dancing, traditional cooking, etc.

Installation of distance piles at VNP

April, 2016

The installation of distance piles along the four tracks of the Varirata National Park has been completed with a total of 79 piles. These distance piles can be

easily seen on these tracks; Self Guide, Circuit, Scarp and the track leading to Gare's Lookout. The average distance to be covered for each track is 2 km, which will take approximately 40-60 minutes for an average person on a normal walking pace. Also, the wooden foot bridge at the Main Picnic Area was renovated.



Tree House – Pride and Identity of local Koiari People

Koiari Tree-House has been a pride of the people of Koiari. The tree-house (also called traditionally as Babo) is the identify of Koiari and is one of the main features reassembling the people and

the people and the nature from which this unique structure is built. It also provides a strong element of culture and ancestral connection of the people to the past generations, and reason(s) why this unique high stilt houses were built. It is merely constructed to avoid bad spirits, sorcerers, and attacks from their traditional enemies.

CEPA-JICA Project is keen to revive the management of Varirata National Park and at the same time revive the loss culture of the local communities of Koiari, which the tree-house is a key part of them.



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Marine Inception WS brought together key stakeholders

16 August, 2016

The inception workshop (WS) for marine was held at Motupore Island. This workshop focused on one of the project outputs, "A model of establishing a new marine protected area (PA) is developed as per the provision of Policy on the Protected Areas (PPA) and concerned laws". At least 28 participants from various government, private and community-based organizations attended the



meeting. The objectives of the WS were to (1) showcase the project goals and expected outputs, (2) identify and network with all major stakeholders within the by, (3) identify and list issues (both present and potential), (4) recommend ways forward, and (5) set up coastal and marine "working" committee.

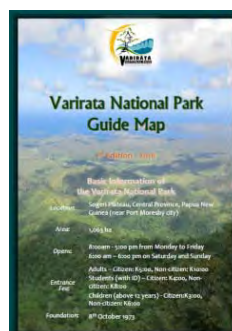
Also, a proposal of zoning for Tahira mangrove area by CEPA-JICA project was shown. SDA who hold land title of the area, UPNG and CEPA-JICA project confirmed that the proposal will be discussed further. Moreover, the MoU to protect the area is also progressing between SDA, UPNG and CEPA and will be signed soon.

VNP Guide Map published

September, 2016

Varirata National Park (VNP) visitors guide map has been developed.

The guide maps for the tracks will be handy for visitors who will be interested to hike / walk the track while visiting VNP.



New Signboard installed at VNP

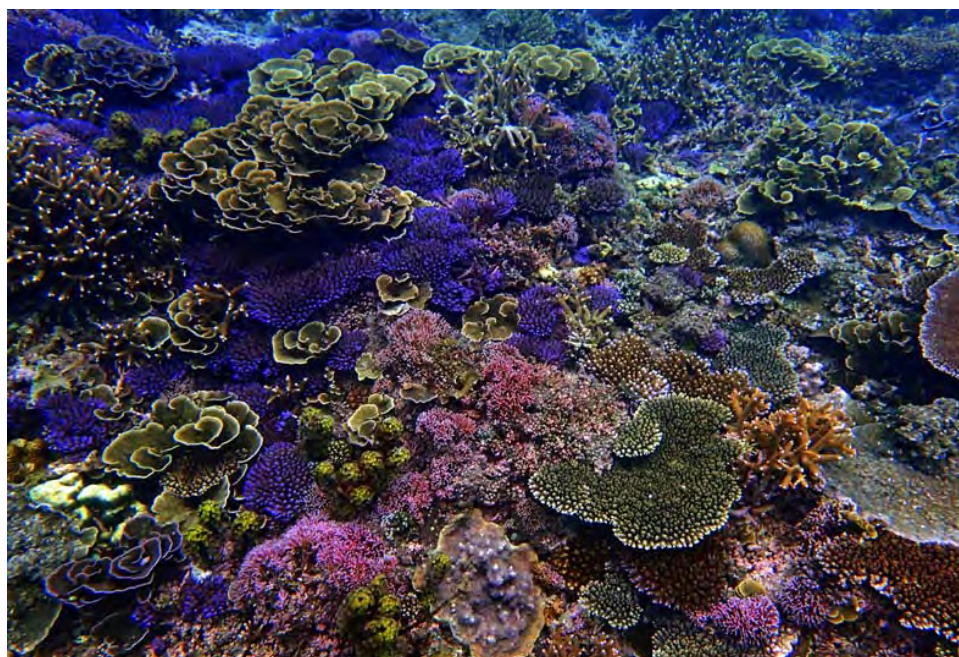
October, 2016

New Signboards were installed at VNP as part of the revival phrase of the park in the Project. CEPA is the manager of the park and would like all the visitors, tourists, Port Moresby residents, clients and local community visiting Varirata to adhere to the simple rules and regulations of the park.

This project would also thank Advance Signs PNG Ltd, a local printing company for making this possible. In particular, Mr Gaina Isosia, who is the graphic artist of the company, has been working behind the scene to prepare the art work and design of these billboards.



CEPA - JICA Biodiversity Project



(Corals observed in Bootless Bay)

Marine Biodiversity Survey in Bootless Bay conducted

October to November, 2016

Rapid Marine Biodiversity Survey in Bootless Bay was conducted from late October to November 2016. This survey focused on marine habitats (seagrass, seaweed and coral) to understand distribution of those marine habitats and its condition and to identify problem on marine biodiversity in Bootless Bay. A total of 28 sites were observed covering inner shore, middle shore and outer shores.

Marine habitats distribution in Bootless Bay became clear. Seagrass, seaweed, and corals were major marine habitat in Bootless Bay. Coral was distributed widely in mouth of the bay. Seaweed was distributed widely in this survey area except head of the bay. Seagrass distributed widely in the bay. The most dominant species of seagrass around islands was *Cymodocea rotundata*.



(*Cymodocea rotundata*)

There was not rich species diversity of seaweed. Of the four major species of seaweeds *Turbinaria decurrens* was most common.



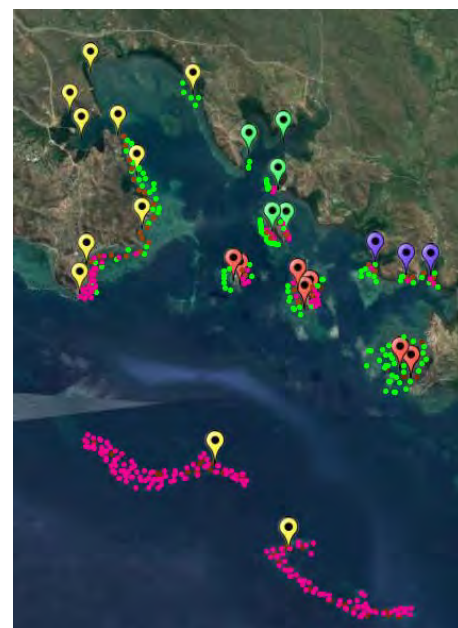
(*Turbinaria decurrens*)

Pyramid point showed a healthy coral growth. In Horse shoe Reef, coral and seaweed were observed but reef fish were less abundant and generally smaller in sizes.

During this survey, marine debris were observed. Especially, in front of mangrove forest near Tubuseria village, many marine debris were observed.

Three threats were identified in Bootless Bay through this survey.

- Degradation of fish resources
- Mangrove degradation
- Marine Debris



Distribution of marine habitat (Pink dots are coral, brown dots are seaweed and green dots are seagrass.)

To solve these problems, one of a most efficient way is to establish marine protected areas (MPAs). Hence, the Project enforce establishment MPAs in Bootless Bay with stakeholders.

VNP Security Guards hired from Koiari local communities

November, 2016

CEPA-JICA has hired local temporary security guards from the local communities of Koiari to provide safety for the tourists and visitors of VNP. These local guards can be seen wearing the orange vest with the VNP logo and SECURITY label. They will be mending the main gate of the park entrance and patrolling the park and along the tracks.

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The 2nd Marine WS for BBMCI

31 January, 2017

The 2nd workshop for Bootless Bay Marine Conservation Initiative (BBMCI) was conducted at Lamana Hotel in Port Moresby. It is envisioned that through this workshop the key stakeholders will continue to maintain and strengthen the networking and information sharing as initiated in the inception workshop. The discussion on “working arrangements” among the stakeholders to promote BBMCI will also be enhanced.

More than 23 participants from over 12 different organizations attended, ranging from the Hiri Local Level Government (LLG), Central Provincial Government, PNG Ports, Coastal Fisheries Development Agency, community-based organisations, Industry and the representatives from the local communities. The main aim was to work in partnership with

relevant stakeholders to achieve the Output 3 of the CEPA –JICA Biodiversity Project - Bootless Bay to be the Model Marine Protected Area (MPA) in PNG. The Project is also embarking for a formal declaration from the key stakeholders for the protection of the Bootless Bay and the surrounding marine areas.



The bird watching initiative was further strengthened

3 February, 2017

The bird watching initiative was further strengthened by the Project when the Pacific Adventist University (PAU) agreed to construct a bird shelter within the Koiari Park Campus, few kilometers outside of Port

Moresby. This bird shelter will serve the purpose of providing an exhibition of various bird species including the birds of significance such as the water birds and waders. It will be also useful for students in terms of research and education. The bird watchers, tourists and public are also invited to use the common bird shelter.

A site was selected within the campus near the common student block and in the proximity of the roosting site of the Egrets, Ibis, Australian Swamphen,

Black Cormorant including the visitors such as the Royal Spoonbill.

The PNG Tourism Promotion Authority and CEPA with the support from JICA are keen to develop the facility within PAU to promote and boost the interests from the amateur bird watchers and students for the importance of birds and how vulnerable they are now due to habitat destruction, climate change and other impacts.



CEPA - JICA Biodiversity Project

Audition for Koiari traditional dance

22 March, 2017

The local people of Koiari have their unique traditions and cultures still intact. They are from the hinterlands of Central Province and you will be surprised when they set an entertainment scene for you. The CEPA-JICA Project is embarking on protecting the biodiversity and at the same time their traditions: cultures, taboos and rituals. These are all significant when it comes to biodiversity conservation and the surrounding ecosystems depended on --- we are all interdependent on each other.

An audition for Koiari traditional dance was performed at VNP. This provided a stage for the CEPA-JICA Project Team to develop a tour package for tourists and visitors, who wish to visit VNP and the Sogerri area and wants to see the cultural dances or shows.

We are encouraging everyone to come to VNP and Sogerri to see the great cultural dances put on show by the local people of Koiari.



Clean-up campaign at Tubusereia village

12 April, 2017

The Project has hosted a first clean-up campaign at Tubusereia village. This campaign was aimed at minimizing/controlling the unnecessary dumping of household wastes into the oceans, which contributes to unpleasant sightings of the marine debris in coral reefs, mangroves, seagrasses, and other critical marine systems in Bootless Bay. CEPA would also encourage the coastal communities to act responsibly and get rid of their rubbish, especially plastics and not to dump them directly into the seas and mangroves.

The clean-up was participated by over 100 people including key institutions such as the PNG Ports, Office of Coastal Fisheries and Development Agency, CEPA, PNG Dive Center, HELP (NGO), Central Village Environmental Services from Tubusereia, Pari Women's Development Association, Pacific Energy Aviation and the local people of Tubusereia village including JICA staff of the Project.



Field training for local field assistants

12 April, 2017

The field training for local field assistants for the 4 clans of Koiari was recently undertaken at VNP by the Project. The detailed biodiversity survey will cover most taxa groups - plants, birds, mammals, reptiles, frogs, and insects. The survey team settled in at the VNP Lodge with field survey gears.

A botanist and MSc fellow from the Forestry Department of the University of Technology was engaged to train the survey team and the local field assistants on how to collect fertile plant specimens and prepare voucher herbarium specimens. A trial demonstration was conducted which included specimen collection, data recording, pressing and drying.



The training was conducted to ensure the local field assistants learn and understand the processes involved in a botanical survey. Similar training will be conducted for sampling mammals, birds, reptiles, amphibians and aquatic fauna.

The Inaugural Launch for the works of VNP

20 April, 2017

The Inaugural Launch for the works of VNP was co-hosted by CEPA and the Project with funding support from JICA. More than 100 people attended representing PNG JICA Office, PNG Tourism Promotion Authority, Central Provincial Government, Koiari LLG, University of PNG, Local Koiari Tours, partners and local communities. The highlight of the launch were the cutting of ribbon for the new and renovated facilities including the new signboards, and the ground breaking

ceremony for the construction of the new Information Center in Varirata. The construction of the new building will commence in July and the completion is expected to be after 9 months.



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UPNG and CEPA signed MoU for mangrove protection

25 July, 2017

University of Papua New Guinea (UPNG) and CEPA signed a Memorandum of Understanding (MoU). The primary objective of this agreement is for a mutual understanding on implementing the activities within Bootless Bay for the protection of the mangroves (including other marine resources) and the establishment of the new marine protected area (MPA).

Professor Chalapan Kaluwin, Dean of School of Natural and Physical Sciences of UPNG, was glad to work with CEPA and the donor partners such as JICA to set up a MPA in the Bootless Bay of Central province, which is first of its kind under the provisions of the PPA that can be replicated elsewhere in PNG.



BBMCI Logo launched

The new logo for the Bootless Bay Marine Conservation Initiative (BBMCI) was also launched during the inaugural ceremony. Most BBMCI members from the government agencies, private sector, community and the not-for profit organizations witnessed the launching ceremony.



Social mapping and socio-economic

August, 2017

Social mapping and socio-economic studies of VNP and the areas within its 3km buffer covering the two ward council areas (Furimuti and Depo) commenced in early August, 2017. The initial community meeting with the clan leaders of Koiari was held at Depo village on 11 August, 2017. Dr Rodney Kameata of SERACS was the lead consultant who coordinated the investigations. He specializes in anthropology and the social set up of local communities in PNG. The findings from this study will assist CEPA-JICA



Project Team to develop an informed resource management plan for VNP.

Welcome reception of Minister at VNP

25 August, 2017

This was a special day for CEPA and its stakeholders including the local communities from Koiari and JICA when CEPA hosted the welcome reception of the Hon. John Pundari, Minister for Environment & Conservation and Climate Change at VNP.

This event was significant to the CEPA-JICA Project implementing activities within VNP because the Minister acknowledged our efforts and the investment from JICA. He personally met the Project Team on site and was briefly introduced on what this project is currently doing and planning to do in the next few years. Mr Pundari was pleased to see the changes on the renovation of the old Information Center (IC) and the local contractor (Hahebou) at the site.



CEPA - JICA Biodiversity Project

New bird watching shelter at PAU constructed

5 September, 2017

The first bird watching shelter was completed at the lakeside of Koiari Park Campus of Pacific Adventist University (PAU) with financial support from the PNG Tourism Promotion Authority (PNGTPA) through the collaborative partnership with CEPA, PNGTPA, PAU, Koiari LLG, and JICA. It is intended to enhance bird watching and other tourism opportunities for bird watchers, tourists, visitors, students and Port Moresby residents.



27 July



5 September

Ecological studies at VNP undertaken

December, 2017

The local survey team has been currently undertaking the ecological studies at VNP for the last 8 months since April, 2017. They have collected fertile plant specimens, collected snakes and frogs, collected insects/moths, recorded the sightings of birds, and other fauna. They have also prepared and dried the plant specimens at the base camp in Varirata and transfer the voucher plant specimens to UPNG Herbarium. The DNA samples of the snakes and frogs were also collected and stored for further DNA analysis.



Construction and improvement of facilities in VNP

28 July, 2017

Drainage system at the Information Center (IC) complex of VNP was improved.



15 September, 2017

Cultural taboos, rituals and the ancestral beliefs of the local customary landowners of Koiari will be illustrated on the totems and carvings. These wood art works will demonstrate the uniqueness and special connections of these local people on the natural environment and to encourage the protection of the biodiversity of VNP. The crafting of these totems/carvings commenced on 19 August, 2017. The crafting of the 6 totems and 4 carvings were completed on 15 September, 2017. These items will be installed within the IC complex of VNP.



21 August



15 September

November, 2017

The fabricated kitset building for 8-9 people living quarter has been constructed at VNP in July and is almost completed.

This houses the workers of the Rhodes PNG who will construct the new Information Center (IC). The kit house will be donated to CEPA after the completion of the new IC.



The renovation of the existing IC and the construction of the new IC have commenced in late August and early September, 2017 at VNP, respectively. The renovation of old IC was implemented by a local company Hahebou Construction and the new IC was constructed by Rhodes PNG. The approval of the building permit by the National Department of Works (Building Board) was granted in November. Also, the PNG Fire Service has granted their approval on 13 September, 2017.



13 September

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2. The Varirata National Park (VNP) is enhanced as a terrestrial PA management model in accordance with PPA.
3. A model of establishing a new marine PA is developed as per the provision of PPA and concerned laws.
4. Public relations/awareness for biodiversity conservation is improved by disseminating project related information.

New billboard for VNP installed

January, 2018

VNP had a new billboard installed at the junction of the Sogeri Road. The Project is pleased to work in collaboration with the relevant development agencies including PNG Tourism Promotion Authority who have financially supported the design and installation of the billboard.



Studies of Social mapping and Socio-economic

1 March, 2018

The baseline data of the social mapping and socio-economic field surveys of VNP (and its 3 km buffer areas) was presented by Dr Rodney Kameata of SERCAS.

The final results of the studies show that the local populace has sufficient degree of education, moderate living standard, and easy access to basic essential services such as education, health, electricity and transportation. However, the records show that the local communities need to be properly mobilized with adequate support from their leaders in order to enable their local people to improve and sustain their daily livelihoods.

New record for VNP: Giant Bandicoot

April, 2018

The Giant Bandicoot (*Peroryctes broadbenti*) is a new record for VNP. It is an IUCN endangered species and was not recorded in Central Province before. It was captured on our camera traps at several places within the park in 2015 and current. The only live specimen collected was in Northern Province.

It is the largest bandicoot in the world: males attain body weights up to 5 kg and females are around 1.4 kg. It occurs in dense lowland tropical moist forest and gallery forests, typically along creeks or rivers. It appears in our cameras within the VNP in similar

habitats. The species is evidently rare, and has not been collected in the last three decades (Aplin et al 2010). It may be naturally rare, but is probably in decline due to habitat loss or hunting pressure.

For further information about this mammal read the following link.
<http://www.iucnredlist.org/details/16710/0>



CEPA - JICA Biodiversity Project

MoU for mangrove protection and MPA signed

13 April, 2018

Another memorandum of understanding (MoU) was signed between the Central Papua Conference (CPC) of Seventh Day Adventist (SDA) Church and CEPA. This was an agreement for the protection of mangroves and the establishment of the model Marine Protected Area (MPA) within Bootless Bay, east of the Port Moresby City. The President of CPC was proud to sign this MoU and acknowledged God as the Creator and CEPA as the custodian of His creation.



Training program on wildlife handling

23 April, 2018

Mr Angus Fraser was amazed on how the training program on wildlife handling including snakes has turned into a success story/VNP. Changing perceptions of local field guides on handling snakes in the wild at first was challenging but when they get used to it, it was unstoppable. Gideon Warite holding *Morelia amethystina* (Amethystine python - see photo). Gideon actually enjoyed learning how to hold this reptile and you can see that it is genuine in his smile. Previously, he would have either killed it or made a rapid exit from the scene. Also, Bali Korohi was staying in Depo village/Sogeri when he heard a commotion outside in the haus kakarauk. He went out to investigate and found a 5 foot python looking for eggs and chickens. Everyone around him was yelling at him to kill it and instead he calmly got a stock feed bag, handled the python himself and successfully bagged the animal. The

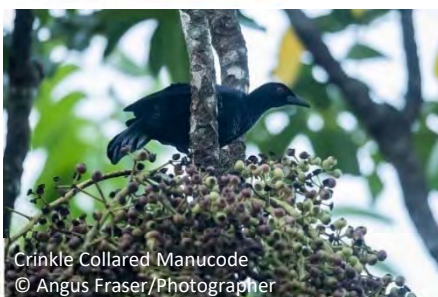
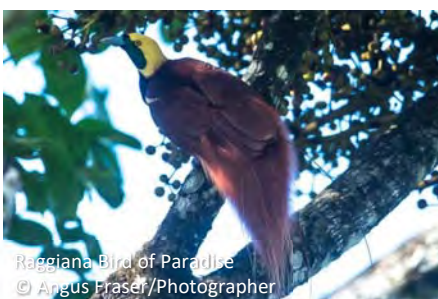
next day he took it away from the village and released the snake near a swamp. When Angus first knew Bali he was refusing to go near a snake or let alone hold one. When he finally did hold a snake he wanted to wear gloves so he couldn't feel the texture of the animal. He eventually took the gloves off when he got used to it.



Bird species present in VNP

16 May, 2018

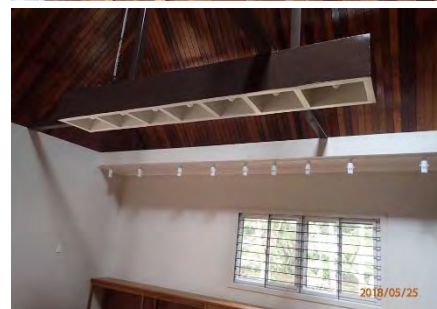
The total number of bird species present in VNP has increased to 231, which is about 30% of PNG birds, from the recent findings by CEPA-JICA Project in 2018. From this, we have 5 different birds of paradise species apart from the renown and commonly visited Raggiana Bird of Paradise (*Paradisaea raggiana*), and these are Crinkle Collared Manucode (*Manucodia chalybatus*); Trumpet Manucode (*Phonygammus keraudrenii*); Growling Rifle Bird (*Ptiloris intercedens*); and Magnificent (*Diphyllodes magnificus*). PNG has a total of 813 species of birds, of which 548 are residents (are native birds and only live in PNG).



New IC at VNP

28 May, 2018

The new look of the new Information Center at VNP. The final refurbishment of the building is still continuing with the installation of open wood decking.



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Biodiversity & Conservation Seminar held

16 – 19 October, 2018

Biodiversity & Conservation Seminar

The seminar's theme was "Biodiversity Conservation and Development Challenges. What biodiversity research can offer in the 21st Century?" was held. It was co-hosted by CEPA and Mamagraun Conservation Trust Fund with funding support from JICA and ExxonMobil (PNG LNG Project), respectively.

There were two events hosted during that period. The Biodiversity Seminar was held at Gateway Hotel from 16,17,19 October, 2018 in Port Moresby whilst the study tour of the new Information Center Complex (ICC) at VNP and National Museum of PNG was held on 18 October.

Over 120 participants from 53 institutions attended the event for the entire week. The launch of the biodiversity reports and field guide brochures of VNP was remarkable, and we have a lot of followers who are keen to support the initiatives through CEPA and the long-term management of the Park.

ExxonMobil was also a strong partner in biodiversity conservation and has been supporting our biodiversity and

environment portfolio for many years since their inception on the PNG LNG Project. They have also officially launched their biodiversity report, which is also available on EMPNG webpage:

www.pnglng.com/environment

The seminar ended with presentations from the local communities.



Study Tour of ICC

The ICC consists of the renovated building and the newly constructed Information Center (IC). The renovated building is the auditorium and will be used for meetings and other activities. The new IC is comprised of environmental education exhibition, office space for Park's staff and storage space. Together these buildings are connected with the wood decking.

The Project has completed the



construction of the ICC which gives a new look to VNP that will lure a lot more visitors to the park in the years to come.

The new IC will be used by the visitors to gain various information about VNP such as the facilities' locations and

(continued to next page...)

CEPA - JICA Biodiversity Project

functions, wildlife and biodiversity, local culture and history, and other environmental education information.

Varirata species brochures

Varirata species brochures were published and launched on 17 October 2018 at Gateway Hotel in Port Moresby. These field guide brochures provide vital information about various species and biodiversity of VNP covering the following taxa: birds, mammals, frogs, reptiles, insects and plants.



Cultural, tourism & community livelihood support

6 November, 2018

The Project team undertook a reconnaissance trip for the Cultural Expo Tour to Kwalimurubu village (Saroa), Rigo District of Central province. The purpose was in preparation for the Koiari communities' cultural exposure tour intended for February 2019 and to find out what tourist attraction services and activities Kwalimurubu village could offer. From this, the Koiari communities could gain knowledge and experiences. The team was met by Mrs. Loa Samuel of the local tour agent, PNG Wildest Adventure Limited (PNGWAL), and the Councillor Mr. Dill Noris of Kwalimurubu village.



Ranger training WS

29 - 30 November, 2018

CEPA and UNDP jointly hosted the ranger training workshop at Sogeri. The final session was held at the new auditorium within the Information Center Complex of VNP. At least 35 people participated from Queensland Rangers Association, Solomon Island Rangers Association, CEPA, UNDP, JICA, Kokoda Track Authority, and local Koiari community including NGO's in Australia and PNG.



Meeting with Central Province Government

13 December, 2018

Project team had a successful meeting with the Governor of Central Province Hon. Robert Agarobe at his office in Port Moresby. The Honourable Governor was practical on mobilising and empowering the local communities in his province on three key fundamental areas - agriculture, tourism and sports in order to revive the true spirit of the Central Province people. He also supports the environment and biodiversity conservation portfolio under the new master plan for the province.

I want to revive the lost identity of the Central people, said the Honourable Governor Robert Agarobe. This is one of his key priorities. JICA is also embarking on the revival of the cultures and traditions of the local people of Koiari and Hiiri-Motu in Central Province. The cultural identify will be incorporated into the draft management plans for VNP and the proposed Bootless Bay MPA.



Field visit to Mirigeda

14 December, 2018

A joint field visit to Mirigeda was undertaken by the CEPA-JICA and the Governor's Office of Central Province. Mirigeda is situated within Bootless Bay and the land of about 60 ha belongs to Central Provincial Government (CPG). The newly established Hiri LLG office and chamber was officially opened in late November 2018. JICA is discussing with CPG to establish a regional or provincial protected area in the coming months.



Drafting of the by-laws for the National and Regional PA Roundtables

December, 2018

JICA Project Team is currently discussing with CEPA the drafting of the by-laws for the National and Regional Protected Area Roundtables which are stipulated in the PNG Policy on Protected Areas (2014). The agreement options of conservation deed or easement for Tahira MPA or Private Protected Area under the Regional Protected Area category was also investigated.

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Establishing financial management system

12 March, 2019

JICA is working together with CEPA to establish a workable financial management system for the revenue generation and management of the monies for VNP. A proper book keeping and tracking of funds should be guided by well-resourced personnel within CEPA. JICA is also mindful of the new legislation on the Public Money Management Regularization Act 2017 and its implications on the small revenue generated from the entrance fees of VNP.

Kae Association registered by PNGIPA

12 March, 2019

Kae Association is a newly established community group from Koiari which was registered by the PNG Investment Promotion Authority (PNGIPA) through the assistance from the Project. This association is composed of 4 traditional land-owning clans of the VNP in the Sogeri Plateau of Central Province. The major function of this group is to take lead role in implementing activities of the VNP.

Basic book keeping training

14 March, 2019

The initial basic book keeping training was successfully conducted at VNP for the local park rangers and the newly established Kae Association of Koiari. The training was aimed at building the capacity of the locals in order for them to understand and know how to keep simple records of their daily businesses in sustaining their livelihoods. A total

of 8 locals were trained of which 4 are Kae office bearers and 4 VNP rangers. The participants were thankful of the Project for conducting the training which could help them to manage their small businesses and activities more effectively.



VNP new entrance fees

19 March, 2019

VNP has new entrance fee system which was effected on 1st April 2019. The gazettal notice of the new fees was issued by the Government Printing Office to CEPA. JICA is also closely working with CEPA to establish workable systems so that the revenue generated from the park can sustain the park in the long-term.

and HR of CEPA on the recruitment and enumeration of new park rangers for VNP. The options of hiring park rangers and sustaining them for the long term in terms of their costs have been investigated.

Thus, 3 community park rangers of VNP have been recruited and supported by JICA through the Project in collaboration with CEPA.



Varirata community park rangers hired

22 March, 2019

The Project team met with the Finance

CEPA - JICA Biodiversity Project

ICC was officially opened at VNP

28 March, 2019

The new Information Center Complex (ICC) was officially opened at VNP on 28 March, 2019. The Chief Representative of JICA PNG Office, Mr Takashi Toyama, handed over the keys of the new building to the Managing Director of CEPA, Mr Gunther Joku.



CEPA and the project team would thank everyone who have participated at the inauguration opening of the new ICC. We believed you have learned something and appreciate our conservation efforts in strengthening the management effectiveness of the VNP.

We would also take this opportunity to thank our important guests and dignitaries from the JICA PNG Office, CEPA, Port Moresby Nature Park, Rhodes PNG (contractor of new ICC), PNG Tourism Promotion Authority, Pacific Adventist University, Central Provincial Government, Koiari LLG, partners, local community members and Kae Association.

Cooperation with CPG for MPA

~ 10 April, 2019

Central Provincial Government (CPG) is a very important stakeholder in the establishment of the proposed Marine Protected Area (MPA) in the Bootless Bay area of Central Province. CPG is keen to participate in any related conservation efforts in the province. The discussions with the Provincial Governor since December 2018 and the Deputy Provincial Administrator, Mr Edward Kila cemented the relationship and the commitment to work together to implement relevant conservation initiatives at Mirigeda within Bootless Bay, East Hiri of Central province including the areas of interest within the province.

The Deputy Provincial Administrator (Corporate Services) of CPG met with the Project team to finalize the MOU between CEPA and CPG for the protection of mangroves and marine systems at Mirigeda of Bootless Bay. This is a 10 year partnership and the final draft was presented to the provincial executive council (PEC) and was endorsed on 10 April 2019. Central Province will soon be the leader of conservation in PNG.



Network with Boera Women's group

11 April, 2019

The Boera Women's Group has empowered local people to run small businesses in the village. The Project realized the importance of such local initiatives and is engaging with them to increase awareness and expose other communities in Koiari to learn from them. A field reconnaissance trip was conducted to establish dialogue and network with the Boera Women's Group on 25 February 2019.

The exposure tour undertaken on 11 April, 2019 by Kae Association with their cousins at Boera village was a significant event for the local people of Koiari and the Motuans. This exercise was facilitated by the Project in order to strengthen partnership with the local people of Central province to promote ecotourism in their communities. The homestay concept has been a brain child for the current Governor of Central and such initiatives can be promoted by empowering our local people to do it themselves.



Rangers training on camera traps

21 May, 2019

The rangers were being trained to handle camera traps by the Project. They are being taught to install and retrieve data (still photos and videos) from these cameras on monthly basis.

Social mapping and socio-economic studies –Bootless Bay

19 June, 2019

Social mapping and socio-economic studies were being undertaken in Bootless Bay in preparation for the declaration of the MPA by CEPA. The basic essence of these studies was to understand well the ownership of land, seas and land including mangroves and other marine life.

The data and information generated from these studies will assist CEPA, local communities and other stakeholders to be well informed and the key management recommendations shall pave the way forward for better and improved implementation strategies for the safeguard and protection of the proposed Bootless Bay MPA.

PAU student interns

June, 2019

Pacific Adventist University (PAU) student interns were engaged with the Project for their practicum. They were with the Project for 6 weeks from 24 June to 31 July 2019.

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MOU signed between CEN Provincial Gov. and CEPA

9 August, 2019

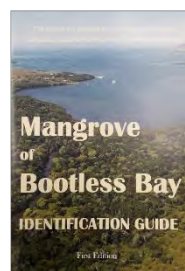
The Central Provincial Government and CEPA signed the memorandum of understanding (MoU) at Mirigeda about 40 minutes drive out of Port Moresby. The Central Governor Hon. Robert Agarobe and Minister for Environment & Conservation and Climate Change Hon. Geoffrey Kama signed the MOU. The signing ceremony was witnessed by the local MP for Kairiku-Hiri, Acting Provincial Administrator for Central Province, JICA PNG Senior Rep, Managing Director for CEPA, Chief Advisor Koji Asano of CEPA-JICA Project, CEPA staff, local communities, partners and development partners. This is the agreement to strengthen partnership between the two agencies for the protection of the mangroves and marine resources at Mirigeda and Bootless Bay in Hiri East LLG, Central Province.



Mangrove Guidebook

September, 2019

CEPA confirmed 24 species of mangroves present within Bootless Bay through the ecological study commissioned by the Project. University of PNG (UPNG) is regarded as the primary source of this vital information which includes the botany, ecology, phenology and the mangrove diversity of the bay area. A simple mangrove handbook titled "Mangrove of Bootless Bay - Identification Guide" was also published through the Project activity.



Field trip to the Lake Kutubu Ramsar Site

18-21 September, 2019

JICA arranged the Ramsar trip to the Lake Kutubu. The Ramsar Advisory Mission was organized based upon the request from the Government of PNG (via CEPA) and supported by the Government of Japan to deliver training to the Government's Oil and Gas Unit within the CEPA and to provide technical assistance on the review of the operation of ExxonMobil and Oil Search around Lake Kutubu.



Lake Kutubu lies within the Kikori River Catchment and is roughly located in the centre of Southern Highlands Province, PNG. Lake Kutubu was formed originally from the blockage of the valley by volcanically derived debris and ash. The lake is about 19 km long, 4.5 km wide at its widest point, with a maximum depth of about 70 m. Lake Kutubu Wildlife Management Area (LKWMA) was declared on 25 June 1992 by CEPA for the protection of the lake and its endemic fish species including its people and culture. After 4 years, on 25 September 1996 it was designated as the Ramsar Site for its significant wetlands area in PNG. It is the second Ramsar Site after Tonda in South Fly District of Western Province.



(continued to next page...)

CEPA - JICA Biodiversity Project



The natural riches of Lake Kutubu is valueless. The 12 endemic fish species which are native to the area including the people, traditions and cultural heritage which have made Lake Kutubu very unique and a special place in PNG. The annual 9th Kutubu Kundu and Digaso Festival again promotes this natural values from 19-21 September 2019. This festival lures a lot of international and local people.

The inaugural PMC for VNP established

16 October, 2019

The inaugural Park Management Committee (PMC) for VNP was established and the new office bearers were voted in during the second committee meeting at CEPA. The PMC comprises of PNGTPA, Koiairi LLG, Central Provincial Government, Port Moresby Nature Park, UPNG, Sogeri Police, PNG Power Ltd, Kae Association representing the local community and CEPA as the secretariat. This also signifies a very significant event of the park when the park was first opened to public on 18 October, 1973.

Community awareness on

Bootless Bay MPA

9-16 October, 2019

CEPA has undertaken the education and community awareness on environmental and biodiversity values of Bootless Bay in consideration of the cultural heritage of the coastal people of Central Province. The key issues and concerns emerged from the community consultations based around unsustainable fishing through small mesh sized nets, surveillance and enforcement, eco-tourism opportunities for local community, waste management and boundaries of the proposed National Marine Sanctuary in Bootless Bay. The key partners such as Central Provincial Fisheries, National Fisheries Authority,

NCDC, PNGTPA, CEPA, JICA, HIRI and Social Environmental Research and Consultancy Services Ltd (SERACS) jointly carried out the community consultations. This awareness was run covering Tubuseia, Gwarume Mase, Gereka, Dogura, Tuna Bay, Taurama, Pari and Joyce Bay.



VNP Tour Package

9 November, 2019

A first hand experiences of a lesser known side of VNP was planned. More than 54 Friends of Varirata who were looking forward to exploring one of the desirable tours in their lifetime joined the first trial tour package developed by the Project to give the opportunity to our Port Moresby residents to get away from the city's hustle-and-bustle. Logistics and support were provided by the UNDP GEF 5 and the Project teams.

Trekking

The team divided into two group and both started out from the main look out. One group tracked the Circuit track (45 mins walk to parks' main road near the entrance) and other went for the Self Guide track (30 mins walk to main picnic area). For most of them, this was a lifetime experience to track the parks pristine forest near Port Moresby.

Koiairi's Tree House ("Dobu" at VNP)

The Koiairi's lived in trees is just a 10 mins from the main picnic area. The both teams had the opportunity to visit the 'dobu' that was built about a 25m high in the tree branches. The 'dobu' is an inspiration to the people of Koiairi which we can see that it links the people to their nature or environment and their way of life (culture) is their true pride.

New Information Center (IC) Complex

The new IC Complex was officially opened on 29 March 2019 to the public visitors who had planned their way to the park to experience and know about the rich biodiversity of the park and the culture, history and



migration of the Koiari people. One or two rangers are available to assist any visitors who wish to visit the IC.

The group visited were stunned to see it was situated in the middle of the park surrounded by forests with the valuable information all over the walls of this amazing facility.

Local Koiari buffet's

The VNP through the Kae Association Inc, also helped to bring the local communities together. The Governor, Agarobe has declared Sogeri as a Tourism Hub for Central Province, and it our best interest to support the local communities to promote tourism at Vairata using the conservation values and tourism assets within the park.

It has been said that, 'Goilala and Koiari are the food bowls of Central Province, the local vegetables and food supply is overwhelming and it varies from shillots, carrots, ginger, kaukau, tapioka, ripe bananas, pitpit, pineapple, taro, watermelon, cucumbers, aibika, pumpkins, peanuts, choko's and many more. Food is served on banana leaves, sometimes coconut woven basket plates/bowls creamed with coconut. Mumu food is preferred most times. The Koiari buffet is only served during organized special visits/trip to the park.



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Annex 4.2.6 Project factsheet vol. 1 – 2

Factsheet



PNG is one of the richest biodiversity countries in the world, while among the total population of 7.3 million in PNG, over 80% of them are in rural areas and still directly dependent on the natural environment with the rich biodiversity for their subsistence and livelihoods.

To address biodiversity conservation, the government of Papua New Guinea and Japan jointly launched a technical cooperation called the Project for Biodiversity Conservation through Implementation of the PNG Policy on Protected Areas. The project commenced in June 2015 and will run for a five (5) year period. The implementing agencies are Conservation and Environment Protection Authority (CEPA) and Japan International Cooperation Agency (JICA).

Name of The Project

The Project for Biodiversity Conservation through Implementation of the PNG Policy on Protected Areas

Cooperating Agency

Japan International Cooperation Agency (JICA)

Project Period

June 2015 – June 2020

Targets

Provincial administration(s), district administration(s) and LLG government(s) surrounding the target Protected Areas

Target Protected Areas

Terrestrial – Varirata National Park

Marine/Coastal – Bootless Bay and Motupore Island Areas

Project Framework

Project Purpose

Institutional capacity of CEPA for protected area (PA) management is strengthened through enhancing national-level PA governance and sustainable use of natural resources with local communities in the model PA(s) as per the provision of the Policy on Protected Areas (PPA).

Overall Goal

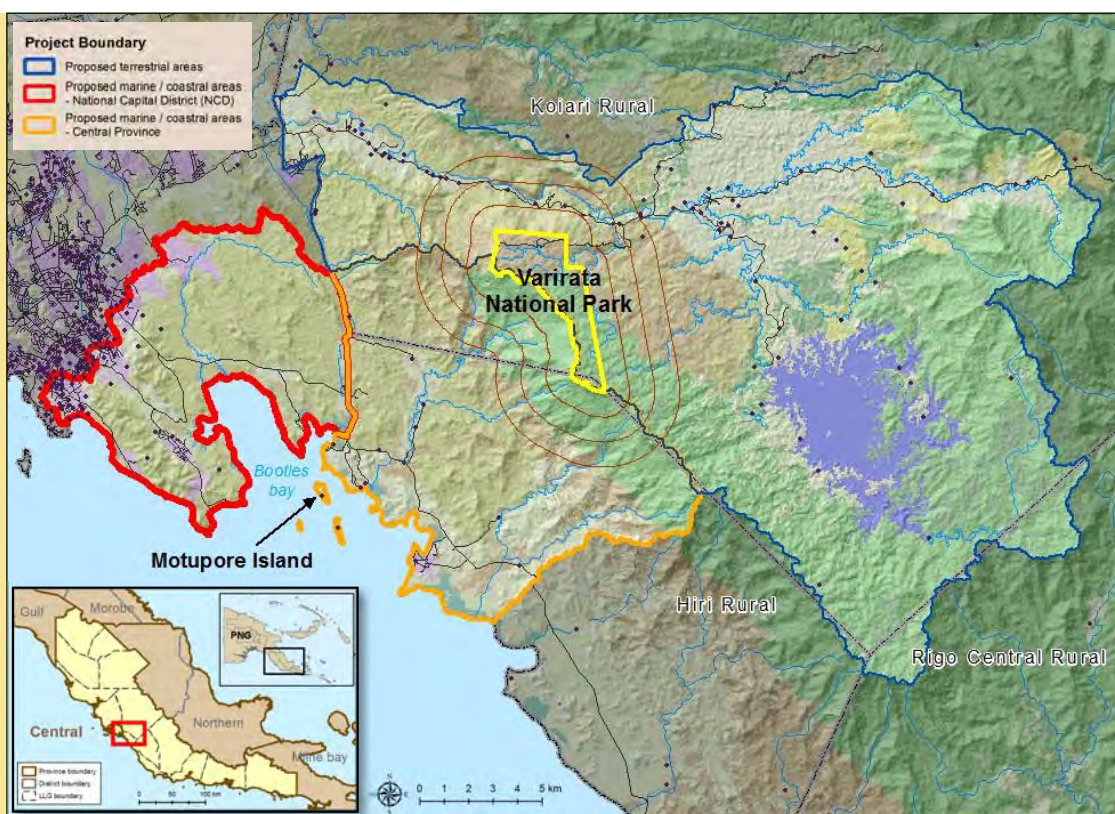
Protected Area Network is effectively managed by applying PA management (and establishment) model(s), which were developed by the Project.

Outputs

1. National-level governance and management arrangement for Protected Area Network (i.e., PPA Action Plan, National Conservation Council (NCC)) is strengthened.
2. The Varirata National Park (VNP) is enhanced as a terrestrial PA management model in accordance with PPA.
3. A model of establishing a new marine PA is developed as per the provision of PPA and concerned laws.
4. Public relations/awareness for biodiversity conservation is improved by disseminating project related information.

Target Areas

Proposed project target area covers approximately 612 km², which can be divided into two major types; terrestrial areas (396 km²) and marine/coastal areas (216 km²), as indicated below. The target PA for the Output 2 is the Varirata NP to develop a terrestrial PA management model, and Koiari Rural LLG is the target LLG for livelihood related activities. Besides, the Output 3 targets Bootless Bay and its coast for the establishment of a new marine/coastal PA model.



On 29th July 2015, Kick-off Seminar / Workshop (WS) for CEPA- JICA Biodiversity Project was held with

94 invitees.

A Livelihood development for Koiari LLG whereby

4 WSs were conducted and participants from the Koiari area attended as part of VNP revival program.

Inception WS for Koiari was

attended by **73** participants (22 Oct 2015).

Follow-up WS for Koiari was attended by

27 participants (24 Nov 2015).

WS on Livelihood Development & Bird Watching in Koiari was attended by

31 participants (25 Feb 2016).

WS on Livelihood development for VNP Landowner was attended by

25 participants (19 May 2016).

Revitalization of VNP

- The **assessment of the facilities at the Varirata National Park (VNP)** has been completed.
- A **detailed technical report** has been prepared in late December 2015.
- A **total of 284 facilities** were assessed at VNP.
- The **installation of distance piles** along the four tracks of the VNP has been completed with a total of **79 piles**.
- The **guide map** for tracks of VNP has been developed.
- **20 camera traps** were installed within the VNP for the monitoring and management of the Park.

Development of the Management Plan for the VNP

- The management plan will compose of the **conservation plan**, the **utilization plan**, and the **logistic support plan**.
- In order for the detailed management plan to be developed, the project is in the process of **undertaking the biodiversity and the socio-economic assessments of the VNP**

Establishment of a New Marine PA

- A **road map** for the establishment of a new marine PA at the Moutpore and Bootless Bay area in Central Province has been developed.

Tourism Aspect

- A **bird watching project** in partnership with PNGTPA, PAU and the Koiari LLG has been established in February, 2016, and **Memorandum of Understanding (MoU)** was signed by representatives of each party.
- **4 stakeholder workshops** has been undertaken for **enhancing community participation in eco-tourism development** in VNP and Laloki/Sirinumu Catchment areas.

Public Relations & GIS Database

- A **public relations strategy** for the CEPA-JICA Project has been developed in February, 2016.
- **10 news articles** appearances in newspaper, **52** postings on **facebook page** so far
- A variety of project PR tools, such as a **sign board, banners, posters, polo shirts, brochures (volume 2), and newsletters (volume 2)**, have been developed.
- **GIS database** has been developed, and also data and maps for each output have been prepared.
- A detailed **GIS map of the mangroves** of Bootless Bay, Dogura Inlet and Tuna Bay including Joyce Bay in the NCD and Central Province was developed in April, 2016.

On 16th August 2016, Inception WS for Bootless Bay Conservation Initiative was held

with **33** participants.

For more information

Conservation and Environment Protection Authority (CEPA)

Address: P.O.Box 6601, Boroko, National Capital District, Papua New Guinea

Phone: (+675) 301-4500 Fax: (+675) 325-0182

<http://www.jica.go.jp/png/english/activities/activity18.html>

<https://www.facebook.com/pngbiodiv/>

<http://pngcepa.com/projects/>

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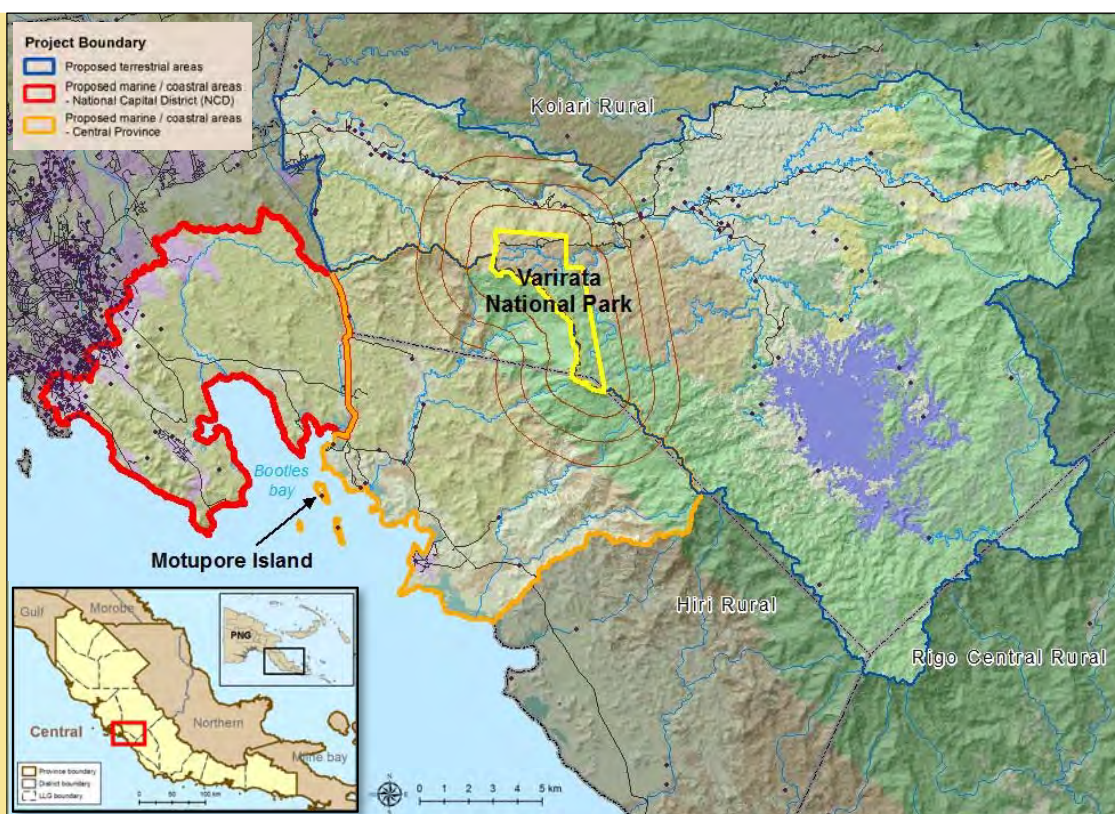
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On 24th October 2016, **Launching ceremony of the Project boat** was

held with **35** participants.

On 31st January 2017, **The 2nd WS for BBMCI** was held with

55 participants.

On 2nd February 2017, **VNP Wrap-up Workshop (WS) on the Project Achievements 2015-2016** was held with

57 participants.

Inaugural Launch for the Renovated Facilities in VNP was attended by more

than **100** participants (20 Apr 2017).

BBMCI meetings

were held **3** times (12 Apr 2017, 19 Apr 2017, and 21 June 2017).

For more information

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Address: P.O.Box 6601, Boroko, National Capital District, Papua New Guinea

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Development of the Management Plan for the VNP

- **Revival Plan** has been prepared from the assessment conducted. **Financial management improvement plan** and **Plan for security improvement** in VNP were drafted.
- **Works to improve VNP management** was conducted as per the plan.
- **Camera trap** has continued since Sep 2015, and the first **wrap up report of mammal and bird** was prepared.
- **Trial community (four clans) patrol** was implemented.
- Preliminary draft **park committee by-law** was prepared.
- **Biodiversity survey** has been conducted, and **interim monitoring report** was submitted.
- **Social mapping & socio-economic studies** of VNP have been carried out and **final draft report** was submitted.

Development of Information Center (IC) Complex

- **IC Complex Master Plan** was prepared, and updated (ver.3 on June 2017).
- **3 Car parking areas (Total 100m²)** were renovated.
- **12 bar-type & 8 PVC car stop piles** (length 60m in total) were renewed or installed newly.
- **40m masonry drainage** was installed on the existing open drainage.
- One **wooden bridge (L=3m)** was renovated connecting IC complex and the main picnic area.
- **Old IC renovation** has **started** and will be **new auditorium**. So far additional concrete base was set, and broken walls and roof materials were renewed.
- **New Information Center Construction** was **started** by the Contractor with supervision by JICA Expert Team. So far basement and steel frames of the center were completed at the site.

Establishment of a New Marine PA (MPA)

- **Rapid Marine Biodiversity Survey** in Bootless Bay was carried out and a report was prepared.
- **A roadmap to establish MPA** was prepared.
- **Bootless Bay Marine Conservation Initiative (BBMCI)** was **established** with **19 stakeholders** (National organization, Provincial Governments, Local Level Government, Communities, NGOs, Private company).
- Under BBMCI, **Memorandum of Understanding (MoU)** was signed between UPNG and CEPA, **working groups for MPA establishment** was set up, and a **coastal clean-up event** was held.

Assistance of Development Planning of local governments

- **Key recommendations with revised Koiari Five Year Development Plan** was submitted to Koiari LLG.
- **Key recommendations with revised Central Provincial Development Plan** was submitted to Central Province.

Livelihood Development

- **Target clans and Needs and expectations** for livelihood development were identified from the **several meetings** with relevant players and **3 workshops with Koiari** people.
- Needs from **several tour operators** for tourism development for Koiari area was extracted.
- **12 potential tourism resources** were identified from the **tourism resource assessment** conducted at Koiari area.
- **Two draft packaged tour** were proposed to Koiari LLG and local people.
- **Draft livelihood development plan** was made based on discussions with relevant players.
- **Two social groups (Traditional Dance group and Traditional Cooking group)** were formed from the various meetings with target clan leaders of Koiari.
- **Several trainings** were conducted by social group members.
- Social groups gave their traditional performances at **two events**: World Environment Day (June 2017) and Inaugural event of VNP facility (April 2017).

Public Relations & GIS Database

- **1 news article** appearance in **newspaper**, **3** postings on **JICA Project page**, **101** postings on **facebook page**, **new facebook for BBMCI** opened and **setup of CEPA-JICA Project page** in home page of CEPA.
- A variety of project PR tools, such as **sign boards, banners, posters, T-shirts, stickers, brochures (volume 3 and Marine ver.)**, and **newsletters (volume 3 and 4)**, have been developed.
- Promoted the project in the **World Wildlife Day** event.
- Run a **booth** and made a **presentation** at the **World Oceans Conference** in UN HQ.
- **Major sponsorship of the World Environment Day** event at VNP.
- **GIS database** has been **updated**, and data and maps for each output have been prepared.
- A detailed **GIS map of the Land cover/use** of proposed terrestrial areas was **developed** in October, 2016.
- A **GIS map of the Reef** of targeted marine protected areas was **developed** in June, 2017.

Annex 4.2.7 Project Atlas (1st edition)

ATLAS



2017



Technical Cooperation
CEPA-JICA
Biodiversity Project 2015▶2020

ATLAS 2017

Technical Cooperation
CEPA-JICA
Biodiversity Project 2015▶2020






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Presentation of the CEPA-JICA Biodiversity Project

Protected Areas in PNG

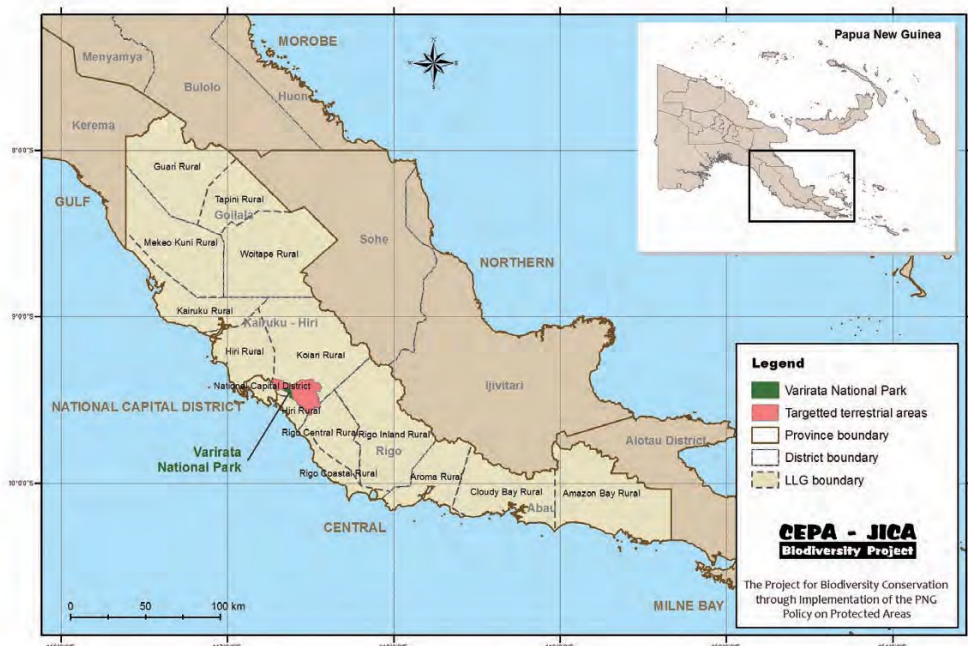
Provisional Project Boundary Map

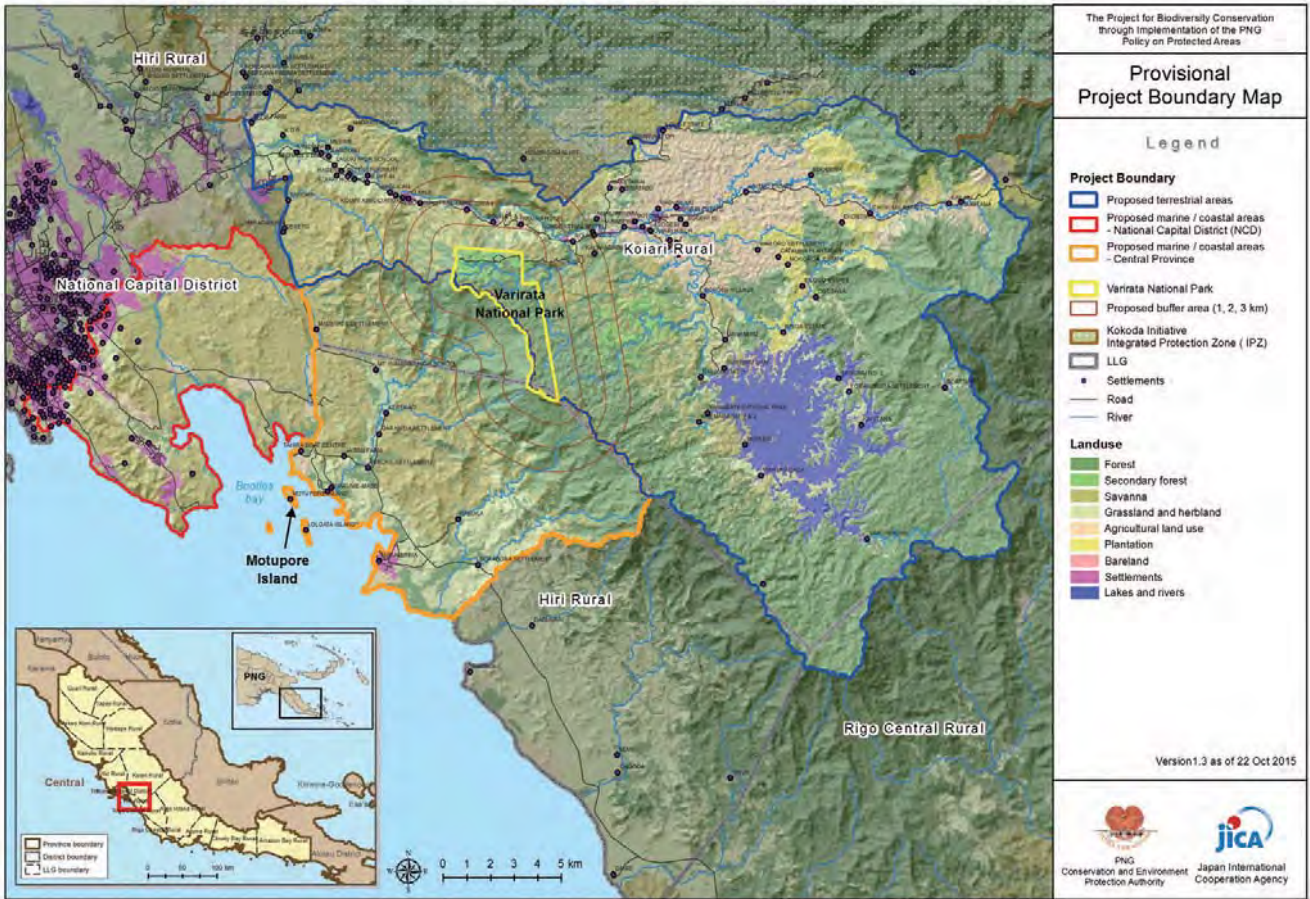
<p>Chapter 1</p> 	<p>Chapter 2</p> 	<p>Chapter 3</p> 
<p>Targeted Terrestrial Areas</p>	<p>Varirata National Park</p>	<p>Targeted Marine / Coastal Areas</p>
<p>Location of targeted terrestrial areas Natural characteristics of targeted terrestrial areas <i>Terrestrial Areas Map (World View-2)</i></p> <p>Physical Environment <i>Altitude</i> <i>Slope</i> <i>Catchment</i> <i>Land Use Map</i></p> <p>Socioeconomic <i>Distribution of Words</i> <i>Population per Census Units</i></p>	<p>Access to Varirata National Park (VNP) Natural characteristics and facilities of VNP <i>Varirata National Park Map (WorldView-2)</i> <i>WorldView-2 Imagery of Varirata National Park</i> <i>Land Use Map of Varirata National Park</i></p> <p>Varirata National Park Guide: Tracks and Facilities in VNP <i>Guide Map</i> <i>Facility Map (as of April 2016)</i></p>	<p>Outline and objectives of Output 3 Major activities of Output 3 <i>Marine / Coastal Areas Map (WorldView-2)</i> <i>Marine / Coastal Areas (Bootles Bay) Map (World-View2)</i> <i>Mangrove Map</i> <i>Reef and Water Depth Map</i> <i>Marine Resources and Facilities</i></p> <p>Bootles Bay Marine Conservation Initiative (BBMCI) Access to 4 targeted Marine Protected Areas (MPAs) <i>Targeted Marine Protected Areas</i></p>

Presentation of the Atlas

CEPA-JICA Biodiversity Project team has created numerous maps in order to implement the project activities accordingly. For the purpose of applying and establishing Protected Area management model(s), various maps were developed. These maps show the results of the different field surveys undertaken by the project, which were then utilized for consultations with key partners and relevant stakeholders.

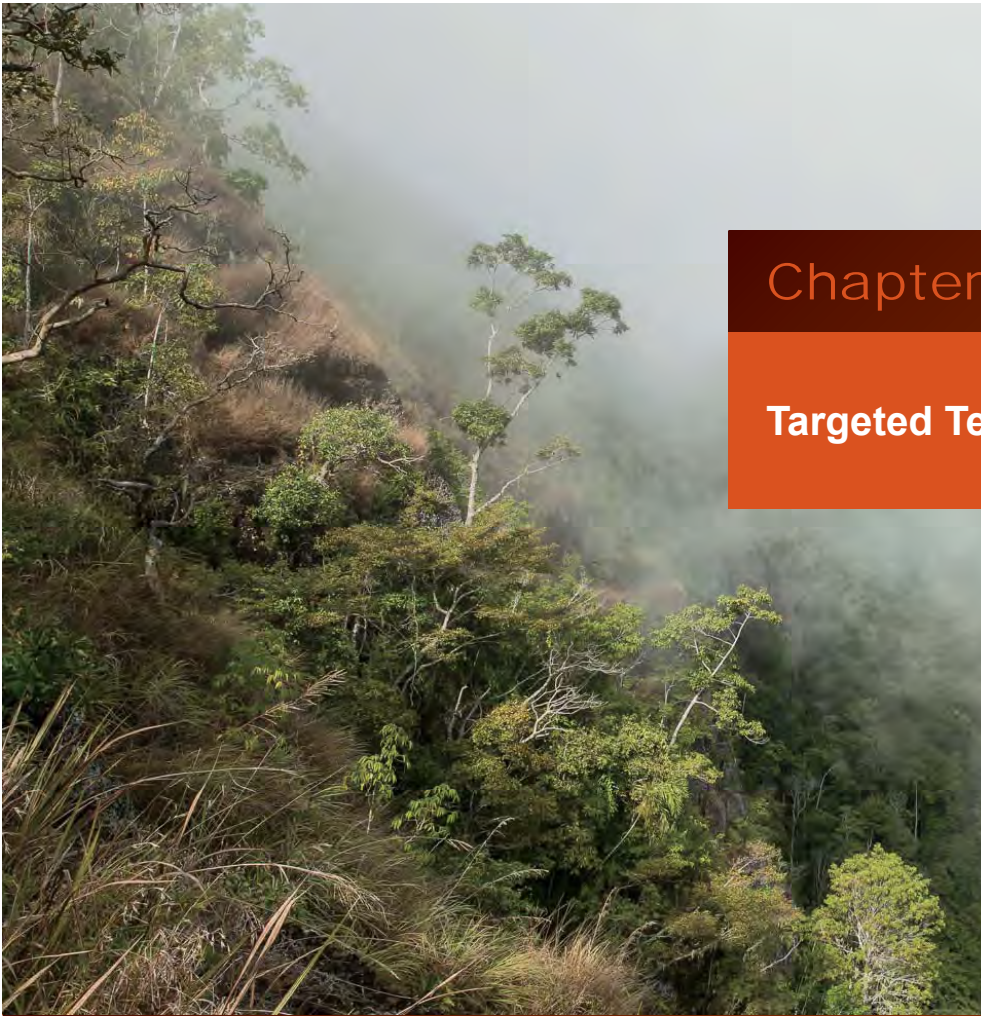
This atlas introduces some of the maps created over the project period from June 2015 to September 2017.





Chapter 1

Targeted Terrestrial Areas



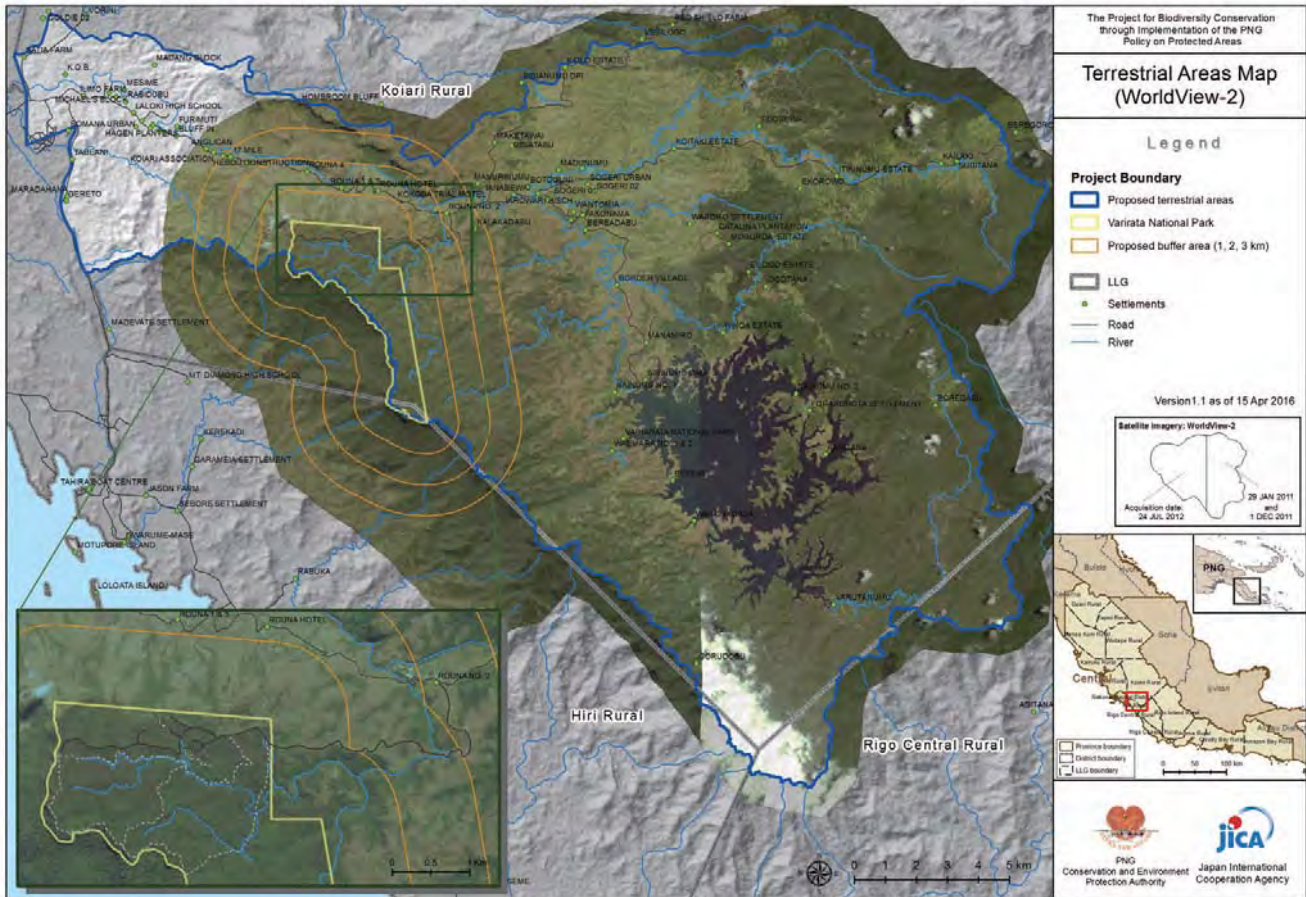
Targeted terrestrial areas

Location of targeted terrestrial areas

The boundaries of the Park are not very clear to this stage. However, it was assumed that the State portion of the land where the Park lies on was given away by the Koiari landowners for the protection of the biodiversity many years ago. The extension of the Park was also not clear and this sits on the customary land, no data or information is available to date. Thus proper boundary survey to determine the land boundaries should be conducted to verify the land boundary and boundary descriptions of the Park. The genuine customary landowners and clans should be also identified in order for proper consultation by the JICA-CEPA Biodiversity Project to take place. Other key stakeholders within and outside the vicinity of the Park should also be consulted.

Natural characteristics of targeted terrestrial areas

The Park has an average annual rainfall of 1400-2000 mm from December to April. The landform of the Park consists of closely spaced narrow accordant ridges and spurs with a relief of 15-30 meters. Rocks found in the Park consist of balastic lava, agglomerate, tuff and dyke origins. The Park consist of the following vegetation types; rainforest, savannah, grassland, gallery forest and secondary regrowth. The natural zone along the Nairogo creek towards Gare's Lookout is all tropical rainforest. From the toll gate to Lifiliwasowaso Lookout and Varirata Lookout is savannah grassland. Patches of secondary regrowth along the Self Guide Track in the Park is rich in bird life. This includes the Raggiana Bird of Paradise (BoP), the Rifle BoP and different species of doves, lorries, pigeons, kites, cockatoos, kingfishers, megapods, fantails and swallows. Bird of Paradise can be observed from the marked display tree between the months of mid-March to end of August, which is the mating season. The animal life in the Park composed of migrant deer, forest wallabies, possums, cuscus, bandicoots, rodents, wild boas, frogs, odanates, butterflies, other insects and different species of reptiles including pythons and monitor lizards.



Physical environment

Altitude

The Park has an area of 1,063 hectares (ha) and is located on the State land at an elevation between 600 – 1000m. Generally, the area on the north-east of the Park is at 700-800m and the south west towards the steep depression is at the elevation between 900-1000m. The highest peak is about 1000m towards the Gare's Lookout and the main lookout is at 833m above sea level.

Slope

The geography of the Park is variable with gently flat and steep areas. The steep slope of 30 degrees is towards the depression at the south west of the park. Generally, the Park is gently sloping between 2-5 degrees.

Catchment

The Park is situated on the Sogeri Plateau which is engulfed within the Laloki-Sirinumu catchment. There are several streams that drain out of Varirata including the Nairogo creek into the Laloki River.

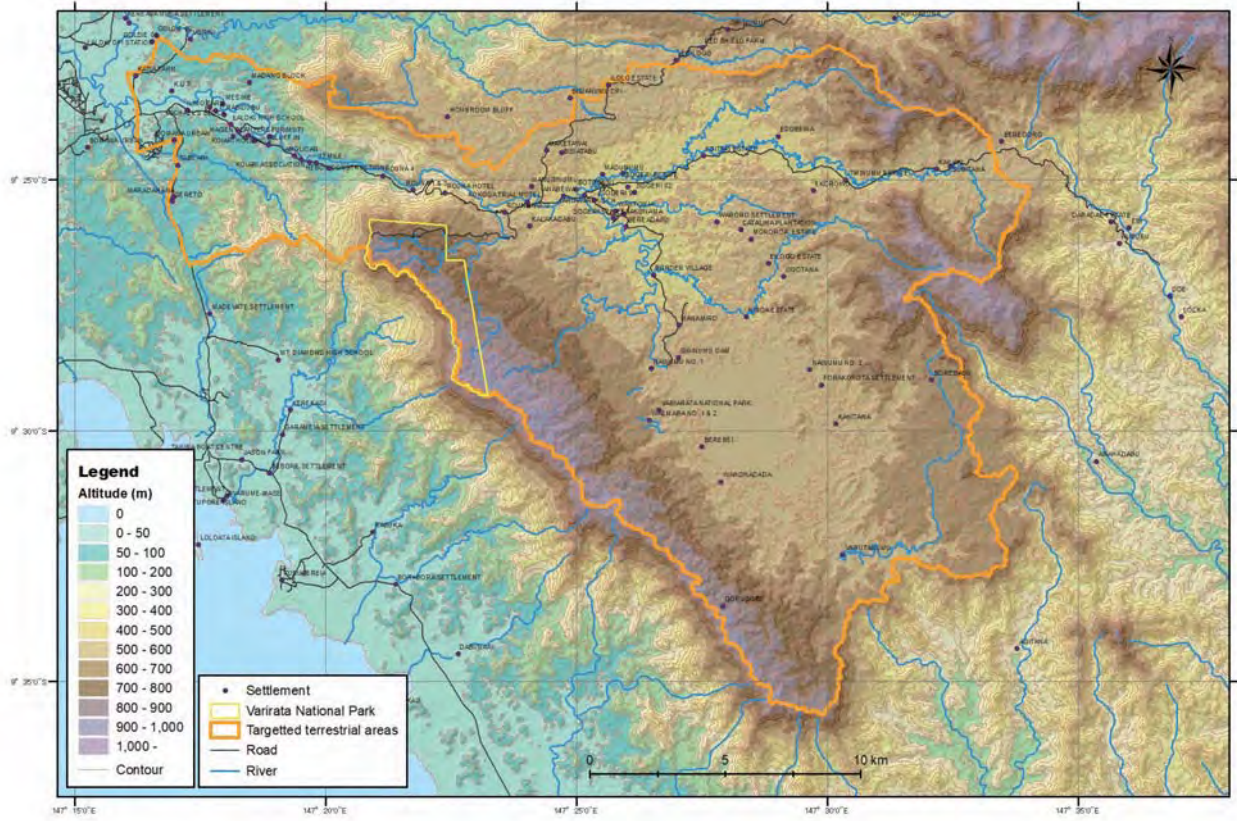
The Laloki and Sirinumu catchments are the significant water reservoirs and support the depend in Port Moresby city by providing the essential services such as the much needed water supply and electricity. The protection and sustainable management of the reservoir is essential for the catchment management.

Land use

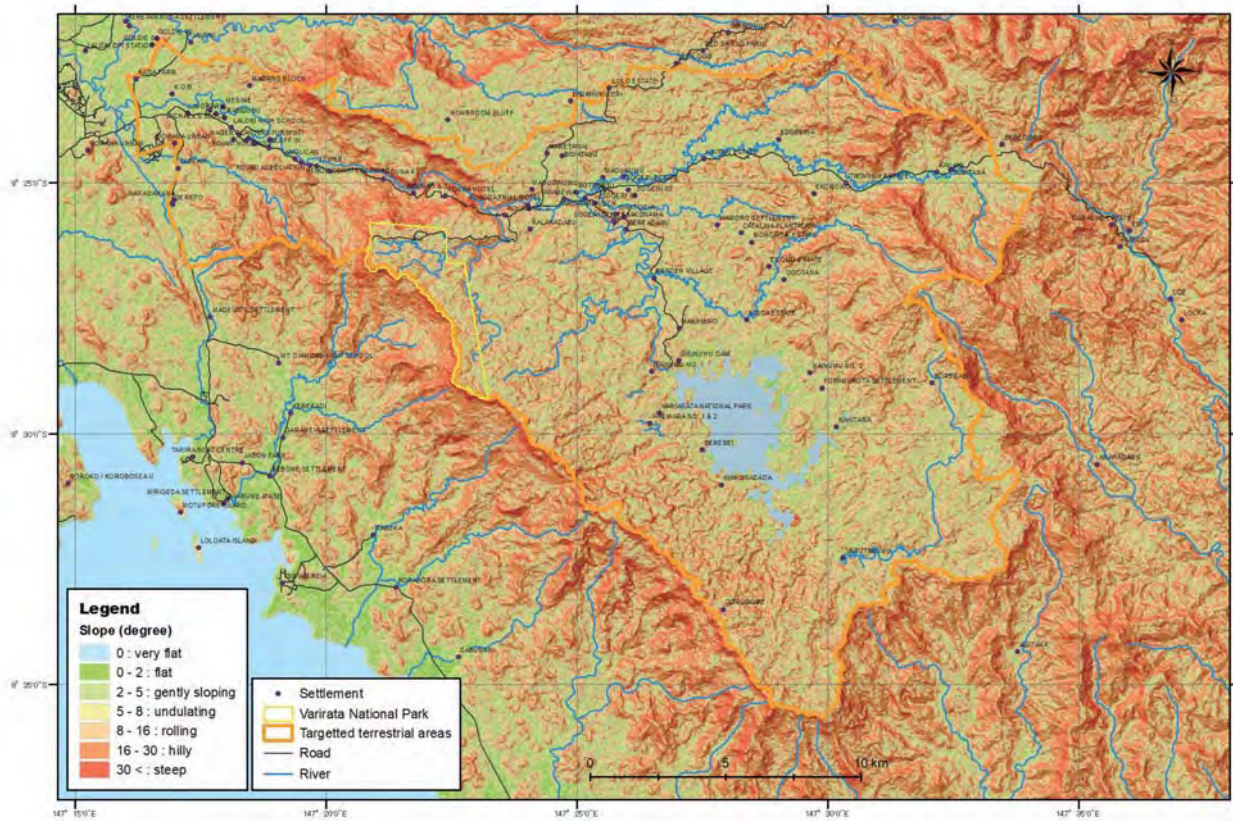
The terrestrial areas of the Laloki-Sirinumu catchment (396km²) possess various kinds of physical constraints and land uses. The most flat areas in the catchment were converted to farmlands (cattle, rubber plantations), human settlements and infrastructure development including modern facilities for schools, health services, government stations, etc.

The Park is composed of several vegetation types such as the savannah woodlands, secondary forests and remnants of tropical rainforest. However, within the 3km buffer (95km²) of the Park there is occurrence of agricultural farmlands utilized by local Koitari communities, bushfires altering the landscape and evidence of human settlements along the corridor of road networks and access to basic services.

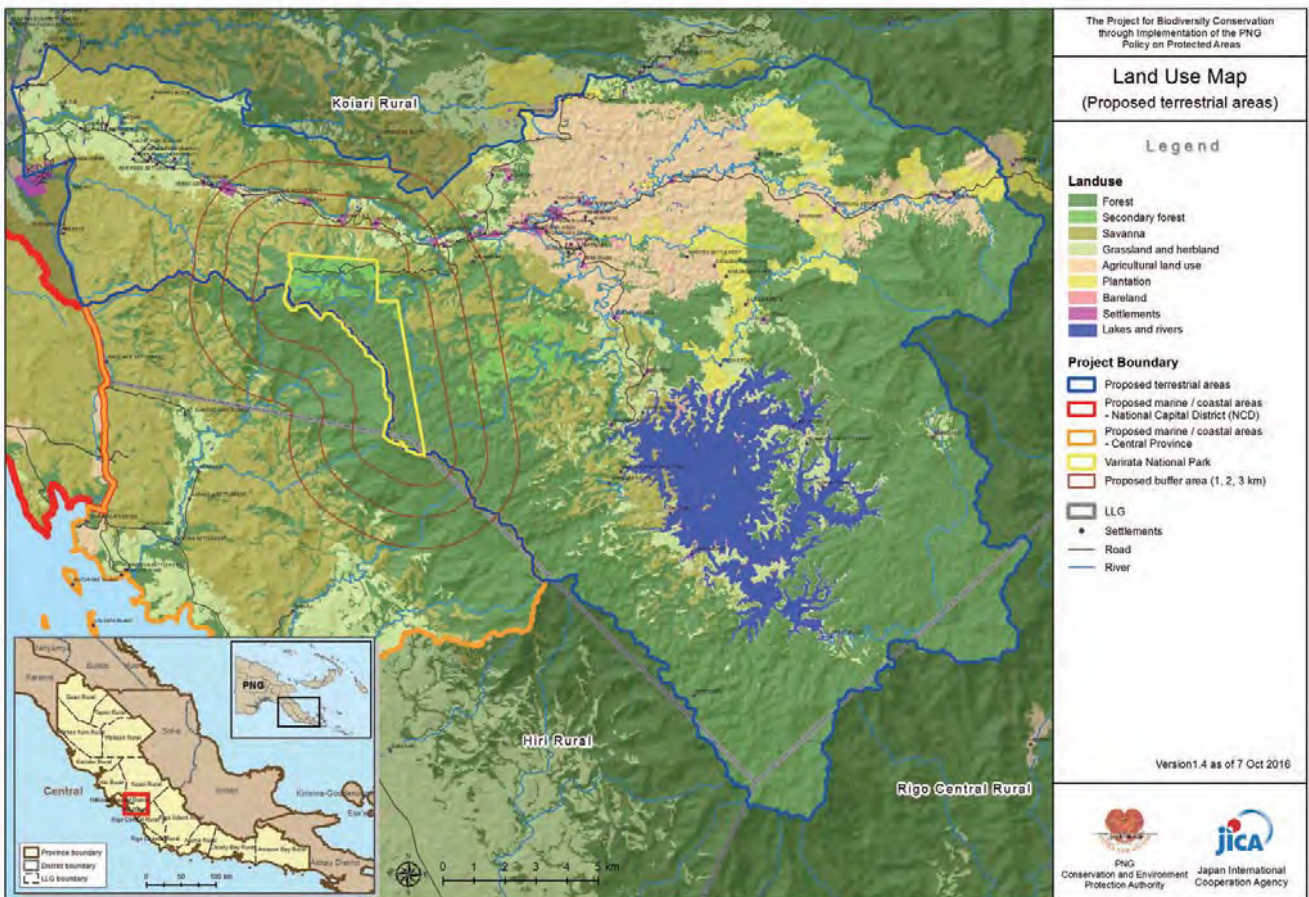
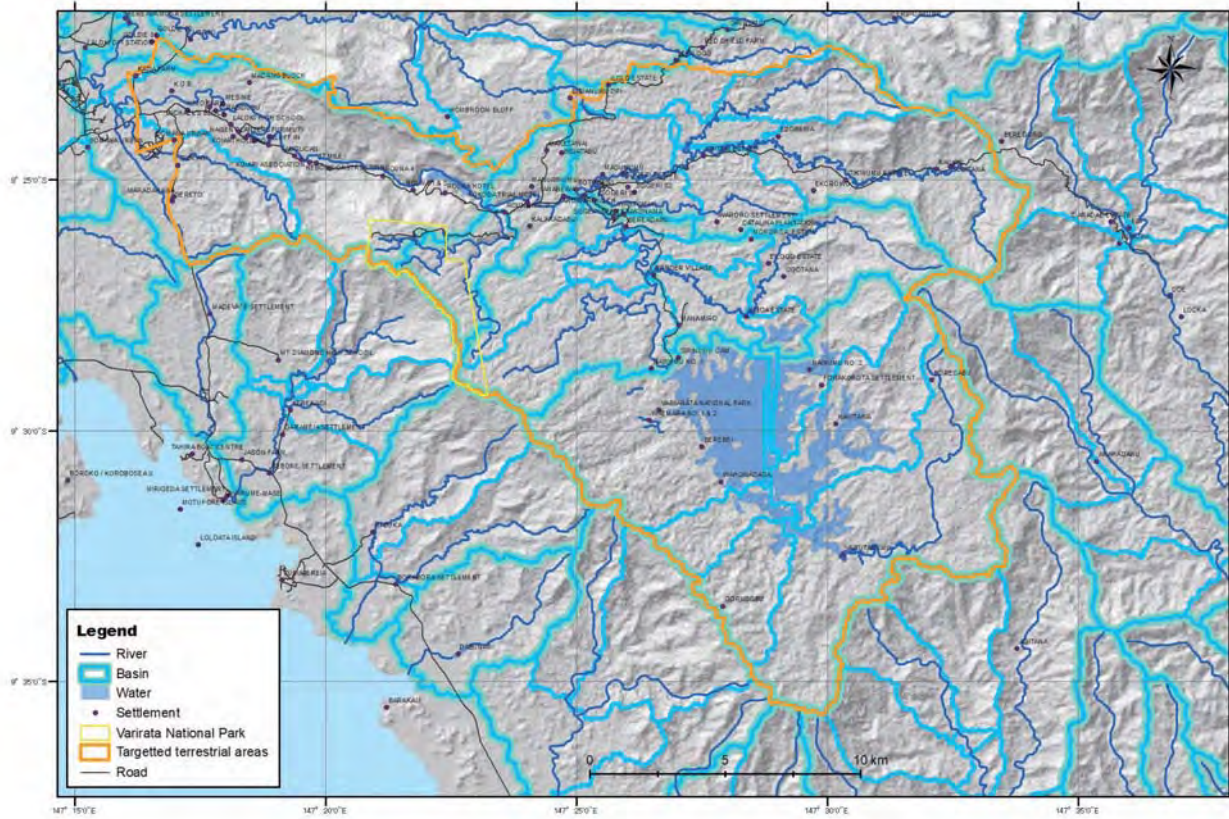
Altitude



Slope



Catchment





Socioeconomic

Wards

The Park is situated within two wards areas namely Ward 4 (Furimuti) and Ward 5 (Depo) in Koiari Local Level Government (LLG) of Central Province.

Ward 4 is located along the main highway of Sogeri, and along the banks of Laloki River. It is mostly situated on the lowlands of Koiari Rural LLG and its boundary begins at Laloki Secondary and Primary Schools and borders with Ward 5 at Rouna 4. A number of private sector businesses, schools, hotels, farms and human settlements are established within Ward 4 area.

Ward 5 of Depo consists mostly of traditional Koiari villages and passed the entrance of the VNP. It borders with Ward 4 at Rouna 4 and ends at Depo creek along the Sogeri highway towards Sogeri Urban (Ward 21).



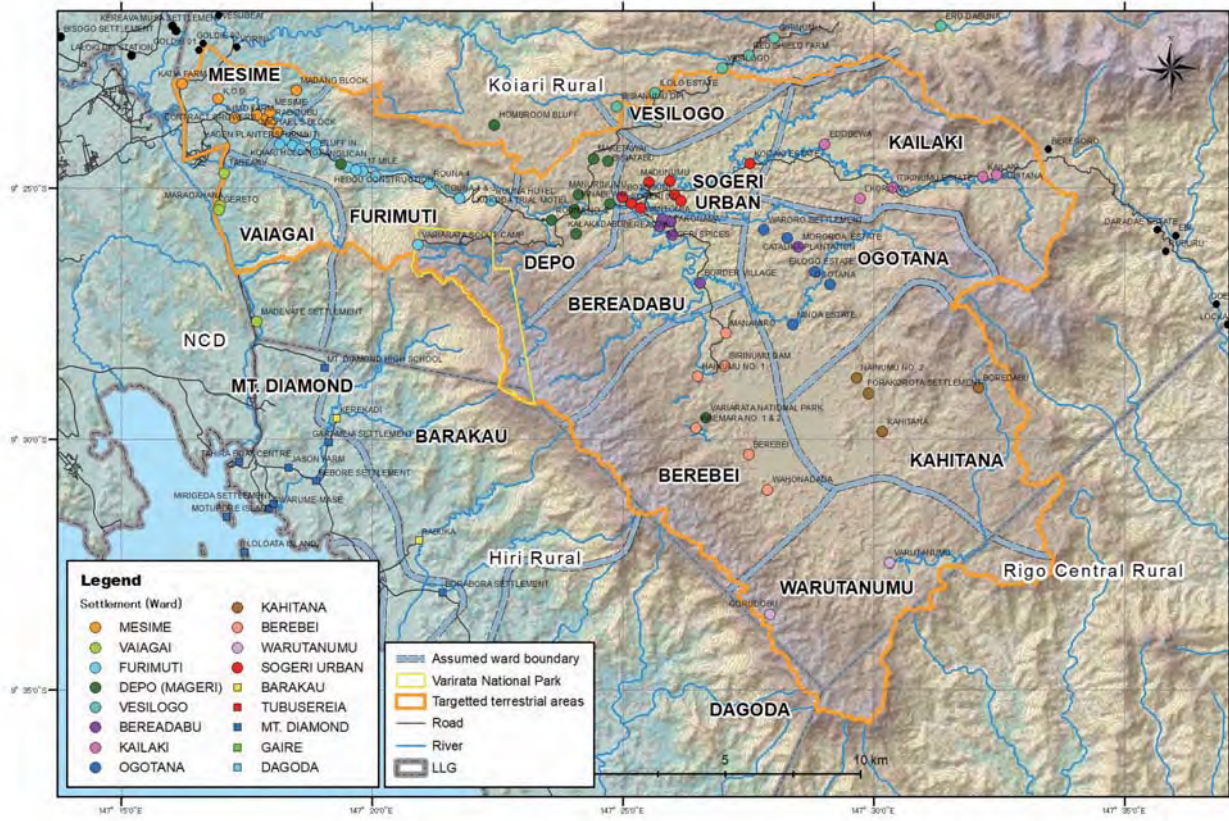
Population

The total population of the target areas within the vicinity of the Park encompassing the council ward areas of 4 and 5 is 1,149 (National Census 2011 cited in Inception report by Dr Kameata, 2017). Thus, the population for Ward 4 is 182 comprising of 89 males and 96 females. This ward covers two census units (Varirata Scout Camp and Rouna 4) with a total of 29 households.

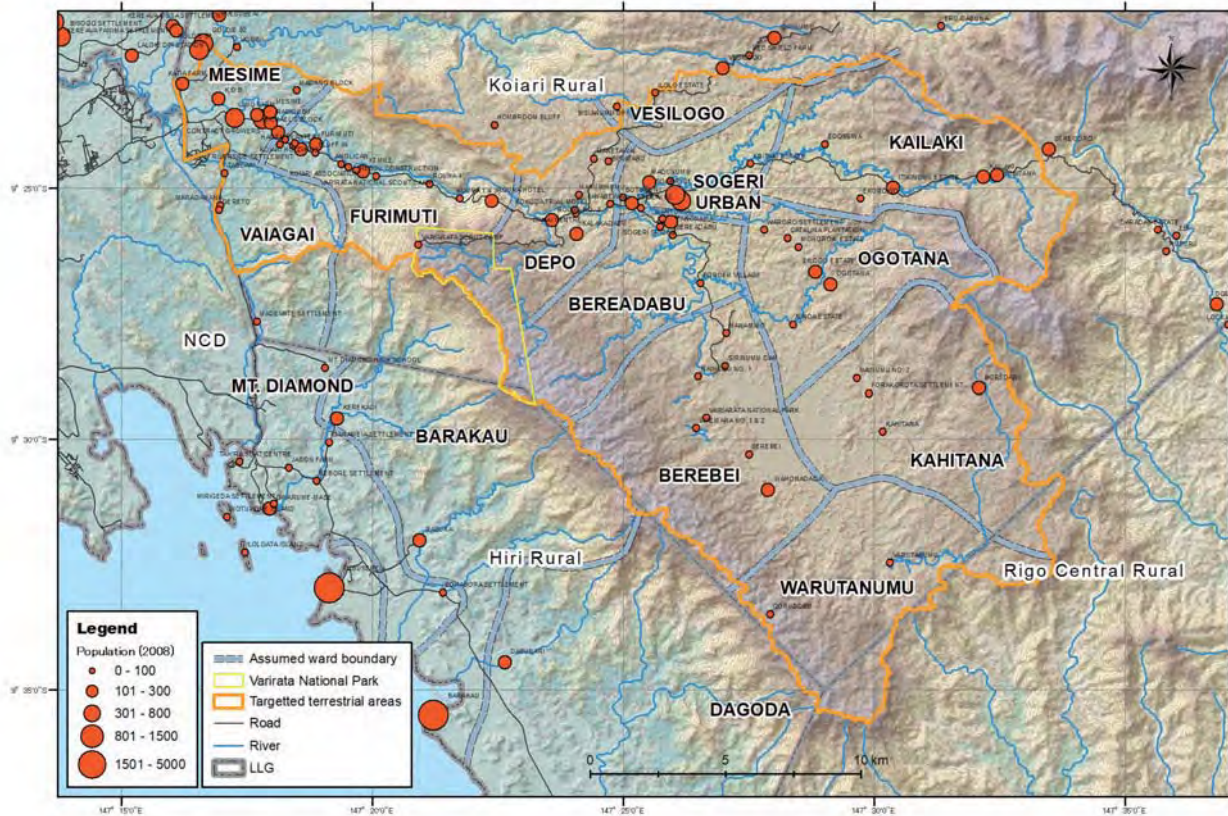
Ward 5 has a population of 967 including 499 males and 468 females, which comprises mostly of traditional Koiari villages. It covers 11 census units with a total of 164 households.



Distribution of Wards



Population per Census Units





Chapter 2

Varirata National Park



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Varirata National Park

History of the Park:

The land on which the Park lies was acquired under the Section 12 of the National Parks and Gardens Ordinance 1966 (Part 2 of Crown Land Ordinance 180) on 23rd October 1986. The land was known to Koiaris then as Wodobonomu. The Park is located on the traditional hunting grounds of the Koiari people. The land which the Park lies on was originally owned by two clans (Nadeka and lanari). The lanari clan owns the northern portion of the Park, which was previously demarcated for protection, and the Nadeka clan possesses the entire southern part of the Park, which was the extension of the Park (pers.comm. Kisea Tiube, VNP Ranger, 08.07.15).

The Park was originally reserved under the trusteeship of the District Commission, Director of Forest and Ruth Isobel Sefton on 17th February 1963. The Park was committed to the care and control of the National Parks Board (maybe equivalent to the National Conservation Council under the Policy on Protected Area (PPA)) on 10th December 1969 (PNG Gazettal Notice No.70). An additional land, where the main picnic area and the information center lie was once a coffee nursery established in 1950's. The same area was logged by two portable sawmill companies managed by Sandis and Burns Philip back then. Later a piggery and poultry farm were established on the same piece of land, which the land was acquired from Burns Philip (NG) Limited. The concrete foundations are the only remnants today.

Access to Varirata National Park (VNP)

The VNP was the first National Park declared in PNG and was officially opened on 18th October 1973. It is on State land and covers an area of 1,063 ha. It is located on the Sogeri Plateau appropriately 48 km east of Port Moresby city and is accessible by road.

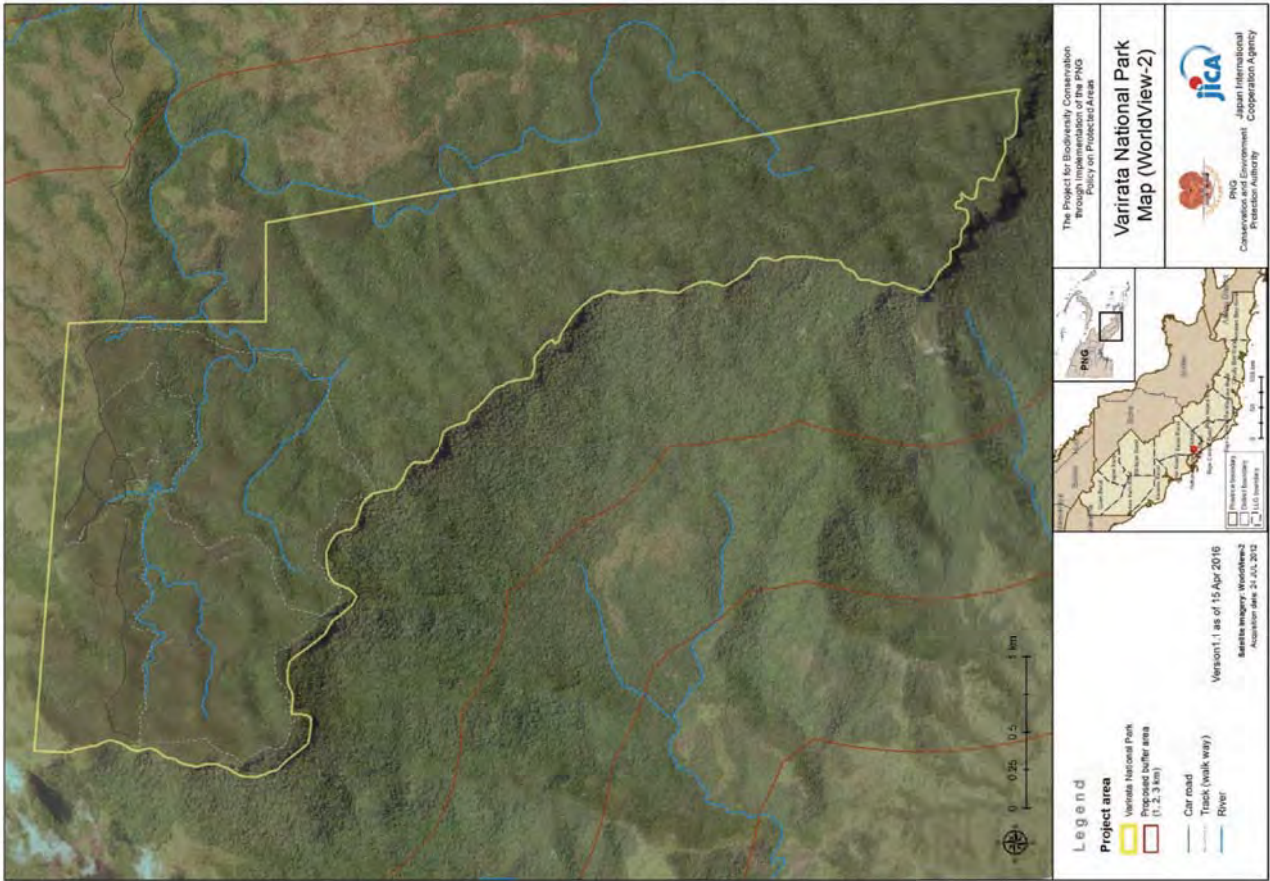
The VNP is situated at an elevation of 600 – 800 m with an average annual rainfall of 1400 – 2000 mm. It has closely spaced narrow accordant ridges and rocks consisting of balastic lava, agglomerate, tuff and dyke origins.

The land was locally called Wodobonomu and was the traditional hunting grounds of Koiari people. The land was given to the State by the Koiari customary landowners as a gift.

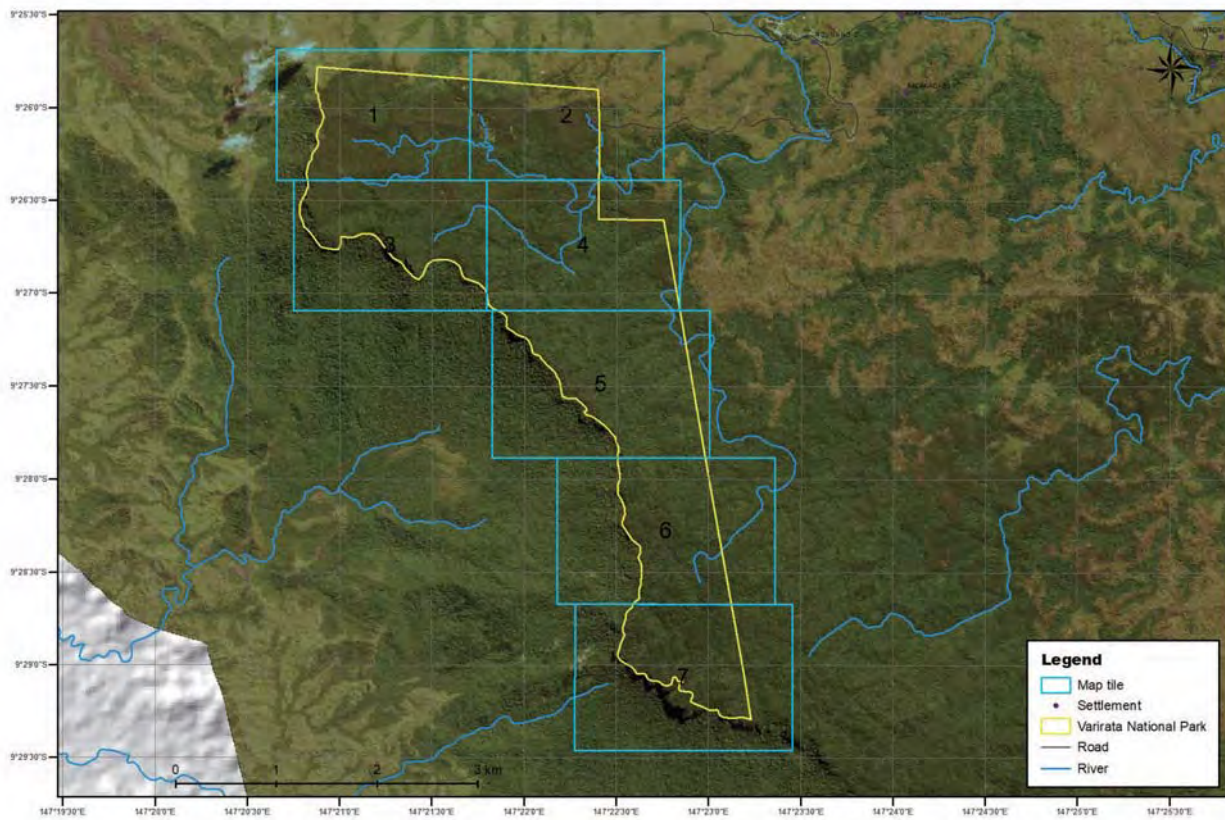
Natural characteristics and facilities of VNP

The VNP has scenic views and beautiful forests comprising of rainforest, savannah, grassland, gallery forest and secondary regrowth. It is also inhabited with some unique plants and animals such as Rusa Deer, Forest Wallabies, Possums, Bandicoots, Cassowaries, Raggiana Bird of Paradise and other extraordinary bird species, Pythons, Monitor Lizards, and various insects including Butterflies and Beetles.

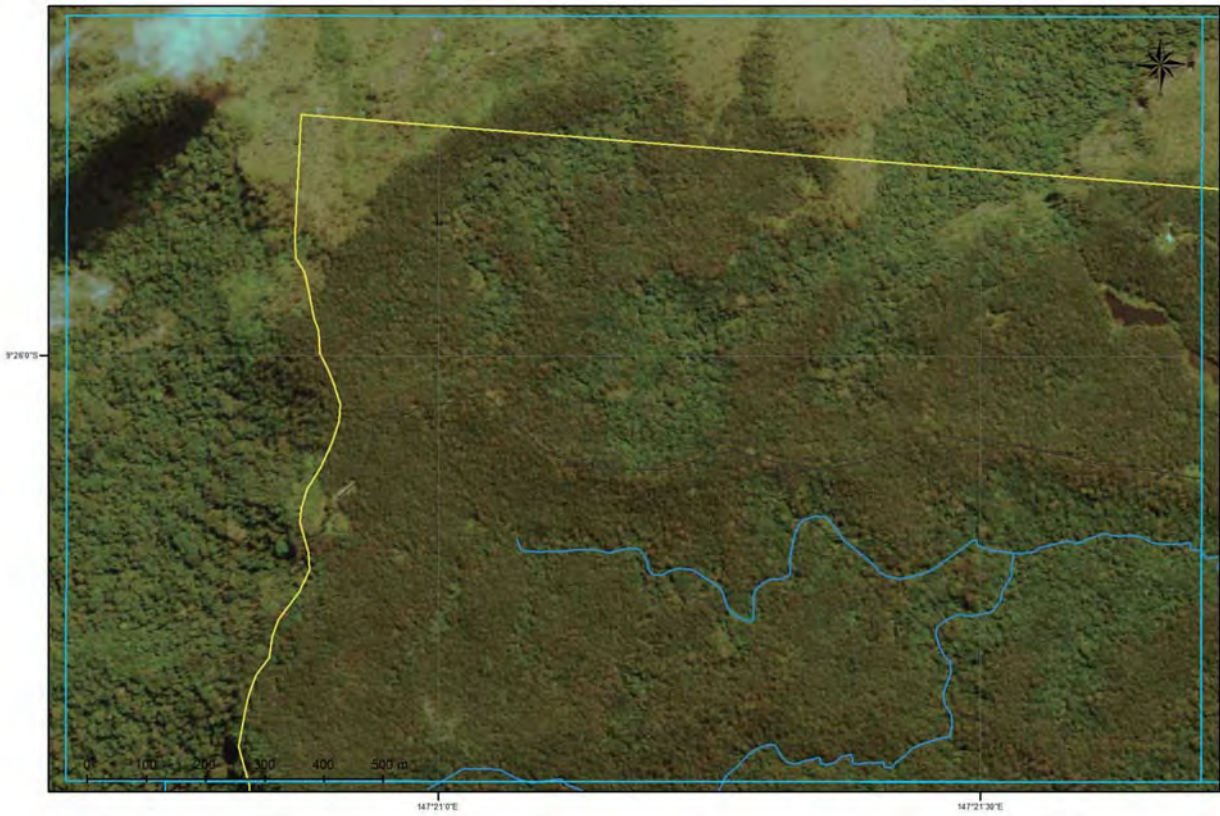
The main picnic area and the information center were once a coffee nursery established in 1950's. The same area was previously logged by Sandis and Burns Philip (NG) Ltd, respectively. Later a piggery and poultry farms were established. The concrete basements are the only remnants today.



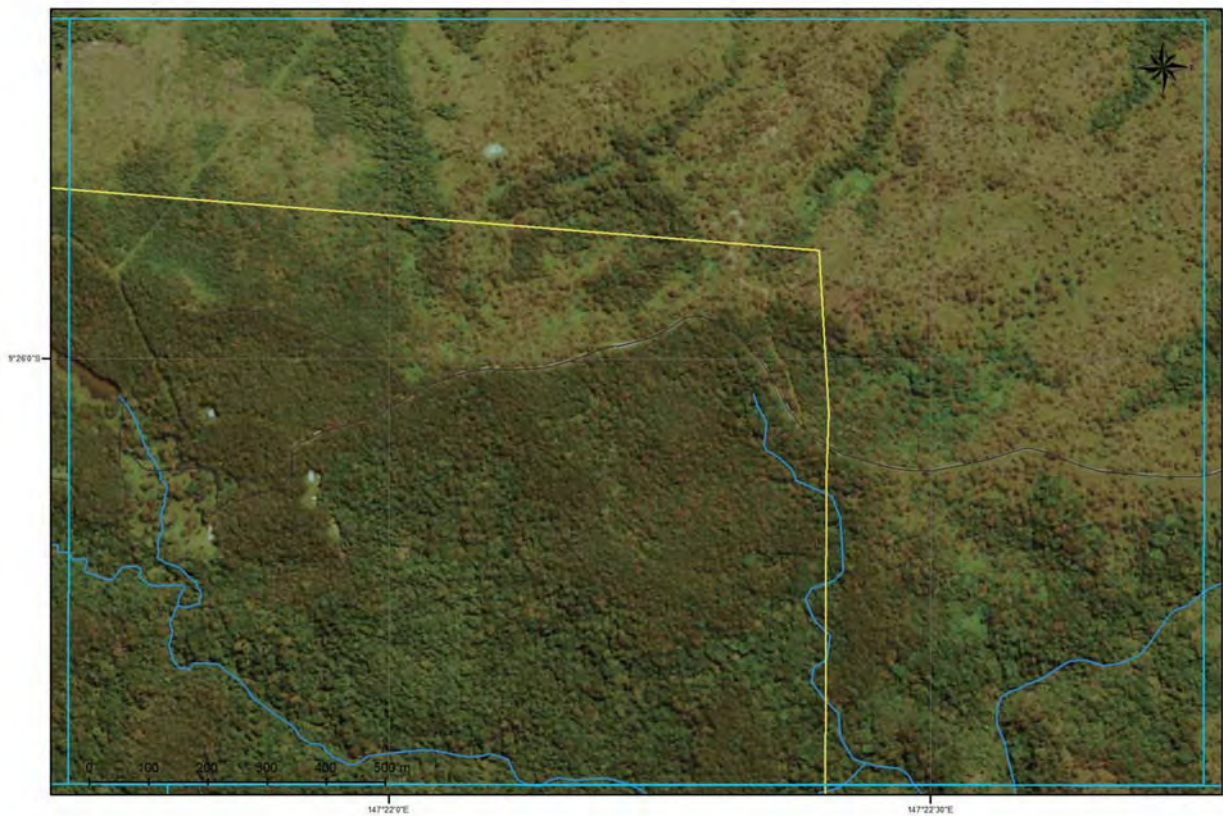
World View-2 Imagery of Varirata National Park (Index map)



World View-2 Imagery of Varirata National Park (1)



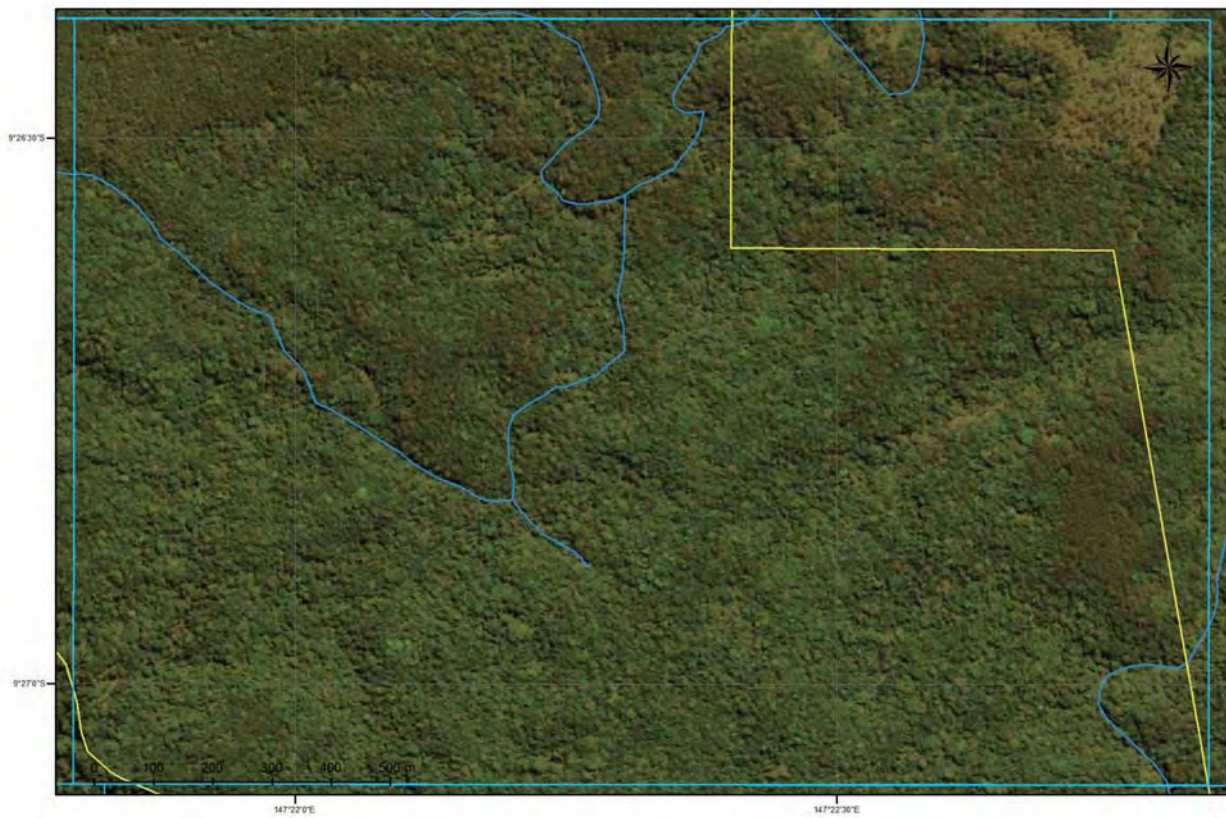
World View-2 Imagery of Varirata National Park (2)



World View-2 Imagery of Varirata National Park (3)



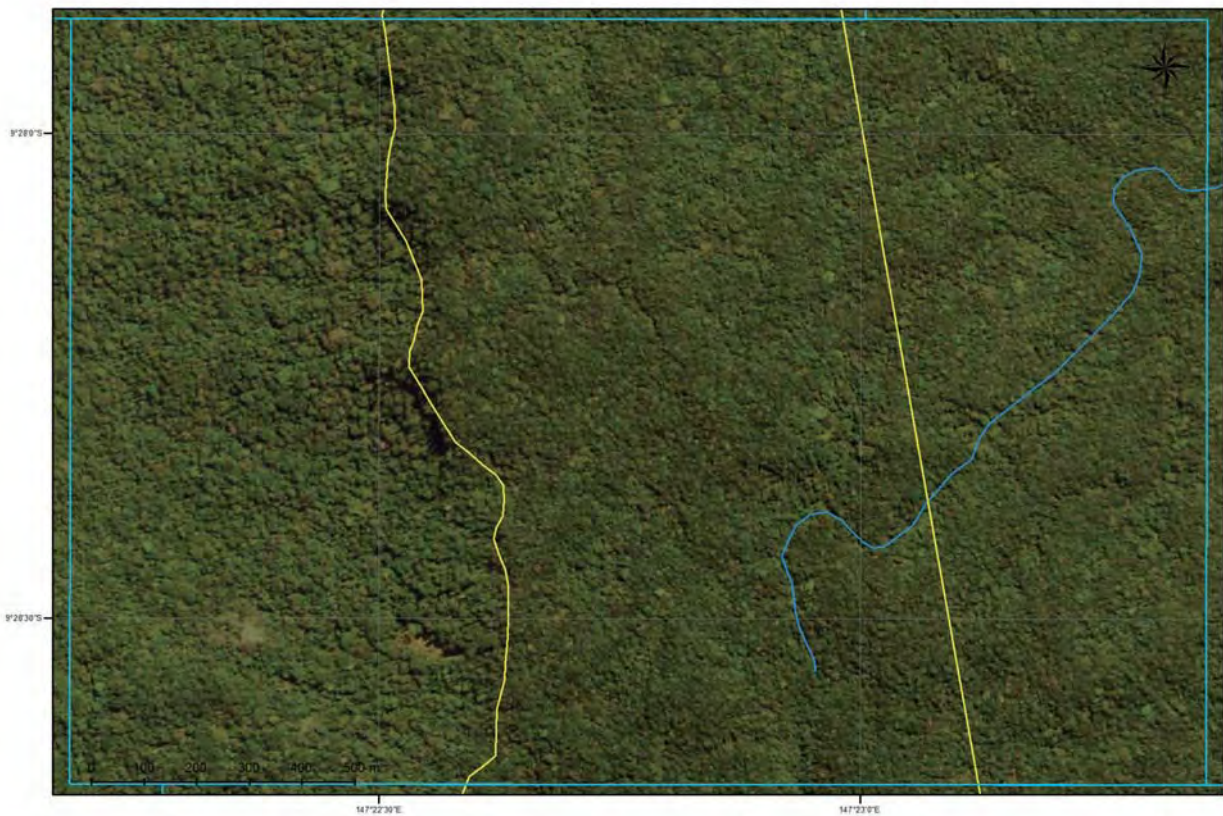
World View-2 Imagery of Varirata National Park (4)



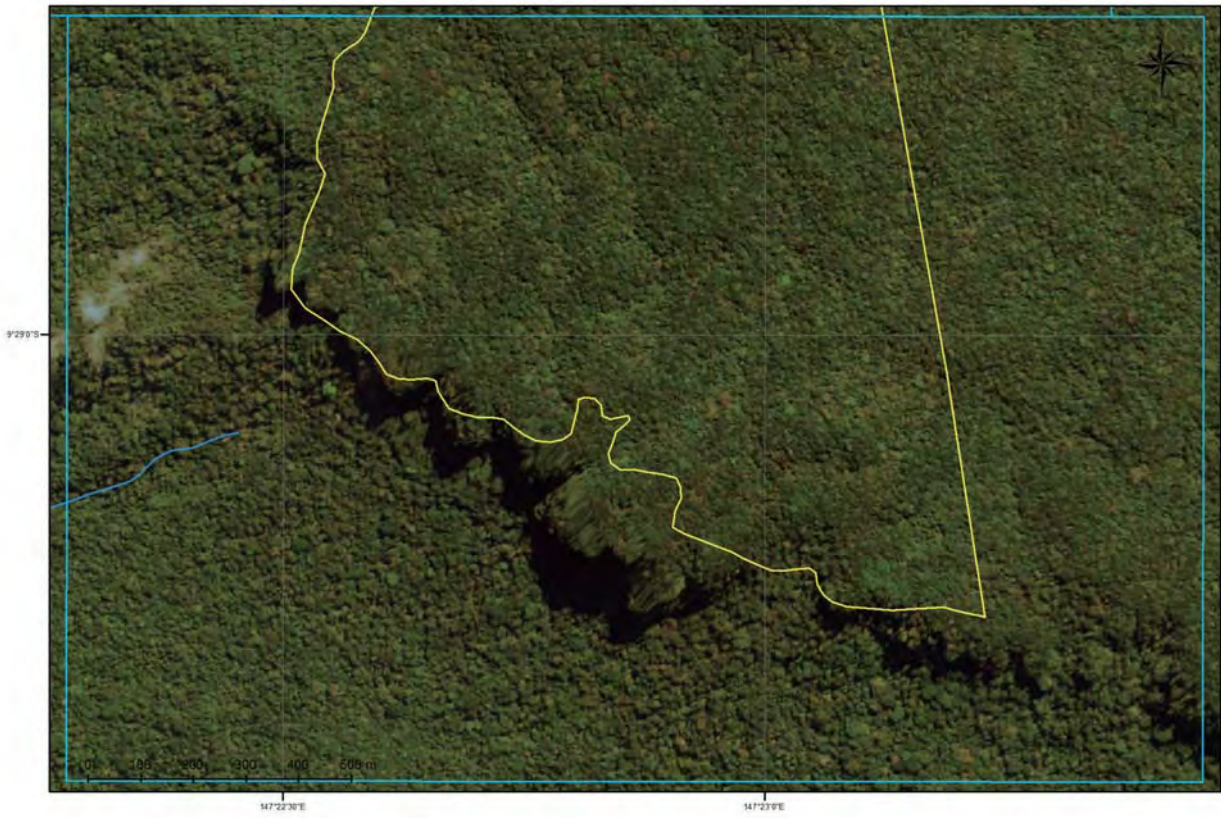
World View-2 Imagery of Varirata National Park (5)

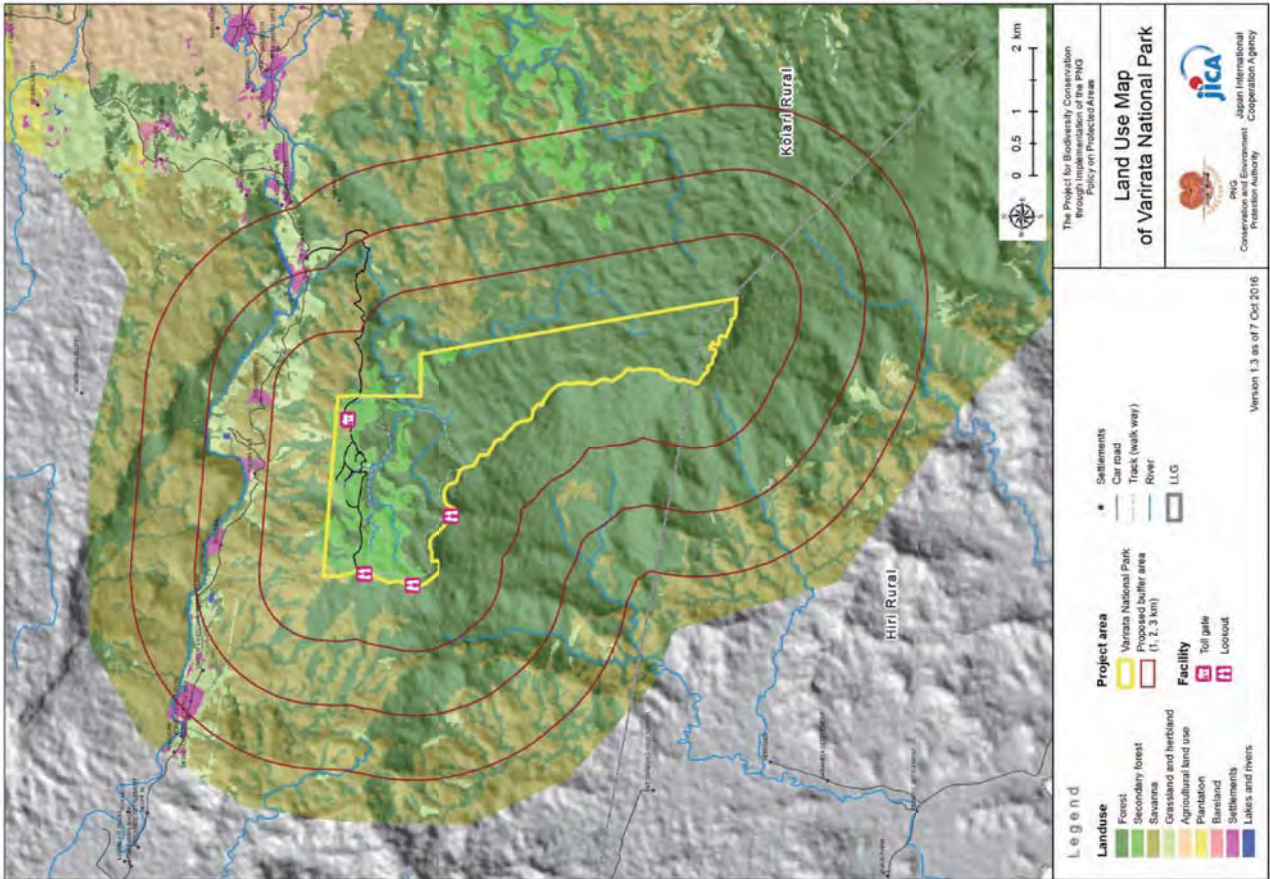


World View-2 Imagery of Varirata National Park (6)



World View-2 Imagery of Varirata National Park (7)





Varirata National Park Guide:

Tracks in VNP

Self Guide Track – This is one of the common tracks which connect the main picnic area and main lookout. It is one of the most easily accessible tracks and mostly frequented by visitors. Many different kinds of wildlife can be seen whilst walking along the track.



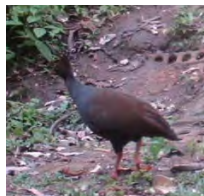
Main Picnic Area



Main Lookout

It is also full of bird life and enjoyed by many bird watchers who intend to visit VNP. The track also runs parallel to the Nairogo Creek. The sacred and shy Forest Bittern (*Zonerodius heliosylus*) and the small Azure Kingfisher (*Ceyx azureus*) can be seen during the stroll along the track.

Scarp Track – This track connects the main lookout and Gare's lookout. The track is long covering approximately 2km. It is steep in few places along the track but the climb is not that difficult. The forest is dominant with Fagaceae trees (*Lithocarpus* and *Nothofagus*) on the ridges, which you tend to see and hear beautiful calls of the common White Cockatoo (Kau in local Koiari dialect).



Red - legged brush turkey



Ground Cuscus

You will enjoy seeing the Kau feeding on the Fagaceae nuts.

Gare's Lookout Track – This is the shortest track but is quite steep, which connects the main picnic area and Gare's lookout. It starts from the main picnic area across the Nairogo Creek and diverts from the Circuit Track. It takes a slow stroll along the ridge leading towards the



Gare's Lookout

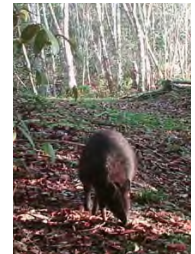
Gare's lookout.

The first Koiari-tree house was built along this track in the early 1960's. The scenic view from the Gare's lookout is breath taking and ideal for photography fanatics.



Pheasant Pigeon

Circuit Track – The track has an array of vegetation types including the natural rainforest, secondary regrowth, savannah and grassland. You can also enjoy watching many different birds within those forest types. It starts from the main picnic area and ends at the main VNP road, few distance from the toll gate. It is the most exciting track with the meandering streams and drainage systems, which you will



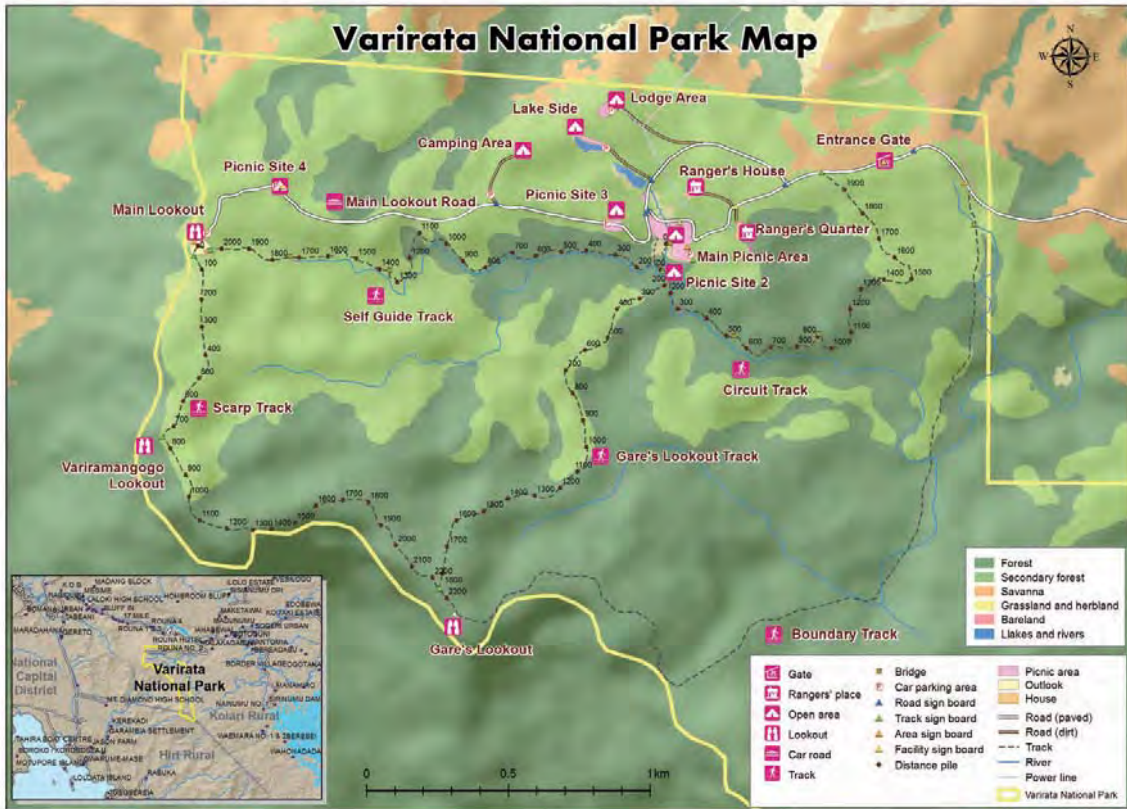
Forest Wallaby

cross on wooden bridges whilst walking along the track.

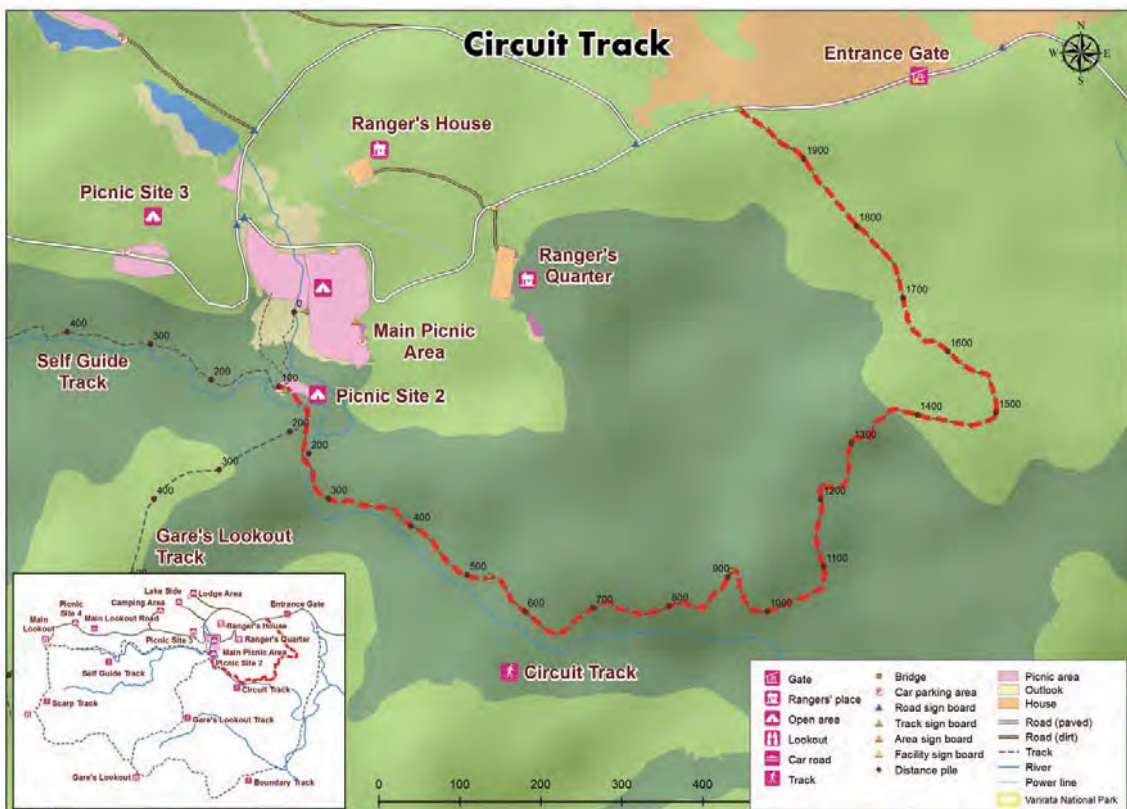


Yellow - legged brush turkey

Guide Map (1)



Guide Map (2)



Guide Map (3)



Guide Map (4)



Guide Map (5)



Facilities in VNP

The facility assessment was carried out to i) collect and compile basic information for the development planning in VNP such as distribution map, database, GIS database, etc., ii) consider the principle for the development plan.

The follows are required for this assessment:

- 1) To comprehend the existing facilities' current condition,
- 2) To prepare a principle and framework of facility repair and maintenance plan based on the current condition.

The prepared principle and framework will be used for facility development planning as a basic information. Therefore, the assessment can contribute to preparation of the development plan in VNP.

In the assessment, the results of field survey were recorded on field data sheets and the data was encoded into the current facility database (individual data sheet and list of facility). The facility distribution maps were developed based on a GIS database in April 2016.

The major facility distribution maps, which was the result of the field survey carried out during October to November, 2015, are shown here.

The major functions of nature parks are follows.

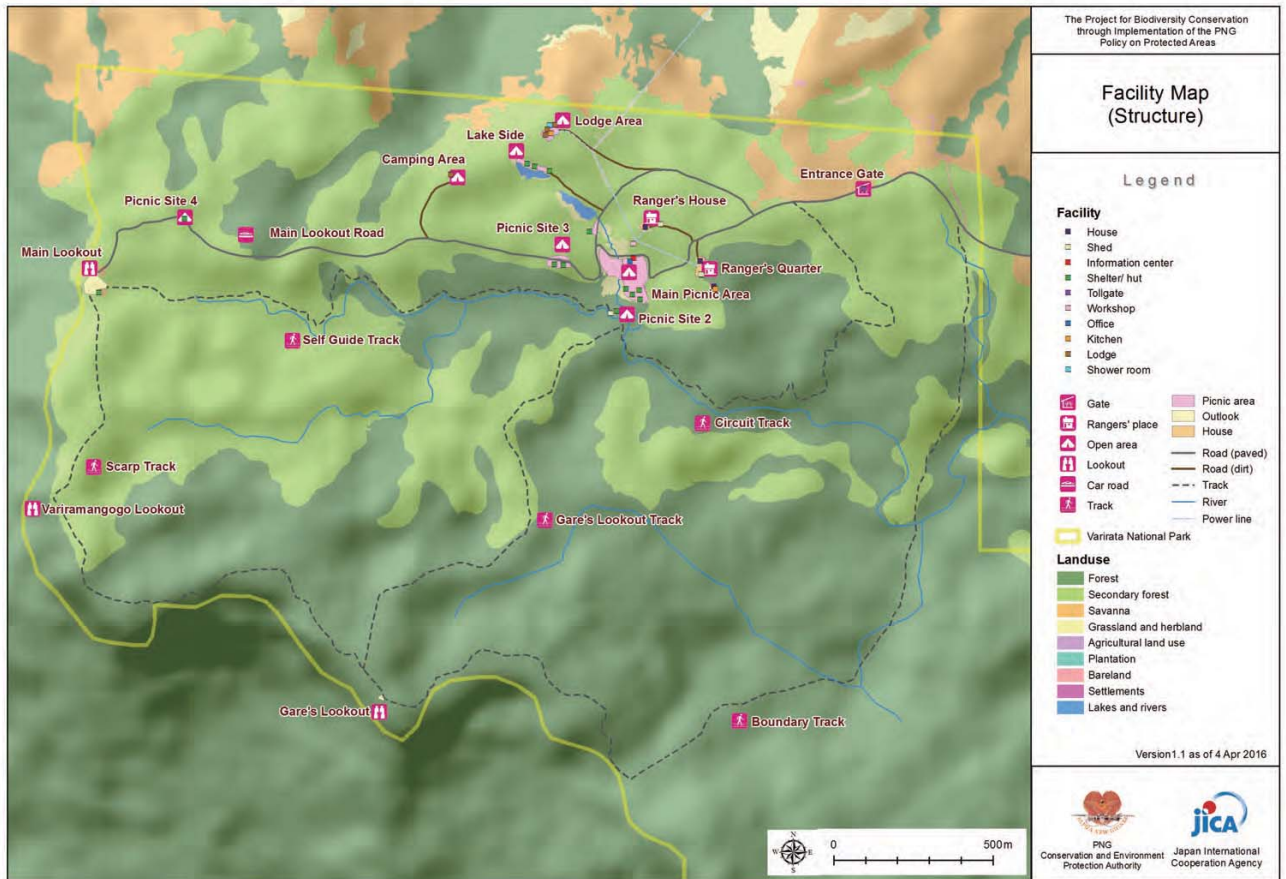
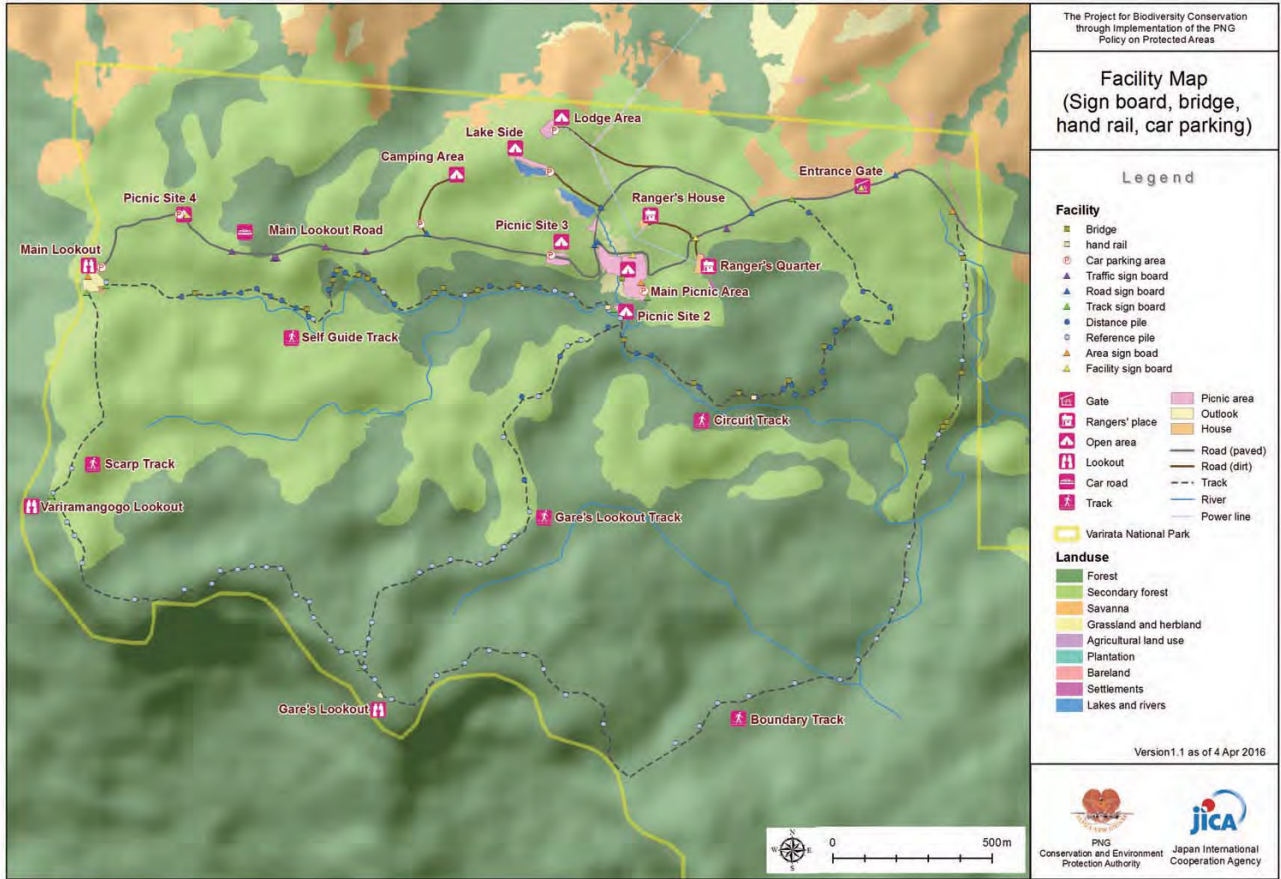
- a) Contribute to secure biodiversity or conservation of natural environment,
- b) Contribute to provision of place and chance of experiences in nature or study of natural environment
- c) Contribute safety park utilization, and
- d) Contribute to provision of place and chance of recreation

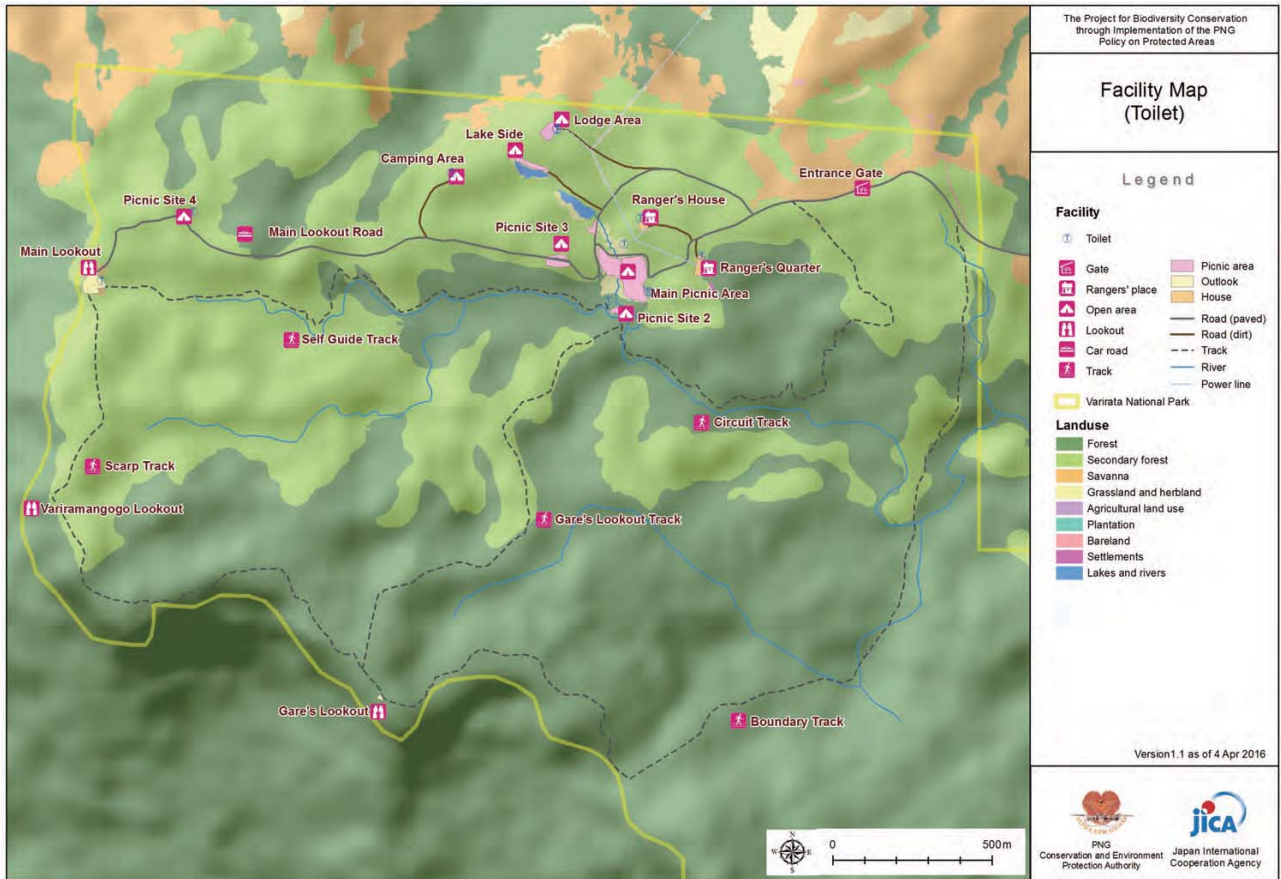
In accordance with current condition of facility in VNP, they do not function enough. However, they can contribute to provision of public services which shall be prepared with a nature park if the facilities will be repaired or replaced.

Therefore, damage condition of the facilities and necessity of repair/ replacement/ improvement were described, and the facilities are repairing and replacing now.

Basic information of VNP (as of September 2017)

Location:	Soger Plateau, Central Province, Papua New Guinea (near Port Moresby city)
Area:	1,063 ha
Opens:	8:00 am – 5:00 pm from Monday to Friday 6:00 am – 6:00 pm on Saturday and Sunday
Entrance Fee:	Adults – Citizen: K5:00, Non-citizen: K10:00 Students (with ID) – Citizen: K4:00, Non-citizen: K8:00 Children (above 12 years) - Citizen: K3:00, Non-citizen: K6:00
Foundation:	8 th October 1973





Chapter 3



Targeted marine coastal area



ATLAS 2017

Targeted marine coastal area

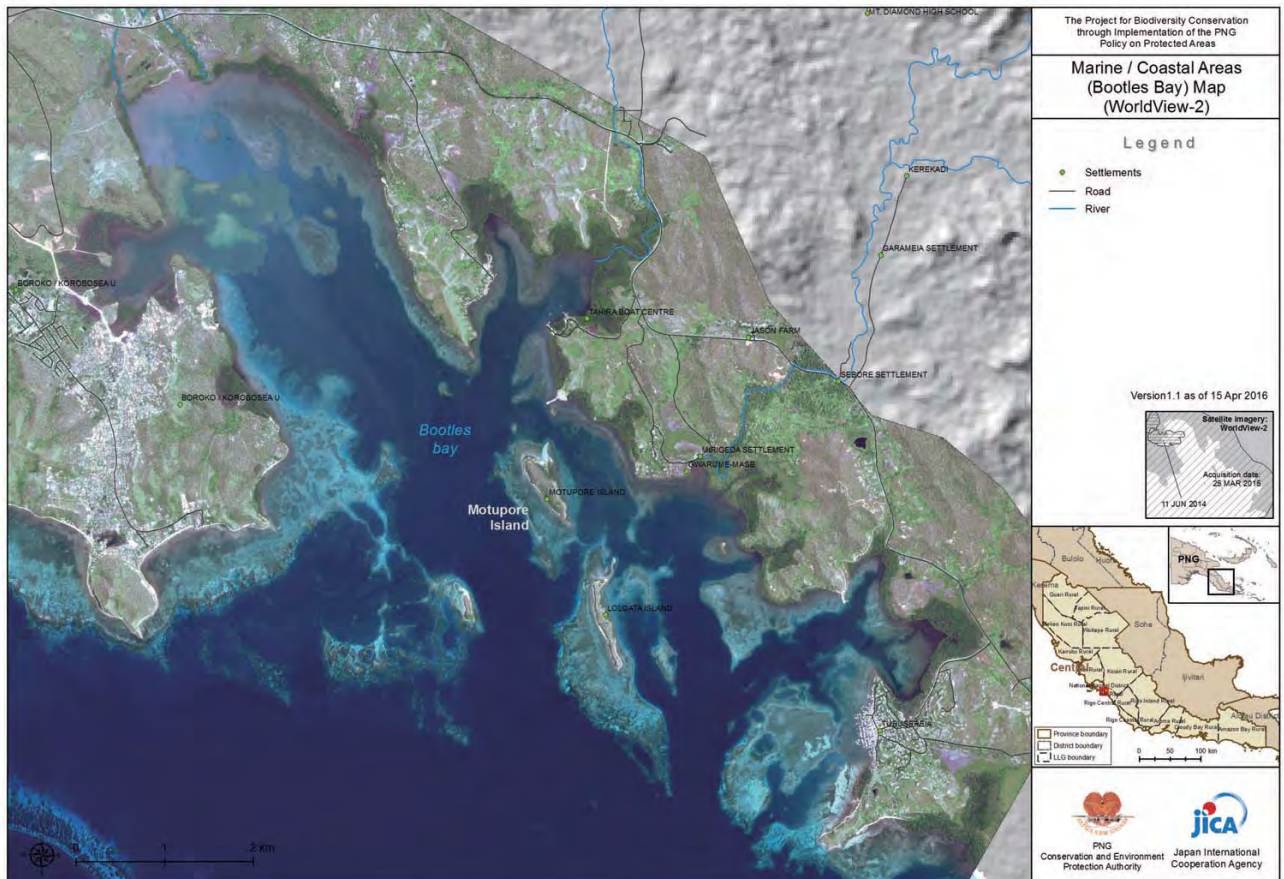
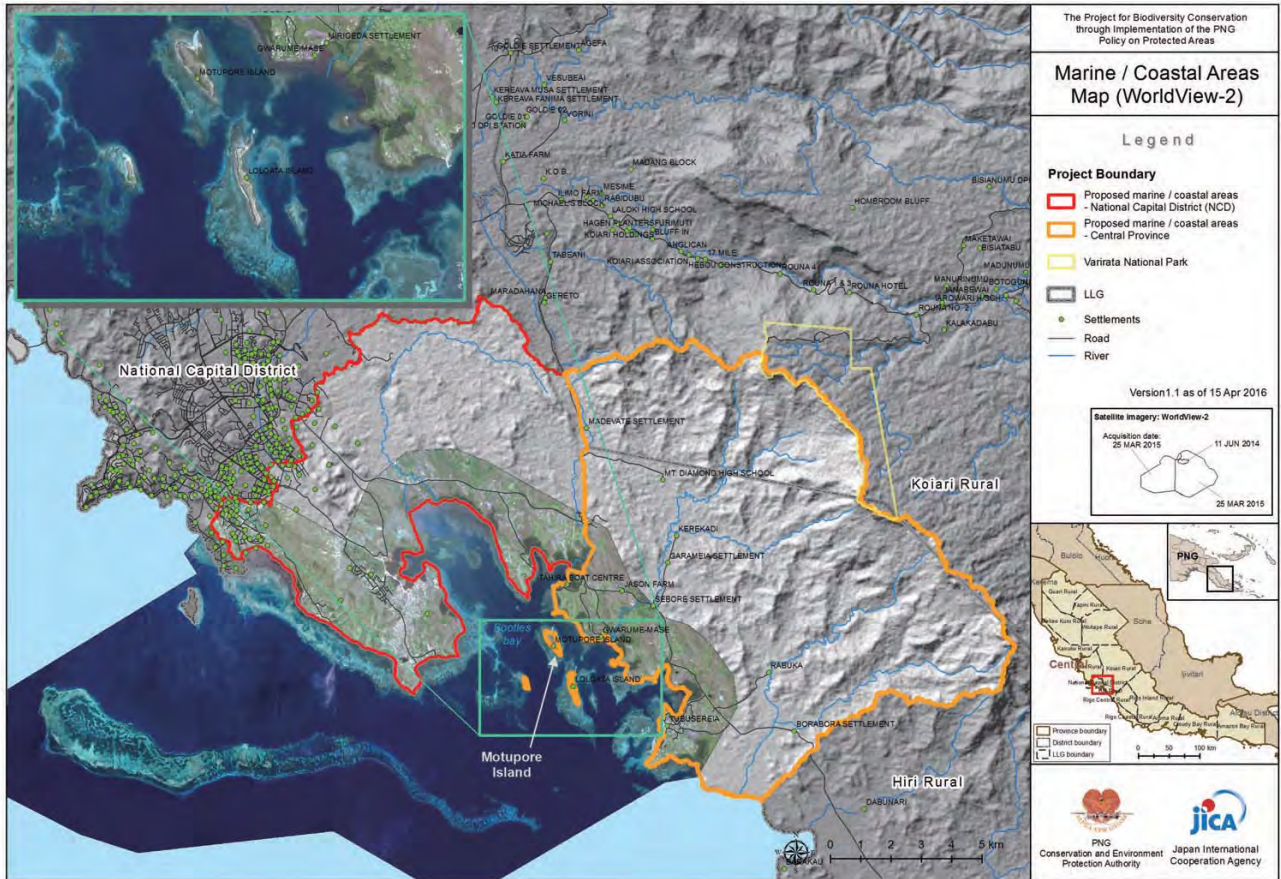
Outline and objectives of Output 3

This project's component addresses the coastal and marine issues, which specifically focuses on a model for establishing a new Marine Protected Area (MPA) as per the provision of Policy on Protected Area (PPA) and other relevant legislations and Acts. The project focused on Bootless Bay, because Bootless Bay has a wide range of issues that include environmental degradation causing ecological imbalances, influx of human settlements along the narrow coastal fringes, overfishing in the mangroves and inter-tidal zones, and proposed major developments including a new wharf, and an aviation fuel terminal (Motuan pipeline), amongst others.



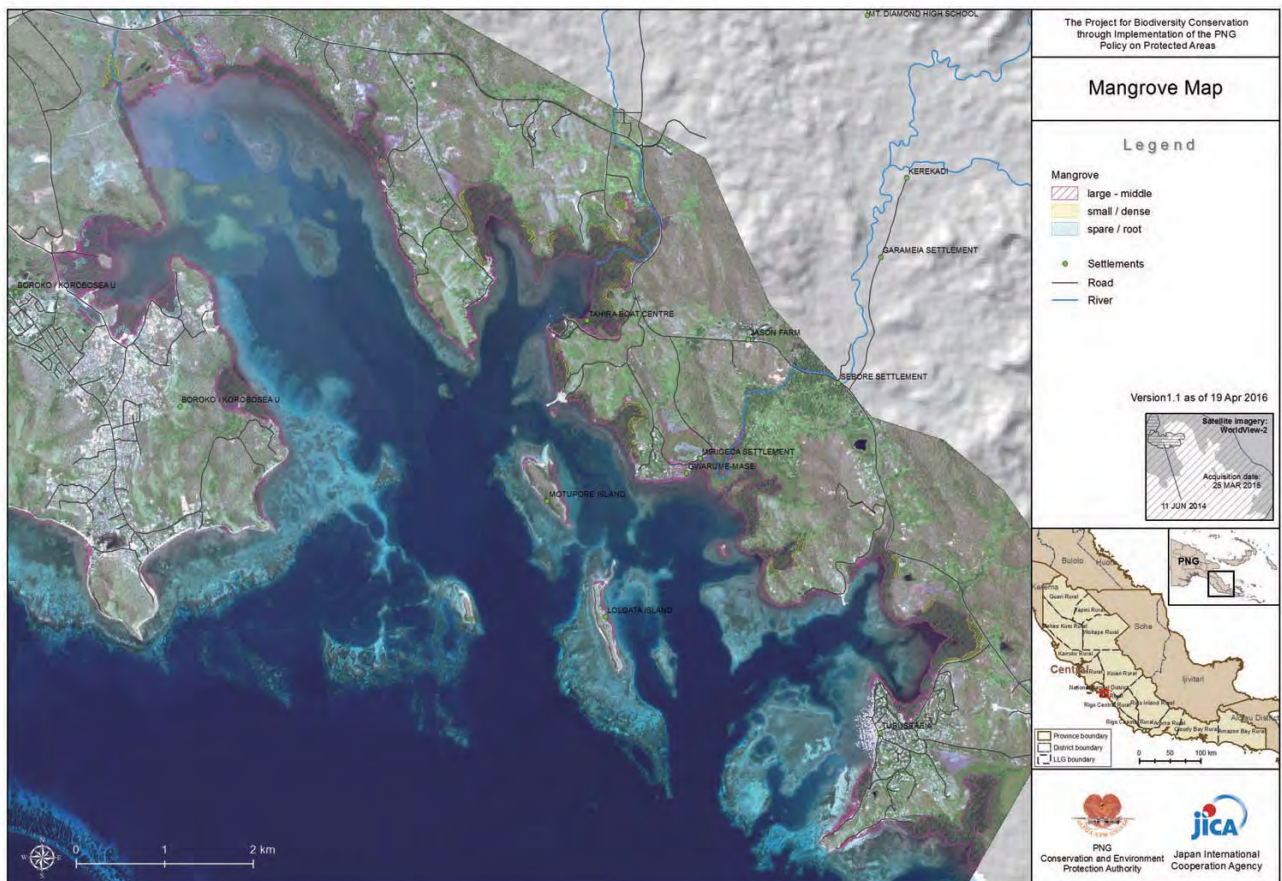
Major activities of Output 3

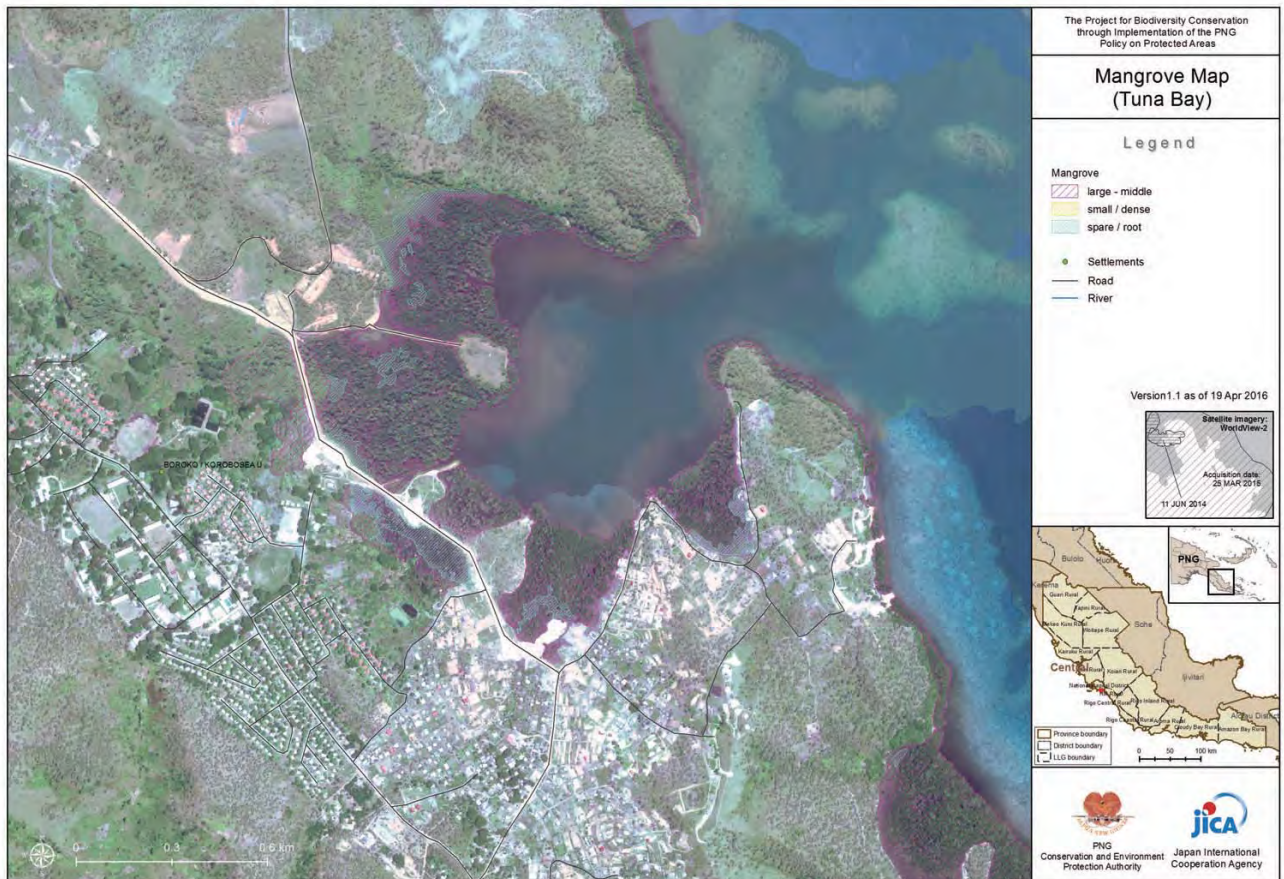
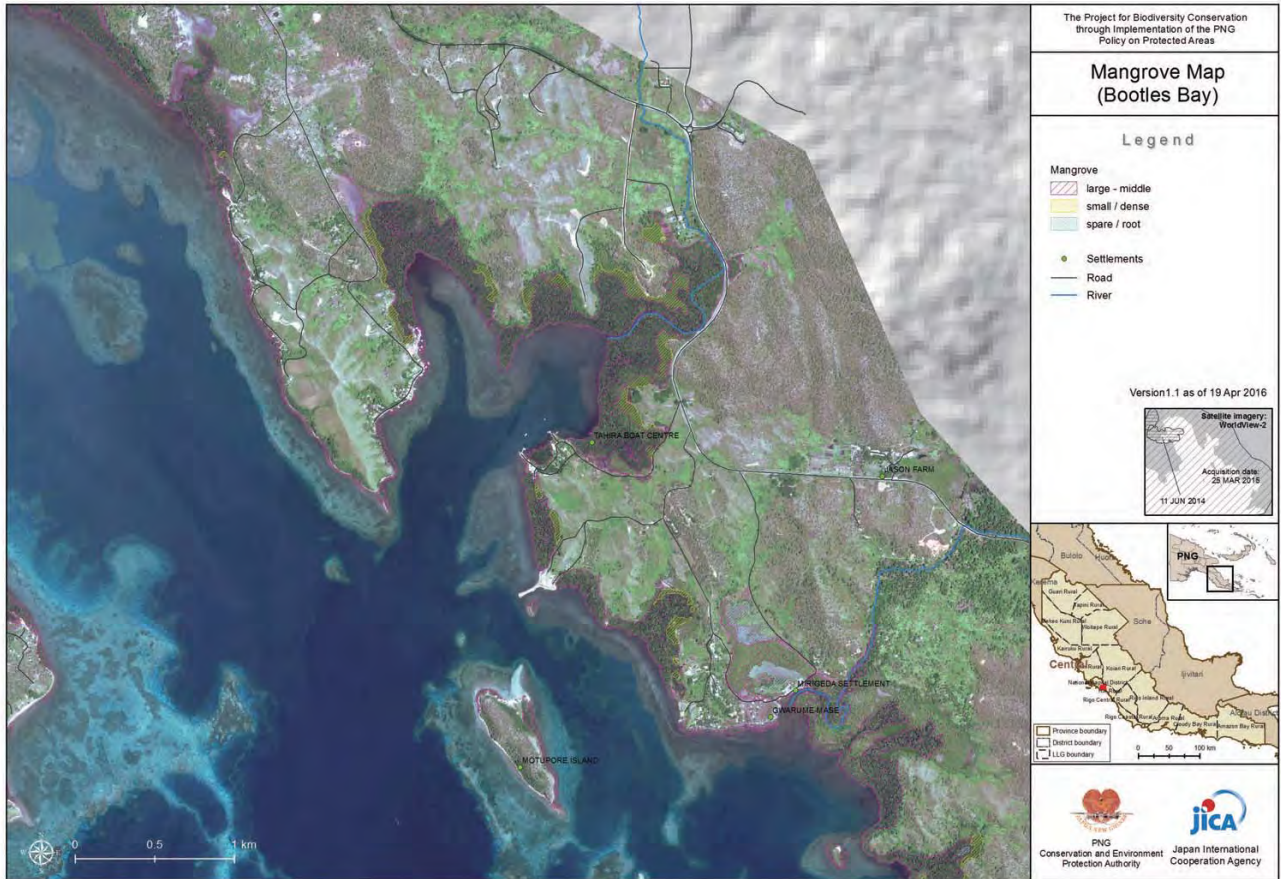
- Model of establishing new MPA developed as per the provisions of the PPA. Under this Output 3, Bootless Bay was selected through stakeholder consultations and biodiversity survey, and 4 MPA sites were targeted.
- Consult with local governments and communities including customary landowners to seek potential for establishing new protected area of either regional and/or national importance.
- Develop a proposal for a new MPA with conducting social mapping and public consultation.
- Consult with Regional or National Protected Area Roundtable and local and national governments to be endorsed with the official procedure for gazettement new protected area.
- Prepare new Management Plan for the new marine MPA.

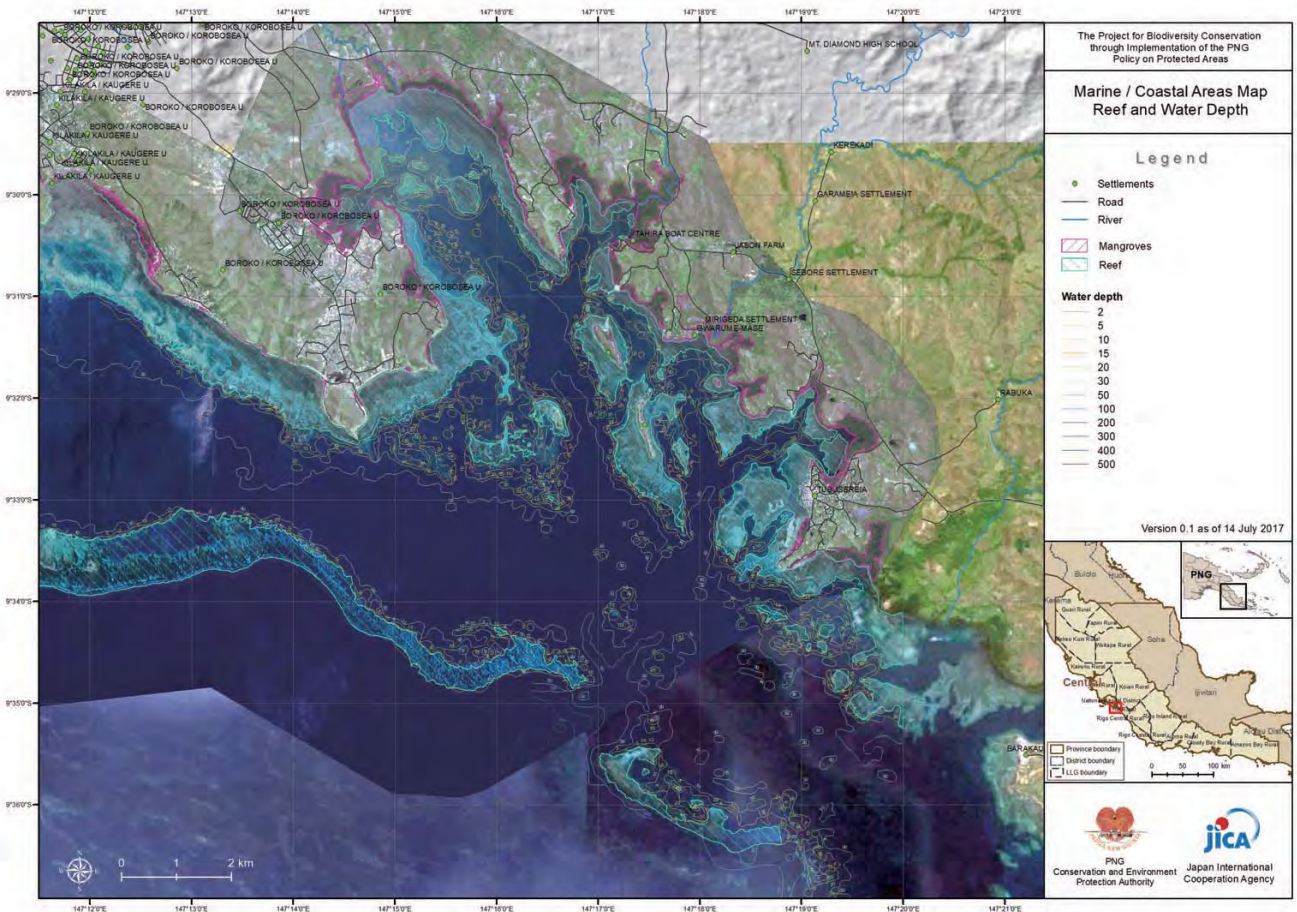


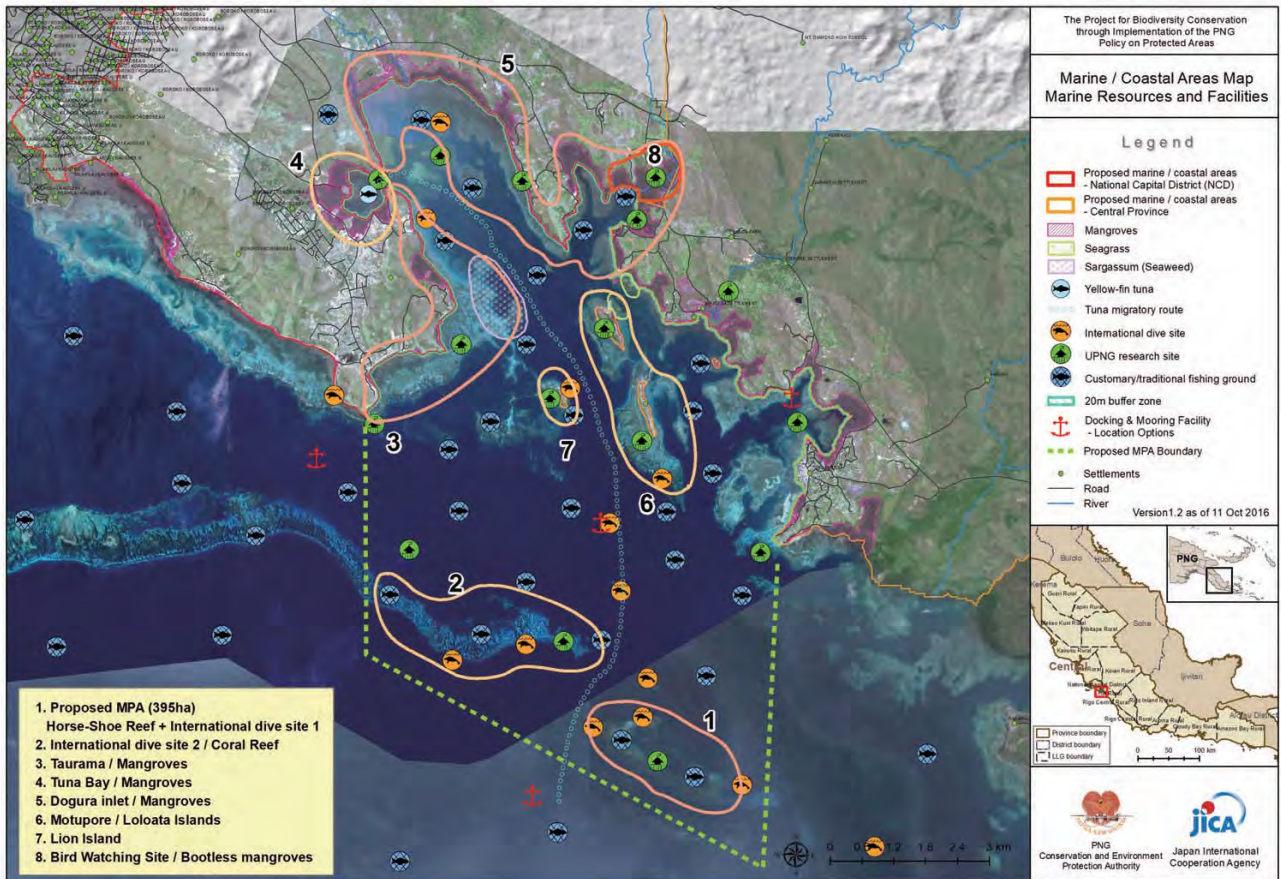


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Bootless Bay Marine Conservation Initiative (BBMCI)



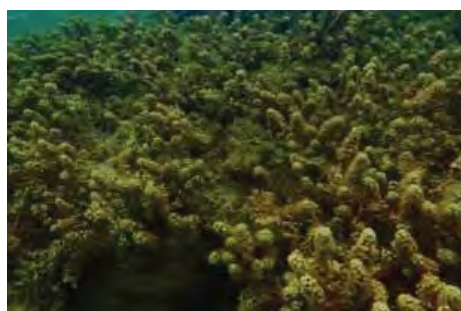
The BBMCI was formulated under Output 3 of CEPA-JICA Project as a high level consultation process to allow for information sharing and exchange, consultations and collaborations regarding activities within Bootless Bay. Many stakeholders of Bootless Bay participate to BBMCI.

For example, CVES, PNG Ports LTD, PNG Harbour Management Services, National Maritime Safety Authority, Coastal Fisheries Development Agency, Hiri Local Level Government, PNG Tourism Promotion Authority, Gereka Village Community, HELP Inc., Central Provincial Government, Pari Women’s Development Association, National Fisheries Authority, PNG Centre for Locally Managed Areas, Central Papua Conference-SDA, Pacific Energy Aviation Fuel LTD, and Tubuseria BLRA.

Access to 4 targeted Marine Protected Areas (MPAs)

A Roadmap to establish MPA in PNG was written by CEPA-JICA Project. The Roadmap concluded four targeted MPAs include the following:

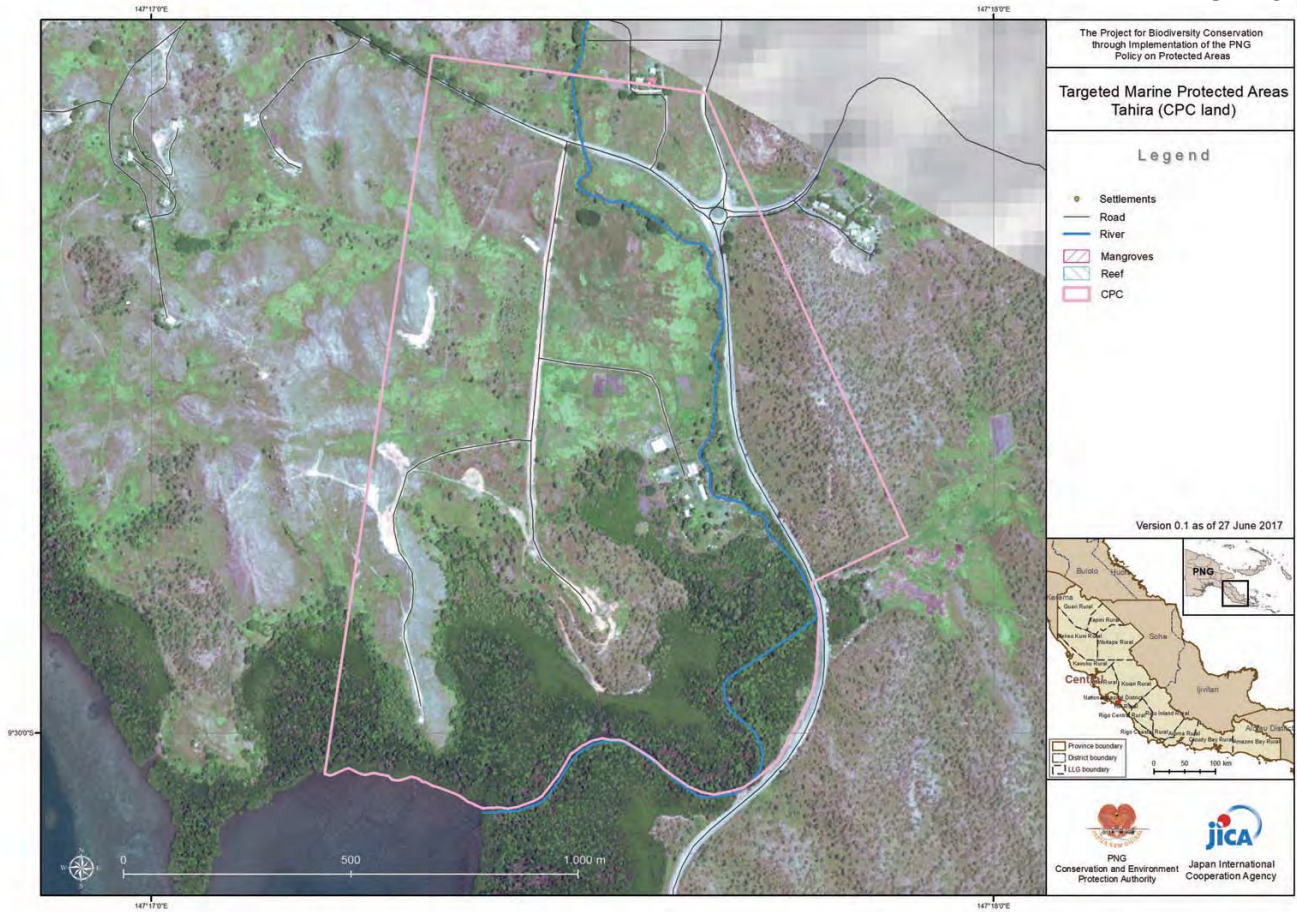
- Central Papua Conference Bautama Tahira Mangrove Conservation MPA. This MPA allows for zonation include bird watching, boardwalks, mangrove conservation areas and education and research mangrove areas.
- University of PNG (UPNG) Tahira Mangrove Conservation MPA. This project allows for joint collaboration with UPNG for mangrove conservation , education and research.
- Motupore Island MPA. This MPA allows for coral reef, sea grass and mangrove conservation for research and education purposes.
- Aioro (Horseshoe) Reef MPA. This project allows for coral reef conservation and sustainable management to allow for reef fish species sustainability and coral reef conservation.

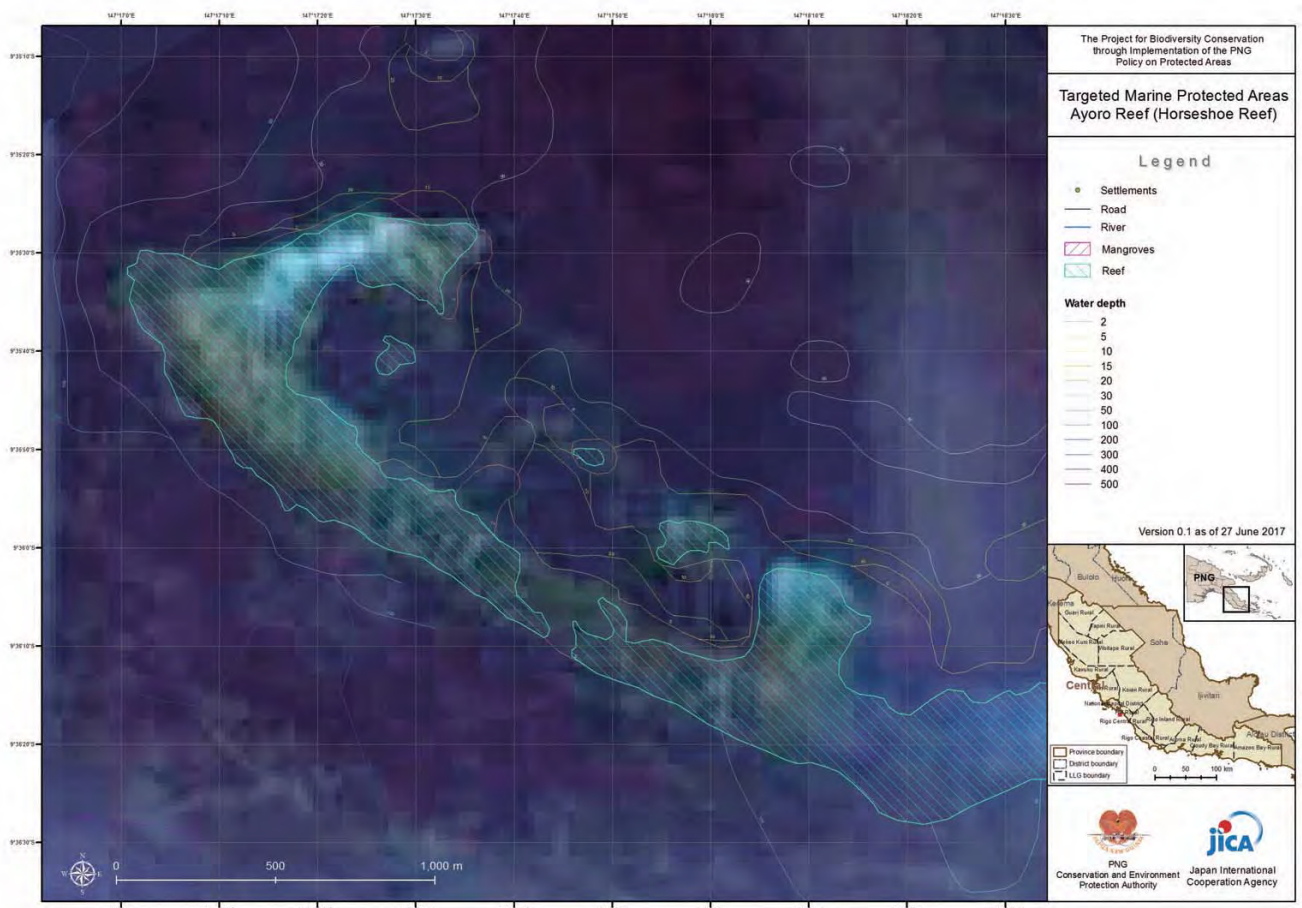
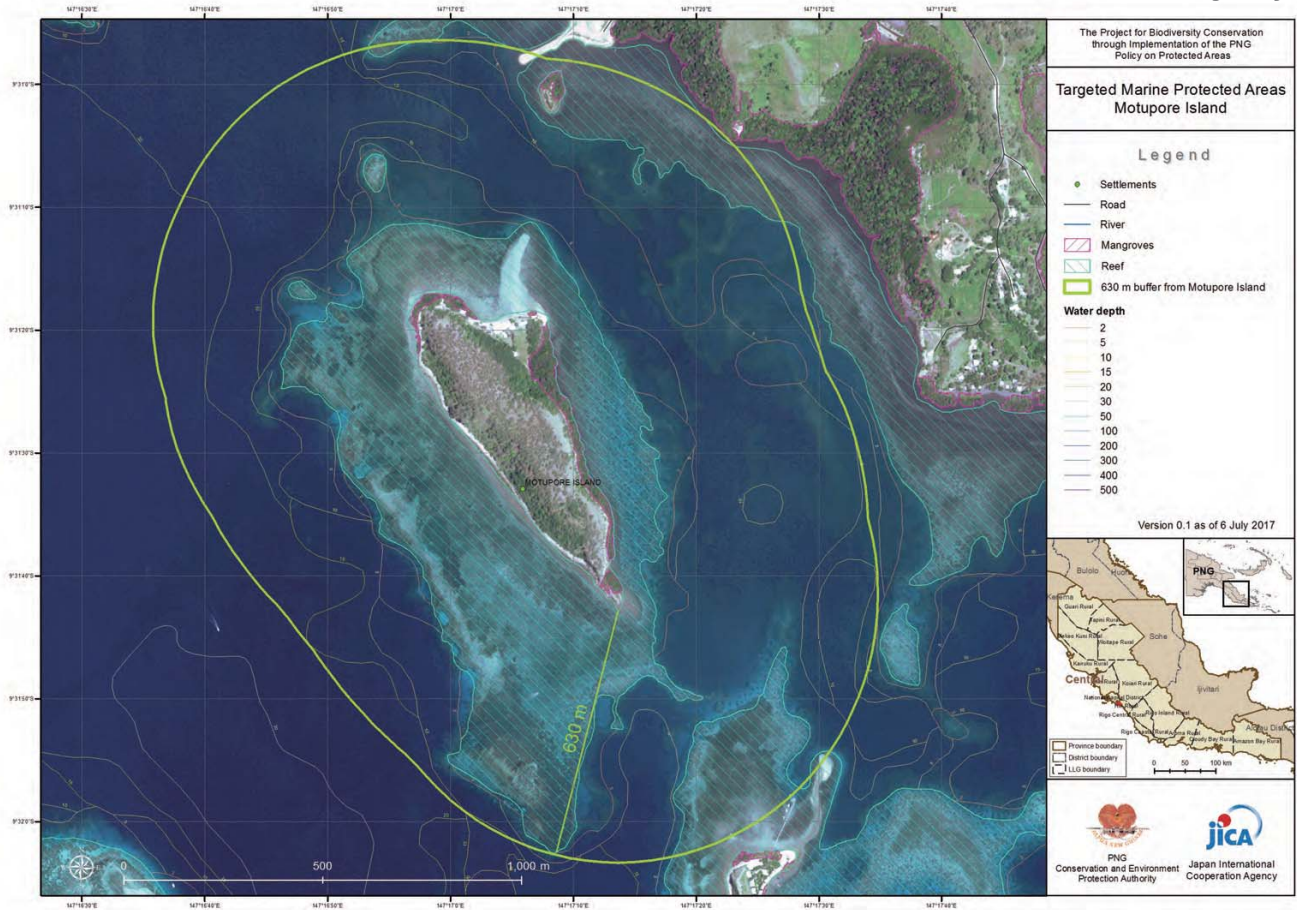


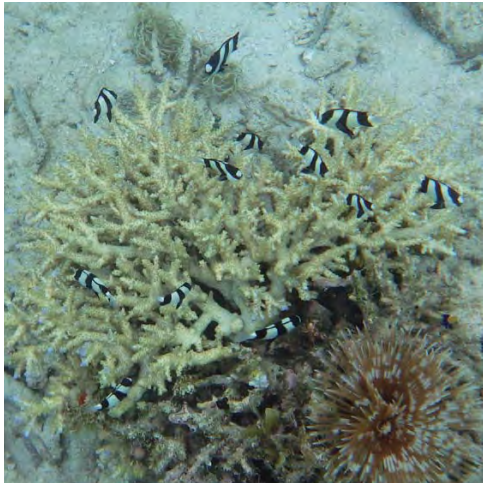
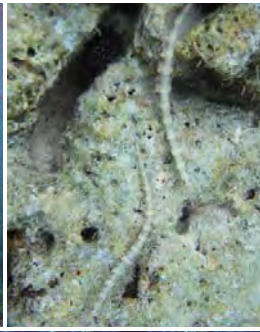
Turbinaria decurrens



Cymodocea rotundata







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Project homepage

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CEPA - JICA
Biodiversity Project



Annex 4.2.8 Field guide brochure: Plants, Mammals, Birds, Reptiles, Flogs, Invertebrates)



When learning about the plants of Varirata National Park it is useful to know a little plant classification. Plants that can internally transport nutrients and water are vascular plants. This group includes ferns, which reproduce from spores, and also plants that produce seeds. This latter group includes gymnosperms, which produce seeds in unprotected structures such as cones, and plants with flowers that produce seeds within a fleshy ovary or fruit

Ferns are generally easy to recognise by their feathery or leafy fronds and often by the appearance of yellow or golden spores on their undersides. They are mostly found in the forest interior, particularly in damp areas, but some species have adapted to seasonally dry habitats and are common in the savannah grasslands in the northern parts of the Park. One species, a shield fern (*Stichurus*) covers large areas of the floor of secondary forest. Most fern species grow in soil but many species are epiphytes which means that they grow on another plant, usually a tree, which provides support.

There are only a few species of gymnosperms occurring the Park. These include cycads, fern-like plants restricted in the Park to the savannah grasslands, and well known rainforest trees such as tulip - a species that has leaf-like foliage and is often mistaken for a flowering plant. The Klinki and Hoop Pines planted around the main lookout are also gymnosperms.

The flowering plants in VNP include at least 300 different kinds of trees, a large number of shrubs, a profusion of vines and at least 70 species of orchids, most of which are epiphytic. Many of the trees produce large, fleshy fruits that are eaten by mammals and birds including honeyeaters, birds of paradise and cassowaries.

A list of all the different plants from a geographic area is termed a **Flora**. The world flora, for example, includes around 300,000 different vascular plants. Around 5% of

these (about 14,000) are found in Papua New Guinea. The flora of VNP includes about 150 species of ferns, at least five species of gymnosperms, and around 850 to 900 species of flowering plants. This is an extraordinarily diverse assemblage that represents around 7% of all the different kinds of plants found in Papua New Guinea.

The physical or structural appearance of a plant community is generally referred to as **Vegetation**. The type of vegetation found in an area is strongly influenced by climate, mainly temperature and rainfall. There are three main types of vegetation found in the Park. These include **Eucalypt Savannah** which is the dominant plant community found around Port Moresby and characterized by scattered gum trees with an understory of grasses. **Secondary forests**, readily recognized in the Park by the presence of the dominant species, *Gymnostoma* (*Gymnostoma papuana*), which is recolonizing areas that were formerly cleared for a coffee plantation. **Primary forest or Rainforest** is the largest and most diverse assemblage of plants in the Park, and covers most of the areas along the walking tracks and the entire area south of the main picnic ground.

There are also more than 50 different kinds of introduced plants found in the Park. Introduced plants are those that do not occur naturally in an area but have become established, deliberately or accidentally, by people. These plants are found mostly around public use areas such as the main lookout and picnic grounds but two of them, *Clidemia* and *Spiked Pepper*, are invading the forests and displacing native species. These are considered serious pests in Papua New Guinea. Please be careful not to spread them to other areas.

The following letter keys are used in the photo captions:
I: introduced, PF: primary forest, SF: secondary forest, ES: eucalypt savannah



PLANTS

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The Park is one of the best places in the country to learn about biodiversity. It is visited by dozens of nature tours each year and attracts researchers from throughout the world. It is also an important training site for students from surrounding universities.

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Oakleaf Fern *Drynaria quercifolia* (Polypodiaceae) PF, SF, ES
Common on boulders in eucalypt woodland. Basket-forming epiphyte or climber, also found on trees throughout the Park.



Sumac *Rhus latensis* (Anacardiaceae) SF
Tree to 30 m, common in secondary forest and forest edge. Large clusters of white flowers in early dry season; fruit black.



Ghost Gum *Corymbia papuana* ES
Tree to 40 m; distinctive white trunk; whitish flowers an important source of nectar for honeyeaters and lorikeets.



Gymnostoma *Gymnostoma papuana* (Casuarinaceae) SF
Pioneering tree to 30 m; dominant tree in secondary forest; fruit cone-like, this is a flowering plant, not a gymnosperm.



Tulip Gnetum *Gnetum* (Gnetaceae) (trunk and foliage) PF
Gymnosperm; tree up to 20 m; distinctive raised rings around trunk; broad leaves; red fruit; bark used for bilum twine.



Umbrella Tree *Schefflera thauasiantha* (Araliaceae) PF, SF
Tree to 10 m; common at forest edges; palm-shaped leaves; small reddish flowers produced on spikes; fruit a black berry.



Shield Fern *Stichurus mihel* (Gleicheniaceae) PF, SF
Branching fern; pioneering species that forms dense thickets up to 3 m in forest gaps and open areas.



Butterfly Tree *Evdellia muelleri* (Rutaceae) SF
Tree to 10 m; flowers in conspicuous bunches; pink; leaves with three leaflets; source of nectar for butterflies & birds.



Kangaroo Grass *Themeda triandra* (Poaceae) ES
Grass up to 1.5 m; reddish spikelets produced on branched stems. It has deep roots, grows back quickly following fires.



Birthwort *Artischochia momandi* (Artischochiaceae) PF
Vine with heart-shaped leaves. Flowers prominent, purplish. This is the primary food plant of the Birdwing Butterfly.



Clidemia *Miconia crenata* (Melastomataceae) I, PF, SF
Shrub up to 5 m; flowers small, white. Fruit a small purple berry. An invasive species originally from South America.



Ant Plant *Mymecodia platyrea* (Rubiaceae) PF, SF, ES
An epiphyte with small white flowers and a swollen base that is inhabited by ants, a relationship known as mutualism.





Papuan Oak *Castanopsis acuminatissima* (Fagaceae) PF
Tree to 35 m; easily recognized by ring of root suckers around the trunk; fruit a spiny nut that is eaten by people as well as parrots.



Bottlebrush Orchid *Dendrobium smillieae* (Orchidaceae) PF
Epiphytic, with grass-like leaves. Flowers grow in clusters with distinctive green, hooded lip; pollinated by birds.



Cycad *Cycas campestris* (Cycadaceae) ES
Plants up to 2.5 m, with a single shaggy trunk topped with a crown of fern-like leaves; fruit an ovoid nut, toxic; fire resistant.



Tropical Mistletoe *Amyema cf. friesiana* (Loranthaceae) PF, SF
Parasite; leaves thick and brittle; flowers in triads up to 30 mm long; fruit small, with special features to attach to host plants.



Spiked Pepper *Piper adnucum* (Piperaceae) I; PF; SF; ES
Tree or shrub to 7 m; native to Central and South America; serious invasive pest that has spread throughout the Old World tropics.



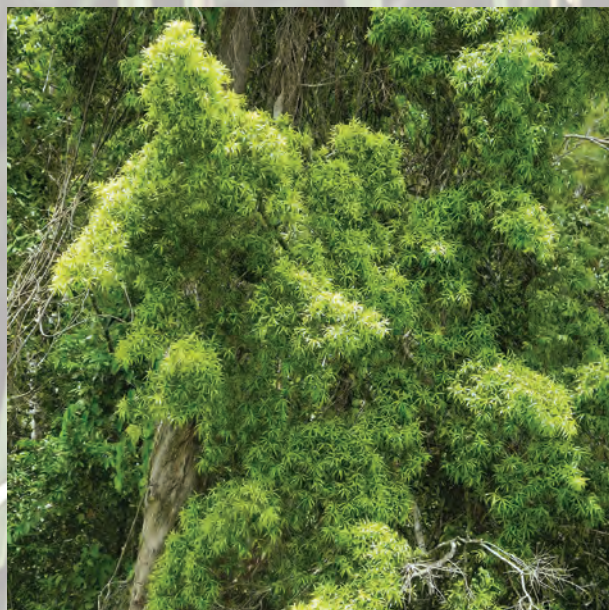
Hyacinth Orchid *Dipodium squamatum* (Orchidaceae) ES
Ground orchid, with showy spikes of pink flowers; leafless, regarded as mycoheterotrophic (parasitic on soil fungi).



Planchonia *Planchonia papuana* (Lecythidaceae) PF
Rainforest canopy tree to 35 m; leaves toothed, flowers to 10 mm diameter with numerous stamens, probably pollinated by bats.



East New Guinea Fig *Ficus rhizophoriphylla* (Moraceae) PF, ES
Trees to 15 m, primarily at forest edge; fruit bright orange; eaten by a variety of pigeons, doves and birds of paradise.



Brown Pine *Podocarpus neriifolius* (Podocarpaceae) PF
Gymnosperm; trees to 25 m tall; leaves spirally arranged; Female cone solitary, reddish; important food tree for birds of paradise.



Tropical Banksia *Banksia dentata* (Proteaceae) ES
Shrub up to 6 m; large cone-like head of showy, yellow flowers; a source of nectar for insects, birds and nectar-feeding mammals.



Chalmers' Neonauclea *Neonauclea chalmersii* (Rubiaceae) PF
Aquatic shrub growing to 4 m; restricted to streams; flowers in heads, 15-20 mm in diameter; leaves narrow, tapering to a point.



Melastome *Melastoma polyanthum* (Melastomitaceae) PF
Shrub 2.5 m tall; common along the walking tracks; leaves large, hairy with three parallel veins; mauve flowers; fruit a black berry.



Pandanus *Benstonea stenocarpa* (Pandanaceae)
Understory tree to 5 m; leaves slender, to 2.7 m long; fruit large, scarlet, oblong, head-like cluster; eaten by birds and mammals.



Common Pitcher Plant *Nepenthes mirabilis* (Nepenthaceae) ES
Terrestrial climber; carnivorous plant with spikes of red flowers and leaves modified into fluid-filled pitchers that trap insects.



Semecarpus *Semecarpus cassuvium* (Anacardiaceae) PF
Tree to 10 m; flowers white; fruit fleshy with a central stone and borne on a yellowish receptacle; sap black; can cause skin rash.



Water Chestnut *Eleocharis dulcis* (Cyperaceae) SF, Aquatic
Grass-like sedge up to 2 m, common in shallow water at edges of lakes; occasionally cultivated in PNG to make grass skirts.

Mammals are warm-blooded animals that possess hair or fur and nourish their young from special milk producing glands. This group includes humans as well as a very diverse array of other animals such as cats and dogs. There are approximately 5,330 species of land mammals in the world. A total of 293 mammal species (5.4% of the world total) occur in Papua New Guinea and 44 of these (a sixth of the country total) occur in Varirata National Park. There are four general mammal groups represented in Papua New Guinea.

Monotremes. These are egg-laying mammals that are found only in Australia and New Guinea. Two species occur in PNG. One of these, the Short-beaked Echidna *Tachyglossus aculeatus*, has been reported from Varirata National Park but there have not been any recent sightings.

Marsupials. This is actually a diverse group with three main evolutionary branches: (a) carnivorous (meat eating) species such as quolls, (b) the bandicoots and (c) a broad group that includes possums, kangaroos and their relatives. Marsupials differ from other mammals by giving birth to very small, incompletely developed young that are carried in pouches where they suckle and complete development.

Rodents. This group accounts for a third of all the mammals found in PNG and includes such familiar animals as rats and mice. Most species live on the ground but a few are arboreal, meaning that they live in trees. Most rats are vegetarian, eating seeds and fruit. They are generally small but some New Guinea species can reach a weight of at least 1 kg.

Bats. These are the only mammals that are truly adapted for sustained flight. This group includes the large fruit bats or flying foxes familiar to the residents of Port Moresby, as well as the small insect-eating (insectivorous) species that are often seen at dawn and dusk. All of these small insect-eating species use high-frequency sound to locate prey. These bats call as they fly and listen to the reflected echoes to map their surroundings. This system, which is

similar to sonar, is called echolocation. Their calls are beyond the range of human hearing but can be detected with special equipment. Each species gives a distinctive call. Interestingly, some species of moths can detect bat calls and take evasive action to avoid being eaten by the bats.

The fruit bats range in size from small flower-feeding species such as the Common Blossom Bat *Synchonycteris australis*, which weighs about 15 g, to large, fruit-eating species such as the Spectacled Fruit Bat *Pteropus conspicillatus* which can weigh up to 1.4 kg. Fruit bats generally lack the capacity for echolocation, although some species use the sound of their wings to help navigate through forests.

In addition to the native mammals, there are six species of non-native or introduced mammals found in Papua New Guinea. These include the house mouse, two species of rats, wild pigs and Rusa Deer. All but the house mouse and one species of rat are found in Varirata National Park.

Although rats are common in the Park, most species are shy and nocturnal (active only at night), and can be difficult to observe. Rats have a good sense of smell and quickly hide when they sense danger. The insectivorous bats can commonly be seen at dawn and dusk in open areas in the Park but they fly so quickly that it is nearly impossible to identify them to species. The fruit bats often congregate around flowering and fruiting trees and can be seen at night when they are feeding.

With patience, and using a torch to spotlight, marsupials can often be seen by slowly walking along the tracks at night, when most species are active. The wallabies and bandicoots can sometimes be seen along the road verges when they come out to feed at dusk or in the early morning. The Agile Wallaby *Macropus agilis* is active during the day and with luck can be seen in the eucalypt savannah areas.



MAMMALS



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Photography Angus Fraser, Pavel German, Roy & Margaret Mackay, Mike McCoy
Allen Allison, Harold Cogger, Text Allen Allison, Design Mike McCoy

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Relatively small insectivorous bat, up to 11 g. The upper fur is grey-brown, the underside mottled grey and brown. It is widespread in New Guinea and Australia. In New Guinea it occurs up to 1600 m. Its flight is relatively slow and it can hover as it picks its insect prey from vegetation. It is found in both primary and secondary forest.

Eastern Horseshoe Bat
Rhinolophus megaphyllus



Medium-sized insectivorous bat, up to 18 g. The fur is grey-brown at the base, darker brown to reddish-brown at the tips. The underside similar, often a bit darker. Widespread in New Guinea and Australia. It occurs in New Guinea from sea level to more than 2000 m and is found in both primary and secondary forest. It is a fast flyer as it captures its insect prey.

Eastern Bent-winged Bat
Minioternus oceanensis



Small bat, up to 21 g. The fur is dark brown, somewhat paler on the underside. The tail is absent. It is widespread in New Guinea and Australia, up to 3000 m elevation. In VNP it is present in eucalypt savannah and primary and secondary forest. It feeds on nectar, pollen, fruits and probably also insects. It is extremely abundant.

Common Blossom Bat
Synchonycteris australis



Small fruit bat, up to 32 g. The fur of back and flanks whitish at the base, brown at the tips. The undersides are whitish to golden. The wings are dark brown with yellowish spots. The nose is tubular and the eyes are amber. Widespread in New Guinea up to 1700 m elevation. It primarily forages in the understory of primary forest feeding on nectar and fruit.

Common Tube-nosed Bat
Nyctimene albiventer





M. McCoy

Short-beaked Echidna
Tachyglossus aculeatus

Distinctive monotreme mammal up to 1.7 kg. It is easily distinguished from other New Guinea mammals by a dense covering of spines (modified hair) over the upper body and its long, thin, straight snout. It is widespread in New Guinea and Australia. In New Guinea it occurs from lowlands to 1700 m. It feeds on termites, ants and soil invertebrates.



M. McCoy

Agile Wallaby
Macropus agilis

Small kangaroo, up to 20 kg. The fur is coarse, tan on the back and sides, whitish below. There is a distinctive white hip stripe. It is widely distributed in southern and eastern New Guinea and coastal Australia up to around 700 m elevation. It grazes primarily on grass but also eats fruit and foliage. It is generally restricted to open areas such as eucalypt savannah.



A. Allison

Common Bush Wallaby
Thylogale brunii

Moderate-sized wallaby, males to 18 kg, females to around 9 kg. The upper parts are dark brown, the undersides are whitish. The tail is relatively thick and short, carried on the ground. It is widespread in New Guinea, ranging from sea level to the foothills. It is often seen grazing on grass on verges along roads and tracks.



P. German

Long-nosed Echymipera
Echymipera rufescens

Moderate-sized bandicoot, females to 1 kg, males to 2 kg. The fur is coarse, spiny. The colour is generally dark brown with a rust-coloured tinge. It is widely distributed in northern Australia and New Guinea up to 2000 m. It feeds mostly on fruit and fungi, also insects and other invertebrates. It is found throughout VNP, particularly in grasslands and forest edges.



R. Mackay

Giant Bandicoot
Peroryctes broadbenti

Large bandicoot, males up to 5 kg. The fur is coarse and dark brown with reddish flanks. The tail is short, black, often with a white tip. It is endemic to PNG, occurring from lowlands to 1000 m on the SE peninsula of PNG. Its habits are poorly known, thought to feed on fruit, fungi and insects. It is found mainly in primary forest, occasionally in secondary forest.



A. Fraser

Short-snouted Bandicoot
Isoodon macrourus

Moderate-sized bandicoot, females to 1 kg, males to 2 kg. The fur is coarse, brown, fading to white on the lower flanks. The undersides are whitish, as are the feet. It is widely distributed in PNG and northern Australia, up to 1200 m. It feeds mainly on fruit and insects. In VNP it is found mainly in eucalypt savannah and secondary forest.



M. McCoy

New Guinea Quoll
Dasyurus albopunctatus

Moderate-sized marsupial, up to 1 kg. It is the largest carnivorous marsupial occurring in PNG. It is widely distributed in New Guinea, up to 2000 m elevation. The fur is dark brown suffused with black, with distinctive white spots. It is nocturnal and partly arboreal, preying on small reptiles, birds and mammals. It is mainly found in primary forest.



M. McCoy

Short-furred Dasyure
Murexia longicaudata

Small rat-like marsupial, males to 440 g; females to 90 g. The fur is light grey-brown, the undersides light grey. It is endemic to New Guinea where it is widespread to elevations up to 2000 m. Occurs only in primary forest. Carnivorous, feeding mainly on insects, but like other dasyurid mammals it likely also preys on small vertebrates such as lizards.



A. Fraser

Southern Common Cuscus
Phalanger intercastellanus

Moderate-sized cuscus, up to 2.2 kg. The fur is short, greyish white in males, females with a reddish tinge. A dark vertebral stripe runs from the snout and along the back. The undersides are whitish. Widely distributed in New Guinea up to 1200 m. There is a disjunct population on Cape York in Australia. It is arboreal and nocturnal, feeding mainly on fruits and seeds.



P. German

Common Spotted Cuscus
Spiloglossus maculatus

Large cuscus, up to 6 kg. The fur is short and variable in colour. The form in VNP is generally a mottled brown with light brown undersides. The ears are noticeably short. Occurs from eastern Indonesian islands to New Guinea and Cape York Peninsula in Australia, up to 1200 m elevation. It is highly arboreal, feeding on a wide variety of fruit and foliage.



P. German

Sugar Glider
Petaurus breviceps

Small glider up to 165 g. The colour is generally grey or brown above with whitish to yellowish undersides. A black vertebral stripe runs from the snout to the tail. The tail is long and bushy. It has a furred membrane between legs, extended for gliding. It is widely distributed in Australia and New Guinea. It is highly arboreal, feeding on nectar and insects.



H. Cogger

Striped Possum
Dactylopsila trivigata

Small possum, up to 500 g. The colouration is boldly striped black and white. The tail is long, mainly black, with a white tip. The fourth finger is noticeably long. It is distributed across New Guinea up to 2300 m but most common in hill forest. It also occurs on Cape York Peninsula in Australia. It is highly arboreal, feeding primarily on insects and other invertebrates.



A. Allison

Mottled-tailed Giant Rat
Uromys caudimaculata

Large rat up to 700 g. Sandy to grey-brown, underparts whitish. The tail is mottled with brown and whitish patches with a white tip. It is widely distributed in New Guinea and northern Australia from lowlands to nearly 2000 m. It is terrestrial in primary and secondary forest, feeding on fruit, seeds, insects and small vertebrates.



A. McCoy

Chestnut Tree Mouse
Pogonomys macrourus

Small rat up to 45 g. The fur is soft, generally light brown to grey-brown, often with a reddish tinge. The undersides are white and the tail is dark brown to black. It is endemic to New Guinea where it occurs from sea level to 1300 m, but mainly is a hill forest species. It is highly arboreal, mainly in low vegetation and likely feeds on seeds and insects.



M. McCoy

Grasslands Melomys
Melomys lutillus

Small rat up to 35 g. The upper parts are light grey-brown, whitish or buff below. The tail is nearly naked with non-overlapping scales. It is widely distributed in New Guinea and possibly belongs to the same species as *Melomys* populations in northern Australia. It is terrestrial and in VNP it inhabits eucalypt savannah, feeding on vegetable matter.



A. Fraser

Rusa Deer INTRODUCED
Cervus timorensis

A large deer, females to 80 kg, males to 120 kg. The fur is a greyish-brown with darker hindquarters. The males have antlers. Originally from the islands of Java, Bali and Timor, introduced to western New Guinea in 1928, it has spread throughout much of SW PNG. It is a grazer, active in the early morning and late afternoon, mainly in secondary forest.

Varirata National Park has long been recognised as an important bird watching destination both locally and internationally among amateur, enthusiastic and obsessive twitchers alike. Many bird watching tours commence their itinerary in VNP and for good reason. There are 99 families, 335 genera and 813 species of birds known from Papua New Guinea and VNP includes a rich proportion of these, with 58 families, 150 genera and 331 species. These species can be observed in a variety of distinctively different habitats including: savannah and eucalyptus woodland, secondary forest, primary forest, aquatic (waterways and lakes) and the zones where habitats converge (edge zones).

Iconic Species

Many of PNG's iconic species occur within VNP and are well worth searching for. Five species of birds of paradise (Raggiana Birds of Paradise; Magnificent Birds of Paradise; Growling Riflebird; Crinkle Collared Manucode; Glossy Manucode) the New Guinea Harpy Eagle, two species of Paradise Kingfishers, the rare Forest Bittern, Gurney's Eagle and the very shy and secretive Southern Cassowary all occur in different habitats within VNP. The cacophony of Sulphur Crested Cockatoos and Eclectus Parrots combined with the loud and distinctive 'whoosh, whoosh, whoosh' of a flock of Blythe's Hornbills can often be heard along the escarpment trails. With patience, luck and a good guide you have an excellent chance of seeing some of these species. At least seven species are seasonal migrants coming north from Australia during the

austral winter (May to September). These species include the Rainbow Bee-eater, Sacred Kingfisher and the Dollar Bird often seen in secondary forest or open woodland. Other migratory species inhabit VNP's forests including the Buff-breasted Paradise Kingfisher, Red-bellied Pitta, Black-Faced Monarch, and Rufous Fantail.

PNG's national emblem, the Raggiana Bird of Paradise, is perhaps the most widely recognised species that occurs within the Park. Incredibly, during peak breeding season (April–October) there is an excellent chance of seeing as many as five male Raggiana BoP in full breeding plumage vigorously vying for the attention of a female in frenzied displays of colour, dance and avian seduction! This is truly a wonderful and memorable experience and well worth an early start to the day. There are several leks (courtship trees) within the park, however accessibility to the main lek requires little to no exertion being merely 20-30 meters off the tar sealed road on the way to the main Lookout.

Bird Watching in VNP

VNP's network of forest trails make excellent bird watching circuits and also provide opportunities to observe other wildlife. An early start, a local guide or the services of a local and reputable specialist tour operator will enhance your chances of seeing the more secretive species within VNP. The photographs presented in this brochure were taken of birds within VNP and many were photographed at fruiting fig trees within the Main Picnic Area and surrounds.



BIRDS



Varirata National Park (VNP) is PNG's first national park, declared on 10th December 1969 and officially opened on 18th October 1973. It is on state land on the Sogeri Plateau at an elevation of 600–900 m and covers an area of 1,063 ha. It is 48km east of Port Moresby City and accessible by road. The land was locally called *Wodobonomu* and was the traditional hunting ground of the Koiari people.

VNP has scenic views and beautiful rainforests, savannah grasslands and secondary regrowth. The average annual rainfall is 1400–2000 mm. The Park is inhabited by some unique plants and animals such as forest wallabies, possums, bandicoots, cassowaries, the raggiana bird of paradise, as well as many extraordinary reptile and frog species, and a rich variety of remarkable insects.

The Park is one of the best places in the country to learn about biodiversity. It is visited by dozens of nature tours each year and attracts researchers from throughout the world. It is also an important training site for students from surrounding universities.

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Photography and text Angus Fraser, Design Mike McCoy
This Guide Map was produced through the activities of CEPA-JICA Biodiversity Project (2015-2020), which was the joint initiative between the governments of PNG and Japan for the revitalization of Varirata National Park.



seen along the Scarp Track within VNP. Common honks and grunts. Vary and difficult to observe but often and white bill, female has a black head. Call a deep resonant 'whoosh, whoosh' of its wing beats. Male has orange head not hunted. Often heard in flight with its distinctive loud wings, orange buff underbelly with pale scalloping on chest. Occurs in secondary forest and eucalyptus woodland within VNP. Male builds a two walled avenue bower typically decorated with green fruit and berries. Shy and wary. Calls are highly variable and a combination of rasping, chirring and harsh notes. Common

Blythe's Hornbill Hure
Rhyticeros plicatus



Medium sized pigeon (34-37 cm) with distinctive long tail feathers. Occurs in secondary forest, woodland and disturbed habitats. Male, grey-brown, tail is long and unbarred, with a rosy grey head and faint green iridescence behind the neck. Female is barred on head and breast. Common

Brown Cuckoo Dove Kuohu
Macropygia ambouenensis



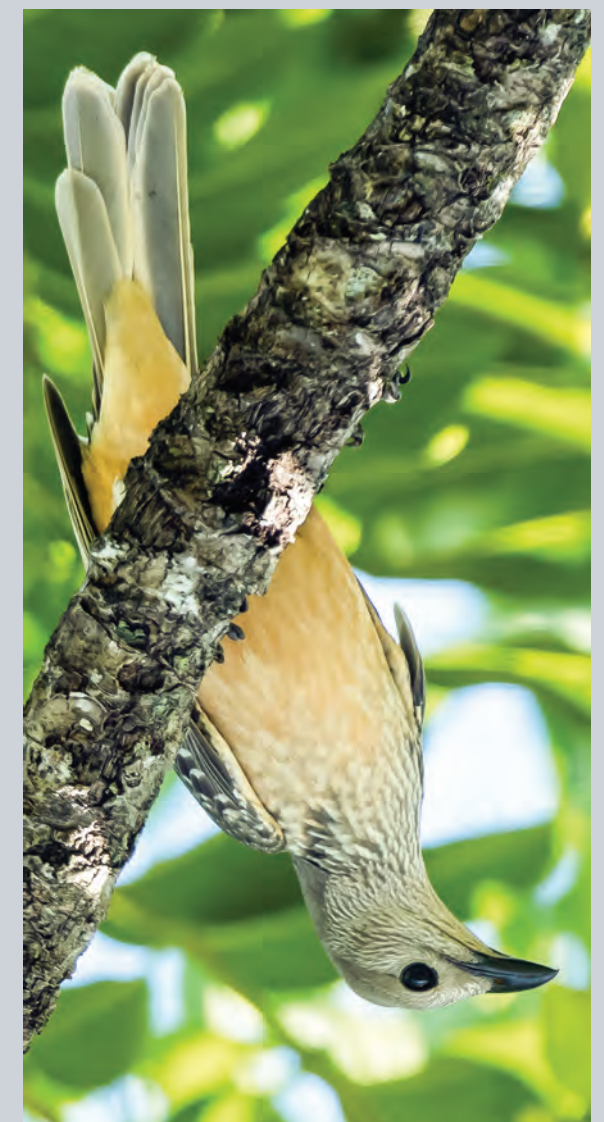
Medium sized bird (32-35 cm) with distinctive plumage: Black head, throat and upper breast and white underparts. Large prominent pale blue hooked bill. Common woodland species often observed in the early morning. Wonderful songster with a range of calls combining bell-like notes and liquid rillicking phrases, hoarse notes, and croaks. Endemic.

Hooded Butcherbird Wahuroka
Cracticus cassicus



A medium sized (28-30 cm) bowerbird, grey-tan back and wings, orange buff underbelly with pale scalloping on chest. Occurs in secondary forest and eucalyptus woodland within VNP. Male builds a two walled avenue bower typically decorated with green fruit and berries. Shy and wary. Calls are highly variable and a combination of rasping, chirring and harsh notes. Common

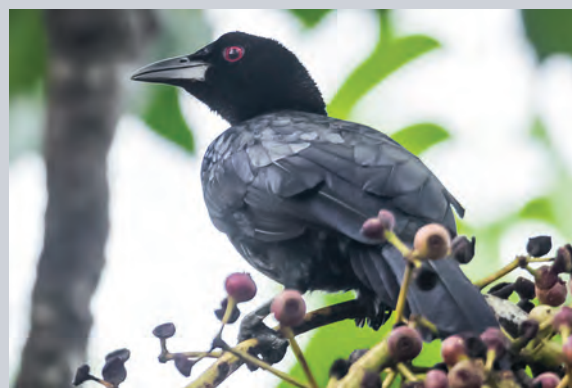
Fawn Breasted Bowerbird Yosevaka
Chamydera cerviniventris





Grey Crow Gayabora
Corvus tristis

A 51-56 cm crow-like bird with large beak, bare pale face and blue iris and relatively long tail. Adult plumage sooty brown. Call a short pitched nasal *creww*, often repeated. A social bird, occurs in small flocks often observed along the park's escarpment. Endemic. **Common**



Crinkle Collared Manucode Ko'akobodu
Manucodia chalybatus

A medium sized (33-37 cm) bird with a red iris and blue-black plumage. Secretive and difficult to observe. Iridescent breast and neck feathers (yellowish green and purple) are apparent in direct light. Occurs in primary and secondary forests in the mid to upper canopy. Favours fig trees. Call is a repeated 'hoo'. Endemic. **Common**



Pink Spotted Fruit Dove Mabukamuni
Ptilinopus perlatus

Large fruit dove (25-27 cm) commonly observed in lowland hill forests. Diagnostic pink spots on the shoulder, mustard coloured neck band, white chin. Dark green wings and pale green belly. Frequently observed in the main picnic area visiting fruiting fig trees. NG endemic. **Common**



Coroneted Fruit Dove Mabutogoro
Ptilinopus coronulatus

Stocky fruit dove (18-19 cm), predominantly dark green with lilac crown edged with a gold band. Yellow under the tail. It occurs in secondary forests and often seen in the main picnic area visiting fruiting fig trees. Solitary and in small flocks. Nests in the understory between 1-5 m above ground. Endemic to NG, **Common**



Raggiana Bird of Paradise Fanaha
Paradisaea raggiana

A medium sized bird (35 cm) occurring in secondary forest, forest edge, and picnic areas where it often feeds on figs, pandanus and other fruiting trees. Male with orange to deep red flank plumes, yellow head and iridescent dark green chin. Call distinctive 'Wau, wau, wau, wau, wau, wau'. PNG Endemic, PNG's national emblem. **Common**



Brown Oriole Seo
Oriolus szalayi

Medium sized bird (25-28 cm) predominantly grey brown, with blackish face patch and dark red iris. Head and neck thickly streaked, as is the pale underbelly. Calls are loud and musical. Feeds on insects and fruit. Shy and wary, it is difficult to observe. Endemic to NG and islands. **Common**



Hooded Pitohui Soroko
Pitohui dichrous

Medium sized bird (22-23 cm) with bold plumage. Head, upperparts and tail are black with chestnut breast and belly. Common in secondary forest and in the vicinity of the Main Picnic Area in VNP. Very unusual species as it is poisonous. Observed in pairs or small groups. A range of calls, the most common is 'pi-to-hui'. NG endemic. **Common**



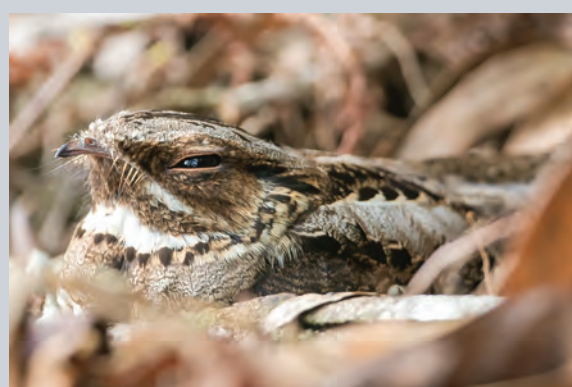
Puff-backed Meliphaga Hugu misimisi
Meliphaga aruensis

Medium sized honeyeater (16-18 cm), olive rump tuft has diagnostic white fringe. Pale yellow ear spot and dark brown iris, stout bill. Difficult to differentiate between other meliphaga species. Commonly observed in VNP in secondary forests and lake side. Endemic to NG and Islands. **Common**



Papuan Frogmouth Humuto
Podargus papuensis

A large bird (46-53 cm) with wide flattened beak and red iris. Plumage is a variable grey-brown, the male with underparts marbled with white blotches and black margins. Female typically lacks marbling. Occurs in secondary forests and often observed in the main picnic area at night. Widespread throughout NG and Australia. **Common**



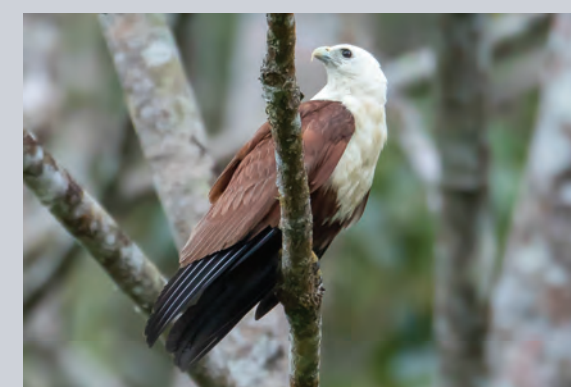
Large-tailed Nightjar Tarobuka
Caprimulgus macrurus

Colouration quite variable. Adults characteristically have white patches on primary wing feathers and tail. Shoulders lined with two rows of lighter coloured spots. White based rictal (whiskers) and white chin gape. Size 25-28 cm. Nests on the ground and is expertly camouflaged. Widespread from SEA throughout NG. **Common**



Azure Kingfisher Heita gigiri
Ceyx azureus

A small kingfisher (16 cm) preferring aquatic habitats feeding on aquatic insects, frogs and fish. Dark blue back, wings and crown with light brown tawny to pale chest. Commonly observed along Narirogo Creek on the Self Guide Track and lakeside. Widespread in NG and **Common**



Brahminy Kite Duna koruta
Haliastur indus

A medium sized raptor (41-43 cm, wingspan 110-125 cm) which frequents savannah, secondary forest and settlements. Distinctive colouration - white chest and head with chestnut wings and belly. Hunts small prey and also scavenges. Call is a meek 'peeyah' similar to a whistling kite. Widespread, India to NG, and Australia. **Common**



Yellow-faced Myna Gorane hisidakoro
Mino dumontii

A medium sized bird (25-26 cm) with bright yellow-orange facial skin, yellow belly and black upperparts, and white patches on rump and wings. Gregarious, frequently observed in eucalyptus woodland, secondary forests and adjacent to human habitation. Call is loud guttural twangs. Often in pairs or small flocks. NG Endemic and Islands. **Common**



Helmeted Friar Bird Kohako
Philemon buceroides

Medium sized bird (33-35 cm) with long slender neck. Face is bare black skin and bill often has a large knob at the base, red iris. Typically vocal and commonly seen in secondary forests, woodland and settlements. Diet consists of insects, and fruit. Widespread throughout NG and islands, also in Australia. **Common**



Rainbow Lorikeet Kihiri kuruku
Trichoglossus haematodus

A medium sized (25-30 cm) noisy parrot, vibrant red-orange breast, dark blue head, red beak with green back and tail. Often seen in pairs or small groups, occasionally large flocks. Occurs in secondary forests and eucalyptus woodland within the park. Nests in tree hollows. Widespread west of NG, Australia and east to Melanesia. **Common**



Southern Cassowary Evadubu
Casuaris casuaris

A very large, unmistakable flightless bird, 1.5m in height. The head has a large bony casque, the face is bare blue, there are double red wattles. The plumage is shiny black, coarse and shaggy. The legs are large and very strongly clawed. Solitary, found in forests, feeds on fallen fruits. Southern NG and northern Australia. Rarely seen in VNP.

Papua New Guinea has a rich diversity of reptiles in eleven major groups that includes snakes, lizards, crocodiles, and turtles. With the exception of the crocodiles, each group is represented in Varirata, and of the 346 species of reptiles known from PNG, 61 of these occur in the Park.

Turtles belong to the **Chelid** family and there is one species of freshwater turtle found in the lakes and streams of the Park. It can occasionally be seen basking in the sun on a log or rock beside the water.

Five groups of lizards may be found in VNP. Geckos or **Gekkonids** occur worldwide. There are two types of geckos in the Park. The arboreal geckos that live in trees and the terrestrial geckos that live under rocks and rotten logs. One species, the common house gecko, lives only in houses. Geckos are nocturnal animals, they feed largely on insects and spiders.

Snake-lizards are **Pygopodids**. They are closely related to the geckos. Two species occur in PNG. They are terrestrial, limbless and snake-like in appearance. Like the geckos and skinks, they can drop their tail as a predator defence.

Skinks or **Scincids** belong to the largest and one of the most diverse families of lizards in the world. Most skinks are active during the day. Depending on the species they can be found under logs, actively foraging in the leaf litter or in trees. Most are largely insectivores, though the Bluetongues will also eat fallen fruit. Some skinks, like the Emo Skinks (*Emoia*) are egg-layers, other species such as the Bluetongue have live young.

Dragon lizards are **Agamids**. There are two species in VNP and both are arboreal. They have long legs with strongly clawed hands and feet, and very long tails. They have a distinctive crest of spine-like scales at the back of their heads. They are agile lizards and active during the day.

The largest lizards in the world belong to the **Varanid** family. They are commonly called goannas or monitors. At least one species of this family is present in the Park. It is a

very shy animal that will flee from humans if disturbed. Its diet comprises arthropods, birds, lizards and occasionally small mammals. Varanids typically have long tails, pointed snouts and a forked tongue like a snake which they flick in and out, "tasting" their surroundings.

There are four groups of snakes occurring in the Park. The smallest are the Blindsnakes or **Typhlopids**. These are worm-like snakes that are burrowers and feed mostly on the larvae and eggs of ants and termites. They are harmless, though they can emit a foul odour if disturbed.

Pythons and Boas belong to the **Boid** family. Both occur in PNG, though only pythons are found in the Park. They are non-venomous and kill their prey by constriction, causing suffocation. Pythons can be very large snakes but they will not attack humans unless provoked. They prey upon birds and mammals, and occasionally other reptiles.

Colubrid snakes belong to the largest and most diverse family of snakes in the world. The snakes in this family are mostly solid-toothed and non-venomous, though some in New Guinea are mildly, but not dangerously, venomous.

The snakes of the **Elapid** family are all venomous, though not all are dangerous. However the group does include the most highly venomous and dangerous snakes of New Guinea of which several are found in the Park. These are the Papuan Taipan, the Papuan Black Snake, the Death Adder, and the Small-eyed Snake. If any of these snakes are encountered, move away from them slowly and quietly. Avoid disturbing them in any way.

Reptiles tend to be secretive animals, very wary of human approach. Although there are many species in the Park, with the exception of the small, active Emo and Rainbow Skinks, most reptiles are not often seen by the casual visitor. Additionally, a number of reptiles, such as the geckos and some of the snakes, are nocturnal. Although many people have a fear of reptiles, particularly snakes, reptiles are nonetheless fascinating animals and are a vital and integral component of the Park's broader environment.



REPTILES

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This Guide Map was produced through the activities of CEPA-JICA Biodiversity Project (2015-2020), which was the joint initiative between the governments of PNG and Japan for the revitalization of Varirata National Park.



Total length to 175 mm, tail length to 110 mm. A terrestrial lizard found in the forest among the leaf litter. The head is gold-brown. The upper body is olive-brown with darker markings. The sides are dark brown with lighter spots. Endemic. Common

Slender Emo Skink Boromai
Emoia physciae



Total length to 180 mm, the tail length to 100 mm. A terrestrial gecko found in leaf litter, under rocks or logs in savannah and forest. Dark brown base colour with or without striped pattern on upper body and tail. Long, thin bent fingers and toes which are strongly clawed. Pointed snout, large eyes. The skin is rough and pimply. Endemic. Common

Ground Gecko Boromai-dubu
Nactus sp.



Total length to 100 mm, the tail length to 60 mm. A small terrestrial skink found around rocks in savannah. There are two distinct cream bands along the brown body. The snout is pointed. The eye is large and covered with a transparent scale. Endemic. Common

Yule Island Snake-eyed Skink Boromai
Cryptobolepharus yulensis



Total length to 95 mm of which the tail is 50 mm. An arboreal gecko found in houses and also in the forest. The body colour is brown to pale tan to cream with irregular light and darker markings. There are expanded pads on the fingers and toes. The eyes are large with vertical pupils and a gold iris. The skin is smooth. SE Asia to Oceania. Common

Common Dwarf Gecko Boromai-kae
Hemiphyllodactylus typus



Total length to 130 mm, tail length to 85 mm. A terrestrial lizard found in the open vegetation of savannahs. The upper body is brown with lighter longitudinal stripes along the sides. The throat is whitish. It has four fingers and five toes. Endemic. Common

Bicarbonate Rainbow Skink Boromai
Carlia bicarinata



Total length to 120 mm, the tail about 60 mm. This gecko is almost exclusively an inhabitant of houses, feeding at night on insects attracted to the house lights. It has a distinctive chirping call. At night, when it is active, this lizard is a uniform light pinkish-tan, during the day its colouration is grey-brown with darker markings. SE Asia-Pacific. Common

Common House Gecko Kae
Hemidactylus frenatus



Total length to 500 mm. A terrestrial lizard found in forests and savannahs. The colour is highly variable, usually a shade of grey or brown with darker markings. Limbs are absent. Feeds mostly on smaller lizards and also insects. Occurs in Australia and Papua New Guinea. Uncommon

Burton's Snake-lizard
Lialis burtonis



Shell length to 26 cm. Aquatic, found in the lakes of the Park. A yellow-cream band runs from the snout to the ear passing over the eyes. The lower jaw with orange-red markings. The carapace (upper shell) is dark brown with orange-red edges, the plastron (lower shell) is bright orange, yellow or pinkish. The body is dark grey. Common

Red-bellied Shortneck Turtle Vero
Emydura subglobosa





A. Fraser

Jobi Skink Eveboro
Sphenomorphus jobiensis

Total length to 230 mm, tail length to 150 mm. Terrestrial, found in the forest among leaf litter and under rotten logs. Stout brown body, large eyes with white eyelids. A distinctive dark round spot near the ear. Lighter vertical barring on the body and tail. Endemic to the New Guinea region. **Uncommon**



M. McCoy

New Guinea Bluetongue Hodo Kae
Tiliqua gigas

This is the largest of the New Guinea skinks, growing to a total length of around 60 cms. It is a terrestrial lizard, found in forest and savannah. It is an omnivore; eating both plant and animal material. Its colouration is a shade of light brown patterned with darker cross bands. It occurs from Indonesia to New Guinea. **Uncommon**



A. Fraser

Forest Dragon Kesoua
Hypsilurus modestus

Total length to 320 mm, tail length to 230 mm. Arboreal, perching and foraging on branches and vines in the forest. Bright green colouration, brownish posteriorly. The legs and tail with darker bands. A serrated crest is present on the neck. It feeds on insects and spiders, and some plant material. Endemic. **Uncommon**



A. Allison

Papuan Tree Dragon
Hypsilurus papuensis

Total length to 600 mm, tail length around 350 mm. This is a large, long-tailed lizard with a spectacular crest on its neck. The colour is a variable shade of yellowish-brown. It is found in forest and forest edges and is almost totally arboreal. It feeds on arthropods and some plant material such as flowers and fruits. Endemic. **Uncommon**



S. Eipper

Peach-throated Monitor Efoka
Varanus jobiensis

This monitor grows to a total length of around 1.2 m with a tail length of 500 mm. It is partly terrestrial, foraging on the ground in forests, though it also readily climbs trees, to search for food or if disturbed on the ground. It feeds on small mammals, birds - particularly nestlings, and reptiles including snakes. It occurs from Indonesia to New Guinea. **Uncommon**



A. Fraser

Montane Blindsnake
Gerrhopilus inornatus

Length to 230 mm. A burrowing worm-like snake found in forest areas, usually in the loose soil under rotting logs. The whole body is smooth and glossy. The head with minute eyes which appear as dark spots. The tail is rounded and blunt. It feeds largely on the larvae of ants and termites. It is a harmless snake. Endemic. **Uncommon**



M. McCoy

Brown Tree Snake Nanahuma
Boiga irregularis

Body length to 2.3 m. Largely arboreal, found in forests, and sometimes also in houses. Very slender with a broad head. Light brown to red-brown body, light yellowish belly. The eyes are large with vertical pupils. Nocturnal (active at night). Feeds on geckos, birds and small mammals. Found in the Australia-Pacific region. Mildly venomous. **Common**



A. Fraser

Slatey-grey Snake Varaka-kae
Stegonotus cucullatus

Body length to 1 m. Terrestrial, found in forest among leaves and under rocks and fallen timber. It is active at night (nocturnal). The body is light to dark grey-brown, the scales are black-edged. The eyes are large with round pupils. This snake can be aggressive and bites readily if disturbed. Found in the Indo-Australian Region. Non-venomous. **Uncommon**



A. Fraser

Common Keelback Nanahuma
Tropidonophis mairii

Body length to 900 mm. Semi-aquatic and terrestrial, found in the forest near water bodies. The body is slender and the head is distinct from the neck. Colouration is a shade of brown to greenish-brown with dark brown spots. It feeds mainly on frogs. Found in the Indo-Australian Region. Non-venomous. **Common**



A. Fraser

Southern White-lipped Python Moe
Bothrochilus meridionalis

Length to 2.5 m. Terrestrial; found in forest near water bodies. A heavily built python, the head is long and distinct from neck. The body is uniformly dark brown with a strong iridescent sheen. The lips are white. It feeds on mammals such as bandicoots. Southern NG and islands of Torres Strait. Non-venomous. **Uncommon**



A. Fraser

Amethystine Python Hiniku
Morelia amethystina

Body length to 5 m. PNG's longest snake. Terrestrial and arboreal. Found in savannah, forest and along river banks. The body is slender, the head is large and elongate. The colouration is highly variable from dark grey-brown to sandy brown with darker markings. The body has an iridescent sheen. Indo-Australian region. Non-venomous. **Uncommon**



M. McCoy

Green Python Boreka
Morelia viridis

Body length to 1.5 m; Mainly arboreal, found in forest, savannah and disturbed areas. The body is long and laterally compressed. Adult snakes are bright green with or without white spots, juveniles are bright yellow with scattered brown markings. Feeds on small mammals and occasionally birds. Indo-Australian Region. Non-venomous. **Uncommon**



A. Fraser

New Guinea Death Adder Tahadu DANGEROUS
Acanthopis laevis

Body length to 500 mm. Terrestrial, occurs in rainforest, savannah and plantations. The body is quite stout, the head is large and broad and distinct from the neck. The eyes are large with vertical pupils. The colour is variable, basically brown with darker markings. It feeds mainly on small mammals. Found in the Indo-Australian region. **Common**

HIGHLY VENOMOUS



A. Fraser

Small-eyed Snake Matabea DANGEROUS
Micropechis ikaheka

Body length to 2 m. Terrestrial, found in forest. Stocky body with narrow head barely distinct from the neck. The eyes are very small. The head is dark grey, the body is yellow-cream, darker posteriorly. Darker banding may be distinct or indistinct. Feeds on small mammals and reptiles including other snakes. Potentially aggressive. **Uncommon**

HIGHLY VENOMOUS



A. Allison

Papuan Taipan Yarama DANGEROUS
Oxyuranus scutellatus canni

Body length to 3 m. Terrestrial, found in savannah and in the vicinity of human habitations. This snake is very swift moving and potentially aggressive. It is large and slender snake with an elongate head and large eyes. The body is grey-brown, distinctly reddish posteriorly. This is an endemic subspecies of the Australian taipans. **Uncommon**

HIGHLY VENOMOUS



A. Allison

Papuan Black Snake Yarama DANGEROUS
Pseudechis papuanus

Length to 2 m. Terrestrial, found in savannah and forest edges. The body is stout, the head broad with a rounded snout, and not distinct from the neck. The colour is uniformly black above and below, the lips and chin are whitish. Occurs in NG and several islands in Torres Strait. **Uncommon**

HIGHLY VENOMOUS

Frogs are found all over Papua New Guinea and most occur nowhere else, these are termed endemic species. There are 6 families of frogs in Papua New Guinea, and 5 of them are found in Varirata National Park. There are 24 species of frogs found in the Park, representing 6% of PNG's total of 371 species.

Hylids are mostly frogs that prefer living in trees (arboreal), and so are commonly called tree frogs. Some of the hylid frogs are ground dwelling (terrestrial) and others are semi-aquatic.

Ranids are terrestrial and aquatic frogs. They are found around water bodies such as ponds, creeks and lakes.

Myobatrachids are terrestrial frogs that are found mainly in the leaf litter on the forest floor.

The **bufonids** are toads. There are two toad species in New Guinea, both are introduced and are considered serious invasive pests.

Frogs from these four families lay eggs in water. The eggs hatch into free-living tadpoles that eventually change into juvenile frogs. This process is called indirect development or metamorphosis.

The fifth family, the **microhylids**, are frogs that have many different characteristics. Some are arboreal, while others are terrestrial or may perch on low vegetation to call (scansorial). The microhylid frogs lay eggs that hatch directly into small frogs. This process is called direct development where there is no metamorphosis.

All the frogs in the Park are nocturnal, meaning they are mainly active during the night. Sometimes if the weather has been overcast and it has been raining, frogs will start becoming active in late afternoon or at dusk.

Water is very important for frogs because they use water for breeding, drinking, and for breathing. Frogs have very thin skin through which they can breathe and drink by absorbing the water and its oxygen around their skin.

Therefore, frogs must always have moist skin and live near water or in wet areas like the rainforest. They can also absorb water from the food they eat. The diet of frogs include a diversity of insects like ants, termites, and beetles.

The frogs can be very colourful and many frogs even have the ability to change their skin colour. The skin colour tends to match the colour of the environment to blend in, like camouflage, so that predators cannot spot the frog so easily. For example, a tree frog will be green to blend with the leaves of trees, whereas a ground frog will be grey-brown coloured to resemble to the ground.

If you cannot spot a frog, you can probably hear them calling. Only male frogs call by using their inflatable vocal sacs below their jaws. Males call to advertise their presence for two reasons: to attract females to reproduce, and to scare off other male competitors. Each frog species has its own specific call, so you can recognize a frog species by its call without seeing it.

Frogs are very important animals as they can indicate how healthy the environment is. If there are many different species of frogs around you, it means the environment is healthy! They also have an important role in the food chain, where they eat many insects and are themselves eaten by many different species of snakes and birds.

Frogs are vulnerable and very sensitive to environmental change. The biggest threats to frogs are habitat degradation and destruction, and diseases. Luckily, Varirata National Park protects many species of animals including frogs from habitat degradation and destruction. However, diseases can still invade the Park and affect the frogs. There is a deadly fungus affecting frogs from all over the world, called the Chytrid fungus. This disease has not yet been introduced to Papua New Guinea, though it occurs in Australia. To prevent any disease transmission to frogs, we recommend that you do not catch frogs in the Park. If you see a sick frog with its belly up and not moving, please inform the Park authorities.



FROGS

Varirata National Park (VNP) is PNG's first national park, declared on 10th December 1969 and officially opened on 18th October 1973. It is on state land on the Sogeri Plateau at an elevation of 600–900 m and covers an area of 1,063 ha. It is 48 km east of Port Moresby City and accessible by road. The land was locally called *Wodobonomu* and was the traditional hunting ground of the Koiari people, and wherever possible Koiari names are included with the common names for each species depicted in this brochure.

VNP has scenic views and beautiful rainforests, savannah grasslands and secondary regrowth. The average annual rainfall is 1400–2000 mm. The Park is inhabited by some unique plants and animals such as forest wallabies, possums, bandicoots, cassowaries, the raggiana bird of paradise, as well as many extraordinary reptile and frog species, and a rich variety of remarkable insects.

The Park is one of the best places in the country to learn about biodiversity. It is visited by dozens of nature tours each year and attracts researchers from throughout the world. It is also an important training site for students from surrounding universities.



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www.facebook.com/pngbiodiv/

Photography Angus Fraser, Text Nityya Simard, Design Mike McCoy
This Guide Map was produced through the activities of CEPA-JICA Biodiversity Project (2015-2020), which was the joint initiative between the governments of PNG and Japan for the revitalization of Varirata National Park.



Length to 55 mm. Arboreal, found in forest and near slow running creeks. The call is a quiet series of notes sounding: "waa, waa, waa...". The colouration is highly variable. There are fringes apparent on the edges of front and back legs, the heels are soft and pointy. The iris of the eye is gold with a green upper margin. Uncommon

Southern New Guinea Tree Frog
Hylia impura Hylid



Length to 30 mm. Terrestrial, found in the forest. The males call from concealed places under leaves, the call is a short series of loud rough notes in rapid succession. Large eyes. The upper body is warty, a dark olive-brown or reddish colour. The belly is mottled grey and white and yellow to red towards the posterior. Endemic. Common

Red Mawata Frog
Hyliphobus rufescens Microhylid



Length to 70 mm. Arboreal, found in forest and near slow running creeks. The call is a quiet series of notes sounding: "waa, waa, waa...". The colouration is highly variable. There are fringes apparent on the edges of front and back legs, the heels are soft and pointy. The iris of the eye is gold with a green upper margin. Uncommon

Fringed Free Frog
Litoria eucnemis Hylid



Length to 33 mm. Terrestrial, found in the forest. The call is a short series of 1 to 4 notes with a scratchy impression. The snout is rounded, the eyes are small. The upper body is smooth, coloured grey/yellow/red-brown, with or without a mid-dorsal stripe. The hidden surfaces of the thighs are bright orange. Endemic. Uncommon

Mehely Frog
Cophixalus ateles Microhylid



Length to 35 mm. Aquatic and scansorial, found along large water bodies. The call is a series of irregular notes, harsh squeaky "chik-chak". The snout is angular. The upper body is a leaf green mottled with occasional darker yellow spots. The concealed surfaces of the hind limbs are bright orange. The belly and throat are creamy white. Endemic. Common

Foothill Reed Frog
Litoria chloristoma Hylid



Length to 15 mm. Terrestrial and scansorial. Found among leaf litter. The call is an irregular slow series of plaintive, high frequency notes. The snout is pointed, fingers and toes with disks. The upper body is reddish brown with irregular raised warts on the back limbs. The iris of the eye is bronze to red-gold. Endemic. Common

Mehely Frog
Cophixalus ateles Microhylid



Length to 60 mm. This terrestrial frog is found in the forest, often near streams and ponds. The call is a series of loud snorts. The upper body is smooth with raised longitudinal ridges with black underneath. The head is broad and the eyes are large. The colour is a mottled grey-brown. Endemic. Uncommon

Wokan Cannibal Frog
Myobatrachia



Length to 27 mm. Terrestrial and scansorial. Found along creek edges. The call is a wooden rattle of notes in rapid succession. The head is broad with a pointed snout, fingers and toes with large disks. The upper body is mottled brown or green with a "W" mark. The posterior belly and hind limbs are intense yellow. Endemic. Uncommon

Moroker Rainforest Frog
Hylid





Striped Rocket Frog *Arebada*
Litoria nasuta **Hylid**

Length to 45 mm. Terrestrial, commonly occurs along the margins of lakes. The call is a rapid series of chattering notes. The legs are long and the snout is long and pointed. The upper body with black and light brown longitudinal bands. The chest is white and the belly is yellowish. **Common**



Efogi Tree Frog *Hidi kaharah*
Litoria prora **Hylid**

Length to 42 mm. Arboreal, found in forest about 1-3m above the ground. The call is a short series of 2-7 bleating notes. It has a rostral spike. There are scalloped fringes on the arms and legs. The upper body is warty. The colouration is mottled green/grey, the backs of the thighs are brown/purple with white spots. The belly is white. Endemic. **Uncommon**



Tree Frog *Hidi kaharah*
Litoria sp. **Hylid**

Length to 65 mm. Arboreal, found in forest near lakes. The call is a rattling succession of notes that slow down. The head is broad, the eyes are large, the iris is gold with a diamond shaped pupil. The upper body is brown with green spots or white-cream with brown-green spots. The sides and belly are white. Endemic. **Uncommon**



Treasury Island Tree Frog *Hidi kaharah*
Litoria thesaurensis **Hylid**

Length to 60 mm. Arboreal, found in forest. The call is a series of short buzzing notes. The upper body colour is variable: dark/light brown/pale green with or without white spots. The belly is white. The eyes are edged with green. The bones are green (visible in the underside of the thighs). **Uncommon**



Brown River Tree Frog *Hidi kaharah*
Litoria vocivincens **Hylid**

Length to 27 mm. Arboreal, found in forest, disturbed areas and along water bodies. The call is a continuous succession of buzzes. There are two colour patterns: (1) upper body green with black spots, (2) upper body dull olive with yellow stripes. The eyes are large. Endemic. **Common**



Victoria Archipelago Frog *Watawa kaharah*
Mantophryne lateralis **Microhylid**

Length to 55 mm. Terrestrial, found in forest. The call is a very long succession of notes, sounds like rough barking. The legs are short. The upper body is dark brown to almost black. There are dark bands on the sides of the body with white lower edges. Two warts on the chin. **Common**



Iowari School Frog *Watawa kaharah*
Mantophryne menziesi **Microhylid**

Length to 38 mm. Terrestrial, found in forest, forest edges and disturbed habitats. The call is a short series of rough notes. It is a squat frog with large eyes. The upper body is warty grey-brown. There is a distinct dark spot towards the posterior near the hind legs. Endemic. **Common**



White-lipped Tree Frog *Hidi kaharah*
Nyctimystes infrafrenatus **Hylid**

Length to 130 mm. Arboreal, found perched in trees in forest, plantations, gardens, and near water bodies. The call is a loud barking. The head is broad and long. The legs are long. The upper body is bright plain green. The belly is white. The lower lip is white. The iris of the eye is gold. **Common**



Kokoda Big-eyed Tree Frog *Hidi kaharah*
Nyctimystes semipalmatus **Hylid**

Length to 84 mm. Arboreal, found in forest. The call is similar to the sound of a horse galloping. The nostrils are closely spaced. There are golden veins over the large eyes. The legs are long and there are pointed lappets on the heels. There are large finger and toe discs. The upper body is patchy grey/brown. Endemic. **Uncommon**



Port Moresby Cross Frog *Hidi kaharah*
Oreophryne loriae **Microhylid**

Length to 27 mm. Arboreal, found in forest. The call is a series of long notes that sound harmonic. The upper body is pale brown with darker markings, pale bands on the sides. The belly is yellowish brown, darker on the throat. Endemic. **Uncommon**



Amau Microfrog *Watawa kaharah*
Paedophryne amauensis **Microhylid**

Length to 9 mm, this is the smallest frog in the world. Terrestrial, found in leaf litter on the forest floor. The call is a series of very high-pitched insect-like peeps. The body is brown with darker brown patches. The eyes are reddish. Often overlooked because of its size. Endemic. **Common**



Arfak Mountains Frog *Haiti kaharah*
Papurana arfaki **Ranid**

Length to 160 mm. Terrestrial and aquatic, found along creeks and streams. The call is a squeaky note. The upper body is very warty and rough. The colouration is plain brown with or without irregular white patches. The belly is white. Endemic. **Uncommon**



Water Frog *Haita kaharah*
Papurana daemeli **Ranid**

Length to 80 mm. Terrestrial and aquatic, found along water bodies such as creeks. The call is a short series of 3-4 wavering notes sounds like a duck: "quik quaaq quaaq". The snout is projecting and rounded. The sides of the snout are dark like a mask. **Common**



Eilogo Estate Frog *Haita kaharah*
Papurana garritor **Ranid**

Length to 95 mm. Terrestrial and aquatic, found along water bodies such as creeks. The call is a loud chattering series of notes: "crek-crek-crek...". The snout is projecting and angular. The ear is large and round. **Uncommon**



Mountain Swamp Frog *Haita kaharah*
Papurana grisea **Ranid**

Length to 100 mm. Terrestrial and aquatic, found along water bodies such as creeks and lakes. The call is a short series of squeaky notes. The snout is projecting and rounded. The sides of the snout dark like a mask. Endemic. **Common**



Cane Toad *Mao INTRODUCED*
Rhinella marina **Bufo** **id**

Length to 100mm. Terrestrial, found in forest and disturbed areas. The call is a melodious trill lasting 3 to 4 seconds. There are distinctive poison glands on the back of the head behind the ears. **Introduced to PNG from South America and considered a serious pest.**

Over 95% of the world's fauna (approximately 15-30 million species) are invertebrates, which comprise animals that have evolved without a backbone. PNG has a very rich diversity of invertebrate fauna and you have an excellent chance of observing some of PNG's most beautiful butterflies and moths, dragonflies and damselflies, and an astounding variety of beetles in VNP. It is likely that invertebrates represent more than 90% of the animals in the Park and include at least 5000 species.

You will likely hear the noisy cicadas and may also encounter less appealing invertebrates such as centipedes and spiders. Don't attempt to pick them up or harm them and you will avoid a nasty bite. In the wet season leeches are common in the primary forests but don't let these put you off visiting VNP!

Two of the eight major invertebrate groups (Phyla) are represented in this Field Guide Brochure: Phylum Arthropoda (arthropods) and Phylum Annelida (annelids).

Annelids are soft bodied 'segmented worms' and the group includes marine worms, earthworms and leeches. Earthworms are extremely beneficial to soils for enhancing nutrient cycling processes, while leeches are parasites that feed on the blood of other animals and have medicinal applications often used to reduce swelling after surgery.

Arthropods have segmented bodies, jointed legs and often have a rigid external protective covering called an exoskeleton. Arthropods include the following four major groups: Insects; Spiders; Millipedes and Centipedes; and Crustaceans. It is estimated that a staggering 80% of all animals on earth are arthropods and 75% of all animals are insects!

Phylum Arthropoda (Arachnids)

Arachnids have eight legs, and specialised jaws (mandibles) adapted for piercing and chewing. Spiders, harvestmen, scorpions, ticks, and mites are all

arachnids and some are venomous and can cause health complications, give nasty stings or infections. These animals should be treated with care and not handled.

Phylum Arthropoda (Myriapoda - millipedes and centipedes)

Millipedes and centipedes both have long segmented bodies. Centipedes have one pair of legs per segment and millipedes have two pairs of legs per segment. Millipedes are generally decomposers in forest ecosystems while centipedes are venomous predators and can inflict a painful bite. Both occur in VNP.

Phylum Arthropoda (Crustaceans)

Crustaceans are primarily aquatic animals (live in water) and include crabs, crayfish, shrimps, and barnacles. Widespread in marine systems, some have also evolved to live in freshwater, with species shrimps and crabs both occurring in VNP. With patience, you can observe these animals along Narirogo Creek.

Phylum Arthropoda (Insects)

Insects have six legs and usually one or two pairs of wings although some insects do lack wings. There are 29 Orders of insects including: Lepidoptera (butterflies and moths); Coleoptera (beetles and weevils); Orthoptera (grasshoppers and katydids); Blattodea (termites) Hymenoptera (ants, wasps and bees); Diptera (flies and mosquitoes); Mantodea (mantids); Odonata (dragonflies); Hemiptera (Cicadas); and Phasmatodea (stick insects). Many colourful butterflies and dragonflies are easily observed within VNP. With careful observation you can also see more cryptic (camouflaged) species of moth, beetle, katydid, grass hopper, and giant stick insects to name a few.

It is often very difficult to correctly identify invertebrates to species level. Therefore for most of the animals pictured in this brochure, the much broader biological category of the Order to which they belong is used.



INVERTEBRATES

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Photography and text Angus Fraser, Design Mike McCoy

This Guide Map was produced through the activities of CEPA-JICA Biodiversity Project (2015-2020), which was the joint initiative between the governments of PNG and Japan for the revitalization of Varirata National Park.



Scarab beetle
Order Coleoptera, *Pelopides schradeti*
Medium sized, stout black beetle with terminal segments of the antennae club like. Forelegs adapted to digging and primarily active at dusk or nocturnal. Larvae comprise white grubs are found in soil, and soft rotting timber.



Scarab beetle
Order Coleoptera, *Oryctes* sp.
Medium sized beetle, hemispherical varying in colour from dark tan and black on the dorsal side and pale ventrally. Attracted to lights at night and emits a hissing sound if alarmed.



Longhorn beetle
Order Coleoptera, *Agriaonome* sp.
Large tan coloured longhorn beetle, with prominent mandibles and long antennae. Emits hissing sound if alarmed and will bite if handled incorrectly. Attracted to lights at night.



Termites
Order Blattodea
Masses of flying termites congregate under specific environmental conditions of temperature and humidity to mate and form new colonies. Approximately 25 mm in length with forewings and hind wings similarly sized.



Freshwater crab
Order Decapoda, *Holuhisana papuana*
A small freshwater crab with cryptic colouration; rusty brown and mottled orange dorsally, but pale ventrally. Well suited to the rocky substrate of watercourses throughout VNP.



Millipede
Order Myriapoda
Long segmented arthropod. Typically grey with yellow margins and black markings laterally on each segment. Generally inhabits forest floor leaf litter, but a capable climber. Active during the day (diurnal).



Order Arhynchobdellida, Haemadipsid Leech
A small segmented parasitic annelid with a preference for moist wet forest environments. Occurs on forest floor and low level vegetation. Abundant during wet season rains and can survive long dry periods.



New Guinea Tarantula
Order Araneae, *Selenocosmia* sp.
Large burrowing spider, variable in colour, occurring in savannah and primary forests. Silken lined cylindrical burrow that can extend to 1 m deep. Typically a nocturnal predator. Venomous.





Weevil Beetle

Order Coleoptera, *Eupholus* sp.

Small beetle with cylindrical body and rounded abdomen. Approximately 10 mm in length. Long and slender snout, forward pointing. This genus of beetle can be found across all vegetation types within VNP.



Cicada

Order Hemiptera

A large cicada approximately 100 mm in length. Green brown body, with green to yellowish venation in translucent wings. Male cicadas use their tymbal organ (vibrating membrane under the wing) to generate extraordinarily loud 'singing' at dusk.



Cicada

Order Hemiptera

A medium sized cicada approximately 40 mm in length. Green body and translucent wings. Abundant in VNP and nocturnal. Attracted to lights.



Bumblebee

Order Hymenoptera

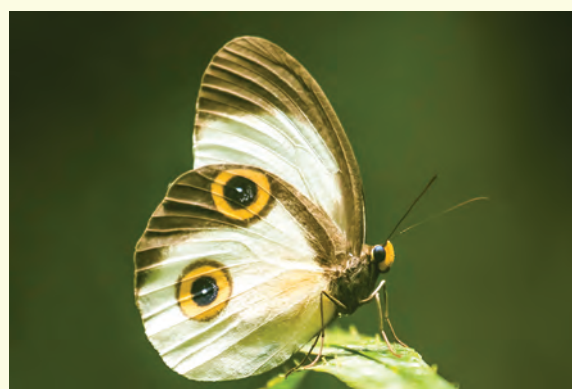
A large bumble bee with black head, yellow thorax and black abdomen and dark blue translucent wings. An active bee found in secondary forests, savannah and often seen frequenting flowers.



Rainbow Ant

Order Hymenoptera

A strikingly coloured ant characterised with iridescent dark blue head, a magenta and copper gold thorax and aquamarine abdomen. Occurs in primary forest.



Butterfly

Order Lepidoptera

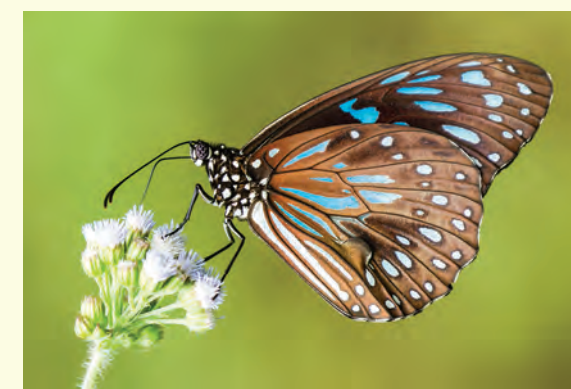
A common primary forest butterfly which is predominantly white with dark brown forewing and hindwing margins. Two large yellow, brown and black coloured 'eyes' apparent on each hindwing as a strategy to deter predators.



Geometrid Moth

Order Lepidoptera

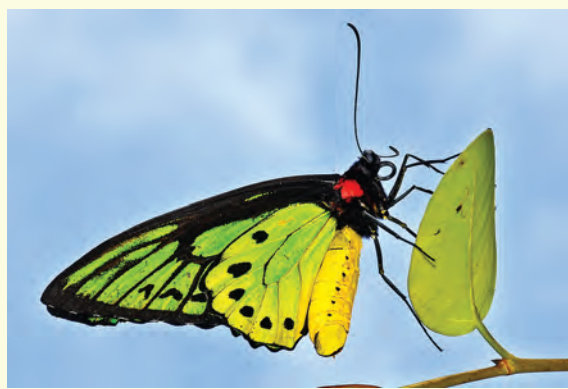
A cryptically coloured pale moth, superbly camouflaged against eucalyptus tree bark in savannah woodland habitats in VNP. Approximately 50 mm wingspan. Attracted to lights.



Blue Tiger Butterfly

Order Lepidoptera, *Tirumala hamata*

A beautifully coloured butterfly with black wings interspersed with striking blue spots. Wingspan of approximately 70 mm. A migrant species and widespread globally. Commonly observed in VNP picnic areas.



New Guinea Birdwing

Order Lepidoptera, *Ornithoptera priamus*

An uncommon large butterfly growing to a wingspan of 125 mm for males, females to 150 mm. The butterfly pictured above is a male. Adults fly with a gliding or sailing flight.



Saturn Moth

Order Lepidoptera, *Syntherata janetta*

A strikingly coloured moth, predominantly yellow with dark rusty brown mottling on forewings and hindwings. 'Eyes' present on the forewings, large antennae and yellow abdomen. Unmistakable and commonly attracted to lights.



Green Mantid

Order Mantodea

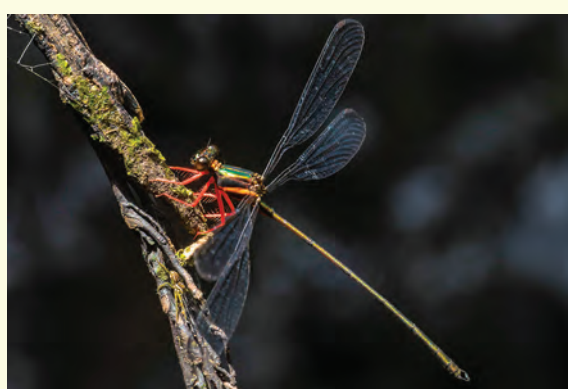
A large green mantid with yellow colouration on the abdomen. Cryptic on forest vegetation. Green elytra and translucent wings. A renown predator often attracted to lights where it hunts other insects.



Damselfly

Order Odonata, *Idiocnemis* sp.

A small damselfly with striking blue colouration on the thorax and abdomen and dark blue translucent wings and large black eyes. Found adjacent to waterways this insect is active during the day and common within VNP.



Red-legged Dragonfly

Order Odonata, *Argiolestes* sp.

A beautiful dragonfly, with striking orange-red legs, green thorax (dorsally) and large black eyes and clear translucent wings. Commonly found adjacent to watercourses within VNP.



Katydid

Order Orthoptera

A large cryptically coloured katydid, mottled brown body and wings and relatively long antennae. Perfectly camouflaged against leaf litter, this species is commonly found in secondary forests and often found at night while spotlighting.



Katydid

Order Orthoptera

A large eclectically coloured katydid, characterised by forest green body and wings. Yellow blotches on both ventral sides and bright red-pink hind legs. Active at night in primary forest.



Spiny Leaf Insect

Order Phasmatodea, *Extatosoma* sp.

A juvenile phasmid or stick insect, found in secondary forest. Cryptically coloured with mottled browns and irregularly shaped limbs, this animal is difficult to see.

Annex 4.2.9 Biodiversity reports/Executive summary of the biodiversity reports

Refer to C-3 VNP Management setup and Development (Annex 2.3.4)

Annex 4.2.10 Guide Map of Varirata National Park

Refer to C-1 Facility Development (Annex 2.1.3)

Annex 4.2.11 Mangrove of Bootless Bay – Identification guide

**Refer to D-4 Tools for MPA establishment and Management
(Annex 3.4.2)**

Annex 4.2.12 Common Birds of Bootless Bay – A field guide

Refer to D-4 Tools for MPA establishment and Management (Annex 3.4.3)

Annex 4.2.13 Monitoring report of Facebook page for the Project

**Quarterly monitoring report 10/2015 to 2/2016
of Facebook page
for the project for Biodiversity Conservation through
Implementation of the PNG Policy on Protected Areas**

2016/3/1

CEPA-JICA Project team

1. Background of creation of Facebook page

Project Facebook page was created as one of the activities of the project for Biodiversity Conservation through Implementation of the PNG Policy on Protected Areas. This project tackles the issue of biodiversity conservation and supports the development and management of a National Protected Area network in PNG. The Facebook account was registered in October, 2015. The Facebook page was opened to the public on November 25, 2016 for the purpose of widely spreading project information. This monitoring report covers the period from October 2015 to February 2016.

2. Monitoring indicator

The monitoring indicates the number of people who like our project Facebook page. By analyzing this indicator, we can check the public relations effect of Facebook page.

3. Update of Facebook page during this period

Page information was mainly updated before November 25, 2015 when Facebook page was opened to the public. Project outline and the link to downloaded PDM and PO was posted as Page Information. In addition, launch of Facebook page was informed to relevant stakeholders by email.

News articles were mainly posted after launch of Facebook page. As of 29 February, 2016, eleven news articles with photos were posted.

4. Results of monitoring

In total, 301 person liked our project on Facebook as of 29 February 2016. Number of likes rapidly increased at the time of launch of Facebook page, as shown in the following figure. Although growth declined after that, the number of likes continue to increase at a constant rate.



Figure 1 Chronological change of number of likes

The following figure indicates male-to-female ratio and age group of the people who liked the Facebook page. Although there is no sharp difference of male-to-female ratio, there is big difference by age group. Almost 50% people who liked the page were 25 - 34 years old. Hence, Facebook page is thought to be effective to reach people, especially in their 20's and 30's.

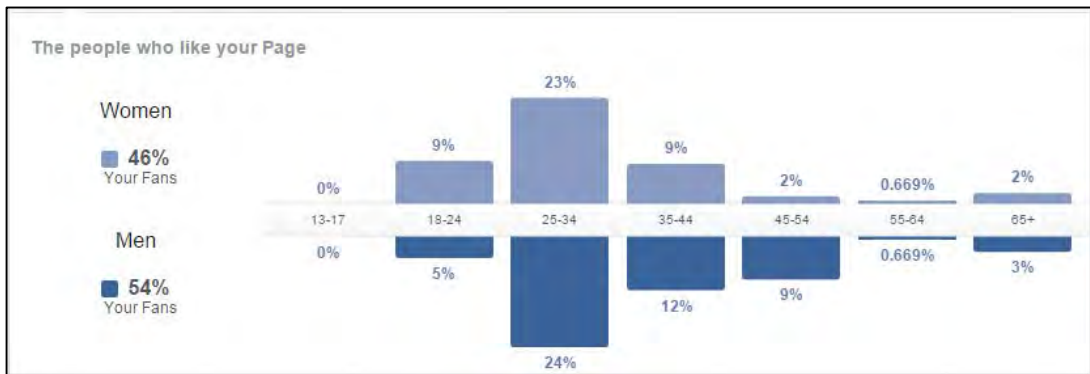


Figure 2 Male-to-female ratio and age group of people who liked the page

Nationality of the people who liked the page is indicated in the following table. Most page viewers were from Papua New Guinea. Although other countries are also included, most of them may be relevant stakeholders of the project.

Table 1 Nationality of the people who like the Facebook page

Country	Your Fans
Papua New Guinea	279
Australia	8
Japan	3
Philippines	3
New Zealand	3
Indonesia	1
United Kingdom	1
Malaysia	1

5. Future plan

The Facebook page introduced many people to the project. In the next period, we will continue post project activity and monitoring visitor to the Facebook page. We also try to increase the number of people outside PNG to see the Facebook page.

Quarterly monitoring report from 3/2016 to 6/2016 of Facebook page for the Project for Biodiversity Conservation through Implementation of the PNG Policy on Protected Areas

2016/9/1

CEPA-JICA Project team

1. Background of creation of Facebook page

The Project Facebook page was created as one of the activities of the project for Biodiversity Conservation through Implementation of the PNG Policy on Protected Areas. This project tackles the issue of biodiversity conservation and supports the development and management of a National Protected Area network in PNG. The Facebook account was registered in October 2015. The Facebook page was opened to the public on November 25, 2016 for the purpose of widely spreading project information. Since the Facebook page was opened, CEPA-JICA project team continues posting news articles. This monitoring report covers the period from March 2016 to June 2016.

2. Monitoring indicators

The monitoring indicators are the number of people who like our project Facebook page and the number who looked at each news articles. By analyzing these indicators, we can gauge the public relation's effect of Facebook page.

3. Update of Facebook page during this period

News articles were continuously posted during this period. The total number of posted articles were 32 (1 article in March, 14 articles in April, 13 articles in May and 4 articles in June). The contents of articles are mainly related to workshops, field surveys and facilities improvement in Varirata National Park.

4. Results of monitoring

(1) The number of likes

To date, 403 persons liked our Facebook page as of 30 June 2016. Since the number of likes in the end of February was 301, we acquired more than 100 new likes during this period. The following figure shows the increasing trend of likes. It shows that the number of likes greatly increased from the end of March to beginning of April. The number of likes is constantly increased after May.



Figure 1: Chronological change of number of likes

The following figure indicates male-to-female ratio and age group of the people who liked the Facebook page. This trend is same as that of before February. The data shows that Facebook page is thought to be reaching young people, especially in their 20's and 30's.

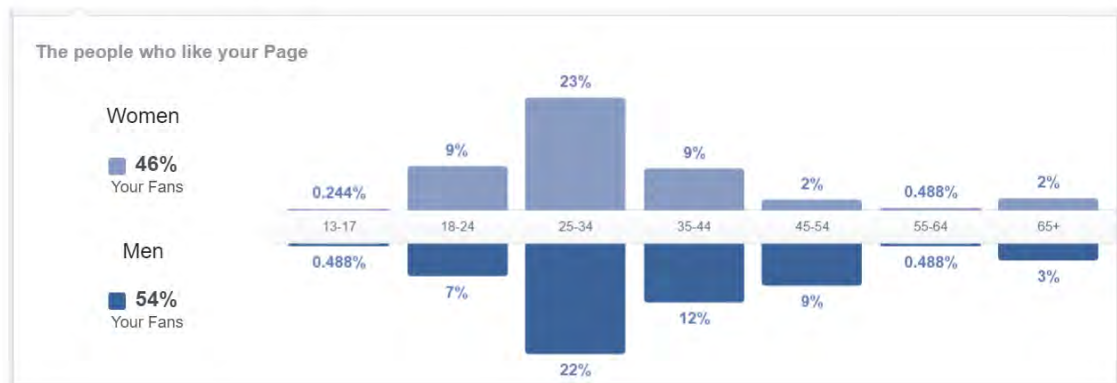


Figure 2: Male-to-female ratio and age group of people who liked the page

(2) Analysis of page contents

By analysing the number of pages looked at by many people, we can understand what kind of articles are effective in public relations. The following table shows that top 5 articles which were looked at by facebook users. This number is only counted when facebook users click and see details pages for each article. The contents of articles include mangrove forest and bird watching site. More than 50 persons looked at these articles.

Table 1: Top 5 news articles looked at by facebook users

Post Title	Posted	Total Reach
Proposed birdwatching site -Bautama SDA land-Bootless Inlet	2016/4/24	74
2016 WORLD ENVIRONMENT DAY CELEBRATION	2016/6/1	69
Mangrove map of Bootless Bay	2016/4/24	69
Tuna Bay with some critical mangrove forests	2016/4/21	66
Camera traps assist monitoring and management of Varirata National Park	2016/5/3	53

*Data as of August 3, 2016

On the other hand, nobody looked at details pages of the following 5 articles (Table 2). The contents of articles related to Koiari workshop. Although some people liked these articles, they just scanned through timeline and they didn't access the details pages.

Table 2: News articles not looked at by anybody

Post Title	Posted	Total Reach
Another successful community workshop held in Koiari for VNP landowners	2016/6/7	0
Unspoilt limestone cave of Do'e	2016/5/23	0
Unexpected expedition to Do'e village - Koairi	2016/5/23	0
VNP Landowner Workshop on Livelihood development	2016/5/19	0
Consultation on VNP Biodiversity Study	2016/5/19	0

*Data as of August 3, 2016

5. Future plan

The Facebook pages continuously acquired likes the same as the previous period. However, the number of pages looked at differs widely. In addition, details pages of some articles were not looked at by any Facebook users. CEPA-JICA team should continuously monitor these indicators and analyze what kind of postings are effective in public relations, which can attract interests and also lure readers.

From this period and previous period, most readers who liked the Facebook page are of age groups between 20's and 30's because most of these people roam the internet daily compared to other age groups. In order to have an influence on the other readers, the project team needs to understand the current affairs and upload stories and photographs/graphics that will suit the readers and lure them to visit our Facebook page. It has shown from the number of people who likes the top five stories (Table 1) because these events (bird watching, tourism, mangrove protection, climate change, etc) have been talked about a lot and have been reported on the PNG local daily newspapers and television, which have lured readers to read and learn more about these issues.

Quarterly monitoring report from July to October 2016 of Facebook page for the Project for Biodiversity Conservation through Implementation of the PNG Policy on Protected Areas

2016/11/24

CEPA-JICA Project team

1. Background of creation of Facebook page

The Project Facebook page was created as one of the activities of the project for Biodiversity Conservation through Implementation of the PNG Policy on Protected Areas. This project tackles the issue of biodiversity conservation and supports the development and management of a National Protected Area network in PNG. The Facebook account was registered in October 2015. The Facebook page was opened to the public on November 25, 2016 for the purpose of widely spreading project information. Since the Facebook page was opened, CEPA-JICA project team continues posting news articles. This monitoring report covers the period from July to October 2016.

2. Monitoring indicators

The monitoring indicators are the number of people who like our project Facebook page and the number who looked at each news articles. By analyzing these indicators, we can gauge the public relation's effect of Facebook page.

3. Update of Facebook page during this period

News articles were continuously posted during this period. In total, 20 articles were posted (2 articles in July, 5 articles in August, 8 articles in September and 5 articles in October). The contents of articles are mainly related to workshops and field surveys. Mainly articles which are related to marine activities (output 3) were posted during this period.

4. Results of monitoring

(1) The number of likes

To date, 481 persons liked our Facebook page as of 31 October 2016. Since the number of likes at the end of June was 403, we acquired around 80 new likes during this period. The following figure shows the increasing trend of likes. It shows that the number of likes greatly increased from after the middle of September to end of October. It is thought that

this is because more than half of the articles were posted after middle of September.

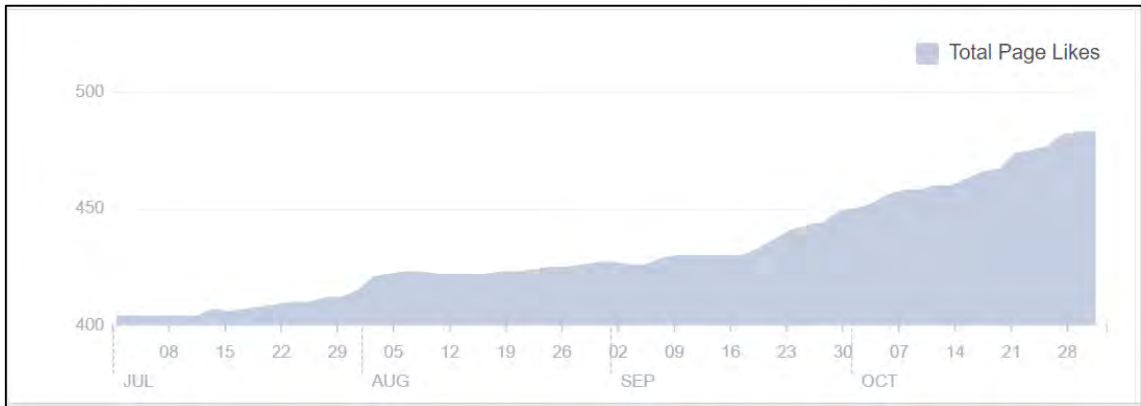


Figure 1: Chronological change of number of likes

The following figure indicates male-to-female ratio and age group of the people who liked the Facebook page. This trend is same as that of before June 2016. The data shows that Facebook page is thought to be reaching young people, especially in their 20's and 30's.

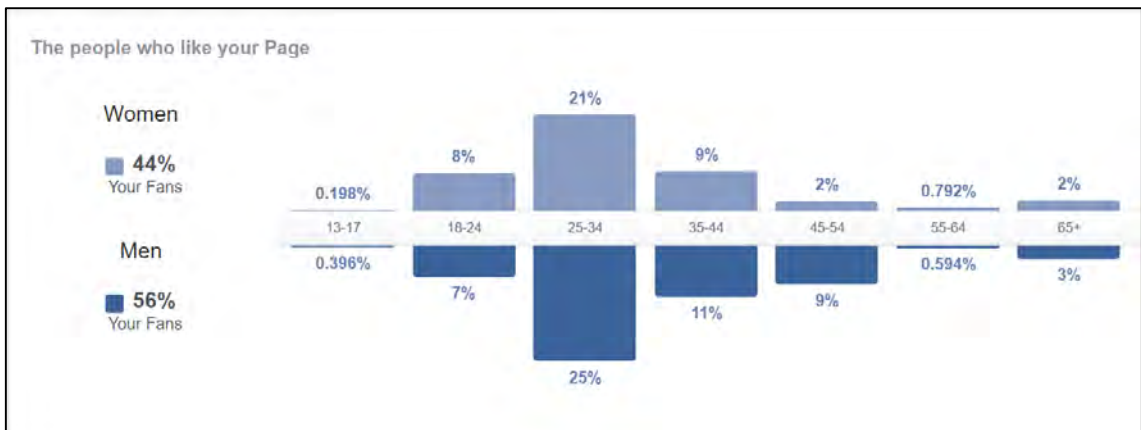


Figure 2: Male-to-female ratio and age group of people who liked the page

(2) Analysis of page contents

By analyzing the number of pages looked at by many people, we can understand what kind of articles are effective in public relations. The following table shows the top 5 articles which were looked at by Facebook users. This number is only counted when Facebook users click and see details pages for each article. As shown in this table, more than 100 persons looked at top 3 news articles. This number is very high compared to that of the previous quarter because number of people who looked at posted article in previous quarter is less than 100 persons.

Table 1: Top 5 news articles looked at by facebook users

Post Title	Posted	Total Reach
Basic Information of Varirata National Park	2016/9/21	262
CEPA-JICA Project hosted an inauguration ceremony for the launch of the new boat and engine	2016/10/25	180
The CEPA-JICA Project is privileged to have Mr Togo Takamura joining the Japanese Expert Team this week.	2016/10/17	106
Conservation & Environment Protection Authority (CEPA) celebrates Pre-Independence with its staff	2016/9/15	85
CEPA JICA Biodiversity Project shared Fiji Sun Online's post.	2016/10/17	78

*Data as of October 31, 2016

On the other hand, nobody looked at details pages of 9 articles. These articles were posted as events. In this type of article, details contents of articles are shown when we click the event. Although some people liked these articles, they just scanned through timeline and they didn't access the details pages. Hence, the article should be directly written to timeline like top 5 news articles shown table 1.

5. Future plan

The Facebook pages continuously acquired likes the same as the previous period. The number of likes already reached almost 500. However, the number of pages looked at differs widely. In this period, CEPA-JICA team changed the posting method. We stopped to post articles as event and directly posted articles to timeline. It is very effective because this type of article was reached by many Facebook users. We should continue to update this style and analyze the reaches in the next quarter again.

To date, most readers who liked the Facebook page are of age groups between 20's and 30's. In order to have an influence on other readers, the project team continuously needs to introduce project Facebook page to these age group. In addition, the project team should upload stories using photographs/graphics that will lure people to visit our Facebook page.

Monitoring report from Nov 2016 to Feb 2017 of Facebook page for the Project for Biodiversity Conservation through Implementation of the PNG Policy on Protected Areas

2017/3/7
CEPA-JICA Project team

1. Background of creation of Facebook page

The Project Facebook page was created as one of the activities of the project for Biodiversity Conservation through Implementation of the PNG Policy on Protected Areas. This project tackles the issue of biodiversity conservation and supports the development and management of a National Protected Area network in PNG. The Facebook account was registered in October 2015. The Facebook page was opened to the public on November 25, 2016 for the purpose of widely spreading project information. Since the Facebook page was opened, CEPA-JICA project team continues posting news articles. This monitoring report covers the period from November 2016 to February 2017.

2. Monitoring indicators

The monitoring indicators are the number of people who expressed “like” of the project Facebook page and the number who looked at each news article. By analyzing these indicators, we gauge the public relation’s effect of Facebook page.

3. Update of Facebook page during this period

News articles were continuously posted during this period. In total, 18 articles were posted (7 articles in November, 1 article in December, 2 articles in January and 8 articles in February). The articles cover a wide variety of topics such as workshops, Varirata National Park, tourism resource in Koiari, marine survey and bird watching project. There were few news article posted in the Facebook in December 2016 and January 2017 because of Christmas vacation and the absence of staff of CEPA-JICA project.

4. Results of monitoring

(1) The number of likes

As of 28 February 2017, 718 persons expressed “like” of the Facebook page. Since the number of likes at the end of October 2016 was 481, we acquired 237 new likes during this period. This number is quite high compared to the previous period which got only 80 new likes. The following figure shows the increasing trend of likes. It shows that the number of likes constantly increased during this period.



Figure 1: Chronological change of number of likes

The following figure indicates male-to-female ratio and age group of the people who liked the Facebook page. The ratio of men has increased 4% and the proportion of 18-24 men has increased around 6% compared to previous period. Although there are small changes of proportion, the data still shows that Facebook page is thought to be reaching young people, especially in their 20's and 30's.

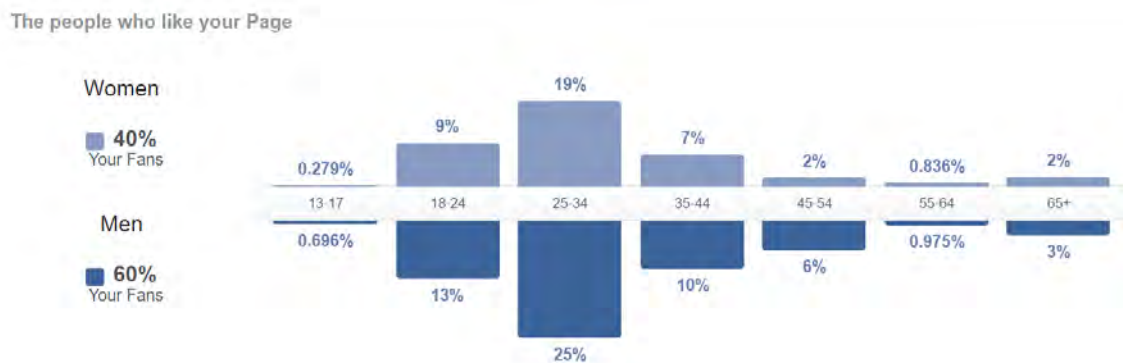


Figure 2: Male-to-female ratio and age group of people who liked the page

(2) Analysis of page contents

The number of pages looked at by many people indicates what kind of articles are effective in public relations. The following table shows the top 5 articles which were looked at by many Facebook users. This number is only counted when Facebook users click and see the details on the pages for each article. As shown in this table, more than 250 persons looked at top 5 news articles. The No. 1 news article which is relevant to bird watching project was read by more than 1,500 Facebook users. This number is quite high compared to that of the previous period because maximum number of people who looked at posted article in previous period was only 260 persons (see table 2).

Table 1: Top 5 news articles looked at by Facebook users between November 2016 and February 2017

Contents of Post	Posted Date	Total Reach
Installing bird watching billboard (Bird watching project)	2016/12/8	1,531
Marine Biodiversity Survey in Bootless Bay	2016/11/29	531
Introducing Koiari tourism spot, Blamey's garden	2016/11/18	303
Pictures of Wild animals in Varirata National Park	2016/11/10	277
Bird shelter for PAU campus (Bird watching project)	2017/2/16	263

*Data as of March 1, 2017

Table 2: Top 5 news articles looked at by Facebook users between July and October 2016

Post Title	Posted	Total Reach
Basic Information of Varirata National Park	2016/9/21	262
CEPA-JICA Project hosted an inauguration ceremony for the launch of the new boat and engine	2016/10/25	180
The CEPA-JICA Project is privileged to have Mr Togo Takamura joining the Japanese Expert Team this week.	2016/10/17	106
Conservation & Environment Protection Authority (CEPA) celebrates Pre-Independence with its staff	2016/9/15	85
CEPA JICA Biodiversity Project shared Fiji Sun Online's post.	2016/10/17	78

*Data as of October 31, 2016

Although there are some news articles which were not looked at anybody in previous period, all 18 articles in this period were read by many Facebook users. The average number of people who looked at each article is more than 260 people. This number is almost the same as No. 1 news article in previous period. We directly write news articles to the timeline from the previous period. It is thought that this style is very effective to get Facebook users to read news article.

5.Future plan

The Facebook pages continuously acquired likes the same as the previous period. The number of likes is rapidly increasing and already reached more than 700 Facebook users. This means that the new posting method which directly posts articles to timeline is very effective to get Facebook users to look at news articles. We should continue to update by using this style and acquire more readers.

To date, most readers who liked the Facebook page are of age groups between 20's and 30's. In order to attract the other age groups, the project team should utilize other public relation materials like brochures or put stories of Varirata (terrestrial) and Bootless Bay (marine) in the daily newspapers including their weekender.

Monitoring report from March 2017 to June 2017 of Facebook page for the Project for Biodiversity Conservation through Implementation of the PNG Policy on Protected Areas

2017/8/9
CEPA-JICA Project team

1. Background of creation of Facebook page

The Project Facebook page was created as one of the activities of the project for Biodiversity Conservation through Implementation of the PNG Policy on Protected Areas. This project tackles the issue of biodiversity conservation and supports the development and management of the National Protected Area network in PNG. The Facebook account was registered in October 2015. The Facebook page was opened to the public on November 25, 2016 for the purpose of widely spreading the project information. Since the Facebook page was opened, CEPA-JICA project team continues posting news articles. This monitoring report covers the period from March 2017 to June 2017.

2. Monitoring indicators

The monitoring indicators are the number of people who expressed “like” of the project Facebook page and the number of people who actually looked at each news article. By analyzing these indicators, we gauge the public relation’s effect of the Facebook page.

3. Update of Facebook page during this period

News articles were continuously posted during this period. In total, 33 articles were posted (18 articles in March, 4 articles in April, 3 articles in May and 8 articles in June). The articles cover a wide variety of topics such as workshops, bird watching updates, updates of Varirata National Park, and the activities of output 3 – marine biodiversity conservation, clean up campaign, etc.

4. Results of monitoring

(1) The number of likes

As of 30 June 2017, 1,026 persons expressed “like” of the Facebook page. Since the number of likes at the end of February 2017 was 718, we acquired 308 new likes during this period. This number is high compared to the previous period which got 237 new likes. The following figure shows the increasing trend of likes. It shows that the number of likes constantly increased during this period.



Figure 1: Chronological change of number of likes

The following figure indicates male-to-female ratio and age group of the people who liked the Facebook page. The ratio of sex and each generation is almost same as previous period. This trend shows that Facebook page is thought to be reaching younger people, especially in their 20's and 30's.

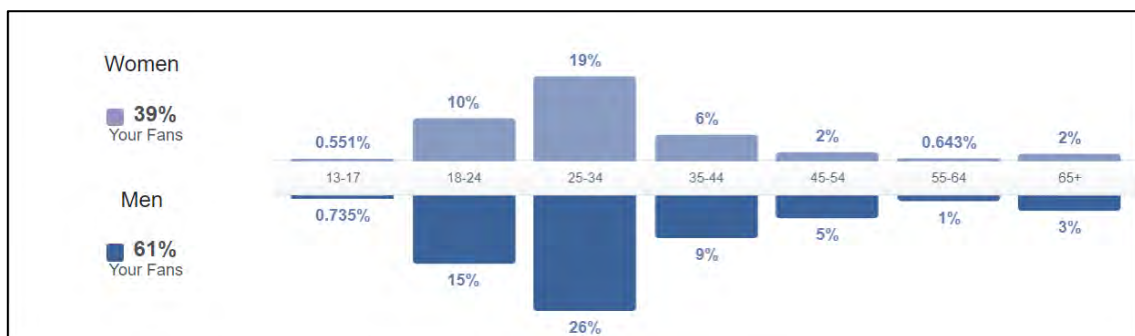


Figure 2: Male-to-female ratio and age group of people who liked the page

(2) Analysis of page contents

The number of pages looked at by many people indicates what kind of articles are effective in public relations. The following table shows the top 5 articles which were looked at by many Facebook users. This number is only counted when Facebook users click and see the details on the pages for each article. As shown in this table, more than 250 persons looked at top 5 news articles. The No. 1 news article which is relevant to bird watching project was read by more than 1,500 Facebook users. This number is quite high compared to that of the previous period because maximum number of people who looked at posted articles in previous period was only 260 persons.

Table 1: Top 5 news articles looked at by Facebook users between November 2016 and February 2017

Contents of Post	Posted Date	Total Reach
First clean-up campaign at Tubusereia village	2017/4/10	5,003
Information of Varirata National Park	2017/5/21	1,341
Construction of bird shelter	2017/6/22	568
Report of first clean-up campaign at Tubusereia village	2017/4/12	489
Training for local field assistants for biodiversity survey in Varirata National Park	2017/4/12	444

*Data as of July 31, 2017

All news articles were looked at by Facebook user more than 50 times. The average number of times looked at each article is more than 400 times. Although this number overlapped same person if someone see several times, it is thought that many users read news articles.

5.Future plan

The Facebook pages continuously acquired likes the same as the previous period. The number of likes is rapidly increasing and already reached more than 1,000 Facebook users. To date, most readers who liked the Facebook page are of age groups between 20's and 30's. In order to attract the other age groups, the project team should utilize other public relation materials like brochures or put stories of Varirata (terrestrial) and Bootless Bay (marine) in the daily newspapers including their weekender.

Monitoring report from July 2017 to October 2017 of Facebook page for the Project for Biodiversity Conservation through Implementation of the PNG Policy on Protected Areas

2017/11/15
CEPA-JICA Project team

1. Background of creation of Facebook page

The Project Facebook page was created as one of the activities of the project for Biodiversity Conservation through Implementation of the PNG Policy on Protected Areas. This project tackles the issue of biodiversity conservation and supports the development and management of the National Protected Area network in PNG. The Facebook account was registered in October 2015. The Facebook page was opened to the public on November 25, 2016 for the purpose of widely spreading the project information. Since the Facebook page was opened, CEPA-JICA project team continues posting news articles. This monitoring report covers the period from July 2017 to October 2017.

2. Monitoring indicators

The monitoring indicators are the number of people who expressed “like” of the project Facebook page and the number of people who actually looked at each news article. By analyzing these indicators, we gauge the public relation’s effect of the Facebook page.

3. Update of Facebook page during this period

News articles were continuously posted during this period. In total, 33 articles were posted (8 articles in July, 8 articles in August, 9 articles in September and 8 articles in October). Total number of posted article was same compared to that of previous period. The articles mainly cover biodiversity survey in Varirata National Park, social mapping near Varirata National Park and the renovation of old information center, etc.

4. Results of monitoring

(1) The number of likes

As of 31 October 2017, 1,233 persons expressed “like” of the Facebook page. Since the number of likes at the end of June 2017 was 1,026, we acquired 207 new likes during this period. This number is lower compared to the previous period which got 308 new likes. The following figure shows the increasing trend of likes. It shows that the number of likes constantly increased during this period.



Figure 1: Chronological change of number of likes

The following figure indicates male-to-female ratio and age group of the people who liked the Facebook page. The ratio of sex and each generation is almost same as previous period. This trend shows that Facebook page is thought to be reaching younger people, especially in their 20's and 30's.

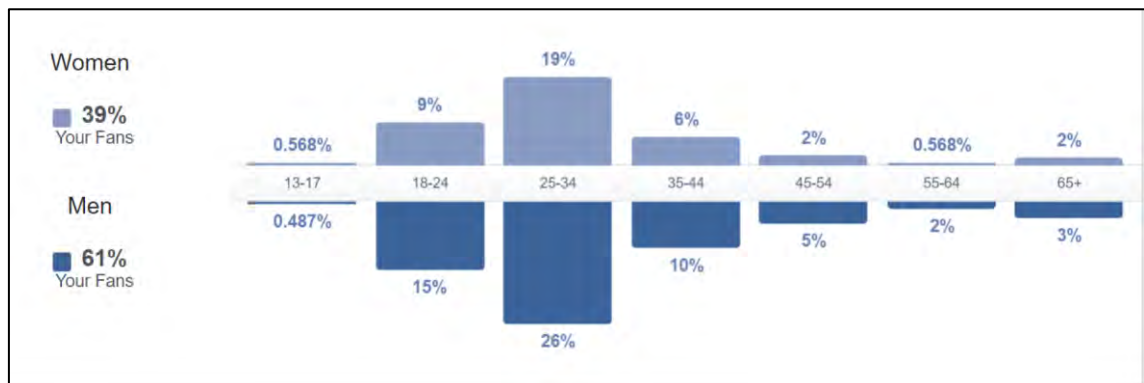


Figure 2: Male-to-female ratio and age group of people who liked the page

The following table shows the country of people who liked our Facebook page. Although most people who liked our pages were Papua New Guinean, 38 Facebook users from Australia are also interested in our pages. Other countries such as Philippines, Japan, USA, etc. are also included Facebook users who liked our Facebook pages.

Table 1: The country of people who liked our Facebook page

Country	Your Fans
Papua New Guinea	1,122
Australia	38
Philippines	7
Japan	6
United States of America	5
Bangladesh	3
Brazil	3
New Zealand	3
Pakistan	3
Madagascar	2
Vanuatu	2
Myanmar	2
Nepal	2

(2) Analysis of page contents

The number of pages looked at by many people indicates what kind of articles are effective in public relations. The following table shows the top 5 articles which were looked at by many Facebook users. This number is only counted when Facebook users click and see the details on the pages for each article. As shown in this table, more than 600 times looked at top 5 news articles. Although the No. 1 news article was a job advertisement, this article was read by more than 3,000 times by Facebook users. All news articles were looked at by Facebook user more than 150 times and this number is quite high compared to that of previous period. The average number of times looked at each article is more than 400 times. Although this number overlapped same person if someone see several times, it is thought that many Facebook users read our news articles.

Table 2: Top 5 news articles looked at by Facebook users between July 2017 and October 2017

Contents of Post	Posted Date	Total Reach
A job advertisement for terrestrial Expert of CEPA-JICA project	08/21/17	3,601
The report of trial terrestrial and marine biodiversity training courses	09/25/17	860
MoU between UPNG and CEPA for a mutual understanding on implementing the activities within Bootless Bay	07/27/17	713
Meeting with Ramsar experts for discussing nomination for Bootless Bay	09/25/17	693
New Prim Minister Peter O'Neill's Cabinet Ministers and their Portfolios	08/09/17	623

*Data as of October 31, 2017

5. Future plan

The Facebook pages continuously acquired likes the same as the previous period. The number of likes is rapidly increasing and increasing speed was almost same throughout this year. To date, most readers who liked the Facebook page are of age groups between 20's and 30's. In order to attract the other age groups, the project team should utilize other public relation materials like brochures or put stories of Varirata (terrestrial) and Bootless Bay (marine) in the daily newspapers including their weekender. In analysis of countries of Facebook users, the people from several countries are interested in our Facebook page but the number is still few except for Papua New Guinean. We need to utilize some events such as international conference, overseas training for CEPA staffs to appeal our project and our Facebook page.

Monitoring report from November 2017 to February 2018 of Facebook page for the Project for Biodiversity Conservation through Implementation of the PNG Policy on Protected Areas

2018/4/11
CEPA-JICA Project team

1. Background of creation of Facebook page

The Project Facebook page was created as one of the activities of the project for Biodiversity Conservation through Implementation of the PNG Policy on Protected Areas. This project tackles the issue of biodiversity conservation and supports the development and management of the National Protected Area network in PNG. The Facebook account was registered in October 2015. The Facebook page was opened to the public on November 25, 2016 for the purpose of widely spreading the project information. Since the Facebook page was opened, CEPA-JICA project team continues posting news articles. This monitoring report covers the period from November 2017 to February 2018.

2. Monitoring indicators

The monitoring indicators are the number of people who expressed “like” of the project Facebook page and the number of people who actually looked at each news article. By analyzing these indicators, we gauge the public relation’s effect of the Facebook page.

3. Update of Facebook page during this period

News articles were continuously posted during this period. In total, 16 articles were posted (7 articles in November, 2 articles in December, 4 articles in January and 3 articles in February). Total number of posted article was low compared to that of previous period. The contents of articles were mainly related to output 2 such as the renovation of old information center in Varirata National Park.

4. Results of monitoring

(1) The number of likes

As of 28 February 2018, 1,362 persons expressed “like” of the Facebook page. Since the number of likes at the end of October 2017 was 1,233, we acquired 129 new likes during this period. This number is lower compared to the previous period which got 207 new likes. The following figure shows the increasing trend of likes. It shows that the number of likes constantly increased during this period.

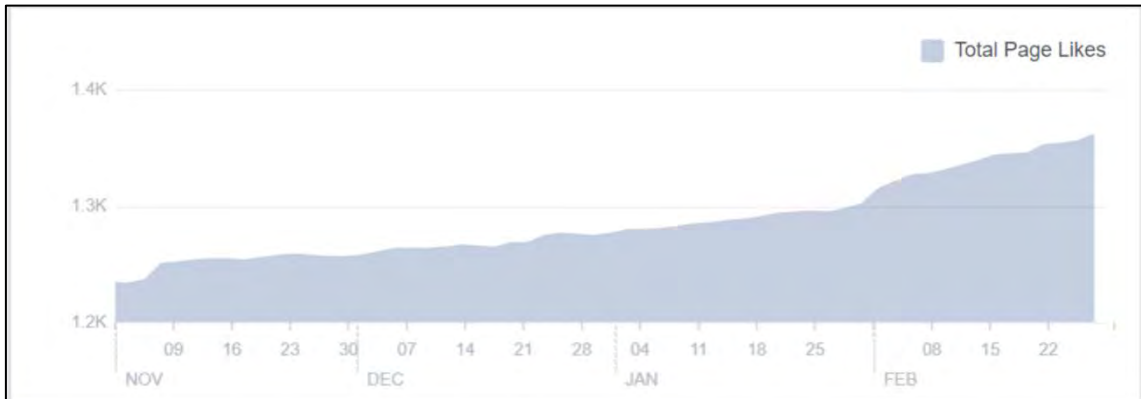


Figure 1: Chronological change of number of likes

The following figure indicates male-to-female ratio and age group of the people who liked the Facebook page. The ratio of sex and each generation is almost same as previous period. This trend shows that Facebook page is thought to be reaching younger people, especially in their 20's and 30's.

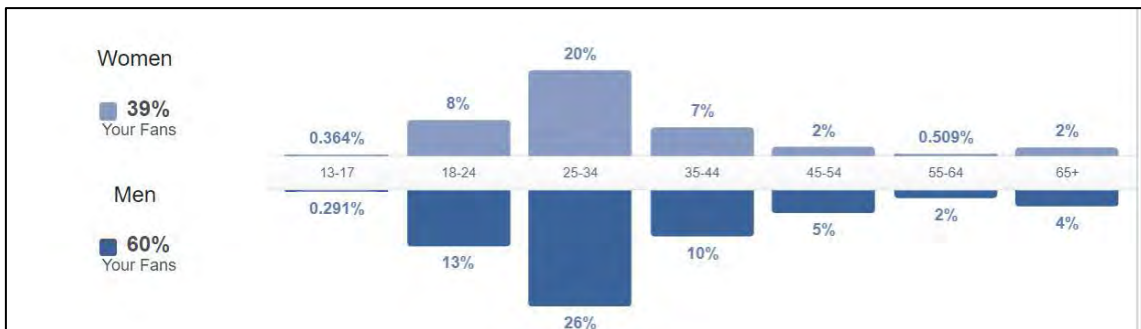


Figure 2: Male-to-female ratio and age group of people who liked the page

The following table shows the country of people who liked our Facebook page. Although most people who liked our pages were Papua New Guineans, 42 Facebook users from Australia are also interested in our pages. We acquired 4 new likes from Australia during this period. Other countries such as Philippines, Japan, USA, etc. are also included Facebook users who liked our Facebook pages.

Table 1: The country of people who liked our Facebook page

Country	Your Fans
Papua New Guinea	1,260
Australia	42
United States of America	10
Japan	7
Philippines	7
Bangladesh	4
Vanuatu	3
Myanmar	3
Pakistan	3
Benin	2

(2) Analysis of page contents

The number of pages looked at by many people indicates what kind of articles are effective in public relations. The following table shows the top 5 articles which were looked at by many Facebook users. This number is only counted when Facebook users click and see the details on the pages for each article. As shown in this table, more than 400 times looked at top 5 news articles. No. 1 news article was biodiversity survey in Varirata National Park and this article was read by more than 1,000 times by Facebook users.

All news articles posted during this period were looked at by Facebook user more than 140 times and this number is almost same compared to that of previous period. The average number of times looked at each article is more than 370 times. Although this number overlapped same person if someone see several times, it is thought that many Facebook users read our news articles.

Table 2: Top 5 news articles looked at by Facebook users between November 2017 and February 2018

Contents of Post	Posted Date	Total Reach
Biodiversity survey in Varirata National Park	11/9/17	1,056
Biodiversity management training course at UPNG	11/7/17	1,019
Installation of new billboard for Varirata National Park	1/28/18	497
Installation of billboard for mangrove protection	10/31/17	493
Mid-term review by the JICA Monitoring Mission	11/21/17	443

*Data as of February 28, 2018

5. Future plan

Although increasing speed of likes was slow compared to the previous period, the Facebook pages continuously acquired likes. As it is thought that slow increasing speed is related to low number of news articles posted during this period, the project needs to posts more news articles for getting new likes. To date, most readers who liked the Facebook page are of age groups between 20's and 30's. In order to attract the other age groups, the project team should utilize other public relation materials like brochures or put stories of Varirata (terrestrial) and Bootless Bay (marine) in the daily newspapers including their weekender. In analysis of countries of Facebook users, the people from several countries are interested in our Facebook page but the number is still few except for Papua New Guinea. We need to utilize some events such as international conference. In 2018, APEC will be held in Port Moresby and it is thought that this is a good opportunity to promote this project.

Monitoring report from October 2018 to January 2019 of Facebook page for the Project for Biodiversity Conservation through Implementation of the PNG Policy on Protected Areas

2019/2/21
CEPA-JICA Project team

1. Background of the Facebook page

The Project Facebook page was setup as one of the activities of the project for Biodiversity Conservation through Implementation of the PNG Policy on Protected Areas. This project tackles the issue of biodiversity conservation and supports the development and management of the National Protected Area network in PNG. The Facebook account was registered in October 2015 and the Facebook page was opened to the public on November 25, 2016 for the purpose of spreading the project information to a wide audience. However, the project setup a new Facebook page in October 2018 because there was a problem with the previous Facebook page account. Since the new Facebook page was established, CEPA-JICA project team continues posting news articles. This monitoring report is targeted to post on the new Facebook page and covers the period from October 2018 to January 2019.

2. Monitoring indicators

The monitoring indicators cover the number of people who expressed “like” of the project Facebook page and the number of people who actually looked at each news article. By analyzing these indicators, we gauge the public relation’s effect of the Facebook page.

3. Update of Facebook page during this period

News articles were continuously posted during this period. In total, 60 articles were posted (21 articles in October, 20 articles in November, 8 articles in December and 11 articles in January). Total number of posted articles was high compared to that of previous Facebook periods. The articles covered a wide range of project activities such as meetings, events, and public relation materials.

4. Results of monitoring

(1) The number of likes

As of 31 January 2019, 208 people expressed “like” of the Facebook page. As more than 1,700 people expressed “like” of the previous Facebook page, the number of likes for the new Facebook page is low. The following figure shows the increasing trend of likes. It shows that the number of likes rapidly increased at the end of October and January.



Figure 1: Chronological change of number of likes

The following figure indicates the male-to-female ratio and age group of the people who liked the Facebook page. The number of men is higher than that of women. While the age group between 25 and 34 is highest for men, the age group between 35 and 44 is highest for women. Overall trend shows that Facebook page seems to be reaching people in their 20's, 30's and 40's.

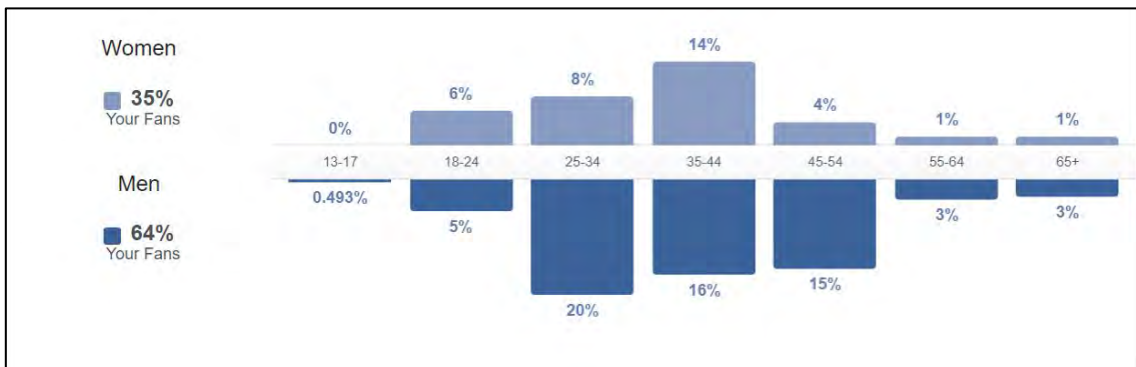


Figure 2: Male-to-female ratio and age group of people who liked the page

The following table shows the country of people who liked our Facebook page. Although most people who liked our pages were Papua New Guineans, 18 Facebook users from other countries are also interested in our pages. The highest number of countries except for Papua New Guineans was Australia. Other countries such as Czech Republic, USA, China, etc are also included in Facebook users who liked our Facebook page.

Table 1: The country of people who liked our Facebook page

Country	Your Fans	City	Your Fans	Language	Your Fans
Papua New Guinea	190	Port Moresby, Papua N...	141	English (US)	163
Australia	7	Lae, Morobe Province, ...	16	English (UK)	44
Czech Republic	2	Madang, Madang Provi...	11	Japanese	1
United States of America	2	Brisbane, QLD, Australia	3		
China	1	Goroka, Eastern Highla...	3		
Fiji	1	Kimbe, West New Brita...	3		
United Kingdom	1	Wewak, East Sepik Pr...	3		
Cambodia	1	Melbourne, VIC, Australia	2		
Panama	1	Kokopo, East New Brit...	2		
Solomon Islands	1	Ceske Budejovice, Sou...	2		
Vanuatu	1	Darwin, NT, Australia	1		
		Townsville, QLD, Austr...	1		
		Phnom Penh, Cambodia	1		
		Panama City, Panamá ...	1		

(2) Analysis of page contents

The number of pages looked at by many people indicates what kind of articles are effective in public relations. The following table shows the top 5 articles which were looked at by many Facebook users. This number is only counted when Facebook users click and see the details on the pages for each article. As shown in this table, more than 290 times people looked at top 5 news articles. No. 1 and No.2 news articles were read more than 1,000 times by Facebook users. Although this number overlaps some of the same persons when someone reads articles several times, it is thought that many Facebook users read our news articles.

Three articles of the top 5 were posted on January 2019 and two of them are related to meetings with the Governor of Central Province in Papua New Guinea. As the number of likes rapidly increased at the end of January, it is thought that these articles were effective to increase “like” of the Facebook page.

Table 2: Top 5 news articles looked at by Facebook users between October 2018 and January 2019

Contents of Post	Posted Date	Total Reach
Meeting with governor of Central Province for marine protected area	2019/1/24	1,221
Meeting for PA Bill	2019/1/15	1,182
Speech of the Deputy Managing Director of CEPA	2018/10/24	372
Meeting with Central Provincial Government for marine protected area	2019/1/21	294
Meeting with the Governor of Central Province	2018/12/12	292

*Data as of January 31, 2019

5. Future plan

Since number of likes was quite low compared to previous Facebook page, most Facebook users who liked previous pages did not read the new Facebook pages yet. The project needs to continue to make appealing new Facebook pages. To date, most readers who liked the Facebook page are of age groups between 20's and 40's. In order to attract other age groups, the project team should utilize other public relation materials like brochures and putting stories of Varirata (terrestrial) and Bootless Bay (marine) in the daily newspapers including their weekender. People from several countries are interested in our Facebook page but the number is small except for Papua New Guineans. We need to utilize some events such as international conference for publicizing our project to the people of other countries.

Monitoring report from February 2019 to May 2019 of Facebook page for the Project for Biodiversity Conservation through Implementation of the PNG Policy on Protected Areas

2019/6/21
CEPA-JICA Project team

1. Background of the Facebook page

The Project Facebook page was setup as one of the activities of the project for Biodiversity Conservation through Implementation of the PNG Policy on Protected Areas. This project tackles the issue of biodiversity conservation and supports the development and management of the National Protected Area network in PNG. The Facebook account was registered in October 2015 and the Facebook page was opened to the public on November 25, 2016 for the purpose of spreading the project information to a wide audience. However, the project setup a new Facebook page in October 2018 because there was a problem with the previous Facebook page account. Since the new Facebook page was established, CEPA-JICA project team continues posting news articles. This monitoring report is targeted to post on the new Facebook page and covers the period from February 2019 to May 2019.

2. Monitoring indicators

The monitoring indicators cover the number of people who expressed “like” of the project Facebook page and the number of people who actually looked at each news article. By analyzing these indicators, we gauge the public relation’s effect of the Facebook page.

3. Update of Facebook page during this period

News articles were continuously posted during this period. In total, 55 articles were posted (11 articles in February, 17 articles in March, 15 articles in April and 12 articles in May). Total number of posted articles was almost same compared to that of previous periods. The articles covered a wide range of project activities especially related to Varirata National Park for Output 2 and Bootless Bay for Output 3.

4. Results of monitoring

(1) The number of likes

As of 31 May 2019, 447 people expressed “like” of the Facebook page. As only 209 people expressed “like” of the Facebook page at the end of January, number of “like” has increased more than double during this period. The following figure shows the increasing trend of likes. It shows that the number of likes rapidly increased in May.



Figure 1: Chronological change of number of likes

The following figure indicates the male-to-female ratio and age group of the people who liked the Facebook page. The number of men is slightly higher than that of women. The age group between 25 and 34 is highest ratio for both men and women and between 35 and 44 is second highest ratio for men and women. Overall trend shows that Facebook page seems to be reaching people in their 20's, 30's and 40's.

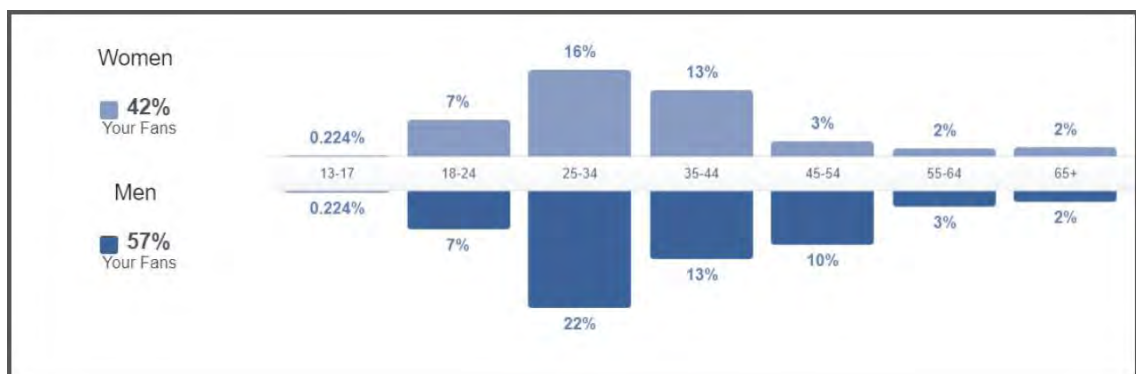


Figure 2: Male-to-female ratio and age group of people who liked the page

The following table shows the country of people who liked our Facebook page. Although most people who liked our pages were Papua New Guineans, 32 Facebook users from other countries are also interested in our pages. The highest number of countries except for Papua New Guineans was Australia and 17 Australian expressed "like" of the Facebook page. Other countries such as Japan, USA, Solomon Islands, etc are also included in Facebook users who liked our Facebook page.

Table 1: The country of people who liked our Facebook page

Country	Your Fans	City	Your Fans	Language	Your Fans
Papua New Guinea	409	Port Moresby, Papua N...	310	English (US)	361
Australia	17	Lae, Papua New Guinea	26	English (UK)	82
Japan	5	Madang, Papua New G...	20	Japanese	2
United States of America	3	Kimbe, Papua New Gu...	8	Spanish	1
Solomon Islands	2	Kokopo, Papua New G...	8		
Czech Republic	1	Goroka, Papua New G...	7		
Fiji	1	Rabaul, Papua New G...	6		
France	1	Brisbane, QLD, Australia	5		
Cambodia	1	Melbourne, VIC, Australia	4		
Morocco	1	Alotau, Papua New Gu...	3		

(2) Analysis of page contents

The number of pages looked at by many people indicates what kind of articles are effective in public relations. The following table shows the top 5 articles which were looked at by many Facebook users. This number is only counted when Facebook users click and see the details on the pages for each article. As shown in this table, more than 1,800 times people looked at top 5 news articles and No.1 news article was read more than 5,000 times by Facebook users. Although this number overlaps some of the same persons when someone reads articles several times, it is thought that many Facebook users read our news articles.

Four articles of the top 5 were posted in late April or May. As the number of likes rapidly increased in May, it is thought that these articles were effective to increase “like” of the Facebook page. In addition, Facebook users are probably highly interested in marine protection because 3 news articles of the top 5 were related to marine protection activities for output 3.

Table 2: Top 5 news articles looked at by Facebook users between February 2019 and May 2019

Contents of Post	Posted Date	Total Reach
Commitment of preserving mangroves and wetlands in Mirigeda land	20/05/2019	5,085
Artistic Impression of new PNG National Mining Museum	30/04/2019	4,283
Establishment of a first marine protected area in PNG	04/04/2019	2,867
A meeting for Bootless Bay Marine Protected Area	07/05/2019	1,928
Building models of Koiari Tree house	07/05/2019	1,818

*Data as of May 31, 2019

5. Future plan

In this monitoring period, number of likes rapidly increased and reached almost 450 Facebook users. The project needs to post news articles to increase number of likes continuously. To date, most readers who liked the Facebook page are of age groups between 20's and 40's. In order to attract other age groups, the project team should utilize other public relation materials like brochures and putting stories of Varirata National Park (terrestrial) and Bootless Bay (marine) in the daily newspapers including their weekender. Although people from several countries are interested in our Facebook page, the number is still small except for Papua New Guineans. We need to utilize some events such as international conference for publicizing our project to the people of other countries.

The other ways of promoting our Facebook page would be as follows: CEPA and project team should also tag or communicate to their friends on Facebook or other social media about our page and the project, or other agencies such as the PNG Tourism Promotion Authority including others to link their Facebook or webpages with our page.

Monitoring report from June 2019 to September 2019 of Facebook page for the Project for Biodiversity Conservation through Implementation of the PNG Policy on Protected Areas

2019/11/6
CEPA-JICA Project team

1. Background of the Facebook page

The Project Facebook page was setup as one of the activities of the project for Biodiversity Conservation through Implementation of the PNG Policy on Protected Areas. This project tackles the issue of biodiversity conservation and supports the development and management of the National Protected Area network in PNG. The Facebook account was registered in October 2015 and the Facebook page was opened to the public on November 25, 2016 for the purpose of spreading the project information to a wide audience. However, the project setup a new Facebook page in October 2018 because there was a problem with the previous Facebook page account. Since the new Facebook page was established, CEPA-JICA project team continues posting news articles. This monitoring report is targeted to post on the new Facebook page and covers the period from June 2019 to September 2019.

2. Monitoring indicators

The monitoring indicators cover the number of people who expressed “like” of the project Facebook page and the number of people who actually looked at each news article. By analyzing these indicators, we gauge the public relation’s effect of the Facebook page.

3. Update of Facebook page during this period

News articles were continuously posted during this period. In total, 37 articles were posted (13 articles in June, 10 articles in July, 3 articles in August and 11 articles in September). Total number of posted articles was low compared to that of previous periods. The articles covered a wide range of project activities.

4. Results of monitoring

(1) The number of likes

As of 30 September 2019, 711 people expressed “like” of the Facebook page. As 447 people expressed “like” of the Facebook page at the end of May, number of “like” has increased 264 people during this period. The following figure shows the increasing trend of likes. It shows that the number of likes increased at a constant pace during this period.



Figure 1: Chronological change of number of likes

The following figure indicates the male-to-female ratio and age group of the people who liked the Facebook page. The number of men is slightly higher than that of women. The age group between 25 and 34 is highest ratio for both men and women and between 35 and 44 is second highest ratio for men and women. Overall trend shows that Facebook page seems to be reaching people in their 20's, 30's and 40's.

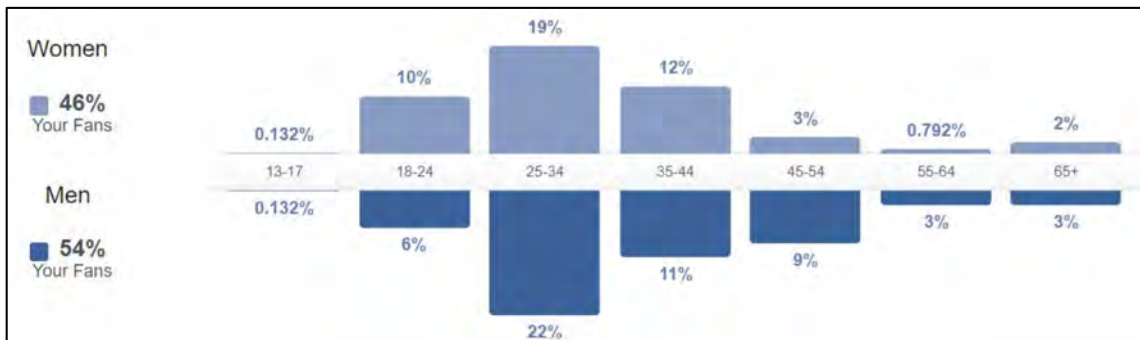


Figure 2: Male-to-female ratio and age group of people who liked the page

The following table shows the country of people who liked our Facebook page. Although most people who liked our pages were Papua New Guineans, 53 Facebook users from other countries are also interested in our pages. The highest number of countries except for Papua New Guineans was Australia. Twenty-six Australian expressed "like" of the Facebook page. Other countries such as Japan, USA, Solomon Islands, etc. are also included in Facebook users who liked our Facebook page.

Table 1: The country of people who liked our Facebook page

Country	Your Fans
Papua New Guinea	695
Australia	26
Japan	7
Solomon Islands	5
United States of America	4
Czech Republic	3
Syria	2
Indonesia	2
Cambodia	2
Vanuatu	2

(2) Analysis of page contents

The number of pages looked at by many people indicates what kind of articles are effective in public relations. The following table shows the top 5 articles which were looked at by many Facebook users. This number is only counted when Facebook users click and see the details on the pages for each article. As shown in this table, more than 1,000 times people looked at top 5 news articles and No.1 news article was read more than 2,000 times by Facebook users. Although this number overlaps some of the same persons when someone reads articles several times, it is thought that many Facebook users read our news articles.

Table 2: Top 5 news articles looked at by Facebook users between June 2019 and September 2019

Contents of Post	Posted Date	Total Reach
Interns from Pacific Adventist University student	26/06/2019	2,138
The memorandum of understanding (MoU) of the Central Provincial Government and CEPA	08/08/2019	1,751
World Environmental Day event at Mirigeda/Bootless Bay	04/06/2019	1,737
Meeting with community people at Bootless Bay	05/07/2019	1,234
Interns from Pacific Adventist University student	30/06/2019	1,108

*Data as of September 30, 2019

5. Future plan

In this monitoring period, number of likes continuously increased and reached 700 Facebook users. The project needs to post news articles to increase number of likes continuously. To date, most readers who liked the Facebook page are of age groups between 20's and 40's. In order to attract other age groups, the project team should utilize other public relation materials like brochures and putting stories of Varirata National Park (terrestrial) and Bootless Bay (marine) in the daily newspapers including their weekend. CEPA-JICA project also plans to implement trial packaged tour in November 2019. This would also lead to raise awareness of the project and increase number of likes

for the Facebook page. Although people from several countries are interested in our Facebook page, the number is still small except for Papua New Guineans. We need to utilize some events such as international conference for publicizing our project to the people of other countries.

The other ways of promoting our Facebook page would be as follows: CEPA and project team should also tag or communicate to their friends on Facebook or other social media about our page and the project, or other agencies such as the PNG Tourism Promotion Authority including others to link their Facebook or webpages with our page.

End

Monitoring report from October 2019 to January 2020 of Facebook page for the Project for Biodiversity Conservation through Implementation of the PNG Policy on Protected Areas

2020/2/18
CEPA-JICA Project team

1. Background of the Facebook page

The Project Facebook page was setup as one of the activities of the project for Biodiversity Conservation through Implementation of the PNG Policy on Protected Areas. This project tackles the issue of biodiversity conservation and supports the development and management of the National Protected Area network in PNG. The Facebook account was registered in October 2015 and the Facebook page was opened to the public on November 25, 2016 for the purpose of spreading the project information to a wide audience. However, the project setup a new Facebook page in October 2018 because there was a problem with the previous Facebook page account. Since the new Facebook page was established, CEPA-JICA project team continues posting news articles. This monitoring report is targeted to post on the new Facebook page and covers the period from October 2019 to January 2020.

2. Monitoring indicators

The monitoring indicators cover the number of people who expressed “like” of the project Facebook page and the number of people who actually looked at each news article. By analyzing these indicators, we gauge the public relation’s effect of the Facebook page.

3. Update of Facebook page during this period

News articles were continuously posted during this period. In total, 20 articles were posted (8 articles in October, 6 articles in November, 3 articles in December and 3 articles in January). Total number of posted articles was low compared to that of previous periods. The articles covered a wide range of project activities.

4. Results of monitoring

(1) The number of likes

As of 31 January 2020, 869 people expressed “like” of the Facebook page. As 711 people expressed “like” of the Facebook page at the end of September, number of “like” has increased 158 people during this period. The following figure shows the increasing trend of likes. It shows that the number of likes increased at a constant pace during this period.

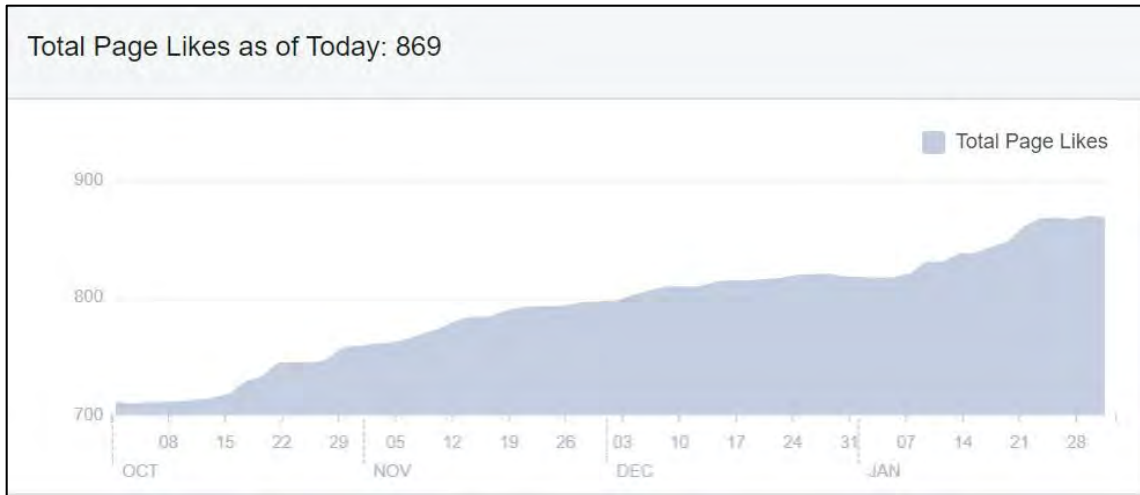


Figure 1: Chronological change of number of likes

The following figure indicates the male-to-female ratio and age group of the people who liked the Facebook page. The number of men is slightly higher than that of women. The age group between 25 and 34 is highest ratio for both men and women and between 35 and 44 is second highest ratio for men and women. Overall trend shows that Facebook page seems to be reaching people in their 20's, 30's and 40's.

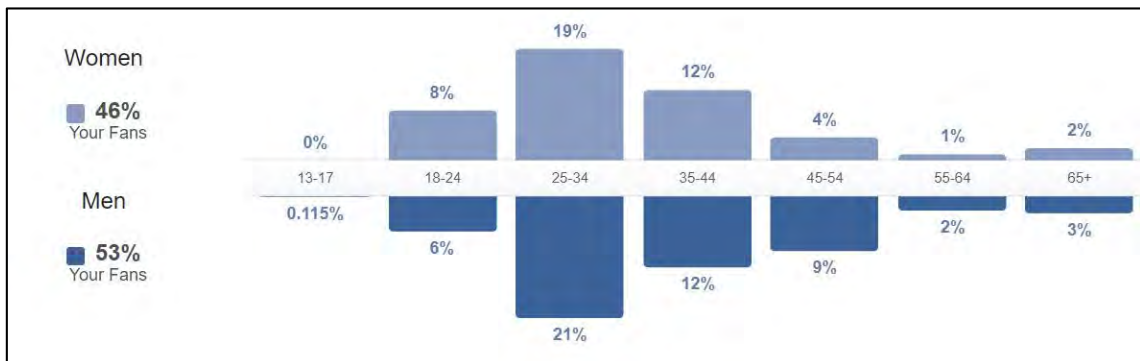


Figure 2: Male-to-female ratio and age group of people who liked the page

The following table shows the country of people who liked our Facebook page. Although most people who liked our pages were Papua New Guineans, 68 Facebook users from other countries are also interested in our pages. The highest number of countries except for Papua New Guineans was Australia. Twenty-nine Australian expressed "like" of the Facebook page. Other countries such as Japan, USA, Solomon Islands, etc. are also included in Facebook users who liked our Facebook page.

Table 1: The country of people who liked our Facebook page

Country	Your Fans
Papua New Guinea	801
Australia	29
Japan	6
Solomon Islands	5
United States of America	4
Czech Republic	3
Brazil	2
United Kingdom	2
Cambodia	2
Fiji	1

(2) Analysis of page contents

The number of pages looked at by many people indicates what kind of articles are effective in public relations. The following table shows the top 5 articles which were looked at by many Facebook users. This number is only counted when Facebook users click and see the details on the pages for each article. As shown in this table, more than 1,000 times people looked at top 5 news articles and No.1 and No.2 news articles were read more than 2,000 times by Facebook users. Although this number overlaps some of the same persons when someone reads articles several times, it is thought that many Facebook users read these news articles.

Table 2: Top 5 news articles looked at by Facebook users between October 2019 and January 2020

Contents of Post	Posted Date	Total Reach
Community awareness on environmental and biodiversity values of Bootless Bay	16/10/2019	2,634
First trial tour for Varirata National Park	27/10/2019	2,202
Protection of biodiversity for Bootless Bay	4/12/2019	1,374
New park rangers of Varirata National Park	16/10/2019	1,345
Local Koiari buffet's by Kae Association	12/11/2019	1,286

*Data as of January 31, 2020

5. Future plan

Although number of likes continuously increased and reached 869 Facebook users, number of likes did not increase largely compared to other periods. Since the project posted only few news articles in this period, the project needs to post news articles more to increase number of likes.

To date, most readers who liked the Facebook page are of age groups between 20's and 40's. In order to attract other age groups, the project team should utilize other public relation materials like brochures and putting stories of Varirata National Park (terrestrial) and Bootless Bay (marine) in the daily newspapers including their weekender. Although people from several countries are interested in our Facebook page, the number is still small except for Papua New Guineans. We need to utilize some events such as international conference for publicizing our project to the people of other countries. The other ways of promoting our Facebook page would be as follows: CEPA and project team should also tag or communicate to their friends on Facebook or other social media about our page and the project, or other agencies such as the PNG Tourism Promotion Authority including others to link their Facebook or webpages with our page.

End

Monitoring report from February to May 2020 of Facebook page for the Project for Biodiversity Conservation through Implementation of the PNG Policy on Protected Areas

2020/6/12
CEPA-JICA Project team

1. Background of the Facebook page

The Project Facebook page was setup as one of the activities of the project for Biodiversity Conservation through Implementation of the PNG Policy on Protected Areas. This project tackles the issue of biodiversity conservation and supports the development and management of the National Protected Area network in PNG. The Facebook account was registered in October 2015 and the Facebook page was opened to the public on November 25, 2016 for the purpose of spreading the project information to a wide audience. However, the project setup a new Facebook page in October 2018 because there was a problem with the previous Facebook page account. Since the new Facebook page was established, CEPA-JICA project team continues posting news articles. This monitoring report is targeted to post on the new Facebook page and covers the period from February to May 2020.

2. Monitoring indicators

The monitoring indicators cover the number of people who expressed “like” of the project Facebook page and the number of people who actually looked at each news article. By analyzing these indicators, we gauge the public relation’s effect of the Facebook page.

3. Update of Facebook page during this period

News articles were continuously posted during this period. In total, 19 articles were posted (7 articles in February, 1 article in March, 9 articles in April and 2 articles in May). Total number of posted articles was almost same compared to that of previous periods. The articles covered a wide range of project activities.

4. Results of monitoring

(1) The number of likes

As of 31 May 2020, 982 people expressed “like” of the Facebook page. As 869 people expressed “like” of the Facebook page at the end of September, number of “like” has increased 113 people during this period. The following figure shows the increasing trend of likes. It shows that the number of likes increased at a constant pace during this period.



Figure 1: Chronological change of number of likes

The following figure indicates the male-to-female ratio and age group of the people who liked the Facebook page. The number of men is slightly higher than that of women. The age group between 25 and 34 is highest ratio for both men and women and between 35 and 44 is second highest ratio for men and women. Overall trend shows that Facebook page seems to be reaching people in their 20's, 30's and 40's.

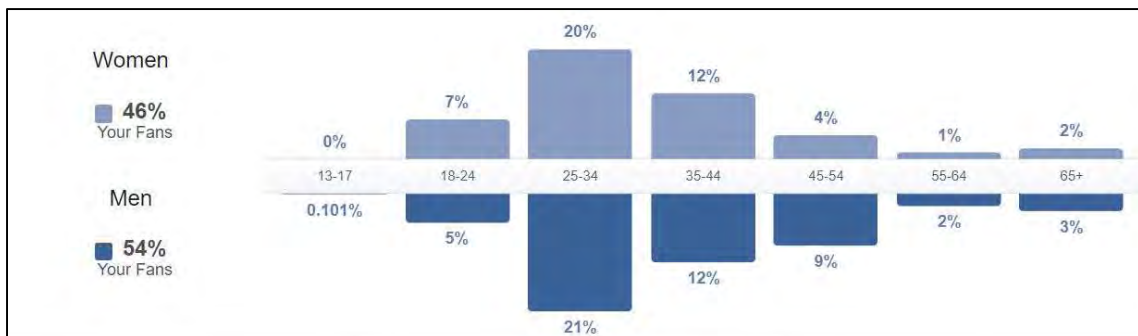


Figure 2: Male-to-female ratio and age group of people who liked the page

The following table shows the country of people who liked our Facebook page. Although most people who liked our pages were Papua New Guineans, 79 Facebook users from other countries are also interested in our pages. The highest number of countries except for Papua New Guineans was Australia. Thirty-three Australian expressed "like" of the Facebook page. Additional 4 Australian expressed "like" of the Facebook page during this period. Other countries such as Japan, USA, Solomon Islands, etc. are also included in Facebook users who liked our Facebook page.

Table 1: The country of people who liked our Facebook page

Country	Your Fans
Papua New Guinea	916
Australia	33
Japan	7
Solomon Islands	4
United States of America	4
Fiji	3
Czech Republic	3
Indonesia	2
Cambodia	2
Philippines	2
Vanuatu	2

(2) Analysis of page contents

The number of pages looked at by many people indicates what kind of articles are effective in public relations. The following table shows the top 5 articles which were looked at by many Facebook users. This number is only counted when Facebook users click and see the details on the pages for each article. As shown in this table, more than 1,000 times people looked at No.1 and No.2 news articles by Facebook users. Although this number overlaps some of the same persons when someone reads articles several times, it is thought that many Facebook users read these news articles.

Table 2: Top 5 news articles looked at by Facebook users between February and May 2020

Contents of Post	Posted Date	Total Reach
One Day Cultural Tour Package for VNP	20/05/2020	1,537
The establishment of the Bootless Bay Marine Station at the Tahira	18/02/2020	1,122
Meeting of Bootless Bay Marine Conservation Initiative (BBMCI)	10/02/2020	797
Advertisement of one day cultural tour for VNP	23/02/2020	791
Signboard installation for protection of Bootless Bay	25/05/2020	762

*Data as of May 31, 2020

5. Future plan

Although some of the activities were stopped due to COVID-19, the number of likes continuously increased and reached 982 Facebook users. Since many Facebook user looked at news articles related to one day tour for VNP, this will be good advertisement for VNP to the public.

To date, most readers who liked the Facebook page are of age groups between 20's and

40's. In order to attract other age groups, the project team should utilize other public relation materials like brochures and putting stories of Varirata National Park (terrestrial) and Bootless Bay (marine) in the daily newspapers including their weekender. Although people from several countries are interested in our Facebook page, the number is still small except for Papua New Guineans. We need to utilize some events such as international conference for publicizing our project to the people of other countries. The other ways of promoting our Facebook page would be as follows: CEPA and project team should also tag or communicate to their friends on Facebook or other social media about our page and the project, or other agencies such as the PNG Tourism Promotion Authority including others to link their Facebook or webpages with our page.

End

Monitoring report from June to September 2020 of Facebook page for the Project for Biodiversity Conservation through Implementation of the PNG Policy on Protected Areas

2020/10/8
CEPA-JICA Project team

1. Background of the Facebook page

The Project Facebook page was setup as one of the activities of the project for Biodiversity Conservation through Implementation of the PNG Policy on Protected Areas. This project tackles the issue of biodiversity conservation and supports the development and management of the National Protected Area network in PNG. The Facebook account was registered in October 2015 and the Facebook page was opened to the public on November 25, 2016 for the purpose of spreading the project information to a wide audience. However, the project setup a new Facebook page in October 2018 because there was a problem with the previous Facebook page account. Since the new Facebook page was established, CEPA-JICA project team continues posting news articles. This monitoring report is targeted to post on the new Facebook page and covers the period from June to September 2020.

2. Monitoring indicators

The monitoring indicators cover the number of people who expressed “like” of the project Facebook page and the number of people who actually looked at each news article. By analyzing these indicators, we gauge the public relation’s effect of the Facebook page.

3. Update of Facebook page during this period

News articles were continuously posted during this period. In total, 18 articles were posted (11 articles in June, 2 articles in August and 5 articles in September). Total number of posted articles was almost same compared to that of previous periods. The articles covered a wide range of project activities.

4. Results of monitoring

(1) The number of likes

As of 30 September 2020, 1,086 people expressed “like” of the Facebook page. As 982 people expressed “like” of the Facebook page at the end of May, number of “like” has increased 104 people during this period. The following figure shows the increasing trend of likes. It shows that the number of likes increased rapidly especially end of September.

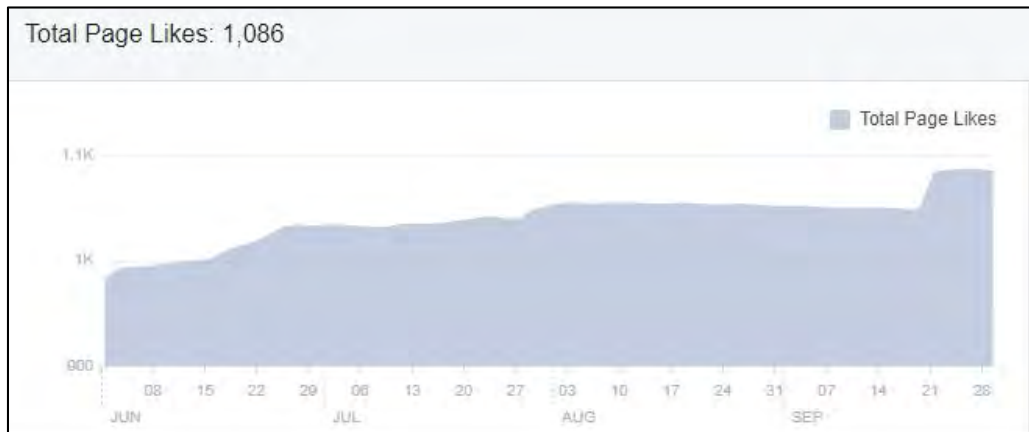


Figure 1: Chronological change of number of likes

The following figure indicates the male-to-female ratio and age group of the people who liked the Facebook page. The number of men is slightly higher than that of women. The age group between 25 and 34 is highest ratio for both men and women and between 35 and 44 is second highest ratio for men and women. Overall trend shows that Facebook page seems to be reaching people in their 20's, 30's and 40's.

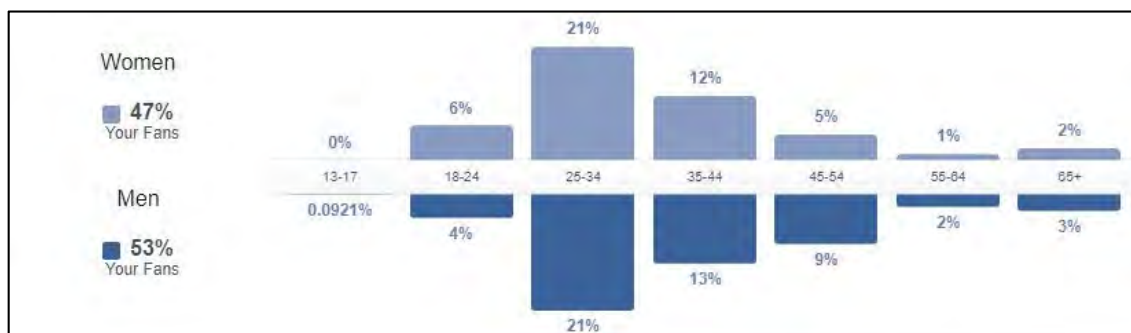


Figure 2: Male-to-female ratio and age group of people who liked the page

The following table shows the country of people who liked our Facebook page. Although most people who liked our pages were Papua New Guineans, 79 Facebook users from other countries are also interested in our pages. As this number is same as previous periods, only Facebook users of Papua New Guineans liked our Facebook page during this period. The highest number of countries except for Papua New Guineans was Australia. Thirty-six Australian expressed "like" of the Facebook page. Other countries such as Japan, USA, Solomon Islands, etc. are also included in Facebook users who liked our Facebook page.

Table 1: The country of people who liked our Facebook page

Country	Your Fans
Papua New Guinea	1,007
Australia	36
Japan	8
Solomon Islands	4
United States of America	3
Czech Republic	3
Fiji	2
Indonesia	2
Cambodia	2
Philippines	2
Vanuatu	2

(2) Analysis of page contents

The number of pages looked at by many people indicates what kind of articles are effective in public relations. The following table shows the top 5 articles which were looked at by many Facebook users. This number is only counted when Facebook users click and see the details on the pages for each article. As shown in this table, more than 1,000 people looked at the top 5 articles by Facebook users. Although this number overlaps some of the same persons when someone reads articles several times, it is thought that many Facebook users read these news articles.

Table 2: Top 5 news articles looked at by Facebook users between June and September 2020

Contents of Post	Posted Date	Total Reach
Trekking site and the waterfall in Varirata National Park	20/09/2020	4,003
The introduction of the waterfall in Varirata National Park	20/09/2020	1,813
Report of One Day Varirata Cultural Tour	22/06/2020	1,760
The introduction of the promotional video in VNP	28/06/2020	1,187
The official opening and the handover of the Varirata National Park Toll Gate's House	01/06/2020	1,026

*Data as of September 30, 2020

5. Future plan

Although some of the activities were stopped due to COVID-19, the number of likes continuously increased and reached 1,000 Facebook users. No.1 news article related to VNP posted at the end of September was seen more than 4,000 times. Since many Facebook users liked our Facebook page during this period, this article attracts many Facebook users. It is effective to post news articles related to VNP continuously to get more likes from Facebook users.

The project activities will be finished at end of the year. The project will handover this Facebook page to the CEPA during next period.

End

E-3 Seminars and workshop

Overview of Activity Component and Major Deliverables Seminars and Workshops

1. Background and Overview

In this project, it was important that various stakeholders understood the importance of the project and carried out project activities in cooperation. For this reason, many large and small seminars and workshops were held for the entire project or individual activities according to the purpose.

The kick-off seminar was held at the beginning phase of the project so that stakeholders could clearly have an image of how to cooperate with each other and share their awareness about the measures to the challenges. Seminar participants were agencies, organizations and individuals involved in the overall project activities. At the closing phase of the project, the final seminar was held to report on the outputs of project activities and to share awareness of the post-project activities. In addition, various workshops, seminars, meetings and ceremonies were held to promote individual activities related to Output 2 and Output 3.

2. Objective

To conduct publicity and enlightenment necessary to disseminate project information and promote activities.

3. Contents of Operation

- (1) Develop implementation plans of workshop/seminar for public relations/awareness
- (2) Prepare and conduct workshop/seminar

4. Activities and Achievements

- (1) Develop implementation plans of workshop/seminar for public relations/awareness

July 2015	At the beginning phase of the project, developed implementation plan of kick off seminar for public relations/awareness in response to comments of stakeholders.
February - March 2020	At the closing phase of the project, developed implementation plan of closing/wrap-up seminar for public relations/awareness in response to comments of stakeholders.

- (2) Prepare and conduct workshop/seminar

July 2015 Annex 4.3.1	Prepared and conducted kick off seminar.
October, November 2015, February 2016 Annex 4.3.2 – 4.3.4	Prepared and held the workshops (inception, follow-up, livelihood development & bird watching) for Koiari.
May 2016, February 2017 Annex 4.3.5 – 4.3.6	Prepared and held the workshops (Varirata National Park (VNP) landowner on livelihood development, VNP wrap-up on the project achievements 2015-2016) for VNP.
April 2017, March 2019 Annex 4.3.7	Prepared and held the inaugural ceremonies (renovated facilities in VNP, Information Center Complex in VNP) for VNP.
March, October 2018 Annex 4.3.8	Prepared and held the seminars to report the results of the survey (social mapping and socio-economic, biodiversity and conservation) conducted in the project.
April, June, July 2017, March, September 2018, January, September 2019, February 2020 Annex 4.3.9 – 4.3.17	Prepared and held the meetings for Bootless Bay Marine Conservation Initiative (BBMCI) (1 st to 9 th) and the Bootless Bay National Marine Sanctuary (BBNMS) Working Group (WG) (1 st).
August 2016, January 2017, November 2019 Annex 4.3.18 – 4.3.20	Prepared and held the workshops (1 st to 3 rd) for BBMCI.
March 2020 Annex 4.3.21	Prepared and conducted closing/wrap-up seminar.

5. Evaluation

- (1) Verification of output achievement

Objectively verifiable indicators	Degree of attainment	Achievements
More than 3 times of workshops/seminars for information dissemination are held by the end of the Project.	Achieved	Twenty-three workshops, seminars, ceremonies, or meetings were held for the entire project and each Output.

(2) Verification of objective achievement

Means of verification	Degree of attainment	Achievements
Reports of workshops/seminars	Achieved	The report of each workshop/seminar held was prepared. (Annex 4.3.1 – 4.3.21)

6. Lessons Learned

(1) Promotion of stakeholders' understanding and participation in the project through seminars and workshops

By holding a number of seminars, workshops and ceremonies, the stakeholders and local residents were able to gain better understanding of the project and interest in the natural environment conservation, and the foundation for supporting the project activities were established. Moreover, timely seminars, workshops and meetings with the concerned parties made share their awareness about the measures to address challenges and promoted the project activities.

7. Recommendations

(1) Continuous implementation of seminars/workshops

Activities of protected area management and establishment should be continued after the end of the project. It is necessary for CEPA to take an initiative to ensure the activities do not stagnate and continue to have a meeting such as VNP management committee and BBMCI-related organizations. In addition, the members of each organization established through the project activities are important supporters of the activities. CEPA is required to work and make further efforts to hold large-scale seminars/workshops with their support.

8. List of major Deliverables:

- 1) Project kick off seminar report (Annex 4.3.1)
- 2) Inception Workshop for Koiari report (Annex 4.3.2)
- 3) Follow-up Workshop for Koiari report (Annex 4.3.3)
- 4) Workshop on Livelihood Development & Bird Watching in Koiari report (Annex 4.3.4)
- 5) VNP Landowner Workshop on Livelihood development report (Annex 4.3.5)
- 6) VNP Wrap-up Workshop on the Project Achievements 2015-2016 report (Annex 4.3.6)
- 7) Inaugural Ceremony for the Information Center Complex in VNP (Annex 4.3.7)
- 8) Biodiversity and Conservation Seminar report (Annex 4.3.8)
- 9) The 1st BBMCI meeting report (Annex 4.3.9)
- 10) The 2nd BBMCI meeting report (Annex 4.3.10)
- 11) The 3rd BBMCI meeting report (Annex 4.3.11)
- 12) The 4th BBMCI meeting report (Annex 4.3.12)
- 13) The 5th BBMCI meeting report (Annex 4.3.13)
- 14) The 6th BBMCI meeting report (Annex 4.3.14)
- 15) The 7th BBMCI meeting report (Annex 4.3.15)
- 16) The 8th BBMCI meeting report (Annex 4.3.16)
- 17) The 9th BBMCI meeting and the BBNMS WG report (Annex 4.3.17)
- 18) The inception workshop for the creation of BBMCI report (Annex 4.3.18)
- 19) The 2nd workshop for the creation of BBMCI report (Annex 4.3.19)
- 20) The 3rd workshop for BBMCI report (Annex 4.3.20)
- 21) Project closing/wrap-up seminar report (Annex 4.3.21)

End of document

Annex 4.3.1 Project kick off seminar report



Conservation and Environment Protection Authority
CEPA

Japan International Cooperation Agency
JICA



The Project for
Biodiversity Conservation through Implementation of
the PNG Policy on Protected Areas

Report for Kick-off Seminar/Workshop

July 29th, 2015

Holiday Inn, Port Moresby, PNG

CEPA PROJECT TEAM
JICA EXPERT TEAM

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Abbreviations

C/P	Counterpart
CEPA	Conservation and Environment Protection Authority
DEC	Department of Environment and Conservation
DDA	District Development Authority
EIA	Environmental Impact Assessment
JICA	Japan International Cooperation Agency
KI	Kokoda Initiative
LLG	Local-level Government
NCDC	National Capital District Commission
PA	Protected Area
PAU	Pacific Advertiser University
PDM	Project Design Matrix
PIP	Public Investment Programme
PNG	Papua New Guinea
PO	Plan of Operation
PPA	PNG Policy on Protected Areas
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UPNG	University of Papua New Guinea
VNP	Varirata National Park

Acknowledgement

This inception workshop was made possible with financial and technical support from Japan International Cooperation Agency (JICA) with collaborative partnership from the Conservation and Environment Protection Authority (CEPA). Through this partnership the project for biodiversity conservation through implementation of the Policy on Protected Areas (PPA) was initiated.

On behalf of the CEPA-JICA Project Team and the Project Management Team, we would like to extend our thanks and gratitude to every CEPA staff; the local landowners from Koiari; ward councilors of Koairi LLG; representatives from the Kairiku-Hiri District and Central provincial administrations; PNG National Commission for UNESCO Staff; representatives from JICA PNG Office, Ela Motors and PNGFA; representatives from the academia (UPNG and PAU) and environmental non-government organisations, including others who have participated at the seminar/workshop or have contributed one way or the other to the successful workshop.

Our special thank you to Ms Kumaras Kalim, Director of Sustainable Environment Program Wing of CEPA for facilitating and being the Master of Ceremony (MC) for the one day seminar/workshop. We would also thank the local landowners of Koiari LLG for their invaluable contributions during the group discussions and for attending and participating in the workshop.

Last but not least, the Project Team wish to extend their big thank you to the student interns of the Pacific Adventist University (PAU) who were undertaking internship training with CEPA for their contributions and leading the group presentations at the workshop.

1. Background

The PNG's strong position on the environment is drawn from the Preamble of the National Constitution which declares our fourth goal to be PNG's natural resources and environment conserved and used for the benefit of us and our future generation. With the position, GoPNG formulated the National Biodiversity Strategy and Action Plan (NBSAP) in 2007. However, the implementation of NBSAP has been hindered, by lack of coordination and lack of proper funding and capacity. The current protected area system is small, fragmented, and is highly unlikely to be adequate in providing protection to PNG's high biodiversity. DEC (CEPA) is in charge of monitoring and management of the protected areas however there is virtually no monitoring or management capacity by DEC (CEPA).

To address biodiversity conservation and support the development and management of a National Protected Area Network in PNG, GoPNG developed the PNG Policy on the Protected Areas (PPA), which was launched in December 2014. PPA will guide communities, organizations and agencies to harmonize their efforts in a structured and logical approach to the development of protected areas.

Project target areas, including Central Province and several target PAs, will be clearly defined during the initial stage of the project implementation. Though, Output 2 intends for Varirata National Park (VNP) to be a target terrestrial Protected Area, and Koiari Rural LLG to be a target LLG for livelihood development activities in the "activity 2-5" of the PDM. Besides, Output 3 considers Motupore Island to be one of the candidate sites as a target marine PA.

Thus, this initial seminar/workshop was held recently at Holiday Inn in Port Moresby, Papua New Guinea on 29th July 2015 was to address some of these outstanding concerns and issues regarding the management of the VNP and the establishment of the new marine PA.

2. Objectives

The main objectives of the Kickoff Seminar/Workshop were;

1. To be widely known by all concerned stakeholders and institutions,
2. To identify key actors/stakeholders for the Project,
3. To identify and prioritized activities for the Project, and
4. To gain insights and achievement of related activities in the VNP and surrounding region.

3. Methodology

This event was split into two parts: Part 1 – was the 'Seminar Session' which was undertaken in the first part of the day in the morning; and Part 2 – was the 'Workshop Session'

done in the rest of the afternoon. The Master of Ceremony was also identified and this was delegated to Ms Kumaras Kalim, Director of Sustainable Environment Program Wing of CEPA and also the Project Manager of the CEPA-JICA Project.

In the morning sessions, the opening remarks were made by the very important distinguished guest speakers and the lead representations were made by selected key actors to share their past experiences and to include implication to be applied for the project activities. In the afternoon sessions, group discussions were workshoped in respective topics to share common understandings and to build enabling environment for collaborative effort towards agreed goals.

The afternoon sessions were very critical for this biodiversity project because through the discussions and consents of the various stakeholders including the local landowners and the representatives from the Koiari and Hiri LLGs, and Kairiku-Hiri District Administration will assist in the effective planning and implementation of the Project activities. Thus, participants were broken into three thematic groups according to key aspects of the Project (refer to Table 1 below) under the terrestrial and marine/coastal ecosystems.

Prior to the group discussions, a brief presentation on the concept of “Sustainable Land Use Planning” was presented by Mr James Sabi of Kokoda Initiative (Manager, Environmental Ecosystems, CEPA). The presentation was made to mainly provide insights to proper land use planning processes and address basic instruments available such as legislative/policy framework, and technical recommendations on what principle should be applied for land use & zoning of Koiari LLG especially those areas around VNP.

Participants were then requested to respond to following questions (provided below in Table 1) and to make 3-5 bullet points, which the groups believe were the most important. Also, at the beginning, a brief explanation about the work plan of the Project was made by the Group Leaders of each group.

Table 1 Thematic groups and key questions

	Participants mainly from	Group Leader	Key Questions
Terrestrial Ecosystems: Improvement of VNP, community participation and livelihood development			
Group A (VNP)	CEPA, Koiari LLG	Ted Mamu	① What are specific problems/limitations on current status of VNP? What function need to be strengthened/added to VNP? ② What kinds of livelihood opportunities do exist in Koiari LLG; VNP surrounding areas? ③ Who can be a target population for the livelihood development of the Project in Koiari LLG? ④ What support should be provided for the livelihood development by the Project?
Terrestrial Ecosystems: Development planning of VNP surrounding areas			
Group B (Province and LLG)	Central Province, Hiri District	Fredrick Ohmana	① What are major development threats or pressure in the VNP landscape? ② What are problems and challenges to be addressed for sustainable development of VNP landscape? ③ What are benefits of integrated development planning and mainstreaming of biodiversity conservation for provincial, district and local level governments?

			④ What support should be provided by the Project?
Marine/Coastal Ecosystems: New marine/coastal PA planning			
Group C (Marine)	CEPA, NCDC, Central Province	Bernard Suruman And Vagi Rei	① Why important to establish marine/coastal PA? What are advantage and disadvantages? ② Which site could be candidates for new marine/coastal PA establishment? ③ What are issue, problems and challenges for the marine/coastal PA establishment in those candidate sites? ④ What kind/type of capacity development is expected for CEPA by the Project? ⑤ What kind/type of capacity development is expected for NCDC and Central Province by the Project?

4. Basic information of the Kickoff Seminar/Workshop

The Kickoff seminar/workshop was held at Holiday Inn (Kumul room) on Wednesday 29th July, 2015 in Port Moresby, National Capital District, Papua New Guinea. It was anticipated that 100 participants will attend, however 94 invitees attended the seminar/workshop. From this, 20 were participants from the Koiari Rural LLG, Kairiku-Hiri District Administration including the local communities; 23 CEPA staff; 12 JICA representatives from PNGFA, Ela Motors and PNG JICA Country Office; 10 environmental NGOs and UPNG; 4 CEPA-JICA Project Team; 5 PNG National Commission for UNESCO staff; 2 Central province reps; 4 reps from other national government agencies; 10 Pacific Advertiser University (PAU) student interns with CEPA including two media reporters from Post Courier and The National newspapers.

The program of the seminar/workshop is outlined in Table 2 below. The seminar/workshop commenced at 8:30 am after the registration of the participants and finished at 5:00pm.

The Master of Ceremony (MC) or the facilitator for the Seminar sessions (Part 1) was led by Ms. Kumaras Kalim (Director, Environmental Sustainability Program Wing of CEPA and Project Manager – CEPA-JICA Project). She introduced the Kickoff seminar/workshop by officially welcoming every invitee for attending. Without further ado, she urged the distinguished guest speakers to come forward and take their seats in the front. She then introduced them to the audience.

Table 2 The Seminar/Workshop Program

Time	Program	
8:00-8:30	Registration	
8:30-9:00	Opening Remarks	
	1. Managing Director, CEPA (Project Director)	
	2. Deputy Central Provincial Administrator	
	3. JICA Chief Representative	
9:00-9:10	Overview of the Seminar/Workshop	Mr. Fredrick Ohmana (CEPA Project Coordinator)/
9:10-9:40	Project Presentations	Mr. Koji Asano (JICA Chief Advisor)
9:40-10:00	- Break -	Morning Tea
10:00 - 12:00	Presentations (20 min. & 10 min. Q&A)	

	1. Kokoda Initiative (KI)	Mr. James Sabi (Manager, CEPA)/
	2. National Protected Areas System Policy	Mr. Michael Bongro (Executive Manager, Policy International, CEPA)
	3. Marine Spatial Planning	Mr. Bernard Suruman (Manager, CEPA)/
12:00-13:00	- Lunch Buffet -	Lunch
13:00-13:10	A Brief Presentation on Land Use Planning	CEPA-KI
	Working Group Formation	
	<i>Terrestrial Ecosystems:</i>	
	Group A: Improvement of VNP, community participation and livelihood development	Mr. Fredrick Ohmana (CEPA Project Coordinator)/
13:10-14:40	Group B: Development planning of VNP surrounding	Mr. Koji Asano (JICA Chief Advisor)
	<i>Marine/Coastal Ecosystems:</i>	Group Leaders
	Group C: New marine/coastal PA planning	
	Working Group Discussion 01	
	Specific questions will be provided by the Group Leader.	Group Leaders
14:40-15:00	- Break -	Afternoon Tea
	Working Group Discussion 02	
15:00-16:30	Specific questions will be provided by the Group Leader.	Group Leaders
	Summing up & Conclusion	
16:30-16:50	1) Summaries of the discussions - 5 min. each of the group	Group Leaders
16:50-17:00	Closing Remark	

5. Part 1 - Seminar Session

5.1 Opening Remarks

The opening remarks of the inception workshop/seminar for the CEPA-JICA Project were given by three distinguished guest speakers. These were Mr Gunther Joku, Managing Director for CEPA; Honourable Edward Kila, Deputy Provincial Administrator of Central Province; and Chief Representative of PNG JICA Office, Mr Shigeru Sugiyama.

The Managing Director of Conservation and Environment Protection Authority (CEPA) and also the Project Director of the CEPA-JICA Biodiversity Project – Mr Gunther Joku has made an opening address by urging all stakeholders including the CEPA to work together in close partnership with the Japan International Cooperation Agency (JICA) to implement the biodiversity project. This joint initiative was undertaken through an agreement signed by both parties in late 2014. He also emphasized that the new Policy on Protected Areas (PPA) will be implemented jointly with the support from the governments of PNG and Japan in order to sustain and protect biodiversity at the Varirata National Park (VNP) and the establishment of new marine PA.

The second speaker was the Deputy Central Provincial Administrator - Honourable Edward Kila, who thanked Mr Joku and the Master of Ceremony Ms Kumaras Kalim for the very good initiative undertaken by the government of PNG through CEPA. He stressed that it

is very important for the people of Central province particularly the Koiari Local-level Government (LLG) and local communities to part-take in this important biodiversity project.

Mr Kila thanked the Japanese government for their financial and technical support in implementing this project and the restoration/rehabilitation of Varirata National Park was significance not only for the protection of the biodiversity but also to assist the local communities in the vicinity of the VNP and Koiari LLG area to benefit from the project through tourism spin-offs, etc.

Mr. Shigeru Sugiyama who is the JICA Chief Representative of PNG JICA Country Office gave his strong support for this project. He iterated that JICA understands the challenge of balancing development and conservation of biodiversity alone that it was pleased to be part of the project, working alongside partners such as the Central provincial administration, the Kairiku-Hiri district administration, and the Koiari LLG including other Aid development partners like the Australian Government, the United Nations Development Programme (UNDP)/Global Environment Facility (GEF), private sectors, not-for profit environmental groups and local communities.

5.2 Overview of the Seminar/Workshop

Ms Kumaras Kalim (Director, Sustainable Environment Program Wing and Project Manager of CEPA-JICA Project) was the Master of Ceremony (MC) provided the overview of the seminar/workshop. She also highlighted key issues that shall be discussed during the course of the seminar/workshop particularly the technical group discussions.

5.3 Lead Presentations

a. Introduction and Overview of CEPA-JICA Project

The presentation of the CEPA-JICA Biodiversity Project was jointly presented by Mr Fredrick Ohmana (Program Officer of CEPA, Counterpart Coordinator, CEPA-JICA Project) and Mr Koji Asano (Chief Advisor, CEPA-JICA Project). Mr Ohmana explained the main objectives of the Project and its significance for the implementation of the Policy on Protected Areas (PPA) to ensure this Project achieves its four key outputs.

b. Kokoda Initiative

Mr James Sabi (Manager, CEPA) gave a presentation of the kind of activities Kokoda Initiative (KI) is currently undertaking and what were some of the significant outcomes or results of the KI. Mr Sabi explained the work activities they have been implementing since the KI started and also provided the slides on the kind of reports produced over the years. He further explained the technical support from the experts who have been commissioned by KI to undertake various tasks such as environmental and biological surveys, social mapping studies, etc to produce technical reports and high resolution GIS maps with satellite imageries.

c. National Protected Areas System Policy

Mr Michael Bongro (Executive Manager, Policy International, CEPA) gave a general overview of the Policy on Protected Areas (PPA) in PNG while he was going through his presentation. He also emphasized on the importance of having this policy to provide guidance for the management of the existing PAs and declaration of new PAs.

d. Marine Spatial Planning

Mr Bernard Suruman (Manager, Marine Protected Areas, CEPA) provided an overview of process in establishing marine PAs and the importance of the spatial planning for the management of the marine PAs. He also mentioned several tentative sites for the potential marine PAs within the vicinity of NCD/Port Moresby and Central Province including some marine hotspot biodiversity sites outside Port Moresby such as the Southern Bay of Manus coastal ecosystems.

e. A brief presentation on Land use Planning

Mr James Sabi again elucidated on potential processes and tools for sustainable land use planning within the Koiari LLG areas. This has also provided some information and guide for the participants to meaningfully contribute during the group discussions (as shown below).

6. Part 2 – Workshop Session

6.1 Working Group Formation

Mr Ted Mamu (JICA Local Technical Coordinator) explained the process of this session and the participants were requested to break up into three thematic groups. Each group was headed by a group leader and a scribe was nominated by each group by their group members. The group formation was a mixture of local people from Koiari Rural LLG, CEPA staff, UPNG, NGOs, PAU Student interns with CEPA, and independent consultants or experts who attended the one day workshop.

6.2 Aims of Working Group Discussion

The main aim of the group discussion was to build and share common understanding for promoting activities in respective work field; and to realise the enabling environment for collaborative work by various partners towards common goals in the future.

6.3 Group A – Improvement of VNP, community participation and livelihood development (Group Leader: Mr Ted Mamu)

a. What are the specific problems/limitations on current status of VNP? What functions need to be strengthened/added to VNP?

Table 3 Problems associated with the VNP

Problems/Limitations	Mitigation
Lack of rangers on site	<ul style="list-style-type: none"> • Encourage local engagement and participation in ranging work

	<ul style="list-style-type: none"> • Train locals and equip them with appropriate safety equipment/tools • Provide incentives for rangers
Lack of capacity by park ranger(s) and CEPA to manage the Park	Identify training opportunities and invest on training the rangers and relevant CEPA staff
Run-down facilities (camping, recreation, lodging, etc) affecting number of visitors/tourists visiting the Park	<p>Encourage local employment by engaging them in reconstruction or rehabilitation of the Park.</p> <ul style="list-style-type: none"> • Advertise (increase marketing) • Communication (information for Park) • Organise additional activities for the visitors in order to entertain visitors so that they appreciate what the Park can offer. This will encourage more visitors to visit the Park.
Security concerns	<ul style="list-style-type: none"> • Increase number of rangers or security guards • Establish a Police post in/within the vicinity of the Park
No specific clarification as to which clan may take care of the Park	Identify the clan partnership with CEPA
Run-down information centre	<ul style="list-style-type: none"> • Rebuild information centre • Establish and maintain proper information/library system of the Park • Refurnish the information centre with up-to-date information and books on biodiversity, nature, adventures, tourism, etc
No clear land demarcation of VNP	<ul style="list-style-type: none"> • Identify genuine landowners through proper social mapping studies • Determine and obtain historical information and boundary maps from Department of Lands & Physical Planning or consult landowners • Ground truthing with GPS to properly map the boundaries

b. Functions of the VNP – management

- Rangers
- Spin-offs - identify livelihood development options for local communities to directly benefit from whilst the protection of the biodiversity and the Park is enhanced.
- Varirata National Park Management Committee (VNP/PMC) - establish a park management committee for VNP, which will oversee the functions and management of the Park.
- Sustainable financing
- Donor agencies
- Government PIP (Public Investment Programme)
- Proper/improved accountability and management of the park fees and related administrative matters
- Sustainability of the Park
- Research purposes

c. What kinds of livelihood opportunities do exist in Koiari LLG, VNP surrounding areas?

Table 4 Existing Livelihood Opportunities in Koiari LLG

Livelihood opportunity	Kind of activities	Partnership
Tourism (core zone of VNP)	<ul style="list-style-type: none"> • Lodging • Arts and crafts shops • Coffee shop 	<ul style="list-style-type: none"> • Tourism Promotion Authority • Local community/TPA • JICA/CEPA

	<ul style="list-style-type: none"> • BBQ areas 	<ul style="list-style-type: none"> • JICA/CEPA
Agriculture (buffer zones, outside of Park)	<ul style="list-style-type: none"> • Vegetables Farming: Ginger, pineapple • Cash crops: coffee, cocoa, rubber, etc • Subsistence gardening • Cattle • In-land fisheries (Barramandi, Talapia – supper) 	<ul style="list-style-type: none"> • Department of Agriculture and Livestock (DAL)/local community • National Fisheries Authority (NFA)/JICA
Small/Medium Enterprise (SME)	Encourage locals to build stalls along roads so their goods can be purchased by visitors/tourists and public.	National Development Bank/Micro-finance Banks/Local communities

d. Who can be a target population for the livelihood development of the Project in Koiari LLG?

In terms of the target population, the land owners are of the view that the focus should be on the five Wards that are near and within the vicinity of the Varirata National Park (VNP). These are the Wards 2,3,4,5 and 20. The lessons learned or success stories from these areas and target population during and/or after the project can be replicated to the other wards in the future. Table 5 below provides some of the sustainable livelihood development options identified by the group that can be able to sustain the livelihood of the local communities. These Ward areas are located near and within the vicinity of the VNP.

Table 5 Livelihood Development for target population in Koiari LLG

Target Population	Livelihood Development
Wards 2, 3,4, 5, 20	Informal marketing
Wards 2, 3,4, 5, 20	Eco-lodge/nature huts <ul style="list-style-type: none"> • Mini-lodges • Skyrail, cable ways • Canopy walkways, forest railing, forest walkways • Hiking, forest trails • Bird watching • Insect/butterfly sightings
Wards 2, 3,4, 5, 20	Local employment <ul style="list-style-type: none"> • Park rangers • Security guards • Cleaners/gardeners
Wards 2, 3,4, 5, 20	<ul style="list-style-type: none"> • Vegetable Farming
Wards 2, 3,4, 5, 20	<ul style="list-style-type: none"> • In-land fish farming
Wards 3,5, 20	<ul style="list-style-type: none"> • Water and sanitation

e. What support should be provided for the livelihood development by the Project?

i. Funding

From the discussions, the landowners mentioned that they need some sort of capital or incentives to kick start small businesses to improve their livelihoods. To be able to take part in the economic activities happening within their area, e.g.

lodges for tourists coming in each year to walk the Kokoda track and also other visitors visiting the Park.

ii. **Training**

The landowners mentioned that they would like to see the Koiari youths being involved in the project and also suggested for specific trainings to be provided to them on certain areas such as; conservation, book keeping, park ranging, technical skills through vocational training, etc.

iii. **Capacity enhancement**

Agriculture - tractor, seedlings, water pump, truck for those who have already been engaged in some form of income generating activities like farming, they would like to see if the project can assist in enhancing their capacities in providing tractors, seedlings etc.

Some of the local people, especially, those ones from Wards 3, 5 and 20 are faced with the problem of water scarcity. They lived uphill and had to go downhill to fetch water, which most times they live without good drinking water. This has resulted in water borne diseases spreading in the area. So they would like to see if the project can assist them to purchase at least some water pumps and pipes to at least bring the water closer to them.

iv. **Business Development Plan**

It was expressed by local participants that the land owners of the Koiari LLG would like to be part of any development opportunities that is happening within their area. Also, making use of the opportunity to venture into business activities or component of the VNP. Therefore, they should be included in the business development plan of the park and to be able to share the benefits that arises from the VNP. Also, they would like to be taught on how to develop business plans to be able to carry out businesses to improve their livelihoods in the future.

v. **Social Development**

- Improve schools by building new classrooms
- Establish proper libraries for local schools in Koiari LLG
- Improve run-down health centers/aid posts and supply adequate medical supplies with coordination from the GoPNG Department of Health. Build new health centre(s) if relevant and if there is larger need from the local community.
- Sports - build or improve sporting facilities and play grounds in the Koiari area
- Improve existing market place(s) within Sogeri and Koiari areas

- Support local communities to establish proper picnic areas near and within the VNP by setting up proper picnic huts, barbeque areas, etc.

6.4 Group B –Development planning of VNP surrounding areas

(Group Leader: Mr Fredrick Ohmana)

a. What are the major development threats or pressure in the VNP landscape?

i. Local/Community Level

- Shifting cultivation
- Unsustainable hunting practises
- Land ownership disputes amongst the clans

ii. National

- Potential Laloki Mine expansion
- Urbanisation
- Illegal settlement
- Land disputes (ownership concern - Political boundary)
- Misinformation from developers to the local community
- Lime stone quarry
- Waste management
- Construction of tele-communication towers

b. What are problems and challenges to be addressed for sustainable development of VNP landscape?

- Lack of capacity (awareness and education - capacity building) and resources
- Influx of visitors - disturbance to the environment
- Lack of enforcement
- Lack of funding (in line with 5 year District Development Plan/ LLG level)
- Conflict of interest (landowner issues from different uses)
- Lack of business management plans
- Unsustainable harvesting practices of the resources
- Lack of communication
- Lack of community participation
- Law and order issues within the community

c. What are the benefits of integrated development planning and mainstreaming of biodiversity conservation for provincial, district, district and local level governments?

- Information and knowledge sharing
- Improved management systems
- Opportunities for capacity building for local community
- Strengthening partnership (collaborative approach between all parties)
- Economic benefits for local level governments
- Sustainable financial benefits
- Shared management plans (tourism, local level, district, etc)

d. What support should be provided by the project?

- Capacity building (training)
- Create business opportunities for the landowners (Assist landowners groups to register their interest for DDA)
- Create job opportunities for the landowners
- Support to give 3D model for the landowners
- Equal distribution of spin off benefits
- Provide scholarship opportunities
- Provide trainings (agriculture, rangers, etc)
- Provide support for documentation for traditional knowledge

6.5 Group C – New marine/coastal PA planning

(Group Leaders: Mr Vagi Rei and Mr Bernard Suruman)

a. Why important to establish marine/coastal PA?

The group has identified the following as the significant reasons for establishing the new marine PA:

- Food security
- To help assist commitments at regional and international level
- Protecting breeding grounds/migratory pathway
- Conservation ecological purposes
- Recruitment and dispersal of species
- Protect endemic species
- Protect marine and coastal vegetation
- Stimulates habitat be made up of a various components
- For research purposes
- Eco-tourism
- Promote better Livelihood

b. What are advantages and disadvantages?

Table 6 Advantages and disadvantages of marine PA establishment

Advantages	Disadvantages
Future benefits for future generations	Protection of Invasive species
Preservation	Restricted rights to traditional fishing grounds
Facilitates research for future planning	MPA is a foreign concept
Gives indicator for climate change	Conflict uses of MPAs
Increased biodiversity	
Prevents pollution	
Promotes stakeholders collaboration	

c. Which site could be the candidates for new marine/coastal PA establishment?

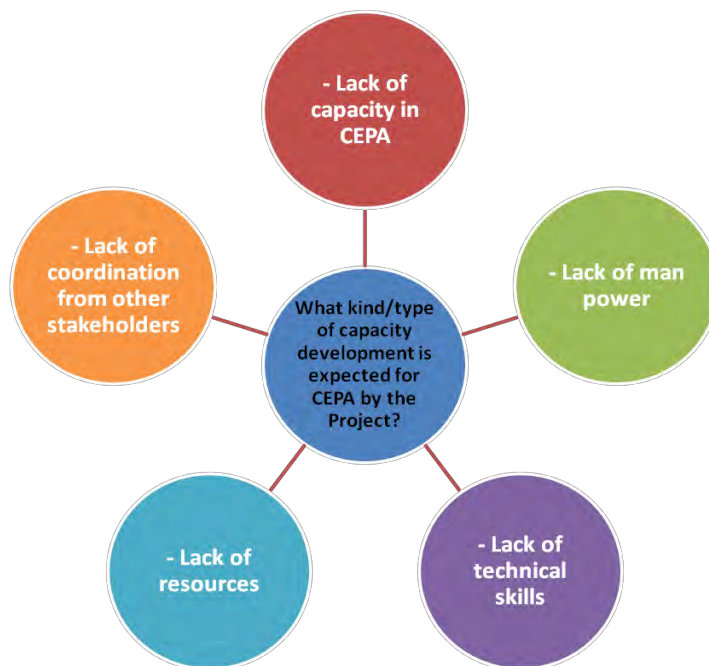
Bootless Bay – this site was chosen and agreed by the group members

- Tuna/Oyster Bay
- Kimbe Bay
- Motupore
- Fishermen Island
- Southern Bay of Manus
- Motukea
- Idles Bay

d. What are the issues, problems and challenges for the marine/coastal PA establishment in those candidate sites?

- Conflict of interest
- Unplanned/ unregulated development
- Lack of coordination amongst Government Agencies
- Lack of Awareness's on Land use
- Lack of enforcement of applicable laws
- Uncontrolled fishing practices / Overharvest
- Illegal use of fishing gear
- Population growth puts pressure on natural resources (both terrestrial and marine)
- Invasive species (Similar to mangrove oysters)
- Illegal dumping of waste
- Lack of understanding of Environmental Impact Assessment (EIA) process

e. What kind/type of capacity development is expected for CEPA by the Project?



f. What kind/type of capacity development is expected for NCDC and Central Province by the Project?

Table 7 Types of Capacity Development for NCDC and Central Province

NCDC	Central Province
Monitoring and enforcement	Ward development plans
Need for environmental legislation/ para-legal training	Lack of provincial policies
	Plans for making Parks

	Management skills
	Monitoring and development

6.6 Working Group Discussions and Presentations

There were some issues raised during the group discussions and the following were the inexhaustive list of issues which were also seen as opportunities:

- Biodiversity trust fund
- Sustainable financing
- Land use guidelines for PA
- Social mapping guidelines for PA
- Recognition notes of customary landowners of Koiari area

6.7 Summing and Conclusion

It was recommended from the group discussions and during the workshop that the following issues and opportunities need to be addressed respectively:

- i. From the group (Group B) discussion, the CEPA-JICA Project plan have to be aligned with the District and/ or Local Level Government five (5) year development plans of the Kairiku-Hiri (or particularly Hiri) administration and Koiari LLG including Central province.
- ii. Partnership and proper coordination of workplans is strengthened in order to avoid duplication and maximizing on resources, e.g. UNDP/GEF and JICA biodiversity projects in relation to the preparation of PPA Implementation Action Plan. It was suggested for key project partners such as UNDP/GEF, JICA and KI to organize a series of meetings (both internal and external) and address these issues so that these activities can be achieved through collaborative effort.
- iii. The current status of VNP was also highlighted during the workshop that it should be looked at seriously and appropriate measures undertaken to address the protection of biodiversity together with addressing the issues of the customary landowners.
- iv. The landowners of Koiari LLG and the district administration expressed their concerns that the livelihood development options including the infrastructure development such as classrooms and other business related spin offs should be looked at by the Project. These landowners do not want to see the repetition of former projects which were not fully implemented and left idled after the project ended. Therefore, exit strategy of this Project is vital and regular communication should be maintained between the relevant actors, partners and stakeholders who are implementing this CEPA-JICA Biodiversity Project.

- v. It was also clarified during the workshop that this Project would not be addressing all the livelihood development projects which were identified at this workshop. However, other avenues can be looked into in terms of supporting the implementation of these livelihood development options, and the future funding from UNDP/GEF 5 can complement the JICA project by addressing the service delivery component. The CEPA-JICA Project is not the service delivery project. BUT it is more focus on biodiversity conservation, management of the PAs including the Varirata National Park and the zoning of the VNP.
- vi. It was very critical when it comes to the effective management of the parks because an issue was raised regarding the legality of park management when the National Parks Act 1982 was repealed as per the provisions under the CEPA Act 2014. Thus, the CEPA Act only covers the establishment of the CEPA Board (Part IV), which clearly states that the functions and powers of the Board shall not extend to the formulation of the environmental and conservation policies and laws. Which means that the Board shall only perform the functions, exercise the powers and manage and direct the financial and human resources' affairs of the CEPA as required by this Act, or any other laws. Therefore, what regime does VNP for this matter will be addressed or managed under? There were few options given during the workshop in order to address this issue such as the CEPA should be looking at reviewing the existing Acts such as the Conservation Areas Act, or preparing a new Act which shall address the legality of VNP management including other related matters. It was also being noted that through the collaboration with UNDP/GEF 4 will assist to develop the National Protected Areas Act, which the drafting of the proposed Act is currently underway.
- vii. The landowners from Koiari LLG also urged the CEPA-JICA Project to identify the cheapest livelihood development project(s) or service delivery mechanism which can be developed or established quickly within a short period of time which would not cost much and involve large labour.
- viii. The CEPA-JICA Project has emphasized that these different livelihood development options will be re-assessed and addressed with different levels of government within the Central, Kairiku-Hiri and Koiari administrations. The terms of reference for the livelihood development plans will be developed for each focal group within the community and Koiari area. Also, proper land use and zoning of the Park and specific sites of interest near or within the vicinity of the Park will be revisited and incorporated in the 5 year sustainable development plan of the Koiari LLG including the district and the Central province.

- ix. Other conservation initiatives such as the Satoyama Conservation Initiative of Japan (refer to Annex 7 for details) was also suggested that the CEPA-JICA Project should revisit as an option of promoting biodiversity protection and rehabilitation of the Park (VNP).
- x. Bootless Bay including the surrounding mangrove ecosystems and Tuna Bay was recommended by the Marine team (Group C) to be a potential site for the establishment of the new marine PA. The group has selected Bootless Bay from the eight (8) proposed marine areas in PNG as the potential candidate site due to these following reasons (also refer to 6.5.a above for details):
- has healthy mangrove and marine ecosystems including healthy coral reef systems,
 - priority WCMC¹ off-shore habitat and fringing of coastal barrier complex along the coastlines of Central province and Port Moresby (including Hiri coastal shorelines and Bootless Bay), within the Coral Triangle Scientific Boundary,
 - has current conservation projects supported by other aid agencies such as USAID, AusAID, etc,
 - already has some scientific and biological data/information of the area,
 - has potentially greater research and conservation initiative should fully funded and supported by coalition of partners including all levels of governments and local communities,
 - logistically and administratively viable,
 - already has tourism potential with influx of tourists/visitors to Motupore Island and Loloata Resort, and
 - on State lease land and customary landownership can be addressed with support from the University of PNG (UPNG).

¹ The United Nations Environment Programme's World Conservation Monitoring Center (UNEP-WCMC) is the executive agency of the UNEP, based in Cambridge, England.

ANNEXES

Annex 1: List of Attendees at Kickoff Seminar/Workshop, Holiday Inn

Name	Designation	Institution
JICA & Japan		
Mr. Shigeru Sugiyama	Chief Representative	JICA PNG Office
Mr. Daisuke Horikoshi	Representative	JICA PNG Office
Dr. Hiromitsu Iwamoto	Assistant Representative	JICA PNG Office
Mr. Tatsuya Watanabe	Chief Advisor, Forest Management and Climate Change	PNG Forest Authority
Mr. Masaya Nishimura	Forest Planning/Coordinator	PNG Forest Authority
Dr. Hitofume Abe	Technical Advisor	UN-REDD Programme
Mr. Katsuhiro Suzuki		Tobishima PNG Limited
Mr. Takeshi Abe	Chief Executive Officer	Ela Motors
Mr. Narimasa Kesugai	Coordinator	Ela Motors
Mr. Shinji Matsumoto	First Secretary	Embassy of Japan
Ms. Ayako Ochi	JICA Expert	PNGFA
Mr. Makoto Tsukiji	J-PRISM/JICA, SPREP	SPREP/JICA Samoa

Donor, UNESCO

Mr. Micah Kameso	Programme Manager - Natural Sciences	PNG NATIONAL COMMISSION FOR UNESCO
Mr. Andrew Kope	Program Manager – Parks & Conservation	PNG NATIONAL COMMISSION FOR UNESCO
Ms. Dorris Apuka	Programme Manager – Cultural & Heritage	PNG NATIONAL COMMISSION FOR UNESCO
Mr. Idau Airi	Programme Manager – Social & Human Sciences	PNG NATIONAL COMMISSION FOR UNESCO
Mr. William Marabu	Advisor – Science Programme	PNG NATIONAL COMMISSION FOR UNESCO
Ms. Lois Nakmai	Program Manager (ADB-TA)	ADB-TA: Strengthening Coastal and Marine Resources Management in the Coral Triangle of the Pacific Phase II
Ms. Patricia Kila	PAS PM	UNDP GEF

Province, District, NCDC

Mr. Edward Kila	Deputy Provincial Administrator	Central Provincial Administration
Mr. Nick Gorua	District Administrator	Hiri District Administration
Ms. Sallyanne Mokis	Consultant	National Capital District Commission (NCDC)

Koiari LLG

Mr. Josh Niveni	Vice President	Koiari LLG
Mr. Alfred Kennedy Edene	Manager	Koiari LLG
Mr. Max Kidu	Project Officer	Koiari LLG
Mr. Arua Tiube	LLG Admin staff	Koiari LLG
Ms. Maraga Kakira	LLG Admin staff	Koiari LLG
Ms. Carol Temeote	LLG Admin staff	Koiari LLG
Mr. DuaiTovoga	LLG Admin staff, Sirinumu Development Company	Koiari LLG
Mr. Vicky Koua	Councilor, Furimuti Ward 4	Koiari LLG, Councilor

Mr. Auda Arue	Councilor, Mesime Ward 2	Koiari LLG, Councilor
Mr. Manaka Bore	Councilor, Madovate Ward 3	Koiari LLG, Councilor
Mr. Kidu Toina	Councilor, Befa Ward 7	Koiari LLG, Councilor
Mr. Tau Wahona	Councilor, Sogeri Urban Ward 20	Koiari LLG, Councilor
Ms. Monika Asyir	Councilor, Goldie Ward 21	Koiari LLG, Councilor
Mr. Eron Warite	Landowner, Nadeka Clan, 17 mile –Sogeri	Koiari LLG, Landowner
Mr. Gideon Warite	Landowner, Nadeka Clan, 17 mile – Sogeri	Koiari LLG, Landowner
Mr. Allan Miria	Landowner, Mesime –Sogeri	Koiari LLG, Landowner
Mr. Tainori Kiroki	Landowner, Omani Clan, Mesime – Sogeri	Koiari LLG, Landowner
Ms. Glanda Koua	Landowner, Furimuti along Sogeri road	Koiari LLG, Landowner
Mr. Saroa Beredi	Landowner, Furimuti along Sogeri road	Koiari LLG, Landowner
Ms. Ruth Ureki	Woman's Group	Koiari LLG, Woman's group

National Government

Mr. James Vuvu	Cartographer	Mineral Resources Authority
Mr. Philemon Nangu	Coordinator, Momase Region	Department of Provincial & Local Level Government
Mr. Nathan Lati	Product Development Officer	PNG Tourism Promotion Authority

University, NGOs

Dr. Augustine Mungkaje	Associate Professor, Senior Lecturer	University of PNG
Ms. Mary Theresa Boni	Manager - Policy, Governance & Research	PNG Eco Forestry Forum Inc
Ms. Saina Jeffrey	Project Officer - Kikori Landscape	World Fund for Nature (WWF) - Pacific (PNG Office)
Ms. Barbara Masike	a/Country Director	The Nature Conservancy (TNC)
Mr. Kenn Mondiai	Executive Director	Partners with Melanesians (PWM)
Mr. Rufus Mahuru	Program Manager	Partners with Melanesians (PWM)
Ms. Evengelyne Kove	Project Officer	Partners with Melanesians (PWM)
Ms. Leah Aisi	Community Engagement Officer	MARSH Project/IUCN
Mr. Peter Bosip	Executive Director	Center for Environmental Law & Community Rights (CELCOR)
Mr. Semson Marte	Manager- Rub/Com.	PNG Eco Forestry Forum Inc

Media

Ms. Shirlyn Belden	Reporter	South Pacific Post Ltd (Post Courier)
Mr. Luke Kama	Reporter	The National

CEPA

Mr. Gunther Joku	Managing Director (Project Director)	Conservation and Environment Protection Authority (CEPA)
Ms. Kumaras Kalim	Director, Sustainable Environment Program Wing (Project Manager)	Conservation and Environment Protection Authority (CEPA)
Mr. John Michael	A/ Director – Corporate Services	Conservation and Environment Protection Authority (CEPA)
Mr. Michael Bongoro	Executive Manager/ Policy & International Conventions	Conservation and Environment Protection Authority (CEPA)
Mr. Gerard Natera	Executive Manager/ Environment & Information Science	Conservation and Environment Protection Authority (CEPA)

Mr. Veari Kula	Executive Manager/ Industries	Conservation and Environment Protection Authority (CEPA)
Mr. James Sabi	Manager/ TEM	Conservation and Environment Protection Authority (CEPA)
Mr. Alu Kaiye	Snr. Program Officer/ TEM	Conservation and Environment Protection Authority (CEPA)
Mr. Chris Tabel	Communications Officer/ KI	Conservation and Environment Protection Authority (CEPA)
Mr. Bense Thomas	Manager/ TPA	Conservation and Environment Protection Authority (CEPA)
Mr. Vagi Rei	Manager/ MEM	Conservation and Environment Protection Authority (CEPA)
Mr. Benard Suruman	Manager/ MPA	Conservation and Environment Protection Authority (CEPA)
Ms. Katrina Solien	Manager/ International Conventions (MEAs)	Conservation and Environment Protection Authority (CEPA)
Mr. Ricks Tanda	Manager/ Sustainable Indicators	Conservation and Environment Protection Authority (CEPA)
Mr. Barnabas Wilmot	Manager/ Wildlife & Enforcement	Conservation and Environment Protection Authority (CEPA)
Mr. Robert Sine	Manager/ Standards	Conservation and Environment Protection Authority (CEPA)
Mr. Damien Ase	Legal Consultant	Conservation and Environment Protection Authority (CEPA)
Mr. Victor Kerwane	Policy Officer	Conservation and Environment Protection Authority (CEPA)
Ms. Margaret Sibona	Senior HRM Officer	Conservation and Environment Protection Authority (CEPA)
Ms. Rose Alphonse	Policy Analyst	Conservation and Environment Protection Authority (CEPA)
Ms. Carmel Jonduo	Policy Analyst	Conservation and Environment Protection Authority (CEPA)
Ms. Sandra Tempil	Receptionist	Conservation and Environment Protection Authority (CEPA)
Ms. Josephine Millo	Personnal Assistant	Conservation and Environment Protection Authority (CEPA)

JICA Project Team, CEPA-PAU Student Interns

Mr. Koji Asao	Chief Adviser	CEPA-JICA Project (JICA)
Mr. Hideki Imai	Expert for biodiversity conservation policy	CEPA-JICA Project (JICA)
Mr. Fredrick S. Ohmana	Project Coordinator	CEPA-JICA Project (CEPA)
Mr. Ted Manu	Local Technical Coordinator	CEPA-JICA Project (JICA)
Ms. Elvina Tato	Student Intern	CEPA-PAU Students Intern
Ms. Bernadette Isikel	Student Intern	CEPA-PAU Students Intern
Ms. Gracelyn Romas	Student Intern	CEPA-PAU Students Intern
Mr. Haggai Zeriga Jnr	Student Intern	CEPA-PAU Students Intern
Ms. Melani Raire	Student Intern	CEPA-PAU Students Intern
Ms. Natalie Ameta	Student Intern	CEPA-PAU Students Intern
Ms. Elsi Kupaloma	Student Intern	CEPA-PAU Students Intern
Ms. Matela Degene Ameta	Student Intern	CEPA-PAU Students Intern
Ms. Stacey Hoi	Student Intern	CEPA-PAU Students Intern
Ms. Dahlia Seri	Student Intern	CEPA-PAU Students Intern

Annex 2: List of Participants for Group Discussions

Group A

	Name	Organisation	Position
1	Mr. Max Kidu	Koiari LLG	Project Officer
2	Mr. Kidu Toina	Koiari LLG	Koiari Councillor
3	Mr. Michael Bongros	CEPA	Executive Manager - Policy
4	Mr. Victor Kerwane	CEPA	Policy Officer
5	Mr. Maraga Kakira	Koiari LLG	KBO
6	Mrs. Glenda Koya	Koiari LLG	LO Rep Koiari
7	Mrs. Ruth Ureki	Koiari LLG	LO Vice Chairperson
8	Mr. Manaka Bore	Koiari LLG	
9	Mr. Rose Alphonse	CEPA	Policy Analyst
10	Mr. Aaron Warite	Koiari LLG	Clan Leader
11	Mr. John Auda	Koiari LLG	Ward 2 Councillor
12	Mr. Gideon Warite	Koiari LLG	
13	Mr. Alfred Tiude	Koiari LLG	
14	Mr. Allan Miria	Koiari LLG	LO Rauna Valley Representative
15	Mr. Tamoki Keroki	Koiari LLG	LO Rauna Valley Representative
16	Dr. Hiromitsu Iwamoto	JICA	Assistant Representative
17	Miss Natalie Ameta	PAU-CEPA	PAU Student Intern
18	Miss Stacey Hoi	PAU-CEPA	PAU Student Intern
19	Ms. Doris Apuka	PNG UNESCO	Program Manager, Culture & Heritage
20	Mr. Ted Mamu	CEPA-JICA	JICA Local Technical Coordinator

Group B

	Name	Organization
1	Fredrick Ohmana	CEPA
2	Benside Thomas	CEPA
3	Carmel Jonduo	CEPA
4	Monica Asiyar	Koiari LLG
5	James Vuvu	MRA
6	Leah Aisi	USIAD/ IUCN MARSH Project
7	Saina Jeffery	WWF/ Kikori Project
8	Nathan Lati	PNGTPA
9	Peter Bosip	CELCOR
10	Rufus Mahuru	PWM
11	Maxine Anjiga	PNGCLMA
12	Kenn Mondiai	PWM Inc
13	Alfred K. Edene	Koiari LLG
14	Elsie Kupaloma	Student/PAU
15	Matela Degene	Student/PAU
16	Carol T. Maraya	Koiari LLG
17	Tony Abavu	Hiri District Office
18	Duai Tovoga	Sirinumu Development Company (SIDCO)

19	Josh Niven John	Koiari LLG
20	Tau Wahona	Koiari LLG
21	Philemon Nangu	DPLGA

Group C

	Name	Organisation	Contact
1	Mr. Alu Kaiye	CEPA	
2	Dr. Augustine Mungkaje	Biological Science, UPNG	
3	Ms. Barbara Masike	TNC	
4	Ms. Katrina Solien	CEPA	
5	Mr. Vagi Rei	CEPA	
6	Miss Elvina Tato	PAU Student Intern-CEPA	
7	Miss Melanie Raire	PAU Student Intern-CEPA	
8	Miss Dahlia Seri	PAU Student Intern-CEPA	
9	Miss Gracelyn Romas	PAU Student Intern-CEPA	
10	Miss Bernadette Isikel	PAU Student Intern-CEPA	
11	Mrs. Lois Nakmai	CTI Project - CEPA	
12	Ms. Mary T. Boni	PNG Eco-Forestry Forum Inc	
13	Mr. Damien Ase	Legal Consultant - CEPA	
14	Mr. Bernard Suruman	CEPA - Marine	
15	Mr. Kelly Womana	PNG Tour Guide - Koiari LLG	
16	Mr. Andrew Kope	PNG UNESCO	
17	Mr. William D. Marabu	PNG UNESCO	

Annex 3: Powerpoint Presentation of CEPA-JICA Project

Refer to e-copy of Powerpoint Presentation on CD-ROM

Annex 4: Powerpoint Presentation of Kokoda Initiative

Refer to e-copy of Powerpoint Presentation on CD-ROM

Annex 5: Powerpoint Presentation of National Protected Areas System Policy

Refer to e-copy of Powerpoint Presentation on CD-ROM

Annex 6: Powerpoint Presentation of Marine Spatial Planning

Refer to e-copy of Powerpoint Presentation on CD-ROM.

Annex 7: Satoyama Conservation Initiative of Japan

The concept of Satoyama Conservation Initiative has been introduced in Japan in the last few decades and it is widely practiced in Japan from the national level down to the local community levels. The term SATOYAMA in Japanese means a “natural environment” which has been formed through forestry, agriculture and other practices. It is also referred to as a place consisting of rice paddies, secondary forest and irrigation ponds, grassland, etc where various natural resources are obtained.

The SATOYAMA Landscape has three common characteristics; Mosaic land use pattern, functional linkage between each of the different types of land use and landscape maintained by continuous human activities.

The Japan Government has developed a strategy for the SATOYAMA Initiative and its mission is to see all societies live in harmony with their nature. This Strategy has three goals and five approaches to achieve.

The three goals are:

- 1) Consolidation of wisdom on securing diverse ecosystem services and values;
- 2) Integrate traditional ecological knowledge and modern science, and
- 3) Exporting new forms of co-management systems.

Five approaches include:

- i) Resources use within the carrying capacity and resilient of the environment;
- ii) Cyclic use of natural resources;
- iii) Recognition of the value and importance of local traditions and cultures;
- iv) Multi-stakeholder participation and collaboration, and
- v) Contributions to socio-economics.

The SATOYAMA Initiative promotes both biodiversity conservation and sustainable land use. The beauty of the initiative is its importance of landscaping where it collectively encourages biodiversity richness, security of local livelihood, social coherence, fostering local culture and prevention of global warming all achieved within particular landscape.

Source: Mr. Alu Kaiye, Senior Program Officer, CEPA

Annex 8: Speech of JICA Chief Representative Mr Shigeru Sugiyama

Talking points for JICA

- i. It is a great privilege for JICA to be involved in the project which includes the revival of Varirata National Park. I understand that the Varirata National Park is the first national park in PNG, closest to National Capital District and used to be one of the few destinations for residents in NCD for their recreation.
- ii. I would like to express my appreciation for the efforts made by CEPA and other many stakeholders to prepare this public seminar. I would also like to say that JICA is honoured to be the first development partner responded to Honourable Minister John Pundari's called for help in 2012 to restore Varirata National Park. Upon Minister Pundari's request, JICA formulated this technical cooperation project to assist CEPA with capacity development to implement its Policy on Protected Areas, including improvement of management of Varirata National Park.
- iii. I understand that it is a tremendous challenge to balance conservation of biodiversity and development. It may be too challenging for CEPA alone to tackle this challenge.

- iv. Therefore, JICA understands that it is most important to work with partners such as Central Provincial Administration, Kairuku-Hiri District Administration and Koiari Local Level Government, development partners like Australian Government and United Nations, NGOs, academic institutions, communities and private sector.
- v. In improving the management of Varirata National Park, JICA understands that NCDC and Central Province have particular interest, because they are the major users and beneficiaries of the park. So, it may be good to set up a body like a round table including all the major stakeholders to work in partnership.
- vi. This project also plans to establish a marine protected area in the vicinity of NCD. Putting this plan into action, it is expected that capacities of not only CEPA but also NCDC and Central Province would be greatly enhanced. Through this activity also, JICA considers it most important to work in collaboration with NCDC and Central Province.
- vii. As we all know, it is also very important to have participation of communities such as Koiari LLG. Participation of Koiari LLG and other grassroots communities are essential to successful implementation of this project.
- viii. I would also like to emphasise that the Kokoda Initiative under the assistance of the Australian Government and GEF project of UNDP have already made significant achievements in the areas of Kokoda and Koiari. JICA would like to join this and collaborate with the Australian government and UNDP so that CEPA-JICA team can maximise its outcomes. To do so, it would be needless to say that we development partners need to be careful of not duplicating our activities. The CEPA-JICA team has already proposed to set up a meeting for donor coordination so that we can talk and multiply our aid effectiveness.
- ix. I would also like to appreciate that NGOs have been contributing immensely to conservation of environments in various parts of PNG. NGO's experiences and knowledge are invaluable assets to PNG. The CEPA-JICA team would greatly appreciate NGO's advice and mentoring based on your on-the-ground experiences.
- x. Similarly our team needs advice and mentoring from the academia such as University of Papua New Guinea, Institute of National Affairs and Pacific Adventist University. Your vast knowledge on biodiversity and environmental issues based on academic research would be vital to guide our team.
- xi. The CEPA-JICA team also needs cooperation from other government agencies, especially Tourism Promotion Authority and Fresh Produce Development Agency. Your expertise in tourism and agriculture are indispensable to development of sustainable economic activities in Koiari LLG.

- xii. Finally I would like to appreciate the interest shown by private sector, as I can see attendance of Japanese companies operating in Port Moresby. It is very assuring to see that we, public sector including CEPA, JICA, development partners and other government agencies, share the same concern with private sector when it comes to the issues of environmental protection and sustainable development. Our team would welcome private sector's involvement in this project in whatever form you can contribute.
- xiii. Now I would like to conclude my speech by saying that, with all the stakeholders gathered here today, we can overcome the tremendous challenge in front of us and achieve a great outcome, so that we can ensure that the people of PNG are able to live in a beautiful environment with sustainable development.

Annex 9: Some highlights with photographs of the Seminar/Workshop



Photo 1: Participants at Holiday Inn for the inception seminar/workshop, Port Moresby, PNG



Photo 2: Mr Gunther Joku, Managing Director of CEPA with Ms Kumaras Kalim (seated)



Photo 3: Honourable Edward Kila, Deputy Provincial Administrator of Central Province



Photo 4: Chief Representative of JICA PNG Office Mr Shigeru Sugiyama giving an opening address



Photo 5: Mr Koji Asano, CEPA-JICA Project Chief Advisor speaking at the inception workshop/seminar



Photo 6: After the afternoon session, everybody got together.



Photo 7: PAU Student interns from Group A giving a presentation on VNP management



Photo 8: PAU student interns from Group B attentive to participants' questions after presentation



Photo 9: PAU student interns from Group C giving presentation on marine PA



Photo 10: Fredrick of CEPA-JICA Project (bending) writing points during Group B discussions

Annex 4.3.2 Inception Workshop for Koiari report

Refer to C-4 Enhancement and systematization of community participation – KAE (Annex 2.4.2)

Annex 4.3.3 Follow-up Workshop for Koiari report

Refer to C-4 Enhancement and systematization of community participation – KAE (Annex 2.4.2)

Annex 4.3.4 Workshop on Livelihood Development & Bird Watching in Koiari report

Refer to C-4 Enhancement and systematization of community participation – KAE (Annex 2.4.2)

Annex 4.3.5 VNP Landowner Workshop on Livelihood development report



Conservation and Environment Protection Authority
CEPA

Japan International Cooperation Agency
JICA



The Project for
Biodiversity Conservation through Implementation of
the PNG Policy on Protected Areas

**Report for VNP Landowner Workshop
on Livelihood Development in Koiari**

May 19th, 2016

Kokoda Trail Hotel, Sogeri Road, Central Province

CEPA PROJECT TEAM

JICA EXPERT TEAM

WR-005

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Acronmys

CEPA	Conservation and Environment Protection Authority
DEC	Department of Environment and Conservation
GoJ	Government of Japna
GoPNG	Government of Papua New Guinea
JICA	Japan International Cooperation Agency
KLLG	Koiari Local-level Government
PA	Protected Area
PAU	Pacific Adventist University (Koiari Park Campus)
PNG	Papua New Guinea
PPA	PNG Policy on Protected Areas
SEP	Sustainable Environment Program of CEPA
TPA	Tourism Promotion Authority
UPNG	University of Papua New Guinea
VNP	Varirata National Park

Acknowledgement

The livelihood development workshop for the VNP landowners was made possible through the funding and technical support from Japan International Cooperation Agency (JICA) with collaborative partnership from the Conservation and Environment Protection Authority (CEPA).

On behalf of the CEPA-JICA Project Team and the Project Management Team, we would like to extend our thanks and appreciation to Mr Alfred Kennedy and Mr Billy Inara of Koiari Local Level Government and the local landowners from Koiari who have participated at the workshop or have contributed one way or the other to the successful workshop.

Our many thanks also to the local landowners of the four clans of Koiari for their participation in the workshop and their invaluable contributions during the group discussions.

1. Background

The CEPA-JICA Biodiversity Project has begun the implementation of the five year project in order to address biodiversity conservation and support the development and management of a National Protected Area Network in PNG. This is a joint collaborative effort of the GoPNG and GoJ together with other key stakeholders including the local landowners of the Koiari LLG to harmonizingly implement the biodiversity conservation sustainable livelihood development projects in the Koiari area of Central province.

The CEPA-JICA Project held the fourth Workshop for the local people of Koiari to address some of the issues identified under Activity 2-5 at the Kokoda Trail Hotel on 19th May, 2016. This was the follow-up workshop of the previous one conducted at the Sogeri Lodge on 25th February, 2016 basically focusing on the livelihood development option in Koiari. For this workshop, the primary goal was to '*understand the livelihood development option for VNP*'.

Some of the issues raised during the discussions of the previous workshop at Sogeri Lodge were relevant and significant for the livelihood development in the Koiari area.

This workshop has provided an avenue for the traditional landowner clans and Koiari people living within the Varirata National Park (VNP) and the buffer areas (especially the 1km buffer) to discuss the potential options of specific livelihood development alternatives such as tourism/eco-tourism (e.g. eco-lodges, bird watching, etc), which can sustain their livelihood and at the same time promote the management of VNP.

2. Objectives

The primary goal of the workshop was to have a common understanding amongst the local communities and particularly the principal clan groups to promote livelihood development projects in and around the VNP and buffer areas in Koiari.

The specific objectives of the workshop were to;

- To identify and document potential resource of cultural/ecological exposure tour
- To discuss how to form social group for development and management of cultural/ecological exposure tour
- To clarify option of participation in the management of VNP
- To identify clans/community groups within 1km buffer of VNP
- To identify significance of developing cultural/ecological exposure tour (including tree-house)

3. Methodology

This workshop was divided into two sessions: Session 1 – was the ‘Introduction and Wrap-up Session’ including two powerpoint presentations, which was undertaken in the first part of the day in the morning; and Session 2 – was the ‘Group Discussion Session’ which was undertaken in the second part of the day. The facilitator of the workshop was Mr Ted Mamu, JICA Technical Coordinator of the CEPA-JICA Project.

In the introductory opening remarks were made by Mr Koji Asano (Chief Advisor of CEPA-JICA Project) welcoming everyone from attending the workshop. Followed by the presentations made by Mr Ted Mamu (JICA Technical Coordinator) providing the background of the workshop in order to guide the discussions in the later part of the day. The group discussions were conducted by answering two key questions on (i) development of cultural/ecological exposure tour and (ii) the formation of social group for income generation from cultural/ecological exposure tour and the participation in the management of the VNP.

The group discussion session was important for this biodiversity project because through the participatory discussions from the various clan groups and the representatives from the Koiari LLG, and other neighbouring clans from the Koiari area (refer to Table 1 below) will assist in the development of the cultural and ecological exposure tours including tourism and other potential livelihood development in the VNP and the surrounding areas. Thus, participants were divided into two groups irrespective of their clan groups and close relations but in consultation with their associated Ward Council areas within the VNP and surrounding areas.

Participants were then requested to respond to questions (provided below in Section 6.3) and to make few bullet points, which the groups believe were the most important. Also, during the workshop, brief explanations were made by the facilitator and the CEPA-JICA team about this exercise and the Group Leaders of each group have presented their discussions to the entire workshop participants.

Table 1 Target wards for the workshop

Ward No.	Ward Name	Ward Member	Villages & Hamlets	
04	Furimuti	Hon. Vakari Koua	21	Furimuti, CPA Compound, Koiari LLG Compound, Mekere Block, Kipalan Block, Radho, Hugo Canning, 15 Mile Station, Sidco, Riverside, Bluff Inn Motel, Hebou Compound, Franciscan Friary, Mt Koiari Block, Ted Diro, 17 mile, Gagibevai, Scout Camp, Rauna 4, Rouna 1&3, Rouna Works
05	Depo	Hon. Billy Ivai	13	Depo, Rouna 2, Varirata National Park, Sogeri Lodge, Kokoda Motel, Chamber, Anglician Church, Manurinumu, Magere, Bisiatabu SDA Mission, Gogosenumu, Bisianumu DPI, Ianabevai
Total No.	2		44	

Note: 1 km Buffer Areas of VNP = 4 clans (Nadeka, Ianari, Omani, Narime) and 2 wards (Furimuti & Depo)

4. Basic information of the Follow-up Workshop for Koiari

The VNP landowner workshop on livelihood development was the follow-up workshop which was held at Sogeri Lodge on Thursday 25th February, 2016 in Koiari LLG area, Central Province, Papua New Guinea. A total of 25 participants attended the workshop. From this, 19 were participants from four clans in the Koiari area including 8 reps from the Nadeka clan, 5 reps from Ianari clan, 2 reps from Omani clan, 3 representing Narime clan, one participant from the Koiari Local Level Government, and six from CEPA-JICA Project.

The workshop program is outlined in Table 2 below. The registration of the workshop commenced at 10:00 am. The workshop finished at 2:30pm.

The facilitator of the workshop was led by Mr Ted Mamu (JICA Technical Coordinator). He introduced the community workshop by officially welcoming every invitee for attending.

Table 2 VNP Landowner Workshop on Livelihood Development Program

Time	Program	Lead
10:00-10:30	Registration & Introduction	Mr. Fredrick Ohmana (CEPA Counterpart Coordinator)
10:30-11:00	Morning Session – Introduction & Wrap-up 1. Wrap-up of livelihood development options – cultural/ecological exposure tour 2. Importance of establishing social group	Mr. Koji Asano (JICA Chief Advisor) & Mr. Ted Mamu (JICA Tech. Coordinator)
11:00-11:15	Morning Tea - Break -	
11:15 - 12:30	<u>DISCUSSIONS:</u> 1. Wrap-up discussion for development of cultural/ecological exposure tour ✓ What is the potential cultural/ecological exposure tour in Koiari? ✓ Who will develop cultural/ecological exposure tour? ✓ Who will participate in cultural/ecological exposure tour?	Mr. Ted Mamu (JICA Tech. Coordinator)
12:30-13:15	2. Discussion on the formation of Social Group for income generation from cultural/ecological exposure tour and participation in the management of VNP • Do you have existing social group(s)? If yes, how many and what are their main purpose? • Who will participate in the formation of the social group? • How to form social group for participation in the management of VNP?	Mr. Fredrick Ohmana (CEPA Counterpart Coordinator)
13:15-13:45	Plenary Discussion – Plan of Action	Mr. Ted Mamu (JICA Tech. Coordinator)
13:45-14:00	2. Discussion of Koairi Tree-House construction • Are you interested and keen to participate in reviving your traditions/culture including the construction of tree-house? • How important is Tree-house to Koiari people? • Who build the tree-house and for what purpose?	Mr. Koji Asano (JICA Chief Advisor)

	<ul style="list-style-type: none"> Are you willing to participate meaningfully in the construction of the tree-house? 	
14:00-14:15	Workshop Evaluation & Closing Remark	Mr. Koji Asano (JICA Chief Advisor)
14:15-15:15	Lunch & Break for Home	

5. Session 1 – Introductory Remarks and Presentations

5.1 Opening Remarks

The opening remarks of the fourth community workshop for the Koiari LLG was made by the Chief Advisor of the CEPA-JICA Project.

Mr Ted Mamu from the CEPA-JICA Project welcomed everyone for their participation and explained the purpose and the significance of working in the VNP and the surrounding areas including the buffer areas. Mr Mamu also explained the reasons for working within 1km buffer prior to covering a bigger area due to various obvious reasons.

Mr Mamu also emphasized the importance of working in partnership with the local landowners for the betterment of their livelihoods should the management and development of potential tourism initiatives are realized in the VNP and the surrounding areas in Koiari.

5.2 Overview of the Workshop

Mr Ted Mamu (facilitator) provided the overview of the workshop. He also highlighted key issues that shall be discussed during the course of the workshop particularly the session covering the group discussions.

5.3 Lead Presentations

a. Introduction and Wrap-up

Mr. Ted Mamu made a presentation giving a progressive update of the livelihood development undertaken by the CEPA-JICA Project after the third workshop held at Sogeri Lodge on 25th February, 2016 (see presentation –Annex 4). He also explained that this is a follow-up workshop of the previous one and would encourage everyone who attended this workshop to provide additional information so that this will assist the CEPA-JICA Project team to develop a detailed livelihood development proposal for the VNP and the surrounding areas.

b. Draft Proposal for Livelihood Development

Mr. Ted Mamu also gave a general overview of the draft proposal for the livelihood development of VNP and surrounding areas, which was previously presented by Mr Yoshito Mochizuki of CEPA-JICA Project on 25th February, 2016. Mr. Koji Asano emphasized on the key steps in the development of the livelihood options in order to properly develop those various exposure tour products such eco-tourism and bird watching for the VNP and surrounding areas in Koiari LLG.

6. Session 2 – Group Discussions

6.1 Working Group Formation

Mr. Ted Mamu (Facilitator/JICA Local Technical Coordinator) explained the process of this session and the participants were requested to break up into three groups. Each group was headed by a group leader and a scribe was nominated by each group by their group members. The group formation was a mixture of local people from various clans in Koiari Rural LLG, CEPA staff, and JICA experts who attended the one day workshop.

6.2 Aims of Working Group Discussion

The main aim of the group discussion was based on the development of the cultural/ecological exposure tour and the formation of the social group in order to effectively generate income and manage the VNP. The two discussion points with specific questions were tasked by each group to deliberate on were provided below:

- (i) Wrap-up discussion for development of cultural/ecological exposure tour
 - ✧ What is the potential cultural/ecological exposure tour in Koiari?
 - ✧ Who will develop cultural/ecological exposure tour?
 - ✧ Who will participate in cultural/ecological exposure tour?
- (ii) Discussion on the formation of Social Group for income generation from cultural/ecological exposure tour and participation in the management of VNP
 - Do you have existing social group(s)? If yes, how many and what are their main purpose?
 - Who will participate in the formation of the social group?
 - How to form social group for participation in the management of VNP?

6.3 Working Group Discussions and Presentations

The results from the group discussions were summarized and presented by each group as shown below (sub-sections 6.3.1 – 6.3.3).

6.3.1 Group Discussion A

DISCUSSION POINT 1

1. What is potential resource for culture/ecological exposure?

I. VARO Platform

- it's a tree
- Design the tree (Varo) elders design
- Painting of Varo tree used; traditional ink names (LINADA Tree Fruit-Red)
- Veaneagota (Ohuckle-Black)
- Carving of Varo Tree is from using stone axe (carved by elder people)

II. TARU (NAGA/VAIDA) Platform – Feasting, Bride price etc.

- Platform to put local gardening food; yam, banana, sugarcane, taro etc.
- Traditional dancing

III. Dancing (KOA) Group

- Chief and young teenage girls to dance on the platform
- Traditional song for the special dance on the platform
- BURUHE traditional attire/instrument
- HIHI rattle shells - sekeseke shells
- HAI kundu made out of Rosewood

DISCUSSION POINT 2

1. Do you have existing Social Groups? Yes,

- I. YAKABIMA WOMENS GROUP (specialised in Sewing, Cooking, Arts & Craft etc.)
- II. VAISOYAMA CULTURE GROUP (Traditional Dance, Drama etc.)

2. Who will participate in the formation of the Social Group?

- I. Females (participate) 4 Clans and women in Sogeri Plateau
- II. Made of around 10 people, both males and females and it covers 4 Clans and they are all involved.

3. How to form Social Group for participation in the management of VNP?

- I. JICA-Advisor
- II. TPA-Training
- III. KLLG-Management
- IV. CEPA-Coordinating
- V. KAE ECO-Tourism group-in future
 - ecotourism focused
 - 4 clans- managementt of KAE

6.3.2 Group Discussion B

DISCUSSION POINT 1

- Tree House (Dobo) – Attract Tourists-Built by Elderly Men
- Platform (NAGA) – Dancing –Built by Elderly Men
- Bilum Making (OVETA) – Storage – made by women and girls
- Entertainment – Attract Tourists – both males and females

Ecological

- Cave (YANIVA) – hideout – both males and females, elderly persons, male chief
- VOEVO – Spot view - everyone
- Sacred Place (TABU) – specially for Elderly person
- Wie – bush, animal like Magani – only hunt or food by man both big/small

DISCUSSION POINT 2

1. Do you have existing Social Groups? Yes,

- (i) YAKABIMA WOMENS GROUP (bilum making, crafts, drama, food preparation, cultural show)
- (ii) VAISOYAMA CULTURE GROUP-teaching only registered groups (drama, dance, awareness-Men only participate)

2. Who will participate in the formation of the Social Group?

- (i) Social group can be formed b clans/tribe groups Eg; I.L.G (ROUNA Group)
- (ii) Social group can be made-up by; peers, individuals or family Eg; man, ladies, children

3. How to form Social Group for participation in the management of VNP?

- (i) KTA partnership with Tourist/Client.
- (ii) KLLG help in contributing ideas or pushing funds.
- (iii) Force Security, Law and Order.
- (iv) If we want to form a Social group and need help to be registered the social group, it can ask financial assistance from CEPA/JICA.

6.3.3 Group Discussion C

DISCUSSION POINT 1

I. What is potential resource for culture/ecological exposure?

- (a) Dobo Waro – Warrior’s Tree House for Tribal Fights
- (b) Material – Waro, Adaba, Goru
- (c) Rope – Karaba, Tai, Ana
- (d) Wall – Kuri
- (e) Roof – Kuri- Design of Cassowary

II. Who will develop?

- I. Elderly person (s) – Leaders

III. Who will participate?

- Women
- Men
- Children
- Clan
- Members

DISCUSSION POINT 2

1. Do you have existing Social Groups? Yes,

- i. YABA'S cultural dancing group (for cultural shows and other events)

2. Who will participate in the formation of the Social Group?

- I. We elect members Eg; NADEKA clan, family heads

3. How to form Social Group for participation in the management of VNP?

- ✓ CEPA/JICA
- ✓ KLLG
- ✓ 4 WARD COUNCILS
- ✓ CLAN CHAIRMAN
- ✓ CPG-K/HIRI
- ✓ Tourism Development & Others (ward plan) 5 Year Development Plan

6.4 Summing and Conclusion

This workshop was held to wrap up the identification of the potential resources for cultural and ecological exposure tour and these resources can be properly packaged and utilized by visitors/tourists visiting the the VNP and the Koiari area. Also, specific exposure tour options including eco-tourism and bird watching were identified by the local community how this can be executed equitably for the local benefit and the management of the VNP.

Thus, the workshop participants also deliberated on basic issues in relation to the development of the livelihood options and the following were the plan of action:

- ❖ Discussion Notes on Ecological, Cultural exposure tour – develop a matrix with key ecological/cultural and specific groups/individuals participation.
- ❖ Traditional Rules and Guides (Taboos) for Taru and Dancing – obtain further information from the local landowners (Omoro + Gideon + Kisea + Kauka).
- ❖ Registration of Youth Group (ward 5 Councillor Billy) - financial support is secured by Ward 5, however technical assistance is required from the CEPA/JICA.
- ❖ Formation and registration of groups – consult ward councilors and KLLG.
- ❖ Revisit existing 2 Social Groups (YAKABIMA WOMENS and VAISOYAMA CULTURE) – Mr Kennedy will lead discussions, leading towards the development and review of Ward and KLLG 5YDP's
- ❖ Establish an Eco-tourism Group – model for Koiari/VNP
- ❖ Collect cultural/ecological information from Gideon Warite – 19th May, 2016.
- ❖ Community will discuss on the Tree-House construction and get back to CEPA-JICA - report to CEPA-JICA Project next Thursday 26th May, 2016

ANNEXES

Annex 1: List of Attendees at the VNP Landowner Livelihood Development Workshop, Kokoda Trail Hotel

No.	Name	Area	Designation/Position	Phone Number
1	Mrs. Kauka Koni	Omani Clan	Member	
2	Mr. Narai Billy	Omani Clan	Member/Ward 5 Councilor	
3	Mr. Kisea Tiube	Ianari Clan	CEPA-VNP Ranger	
4	Mrs. Vele Tiube	Ianari Clan	Member	
5	Mr. Kelly Womara	Ianari Clan	Chairman	
6	Mr. Billy Ivai	Narime Clan	Council	
7	Mrs. Eunice Iori/Laengio	Nadeka Clan	Member	
8	Mr. Gideon Warite	Nadeka Clan	Member	
9	Mr. John Kotu	Nadeka Clan	Member	
10	Mrs. Dulcie Laengio	Nadeka Clan	Member	
11	Mr. Granty Timothy	Nadeka Clan	Member	
12	Mr. Sarua James	Nadeka Clan	Member	
13	Mr. Alfred Amani	Nadeka Clan	Member	
14	Mr. Omoro Asi	Narime Clan	Member	
15	Mr. Alfred. K. Edene	Koiari LLG	Manager	
16	Mr. Tiube Momoa	Ianari Clan	Member	
17	Mr. Steven Womara	Ianari Clan	Member	
18	Mrs. Ruth Ureki	Narime Clan	Vice Chair Lady	
19	Mr. Nuana Momoa	Nadeka Clan	Member	
20	Mr. John Dege	JICA	Admin Assistant/Driver	
21	Henry Kaupa	PNG/Japan	Staff	
22	Nancy Bobora	JICA	Personal Asistant	
23	Ted Mamu	JICA	JICA Technical Coordinator	
24	Fredrick Ohmana	CEPA/JICA	Senior Program Officer	
25	Koji Asano	JICA	Chief Advisor	

Annex 2: List of Participants for Group Discussions**Discussion Group 1: Group members**

No.	Name	Clan	Gender
1	Narai Billy	Omani	M
2	Omorosi Asi	Narime	M
3	Nuana Momoa	Nadeka	M
4	Ruth Ureki	Narime	F
5	Dulcie Laengio	Nadeka	F

Discussion Group 2: Group Members

No.	Name	Clan	Gender
1	Kauka Koni	Omani	F
2	Alfred Amari	Nadeka	M
3	Vele Tiube	Ianari	M
4	Gideon Warite	Nadeka	M
5	Steven Womara	Ianari	M

Discussion Group 3: Group Members

No.	Name	Clan	Gender
1	John Kotu	Nadeka	M
2	Sarua Warite	Nadeka	F
3	Granty Timothy	Nadeka	M
4	Tiube Momoa	Ianari	F
5	Eunice Laengio	Nadeka	F

Annex 3: Photo Highlights of VNP Landowners Workshop on Livelihood Development held at Kokoda Trail Hotel on 19 May, 2016



Photo 1: Mr Asano, Ted and Mr Fredrick Ohmana addressing the participants while Mr Asano and Ted listening



Photo 2: Woman folks of Koiari are important in discussions and decision making



Photo 3: Mr Asano emphasised on importance of livelihood development options in VNP and Koiari



Photo 4: Participants listening attentively to workshop presentation



Photo 5: Mr Alfred Kennedy of KLLG making a point



Photo 6: Participants working in group discussions



Photo 7: Fredrick giving guidance during group discussion



Photo 8: Fredrick and Asano providing information in group discussion



Photo 9: Group discussion in progress with guidance from Fredrick



Photo 10: Group 1 getting ready for their presentation



Photo 11: Group 2 finalising their points for presentation



Photo 12: Group 3 strategising on their group presentation



Photo 13: Presentation by group 1 members



Photo 14: Presentation by group 2 members



Photo 15: Presentation by group 3 members



Photo 15: Mr Koji Asano paying attention to group presentations



Photo 16: Workshop summary by Mr Ted Mamu

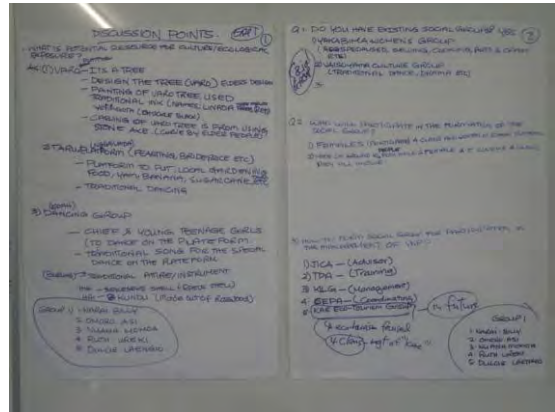


Photo 17: Workshop presentation notes for Group 1

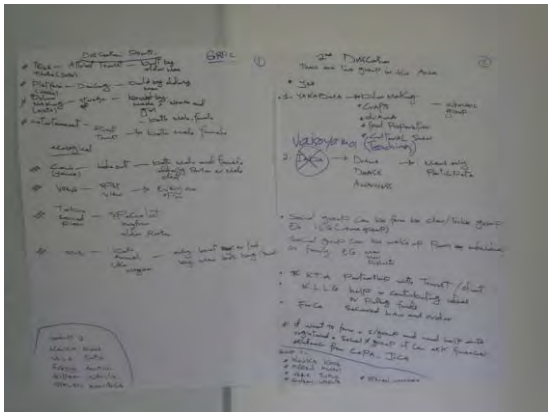


Photo 18: Workshop presentation notes for Group 2

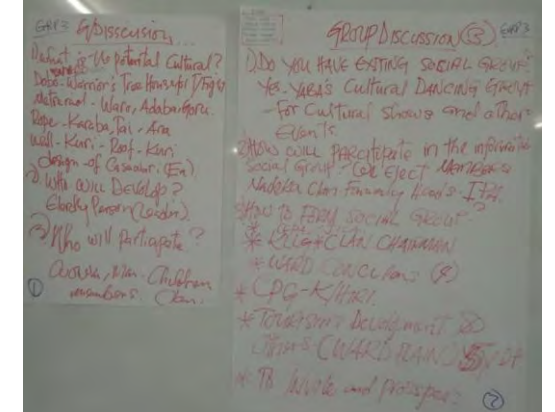
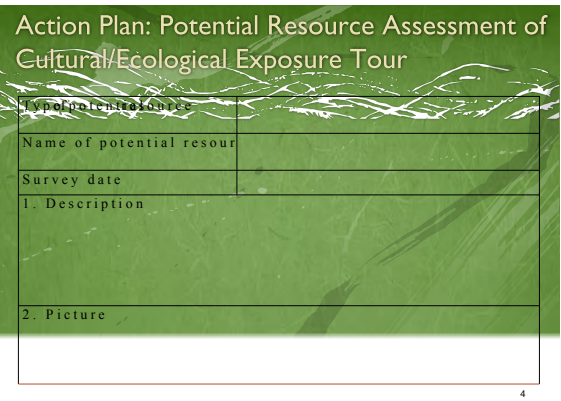
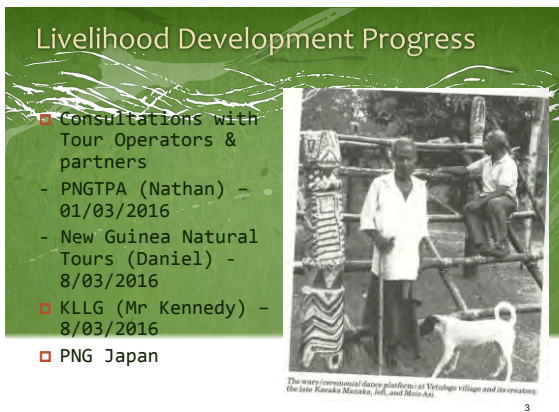


Photo 19: Workshop presentation notes for Group 3



Note: The second presentation was not included here because it is the similar presentation made on 25th February, 2016 – Draft Proposal of Livelihood Development, which can be referred to Workshop 3 report (WR-004).

Annex 4.3.6 VNP Wrap-up Workshop on the Project Achievements 2015-2016 report



Conservation and Environment Protection Authority
CEPA

Japan International Cooperation Agency
JICA



The Project for
Biodiversity Conservation through Implementation of
the PNG Policy on Protected Areas

**Report for Wrap Up Workshop for
Project Achievement from 2015 – 2016**

February 3rd, 2017

Sogeri Lodge, Sogeri Road, Central Province

CEPA PROJECT TEAM

JICA EXPERT TEAM

WR-006

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Acronmys

CEPA	Conservation and Environment Protection Authority
DEC	Department of Environment and Conservation
GoJ	Government of Japna
GoPNG	Government of Papua New Guinea
JICA	Japan International Cooperation Agency
KLLG	Koiari Local-level Government
PA	Protected Area
PNG	Papua New Guinea
PPA	PNG Policy on Protected Areas
SEP	Sustainable Environment Program of CEPA
TPA	Tourism Promotion Authority
UPNG	University of Papua New Guinea
VNP	Varirata National Park

Acknowledgement

The wrap up workshop for the VNP landowners was made possible through the funding and technical support from Japan International Cooperation Agency (JICA) with collaborative partnership from the Conservation and Environment Protection Authority (CEPA).

On behalf of the CEPA-JICA Project Team and the Project Management Team, we would like to extend our thanks and appreciation to Mr Alfred Kennedy and Mr Billy Inara of Koiari Local Level Government and the local landowners from Koiari who have participated at the workshop or have contributed one way or the other to the successful workshop.

Our special thanks also to the local landowners of Koiari for their participation in the workshop and their invaluable contributions during the group discussions.

1. Background

The CEPA-JICA Biodiversity Project has begun the implementation of the five year project in order to address biodiversity conservation and support the development and management of a National Protected Area Network in PNG. This is a joint collaborative effort of the GoPNG and GoJ together with other key stakeholders including the local landowners of the Koiari LLG to harmonizingly implement the biodiversity conservation sustainable livelihood development projects in the Koiari area of Central province.

The CEPA-JICA Project held a series of workshops for the local people of Koiari and this was the sixth Workshop held at the Sogeri Lodge on February 3rd, 2017. This was the wrap up workshop to inform the local people and the stakeholders of the achievements accomplished whilst working within the VNP for the last 12 months from 2015 – 2016.

The most significant results of the implementation of the project activities were highlighted at the workshop which includes the completion of the facility assessment of VNP, installation of the signboards, trial of the local security guards, and many other activities.

The CEPA-JICA Project has started to assess, plan, and implement “How to develop/ Improve the function of VNP”, and tried to revive the park since the Project started on June 2015. The project has carried out a lot of activities related to VNP. The Project would like to introduce all the activities and achievements to the important stakeholders in Koiari LLG.

2. Objectives

The main purpose of the workshop was to communicate effectively to the Koiari Local Level Government, Ward councilors, the local communities and particularly the principal clan groups regarding the key achievements the CEPA-JICA Project have accomplished so far after the Project began in June 2015. The workshop embarked on the three main activities of Varirata National Park (VNP), which included the update of facilities renovation and maintenance at VNP, results of the trial local security guards, and the key

achievements. Also, the construction of the new information center in VNP, which was recently approved by the Managing Director of CEPA was announced at the workshop.

The specific objectives of the workshop were to;

- To wrap up the all Project activities in a comprehensive manner
- To wrap up the results of trial patrol, which has implemented from December 7th 2016 until January 1st of 2017, and to discuss how to improve the activity continuously
- To wrap-up the achievements of facility renewal: i) assessment, ii) planning, iii) implementation, iv) monitoring
- To introduce the construction plan of the New Information Centre and information complex idea, and to build common consensus with Koiari LLG, clans, and local people.

3. Methodology

This workshop was divided into three sessions: ‘Introduction and Wrap-up Sessions 1-2’ – *Session 1* included 10 powerpoint presentations (which not all were presented due to time factor), which was undertaken in the first part of the day in the morning; ‘Group Discussion Session’ – *Session 2* and ‘Introduction of the new information center in VNP’ – *Session 3*, which were undertaken in the second part of the day.

The opening remarks were made by Mr Hieka Imai (member of JET from CEPA-JICA Project) for welcoming everyone who made time available for attending the workshop. Mr Mamu provided the background of the workshop and what is expected at the end of the workshop, followed by the presentations made by Mr Imai and Mr Mamu covering the major achievements leading toward the better management of the VNP.

Mid way through the workshop, Mr Bneside Thomas (A/Manager, Terrestrial protected Areas) of CEPA arrived and was urged by the facilitator to give an opening speech on behalf of Ms Kay Kalim (Director, Sustainable Environment Program of CEPA).

The group discussion session was explicit in order for the participants to participatory discussed various issues of significance for the improvement and better management of the VNP and the surrounding areas.

Table 1 Target wards for the workshop

Ward No.	Ward Name	Ward Member	Villages & Hamlets	
04	Furimuti	Hon. Vakari Koua	21	Furimuti, CPA Compound, Koiari LLG Compound, Mekere Block, Kipalan Block, Radho, Hugo Canning, 15 Mile Station, Sidco, Riverside, Bluff Inn Motel, Hebou Compound, Franciscan Friary, Mt Koiari Block, Ted Diro, 17 mile, Gagibevai, Scout Camp, Rauna 4, Rouna 1&3, Rouna Works
05	Depo	Hon. Billy Ivai	13	Depo, Rouna 2, Varirata National Park, Sogeri Lodge, Kokoda Motel, Chamber, Anglician Church, Manurinumumu, Magere, Bisiatabu SDA Mission, Gogosenumumu, Bisianumumu DPI, Ianabevai

Total No.	2	44	
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Note: 1 km Buffer Areas of VNP = 4 clans (Nadeka, Ianari, Omani, Narime) and 2 wards (Furimuti & Depo)

4. Basic information of the Wrap-up Workshop

The wrap-up workshop for the achievements of VNP was hosted at Sogeri Lodge on Friday 3rd February, 2017 in Sogeri area, Central Province, Papua New Guinea. A total of 37 participants attended the workshop representing the four clans in the Koiari area, Koiari Local Level Government, Ward council areas (esp. 4 and 5), CEPA and CEPA-JICA Project including a reporter from The National.

The workshop program is outlined in Table 2 below. The registration of the workshop commenced at 10:30 am. The workshop finished at 3:00pm.

The facilitator of the workshop was led by Mr Ted Mamu (JICA Technical Coordinator). He introduced the wrap-up workshop by officially welcoming every invitee for attending.

Table 2 Wrap-up Workshop Program

Time	Programme	Lead
10:00-10:30	Registration & Introduction	Mr. Fredrick Ohmana (CEPA Counterpart Coordinator)
10:30-11:10	Introduction & Wrap-up 1 1. Wrap-up of Project activities 2. Wrap-up of trial patrol activities	Mr. Koji Asano (JICA Chief Advisor) & Mr. Hideki Imai (JICA Expert)
11:10-11:25	Morning Tea - Break -	
11:25 - 12:30	DISCUSSIONS: 1. Wrap-up discussion for trial patrol activities ✓ Necessity of patrol ✓ What are the problems on the trial patrol? ✓ What are the issues to tackle the problems? ✓ How to improve the patrol activities from now?	Mr. Ted Mamu (JICA Tech. Coordinator)
12:30-12:50	Introduction & Wrap-up 2 3. Wrap-up of renewal of facilities in VNP 4. Wrap-up of monitoring using camera trap	Mr. Hideki Imai (JICA Expert) Mr. Ted Mamu (JICA Tech. Coordinator) Fredrick Ohmana (CEPA Counterpart Coordinator)
12:50-13:10	Plenary Discussion – Question & Answer	Mr. Ted Mamu (JICA Tech. Coordinator)
13:10-13:30	Introduction 3 5. New Information Centre Construction Plan & Information complex idea	Mr. Koji Asano (JICA Chief Advisor) Mr. Hideki Imai (JICA Expert) Mr. Bense Thomas (Manager, Terrestrial Protected Area-CEPA, Manager of VNP)
13:30-13:50	Plenary Discussion – Question & Answer	Mr. Ted Mamu (JICA Tech. Coordinator)
13:50-14:00	Workshop Evaluation & Closing Remark	Mr. Koji Asano (JICA Chief Advisor)
14:00-15:00	Lunch & Break for Home	

5. Session 1 – Introductory Remarks and Wrap-up

5.1 Introductory Remarks

The opening remarks of the wrap-up workshop were made by Mr Hieka Imai (member of JET from CEPA-JICA Project) for welcoming everyone who made time available for attending the workshop.

Mr Bense Thomas also made an opening speech on behalf of CEPA. He emphasized on the importance of working in partnership with the local landowners and the KLLG including the other key partners for the engagement in the improvement and management of the VNP. This would also support their livelihoods should the management and development of potential tourism initiatives are realized in the VNP and the surrounding areas in Koiari.

Mr Mamu provided the background of the workshop and what is expected at the end of the workshop, followed by the presentations made by Mr Imai and Mr Mamu covering the major achievements leading toward the better management of the VNP.

5.2 Overview of the Workshop

Mr Ted Mamu (facilitator) provided the overview of the workshop. He also highlighted key issues that shall be discussed during the course of the workshop particularly the session covering the group discussions.

5.3 Wrap-up - Lead Presentations

Mr. Hideki Imai made a presentation giving an update of the major achievements accomplished in VNP by the CEPA-JICA Project. He also explained the significance of this Project and how these achievements and the proposed activities will improve the facilities and the management of the VNP.

Mr. Ted Mamu also gave a general overview of those key achievements and the linkages these accomplishments would lead to the improvement of livelihoods of the local community in Koiari, should these facilities are properly looked after and managed by CEPA and the local landowners themselves. The local authorities such KLLG and the Ward Councils are also significant connections for the long term support and sustainable management of the VNP.

6. Sessions 2 & 3 – Group Discussions and New Information Center

6.1 Plenary Discussions – Security Guards

The major discussions were based on the trial of the local Security Guards for VNP from the period 19th November to 01st January, 2017. Key questions were asked to guide the discussions as shown below.

Some recommendations and wayforward were deliberated during the discussions (refer to Table 3 below). The workshop participants enormously agreed that the security work should further improved by providing alternatives for the local security guards.

DISCUSSIONS:

1. Importance of the Patrol
2. What are the problems faced during the trial patrol?
3. What are the potential ways to mitigate or address these problems?
4. How to improve the patrol activities in future

Table 3: Action Plan: Recommendations and way forward for Security Guards in VNP

No.	Problems	Ways to address these Problems	Way forward to improve patrol	Who will do it/be responsible?
1.	No Transport - Movement of SGs from villages to VNP – very difficult - Early mornings 6am - Late afternoon 6pm	Improve movement by providing the transport - Use CEPA vehicle – Kisea to pick & drop them off		Benside, Imai, Fredrick, Ted, Kisea
2.	Non attendance at work - Sports – on the weekend		Discussions need to be held with CEPA on how this can be addressed for the long-term arrangements for local SGs	Benside
3.	Issue of sustainability – e.g local SGs for long-term, sustainable financing for SGs			CEPA-JICA project, CEPA
4.	Lack of skills and know how of security/ranging in VNP by local SGs	Providing training on specific areas of security and ranging		CEPA-JICA project, others
5.	Communication and coordination			
6.	Lack of accommodation	Provide accommodation in VNP	<ul style="list-style-type: none"> • Provide accommodation in VNP – temporary housing arrangement – ranger’s house or the lodge • Trial – provide your own accommodation, bring your own 	CEPA (Benside)

			camping gears and reside in VNP??	
7.	Allocated budget for National Parks – that can take care for local SGs		Discussions with CEPA Project team – sustainable financing/budgets, accommodation	CEPA (Beside)

Note: Hold a separate meeting for financing for activities (e.g SGs) – KLLG, 4 clan leaders, JICA JET, CEPA

6.2 Plenary Discussions - Construction of new Information Center

Mr Imai made an announcement at the workshop that the new information center in VNP will be constructed with the financial assistance from JICA (Japanese International Cooperation Agency) with kind contributions from the People of Japan. He also mentioned that the Managing Director of CEPA has recently approved the construction of the new building in the park. This gave a different perspective to the local people of Koiari and they are quite excited and wanted to fully participate and involve in the development of the facility. They also enquired to be engaged during and after the construction of the information center.

6.3 Summing and Conclusion

This workshop was undertaken to wrap up the initial work within VNP and inform the local communities and the four clan groups of the major achievements of the Project.

The participants also deliberated on the basic issues in relation to the activities in the VNP and the following were the next steps:

- ❖ Engagement and empowerment of local people to be involved in security guards for VNP is quite challenging at this infant stage. After the trial from 19 November 2016 to 01 January 2017, some lessons learned were generated and recorded for improvement should the project still need to employ the local landowners as security guards. Refer to Table 3 above for further information and plan of action to re-employ local security guards to be stationed at the VNP.
- ❖ The renovation and maintenance of facilities at VNP showed an indicative approach to better management and sustainability of assets and facilities of the park. Long-term maintenance and recovery of these facilities was a grave concern for CEPA. Therefore, addressing the continual support and effective management from the government of PNG (including other donors and development partners) is required for long term sustainability.
- ❖ The construction of the new information center in VNP, which was recently approved by the Managing Director of CEPA, has given a different perspective to the local people of Koiari.

They are quite excited and want to fully participate and involve in the development of the facility. They also enquire to be engaged during and after the construction of the information center. The information center will be fully financed by JICA (Japanese International Cooperation Agency) with kind contributions from the People of Japan.

- ❖ The clan leaders also brought up at the workshop about the allowance or they call it sacrifice money. This is quite urgent to resolve between CEPA and the Project because the participants iterated that CEPA normally give them allowances as an incidental when they were invited to attend their workshops or meetings. This was practiced during the DEC times by former DEC staff. This has escalated and CEPA has issued a caution that not all donor-based projects within CEPA will give allowances. This has been very critical for the CEPA-JICA Project and careful thinking must be put into so that clear resolutions or remedies can be identified to solve this. The Project has began the discussions with CEPA at the workshop and a written guideline/memo should be prepared and signed by the MD of CEPA to be distributed to the key people within Koiari such as KLLG, Ward councils, clan leaders, etc.

ANNEXES

Annex 1: List of Attendees at the Wrap Up Workshop, Sogeri Lodge

Refer to Attached scanned copy with each participant signature.

Annex 2: Photo Highlights of Wrap-up Workshop held at Sogeri Lodge on 3rd February, 2017



Photo 1: Mr Imai explaining the objectives of workshop to the participants



Photo 2: Participants listening to the workshop objectives and what needs to be discussed at the workshop



Photo 3: Mr Imai explaining the importance of security in VNP giving an example of Project support with security vests



Photo 4: Mr Bill (Ward 5 councillor) emphasizing for locals to equally contribute towards the safety of VNP visitors



Photo 5: Mr Alfred Kennedy of KLLG & Mr Kisea Tiube (VNP Ranger) listening attentively at the workshop



Photo 6: Mr Kelly Womara (Ianari Clan leader) & Mr Kala Meia (Omari Clan leader) made contributions at the workshop



Photo 7: Mr Imai explaining the design of the new information center in VNP



Photo 8: Mr James Sabi, Manager CEPA making a point at the workshop



Photo 9: Mr Bense Thomas, Manager CEPA listening to the discussions at the workshop



Photo 10: Participants involved in security guards at VNP listening to the next steps discussed at the workshop



Photo 11: Part of the participants listening to closing remarks



Photo 12: Participants group photo outside Sogeri Lodge

Annex 4.3.7 Inaugural Ceremony for the Information Center Complex in VNP



Conservation and Environment Protection Authority (CEPA)



Japan International Cooperation Agency (JICA)

The Project for
Biodiversity Conservation through Implementation of
the PNG Policy on Protected Areas

**Report for Official Opening of
Information Centre Complex at Varirata
National Park**

March 29th, 2019

CEPA PROJECT TEAM

JICA EXPERT TEAM

1. Introduction

The inaugural ceremony for the opening of the information center complex (ICC) at Varirata National Park was held on Thursday 28th March, 2019. CEPA MD officially opened and launched the Information Centre which was implemented by the CEPA-JICA Project at the Varirata National Park.

2. Background

CEPA-JICA project has been established through a bilateral agreement with the GoJ and GoPNG that commenced in June 2015 and will end in 2020'. The Information Center Complex consists of the renovated building and the newly constructed Information Center. The renovated building is the auditorium and will be used for meetings and other activities. The new Information Center is comprised of environmental education exhibition, office space for Park's staff and storage space. Together these buildings, and connected with the wood decking, hence called the decking is called the Information Center Complex (ICC). The restoration of VNP has been supported through the funding and technical assistance from Japan International Cooperation Agency (JICA). The Project has completed the construction of the new information center and renovation of the old information center which gives a new look to Varirata National Park that will lure a lot more visitors to the park in the years to come.

3. Purpose/Objectives

- The new Information Centre will be used by the visitors to gain various information about the park such as the wildlife, biodiversity, local culture and history and other environmental education information.
- The new Information Center will also provide office space for the park management staff and storage of management records and equipment

4. Program

Time	Activity	Lead
10.00 – 10.30am	Arrival of Guests at VNP Registration of Guests	Master of Ceremony (MC) : CEPA officer
10:30 – 10:40am	Welcoming of Guests (traditional dance)	MC
10:40 – 10:50am	Drama Play/Traditional Dance	MC
10:50 – 11:00am	Opening Prayer	Rev. John Iramo
11:00 – 11:50am	Keynote Speech – Minister for Environment & Conservation and Climate Change Remarks - JICA-PNG Chief Representative Response – Provincial Governor Response – Council President, Koiari LLG	Hon. John Pundari Mr. Takashi Toyama Hon. Robert Agarobe Hon. Ogi David
11:50 – 12:00pm	Tape Cut by the Minister, Provincial Governor, and JICA Chief Representative	MC

Time	Activity	Lead
12:00 – 12:30pm	Presentation of the ICC and the Project & Short Tour inside the New Information Center by Project Manager & Chief Advisor	Ms. Kay Kalim Mr. Koji Asano
12:30 – 12:40pm	Photo Session	MC
12:40 – 12:45pm	Closing remarks	Ms. Kay Kalim
12:45 – 2:00pm	Traditional Dance Performance and Traditional Cuisine by Koiari People	Koiari Dancing Group Koiari Cooking Group
2:00pm	Program Ends	

5. Outputs

- Establishment of the new Information Centre at VNP
- Strengthened the relationship and connection between PNG and Japanese government in conservation and related matters
- Upgrading and upscaling of the park gives a new look and more visitors will visit the park
- More than 100 invited guests, key stakeholders and partners attended the inaugural launching at the park. The opening was witness by the Japanese delegates and CEPA MD.
- Koiari local group called the Kae Association was also recognised by key stakeholders during the launching. Kae cooking group (10) provided refreshments and meals and performed dancing (12 dancers) as well.

Annex-3 Photo Album



Photo 1: Exterior of Information Center Complex.



Photo 2: MOU signing for Information Center Complex.



Photo 3: Group photo at the front of New IC entrance.



Photo 4: Performance by Traditional Dance group.



Photo 5: Performance by Traditional cooking group



Photo 6: Performance by Traditional cooking group.

Annex 4.3.8 Biodiversity and Conservation Seminar report



Conservation and Environment Protection Authority
CEPA

Japan International Cooperation Agency
JICA



The Project for
Biodiversity Conservation through Implementation of
the PNG Policy on Protected Areas

**Report on the Biodiversity Seminar and
Varirata Biological Reports Launching**

16 – 19 October, 2018
Gateway Hotel, Port Moresby

**CEPA PROJECT TEAM
JICA EXPERT TEAM**

WR-007

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List of Acronmys

CBO	Community-Based Organisation
CEPA	Conservation and Environment Protection Authority
CPA	Central Provincial Adminstration
DEC	Department of Environment and Conservation
EMPNG	ExxonMobil Papua New Guinea
GoJ	Government of Japna
GoPNG	Government of Papua New Guinea
IC	Information Center
ICC	Information Center Complex
IPCA	Indo-Pacific Conservation Alliance
JICA	apan International Cooperation Agency
KLLG	Koiari Local-level Government
MPhil	Masters of Philosophy
MP	Member of Parliament
NGBC	New Guinea Biological Conference
NGO	Non-Government Organisation
NMAG	National Museum & Art Gallery
PA	Protected Area
PhD	Doctor of Philosophy
PNG	Papua New Guinea
PNG LNG	PNG Liquified Natural Gas
PPA	PNG Policy on Protected Areas
SEP	Sustainable Environment Program of CEPA
SHE	Security Health and Environment
TPA	Tourism Promotion Authority
UPNG	University of Papua New Guinea
WMA	Wildlife Management Area
VNP	Varirata National Park

Acknowledgement

The Biodiversity and Conservation Seminar including the launching of the biodiversity reports and the study tour to Varirata National Park was made possible through the funding and technical support from Japan International Cooperation Agency (JICA) with collaborative partnership from the Conservation and Environment Protection Authority (CEPA) and ExxonMobil PNG (EMPNG).

On behalf of the CEPA-JICA Project Team and the Project Management Team, we would like to extend our thanks and appreciation to all the participating agencies, conservation practitioners, researchers, local community representatives, local forest and marine guardians, and PNG PhD and MPhil students who have gone overseas for further studies and have returned to Port Moresby to present their thesis and findings to support biodiversity conservation and effective management methods of diverse and unexpandable places in PNG. We acknowledged you for your outstanding presentations and your participation has contributed to the success of this biodiversity seminar.

We would also applaud the open member for South Bougainville, Honourable Timothy Masiu for listening in for the entire sessions. The South Bougainville MP also made an announcement in the closure of the seminar that he will sponsor the next seminar in South Bougainville in 2019. He also volunteered to represent conservationists and this forum at the Parliament as their voice. This is a very powerful commitment and has raised the bar for this biological conference to a higher level.

The Organising Committee would also thanked JICA and EMPNG for co-hosting the successful event. We also acknowledged PNG Mama Graun Conservation Trust Fund for the preparation and by providing logistics to make this event a success. Ms Rebeka Ilave and David Mitchele for facilitating the sessions during the three days at Gateway Hotel, we applaud you for your diligent skills and leadership.

Our special thanks also to the local landowners of Bootless Bay and Koiari for their participation in the seminar and their eagerness to grasp and learn from others who have exchanged lessons learned and knowledge with them. We hope these are valuable and relevant for the protection and management of their natural resources back in their local communities.

1. Background

Protection of the world's biological diversity (biodiversity), its complex ecosystems, and genetic variation of species has been a concern for scientists, governments, private companies and general public worldwide because of the high biodiversity loss, habitat destruction and degradation.

These losses are triggered by natural phenomena such as climate change, pests and diseases, compounded with increasing population and human activities or over exploitation of natural resources as global demand for raw materials escalate. Human activities such as forest

clearance for roads, subsistence and commercial agriculture, bush fires and logging are of major concerns. Thus, thousands of species are predicted to go into extinction or are vulnerable because of these threats (Primack, eds. 2010.).

Because of these increasing threats on the biodiversity and the environment, the Conservation and Environment Protection Authority (CEPA) and its partner Japan International Cooperation Agency (JICA) through the CEPA-JICA Biodiversity Project, is undertaking the initiative to conserve some of the critical habitats. Therefore, CEPA-JICA Project is anticipating to implement its activities within the Varirata National Park (VNP) and the proposed Bootless Bay Marine Protected Area (MPA) in order to protect some of these species and habitats. ExxonMobil PNG (EMPNG) through its Biodiversity Offset Program is also working with local communities to strengthen existing protected areas such as the Lake Kutubu and Aird Hills Wild Management Areas (WMAs) within the Kikori River Basin. Thus the CEPA-JICA Project envisage partnering with EMPNG and other like-minded stakeholders such as the universities, government agencies, local landowners, development partners, NGOs and private industries to host this biodiversity seminar to enhance and promote Protected Area management and conservation of Papua New Guinea's rich biodiversity and cultural resources.

Through the collaborative partnership between CEPA (through CEPA-JICA Project) and EMPNG (through PNG Mama Graun Conservation Trust Fund), the Biodiversity and Conservation Seminar was successfully held at Gateway Hotel from 16 – 19 October, 2018. The study tour of the new Information Center Complex (ICC) at Varirata National Park (VNP) was made to compliment the seminar in order for the participants to visit the park and appreciate the new ICC and the improvement of facilities, which were supported financially and technically by JICA.

2. Objectives and Expected Outputs of Seminar

2.1 Objectives

The theme of the seminar is “Conservation and development challenges. What biodiversity research can offer in the 21st Century?” The purpose was to mobilise like-minded conservationist, scientists, researchers, policy makers and Protected Area practitioners in Papua New Guinea to discuss biodiversity conservation issues in the 21st century.

The aim was to promote and kick-start a bi-annual Biodiversity Conservation Seminar in Papua New Guinea or formerly known as the “New Guinea Biological Conference”. Inclusively, the objectives of the seminar were to:

- improve networking and collaboration among like-minded people and organisations within PNG and abroad;

- ensure research findings and lessons learnt are published and disseminated widely;
- promote research and conservation by local Papua New Guineans through identifying and strengthening networking with academia and research institutions; and
- publish the proceedings and to contribute to the development of policies and strategies to improve Protected Area Management and Conservation in PNG.

2.2 Expected Outputs of Seminar

2.2.1 Build partnership and network

Partnerships and network will be established or strengthened through this seminar. Many conservation and protected area practitioners are living outside Port Moresby can meet with various people and organisations to share knowledge, lessons and experiences. We expect about 100 people from Port Moresby to attend the seminar. We also encourage the participation of conservation practitioners from the other provinces to part take.

2.2.2 Strengthening relationships

The participation from government agencies can build mutual relationships with conservation practitioners, not for profit organisations, the industry and development partners in addressing issues often addressed in isolation.

This seminar is looking at ways to foster development of conservation champions and advocates in PNG.

2.2.3 Presentation of Posters

Posters based on the theme of the seminar are also welcomed. Different categories such as student, organisation, professionals etc must be earmarked for the posters.

3. Methodology

This biodiversity seminar was divided into three parts; Part 1 – the main component of the seminar was divided into 7 sessions, Part 2 – Launching of the Varirata National Park Biodiversity Reports (including the EMPNG PNG LNG biodiversity report), and Part 3 – Study tour to Varirata National Park.

Part 1 - Biodiversity Seminar - Session 1: “Lessons Learnt from the Field” undertook 8 powerpoint presentations by various stakeholders who shared their experiences in the field and lessons learnt in the morning part of Day 1. Session 2 “*Conservation Challenges*” undertook 3 powerpoint presentations and continued to Session 3 “*Plenary Discussions and Way Forward*” in the afternoon part of Day 1. Session 5 “*Biodiversity findings of Varirata National Park*” which undertook one presentation from Dr Allen Allison in the morning part of Day 2. Session 6 “*Biodiversity Research in PNG*” undertook 5

powerpoint presentations in the afternoon of Day 2. Session 6 “*Continues (including Protected Area Management)*” 3 powerpoint presentations after coffee break in the afternoon of Day 2. Session 7 “*Voices from the Communities*” undertook 8 powerpoint presentations and one video presentation in the morning and 4 powerpoint presentations in the afternoon of Day 4.

Part 2 – Biodiversity Reports Launching - Session 4 “*Launching of the Varirata National Park’s Biodiversity Report*” undertook two presentations. Introduction of the project and launching was made by Mr Koji Asano, the Chief Advisor of CEPA-JICA Project. The launching of the biodiversity report for PNG LNG site was also made by Ms Winnie Schubert, SHE Manager of ExxonMobil PNG Limited. Session 4 was undertaken in the morning part of Day 2 whilst the other sessions continued after the reports were launched.

Part 3 – Study Tour to Varirata National Park was welcomed by the traditional dance from the local Koiari dancers followed by the welcome speeches by the CEPA-JICA Project team. A short tour of the newly established Information Center, a photo session and the refreshment in the morning part of Day 3. In the afternoon of Day 3, the participants continued with a short tour of the recently refurbished National Museum & Art Gallery back in Waigani/Port Moresby. The program for Day 3 was revised to accommodate for the study tour due to the deferral of the grand opening of the VNP’s Information Centre Complex (ICC). The inauguration launching of the new ICC will be held in the later date.

4. Basic information of Biodiversity Seminar and Reports Launching

4.1 Basic Information

The Biodiversity and Conservation seminar was held at the Gateway Hotel from the 16-19 October, 2018 in Port Moresby, Papua New Guinea.

There were three different facilitators (or master of ceremony) for the seminar and the study tour during the 4 days. Ms Rebekah Ilave for Day 1’s theme “*Exisitng Protected Areas: Lessons from the field*” and Day 2’s theme “*Biodivserity Research and Publications*”. Mr Ted Mamu (JICA Technical Coordinator) was the facilitator for Part 3 on Day 3’s theme “*Study Tour to Varirata National Park*” and Mr David Mitchell (Eco-custodians Advocate) was the facilitator on Day 4’s theme “*Voices from the Communities*”.

The seminar’s program is outlined in Annex 1, which covers the 3 days for the biodiversity seminar at Gateway Hotel and one day for the study tour at Varirata National Park (including the visit to the National Museum & Art Gallery). The registration of the seminar each day commenced at 8:00am and finished at 4:30pm.

4.2 Participation and Attendance

At least 194 individuals attended the seminar for 4 days from over 53 various institutions (see Annex 2 for participants list). From this, 33 made their powerpoint presentations. About 40% of the participants attended for at least 3 – 4 days during the course of the seminar. It was also noted that at least 30 new participants attend various sessions during the 4 days. The University of Papua New Guinea has the highest attendees of 47, from which over 90% were students.

The 53 organisations include the following; Conservation & Environment Protection Authority (CEPA), Climate Change Development Authority (CCDA), National Museum and Art Gallery, National Fisheries Authority (NFA), National Agriculture Quarantine Inspection Authority (NAQIA), National Parliament, Department of Treasury, Department of Petroleum & Energy (DPE), Department of Foreign Affairs, University of PNG (UPNG), Pacific Adventist University (PAU), Central Provincial Government (CPG), Koiari LLG, South Bougainville Electorate, New Guinea Binatang Research Center, World Wildlife Fund for Nature (WWF), The Nature Conservancy (TNC), Wildlife Conservation Society (WCS), Critical Ecosystem Partnership Fund (CEPF-IUCN), Institute of National Affairs (INA), Karawari Cave Arts Fund Inc., Tree Kangaroo Conservation Project (YUS), The Kainake Project in South Bougainville, Eco-custodians Advocates, Mas Kagin Tapani Association (MAKATA), Piku Project, Lake Kutubu WMA, Sulamesi WMA/Mt.Bosavi, Indo-Pacific Conservation Alliance (IPCA), PNGCLMA, PNG Forest Certification Inc., Ailan Awareness, Jomard Turtle Monitoring Project, Lower Kikori Off-set Program, UNDP, GEF/CEPA Project, Port Moresby Nature Park, ExxonMobil PNG, Mamagraun Conservation Trust Fund, Biodiversity Consultancy, Protected Area Solutions/Australia, JA Video Production, PNG Institute of Biological Research, James Cook University, Central Papua Conference (CPC), R2R Project, Tonkaive Consulting, ADB-CTI, UPNG-Motupore Island Research Center, Managalas Conservation Foundation (MCF), NBC TV, and PEDF Manus.

Initial master list of attendees confirmed for the 4 day events stands at 115, 108, 135 and 91 participants for Tuesday, Wednesday, Thursday and Friday respectively. These were the anticipated number of people that were supposed to attend both the Biodiversity seminar, the book/report launching, and the study tour of the new Information Center Complex.

On day 1 of the Biodiversity and Conservation seminar (Tuesday 16th October), over 122 participants attended the seminar. Although some participants indicated their attendance did not attend. Additional participants whose names were not initially recorded in the master list attended through other networking medium. On day 2 (Wednesday 17th October), over 128 participants attended the seminar and witnessed the reports launching by CEPA-JICA Project and ExxonMobil, respectively. On day 3 (Thursday, 18th October), the program was altered to include a study tour for the participants and to see the new ICC at Varirata National Park. About 89 attendees from the seminar including CEPA-JICA staff, plus additional 22

dancers from Koiari visited the ICC. Additionally, spouses and children from the UPNG also attended with locals from Koiari thus increasing the number of attendees to over 111 people. On the final day of the seminar on day 4 (Friday 19th October), the biodiversity seminar concluded with the participation of over 95 people.

Table 1 Participation of attendees at the Gateway Hotel seminar and study tour at VNP

Number of Days	Intended Participants	Confirmed Participants	New Attendees Per Day
Day 1	115	122	
Day 2	108	128	43
Day 3	135	111	40
Day 4	91	95	9
Average participation	112	114	31

4.3 Sponsors of the Seminar

The co-sponsors of this Biodiversity and Conservation seminar were JICA through the CEPA-JICA Biodiversity Project and ExxonMobil PNG via the PNG Mama Graun Conservation Trust Fund. CEPA was recognized as the major partner since the environment and biodiversity portfolio are under its mandatory requirements.

5. PART 1 - Introductory Remarks & Presentations at Seminar

5.1 Opening Remarks

The opening remarks were made by the facilitator, Ms Rebekah Ilave (consultant) who was commissioned by Mama Graun to lead and facilitate the sessions of the Biodiversity and Conservation seminar .

Keynote address of the future of protected areas in Papua New Guinea was made by Ms Kay Kalim, Director, Sustainable Environment Program/CEPA.

Mr Ted Mamu (JICA Technical Coordinator) provided the background of the Varirata Project and major achievements by JICA/CEPA. He also provided an insight to the newly established Information Centre Complex (ICC) at the Variarata National Park.

5.2 Overview of the Seminar

This seminar was an initiative undertaken by the CEPA-JICA Biodiversity Project, in partnership with Conservation and Environment Protection Authority (CEPA), in collaborating with ExxonMobil (PNG LNG developer) and PNG Mama Graun Conservation Trust Fund (Local NGO), in hosting the joint Biodiversity and Conservation seminar and the launching of Biodiversity Reports.

The seminar ran parallel with the launching of the Biodiversity Survey Reports of Varirata National Park (VNP). The summary report of the Flora, Fauna, Invasive Species Management Plan and Environmental Monitoring Plan of Varirata National Park, which the Project had successfully completed and was disseminated to the participants. The biodiversity report of the EMPNG was also launched and the copies were made available for participants.

5.3 Presentations, Launching of Reports and Study Tour

5.3.1 Lead Presentations

Prior to the report launching, a presentation of the biodiversity survey findings of Varirata National Park was presented by Dr Allen Allison of Indo-Pacific Conservation Alliance (IPCA), who was commissioned by the Project to implement the survey. A presentation was also made by Mr Koji Asano, Chief Advisor of the Project to showcase the Project's outputs and goals. Biatus Bitu also presented a paper after the report launching, on behalf of the project, on the long-term research into the nesting behaviour of the Yellow-Legged Brush Turkey in VNP.

A total of 33 presentations were made during the 3 days of the seminar. Over 53 organisations from the government, Non-government Organisations (NGOs), industries, universities, community-based organisations (CBOs) and landowners attended the seminar. They also witnessed the launching of the biodiversity reports and participated in the study tour of the new ICC at Varirata National Park. Although the inaugural launching of the new Information Center Complex (ICC) at VNP did not eventuate as planned, the day was used as a study tour for the seminar attendees to visit the Park and see the new ICC. The tour which was organised by the Project and Messrs Ted Mamu and Koji Asano as the co-facilitators. Many people were impressed with the gift from Japan and wanted to work in partnership with CEPA. After the Varirata study tour, the seminar participants visited the PNG National Museum and Art Gallery (NMAG) in Waigani. Dr Andrew Moutu (Director, NMAG) was privileged to give a history and snapshot of the museum and the recent refurbishment funded through the Australian Government. The participants also had the opportunity to see the different collections of natural history, culture, contemporary arts and other unique arts and artefacts of Papua New Guinea.

From ExxonMobil and PNG Mama Graun's point of view, since 2016 they had conducted similar biodiversity conservation seminars targeting participants from the projects they have funded, but this seminar was the biggest and more diverse. It has on record the:

- highest number of PhD holders and students attending the seminar,
- highest number of women participants, and
- highest number of attendees over the 4 consecutive days.

The following were agreed to be the product of the seminar. A compilation of seminar proceedings will be prepared by PNG Mama Graun and the Seminar Organising Committee. The seminar proceedings will contain the following information:

1. Abstracts of presentation (Abstract compendium);
2. Panel Discussions points and key points; and
3. Observations by the Seminar Organising Committee members.

The final report will be circulated once it is documented and sanctioned.

5.3.2 PART 2 – Launching of Varirata National Park Biodiversity Reports

The CEPA-JICA Project and ExxonMobil both launched their biodiversity reports on Wednesday 17th October, 2018. The following products were produced and distributed by the CEPA-JICA Project:

- 130 sets of animal and plant brochures of VNP were published and distributed;
- 100 copies of biodiversity summary report of Varirata were disseminated;
- 100 copies of stickers with VNP logo were given away;
- 100 copies of the CEPA-JICA project Newsletters (volume 6) were disseminated;
- 100 copies of the stickers with Bootless Bay logo were disseminated;
- 100 copies of the CEPA-JICA Project Brochures were given away to participants or were on display.



5.3.3 PART 3 – Study Tour to Varirata National Park

A study tour of Varirata National Park was programmed when the inauguration launch of the new ICC was postponed by CEPA. Participants were led by the Project team to VNP. Ted Mamu welcomed everyone to the park and gave the opportunity to several speakers from various organisations to give their speeches. Dr Allen Alision of IPCA, Dr Jane Mogina from EMPNG, Ms Michelle McGeorge of Port Moresby Nature Park expressed their gratitude and the support provided JICA and the future management of the park should it be well resourced and supported by CEPA, local communities and other relevant stakeholders. Many were impressed with the new facilities and mentioned that new ways can be forged for better

partnership, collaboration and development of the park, in terms of research, nature tours and tourism.

The Information Center Complex (ICC) consists of the renovated building (auditorium) and the newly constructed Information Center, and wood deck. The auditorium and will be used for meetings and other activities. The new Information Center is comprised of environmental education exhibition, office for Park's staff and storage space. The completion of new ICC have given a new look to Varirata National Park that will lure a lot more visitors to the park in the years to come.

The restoration of VNP has been supported through the funding and technical assistance from JICA.

6.0 Summary and Conclusion

The revival of the New Guinea Biological Conference (NGBC) was discussed at the seminar. This was the scientific intervention between Papua New Guinea and Indonesia (especially West Papua) whereby researchers and scientists get together to share their research findings, lessons learned and provides opportunities for further researches on the island of New Guinea. The last NGBC was held 6 years ago in 2012 at PNG Forest Research Institute in Lae, Morobe Province. The desire to bring conservation practitioners and researchers from both countries is gradually growing and there is a need to collaboratively bring efforts together to host one in the future.

The Member of Parliament (MP) for South Bougainville, Honourable Timothy Masiu announced that he will sponsor the next seminar in South Bougainville. He also volunteered to represent conservationists and this forum at the Parliament as their voice. He also made a statement to be the host and sponsor of the next biodiversity seminar to be held in South Bougainville. He also pledged for support if necessary:

- Additional sponsors can be sought to increase the prominence of the seminar and conservation; and
- This seminar has potential to become the next big forum for conservation practitioners and policy makers in PNG.

There were several other key issues which are relevant for the biodiversity conservation, research in conservation related areas, traditional culture of governance and preservation of the environment, sustainable livelihood development of customary landowners connected with the protection of natural resources, partnership and networking with like-minded agencies or individuals, capacity and language barrier on resource management, biodiversity conservation and utilization including many others. Below are the inexhausted list of issues in addressing biodiversity, conservation of the cultural heritage and languages and data sharing;

- ✓ CEPA should tabulate data – different values (context) such as tourism, World Heritage/Historical, biodiversity and cultural values.
- ✓ A need to better define collaboration and networking with relevant partners and stakeholders in research (ecological, social, etc) and information/data sharing.
- ✓ Livelihood – socio-economic – local markets, international market, fisheries management plan – off shore fisheries (mud crabs, sea cucumbers, etc) – harvesting rates and exports.
- ✓ Networking with local resources owners is essential for effective management and conservation of natural resources. The elites need to empower the local systems/people to take ownership.
- ✓ Strengthening traditional governance, institutions to drive community conservation, community needs, align to provincial and national policies.
- ✓ In order for better governance and sustainability of the biodiversity conservation and management of the protected areas, a simple system should be identified....Governance – partnership – community impact – sustainability.
- ✓ Local language and cultural values are essential for local communities – knowledge can be used, a tool for management plan
- ✓ Intellectual Property challenges
- ✓ Cross cultural – arts and creativity
- ✓ Cultural exchange/exposure learning tool
- ✓ Publication and wide dissemination of information for the public are vital.
- ✓ Capacity – lack of data, literature
- ✓ Traditional governance system

ANNEXES

Annex 1: Program of the Biodiversity and Conservation Seminar

Day 1: Tuesday 16th October 2018

Theme: Existing Protected Areas: Lessons from the field

Venue: Gateway Hotel, Port Moresby

Facilitator: Ms. Rebekah Ilave

Time	Details	Presenter/Facilitator
8:00 – 9:00am	Registration of Participants	MG/EMPNG Staff
9:00 – 9:10am	Opening prayer	Rev. John Douglas Dege
9:10 – 9:30am	Welcome	Rebekah Ilave
9:30 – 9:40am	Opening Address	Kay Kalim, Director, Sustainable Environment Program/CEPA
9:40 – 10:15am	Co-sponsor Remarks	ExxonMobil
10:15 – 10:30am	MORNING TEA	
<i>Session 1 – Lessons From The Field</i>		
10:30 – 10:50am	Tree Kangaroos in Yus Biodiversity Field Experience- Tree Kangaroo Conservation Project	Warren Jano- Strategic Manager/TKCP
10:50 – 11:10am	Protection of the Owen Stanley Range, Brown River Catchment and Kokoda Track Region	James Sabi, Elton Kaitokai and Malcolm Keako- Kokoda Initiative, CEPA
11:10 – 11:30am	Livelihoods benefits of mud crabs in PNG	Lorna Timothy, National Fisheries Authority
11:30 – 11:50am	Biodiversity research and conservation in PNG in the International context	Dr. Vojtech Novotny (New Guinea Binatang Research Center)
11:50 – 12:10pm	Strengthening traditional governance institutions to drive community conservation	Dr. Jeffery Noro - The Kainake Project
12:10 – 12:30pm	A critical examination of CBOs and capacity building in PNG	Primas Kapi, PhD student with Deakin University/Melbourne
12:30 – 1:30pm	LUNCH	
1:30 – 1:50pm	The Turtles Return: Lessons from the Community Managed Marine Area in Karkum, Madang, Papua New Guinea	Wenceslaus Magun, Mas Kagin Tapani Association (MAKATA)
1:50 – 2:10pm	The Karawari Cave Arts Project: Indigenous Anthropology & Cultural Survival	Banak Gamui, Karawari Cave Arts Project
<i>Session 2: Conservation Challenges</i>		
2:10 – 2:30pm	What is Conservation in your Language?	David Mitchell, Eco-custodians Advocates
2:30 – 2:50pm	Biodiversity Conservation: Role of Biosecurity and the Need for National Strategic Action Against Invasive Species	Warea Orapa, NAQIA
2:50 – 3:10pm	Assessment and Monitoring of Beche-de-mer Fishery in PNG	Rickson Lis, National Fisheries Authority
3:10 – 3:25pm	COFFEE BREAK	
<i>Session 3 – Plenary Discussions and Way Forward</i>		
3:25 – 4:25pm	Panel Discussion	Rebekah
4:30pm	Recap and Close for Day 1	Rebekah

Day 2: Wednesday 17th October, 2018
Theme: Biodiversity Research and Publications
Venue: Gateway Hotel
Facilitators: Ms Rebekah Ilave and Ms Kay Kalim

Time	Details	Presenter/Facilitator
Registration, welcome and opening addresses		
8:00-9:00 am	Arrival of participants	CEPA-JICA Team/ MG/EMPNG Staff
9:00-9:10 am	Welcome remarks	Ms Kay Kalim (Sust.Env Program/CEPA)
9:10-9:15 am	Opening Prayer	Rev. John Douglas Dege
9:15-9:45 am	Remarks by CEPA	Mr. Gunther Joku (Managing Director/CEPA)
9:45-10:15 am	Co-sponsor remarks	Winnie Schubert, SHES Manager/ ExxonMobil
SESSION 4 - Launching of publications by CEPA and ExxonMobil		
10:15 -10:35 am	Introduction of the CEPA-JICA Project and the Launching of the Biodiversity Publications of Varirata National Park	Takashi Toyama, Chief Representative of JICA PNG/Koji Asano, Chief Advisor, CEPA-JICA Project
10:35 -10:55 am	Launching of the Biodiversity Report from PNG LNG site	Andrew Barry, Lead country Manager, EMPNG
SESSION 5 - Biodiversity findings of Varirata National Park		
10:55 -11:55 am	Presentation of Biodiversity Reports and findings of Varirata National Park	Dr A llen Allison & Angus Fraser (IPCA)
12:15 -1:00 pm	LUNCH	
SESSION 6 - Biodiversity Research in PNG		
1:00 -1:20pm	Endemic birds in montane forests in Papua New Guinea: Human use and Conservation	Miriam Supuma (PhD Student, JCU)
1:20 - 1:40pm	Biodiversity of Bootless Bay, Central Province, Papua New Guinea	Pius Piskaut/Simon Saulei (UPNG)
1:40pm-2:00pm	Combatting the Wildlife Trafficking of CITES Species, <i>Carettochelys insculpta</i> , the Pig-nosed Turtle, through its Genetic Research in Papua New Guinea.	Yolarnie A mepou (Piku Project)
2:00pm-2:20pm	The Nesting behaviour of the Yellow Legged Brush Turkey (<i>Talegalla fuscirostris</i>) in Varirata National Park	Biatus Bito (CEPA-JICA Project)
2.20pm-2:40pm	Monitoring Biodiversity in Critical Habitats: Case study from the PNG LNG Project, Papua New Guinea	Dr. Jane Mogina (EMPNG Biodiversity)
2:40pm-3:00pm	COFFEE BREAK	
SESSION 6 – Continues (including Protected Area Management)		
3:00 – 3:20pm	Structure and diversity of a regenerating forests after 30 years following clear-felling logging in PNG	Professor Simon Saulei, UPNG
3:20 – 3:40pm	A feasibility study for implementing IUCN ‘Green List of Protected and Conservation Areas’ in PNG	Bensolo Ken, MPhil Student, Cambridge University/UK
3:40 – 4:00pm	Papua New Guinea protected areas management effectiveness evaluation	Ann Peterson/Gregory Peterson, CEPA-UNDP-GEF
4:00-4:20pm	Recap and Close for Day 2	

Day 3: Thursday 18th October 2018

Theme: Study Tour to Varirata National Park and National Museum

Venue: Varirata National Park

Master of Ceremony: Ted Mamu

Objectives:

- With elaborated exhibitions in newly developed Information Center at VNP and newly renovated National Museum, the participants in the Biodiversity Seminar are expected to develop some ideas on public education and its effective means through discussions among stakeholders.
- Networking among the participants are facilitated through discussions on many issues of common interest.
- Some issues raised in the Biodiversity Seminar are discussed in the field and with real materials in a pragmatic manner.

Participants:

The participants of the Biodiversity Seminar from 16th – 19th October 2018, including the National Museum, UNDP, TPA, PAU, UPNG, and other stakeholders in conservation

Time	Activity	Lead
08:30 – 10:00am	Transfer from Gateway Hotel to VNP	Technical Coordinator
10:00 – 11:30am	Short Tour in and around the Information Center Complex, and Discussion among the Participants and CEPA-JICA Project members	Technical Coordinator
11:30 – 12:30pm	Lunch	
12:30 – 01:30pm	Transfer from VNP to the National Museum of PNG	Technical Coordinator
01:30 – 03:00pm	Short Tour in the National Museum of PNG, and Discussion among the Participants and the staff of the National Museum	Technical Coordinator
3:00pm	Program Ends	

Day 4: Friday 19th October 2018
Theme: Voices from the Communities
Venue: Gateway Hotel
Facilitator: Mr. David Mitchell

Time	Details	Presenter/Facilitator
8:00 – 8:30am	Arrival of Participants	David
8:30 – 9:00am	Video	David
9:00 – 9:20am	Community Engagement in Lower Kikori	Kenneth Korokai – Community leader from Kikori
9:20 – 9:40am	Progress and Lessons from the Wisai Conservation Project in Bougainville	John Masiu and Thomas Kokoua
9:40 – 10:00am	Livelihood Benefit of Conservation for Kairiku Villages	Nancy Kila
10:00 – 10:20am	MORNING TEA BREAK	
10:20 – 10:40am	Challenges and Lessons for Three Villages in the Kairiku LLG of Central Province	Maria Trish Kori - Nikura
10:40 – 11:00am	Cause for Conflict – Use and Abuse of Information on Blue Carbon	Elizabeth & Peter
11:00 – 11:20am	Challenges and Lessons from Island Conservation	Michael Chongahan
11:20 – 11:40am	Issues and Challenges educating the local communities on sustainable resource use	John Aini Ailan Awareness
11:40 – 12:00pm	The Mangrove Meri concept and its potential as a Conservation Livelihood Benefit	Ruth Konia
12:00 – 1:00pm	LUNCH	
1:00 – 1:20pm	Lake Kutubu Conservation Issues and Challenges	Alice Kage
1:20 – 1:40pm	Motivating Communities in conservation and sustainable resource use	Liberty Betuela
1:40 – 2:00pm	Community Involvement in Park Management	Ko iari Community leader
2:00 – 3:00pm	Plenary Discussions- Community Issues	David
3:00pm	Afternoon Tea and Seminar Close	

Annex 2: Participants List of Biodiversity Seminar and Study Tour from 16 – 19 October, 2018

No.	Name	Title	Institution	Day1	Day2	Day3	Day4
1	Allen Alison	Director/Scientist	Indo-Pacific Conservation Alliance (IPCA)	1	1	1	1
2	Nitya Simaro	Ecologist	IPCA	1	1	1	1
3	Minando Baro	Officer	Climate Change Development Authority (CCDA)	1	1		
4	Jacinta Kull	Officer	CCDA	1			
5	David Mitchell	Director/Ecologist	Eco-custodian Advocates (EDA)	1	1	1	1
6	Masatake Harada	Project Formulation Advisor	JICA PNG Office			1	
7	Patrick Pate	Landowner	Sulawesi WMA/Bosavi	1	1	1	1
8	Matilda Kepang	Fisheries Officer	National Fisheries Authority (NFA)	1			
9	Tindra Mataiwaho	Fisheries Officer	NFA	1			
10	Loma Timothy	Fisheries Officer	NFA	1			
11	Biatu Bito	Local Terrestrial Expert	CEPA-JICA Project	1	1	1	1
12	Yolamie Amepou	Project Manager	Piku Biodiversity Network	1	1	1	1
13	Jery Alaniel	Owner	JA Video Production	1	1	1	1
14	Mazzella Maniwavie	MSc Student	James Cook University (JCU)	1	1	1	1
15	Rebeka Ilave	Consultant	Private	1	1		
16	Liberty Betuel	Field Officer	Jomart Turtles	1	1	1	1
17	Alice Kage	LKWMA Committee Member	Lake Kutubu WMA Committee	1	1		1
18	Primas Kapi	Local Consultant	Lake Kutubu WMA Enhancement Project	1	1		1
19	Warren Jano	Conservation Strategic Manager	Tree Kangaroo Conservation Project (TKCP)	1	1	1	1
20	Banak Gamui	Project Director	Karawari Cave Arts	1	1	1	1
21	Felix Daroa	Lead Person	Bootless Lavadas	1	1	1	1
22	Fidelis Angoea	Officer	Central Provincial Administration (CPA)	1	1		
23	Dr. Jeffrey Noro	Project Director	The Kainake Project	1	1	1	1
24	Peter Moikya	Assistant Project Manager	PNGCLMA	1	1	1	1
25	Nancy Kila	Community Facilitator	Delena	1	1	1	1
26	Marie Therese Kori		Nikura	1	1	1	1
27	Elizabeth Vagi		Potukama	1	1	1	1
28	Winnie Schubert	SHE Manager	EMPNG	1	1	1	
29	Kelly Womora	Clan Leader	Ianari Clan, Koiari	1	1	1	1

30	Michael Chongohan		AhusManus	1	1		1
31	Aarron Warite	Clan Leader	Nadeka Clan, Koiari	1	1		
32	Gideon Warite	Clan Member, Paraecologist	Nadeka Clan, Koiari	1	1	1	1
33	Wencelaus Magun	Director	MAKATA	1	1	1	1
34	Maraga Kakira	Receptionist	Com Dept, Central Provincial Administration (CPA)	1	1		
35	Rickson Lis	Manager	NFA	1	1		
36	John Masiu	Project Field Officer	The Kainke Project (TKP)	1	1	1	1
37	Thomas Kokona	Project Field Officer	TKP	1	1	1	1
38	Tracey Laupu		National Parliament	1			
39	Hon. Timothy Masiu	MP for South Bouganville	National Parliament	1	1		1
40	Clive Euvada	Reporter	NBC TV	1			
41	Barth Waka	Field Officer	Pokili WMA	1	1	1	1
42	Dr Jane Mogina	Senior Biodiversity Advisor	EMPNG	1	1	1	1
43	Oroqkor Weran	Dept of Foreign Affairs	Dept of Foreign Affairs	1			
44	Rachel Pua	Student	University of Papua New Guinea (UPNG)	1			
45	Privillia Thomas	Student	UPNG	1	1		1
46	Dorothy Ray	Student	UPNG	1	1		1
47	Evengelyn Kove	Individual	Private	1	1	1	1
48	Gwen Maru		UNDP	1	1		
49	Lydia Bobola		UNDP	1			
50	Lydia Babus		UNDP	1			
51	June Mandawali	Student	UPNG	1	1		1
52	Naomi Vincent	Student	UPNG	1	1	1	1
53	Barjo Pomat	Student	UPNG	1			
54	Relvie Satkek	Student	UPNG	1	1	1	1
55	Lena Mula	Student	UPNG	1	1	1	1
56	Natalie Brown	Student	UPNG	1	1	1	1
57	Sharon Waruta	Student	UPNG	1	1	1	1
58	Winguwec Kipiro	Student	UPNG	1		1	1
59	Nathan Tamba	Student	UPNG	1	1	1	1
60	Martin Kondo		PNG Treasury	1	1		
61	Martin Teine		PNG Treasury	1			
62	Heria Ato		PNG Treasury	1	1		
63	Tamalis Akus	National Coordinator	UNDP - Small Grants Fund	1	1		

64	Prof. Simon Saulei	Professor of Biology	UPNG (Biology Department)	1	1		
65	Dr. Graham Sem	Senior Lecturer	UPNG (Geography & Environmental Science)	1			
66	Senson Mark	National Coordinator	CEPA-SPREP (R2RProject)	1	1		
67	Anita Mosby		ExxonMobil Papua New Guinea (EMPNG)	1			1
68	Julia Hagoria	Environment Specialist	EMPNG	1	1	1	1
69	Michelle McGeorge	Manager	Port Moresby Nature Park	1	1	1	
70	Eunice Dus	Officer	CCDA	1			
71	Gwen Sissiou	Director	CCDA	1			
72	Lester Seri	Policy Advisor	WCS	1	1		1
73	Miriam Supuma	Student (PhD)	JCU	1	1		1
74	Dr. Andrew Moutu	Director	National Museum & Art Gallery	1	1		
75	Kala Meia	Clan Leader	Omani Clan, Koairi	1	1	1	1
76	Alfred K. Edene	Manager	Koairi LLG	1			
77	Modi Pontio	Consultant	ADB-CEPA	1			1
78	Nonega Igara	Student	UPNG	1			
79	Steven Magi	National Coordinator	PNG Forest Certification Inc. (PNG FSC)	1			1
80	Bav Kamba	Officer In-change	CPC-PAU	1	1	1	1
81	Theresa Kamau Kas		PEDF-Manus	1	1		1
82	Nicho Gowep	CITES Officer	CEPA	1	1		
83	Bernard Suruman	Manager	CEPA - Marine Protected Areas	1	1		1
84	Juda Nundino	Senior Program Officer	CEPA	1			
85	Kafuri Yaro	Country Manager	World Wide Fund for Nature (WWF)	1			
86	Peter Saguba	Senior Lecturer	Pacific Adventist University (PAU)	1	1		
87	Martha Wamo	Consultant	CEPA-CTI	1			
88	Zola Sangga	National Coordinator	Critical Ecosystem Partnership Fund (CEPF)	1	1	1	1
90	Dr. Miok Komolong		Department of Petroleum and Energy (DPE)	1			
91	Elton Kaitokai	Senior Program Officer	CEPA	1	1		1
92	Malcolm Keako	Senior Program Officer (GIS)	CEPA	1	1		1
93	Madline A. Lahari	Program Officer	CEPA-Terrestrial Protected Areas	1	1		1
94	Melanie Raire	Intern	CEPA	1	1		1
95	Patricia Kila	Manager	UNDP - GEF 5	1			
96	James Sabi	Manager	CEPA - Terrestrial Ecosystems Management	1	1		
97	Lucie Ngezzan	Biodiversity Lead	EMPNG	1	1	1	1
98	Kalyna Taule	Biodiversity Advisor	EMPNG	1	1	1	1

99	Omoro Asi	Clan Leader	Narime Clan, Koiari	1	1	1	
100	John Ani		Ailan Awareness	1	1		1
101	Dr. Linus Digirima	Head of Department	UPNG	1			
102	Vincent Kewibu	Senior Lecturer	UPNG	1			
103	Frank Alkam	Senior Program Officer	CEPA	1			1
104	Jacinta Mimigari	Senior Program Officer	CEPA	1			1
105	Joseph Mimigari	Student	UPNG	1		1	
106	Kwaipo Vali		PMNEC	1			
107	Maxine Anjiga	Director	PNGCLMA	1			1
108	Henry Naime		PNGCLMA	1	1		1
109	Paul Barker	Executive Director	Institute of National Affairs (INA)	1	1		
110	Vagi Rei	Manager	CEPA - Marine Ecosystems Management	1			
111	Fredrick Ohmana	Senior Program Officer	CEPA	1			
112	Barbara Masike	Country Program Director	The Nature Conservancy (TNC)	1	1		1
113	Billy Ivai	Ward 5 Councillor	Koiari LLG	1	1	1	1
114	Giles Toton	Local Consultant	EMPNG- Kikori	1	1	1	1
115	Paul Lokani	Director	PNG Mama Graun Conservation Trust Fund	1	1		1
116	Matilda Lokani	Personal Assistant	PNG Mama Graun Conservation Trust Fund	1	1		1
117	Kay Kalim	Director	CEPA, Sustainable Environment Program	1	1	1	
118	Willie Toina	Member	Kae Association, Koiari	1	1	1	1
119	Gregory Peterson	Consultant	Protected Area Solutions, Australia	1	1	1	1
120	Ann Peterson	Consultant	Protected Area Solutions, Australia	1	1	1	1
121	Ted Mamu	Technical Coordinator	CEPA-JICA Project	1	1	1	
122	Warea Orapa	Assistant General Manager Operations	National Agriculture & Quarantine Inspection Authority (NAQIA)	1	1		
123	Richard Kellar	Student	UPNG	1			
124	John Dege	Admin Support	CEPA-JICA Project	1		1	
125	Bensolo Ken	Student/Consultant	Cambridge University, The Biodiversity Consultancy		1		
126	Noel Max	Paraecologist	IPCA, Local Koiari		1	1	1
127	Bail Korohi	Paraecologist	IPCA, Local Koiari		1	1	1
128	Dr. Vojteck Novotny	Executive Director	Binatang Research Center		1	1	1
129	Daniella Tumun	Intern	CEPA		1		
130	Christina Sakato	Intern	CEPA		1		
131	Elias Tovue	Technical Officer	UPNG - Motupore Island Research Center		1	1	

132	Roga Gabiobe	Manager	UPNG - Motupore Island Research Center		1	1	1
133	Bonny Mako	Security	UPNG - Motupore Island Research Center		1	1	1
134	Koji Asano	Chief Advisor	CEPA-JICA Project		1	1	
135	Laura A. Dresser		EMPNG		1		
136	Wanita Wakus		EMPNG		1		
137	John Genolangi	A/Director	UPNG - Motupore Island Research Center		1	1	1
138	Saina Jeffrey	Individual	Private		1	1	1
139	Manoah Wanaga	Lands Officer	CPC-SDA		1		1
140	Nigel Baro	Student	UPNG		1	1	1
141	Jim Onga	Senior Program Officer/WH	CEPA		1		1
142	Rose Alphonse	Senior Program Officer/Policy	CEPA		1		
143	Carolyn Kumul	Intern - Policy	CEPA		1		
144	Lisa Bun	Intern	CEPA		1	1	1
145	Brett Smith	Curator	Port Moresby Nature Park		1	1	
146	Ishimu Bebe	Life Sciences Manager	Port Moresby Nature Park		1	1	
147	Pius Piskaut	Senior Lecturer	UPNG		1		
148	Siniva Kasimani	Reporter	NBC TV		1		
149	Richard Mai	Reporter	NBC TV		1		
150	Lydia Nenai		UNDP		1		
151	Linda K Barae		UNDP		1		
152	Richard Mekellar	Student	UPNG		1		
153	Daisy N Janget	Student	UPNG		1	1	1
154	Marilyn D Saiwa	Student	UPNG		1		
155	Taire Ponjegi	Student	UPNG		1		
156	Jack Sagumai	Student	UPNG		1	1	1
157	Teneke Tefatu		The Nature Conservancy (TNC)		1		1
158	Ruth Konia		The Nature Conservancy (TNC)		1		1
159	Diapain Wardia	Student	UPNG		1		
160	Nancy Bobora	Personal Assistant	CEPA-JICA Project		1	1	
161	Janet Gagul	Technical Officer	UPNG - Herbarium		1	1	
162	Dan Kundun		UPNG		1		
163	Ian Gavia	Landowner	Koiari		1		
164	Damien Ase	Director	Managalas Conservation Foundation (MCF)		1		
165	Kenneth Korokai	Village Liasion Officer	EMPNG, Kikori		1	1	1

166	Ayako Ochi	JICA Consultant (GIS expert)	CEPA-JICA Project		1	1	
167	Dr. Hiroshi Imae	JICA Consultant (Biodiv expert)	CEPA-JICA Project		1	1	
168	Maxie Imbui	Student	UPNG			1	
169	Junne Cosmas	Consultant	Private			1	
170	Hideo Kamioka	General Manager	PNG Japan Ltd			1	
171	Aroa Tiube	Clan Member	Ianari Clan, Koiari			1	
172	Josephine Millo	Personal Assistant	CEPA - SEPWing			1	
173	Deame Genolangi		UPNG			1	
174	William Genolangi		UPNG			1	
175	Charmelle Genolangi		UPNG			1	
176	John Genolangi (Jnr)		UPNG			1	
177	Albert Gabiobe	Manager	UPNG - Motupore Island Research Center			1	
178	Paul Heano	Director	UPNG - Transport			1	
179	Sibona Heano		UPNG			1	
180	Stephen Mako		UPNG			1	
181	Antonio Mako		UPNG			1	
182	Abraham Genolangi		UPNG			1	
183	Ephram Tovue		UPNG			1	
184	Shemile Tovue		UPNG			1	
185	Vivine Tovue		UPNG			1	
186	Dabio M Sobbie	Paraecologist	IPCA, Local Koiari				1
187	Benjamin Liko	Student	UPNG				1
188	Dr. Lawong Balun	Senior Lecturer	UPNG				1
189	Joe Duhube		CEPA				1
190	Katherine Yuave	Consultant	Tonkiave Consulting				1
191	Suberth Yuave		Tonkiave Consulting				1
192	Josu Kim	Reporter	FM 100				1
193	Senita Wauwia		TNC				1
194	Avoa Malala		TNC				1
	Total			122	128	89	95

Note: Day 3 – including 22 local Koiari dancers (list not provided here) – total was 111

The nesting behaviour of the Yellow–Legged Brush Turkey (*Talegalla fuscirostris* Salv.) of the family of Megapodiidae in the mid-montane tropical forest of Varirata National Park (VNP), Sogeri, Papua New Guinea

Biatus Joseph Bito¹, Ted Mamu¹ and John Douglas Dege¹

¹CEPA-JICA Biodiversity Project, Dynasty Tower, Savannah Heights, Waigani Drive., Port Moresby, Papua New Guinea

The nesting behaviour of the Yellow-Legged Brush Turkey (*Talegalla fuscirostris* Salv.) was studied in a National Park in mid-montane tropical rainforest of Papua New Guinea using camera traps and traditional ecological knowledge (TEK). Excel 2010 Spreadsheet and SAS JMP Statistical Discovery Version 7.0.1 were used to calculate descriptive statistics and One Way ANOVA analysis. A post hoc test was conducted using the Levene test to test the null hypotheses and variance of mean. Results indicate that traditional ecological knowledge were certain and accurate at 95%. Both male and female birds tend the nest but at times, the female is absent for a short while. They are active in the morning than in the afternoon. At 95% Confidence Interval ($P=0.05$), we cannot tell there is significant difference in average time spent at the mound at Site 1 and Site 2 ($F_{1,57}=0.0229$; $P=0.8801$; $R^2=0.0004$), in the average time visited by the birds over the years ($F_{3,55}=4.0628$; $P=0.0112$; $R^2=0.1814$) and over different months ($F_{11,47}=0.8251$; $P=0.6160$; $R^2=0.01612$). However, our study confirmed our hypotheses that: 1) the mound is used continuously over time where eggs are laid continuously; 2) disturbances from visitors, cars and animals affect nesting and breeding patterns; and 3) both female and male work on the mound and tend the mound. The birds also have peaked activity periods in the first two years but decline thereafter. Disturbance to nesting activities by animals, humans, and cars have impacted nesting patterns. Although *T. fuscirostris* activities peaked and spread over time, nesting activities peaked before the wet season and toward the end of the wet season, from September to March. This is when mound building, egg laying and temperature control are prominent. Thus we concluded that there is significant difference on average time spent at the mound, over different years, in different months given the number of visits to the mound.

Endemic birds in montane forests in Papua New Guinea: Human use and Conservation

*Ms. Miriam Supuma,
PhD Student, James Cook University*

The use and appreciation of bird life is deeply woven into the culture of many societies. This subsistence-based evaluation of birds can take the form of hunted food, traded species or the form of economic development through bird-related eco-tourism. Birds, therefore, sit at an important nexus of biological and cultural diversity and can serve as indicator species that help us to understand the loss of both.

This study addresses the need for further understanding of the vulnerability of endemic montane species to anthropogenic impacts associated with hunting, trade, and the effects of climate change. The research begins by improving the contemporary understanding of trade of bird species in the central highlands and major cities including Port Moresby and Lae (large scale). This was then followed by case study sites (fine scale) to understand how rural forest communities hunt and trade wildlife and the social nuances that affect

their choice and locality of hunting activities. The study then collates species identified from trade and hunting to conduct a vulnerability assessment of species most at risk from human use. The assessment may serve as a guide to conservation efforts in the central highland.

The dry season was the preferred time for hunting and trade of species which also coincided with the central highland's annual cultural festivals. Over 170 endemic species of birds were identified to be used by humans for subsistence and culture; 17 species were considered of highest conservation priority. Findings from this study can help contribute towards meeting PNG's objectives under the Convention of Biological Diversity (CBD) and improve our understanding of species most vulnerable to climate change and human use.

This research applies an interdisciplinary approach that considers context of culture, society, and conservation. The findings are essential for conservation of the endemic montane species, food security, and supporting local management practices that will promote the persistence of rural livelihood and cultural diversity in Papua New Guinea.

THE DIVERSITY, STRUCTURE AND GROWTH PERFORMANCES OF A REGENERATING FOREST THIRTY YEARS AFTER CLEAR-FELL LOGGING IN THE GOGOL VALLEY, MADANG PROVINCE

SIMON SAULEI
Division of Biological Sciences
School of Natural & Physical Sciences
University of Papua New Guinea

This paper presents the results of a research conducted over a thirty year span on an area cleared by clear-fell logging in Gogol Valley, Madang Province. The results indicated that the species diversity in the developing forest reached a maximum peak at 10 years and gradually declined. At the same time period, the number of individuals also showed similar trend. Nevertheless, the structure, diversity and growth of trees have become more and more complex following the period of active dynamism in the first 10 years where species appeared to assort themselves to survive and become persistent on the site. This was observed when in the first 10 years, the species array was dominated by short-lived pioneer species and later the gradual growth and development of long-lived secondary and primary species. The pathway by which these groups of species invaded or arrived at the cleared area will also be discussed.

Monitoring Biodiversity in Critical Habitats: Case study from the PNG LNG Project, Papua New Guinea

*Stephen Richards, Department of Herpetology South Australian Museum; Iain Woxvold, Museum
Victoria Sciences Department; Jane Mogina and Laura Ann Dresser, ExxonMobil PNG Limited*

The PNG LNG project was built and operates in an area with high biodiversity values that qualifies as critical habitat under IFC Performance Standard 6. A series of programmed monitoring activities have been initiated to provide biodiversity data in order to evaluate the impact of the PNG LNG construction and

operations. This paper describes the program of surveys that was designed and conducted to collect quantitative, repeatable data on the diversity of species in and around the areas affected by the PNG LNG Project. Diversity is expressed as the number of species, the composition of species assemblages, and the abundance of target species, as compared with a defined baseline.

In 2015 two locations impacted by construction and operations were selected for long term biodiversity monitoring. These 'Biodiversity Assessment Areas' or BAAs are separated by about 800 m in elevation. During the 2015 survey permanent transects were established along which monitoring was undertaken for bats, non-volant mammals (rodents, marsupials, monotremes) and frogs. Some mist-netting activities for birds were conducted on separate transects. Permanent transects extended for 220–250 m into the forest and were perpendicular to the facilities. In addition plant plot and camera trapping surveys were undertaken in forest some distance from transects.

The results of the 2015 survey indicate that both BAAs retain high biodiversity values for all surveyed taxa. At least 579 animal and plant species were documented during the surveys including numerous species of plants, frogs, marsupials, rodents and bats that were previously unknown to science (new species) or that were known but have yet to be scientifically named (undescribed). Fourteen species are listed in a category higher than Least Concern by the IUCN.

The 2015 survey provides baseline data on biodiversity in the two survey locations against which future monitoring surveys can be compared, assesses the current biodiversity values of the survey areas and the potential impacts of linear infrastructure corridors on these values.

The biodiversity of Bootless Bay, Central Province, Papua New Guinea

Pius Piskaut, Alfred Ko'ou, Simon Saulei, Dan Kundun, Denica Sapakali, Edwin Sohun and Tiare Ponjegi

University Centre for Biodiversity and Natural Products, UPNG

A rapid biodiversity inventory of the Bogoro Inlet and Motupore Island within the Bootless Bay, Central Province, Papua New Guinea was conducted using visual censuses aided by photographic, quadrat, and belt transect sampling techniques. Six sampling stations covering an area of 2km² of marine ecosystems were selected within the Bootless Bay included coastline shores, saltmarshes, mangroves, sea grass beds, sand and rubble beds, coral reefs, and channel ecosystems were surveyed. The results indicate that the Bogoro Inlet and Motupore Island comprise ecosystems and species rich marine environment that is comparable with many areas in PNG and the region. The number of species of plants and animals reported in the previous publications and this inventory included 283 terrestrial plants, 23 mangrove species, 10 sea grasses species, 81 bird species, 4 species of marine mammals, 1 species of saltwater crocodile, 2 species of sea snakes, 3 species of turtles, 512 species of fishes, 284 species of reef corals, and many macroalgae, crustaceans, echinoderms, and molluscs. The study also indicate that the two proposed MPA sites also features important ecosystem values; have specific nursery grounds for many fish species. Motupore harbours the most expensive sea cucumber, the threaten Maori Wrasse, nesting site for green turtle, mating site for shark species, home to the Banded sea snake, host to ???. It is also home to endemic plant species and the locally rare mangrove species, *Aegialites annulata*. It also supports up to 54 residential bird species and harbours a wide array of coral species. It is concluded that the Bogoro Inlet and Motupore Island constitute high conservation values which are being threatened by the rapid changes taking place in the area. Using the high conservation value concept, the two proposed MPAs meet the requirements to be declared Marine Protected Areas in order to manage, protect and sustainably manage the ecosystems and resources.

Combatting the Wildlife Trafficking of CITES Species, *Carettochelys insculpta*, the Pig-nosed Turtle, through its Genetic Research in Papua New Guinea.

YOLARNIE AMEPOU¹, MATTHEW YOUNG², ARTHUR GEORGES², CARLA EISEMBERG³
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3 Charles Darwin University, Casuarina Campus, Red 1.2.36. Darwin. NT. Australia

The pig-nosed turtle, *Carettochelys insculpta* has drawn interest since its scientific description in 1886. The turtle is the only extant species of its once globally widespread family, Carettochelyidae. Its present day distribution is restricted to the southern rivers of New Guinea and a few rivers of the Northern Territory Australia. Threats to the pig-nosed turtle's populations include habitat destruction and degradation, sustained and improved human harvest and wildlife trafficking, both latter threats conducted from wild populations and primarily by local villagers during the turtle's nesting season. *Carettochelys insculpta* is listed in Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, CITES. The species is targeted and in high demand for the exotic pet trade, food market and Asian medicinal practices. Its illegal trade from the island of New Guinea through Papua Province of Indonesia has intensified as market prices increase exponentially. TRAFFIC have reported 32 seizures of *C.insculpta* between 2003 and 2012, which included over 81, 689 individual turtles. The effort to document the genetics of pig-nosed turtle populations in PNG is a collaboration between the national non-government, not for profit organisation; the Piku Biodiversity Network Inc. and the Institute of Applied Ecology at the University of Canberra, Australia. The aim of this study is to delineate the structure of pig-nosed turtle populations throughout its range. Wildlife trafficking applications include; the repatriation of seized turtles to their original populations, thus preventing the disruption of population genetic integrity; and identifying the localities poachers target for the harvest of wild nests. This study will begin steps towards the mitigation and eventual curbing of the pig-nosed turtles illegal wildlife trade. Genetic approaches used will also contribute to delineating the population structure of pig-nosed turtles in the Gulf and Western Provinces of Papua New Guinea and inform current conservation strategies being undertaken by the Piku Biodiversity Network Inc. along the Kikori River, Gulf Province, Papua New Guinea.

The Turtles Return: Lessons from the Community Managed Marine Area in Karkum, Madang, Papua New Guinea

Wenceslaus Magun
Mas Kagin Tapani Association

Leatherback sea turtle (*Dermochelys coriacea*) is a keystone species and the most unique of the seven species of sea turtles. It does not have a shell but is critically endangered and needs to be conserved to maintain a balanced ecosystem.

Mas Kagin Tapani (MAKATA) association, is a local NGO that strives to sustain the Sea Turtle Restoration Project (STRP) in Karkum village and other community based groups in turtle conservation efforts in Madang, Papua New Guinea since 2009. MAKATA's two visions are to ensure endangered *Dermochelys coriacea*, other endangered sea turtles and the marine resources and their habitats in the Bismarck Sea are saved, protected and restored, and to empower the resource owners to sustainably use them to improve their lifestyles, socially and economically, and in harmony with their cultures and spirituality.

This paper was informed by literature review and interviews with key leaders from Karkum and other local communities the STRP team has worked with in Madang.

MAKATA has informed the local communities and other stakeholders about the critical status of *Dermochelys coriacea* and its imminent extinction. The seven resource management planning steps enabled Karkums to establish their Community-Managed Marine Area using Conservation Deed (CMMA-CD) in 2008.

Some root causes of environmental destruction identified often begin with lack of community control over resources and the inequitable distribution of money and power. These conflicts are further inflamed by misconceived "cargo cult" demands.

MAKATA continues to pursue its visions but has significantly limited its scope of work due to lack of funding to be able to address the identified problems and to meet its momentous aspirations of conserving the critically endangered *Dermochelys coriacea* and our environment as well.

The Karawari Cave Arts Project: Indigenous Anthropology & Cultural Survival

*Banak Gamui, MSc
Karawari Cave Arts Project*

For over 10 years members of the Karawari Cave Arts Project have been working to explore and conserve one of the largest cave art complexes in the world. The caves are still inhabited by some of the last semi-nomadic tribes of Melanesia, and are under imminent threat by commercial logging and mining interests who will effectively displace these remote people and destroy their sacred caves. In the process, some of the prehistoric secrets of PNG, untold endemic species, not to mention the ancient cultures of these enduring and remarkable peoples, will all be lost forever. Along the northern face of PNG's main mountain cordillera, where it falls from Enga Province down to the Sepik Plains, more than 300 caves contain the evidence of human habitation over thousands of years. The Karawari Cave Arts team has recorded over 200 of these and the hand stencils and other images they contain. Some images are contemporary, others are speculated to be 20,000 years old (like those found in Borneo to the north and Western Australia to the south). This cave art complex is unique for being owned and inhabited by some of the last semi-nomadic hunter-gatherer groups in world, the Penale, Ewa, and Sumariop tribes. All these people face grave dangers now that gold has been discovered in the streams and rivers that flow from the mountains above. In addition to the ethnographic research and data gathering, the natural landscape upon which the caves are formed, the forest and river system, and biodiversity that inhabits them are equally important to document. The

Karawari Cave Arts team has begun the long process of mobilizing the local communities towards restricting this area to commercial resource exploitation by declaring it as a conservation zone. All the recording, surveying and exploring of this area is being conducted by Papua New Guinean fieldworkers, biologists and landowners, previously under the supervision of American anthropologist and PNG resident, late Nancy Sullivan up till June 2015. Dr. Sullivan died in a tragic car accident in the United States, trying to find more supporters for this amazing project, and taking some time to write up the “Karawari Book”, one of our most anticipated outcomes for this project. Despite the loss and initial period of uncertainty, the project team has found a renewed sense of determination and cause to continue the team’s dream. In this paper, we present to you our project organization, goals, activities, and plans into the future.

Papua New Guinea protected areas management effectiveness evaluation

*Ann Peterson¹, James Sabi², Gregory Peterson¹
Protected Areas Solution, Australia. ²PNG Conservation & Environment Protection Authority*

Our 2016-2017 evaluation of protected areas in Papua New Guinea involved consultation with representatives from all 58 gazetted protected areas. We developed appropriate assessment methodologies, including the Management Effectiveness Tracking Tool (METT), which we adapted to better reflect the customary landowning base of the nation’s protected areas. Almost 85% of protected areas identified that their areas provided very important values or benefits, including natural (93%), socio-economic (88%), cultural (71%) and historic (10%) values. The most frequently identified threats were climate change and severe weather (93%), biological resource use (90%), invasive species (86%), housing and commercial development (86%), modification of natural systems (83%) and loss of cultural and social values (81%).

The METT assessment addressed 30 key themes. Overall, 71% of protected areas were estimated to be in good to very good condition, although this represented only 45% of the network, by area. In terms of progress, 66% indicated little or no progress in management, 25% had some progress, but were of high concern. Only four protected areas, all with external funding and assistance indicated that they were ‘doing well’.

Participants recommended the need for increased input from all levels of government; the re-ignition of management committees; the review and updating of management plans; boundary clarification; creation and funding of a ranger network; skill development; awareness raising; better communication; and improved legislation and enforcement capacity.

Keywords: protected area, METT, management effectiveness, Papua New Guinea, customary landowner, IUCN

Strengthening traditional governance institutions to drive community conservation

*Jeffrey Noro, PhD
The Kainake Project, PO Box 46, UPNG Post Office, Waigani, PNG*

The National Protected Areas Policy provides a national framework for conservation in Papua New Guinea (PNG). The policy framework promotes a PNG protected area network that is intended for the people of PNG, who are designing and managing their natural and cultural heritage through fair and thoughtful systems of management. The policy places importance on five pillars namely governance and management, sustainable livelihoods for communities, effective and adaptive biodiversity management, management of Protected Area networks and lastly, its focuses on sustainable and equitable financing for protected areas.

While this overarching policy is remarkably broad and inclusive on the outset, there are challenges. PNG is well known for its cultural and biological diversity, and a land tenure system that is inconsistent and varies across the more than 1000 tribes that speak more 850 languages. Further to that, more than 90 percent of the land in PNG is customary owned and beyond the jurisdictions of government. How can a government that owns no greater than 10 percent of the land and its resources, have a national right to access these environments through its National Protected Areas Policy? In respect to PNG’s high cultural diversity, there needs to be strong community participation and ongoing engagement and support in the implementation of this national policy.

This paper explores anthropological writings of the Solomon island communities, their structures of governance and the institutions that hold communities together. With the majority of PNG’s population still living on their traditional land in rural communities, this paper argues that one of the

alternatives to best implement the national protected areas policy is to strengthen traditional governance institutions that have linkages to national policy coordination bodies. This is imperative in the face of increasing global concerns including climate change related issues, sustainable development and efforts to eradicate poverty.

What is Conservation in your Language?

David K Mitchell¹

1. Director, Eco Custodian Advocates, P.O. Box 943, A lotau MBP, PNG dmitchell.eca@gmail.com

Across the mosaic of Papua New Guinea's natural environments, clans in varying measure have created and are the product of their language and customs. In relation to this, gardening, hunting, gathering, fishing, gleaning and more recently cash cropping are still central in maintaining the livelihoods, the day-to-day existence of the majority of Papua New Guineans in the subsistence economy. Looking from outside and on occasion from within, conservationists often quote, are inspired, are guided by, the 4th Goal of the PNG Constitution, relating to our natural resources and environment. But what of the 5th Goal? Are we applying the 4th goal with Papua New Guinean ways, looking within our own languages and customs, prepared to listen to the stories from the past and relating our customary knowledge to our current situation and contemporary challenges? What is Conservation in your language?

Biodiversity Conservation: Role of Biosecurity and the Need for National Strategic Action Against Invasive Species

Warea Orapa

National Agriculture Quarantine and Inspection Authority, PO Box 741, PORT MORESBY, NCD. Papua New Guinea. Email: warea.orapa@gmail.com

The impacts of pests, weeds and diseases on food resources have been known to mankind since biblical times. It is now common knowledge that there are many pests, weeds and diseases which not only impact production areas but also natural biodiversity as well as human health, infrastructure and other human interests. The impact on the natural environment and biodiversity was formally recognised by the Convention on Biological Diversity in 1992. Parties to the Convention further encouraged countries to put in place measures to prevent the spread of invasive species to new geographical regions of the world and to address those already harming the survival of other vulnerable species by devising eradication or control measures. Unfortunately, while invasive species are significantly impacting on the natural and man-made environments, biodiversity and livelihoods of Papua New Guinea (PNG) very little has been done to eradicate or control invasive species already in the country. On the positive side, the Government established the National Agriculture Quarantine and Inspection Authority (NAQIA) in 1997 which has played an important role in reducing the introduction of many new invasive species. This paper discusses: (a) the threats invasive species have posed for PNG's biodiversity conservation; (2) the importance of biosecurity; and (3) the need for coordinated national invasive species prevention and management programmes that should fit into existing regional and global efforts.

Keywords: biosecurity, biodiversity, invasive species, national strategy, Papua New Guinea.

Annex 4: Photo Highlights of the Biodiversity Seminar, Launching of the Varirata Biodiversity Reports and Study Tour at Varirata National Park



Photo 1: Participants at biodiversity seminar at Gateway Hotel



Photo 2: Drs Mogina, Novotny, Alison and Schubert at the seminar



Photo 3: Dr Alison presenting biodiversity findings of Varirata National Park at the seminar



Photo 4: Mr Koji Asano officially handing over the biodiversity reports to Ms Kay Kalim of CEPA



Photo 5: Dr Novotny, Banak & Yolamie showcasing brochures of Varirata National Park



Photo 6: SHE Manger (Ms Winnie Schubert) of EMPNG presenting PNG LNG biodiversity report to Ms Kay Kalim at Gateway Hotel



Photo 7: Dr Andrew Moutu of NMAG with Biatu and Kay at seminar Photo 8: Local reps of Koiari participated at the seminar at Gateway Hotel



Photo 9: Participants arriving at new ICC at Varirata

Photo 10: Mr Asano & Ms Kalim with Koiari dancers inside new IC



Photo 11: POM Nature Park staff registering themselves at new ICC

Photo 12: Dr Noro and Dr Alison discussing inside new IC



Photo 13: Participants inside National Museum

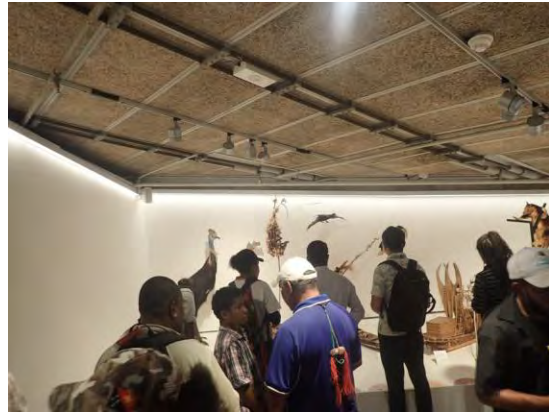


Photo 14: Participants pay special attention to PNG's biological and cultural icons inside National Museum

Annex 4.3.9 The 1st BBMCI meeting report

**Refer to D-1 Governing framework for MPA establishment
(Annex 3.1.5)**

Annex 4.3.10 The 2nd BBMCI meeting report

Bootless Bay Marine Conservation Initiative Second Meeting & pictures

Reporter : Job

No. 2

Venue :	CEPA Conference No. 4
Date & time :	19 th April (Wed) 10:30–12:00
Attendance :	BBMCI Members (refer attendance list).
Secretariat :	Mr. Job Opu. Ms Martha Wamo

Agenda :

1. Election of Deputy Chairperson
2. Presentation and adoption of BBMCI Structure
3. Presentation and Adoption of Roadmap
4. Presentation and adoption of the bylaws
5. Proposal for next BBMCI Meeting

BBMCI Attendance List :

	Institution / Organisation	Representative	Position
1	The Dive Center	Mr. John Miller	Manager
2	Gereka Community	Mr. John Numa	Community Leader
3	Hiri LLG	Mr. Sibona Hetahu	Manager
4	HELP Inc.	Dr. Frank Butler	CEO
5	Pacific Energy Aviation	Mr. Henry Elias	General Manager
6	Central Provincial Government	Mr. Kila Kilakau Mr. Morea Arua	Enforcement Coordinator Provincial Planner
7	PNG Tourism Promotion Authority	Mr. Wilfred Paka	Product Development Officer
8	Central Papua Conference–SDA	Mr. Manoa Wanaga	Lands Officer
9	Central Village Environmental Services	Ms Gamoga Rei	Community Development
19	PNG Ports LTD	Ms. Judith Raka	Environment Coordinator
11	CEPA (Chairperson of BBMCI)	Ms. Kay Kalim	Director - Sustainable Environment Programs
12	CEPA (BBMCI Alternate Chairperson)	Ms. Yvonne Tio	Executive Manager– Sustainable Marine Environment
13	CEPA (BBMCI Secretariat)	Mr. Bernard Suruman	Manager - Marine Protected Areas.
14	CEPA–CTI (BBMCI Secretariat)	Ms. Martha Wama	CTI Liaison Officer
15	JICA	Mr. Koji Asano	Chief Technical Advisor - CEPA–JICA Project
16	CEPA–JICA Project (BBMCI Secretariat)	Mr. Job Opu	Local Marine Consultant, CEPA–JICA Project.

- Of the 17 confirmed members 11 were represented at the Second BBMCI Meeting. The Members that didn' t make it to the meeting were: Pari Women' s Development Association, PNG Harbour Management Services, National Maritime Safety Authority, Tubuseria Mangrove

Project, PNG Center for Locally Managed Marine Areas, and Coastal Fisheries Development Authority.

- There was quorum for the meeting and so the meeting went ahead.
- Ms. Kay Kalim sat in for the Managing Director of CEPA as the Chairperson of BBMCI for the duration of this meeting.

Agenda 1. Election of Deputy Chairman.

- The Chairperson introduced the agenda. She said that because the CEPA JICA Project has chosen Bootless Bay as the site to develop process for establishing MPAs under the Policy on Protected Areas and that BBMCI was an output of this project it is fitting that the Chairperson of BBMCI would be automatically taken up by CEPA and that the Deputy Chairperson can be elected by BBMCI members. BBMCI Members agreed to this with no further comments.
- The Chairperson then called for nominations for the Deputy Chairperson. HELP Inc. represented by Dr. Alan Butler nominated Dive Center (Mr. John Miller). Pacific Aviation Gas (Mr. Henry Elias) seconded the nomination.
- There were no other nomination and the chairperson declared the Dive Center as the Deputy Chairperson to BBMCI, after the floor responded by saying “aye” .

Agenda 2. Presentation and Adoption of BBMCI Structure.

- The chairperson introduced the agenda and refereed to the BBMCI structure document that was circulated in the beginning of the meeting.
- There was no further comments as the meeting felt that it was very clear and simple to understand.
- The Meeting adopted the BBMCI structure

Agenda 3. Endorsement of marine Roadmap.

- The Chairperson introduced the agenda, pointed out that all members should now have a copy of the roadmap and asked for comments.
- DR. Butler asked if the secretariat could provide a brief presentation. Mr. Opu provided a brief presentation on the overall sections of the roadmap and particularly explained the 4 proposed MPAs towards the end of the document.
- There was no further comments and the meeting adopted and endorsed the roadmap.

Agenda 4. Presentation and adoption of BBMCI bylaws

- The chairperson introduced the agenda, referred the meeting to copies of bylaws handed out earlier and called for comments.
- There were no major comments and the bylaws were endorsed by the meeting.

Agenda 5. Proposal for next BBMCI Meeting.

- The chairperson introduced the agenda and called for a date for the next meeting.
- The meeting discussed on this and agreed for the next meeting to be on the second week of June 2017 so that it becomes a quarterly event.
- The next meeting dates will be confirmed and circulated to members

Close of 2nd BBMCI Meeting.

- With no further comments the meeting officially closed at 12.00noon.

Name of document	Author	Year
BBMCI Structure	CEPA-JICA	2017
Output 3- Marine Roadmap	CEPA-JICA	2016
BBMCI Bylaws	CEPA-JICA	2017

Pictures :



Photo 1. Second BBMCI Meeting taking place. (L-R). MR. John Miller, Mr. John Numa, Mr. Kila Kilakau, Ms. Yvonne Tio, Ms. Gamoga Rei, Mr. Koji Asano, Mr. Manoa Wanaga (hidden), Mr. Wilfred Paka, Mr. Sibona Mavaru, Dr. Frank Butler, Mr. Henry Elias and Mr Bernard Suruman.



Photo 2. Chairperson chairing the Second BBMCI Meeting. (L-R) Ms Yvonne Tio, Ms Gamoga Rei (back seat), Ms Kay Kalim (BBMCI Chairperson) and Mr. Koji Asano (JICA Expert).

(Date of record : 24th April 2017)

Annex 4.3.11 The 3rd BBMCI meeting report

The Project for
Biodiversity Conservation through Implementation of
PNG Policy on Protected Areas

Report for Third BBMCI Meeting

June 21st, 2017

CEPA Conference Room, Port Moresby

CEPA Project Team

JICA Expert Team



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Acknowledgements

This Third BBMCI Committee Meeting for Bootless Bay was made possible with financial and technical support from Japan International Cooperation Agency (JICA) with collaborative partnership from the Conservation and Environment Protection Authority (CEPA). Through this partnership the project for Biodiversity conservation through implementation of the Policy on Protected Areas (PPA) was initiated.

On behalf of BBMCI Secretariat and CEPA-JICA Project Team, we would like to extend our thanks and gratitude to all BBMCI Committee Members who attended including all stakeholders.

Abbreviations

BBMCI	Bootless Bay Marine Conservation Initiative
CEPA	Conservation and Environment Protection Authority
CFDA	Coastal Fisheries Development Authority
CPC	Central Papua Conference
CPG	Central Province Government
CVES	Central Village Environmental Services
DLPP	Department of Land and Physical Planning
DOT	Department of Transport
DPE	Department of Public Enterprise
ILG	Integrated Land Group
JICA	Japan International corporation Agency
MoU	Memorandum of Understanding
MPAs	Marine Protected Areas
NASFUND Ltd	National Superannuation Fund Limited
NCDC	National Capital District Commission Fisheries Development Agency
NEC	National Executive Council
NFA	National Fisheries Authority
NMSA	National Maritime Safety Authority
PA	Protected Area
PEAL	Pacific Energy Aviation Limited
PNGPCL	Papua New Guinea Power Commission Limited
PNG Ports	Papua New Guinea Port Services
PNGHMS	Papua New Guinea Harbor Management Services
PPA	Policy on Protected Areas
PWDA	Pari Women's Development Association
UN	United Nation
UPNG	University of Papua New Guinea

1. Background

Bootless Bay Marine Conservation Initiative (BBMCI) is an arrangement whereby all “like-minded” stakeholders can discuss and consult, exchange information, network and update each other on programs and activities undertaken especially in sustainable management of the Bootless Bay.

Conservation and Environment Protection Authority (CEPA) is currently running a project with Japan International Cooperation Agency (JICA) to build institutional capacity for protected area management.

OUTPUT 3 of the project addresses the coastal and marine issues, which also specifically focuses on a model establishing a new Marine Protected Area (MPA) is developed as per the provision of PPA and other relevant legislations and Acts. The project focused on Bootless Bay, because Bootless Bay has a wide range of issues that include environmental degradation causing ecological imbalances, influx of human settlements along the narrow coastal fringes, overfishing in the mangroves and inter-tidal zones, and proposed major developments including a new wharf, and a fuel terminal, amongst others.

BBMCI has been set up to provide and share information, allow networking and provide guidance and advice on the information of Bootless Bay.

To date 17 institutions have become members of the BBMCI. These include CVES, PWDA, Gereka Community, HELP Inc., Hiri LLG Office, PNGHMS, PNGCLMMA, PEA Ltd, NMSA, Tubusereia Mangrove Project, CPC-SDA, PNGTPA, CFDA, NFA, CPG, Dive Centre and PNG Ports. UPNG and NCDC will become a member shortly.

The first BBMCI meeting was held on 12th April 2017 straight after the coastal clean-up event in Tubusereia Village. This first meeting was an introductory meeting whereby the chairperson was elected followed by presentation of the structure of BBMCI, the bylaws of BBMCI and 15 institutions were represented at this meeting.

The second BBMCI Committee meeting was held on the 19th April 2017. 11 BBMCI institution members attended. The following agenda were discussed.

- Election of Deputy Chairperson
- Presentation and adoption of BBMCI Structure
- Presentation and Adoption of Roadmap
- Presentation and adoption of the bylaws
- Proposal for next BBMCI Meeting

The Dive Centre (Mr. John Miller) was elected as Deputy Chairperson by majority vote. The BBMCI Structure and Roadmap were adopted by the meeting. The BBMCI bylaws were adopted and endorsed by the meeting. The Meeting also proposed that the next BBMCI meeting to be held in June 2017.

This third BBMCI member’s meeting scheduled for June 2017 as recommended in the 2nd BBMCI meeting was held on the 21st of June 2017 at CEPA Conference Room from 9:00am to 12:00 noon. This is necessary for allow flow of information exchange and networking among the BBMCI members to progress activities in the Bootless Bay under the project and addressing any new issues.

In a recent development PNG was represented by CEPA and the Foreign Affairs at the recent World Oceans Conference held at the UN Headquarters in New York from the 5-9th June 2017. PNG proposed to declare Bootless Bay as the first National Marine Protected Area as a commitment to world Oceans. CEPA will provide a brief on this in this meeting.

2. Objectives

The objective of this meeting was to share information in Bootless Bay together all stakeholders and planning of MPA(s) within the Bootless Bay. Thus, the specific objectives of the meeting were:

- Update on the Tubuseria coast clean-up event and the first and second meeting of BBMCI
- Update on BBMCI on the following: Approved structure, approved bylaws, new chairperson and deputy chairperson of BBMCI and
- Update on the MoU between CEPA and UPNG
- Pacific Energy Aviation Limited to provide an update on their proposal
- Update on Proposed Lamana Hotel Resort Development on Loloata Island
- Present on Bootless Bay as the National Martine Protected Area at the World Oceans Conference

Expected Outputs.

- BBMCI members and stakeholders are updated on the events and activities in Bootless Bay.
- Encourage Pacific Energy Aviation to exchange information on underwater pipeline and feedback from BBMCI members and stakeholders.
- BBMCI members and stakeholders are updated on the recent announcement by PNG at the World Oceans Conference and the next steps to take.

3. Basic Information on Meeting

The 3rd BBMCI Committee Meeting was held in the conference room 4 of CEPA Office in Bmobile/Vodafone House, Central Waigani, Port Moresby, on the 21st June 2017. The meeting program is outlined in table 1. The Chairperson for this meeting was Ms. Yvonne Tio representing CEPA. She stood in for CEPA Managing Director Mr. Gunther Joku.

Table1. Meeting Agenda

Time	Agenda	Facilitator
8:30	Registration	BBMCI Secretariat
9:00	Opening of program <ul style="list-style-type: none"> • Opening prayer • Introduction of Agenda 	BBMCI Chairperson Ms. Yvonne Tio.
9:30	Updates on BBMCI Activities <ul style="list-style-type: none"> • Second Meeting of BBMCI • Brief revision on BBMCI Structure, bylaws, and election of Chairperson and Deputy Chairperson 	Mr. Bernard Suruman
10:00	Bootless Bay – First National Marine Protected Area declared at the Oceans Conference by PNG Government	Mr. Vagi Rei

10:30	Updates on MoUs <ul style="list-style-type: none"> • CEPA /CPC/UPNG • CEPA /UPNG 	Mr. Job Opu
11:00	<ul style="list-style-type: none"> • Update on Proposed Bootless Bay Underwater Pipeline project by Pacific Energy Aviation Limited 	Mr. Henry Elias
12:00 noon	Lunch	Secretariat
13:00	Presentation on Proposed Lamana Resort Development on Loloata Island	Mr. Job Opu (on behalf of Mr. Jackson Zabala)
13:30	<ul style="list-style-type: none"> • Next Steps • Next BBMCI workshop or BBMCI Meeting 	Ms. Yvonne Tio
14:00	End of Meeting	

4. Agenda Item Presentations and Discussions

4.1. Opening program

The meeting started at 9:30am with opening remarks by Mr. Vagi Rei who stood on for Ms. Yvonne Tio (CEPA BBMCI-chairperson). Ms. Yvonne Tio came in later and took over from Mr. Rei.

After the opening remarks, the meeting in the morning started. He welcomed all members of BBMCI and went on straight to the agenda item.

4.2. Updates on BBMCI Activities

This agenda item was presented by Mr Bernard Suruman of CEPA. Mr. Suruman provided an update on BBMCI activities on the following:

- Tubusereia Clean-up Event
- First BBMCI Committee Meeting
- Second BBMCI Committee Meeting

Tubusereia Clean-up event was done on the 12 April 2017 with a total 104 participants. These included BBMCI members and stakeholders, CEPA staff, and CVES and Tubusereia Community. Overall participants collected 200 bags of debris weighing over 10,000 litres of debris in an area of 10 by 10 square meters. This indicated Tubusereia village at the waterfront very polluted with solid waste such as plastics and bottles. Mr. Suruman concluded that the event was very successful and thanked all those that attended and participated and also the Tubusereia Community for hosting the event.

Mr. Suruman presented next on the first BBMCI meeting. This was undertaken in conjunction with the clean-up event in Tubusereia Village. After the clean-up, BBMCI met for the meeting. BBMCI members that attended included PNG Ports Ltd, PNG Harbour Management Services, Central Village Environment Services, Pari Women's Development, Association, HELP Inc., Coastal Fisheries Development Authority, and Pacific Energy Aviation Ltd. BBMCI structure, roadmap, and bylaws were presented and noted. BBMCI structure was approved at this meeting. The meeting felt that more BBMCI members not present should have a chance to look at the bylaws and discussed in next meeting, hence bylaws were deferred to next meeting.

Mr. Suruman next presented on the second BBMCI Meeting. 2nd BBMCI meeting was held on the 19 April 2017 at the Conference room of CEPA Office. In this meeting, the Dive Centre (Mr. John Miller) was elected as Deputy Chairperson of BBMCI. BBMCI Structure and Road map were noted and approved. BBMCI bylaws were also approved.

After Mr. Suruman's presentation, the Chairperson asked if there were any questions or point of clarification needed from the members present. There were no questions so the meeting proceeded to the next agenda.

4.3. Bootless Bay – First National Marine Protected Area declared at the Oceans Conference by PNG Government

Mr. Vagi Rei presented this next agenda item. Bootless Bay has been voluntarily proposed as a National Marine Protected area to the United Nations at the recent World's Ocean Conference by the government of PNG in the recent conference in New York, USA from the 5-9th June 2017. This was a follow-up on the National Executive Council (NEC) Policy Submission. April 7, 2017, by the Prime Minister of PNG following the Leaders of the Pacific meeting from 16 - 17 March 2017 at the Grand Pacific Hotel in Suva, Fiji, a Regional Preparatory Meeting for the United Nations Oceans Conference. This superseded the Senior Officials Meeting on 15 - 16 March 2017. Both meetings were hosted by Fiji.

The chairperson mentioned that this was a voluntary nomination until such time that CEPA was prepared to declare Bootless Bay as a Marine Protected Area. Meanwhile the CEPA-JICA project will continue to progress the MPA sites selected.

4.4 Updates on MoU

Mr. Job Opu provided quick update on the MoUs being currently progressed. There are two MoUs, one with CEPA, CPC and UPNG to progress conservation initiatives on the CPC – Bautama/Tahira Mangroves and one with CEPA and UPNG on the UPNG Tahira Mangroves and Motupore Island. MoU has been signed between CEPA and UPNG for PA activities within Bootless Bay especially on Tahira Mangroves and Motupore Island marine habitats (mangroves, seagrass and coral reefs). The CEPA, CPC and UPNG MoU is still pending.

The Chairperson suggested that the CEPA-UPNG MoU be finalised by JICA representative witnessing the MoU in the next BBMCI Committee Meeting and that the CEPA-CPC MoU be fast tracked and reported in the next BBMCI Committee meeting.

4.5. Updates on proposed underwater pipeline by PEAL

Mr. Henry Elias, General Manager of Pacific Energy Aviation Ltd then presented on PEAL's proposed development of aviation fuel/gas pipeline from Bootless Bay (Dogura Inlet) to Jacksons Airport. PEAL is proposing to set up an underwater pipeline from Dogura Inlet to the mainland then set an underground pipeline all the way to Jacksons Airport to their terminal facilities to meet the need of the aviation industry. The aviation demand for fuel has increased to over 80 million litres in the last few years. There is an urgent need to upgrade fuel supply to meet world standards including the upcoming APEC meeting, safety stock from 2 to 30 days and to avoid risky road transportation of huge aviation fuel, there is an urgent need to pipe fuel from Bootless Bay to Jackson's airport. Current progress of the project include:

- Environment permit issued in April 2016 subject to 18 conditions.
- All conditions met with final 400 pages submission March 2017 with final CEPA approval expected end of June.
- Support in place from DOT, PNGPCL, NMSA, NAC, Land owners, etc.
- Currently pending consent from DLPP NCDC Building Board considering pipeline is underground and not above ground structure.
- Application for Pipeline Licence with DPE pending DLPP consent.
- Land owner blocks currently surveyed to establish land easement agreements with registered ILG for pipeline corridor (3m wide x length of traversed portion).
- Procurement of pipes will commence once we have key approvals.
- Shore portion 8km and subsea portion 4km.
- Estimated construction 6 months (subsea portion 2 months & shore 4 months)

The Chairperson mentioned that Marine Pollution Risk Assessment report and other documents are now with CEPA for comments. The chairperson also informed that CEPA-JICA project intends to engage divers to take a picture of the bottom substrate of the Dogura Inlet on how the pipe is going to be laid.

4.6. Loloata Island Resort Development by Lamana Holdings

Lamana Holding Ltd responsible for resort development on Tahira and Loloata Island was invited to do a presentation but were not able to make it. Instead, the representative of Lamana Holdings provided proposed development plans and pictures to CEPA-JICA project which was then presented at BBMCI meeting.

Mr. Job Opu did a short presentation on this agenda because Mr. Jackson Zabala of Lamana Holdings wasn't able to make it to the meeting. NASFUND Ltd has acquired Loloata Island and has contracted Lamana Holdings Ltd to construct a resort and manage the resort on behalf of NASFUND Ltd. The development has already begun. There was no information on how to manage waste and avoid sedimentation.

Mr. John Miller of Dive Center mentioned that there was also development plan on Tahira and this should be checked also so that whatever development takes place should not be harmful to the environment and especially the mangroves of Tahira. Mr. Miller also queried on how the Resort on island would get water supply and electricity. If taken from mainland, there may be some impacts on the marine habitats and marine life.

The chairperson requested CEPA-JICA project to revisit Lamana Holdings and get development plans including sewage plans etc., so this could be assessed and presented at the next meeting.

4.7. Next Steps

The following next steps were outlined by Mr. Job Opu.

5. CEPA-JICA project would follow – up with Lamana Holding's on the Loloata Island Development plans and update BBMCI Committee.
6. The CEPA-UPNG MoU will be finalised when Mr. Koji Asano returns to PNG and sign off. It is envisaged that this will happen in the next BBMCI meeting.
7. The CEPA, CPC and UPNG MoU will be progressed and reported in the next meeting
8. Aioro Reef MPA establishment will be progressed.

9. CEPA-JICA project will engage divers to take pictures of bottom substrate of proposed pipeline site and base of buoy to be used as baseline.
10. UPNG will be approached to ask permission to set up 2 signboards of BBMCI.

Mr. Opu also circulated the final draft copy of the BBMCI Logo for the meeting to note. It was well received and the Chairperson requested the CEPA-JICA project to provide a short description of what each of the designs within the logo stood for. This will be written down and distributed to all members.

4.8. Next Meeting

The meeting agreed that the next BBMCI meeting or workshop will be held in late August or early October 2017.

The meeting ended at 2.00pm.

Appendix 1. Workshop Participants List

	Institution / Organisation	Representative	Position
1	The Dive Center	Mr. John Miller	Manager
2	Gereka Community	Mr. John Numa	Community Leader
3	Pacific Energy Aviation	Mr. Henry Elias	General Manager
4	Central Provincial Government	Ms. Miriam Ovasuru	Fisheries Officer
5	PNG Ports LTD	Ms. Judith Raka	Environment Coordinator
6	CEPA (Chairperson of BBMCI)	Ms. Yvonne Tio	Director – Sustainable Environment Programs
7	PNG Harbour Management Services	Ms. Rebecca Ninkama	Compliance Officer
8	Coastal Fisheries Development Authority	Ms. Christine Siwisika	Coastal Programs Coordinator
9	National Capital District Commission	Ms. Gertrude Miria	Environment Officer– Physical Planning
10	CEPA	Mr. Bernard Suruman	BBMCI Secretariat
11	CEPA	Mr. Vagi Rei	BBMCI Secretariat
12	JICA	Dr. Yukio Nagahama	JICA Marine Expert
13	CEPA-JICA	Ms. Nancy Bobora	Secretariat
14	CEPA-JICA	Mr. Job Opu	Local Marine Expert
15	CTI-CEPA	Ms. Martha Wamo	CTI Coordinator
16	CEPA R2R	Ms. Rose Alphonse	Policy Manager
17	CEPA-JICA	Mr. Ted Mamu	PNG Team Leader
18	CEPA-JICA	Mr. Rex Namu	Local Terrestrial Expert

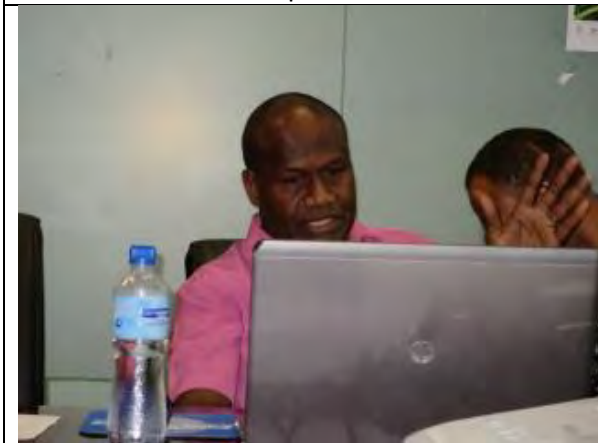
APPENDIX 2. Photo Documentation.



Pic 1. The BBMCI Chairperson. Ms Yvonne Tio



Pic 2. BBMCI Meeting in progress



Pic 3. Mr. Henry Elias from PEAL doing a presentation



Pic 4. Ms. Judith Raka stressing a point on exposed soils from excavations and the case of acid sulphates.

1. BBMCI Updates

BBMCI Activity Update

3rd BBMCI Committee Meeting
21st June 2017
BBMCI Secretariat

Outline of Presentation

1. Update on the Tubusereia Clean-up event and the first and second meeting of the BBMCI members
2. Update on the BBMCI on the following: Approved structure, approved bylaws, new chairperson and deputy chairperson of BBMCI Committee and
3. Update on the MoU between CEPA and UPNG.

Tubusereia Clean-up event

- * Event held on the 12 April 2017 with 104 participants.
- * participants collected 200 bags of debris / over 10,000 litres of debris collected
- * Event Successful
- * Thank you to BBMCI Members and stakeholders and the people of Tubusereia

First BBMCI Committee Meeting



2. Worlds Ocean Conference

World Oceans Conference

5-9th June 2017
UN Headquarters
New York City

NEC Policy Submission. April 7 2017

- The Leaders of the Pacific convened from 16 - 17 March 2017 at the Grand Pacific Hotel in Suva, Fiji, a Regional Preparatory Meeting for the United Nations Oceans Conference to be held from 5 - 9 June 2017 in New York, USA. This superseded the Senior Officials Meeting on 15 - 16 March 2017. Both meetings were hosted by Fiji.

Proposal for National MPA

- Bootless Bay has been voluntarily proposed as a National Marine Protected area at the recent Worlds Ocean Conference

34. The Government of Papua New Guinea stands committed to implementing SDG 14 in the country therefore is considering a number of voluntary commitments such as:

- I. declaring of the Bootless Bay Project as a newly Marine Protected Area;
- II. working together with likeminded countries through the World Trade Organisation to address harmful fisheries subsidies;
- III. establishing measures to combat IUU Fishing; and
- IV. Developing an Oceans Policy framework which would also be a key deliverable towards PNG's hosting of APEC 2018.

NEC Recommendation

- Endorse the voluntary commitments as outlined in paragraph 34 for registration at the United Nations Oceans Conference in New York before June 2017.

3. PEAL Fuel Pipeline Development in Bootless Bay (Dogura Inlet).



Motu Koitabu Pipeline Project

Pipeline : WHY THIS MUST OCCUR



To provide for:

- APEC 2018 spike in demand from visiting Country Government officials
- Support Air Niugini as the National Carrier and the Government to provide security of supply of aviation fuel to Jacksons Airport independent of the Refinery.
- Improving the safety stock from 2 days to 30 days
- Complement current NAC master plan and infrastructure development
- To make sure planes have fuel to fly to regional centres and ensure the airport doesn't run out of fuel based on existing road transport options from Refinery.

A Critical Project

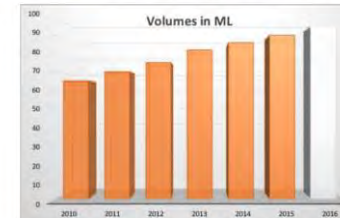


2

Aviation Demand in Port Moresby



- Passenger traffic is still growing and now over 1 million passengers per year with an ambitious target for the future around APEC 2018 and Jacksons Airport as a South Pacific Hub
- This success is reflected in the growing demand for Jet fuel:



3

Pipeline : PROGRESS



- Environment permit issued in April 2016 subject to 18 conditions.
- All conditions met with final 400 pages submission March 2017 with final CEPA approval expected end of June.
- Support in place from DOT, PNGPCL, NMSA, NAC, Land owners, etc.
- Currently pending consent from DLPP NCDC Building Board considering pipeline is underground and not above ground structure.
- Application for Pipeline Licence with DPE pending DLPP consent.
- Land owner blocks currently surveyed to establish land easement agreements with registered ILG for pipeline corridor (3m wide x length of traversed portion).
- Procurement of pipes will commence once we have key approvals.
- Shore portion 8km and subsea portion 4km.
- Estimated construction 6 months (subsea portion 2 months & shore 4 months).



Tengkiu Tru

Annex 4.3.12 The 4th BBMCI meeting report



The Project for
Biodiversity Conservation through Implementation of
PNG Policy on Protected Areas

**Report on the Launching of CEPA-UPNG on “ Marine Protected Area
in Tahira and Motupore Island under the Bootless Bay Marine
Conservation Initiative (BBMCI)”**

And

**Fourth BBMCI Meeting “to update member and stakeholders of
recent activities in Bootless Bay and launching of the BBMCI Logo”**

July 25st, 2017

Lamana Hotel Conference Room, Port Moresby

CEPA Project Team

JICA Expert Team



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Acknowledgements

CEPA-UPNG MoU launching event and Fourth BBMCI Committee Meeting for Bootless Bay was made possible with financial and technical support from Japan International Cooperation Agency (JICA) with collaborative partnership from the Conservation and Environment Protection Authority (CEPA). Through this partnership the project for Biodiversity conservation through implementation of the Policy on Protected Areas (PPA) was initiated.

CEPA thanks UPNG for supporting and progressing the MoU. BBMCI Secretariat and CEPA-JICA Project Team also thanks all BBMCI Committee Members who attended including all stakeholders and the National Newspaper and National Broadcasting Commission Television.



1. Background

To address biodiversity conservation and support the development of a National Protected Areas Network in Papua New Guinea (PNG), the Government launched the PNG Policy on Protected Areas (PPA) in December 2014. PNG Government through Conservation and Environment Protection Authority (CEPA) requested the Government of Japan (JICA) to support a project to implement the Policy on Protected Areas. CEPA-JICA Project has four (4) outputs covering two major components; a terrestrial protected area component and a marine protected area component.

Output 3: A model for establishing a new Marine Protected Area (MPA) is developed as per the provision of NPAS Policy and relevant laws' specifically to address marine environment protection. Roadmap to establish MPA in PNG was further developed by CEPA-JICA Project. Bootless Bay was chosen as the site to progress MPA. CEPA-JICA Project supported formation of Bootless Bay Marine Conservation Initiative (BBMCI) to establish MPA and exchange information on conservation of Bootless Bay. BBMCI is composed of national government departments, Provincial Government, Local Level Government, community organisations and private company and NGOs.

In the roadmap, 4 sites in Bootless Bay were selected to progress MPA. A major step in progressing these proposed sites were to have in place an Memorandum of Understanding (MoU) between CEPA and the various stakeholders that had ownership over the area(s) where MPAs were proposed. Two MoUs were progressed in the early part of 2017. CEPA-UPNG MoU has progressed to the stage where both parties have agreed and have endorsed the MoU by Head of these institutions. This has been also witnessed by Chief advisor of CEPA-JICA Project.

To strengthen and publicise the significance of the signing of the MoU between UPNG and CEPA on the first required MPA establishment based on new policy on Protected Area under the initiative CEPA-JICA Project and BBMCI, a launching ceremony was done at Lamana Hotel, Port Moresby. All parties to the MoU were represented by the head of these parties to provide speeches. UPNG was represented by Prof. Chalapan Kaluwin (Dean of School of Natural and Physical Sciences, UPNG), CEPA by Ms. Yvonne Tio (Executive Manageress of Sustainable Marine Programs –CEPA) and JICA by Mr. Koji Asano (Chief Advisor - JICA).

Following on from the MoU launching the BBMCI Logo was launched followed by a short BBMCI meeting to update BBMCI members of its activities.

2. Objectives

The overall goal of this event was to bring together all stakeholders to witness the signing and launching of the MoU between CEPA and UPNG to protect the mangroves of Tahira and set up Motupore Island as an MPA. E



2.1 Objectives

Hence the objectives of this event were to:

- Launch the CEPA – UPNG MoU
- Promote BBMCI activities
- Publicise the signing of the MoU and its significance
- Present and share the work plan to establish MPA in UPNG land (Tahira and Motupore Island) boundaries.
- Launch the BBMCI Logo
- Provide an update of activities to the BBMCI members (4th BBMCI Meeting)

2.2 Expected Outputs.

Expected Outputs of the launching event were:

- Strengthen ties between CEPA, UPNG and all BBMCI members and stakeholders
- The news of the event is reported in national newspapers and national televisions stations
- Promote and use of BBMCI Logo
- Launching event memo completed and distributed to all BBMCI members and stakeholder

3 Methodology

The event was a 1 day event and divided into three sessions. These included speeches and official launching of the MoU followed launching of the BBMCI logo and lastly the 4th Meeting of the BBMCI. The meeting started at 9.30am with opening prayer by Ms Rose Al [phones. These were followed by speeches from the 3 party signatory to the CEPA-UPNG MoU. Ms Yvonne Tio on behalf of CEPA made the opening speech followed by Prof. Chalapan Kaluwin of UPNG, and followed by Mr. Koji Asano of JICA.

Mr. Job Opu on half of CEPA-JICA Project facilitated at this event. Following on from the speeches, the MoU was launched with Ms Yvonne Tio, Prof. Chalapan Kaluwin and Mr. Koji Asano shaking hands and raising up the MoU. Mr. Opu then made a presentation on the MoU and the arrangements and activities under the MoU. Mr Asano also had his input into the MoU and briefly talked on the MoU and how it was progressed and developed the participants then took a break and the media met and interviewed the representatives of CEPA, UPNG and JICA on the MoU. After the launching of the MoU, UPNG was invited by CEPA to launch the BBMCI Logo where Prof. Kaluwin and Ms. Tio both held a logo ticker and launched together Following on from this, BBMCI Meeting number 4 was called for and members presented attended the meeting.



Approximately 2 hours and 30 minutes were allocated for the launching event of both the MoU and the BBCMI Logo. These were covered from 9.30am to 12.00 noon. Speeches were done by CEPA, UPNG and JICA. Presentations were done by CEPA-JICA Project and the morning sessions were facilitated by CEPA-JICA Project. The afternoon session was chaired by Ms Yvonne Tio. The afternoon session basically was updating BBMCI members on the progress in other MoU and presentation on the Bootless Bay and Port Moresby Harbour field survey.

According to the agenda, Mr Opu invited CEPA, UPNG and JICA representatives to the front of the room and asked them to take seat behind the table facing the room. The table had 4 copies of the CEPA-UPNG MoU. The representatives of these 3 organisations were invited to make a speech and this was done with CEPA being the first, followed by UPNG and then JICA. After the speeches, the MoU was launched.

Mr. Opu then made a presentation of the MoU and the details of MoU. He particularly highlighted the activities under the MoU and the timeframe for each activity.

Mr. Opu then invited the Media to have a press session with the speakers from CEPA, UPNG and JICA on the MoU. Ms. Yvonne Tio was interviewed by NBC Television. Mr. Opu handed out the press release that was endorsed by Mr. Asano on behalf of CEPA-JICA Project.

Mr. Ted Mamu of CEPA JICA Project presented the next item. This was on the new BBMCI Logo. He explained what the logo was for and explained each figure and what they represented on the logo.

Following on from the above, the 4th BBMCI Meeting was held. Ms Tio chaired the meeting. Mr. Opu provided an update on the progress of other MoU in particular the CEPA, CPC and UPNG MoU and the proposed CEPA, CPG, Hiri LLG and Tubusereia MoU on Horseshoe (Aioro) Reef MoU.

In total 24 participants attended the event. These included BBMCI members and stakeholders and the media personal.

The meeting ended at 14.00 pm.

4. Basic Information on the Meeting

The event (CEPA-UPNG MoU launching, BBMCI Logo Launching and the 4th BBMCI Committee Meeting) was held at the Lamana Hotel on the 25th July 2017. Institution members included PNG Ports, PNG Harbour Management Services, Gereka Community, Coastal Fisheries Development Authority, Central Provincial Government and CEPA. The Media included the National Newspaper and National Broadcasting Commission Television.

The event program is outlined in table 2. The event started at 9.30am. The registration of participants was done during the course of the meeting by circulating a registration/participants list form to be filled and signed by each participant. The event ended at 2.00pm



The Chairperson for this meeting was Ms Yvonne Tio representing CEPA.

Table 1. BBMCI Event Agenda.

Time	Activities	Facilitator / Presenters
9:00	Arriving, Registration and light coffee refreshments	BBMCI Secretariat
9:30	Opening of program - Opening prayer - Speeches <ul style="list-style-type: none"> ➤ CEPA Ms Yvonne Tio , Executive Manageress, ➤ UPNG Prof, Acting Vice Chancellor ➤ JICA Mr. Koji Asano, Chief Advisor JICA 	Facilitator: Mr. Job Opu
10:00	Presentation of CEPA-UPNG MoU - Background and purpose of MoU - Work Plan in the MoU	Mr, Job Opu, Mr. Koji Asano.
10:30	launching of signed MoU - CEPA, UPNG JICA with MoU - Photo Session - Closing speech – Ms Yvonne Tio , Executive Manageress,	Mr. Bernard Suruman
11.00	Press Statement and interview with press - Invite press to meet and interview CEPA, UPNG and JICA on the MoU	Mr. Job Opu (The National Newspaper, National Broadcasting Commission Television0.
11.30	Launching of the BBMCI Logo - CEPA and UPNG to launch the BBMCI Logo	Mr. Job Opu, Mr. Ted Mamu and Mr. Koji Asano
12:00	Lunch	
13:00	BBMCI 4th Meeting - Update of other MoU arrangements <ul style="list-style-type: none"> ➤ CEPA, CPC, UPNG MoU ➤ CEPA, CPC, Hiri LLG, Tubusereia Ward MoU - Presentation CEPA Bootless Bay/ Moresby Harbour Development appraisal expedition	Mr. Job Opu
14.00	Close of event	

5. Agenda Item Presentations and Discussions

5.1 Presentation of Speeches on CEPA-UPNG MoU

The opening and speeches presentation at the launching of the CEPA-UPNG MoU was facilitated by Mr. Job Opu of the CEPA-JICA Project. Three speakers representing the institutions in the MoU were



invited to speak in the following order: CEPA, UPNG and JICA. Ms Yvonne Tio represented CEPA, Prof. Chalapan Kaluwin represented UPNG and Mr. Koji Asano represented JICA.

Ms. Tio welcomed all participants to the event to witness the launching of the first MoU progressed by the CEPA-JICA Project under output 3 of the project. She also welcomed the media to the event. Ms. Tio went on to say that it had taken quite a while to draft and progress the MoU and was very glad that the MoU has been finally signed. Ms. Tio mentioned that this MoU brings CEPA and UPNG together to agree to conserve mangroves in Bootless Bay in UPNG land and set up Motupore island as a Marine Protected Area, Under this arrangements, CEPA through the CEPA-JICA project will carry out certain activities that are laid out in the MoU to set up process in establishing MPA under the new Policy on Protected Areas. Through this process and project in Bootless Bay, the setting up of a national MPA can also be replicated in other areas of PNG.

Professor Chalapan Kaluwin thanked CEPA and CEPA-JICA Project for organising the event and for inviting UPNG to the event. Prof. Kaluwin said that it was a pleasure for UPNG to work along with CEPA through the CEPA –JICA Project in Bootless Bay and that through this MoU there was mutual understanding and working relationship established. UPNG is very happy with the arrangement and that this MoU provides an avenue where both institutions can collaborate and work into t

Mr. Koji Asano on behalf of the JICA said he was also pleased to witness the occasion and that it is an important step and process in support of the Policy on Protected areas to progress and strengthened this MOU so that a PNG national MPA can be set up as a model and be replicated elsewhere in PNG. JICA is very honoured on behalf of the people of Japan to provide support for this project.

5.2 Presentation of CEPA-UPNG MoU

Mr. Job Opu presented the MoU and its content to the participants at the launching. He provided an overview of CEPA JICA Project, mentioned Output 3. Marine Component, and presented why Bootless Bay was selected as project site and finally explained on the 4 proposed sites for MPAs in Bootless Bay as per the roadmap and the consequent development of the CEPA-UPNG MoU.

Mr. Opu elaborated that this project and MoU was very important because it was the first time CEPA with assistance from JICA was setting up a process for the establishment of MPA. In the past there were several ways in which MPAs were set up. This was driven by communities and certain NGOs using various legislations as there was no legislation for establishment of national MPA. Under this MoU, sites would be selected and mapped out, inventory of species and biodiversity studies carried out and a legal mechanism set in place and formally establishes the sites as MPA.

The CEPA-UPNG MoU was the first and other MoU would follow on shortly. These MoUs would address the other two proposed MPA sites as per the roadmap.



5.3 Launching of MoU

Mr. Job Opu invited CEPA, UPNG and JICA representatives, Ms. Tio, Prof. Kaluwin and Mr Asano to the front to launch the MoU. The three held copies of the MoU and raised and shook hands to officially launch the MoU. The MoU was launched and pictures were taken of the launching.

The launching was followed by a group photo sessions

5.4 Press statement and interview with press

A press statement prepared and endorsed by CEPA-JICA project was distributed to the media representatives who were at the event. The media was also invited to interview Ms. Tio, Prof. Kaluwin and Mr Asano.

National Broadcasting Commission Television station had an interview with Ms Tio and was captured on TV footage by their camera crew. The footage would be played in the afternoon news. The national newspaper representative also mentioned that they would report the event in the newspaper.

5.5. Launching of BBMCI Logo

Mr. Opu introduced the next item. A new logo has been created for BBMCI similar to the logo created for the Variarata National Park. Ms. Tio representing CEPA and Prof Kaluwin representing UPNG were invited to come to the front of the room and new logo stickers were provided to them. They both shook hands and launched the new BBMCI logos.

Mr Ted Mamu of CEPA-JICA Project explained that the pictures in the logo represented Variarata in the background, the islands in the Bootless Bay, the mangrove in the bootless Bay and the waves represented the sea of Bootless Bay.

5.6. 4th BBMCI Meeting

Mr. Opu facilitated the 4th BBMCI meeting after the launching event. Ms Tio was the chairperson at this 4th meeting. In this meeting, two items were presented. These are further discussed below.

1. Update of other MoUs.

Mr. Opu presented on two MoU that were being progressed by CEPA-JICA Project. The first one was the CEPA; UPNG CPC MoU was put together in late 2016. This MoU after being drafted, circulated and commented upon was submitted for final agreement. All parties agreed to the final MoU however CPC said that it would need higher clearance



from the President of the SDA mission. To date, despite being the first MoU being drafted together under this project, it is still pending

The second MoU currently being put together is the MoU between CEPA, CPC, Hiri LLG and Tubusereia Ward on MPA of Horseshoe (Aioro) Reef. This MoU is currently being drafted by the CEPA-JICA project and the CEPAJICA team is in consultations with Hiri LLG, CPG, and Tubusereia Ward. It is envisaged that the MoU will be finalised at the end of August 2017.

2. CEPA Bootless Bay/ Moresby Harbour Development appraisal expedition.

Mr. Opu presented on a field trip appraisal in Bootless Bay and Port Moresby Harbour led by CEPA marine team. The field trip observations indicated that there were 5 major developments that included landfills into the sea that were not permitted under the Environment Act. The Lamana Development in Bootless Bay also needed to be looked at thoroughly because they were building seawalls in areas where mangroves and coral reefs were growing.

From this expedition all concerned institutions will be mobilised to carry out a thorough investigation and CEPA will relook at its permitting requirements for landfills in the bay and harbour.

5.7. Next meeting

After the launching event and the 4th BBMCI meeting, there was no date set aside for the next meeting. The Secretariat will inform the BBMCI members whether a date for the next meeting is set.

The meeting ended at 2.00pm



	Institution / Organisation	Representative	Position
1	TPA	Mr. Wilfred Paka	Product Development Officer
2	Gereka Community	Mr. John Numa	Community Leader
3	UPNG	Prof. Chalapan Kaluwin	Dean
4	UPNG	Prof. Simon Saulei	Head of Natural Sciences
5	UPNG	Mr. John Genolagani	Lecturer
6	UPNG	Mr. Alfred Koou	Lecturer
7	UPNG	Mr. Pius Piskaut	Lecturer
8	UPNG	Prof. Graham Sem	Head- Climate Change
9	PNG Ports LTD	Ms. Judith Raka	Environment Coordinator
10	National Fisheries Authority	Mr. James Bakurf	Fisheries Officer
11	CEPA (Chairperson of BBMCI)	Ms. Yvonne Tio	Director - Sustainable Environment Programs
12	PNG Harbour Management Services	Ms. Rebecca Ninkamas	Environment Compliance Coordinator
13	Coastal Fisheries Development Authority	Ms. Rita Goiye	Coastal Programs Coordinator
14	CEPA	Ms. Marta Wamo	CTI Coorinator
15	CEPA	Ms. Yvonne Tio	BBMCI Chairperson
16	JICA	Dr. Koji Asano	JiICA - Chief Advisor
17	CEPA_JICA	Mr. Job Opu	Local Marine Expert
18	CEPA-R2R	Ms. Carolyn Kumul	Office Administrator
19	CEPA R2R	Ms Rose Alphonse	Policy Manager
20	JICA	Mr. Ted Mamu	PNG Team Leader
21	The National Newspaper	Mr. Lance Kama	Journalist
22	The National Newspaper	Mr. Lypenson Suweni	Journalist
23	The National Newspaper	Ms. Wendy Magea	Reporter
24	National Broadcasting Commission Television	Ms. Siniva Kasimani	Reporter



APPENDIX 2. Photo Documentation.



Pic 1. (L-R) Ms.Yvonne Tio, Prof. Chalapan Kaluwin and Mr. Koji Asano launching the CEPA-UPNG MoU.



Pic 2. Group photo of participants



Pic 3. Mr Koji Asano explaining the CEPA-JICA Project Logo.



Pic 4. (L-R) Ms. Yvonne Tio and Prof. Chalapan Kaluwin launching the BBMCI logo.



Pic 5. Members of the Media at the MoU Launching event.




Appendix 3. PowerPoint Presentations

1. CEPA-UPNG MoU.

CEPA –UPNG MOU

Bernard Suruman
CEPA
25th July 2017

The Project for “Biodiversity Conservation through Implementation of the PNG Policy on Protected Areas”



OUTLINE

- The CEPA JICA Project
- Output 3. Marine Component
- Project Site: Bootless Bay
- Proposed 4 site as per project road-map
- Development of MoU (CEPA-UPNG).



CEPA-JICA Project

- Conservation and Environment Protection Authority (CEPA) is currently running a project with Japan International Cooperation Agency (JICA)
- the project aims to build institutional capacity for protected area management.
- Terrestrial and marine component with 5 major outputs

Output 3. Marine Component

- Addresses the coastal and marine issues
- Specifically focuses on a model establishing a new Marine PA
- Provision of PPA and other relevant legislations and Acts



Project Site: Bootless Bay

- Focused on Bootless Bay
- High marine biodiversity
- Wide range of issues that include environmental degradation causing ecological imbalances
- Within the Variakata Catchment

Proposed 4 site as per project road-map

- CPC Tahira Mangroves
- UPNG Tahira Mangroves
- Motupore Island mangroves and coral reefs
- Horseshoe (Aioro) Reef – sunken barrier reef

Development of MoU

- A major step in progressing these proposed sites were to have in place an Memorandum of Understanding (MoU) between CEPA and the various stakeholders
- Two MoUs were progressed in the early part of 2017
- CEPA-UPNG MoU has progressed to the stage where both parties have agreed and have endorsed the MoU by Head of these institutions

- The Project: Mangrove Protection and Establishment of Marine Protected Area in Bootless Bay. Bootless Bay Marine Conservation Initiative (BBMCI)



Main Activities under the MoU

- Site Selection
- Facility Development
- Public relations and awareness raising including research
- MPA establishment
- Education and training on sustainable resource management and biodiversity conservation including birds, mangrove conservation, etc

Thank you



World Oceans Conference

5-9th June 2017
UN Headquarters
New York City

NEC Policy Submission. April 7 2017

- The Leaders of the Pacific convened from 16 - 17 March 2017 at the Grand Pacific Hotel in Suva, Fiji, a Regional Preparatory Meeting for the United Nations Oceans Conference to be held from 5 - 9 June 2017 in New York, USA. This superseded the Senior Officials Meeting on 15 - 16 March 2017. Both meetings were hosted by Fiji.



34. The Government of Papua New Guinea stands committed to implementing SDG 14 in the country therefore is considering a number of voluntary commitments such as:

- I. declaring of the Bootless Bay Project as a newly Marine Protected Area;
- II. working together with likeminded countries through the World Trade Organisation to address harmful fisheries subsidies;
- III. establishing measures to combat IUU Fishing; and
- IV. Developing an Oceans Policy framework which would also be a key deliverable towards PNG's hosting of APEC 2018.

NEC Recommendation

- Endorse the voluntary commitments as outlined in paragraph 34 for registration at the United Nations Oceans Conference in New York before June 2017.

UPNG protect the life in Bootless Bay

Environment and Environmental Authority (Cepa) protect marine life on Unileland in Bootless Bay, PNG.

An agreement signed by two parties and witnessed by the Japanese International Agency (Jica) in Port Moresby.

Cepa marine environmental manager Yvonne said the agreement was signed to address conservation and implemented by Jica in partnership with the Government of PNG through a Memorandum of Understanding.

The agreement was signed between the authority and the Government of PNG to protect mangroves in Bootless Bay, PNG. The agreement was signed by Cepa and the Government of PNG in partnership with Jica in Port Moresby.

The project selected for the proposed marine conservation area because of its rich biodiversity and support for the Bootless Bay project to create a model marine conservation area that would be replicated in other parts of PNG.

Yvonne said the project selected for the proposed marine conservation area because of its rich biodiversity and support for the Bootless Bay project to create a model marine conservation area that would be replicated in other parts of PNG.



The National, 26 July 2017

Annex 4.3.13 The 5th BBMCI meeting report

The Project for
Biodiversity Conservation through Implementation of
PNG Policy on Protected Areas

Report on Fifth BBMCI Meeting



March 15, 2018

CEPA Conference Room, 5th Floor, Dynasty Tower Port Moresby

CEPA Project Team

JICA Expert Team

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Acknowledgements

Fifth BBMCI Meeting for Bootless Bay was held in the new CEPA Conference Room on 5th floor Dynasty Towers. CEPA is specifically acknowledged for providing its conference room for this meeting.

On behalf of BBMCI Secretariat and CEPA-JICA Project Team, BBMCI Members and stakeholders are thanked for ongoing support to the initiative and their attendance at this meeting.

1. Background

Bootless Bay Marine Conservation Initiative (BBMCI) is an arrangement whereby all “like-minded” stakeholders can discuss and consult, exchange information, network and update each other on programs and activities undertaken especially in sustainable management of the Bootless Bay.

Conservation and Environment Protection Authority (CEPA) is currently running a project with Japan International Cooperation Agency (JICA) to build institutional capacity for protected area management.

BBMCI has been set up to establish MPA and exchange information on conservation of Bootless Bay. BBMCI is composed of national government departments, Provincial Government, Local Level Government, community organisations and private company and NGOs.

In the Fourth BBMCI, participants were informed that two MoUs were progressed in the early part of 2017. CEPA-UPNG MoU has progressed to the stage where both parties have agreed and have endorsed the MoU by Head of these institutions and launched UPNG was represented by Prof. Chalapan Kaluwin (Dean of School of Natural and Physical Sciences, UPNG), CEPA by Ms. Yvonne Tio (Executive Manageress of Sustainable Marine Programs CEPA) and JICA by Mr. Koji Asano (Chief Technical Advisor, JICA). Following on from the MoU launching the BBMCI Logo was launched followed by a short BBMCI meeting to update BBMCI members of its activities.

Since then 17 institutions have become members to BBMCI. These include CVES, PWDA, Gereka Community, HELP Inc., Hiri LLG Office, PNGHMS, PNGCLMMA, PEA Ltd, NMSA, Tubuseria Community, CPC-SDA, PNGTPA, CFDA, NFA, CPG, and PNG Ports. UPNG and NDCDC became members to BBMCI in September 2017 and Tahira Farm just became a member in January 2018, bringing the total number to 20 institutions that are now part of the BBMCI.

CEPA-Tahira Farm MoU was recently signed in January 2018 and announced in this meeting.

This fifth BBMCI Meeting, the first in 2018 is important in that we will reflect on the past activities of BBMCI and improve our collaboration for further work this year and onwards.

Chronology of BBMCI Events

	Event/ Activity	Date
1	First Marine Inception workshop	16 th August 2016
2	Inauguration of new project boat and dive equipment and accessories	12 th October 2016
3	Second Marine Workshop	31 st January 2017
4	First BBMCI Meeting and Clean-up Event in Tubusereia Village	12 th April 2017
5	Second BBMCI Meeting	19 th June 2017
6	Third BBMCI Meeting	21 st June 2017
7	Launching of CEPA-UPNG MoU and fourth BBMCI Meeting	25 th July 2017

2. Objectives and Expected Outputs

The Objectives of the Fourth BBMCI Meeting were:

- To provide an update on the progress of BBMCI and activities in Bootless Bay since the last BBMCI (4th) meeting.
- The New MoU between CEPA and Tahira Farm was also announced.
- Allow Loloata Island Resort Development Ltd to do a presentation on the Loloata Island Development to share with BBMCI.

- Allow BBMCI members and stakeholders to present on their activities within Bootless Bay.

Expected Outputs were.

- Strengthens ties among all BBMCI Members and stakeholders and information on the progress of Bootless Bay activities is shared.
- Sharing information and understanding current condition occurring in Bootless Bay.

3. Basic Information on the Meeting

The 5th BBMCI Committee Meeting was held on the 5th Floor in the SEP conference room of CEPA Office in Dynasty Tower, Central Waigani, Port Moresby, on the 15th March 2018. Nine (9) BBMCI members were present at this meeting. Other stakeholder included Lamana Holdings Ltd. Important guest at this meeting included the Embassy of Japan and JICA PNG Office representatives.

The meeting program is outlined in table 1. The meeting started on time and ended on time as per scheduled program. The registration of participants was done during the course of the meeting by circulating a registration/participants list form to be filled and signed by each participant. The workshop ended at 11:30am

The meeting was half a day meeting and divided into two main sessions. These included presentations according to the agenda and question and discussions. The meeting started with opening remarks by Ms. Yvonne Tio (CEPA BBMCI-chairperson). She stood in for CEPA Managing Director Mr. Gunther Joku. Ms. Yvonne Tio invited Mr. John Miller (Dive Centre) to co-chair the meeting as well.

Table 1. 5th BBMCI Meeting Program

Time	Activities	Facilitator
9:00	Opening of program <ul style="list-style-type: none"> • Opening prayer • Opening Speech and welcome <ul style="list-style-type: none"> ◦ Chairperson – BBMCI • Brief over on progress – Chairperson. 	Facilitator: Mr. Bernard Suruman
09:15	Presentations <ul style="list-style-type: none"> • Biodiversity Study by UPNG • Progress of output 3 of CEPA-JICA project • Presentation by Loloata Island Resort Development Ltd. • Waste Management Campaign • Bootless Bay Motu fuel import pipeline project update 	Facilitator: Mr. Bernard Suruman Mr. Pius Piskaut – UPNG Mr. Bernard Suruman / Mr. Job Opu Mr. Jackson Zabala DR. Frank Butler Mr. Henry Elias
11:15	Announcements <ul style="list-style-type: none"> • Exchange of information 	Mr. Bernard Suruman/Mr. Vagi Rei
11:30	Close of Meeting	

4. Presentations and Discussions

4.1 Bootless Bay Biodiversity study by UPNG

Mr. Pius Piskaut from UPNG did a presentation on the recent biodiversity study undertaken in the Bootless Bay. Mr. Piskaut did a short presentation with regards to the biodiversity study. Mr Piskaut presented that the survey was done recently by UPNG team on Tahira and Motupore island coastal and marine environment. The study covered coastal environment including flora and fauna, back of mangroves areas, then to the mangroves, seagrass and coral reefs. These included doing a species count and checking on the condition of the habitats.

Mr. Piskaut went onto present findings of the study indicating that the study was undertaken during the rainy season and there were loads of sedimentation from the runoff into the bay that affected the visibility underwater. This presentation is outlined in Annex 3.1.

4.2 Updates Loloata Island Development

Mr. Jackson Zabala of Lamana Holdings to the BBMCI. Lamana Holdings is not a BBMCI member however it is developing Loloata Island resort on Loloata so was asked to present on the project. Mr. Zabala first thanked BBMCI and also Mr. Opu for presenting on behalf of Lamana Holdings in the last BBMCI. Mr. Zabala presented on the progress of Loloata Island Resort development by Loloata Island Resort Development Holdings Ltd.

Mr. Zabala showed plan and images of major development on the island that would allow for a large restaurant, dive shop and jetty, beach bangalows and condors. He also provided information on state of art sewage processing systems that would process all sewage and just let water without any impurities being pumped into the sea.

Mr. John Miller asked on the development on Tahira Jetty for Loloata and Mr. Zabala responded that he had no information on that. Mr. Zabala's presentation is outlined in Annex 3.3.

4.3 Progress of marine component of CEPA-JICA project

Mr. Bernard Suruman then presented on the new MoU between CEPA and Tahira Farm. Mr. Suruman acknowledged the presence of latest member to the BBMCI Mr. Warren Chapman and thanked him for the MoU. Mr. Suruman mentioned that Tahira Farm joining with BBMCI and signing of MoU was very significant in that Tahira Farm had very large mangrove area however there was a lot of mangrove cutting by local people and this had to be stopped. Plans were currently underway to put up signboards to keep people from cutting mangroves and throwing rubbish in the mangroves. Also, in addition zonation of the mangrove areas are being discussed with the Tahira Farm owners especially on the length of the buffer zones to protect mangrove areas from land activities.

Mr. Miller then welcomed Mr. Job Opu who provided an update on BBMCI Members and went over BBMCI activities that happened since the last BBMCI meeting in August 2017. Mr. Opu mentioned that at the last BBMCI meeting in August last year there were 17 members. UPNG then became a member followed by NCDG and just recently Tahira Farm became a member as well.

Mr. Opu in providing an update said that the project was setting in place a model for MPA establishment. Hence a Rapid Marine Biodiversity Survey in Bootless Bay was carried out and prepared a report. Roadmap to establish MPA in PNG was prepared. Bootless Bay Marine Conservation Initiative was established with 20 stakeholders (National organization, Provincial Governments, Local Level Government, Communities, NGOs, Private Company). Roadmap and the survey report were shared to the members. Under the BBMCI there was 1 workshop and 3 meetings held so far. A MoU between UPNG and CEPA was signed. Working groups for MPA establishment were formed. A coastal clean-up event was undertaken in Tubusereia Village. Just recently a MoU between Tahira farm and CEPA were signed. Signboards were set up in the project area. Finally, CEPA-JICA Project and CPC are now working on an MoU Between CPC and CEPA and this should be signed shortly. This presentation is outlined in Annex 3.2.

4.4 Waste Management by HELP Inc.

Dr. Frank Butler then did a presentation on HELP's waste management project in controlling plastic bags. HELP's program is not particularly focused in Bootless Bay, however plastic s form part of the marine debris that is an issue in Bootless Bay.

Dr. Butler mentioned that his program was targeting the source of plastic bags in PNG and this was basically the supermarkets and shops that were using plastic bags to put goods in for the customers. He said his volunteers were setting up stall in front of the supermarkets n campaigning against use of plastic bags. He further mentioned that depending on how his plastic ban campaign goes, he will also expand to other provincial towns.

4.5 Bootless Bay Motu fuel pipeline update by PEAL

Mr. Henry Elias then followed Dr. Butler with a presentation on the Motu fuel import pipeline project in Bootless Bay. Mr Elias updated that they will be doing major construction work soon and are waiting for underwater pipes to be shipped in. This will then be fabricated on the vessel and set underwater. DR. Nagahama asked if PEAL would be happy to share the schedule of the construction and Mr. Elias said that they will make it available when it was ready. However, it is confidential and not to be shared publicly as yet.

4.6 Announcement and Next meeting

The Chairperson informed the meeting that for the next meeting BBMCI Meeting, the members will be notified in advance before the meeting.

5. Comments

- **Shared information**

The meeting went well. Participants arrived in time and contributed to the meeting. Mr. Jackson Zabala's presentation on Loloata Island Resort was noted by all with some good questions from the participants. Presentation by CEPA-JICA Project, PEAL and HELP shared good information for BBMCI.

- **New finding**

With regards to Mr. Zabala's presentation, there was new information on the development and especially the care and approach to design of environmentally friendly sewage treatment facility

Overall, the meeting started on time, went well and ended on time.

Annex 2. Photo documentation



Photo 1. Mr. Jackson Zabala of Lamana Holding, giving presentation on Loloata Island Resort development.



Photo 2. Mr. Frank Butler, HELP, doing his presentation on waste management project in controlling plastic bags.



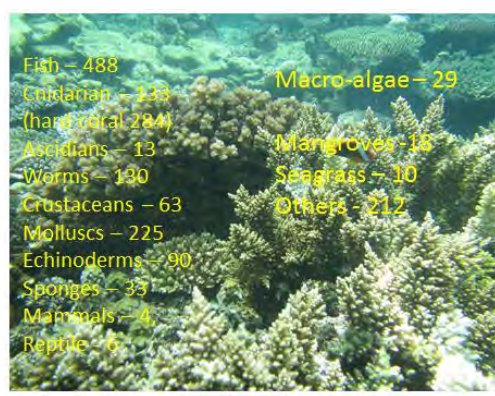
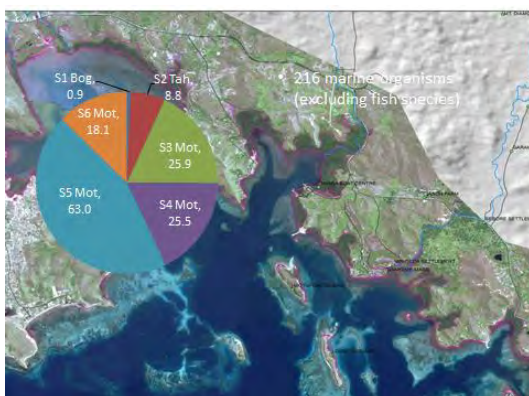
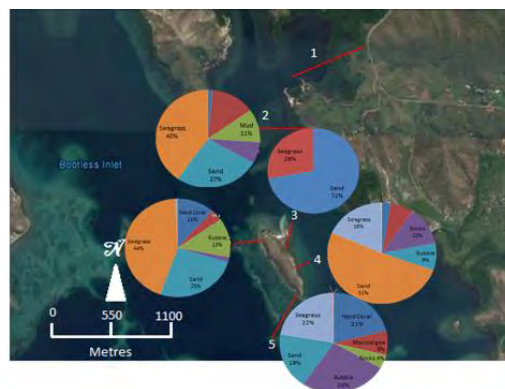
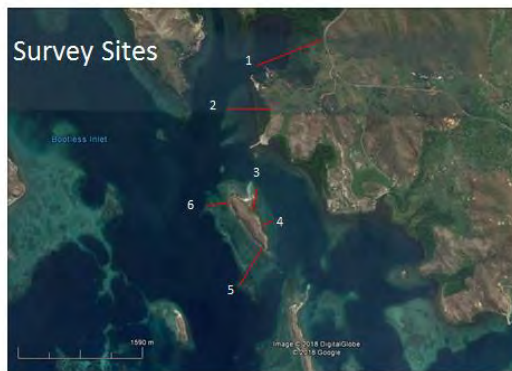
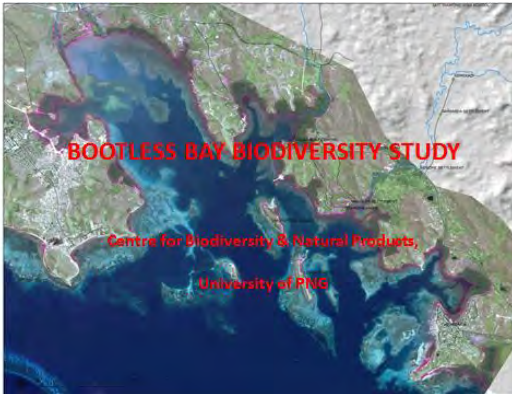
Photo 3. Mr. Henry Elias, Pacific Energy, giving presentation on their Motu fuel import pipeline project in Bootless Bay.



Photo 4. BBMCI members, participating 5th BBMCI meeting at CEPA office.

Annex 3. PowerPoint Presentations

3.1 University of Papua New Guinea



3.2 CEPA-JICA project

CEPA - JICA BIODIVERSITY PROJECT



Bootless Bay Marine Conservation Initiative

Fourth BBMCI Meeting

Date : Mar 15th, 2018
 Venue : CEPA Conference Room, 5th Floor, Dynasty Towers
 Time : 9:00h - 10:30h am



BBMCI Meetings to date

Event/ Activity	Date
1 First Marine Inception workshop	16 th August 2016
2 Inauguration of new project boat and dive equipment and accessories	12 th October 2016
3 Second Marine Workshop	31 st January 2017
4 First BBMCI Meeting and Clean-up Event in Tubusereia Village	12 th April 2017
5 Second BBMCI Meeting	19 th June 2017
6 Third BBMCI Meeting and Launching of CEPA-UPNG MoU	25 th July 2017

This is the 4th BBMCI Meeting

Project Updates (July 2016 – March 2018):

Output 3

A model of MPA establishment

- Rapid Marine Biodiversity Survey in Bootless Bay was carried out and prepared a report.
- Roadmap to establish MPA in PNG was prepared.
- **Bootless Bay Marine Conservation Initiative was established.**
 - ✓ 20 stakeholders (National organization, Provincial Governments, Local Level Government, Communities, NGOs, Private company)
 - ✓ Roadmap and the survey report was shared to the members.
 - ✓ Workshop (1 time) and meeting (3 times)
 - ✓ MoU between UPNG and CEPA
 - ✓ Working groups for MPA establishment
 - ✓ A coastal clean-up event
 - ✓ MoU between Tahira farm and CEPA
 - ✓ Signboards set up.
 - ✓ MoU Between CPC and CEPA

Location (map) of project areas

- CPC Bautama Mangroves
- Tahira UPNG Mangroves
- Tahira Farm Mangroves





Work Plan (December 2017 -) :

Output 3

A model of MPA establishment

- BBMRI workshop & meeting
- Signing & launch of MoU (3 MoUs)
- Prepare deed
- Explain to community members
- Prepare MPA proposal
- Draft MPA management plan



3.3 Loloata Island Resort Development project

Loloata Island Resort – Redevelopment



Main Development Points

- Location: 20kms East of Port Moresby, PNG
- Redevelopment of Island Resort by Lamana Development Limited
- Total 68 Rooms:
 - 12 Hotel Rooms in Main Building
 - 37 Hillside Hotel Rooms
 - 16 Waterfront Executive Suites
 - 3 Villas
- Investment Partner: Nasfund Limited
- Completion Date: Early 2019
- Architects: Thomson Adsett
- Structural Engineers: HLK Jacobs (N.Z), Stocks & Partners,
- Project Manager: Mr. Harold Mube of Lamana Development Limited
- Superintendent: Cost Plan Services

TARGET MARKETS



- RESORT IS DESIGNED FOR CORPORATE CONFERENCES AND TRAINING.
- INTERIORS SETTING FOR FAMILIES AND COULD LOOKING TO ESCAPE PORT MORESBY TO A SAFE RECREATION AND RELAXATION ENVIRONMENT.
- THE RESORT WILL ALSO CONTINUE TO CATER TO THE TOURISM MARKET.
- PROVIDING CONVENIENT DIVE AND SNORKELING ACCESS ONLY A SHORT DISTANCE FROM PORT MORESBY AND JACKSON INTERNATIONAL AIRPORT.
- THIS WOULD ALLOW INTERNATIONAL VISITORS TO SANITISE UPON ARRIVAL DURING THIS ISOLATION.
- MOORING PROVISIONS WILL ALSO BE PROVIDED TO ALLOW FOR WATER CRAFT.
- ACCESS FOR BOTH DAY VISITS AND WEEKEND VISITS OUTSIDE OF THE RESORT OPERATED WATER TRANSFERS.

UPDATE ON CONSTRUCTION



Waterfront bungalows 01, 02, 03, 04, 05 looking to the waste water treatment plant in the distance



Dive Shop Foundation completed



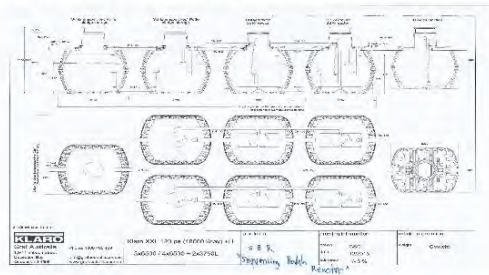
Hill Side Bungalows (HSB) type B number O1 and O2 completed for concrete foundation works



Installation of Sequencing Batch Reactor Plumbing System



Technical Layout of Sequencing Batch Reactor Plumbing System



Annex 4.3.14 The 6th BBMCI meeting report

The Project for
Biodiversity Conservation through Implementation of
PNG Policy on Protected Areas

Report on sixth (6) BBMCI Meeting



03rd September 2018

CEPA Conference Room, 5th Floor, Dynasty Tower Port Moresby

CEPA Project Team

JICA Expert Team

Acknowledgements

The sixth (6) Bootless Bay Marine Conservation Initiative (BBMCI) Meeting was held at the office of Conservation and Environment Protection Authority (CEPA), Conference Room, Level 5, Dynasty Tower on the 3rd of September 2018.

On behalf of BBMCI Secretariat and CEPA-JICA Project Team, BBMCI members and stakeholders, CEPA is very thankful for the ongoing support to the initiative and their attendance at this meeting. A special acknowledgment was granted to one of the founding members of BBMCI and Director of HELP PNG, the Late Mr. Frank Butler, who passed away in mid-August. His wisdom, support and championing of 'ban plastic bag campaign' will be solely missed.

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1. Background

The PNG Government through Conservation and Environment Protection Authority (CEPA) requested the Government of Japan through Japan International Cooperation Agency (JICA) to support a project to implement the Policy on Protected Areas. Hence, CEPA is currently running a project with the JICA. This project known as CEPA-JICA Biodiversity Project aims to build institutional capacity for protected area management in Papua New Guinea, and is focusing on Varirata National Park (terrestrial) and Bootless Bay (Marine).

The CEPA-JICA Biodiversity Project (the Project) has four (4) outputs covering two major components that focused on; a terrestrial protected area and a marine protected area. Output 3 primarily focuses on developing “a model for establishing a new marine PAs per the provision of PAs and relevant laws. Bootless Bay was chosen as the site to progress MPA by the project.

Bootless Bay Marine Conservation Initiative (BBMCI) composed of important stakeholders. It was formed by the Project to establish MPAs and sharing information and concerns in Bootless Bay. BBMCI is an arrangement in such a way that all “like-minded” stakeholders can converge to discuss, consult, exchange, networking and updating each other with information on individual programs and activities undertaken around Bootless Bay. The aim was to promote the sustainable use and management of environment for current and future generations.

The sixth (6) BBMCI meeting, participants were informed that the 1st phase of the CEPA-JICA project ended in June 2018 and the 2nd phase resumed in July. This is the second meeting of 2018 with the first being held in July. This is an important meeting because it reflects on the recent past activities of BBMCI and other activities in the future during the second phase. In the 6th BBMCI Meeting, members were encouraged to provide an update of their activities undertaken or planned to undertake in the future.

Chronology of BBMCI Events

	Event/ Activity	Date
1	First Marine Inception workshop	16 th August 2016
2	Inauguration of new project boat and dive equipment and accessories	12 th October 2016
3	Second Marine Workshop	31 st January 2017
4	First BBMCI Meeting and Clean-up Event in Tubuseria Village	12 th April 2017
5	Second BBMCI Meeting	19 th June 2017
6	Third BBMCI Meeting	21 st June 2017
7	Launching of CEPA-UPNG MoU and fourth BBMCI Meeting	25 th July 2017
8	Fifth BBMCI meeting	15 th March 2018
9	Sixth BBMCI meeting	3 rd September 2018

2. Objectives and Expected Outputs

The Objectives of the Sixth BBMCI Meeting are to:

- Update all members of the progress to date with regards to o Biodiversity Survey by UPNG;
- Kayaks hand over from JICA to CEPA;
- Report of training in Japan; and
- BBMCI Members Update.

The expected Outputs of the 6th BBMCI meeting are:

- Strengthens ties among all BBMCI Members and stakeholders ;
- BBMCI Members are aware and updated of CEPA-JICA Project and including other BBMCI members' activities; and

Handover of two kayaks to CEPA from CEPA-JICA Biodiversity Project

3. Basic Information on the Meeting

The 6th BBMCI Committee Meeting was held on the 5th Floor in the SEP conference room of CEPA Office in Dynasty Tower, Central Waigani, Port Moresby, on the 15th March 2018. Twenty-four (24) participants, including BBMCI members, Lamana Holdings Ltd, PNG JICA office, the project support staff were present at this meeting.

The meeting program is outlined in table 1. The meeting started on time and ended on time as per scheduled program. The registration of participants was done during the course of the meeting by circulating a registration/participants list form to be filled and signed by each participant. The workshop ended at 11:30am

The meeting started with opening remarks by Mr. Bernard Suruman (CEPA) instead of Ms. Yvonne Tio (BBMCI chairperson).

Table 1. Sixth BBMCI Meeting Program

Time	Activities	Facilitator
10:00	Opening of program <ul style="list-style-type: none"> • Opening prayer • Opening Speech and welcome o Chairperson – BBMCI 	Facilitator: Mr. Bernard Suruman
09:15	Presentations <ul style="list-style-type: none"> • Biodiversity Study by UPNG • Report of training in Japan • BBMCI Members Update. BBMCI members are encouraged to make brief presentations on their activities). 	Facilitator: Mr. Bernard Suruman Mr. Pius Piskaut – UPNG Mr. Bernard Suruman Mr. Bernard Suruman
11:15	Announcements <ul style="list-style-type: none"> • Handover of two kayaks from JICA to CEPA • Announcements • Exchange of information 	Mr. Bernard Suruman
11:30	Close of Meeting	

4. Presentations and Discussions

Mr. Pius Piskaut gave a presentation on Marine Biodiversity Survey funded by CEPA-JICA Project. A report on the Manus trip to Ahus was also given to attendees. The report basically looked at livelihood activities the land and sea owners at Ahus are implementing such as coral farming.

Below are the details of the presentation.

4.1 Marine Biodiversity Survey Reports by UPNG

Mr. Pius Piskaut, Team leader of the recent biodiversity survey at Bootless Bay from University of Papua New Guinea (UPNG), to do a presentation of the reports. The reports include:

1. The Main Report of the Flora and fauna of Bootless Bay;
2. The Common Bird Guide of Bogoro and Motupore Island;
3. The Mangrove Guide of True Mangroves of Bootless Bay; and
4. The Environmental Monitoring Manual (Plan);

Mr. Pius Piskaut did a presentation on and here are the summary of his team findings of the Bogoro Inlet and Motupore Island indicates rich species diversity, the area is facing immerse threats from sedimentation and overfishing. The report also reveals that the proposed MPA has important ecosystems and some valuable products where locals can utilise. The presentation also shows zonation maps of areas under threats.

In essence, the Bogoro Inlet and Motupore Island comprise ecosystems and species rich marine environment, is comparable with many areas in PNG and the region. The species of plants and animals reported in the previous publications and this inventory include;

- 283 terrestrial plants of over 14000 species in PNG,
- 23 true mangrove species of 36 species in PNG,
- 10 seagrass species,
- 81 bird species of over 700 species in PNG,
- 4 species of marine mammals,
- 1 species of saltwater crocodile,
- 2 species of sea snakes,
- 3 species of turtles,
- 512 species of fishes,
- 284 species of reef corals, and many macroalgae, crustaceans, echinoderms, and mollusks.

Mr. Jackson Zabala from Lamana Holdings asked if trimming off the top of mangroves in front of guest room of their hotel to a point above the root system and bole is okay. That is, to clear the visual obstacles for their hotel guests to view the ocean. Mr. Piskaut answered that this is okay so long as the mangrove remnants are intact, and the trees are not cut right down and die off.

Mr. Bav Kemba from Pacific Adventist University representing Central Papuan Conference (CPC), Seventh-Day Adventist (SDA) Church asked, "what is the expected outcome of this finding regarding sedimentation build up and what we should do?".

In response, Mr. Piskaut stated that the findings will help BBMCI address the issue in minimising biodiversity losses and protecting the environment from degradation for the sake of the future generations. Another work for BBMCI is to identify problem areas and rehabilitate them. Mr. Suruman adds that such issues mean BBMCI have to work with its partners to give prominence to the issues, given increasing population and settlement activities inland. Also the problems now mean BBMCI has to use the Environmental Monitoring Manual written by UPNG.

Mr. Sibona Hethu, NGO of waste management commented that the Central villages are keen to manage their wastes, but they lacked capacity to conduct awareness on any environmental issues. They are keen to use the Hiri Moale and APEC events to raise awareness but a sustainable long term plan is needed. He proposed that a large contemporary Hiri Lagatoi can be built for campaign purposes along the Papuan east and west coasts.

4.2 Report on Ahus Island/Manu Trip

Mr. Bernard Suruman, Dr. Yukio Nagahama and Mr. Fredrick Omana (CEPA-JICA Project member) took a trip to Manus province to visit the Ahus Island. The island host fish, clam shell and coral farming projects. Mr. Suruman explained that as part of the livelihood development option for Bootless Bay, the project team visited the place to identify what the locals do there that can also be replicated in the Bootless Bay area. This could be similar to what the Pari women have been doing, farming corals to generate some form of income. Copies of the reports were given to members attending the meeting.

4.3 Seventh-Day Adventist (SDA) Church, Central Papuan Conference (CPC)

Mr. Bernard Suruman asked the CPC reps to do a presentation of their story after signing the Memorandum of Understanding with the Project.

Mr. Bav Kemba stated that CPC has signed the MOU with CEPA. He mentioned that before they signed the MOU which comprised other landlords of the Bootless Bay, they looked at the content and decided that they will sign a separate one with CEPA. Hence their current MOU with CEPA is separate and they are keen to implement some important activities or vision they have.

In brief, CPC has so far made awareness to over 20,000 church members of central province and National Capital district (NCD) who attended the SDA camp meeting in June. 8 students were also trained by UPNG and did awareness on mangroves and plastic wastes during the camp meeting.

CPC has also produced short animated awareness videos but are now waiting for funding to launch it.

CPC also aspires to develop livelihood products, mainly mangrove honey as a means to support locals protect their mangroves. They also want to conduct natural product research Centre, focusing on bio-technology under Pacific Adventist University (PAU). CPC is keen to engage with many partners, including local participations

4.4 Signboards

Mr. Bernard Suruman mentioned that the Project has erected the signboards at Bootless Bay. He asked the secretariat to elaborate. Hence, Mr. Biatas Bito stated that 5 signboards were implanted along the coast near the mangrove edges and 4 on the land along Tahira and the Chapman's farm. See Appendix 3.2 for site map and wording on the signboard.

4.5 Tahira farm update

Mr. Suruman asked Mr. Warren Chapman for his remarks on Tahira farm land and he stated that he is happy with the MOU with CEPA. Since the signboards were installed, it has a significant impact on people using the mangroves.

Discussion was with the Project team regarding buffer zones were also held. Mr. Biatas Bito adds that the Project developed some definitions of buffers for different uses within the 20m buffer zone. Since Tahira farm is a private land, the owner has every right to use his arable land. However, the definitions were developed mutually and agreed and can be altered to suit the needs for the landowner elsewhere depending on their uses. In addition, Mr. Piskaut adds that the mangroves are important component of the environment and acts as a filter.

4.6 Training in Japan

Mr. Suruman mentioned that 3 CEPA staff plus a UPNG staff went to Japan for two weeks study leave under the JICA training program. The report for the trip will be presented in the next BBMCI meeting.

4.7 Purchasing of two Kayaks

Mr. Suruman asked the Secretariat to talk about the two kayaks. Dr Nagahama stated that the Project had purchased two (2) two men kayaks which are now stored at the UPNG boatshed. He also thanked UPNG for the storage space.

Dr. Nagahama mentioned that the Kayaks will be used where the boat cannot go when accessing the mangroves, reefs or mudflat areas.

Mr. Genolagani also mentioned that a new fee system for access to Tahira will be implemented on the 10th of October covering all range of activities at Tahira.

4.8 Lamana Holdings update

Mr. Jackson Zabala stated that progress in building infrastructure will be completed in February 2019 comprising of 68 rooms for accommodation, gym, spa, restaurant, 3 conference room, a new jetty. Lamana Holdings is working with PNG Ports to finalise work. Staff recruitment will be done soon. Since CEPA and UPNG are happy for trimming the mangrove for visual for its guests, Lamana Holdings is happy.

4.9 Announcement and Next meeting

The next meeting will be in October or November and will be confirmed later by Dr. Nagahama. Mr. Suruman also mentioned that in the meeting, presentations will be on:

- Training in Japan
- MPA update in CPC land
- MPA update in Tahira farm
- MPA update in UPNG land Tahira and Motupore Island
- Lamana Holdings update on Loloata Development
- PNG Ports

The meeting was closed at 11:30am by the Facilitator, Mr. Suruman.

5. Notes

Kayak hand over from

After the meeting the handover of the two kayaks was presented by the CEPA-JICA biodiversity Project to CEPA. Members of the BBMCI, the Project team and media were on hand to witness the occasion. The articles of the handover of the kayaks were published in both Post-Courier and The National newspaper of 4th and 5th September.

Annex 2. Photo documentation



Photo 1. Members of BBMCI listening and looking at the presentation by Mr. Bernard Suruman of CEPA, regarding meeting agendas.



Photo 2. Participants of 6th BBMCI meeting at CEPA office-1.



Photo 3. Members of BBMCI plus media listening to the presentation by Mr. Pius Piskaut of UPNG regarding the biodiversity survey products.



Photo 4. Participants of 6th BBMCI meeting at CEPA-2.



Photo 5. BBMCI members at the photo shoot of the Kayak handover from the Project to CEPA inside the CEPA SEP wing office.



Photo 6. Exchange of information between CEPA (Mr. Bernard Suruman) and Fisheries Central province personal. Looking on is Messrs Bav Kamba and Manoah Wanaga of CPC.

Annex 3. PowerPoint Presentations

3.1 University of Papua New Guinea Report on Biodiversity Survey

	<p>The Bogoro Inlet and Motupore Island comprise ecosystems and species rich marine environment, comparable with many areas in PNG and the region.</p> <p>The species of plants and animals reported in the previous publications and this inventory included</p> <ul style="list-style-type: none"> ▪ 283 terrestrial plants, ▪ 23 mangrove species, ▪ 10 seagrass species, ▪ 81 bird species, ▪ 4 species of marine mammals, ▪ 1 species of saltwater crocodile, ▪ 2 species of sea snakes, ▪ 3 species of turtles, ▪ 512 species of fishes, ▪ 284 species of reef corals, and many macroalgae, crustaceans, echinoderms, and molluscs.
<p>BUT!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!</p> <ul style="list-style-type: none"> ▪ The entire marine ecosystems of Bogoro Inlet and Motupore Island are undergoing rapid changes from intact ecosystems to those having features of degraded ecosystems. ▪ Mangrove ecosystems for example, were being cleared resulting in <ul style="list-style-type: none"> ❖ loss of species locally; ❖ release of mud into the surrounding reefs; <ul style="list-style-type: none"> ➢ coral reefs were losing corals and reef habitat structures as a result of burial by sediments released from the cleared mangroves; ❖ fish stocks decreasing as indicated by small size fishes and low catch rates. 	<ul style="list-style-type: none"> ▪ The Bogoro Inlet and Motupore Island constitute high conservation values which are being threatened by the rapid changes taking place in the area. ▪ The two proposed MPA sites features a number of important ecosystem values; both have specific nursery grounds for many fish species. ▪ Motupore Island (including Loloata and Lion) harbours <ul style="list-style-type: none"> ✓ the most expensive sea cucumber, ✓ the threaten Maori Wrasse, ✓ nesting site for green turtle, ✓ mating site for shark species, ✓ home to the Banded sea snake, ✓ host to 7 endemic plant species, ✓ home to the locally rare mangrove species, <i>Aegialites annulata</i>, ✓ support up to 54 residential bird species
<p>Wrasse (<i>Thalassoma</i> sp.) caught by handline on Motupore Island. Photo by Pius Piskaut.</p>	<p>Picture of fries (baby fish) foraging in mangrove edge near the sandspit on Motupore Island, Bootless Bay. Photo by Pius Piskaut, 2018.</p>

Table 25: Representation of habitat types in Bogoro Inlet and Motupore Island.

Habitat	% Total Area	Critical for	Comments
Mangrove	26	Crocodile	1 species
		Mangrove birds	
		Fish nursery	Fries
		Fish avoidance of predators	
Sand	23	Seagrass meadows	10 species
		Fish nursery	Fries
		Algal species	
		Several species of sea cucumbers	
Coral, rocks/rubble	51	Foraging by fishes	
		Coral species	
		Seaweeds (macroalgae)	

Table 25: Representation of habitat types in Bogoro Inlet and Motupore Island.

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		Algal species	
		Several species of sea cucumbers	
Coral, rocks/rubble	51	Foraging by fishes	
		Coral species	
		Seaweeds (macroalgae)	

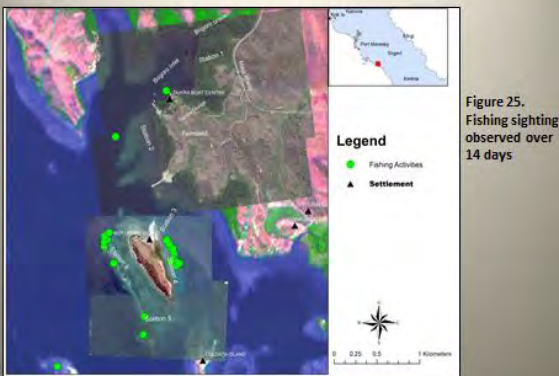
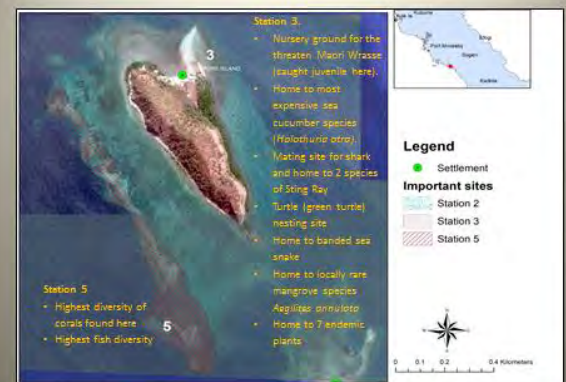
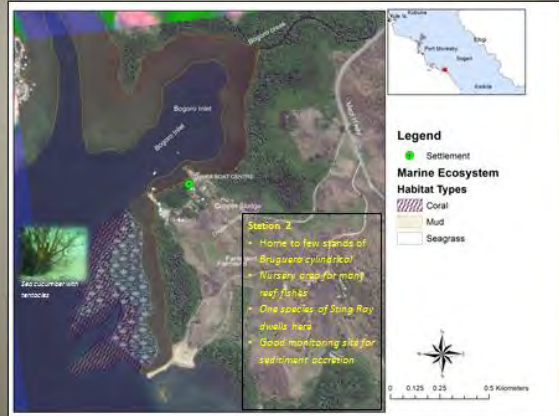


Figure 25. Fishing sightings observed over 14 days

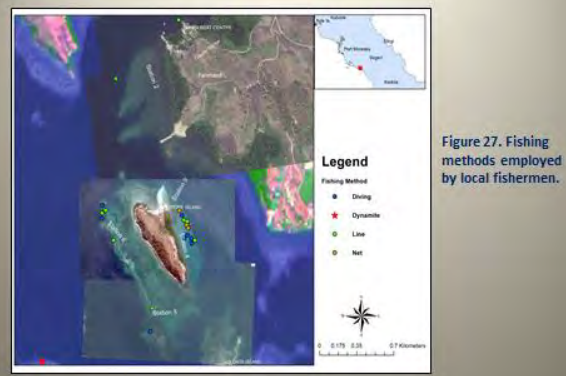


Figure 27. Fishing methods employed by local fishermen.

3.2 Signboards

Sites of mangrove protection signboards

WARNING for MANGROVE PROTECTION

Help us protect the mangroves in *Bautama, Tahira and Bootless Bay* in order to preserve our coastal, marine resources and biodiversity !!!

- Do not cut mangroves
- Tanihe long katin mangrove
- Taravate - Mague sika kava lasi
- Do not dump waste
- Tanihe long tromoi pipia
- Taravate - Momore megea kava lasi

Bootless Bay Marine Conservation Initiative (BBMCI) comprises of important stakeholders which was formed by the CEPA-JICA Biodiversity Project to establish Marine Protected Areas (MPAs) and sharing information and concerns in Bootless Bay.

The CEPA-JICA Biodiversity Project in collaboration with Tahira Farm, CPC and UPNG is implementing the protection and management of Bautama and Tahira mangroves and conservation and management of Motupore Island mangroves, seagrass, and coral reef.

Members of Bootless Bay marine Conservation Initiative (BBMCI)

Supported by CEPA, JICA Biodiversity Project

Map of the region showing the locations of Bautama, Tahira, and Bootless Bay.

Logos of partner organizations including CEPA, JICA, and various local groups.

Bootless Bay conservation to start



JICA contractor Mr Nagahama hands over kayaks and safety vests to CEPA.

BY LEIAO GEREGA
lgerega@spp.com.pg

TWO kayaks were launched yesterday by the Conservation and Environment Protection Authority (CEPTA) to boost conservation work in Bootless Bay in Central Province.

The two-man kayaks handed over by the Japan International Corporation Association (JICA) will be stored at the University of Papua New Guinea boatshed on Motupore Island.

CEPA-JICA livelihood and protected area local expert Biatius Bito said the kayaks will help CEPA teams patrol mangrove protected sites as well as provide leisure to families and tourists.

"It will help those who visit the Bootless Bay to travel around and see the sites where boats cannot go so you can move through mud and rocks, and also visitors and parents can go the Bootless Bay every weekend and try something new," said Mr Bito.

The bay, which lies along the East Hiri coast, has received huge support from CEPA-JICA project over the years because of its numerous species of fish, shellfish, birds and turtles including mangroves, reef corals and sponges.

Mr Bito said one of CEPA-JICA

major component projects is to turn the area into a marine protected area with plans to link the Bootless Bay to Variarata National Park so it becomes what he termed "ridge to reef" model conservation that links sea and land.

The bay serves 20,000 people and it was important to conserve now that the bay will benefit the next generation.

However, he said the challenge is to include Bootless Bay in the 5-year development plan of the provincial government so the bay helps promote tourism for Central Province.

"When you look at the province it doesn't have a tourism board because of security issues and in order to bring families out here is to promote the area, and we are not only looking at kayaking but maybe bird watching or diving so that local communities can participate as well."

The kayaks' launch is important says Mr Bito because it shows that CEPA together with its partners including, Bootless Bay Marine Conservation Initiative is committed to helping locals and their communities.

"Looking at the bio-diversity of Bootless Bay is rich and we need more people to be aware of this important area which is right here in Port Moresby," he said.

Post Courier Article: Tuesday 4 September 2018

Jica buys two kayaks to help conservation project monitor mangroves

THE Japanese International Cooperation Agency (Jica) has purchased two new kayaks for the Bootless Bay marine conservation project in the National Capital District and Central for monitoring and surveillance of mangroves and to trial ecotourism activities.

The two kayak and accessories cost K8797 and were handed to the project team in Port Moresby.

Witnesses included partners and stakeholders in the project including the Environment Protection Authority (Cepa), the University of PNG, the Central Papua Conference of the Seventh-day Adventist Church, Jica and representatives from local communities living along the Bootless Bay area.

Manager for the marine protected area with Cepa, Bernard Suruman, said Cepa was partnering Jica to implement a pilot biodiversity conservation. "The kayak were bought be-

cause some creeks and waterways in the mangrove areas are very shallow for boats to travel.

"Kayak is very flexible, easy to use without the need for fuel or skipper to monitor the mangrove areas that are protected under this pilot project because there some intruders cutting down mangroves at times."

Suruman said the kayaks would be trailed for ecotourism in which arrangements would be made where residents of Port Moresby could go and pay some fees to use the kayaks paddle around the protected areas for pleasure and recreation.

"Jica is giving us two so we are hoping that more kayaks will be bought under this project to assist in the ecotourism aspect of the project," Suruman said. Jica's natural resource management adviser for marine environment Dr Yukio Nagahama said Jica was pleased to support PNG government.



Senior biology lecturer at UPNG Plus Piskaut (sitting front in the kayak), manager for marine protected area with Cepa Bernard Suruman (back) and representatives from Jica, Cepa and project partners during the presentation of the two kayaks in Port Moresby. – Nationalpic by LUKE KAMA

The National article: Wednesday 5th of September 2018

Annex 4.3.15 The 7th BBMCI meeting report



Conservation and Environment Protection Authority (CEPA)
Japan International Cooperation Agency (JICA)



The Project for
Biodiversity Conservation through Implementation of
PNG Policy on Protected Areas

Report on Seventh BBMCI Meeting



March 5, 2019

CEPA Conference Room, 5th Floor, Dynasty Tower Port Moresby

CEPA Project Team

JICA Expert Team

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1. Background

The CEPA-JICA Biodiversity Project has four outputs. The Bootless Bay Marine Conservation Initiative (BBMCI) was established under the Output 3 “a model of establishing a new marine protected area is developed as per the provision of PPA and concerned laws”. The BBCMI has created an avenue for relevant stakeholders within Bootless Bay to establish marine protected area in Bootless Bay and to engage and participate meaningfully in sharing and exchanging of information, consulting and networking on individual programs and activities undertaken in and around Bootless Bay.

In the 7th BBMCI meeting, the participants had great discussions on the progressive update of Output 3 of CEPA-JICA project and raised and shared some concerns in Bootless Bay.

Table 1 Chronology of BBMCI Events and Meetings

	Event/ Activity	Date
1	First Marine Inception workshop	16 th August 2016
2	Inauguration of new project boat and dive equipment and accessories	12 th October 2016
3	Second Marine Workshop	31 st January 2017
4	First BBMCI Meeting and Clean-up Event in Tubuseria Village	12 th April 2017
5	Second BBMCI Meeting	19 th June 2017
6	Third BBMCI Meeting	21 st June 2017
7	Launching of CEPA-UPNG MoU and fourth BBMCI Meeting	25 th July 2017
8	Fifth BBMCI meeting	15 th March 2018
9	Sixth BBMCI meeting	3 rd September 2018
10	Seventh BBMCI meeting	25 th January 2019

2. Objectives and Expected Outputs

The Objectives of the seventh BBMCI Meeting were:

- To provide updates to BBMCI members of Output 3 of CEPA-JICA project progress
- Sharing of information by BBMCI members

Expected Outputs were;

- BBMCI members are fully aware of the project progress
- BBMCI members updated on shared information

3. Basic Information on the Meeting

The 7th BBMCI meeting was held at the CEPA office, 5th floor of Dynasty tower 1 on the 25th of January 2019 starting at 10 am and finished at 12pm.

The meeting was chaired and facilitated by Mr. Vagi Rei in the absence of Ms. Yvonne Tio. Mr. Koji Asano was given the opportunity to give the opening remarks with the emphasis on the pressing time of activity implementation and called on all BBMCI members to contribute constructive ideas towards the establishment of the model of protected area in Bootless Bay come 2020. Miss Evengelyne Kove did a presentation of update of the output 3 of CEPA-JICA project. Several BBMCI members were given time to share their individual programs and to discuss how each stakeholder can add value towards the establishment of MPA at Bootless Bay.

Table 2 7th BBMCI Meeting Program

Time	Activities	Facilitator
10:00	Opening of meeting <ul style="list-style-type: none"> • Opening prayer • Opening remarks - Chairperson – Mr. Vagi Rei 	Mr. Vagi Rei
10:15	Presentations <ul style="list-style-type: none"> • Update of Output 3 project progress • Sharing of information by BBMCI members 	Mr. Vagi Rei Miss Evengelyn Kove
11:15	Announcements <ul style="list-style-type: none"> • Exchange of information 	Mr. Bernard Suruman
11:30	Close of Meeting	Mr. Vagi Rei

4. Presentations and Discussions

The update of Output 3 of CEPA-JICA project and individual project by BBMCI members were presented. There were questions and answers with some constructive suggestions by participants. Below is the summary of the presentations.

4.1 Update of Output 3 project progress

Miss Kove gave a presentation on the last quarter activities that were carried out in 2018 beginning with a summary process of establishing marine protected area in Bootless Bay and went into detail for each of these activities.

The slides of the presentation showed in Annex 3.

1. Process of establishing the National Protected Area and Regional Protected Area
2. Progress of marine component of CEPA-JICA project – 1/2
3. Newly targeted MPA at Mirigeda
4. Progress of marine component of CEPA-JICA project – 2/2
5. Draft Mangrove guide version one
6. Draft PA proposal form

There were several issues/ concerns and suggestions raised with regards to the presentation which included:

- BBMCI members wanted to know the process how to establish National Protected Area and Regional Protected Area.
- Several BBMCI members concerned about resources and capacity to sustain the management of MPA after CEPA-JICA project ends
- Land owners requested to do environmental education and awareness activities in CEPA-JICA project targeted areas.
- Sustainable livelihood development such as eco-tourism was recommended by TPA to reduce the pressure (overfishing, mangrove depletion, solid wastes/marine debris, etc) in the proposed protected area(s) within Bootless Bay.
- Identify landholders' interests to establish MPA is important.
- MPA management plan should include resource management plan.

- BBMCI members wanted to know how they can participate to establishing protected area processes.

4.2 Community Entry Process by PNGCLMA

Mr. Peter Moiyyka from PNG Centre for Locally Managed Area (PNGCLMA), a PNG national NGO based in Port Moresby, gave an update on their activities in Kairuku in Central Province. He also highlighted one of the key processes in the initial stage of their project in relations to community entry process which determines the success of the project. In the CEPA, consultation and awareness are crucial with great attention to their existing decision-making process. In this process, it is significant for participatory consultation in achieving the establishment and management of the protected areas or for conservation purposes. It would also assist in a long term for the livelihood development of the local people when they are initially engaged in the dialogue. Thus, it would provide alternatives for better livelihood options through sustainable resource management. Mr. Moiyyka would share their experiences and information on their work which would then give guidance in enabling the project to implement its activities in Bootless Bay.

4.3 Bridging Courses for Diploma and Degree in Biodiversity Conservation by UPNG

Prof. Simon Saulei gave an update on some of their programs which they are undertaking in terms of upskilling courses provided for Community Certificate Training. They have done one already with the support from Exxon Mobil PNG and Mama Graun Conservation Trust Fund. They have developed three modules however are looking for funding to print and implement this training modules. This training can complement Central Provincial Government 5 Year development Plan for Mirigeda as a Training Centre for Life skills and Eco-tourism.

4.4 Marine Pollution Control and Maritime Safety Standards by NMSA

Ms. Patricia Logha from the National Maritime Safety Authority (NMSA) stated that NMSA can provide technical advice. Now that she has returned from a Training in Japan. she is willing to provide the legal instruments regarding commercial shipping and maritime safety standards within the Bootless Bay. NMSA also has community engagement of Education and Awareness program that they also carry out in coastal communities.

4.5 Eco-tourism Engagement by TPA

Mr. Stanley Relson emphasized the need for consistent consultation with PNG Tourism Promotion Authority (TPA) for eco-tourism as a livelihood option for Bootless Bay communities. TPA can provide the technical information and partnership engagement for specific communities within Bootless Bay whose interest is in eco-tourism. The CPG's commitment to eco-tourism is the way forward for partnership, since tourism is their paramount priority for the next 5 years in their development planning.

4.6 Community Awareness on Fisheries management plan by CPG Coastal Fisheries

Ms. Miriam Ovasuru gave an update on the Fisheries Management Plan and she intends to do for the coastal communities of Central Province. They are targeting the fishing gears and Fish Aggregating Devices (FAD) training and installation in the impacted villages. They hope to carry out awareness so that the local people understand and develop their by-laws for their Fisheries Management Plan.

4.7 Awareness on signboard

Mr. Felix Daroa is a local from Tubuseria village who has been doing mangrove work in Tubuseria and surrounding areas. He has requested to do awareness on the signboards placed particularly on sea-front near Tahira mangrove areas due to many locals' curiosity. Mr. Daroa needs awareness materials to share with his communities as well. He also knows the local names of the mangrove species and their traditional uses, so it would be useful to document this kind of information into the existing draft mangrove guide.

4.8 Protected Area Advisory Working Group

Mr. Bernard Suruman suggested all BBMCI members, if they want to be a member of Protected Area Advisory Working Group (PAAWG) for establishing MPA entire Bootless Bay.

There was comment on PA bills.

- Willing to understand PA bills and related laws on establishing protected area.

4.9 Tahira UPNG land and Motupore Island as a National Protected Area

Prof. Saulei made a clarification on the reason(s) why UPNG would declare Motupore Island and Tahira mangrove protection site as national significance and not regional. This was from a question raised by his colleague Mr. Pius Piskaut of UPNG. He also strongly recommended for the National Protected Area Round Table to be established within CEPA as the secretariat to facilitate for the establishment and declaration of this MPA.

4.10 Awareness on ballast waste water

NMSA explained why ballast waste water are of critical danger and not supposed to be released inshore or near ports. This waste water on ships has high chances of introducing invasive species or pollute the surrounding waters once released without proper safety inspections and control measures. Under the International Waters Acts (IMO, Law of the Sea, etc) takes into consideration the precautionary approaches and dangers of these discharges and strict penalties can be applied.

5. Announcement

Mr. Suruman informed the meeting that for the next BBMCI Meeting, the members will be notified in advance before the meeting. He also mentioned that in the next meeting, presentation will be on;

1. MPA update in Tahira Farm
2. MPA update in CPC
3. MPA update in UPNG
4. Post Graduate Researcher Ms. Naomi Vincent to give a presentation on her research project on coral farming/growth
5. PNGCLMA to do presentation on community engagement process for establishing MPA.

Annex 2. Photo documentation



Photo 1. BBMCI members photo shoot after the meeting.



Photo 2. Mr. Moikya from PNGCLMA giving an update on their work with Kairuku Hiri Women in Mangrove Conservation and resource management.

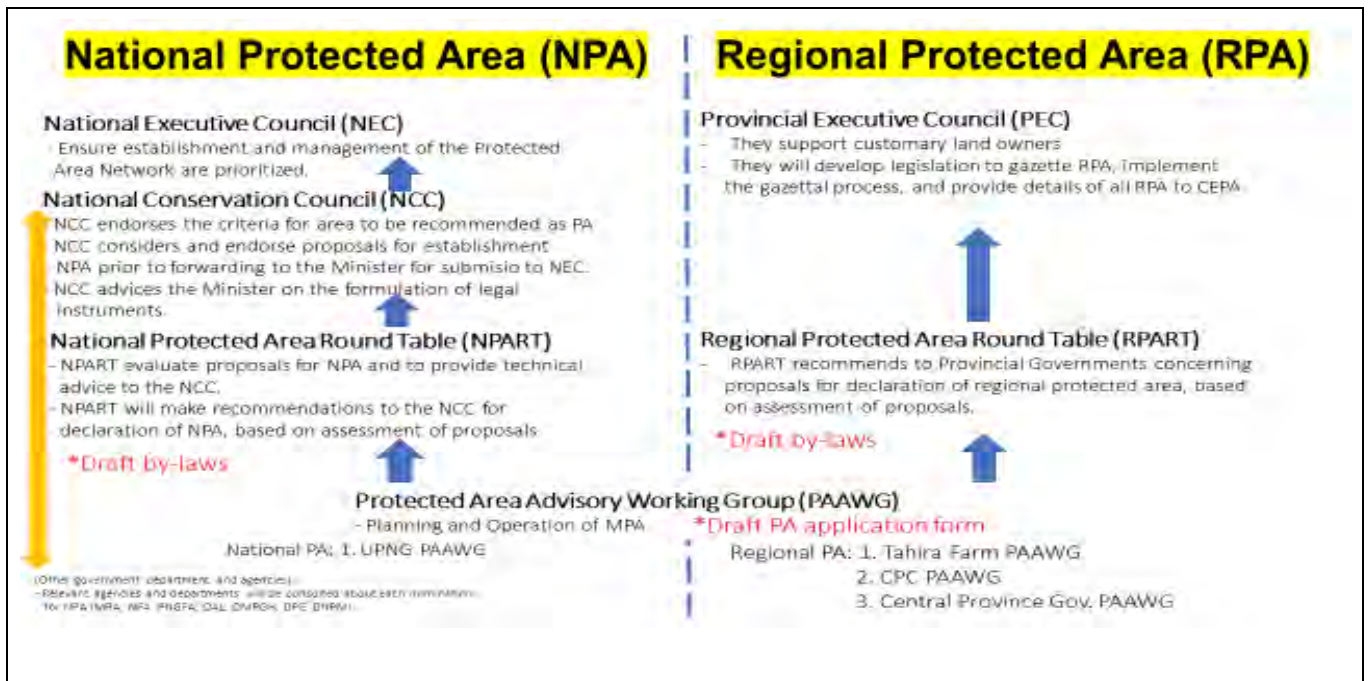


Photo 3. Mr. Relson from TPA informing the BBMCI members on how they can provide technical advice to interested members for eco-tourism development.



Photo 4. Ms. Ovasuru giving an update of Central Provincial Government coastal fisheries plan to carry out awareness in coastal villages in Central Province.

Annex 3. PowerPoint Presentations



Progress of marine component of CEPA-JICA Project-1/2

1. Selection of expected members of NPART
2. Draft by-laws of NPART
3. Selection of expected members of RPART
4. Draft by-laws of RPART
5. Drafting MoU between Central Prov. Gov. and CEPA



Mirigeda-1



Progress of marine component of CEPA-JICA Project-2/2

6. Tahira farm – CEPA agreed for establishment of regional PA.
7. CPC-CEPA agreed for establishment of regional PA.
8. UPNG-CEPA agreed for establishment of national PA.
9. Draft PA application form
10. Draft mangrove of Bootless Bay identification guide vol. 1



(EOD)

Annex 4.3.16 The 8th BBMCI meeting report

The Project for
Biodiversity Conservation through Implementation of
PNG Policy on Protected Areas

Report of 8th BBMCI meeting



05th October 2019

CEPA Conference Room, 5^t Floor, Dynasty Tower Port Moresby

CEPA Project Team

JICA Expert Team

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Acknowledgements

The 8th BBMCI meeting on Thursday 3rd of October 2019 at CEPA office, 7th Floor, Dynasty Tower I saw 16 BBMCI members, 2 CEPA-JICA project officers and 5 SERACS team members in attendance.

On behalf of BBMCI Secretariat and CEPA-JICA Project Team, CEPA appreciates the time and commitment made by the BBMCI members and other key stakeholders to attend this 8th BBMCI meeting.

1. Background

Bootless Bay, the ideal site for CEPA-JICA Biodiversity project Output 3 “a model of establishing a new Marine Protected Area as per the provision of PPA and concerned laws” is at the stage of establishing the Bootless Bay National Marine Sanctuary Protected Area Working Group (BBNMS PAWG) and developing the proposal to declare Bootless Bay as a National Marine Sanctuary. The other on-going supporting activities running parallel are the conservation easements with several landowners of Bootless Bay, social mapping and socio-economic surveys, the BBNMS management plan and the establishment of the BBNMS Protected Area Management Committee. For the purpose of this 8th BBMCI meeting, focus was given to the BBNMS PAWG and the BBNMS Protected Area Proposal.

The BBMCI members who attended were keen and wanted to engage more in the process of the establishment of the Bootless Bay National Marine Sanctuary

Table 1 Chronology of BBMCI Events and Meetings

	Event/ Activity	Date
1	First Marine Inception workshop	16 th August 2016
2	Inauguration of new project boat and dive equipment and accessories	12 th October 2016
3	Second Marine Workshop	31 st January 2017
4	First BBMCI Meeting and Clean-up Event in Tubuseria Village	12 th April 2017
5	Second BBMCI Meeting	19 th June 2017
6	Third BBMCI Meeting	21 st June 2017
7	Launching of CEPA-UPNG MoU and fourth BBMCI Meeting	25 th July 2017
8	Fifth BBMCI meeting	15 th March 2018
9	Sixth BBMCI meeting	3 rd September 2018
10	Seventh BBCMI	25 th January 2019
11	General BBMCI meeting	02 nd September 2019
12	Eight BBMCI meeting	03 rd October 2019

2. Objectives and Expected Outputs

The Objectives;

- To share the BBNMS PAWG TOR and confirm its members list
- To share the BBNMS Protected Area Proposal and gauge views from the BBMCI members

Expected Outputs were.

- BBMCI members to confirm their membership in the BBNMS PAWG
- BBMCI members are informed of the Protected Area Proposal for BBNMS

3. Basic Information on the Meeting

The 8th BBMCI meeting was held at the CEPA office, 7th floor of Dynasty Tower 1 on the 03rd of October 2019 starting at 10 am which ended at 12pm. There were 2 main agendas that were discussed in the meeting. A total of 23 participants attended in which 16 were BBMCI members and 7 members were made up of CEPA-JICA project team and the SERACS team,

The meeting was chaired and facilitated by Ms Evengelyn Kove in the absence of the CEPA Marine Executive officers due to their tight schedule. Mr. Bense Thomas stepped in and gave the opening remarks with the emphasis on the importance of the establishment of the Working Group and the process of the Protected Area Proposal for declaring Bootless Bay National Marine Sanctuary with reference to the Protected Area Policy. Miss Kove started by recapping the project status before going into the discussions of the main agendas. Question and answers and a few concerns including suggestions followed after.

Table 2 General BBMCI meeting

Time	Activities	Facilitator
10:00	Opening of program <ul style="list-style-type: none">• Opening prayer• Opening remarks<ul style="list-style-type: none">- Chairperson – BBMCI –	Facilitator: Ms Evengelyn Kove
09:15	Presentations <ul style="list-style-type: none">• Sharing of BBNMS PAWG TOR• Sharing of BBNMS Protected Area Proposal	Facilitator: Miss Evengelyn Kove
11:15	Announcements <ul style="list-style-type: none">• Exchange of information	Ms Evengelyn Kove
12:00	Close of Meeting	Facilitator

4. Presentations and Discussions

A brief update on Output 3 project status was given followed by BBNMS PAWG TOR and the BBNMS Protected Area Proposal presentations. Discussions were opened for BBMCI members to provide their feedback.

4.1 Update of Output 3 project progress

Ms Kove gave a brief update for the sake of those BBMCI members who missed out on the last BBMCI meeting.

4.2 Protected Area Working Group for BBNMS

The BBNMS Protected Area Working Group TOR was presented section by section with its main objective to develop the Proposal for declaring Bootless Bay as a National Marine Sanctuary. The

expectation was to confirm the member list by this time around after giving out the TOR through email and hard copy two weeks in advance.

To date, there was no confirmation before the 8th BBMCI meeting, it was discovered that there was hesitation from BBMCI members due to confusion between BBMCI and Working Group. The comments were;

1. Mr. John Genolagani from UPNG asked if BBMCI TOR can be reviewed to ensure BBNMS Working Group functions have been captured as a sub-committee.
2. Ms Gertrude Miria from NCDC alluded to Mr. Genolagani's comments by asking where BBMCI sits when PAWG comes into play
3. Mr. Kemba from CPC raised concerns for the expansion of developments in and around Bootless Bay and how it is captured within the PAWG and BBMCI clearly defining their roles.
4. Mr. Moikya from PNGCLMA expressed his views that the Working Group should the link between CEPA, BBMCI members and the communities collecting information from all these stakeholders to put together for the Proposal.
5. Mr. Nathan Lati from TPA also commented saying that Working Group can work on the Proposal as part of the BBMCI

4.3 Protected Area Proposal for BBNMS

The BBNMS Protected Area Proposal was presented with the objective to get feedbacks from the BBMCI members.

The main comments were centered on engaging BBMCI members more through working groups and present findings to the bigger BBMCI audience.

1. Mr. Nathan Lati from TPA stressed the need for BBMCI members to team up and carry out awareness and consultation in Bootless Bay communities supporting the baseline studies that SERACS team is currently carrying out at the moment.
2. Mr. Moikya from PNGCLMA agreed to awareness programs and added that traditional knowledge and governance system needs to consider in the community entry process. He is willing to be part of the awareness team
3. Dr. Rodney Kameata also reiterated the fact that during their first scouting and consultations with the communities, there were not a lot of people who were aware of the MPA and identified common issues associated with land grabbing in vulnerable mangrove areas, waste management and lack of surveillance and monitoring of expanding developments in the coastal and marine areas. Therefore it would be effective if information collection through awareness and consultations will provide more bases to complete the BBNMS Proposal for declaration.

4.4 Education and Awareness

The awareness team is made up of CEPA. The CEPA-JICA project team including CPG Fisheries, TPA and NCD who confirmed their participation in the 8th October 2019. Awareness materials were prepared including the materials provided by other key line agencies such as TPA and CPG Fisheries. CEPA provided the transport and little refreshments for the communities. The awareness is set to start on the 9th of October and end on the 16th of October.

4.5 National Marine Sanctuary Workshop

Strong recommendations were made for a BBMCI workshop to be carried out after the awareness and baseline studies. This workshop will involve a number of objectives such as findings of awareness and baseline studies for the purpose of the BBNMS proposal and plan of action for findings of key issues identified create working groups for the implementation of the action plan.

4.6 Announcement and Next Meeting

Ms. Kove informed the meeting that for the next BBMCI Meeting, the members will be notified in advance before the meeting. She also mentioned that in the next meeting, presentation will be on;

1. Project outcome
2. BBMCI members update

The meeting was closed at 12 pm by the Facilitator, Ms. Kove

4.7 Comments

It happened that on the day of the 8th BBMCI meeting, CEPA marine through the chairperson Ms. Yvonne Tio was not able to attend due to clash with the CTI Regional of Action Workshop at CCDA office. Mr. Suruman was on duty travel and Mr. Vagi was assisting Ms Tio, hence, Mr. Beside Thomas stood in for CEPA to officiate the meeting and Ms Kove facilitated the discussions. There was an increase in the number of participants (23) and more eagerness to participate meaningfully.

From observation, the BBMCI members who have been actively attending meetings strongly feel that engaging their expertise in project implementation through various working groups will help progress the overall output 3 objective of creating a model MPA. It was also noted that getting BBMCI members to participate through workshops and working groups will allow for more engaging BBMCI meetings when each working group can present to a larger audience. The project also needs to revisit the BBMCI TOR and see how BBNMS PAWG can be complemented.

Annex 2. Photo documentation



Photo 1. Mr. Bense Thomas giving the opening remarks on behalf CEPA



Photo 2. Ms Kove introducing the agendas for the 8th BBMCI meeting



Photo 3. Mr. Lati commenting on the BBNMS Protected Area Proposal



Photo 4. Ms Kove responding to Mr. Genolangani's suggestions

Annex 4.3.17 The 9th BBMCI meeting and the BBNMS WG report



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Topic: BBMCI Eight (8th) Meeting/BBNMS WG First (1st) Meeting	Date: 05/February/2020
Participants: Member of the Bootless Bay Marine Conservation Initiative	Venue: CEPA, 5 th Floor of Dynasty Tower
Facilitators: Ms. Yvonne Tio/ Mr. Vagi Rei/ Ms. Martha Wamo/ Mr. Asano/Ms. Saina Jeffrey	Chairperson: Ms. Yvonne Tio

Meeting duration: ½ day (10:00 am – 2:30 pm)

Order of occurrence

- Opening Remarks by Ms. Yvonne Tio
- Introducing of participants

Objective of the meeting

- Finalizing and Approving the Terms of Reference (TOR) of the Management Committee
- Establishing members of the Management Committee
- Sharing of Information
 - Presentation of Socio-economic surveys
 - Exchange of information

Agendas

1. Presentation, discussion and finalizing of the BBNMS Management Committee Terms of Reference (ToR) (**By: Ms. Martha Wamo**)
 2. Approval and formulation of the Management Committee Members (**By: Ms. Yvonne Tio**)
 3. Socio-Economic Baseline Study Update (**By: Dr. Rodney Kameata**)
 4. Announcements
- **Agenda 1: Presentation, discussion and finalizing of the BBNMS Management Committee Terms of Reference**
 - Comments and changes made are tabled in the attached. *Attachment 1*
 - By-laws to be developed by the committee
 - Election of Office bearers will be done by the committee at the first Management Committee meeting
 - Administrative functions of the management committee office to be developed by the committee
 - **Agenda 2: Approval and formulation of the Management Committee Members**
 - Mr. Rei pointed for the management team to be small and supported by CPC.
 - Management Committee member list was changed from 8 to 9 members in the ToR.
 - Member list for potential management committee members was put up and the quorum agreed for list to be reduced to 9 from 16 per the ToR.



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- The quorum agreed for the one representative from the CBO and NGO. Anyone representative can be represented on the committee at any time. TPA pointed that the CBOs and NGOs selected to the management committee must be self-supported and ready to fully participate in the committee.
- Approved and confirmed member list is attached to this meeting report. *Attachment 2*

➤ **Agenda 3: Socio-Economic Baseline Study Update**

- The SERACS team carried out a socio-economic survey throughout the Bootless Bay area with the information collected to be incorporated into the proposal form.
- A number of issues with resource management pertaining to the management plan were identified in the recommendations which the management committee is to look at and address.
- Reef use mapping, mangrove use and waste management were highlighted to be some crucial areas needing intensive expert studies.
- Final report is ready pending minor changes.

➤ **Agenda 4: Announcement**

- ❖ Project Final presentation tentatively on March 26th and 27th
- ❖ Comments on the Management Plan must be submitted by 27 February 2020.

Meeting started 30m late at 10:00am and ended 14:30 pm: No Time Extended

Duration of the meeting: 5 hour, 30 minutes; Meeting Lunch



Attachment 1

Bootless Bay National Marine Sanctuary Management Committee

Terms of Reference Comments

Comment From	Comment	Page number (#)	Preferred Change
RECORD OF AMENDMENTS FROM BBMCI MEMBERS BEFORE THE 9th BBMCI/1st BBNMS WG MEETING THROUGH EMAIL RESPONSE			
PNGCLMA-Maxine	Typo on Member List. 'PNGCLMMA' wrong	Member list	PNGCLMMA changed to PNGCLMA
PNGCLMA-Maxine	Word 'Park's'	ToR Page 4, Section 2 (i)	Change the word <i>Park's</i> to <i>Sanctuary's</i>
PNG Ports Limited (PNGHMS)	Endorsement letter 24/12/19		No Comment
NDCD	Endorsement 16/01/2020		No Comment
Loloata Island Resort	Endorsement 26/01/2020		No Comment
RECORD OF AMENDMENTS AT THE 9th BBMCI/1st BBNMS WG MEETING ON 5TH FEBRUARY 2020, CEPA OFFICE 5TH FLOOR			
	Typo	Pg#3, Section 1 (Objections)	Objectives
	Repetition	Pg#3, Section 2 (e) & (i)	(e) remains unchanged, (i) insert after the word Sanctuary 'by-laws and regulations' end of sentence. Delete 'Management Plan'
	Member numbers	Pg#4, Section 4 member number change	Remove 8 members to 9 member
	New inclusion	Pg#4, Section 4 add new sentence as item 4.2	4.2 CEPA as the Chairperson for first year and committee to vote for Chairperson in second year.
	Word addition and omitting	Pg#5, Section 4, item 4.2 part (f)	Add the word 'Commission' and omit 'and'
	New inclusion	Pg#5. Section 4, item 4.2, combine (c) & (d), (g) changed to (f) and to include CBO and add parts (h), (i), (j)	(c) A representative from the Central Provincial Government and Hiri Local Level Government (f) A representative from a non-governmental organization (NGO) and community based organization (CBO). (h)A Representative from Motu Koita Assembly (i)A Representative from the National Maritime



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			Safety Authority (j)A Representative from PNG Ports Limited
	Meeting times	Pg#5, Section 6, item 6.1 'meeting twice a year'	Changed to 'meeting 4 times a year'
	Meeting quorum	Pg#5, Section 6, item 6.2,...'50% of the members.'	Changed to '50% or more of the members.'
	Appointment of voting members	Pg#6, Section 6, item 6.6 part (a), '...section 9'	Changed to '...section 10'
	Appointment of voting members	Pg#6, Section 6, item 6.6, part (b) delete words 'proxy or'	Word 'proxy or' deleted
	Appointment of voting members	Pg#6, Section 6, item 6.6, new inclusion part (c)	(c)There shall be voting by proxy upon authorization by the committee member
	Word change	Pg#6, Section 7, item 7.1 ...'while the other'.	'..while the others..'
	Word addition	Pg#6, Section 8, item 8.1 word inclusion	..members of the 'Office Bearers' ...
	Sentence change	Pg#7, Section 9, item 9.2, word replacement	..members 'relatives.' words 'spouse or child.' deleted
	Omit Section; It is administrative and the committee can set the criteria later	Pg#7, Section 10	Section 10 deleted to avoid unnecessary expectations and to encourage commitment on interest based and not incentives.
	Change Section number	Pg#7, Section number change and item numbers	Change Section# 11 to #10 include item numbers; (11.1 – 10.1),(11.2-10.2),(11.3-10.3),(11.4-10.4),(11.5-10.5),(11.6-10.6) & (11.7-10.7)
	Change Section number	Pg#8, Section number change and item number	Change Section# 12 to #11 including item numbers; (12.1-11.1),(12.2-11.2) & (12.3-11.3)
	Word change	Pg#8, item (11.3)...word delete and replaced	Word 'favourable 2/3' replaced with word 'majority'



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Attachment 2

BOOTLESS BAY NATIONAL MARINE SANCTUARY MANAGEMENT COMMITTEE

Bootless Bay National Marine Sanctuary Management Committee members			
No	Organization	Type	Purpose
1	Conservation and Environment Protection Authority	1x Lead Agency	Coordinate Protected Areas
2	Central Provincial Government /Hiri LLG	1 x Central Government Rep	Government Regulation
3	National Capital District Commission	1x Government Rep	Government Regulation
4	University of Papua New Guinea	1x Institution Rep	Research
5	Pari Women Development Association/ Bootless Bay Lavadae Reforestation Association/ PNGCLMA	1x CBO/NGO Rep	Community engagement
6	Motu-Koitabu Assembly Rep	1x Motukoitabu Assembly Rep	Local level Government regulation
7	PNG Tourism Promotion Authority	1x Tourism Rep	Eco-tourism
8	National Fisheries Authority	1 x Fisheries Rep	Fisheries Policy and Regulation
9	Central Papua Conference	1x church rep	Community engagement & research

NB: This is the final list approved at the 9th BBMCI/1st BBNMS WG meeting on 5th February 2020.

Annex 4.3.18 The inception workshop for the creation of BBMCI report

The Project for
Biodiversity Conservation through Implementation of
PNG Policy on Protected Areas

Report for Inception Workshop for Bootless Bay Conservation Initiative

August 16th, 2016

Motupore Island, Bootless Bay, Central Province

CEPA Project Team

JICA Expert Team

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Table 1. Target Institution for Bootless Bay Conservation Initiative

Table 2. Inception Workshop Program

Table 3. Preliminary idea for zoning at Tahira inlet (CPC property) by CEPA-JICA Project

Abbreviations

JICA	Japan International corporation Agency
CEPA	Conservation and Environment Protection Authority
UPNG	University of Papua New Guinea
CPC	Central Papua Conference
SDA	Seventh Day Adventist Church
NCDC	National Capital District Commission Fisheries Development Agency
LLG	Local Level Government
CVES	Central Village Environmental Services
MIRD	Motupore Island Marine Research Department
PA	Protected Area
PPA	Policy on Protected Areas
GoPNG	Government of Papua New Guinea.
MPAs	Marine Protected Areas.
TPA	Tourism Promotion Authority
PNG Ports	Papua New Guinea Port Services
NMSA	National Maritime Safety Authority
NFA	National Fisheries Authority
CPA	Central Provincial Authority

Acknowledgements

This inception workshop for Bootless Bay was made possible with financial and technical support from Japan International Cooperation Agency (JICA) with collaborative partnership from the Conservation and Environment Protection Authority (CEPA). Through this partnership the project for Biodiversity conservation through implementation of the Policy on Protected Areas (PPA) was initiated.

On behalf of the CEPA-JICA Project Team and the Project Management Team, we would like to extend our thanks and gratitude to the representatives of the following institutions who attended and contributed the workshop. These include the following: UPNG, Central Papua Conference (CPC) of the Seventh Day Adventist Church, National Capital District Commission (NCDC), Office of Coastal Fisheries Development Agency (CFDA), Hiri Local Level Government (LLG), the Dive Center, Gereka Community, Central Village Environmental Services (CVES), and Em TV. We also thank others who participated at the workshop or have contributed in one way or another to the success of the workshop.

University of Papua New Guinea (UPNG) and especially Motupore Island Marine Research Department (MIRD) is acknowledged for the use of its island facilities including the conference room and boat for the workshop.

1. Background

The CEPA-JICA Project “Biodiversity Conservation through Implementation of PNG Policy on Protected Area” will run for a period of five (5) years commencing in June 2015 and ending in 2020. The primary purpose of the project is to institutionalise and strengthened capacity of CEPA for Protected Area (PA) management through enhancing national-level PA governance and sustainable use of natural resources with local communities in the model PA(s) as per the provision of the PPA.

To address biodiversity conservation and support the development and management of a National Protected Area Network in PNG, GoPNG developed the PNG Policy on the Protected Areas (PPA), which was launched in December 2014. PPA will guide communities, organizations and agencies to harmonize their efforts in a structured and logical approach to the development and management of protected areas.

Project target areas, including Central Province and several target PAs, will be clearly defined during the initial stage of the project implementation. Output 3 proposes Bootless Bay to be a target Marine Protected Area (MPA). Under this Output a model for establishing a new MPA will be developed as per the provision of PPA and concerned laws.

The project site(s) have a wide range of issues that include environmental degradation causing ecological imbalances, influx of human settlements along the narrow coastal fringes, overfishing in the mangroves and inter-tidal zones, and proposed major developments including a new wharf, and a fuel terminal, amongst others. There is no coordinated effort from bottom up or top down planning to take all the above consideration into account and develop a plan that will not compromise the fragile marine environment.

The CEPA-JICA Project recently held an Inception Workshop on the 16th August 2016 for the marine component of the project on Motupore Island which was co-facilitated by the Conservation and Environment Protection Authority (CEPA) and Japan International Cooperation Agency (JICA).

Bootless Bay has been chosen as the target site for the project. In the area project focused on 8 zones as candidate sites with specific objectives. And based on the study that was conducted in the first part of the year, Tahira inlet was selected as primary site to establish MPA by the project.

This inception workshop brought together all the stakeholders to discuss and recommend ways forward in addressing the above issues.

2. Objectives

The overall goal of this inception workshop was to bring together all stakeholders and developed a strong network to look into the development and planning of MPA(s) within the Bootless Bay. Thus the specific objectives of the workshop were:

1. Showcase the project goals and expected outputs
2. Identify and network with major stakeholders within the Bay
3. Identify and list issues (both present and potential)
4. Recommend ways forward in addressing these issues
5. Setup coastal and marine “working” committee.

3 Methodology

The workshop was a 1-day workshop and divided into two main sessions. These included presentations and group discussions. The workshop started at 10:30am with opening remarks by Mr. Vagi Rei who stood in for Ms. Yvonne Tio. The presentations were done in the morning and towards the early part of the afternoon. Group discussions then took up most of the afternoon. The workshop was facilitated by Mr. Vagi Rei of CEPA.

Opening remarks were made by Mr. Vagi Rei to open the workshop in the morning at the start of the workshop. He mentioned that CEPA has now in place a new Policy on Protected Area and that it was timely to have this workshop to set in place a process to develop and implement an MPA. Following on from Mr. Rei's speech, Mr. Koji Asano, Chief Technical Advisor also gave a brief background on the project and JICA's involvement in the project. Following this, introductions were made all around followed by detailed project presentation on Output 3 by Dr. Yukio Nagahama and Mr. Job Opu.

Five-minute presentations were then done by the following agencies: NCDC, UPNG, CPC, TPA, and the Dive Center. The floor was then open up for discussions. This ended the morning sessions and the workshop broke up for lunch.

Presentations continued into the afternoon session with two more presentations by Ms Samoa of Central Village Environmental Services and Mr. Numa of Gerega Community. The floor opens up for questions following the two presentations.

Mr. Opu then introduced the Bootless bay map zoning activity presenting two maps, the MPA zoning map for Bootless bay including outer barrier reef and the Tahira mangrove map for UPNG, CPC and CEPA input for possible zoning classifications. The participants were asked to break up into two groups with UPNG, CEPA and CPC working on the Tahira mangrove zoning map and the rest of the participants to have their input into the larger Bootless Bay map. For the larger Bootless Bay map, participants were asked to paste on colour stick-on pads to indicate their stake in the Bay. This included dive sites, fishing sites by local fisherman, research and monitoring sites by UPNG, areas of huge solid waste accumulation such as that of Tubuseria Village and Tuna Bay, and areas. Presentations were done after the zoning exercise.

Formation of network for Bootless Bay Conservation Initiative was discussed after the zoning exercise. The participants were asked to provide names of institutions and person within the institution to be part of the working committee. Names and institutions were provided by the participants

Mr. Rei then went over the outcomes of the workshop and the follow-up activities after the workshop. He then thanked everyone for coming and contributing to the workshop and closed the workshop with a prayer.

Table 1. Target Institutions for workshop

No.	Representative	Institution	Remarks
1	Prof. Simon Saulei	UPNG	Motupore Islands research comes under UPNG is plays a crucial role in the project. Motupore Island is situated in Bootless bay
2	Mr. Daniel Opa	CPC- SDA Church	CPC of the SDA Church owns the Bautama Portion of land and some part of the Tahira mangrove Forests in the Bootless Bay. They will be a major partner in the Tahira Mangrove Conservation Initiative
3	Ms. Kemo Pepena	Lands and Physical Planning. National Capital District	NCDC is the Municipal authority for the national capital and the city of Port Moresby. Its borders and city limits also encompasses the Tuna bay and some section of the Bootless Bay. Hence it will be a major player in the Bootless Bay conservation initiative
4	Ms. Judith Raka/ Ms. Hane Kila	PNG Ports LTD.	PNG Ports has jurisdiction of "Port Limits" with the Port Moresby sea area. Bootless Bay is inside the Port Limits hence PNG Ports must be informed of any planning or development that will happen in the Bootless Bay. PNG Ports will be a major partner in the Bootless Bay Conservation Initiative.
5	Mr. Edward Kila	Central Provincial Administration (CPA).	CPA is responsible for administration processes in the Central Province.
6	Mr. John Kasu / Mr. Leban Gizawa	National Fisheries Authority	NFA is responsible for all commercial fisheries activities but also do run programs to assist community based fisheries programs as well. They also provide and formulate policy guidelines for fisheries management.
7	Mr. Andy Bill	Office of Coastal Fisheries Development Agency	CFDA basically deal with artisanal fishermen in promoting sustainable fishing practices and proving advice and funding support for the local fisherman.
8	Mr. Sibona Mavaru	Hiri Local level Government, Central Province	Hiri LLG is the local level government administration of the Hiri District.
9	Mr. Pawa Limu	National Maritime Safety Authority	NMSA is responsible for monitoring all shipping movements within PNG's maritime zone. They are responsible for carrying out any risk assessment throughout PNG waters.

4. Basic Information on the workshop

The inception workshop was held in the conference room of the Motupore Island Marine Research facilities of UPNG on the 16th of August 2016. Despite the late notice and arrangements 26 participants attended the workshop. There were 2 participants from NCDC, 2 from CPC, 2 from Central Village Environmental Services, 5 from UPNG, 1 from the Dive Center, 6 from the CEPA-JICA team, 1 from Coastal Fisheries Development Agency and the rest were from the Motupore Island.

The workshop program is outlined in table 2. The workshop was scheduled to start at 9:00am, however it started late at 10:30am as it was quite challenging logistically to get all participants to Tahira in the morning and get them on the boat to Motupore Island. The registration of participants were done during the course of the workshop by circulating a registration/participants list form to be filled and signed by each participants. The workshop ended at 4:30pm

The main facilitator for this workshop was Mr. Vagi Rei of CEPA. He also stood in for Team Leader for output 3 of the project, Ms. Yvonne Tio to formally open and close the workshop.

Table 2. Marine Inception Workshop Program

Time	Program	
8:00	Arrivals on Motupore Is.	Lead Persons
9:00	Opening of the workshop <ul style="list-style-type: none"> • CEPA • JICA 	Facilitator: Vagi Rei
9:30	Introduction of the Project <ul style="list-style-type: none"> • CEPA Presentation of the project • JICA Presentation of the project • Presentation of Output 3. Marine Component. • Allow for questions and answers 	Facilitator: Vagi Rei
10:30	Morning Tea Break	
11:00	Line Agency and Stakeholder presentations <ul style="list-style-type: none"> • NCDC – Developments in Taurama Bay • PNG Ports – Harbour Jurisdiction and management • NMSA – Marine Risk Assessment • UPNG – Motupore Island and Bootless Bay Marine Research 	Facilitator: Vagi Rei
12:30	Lunch break	

13:30 Continue with presentations Facilitator: Vagi Rei

- CPC Bautama Developments
- Pacific Aviation Fuel – Proposed Gas terminal
- TPA/Dive Center/ Loloata Island Resort
- LLG and Community Representatives

15:00 Tea Break

15:30 Open Floor Discussions Facilitator: Vagi Rei

- Marine Use Zoning – marine use/seascape planning
- Cooperation Strategy for all stakeholders
- Best way forward in addressing stakeholder needs

16:00 Formation of Marine Working Committee Facilitator: Job Opu

- Introduction (Why, How, when, purpose...etc.)
- Call for nominations
- Interim Committee formed.

16:45pm Conclusion of Workshop. Facilitator: Vagi Rei

- Announcement of interim committee
- Next steps
- Closing of the workshop

Products

- Network established
- Workshop report
- Interim committee
- Plan of Zonation Map.

5. Session 1. Speeches and Presentations

5.1 Opening Remarks

Opening remarks for the workshop were given by Mr. Vagi Rei, Manager – Marine Protected Areas of CEPA. Mr. Rei stood in for Ms. Yvonne Tio, Executive Manager, and Sustainable Marine Programs of CEPA, who was not able to make it to the workshop. Mr. Koji Asano, Chief Advisor, CEPA -JICA Project came in after Mr. Rei and provided some project background.

In the opening remarks, Mr. Rei welcomed all the participants to the workshop on behalf of CEPA and the project team. He went on to mention that CEPA in the past did not have any policy or process in which it could use to set up an MPA. Only recently CEPA has come up with a Policy on Protected Areas (PPA) that was endorsed by the Government in December of 2014. This allowed for developing of criteria and process for MPAs among others. Under the new PPA, CEPA with support from JICA was embarking on developing guidelines and process into setting up MPAs that could be used throughout the PNG. Bootless Bay and the outer fringing reefs were chosen as the pilot site to carry out the project. Mr. Rei mentioned that the bay was being “used” by a number of different stakeholders with different interests and these should be mapped out properly to allow for proper zoning and planning so that the ecological balance and welfare of the bay is not compromised. This can only happen if some parts of mangroves, seagrass and corals reefs are set aside for protection to allow for replenishment of depleted fish stock, corals, mangroves and seagrass.

Mr. Asano thanked CEPA and mentioned that this project was a joint project between CEPA and JICA. The whole project had 4 outputs and that two project areas were chosen. Variarata National Park and the Bootless Bay. The Bootless Bay component was marine focused and covered coastal, nearshore and outer barrier reefs of Bootless Bay. JICA was pleased to co-facilitate this workshop.

The participants were then asked by Mr. Rei to introduce themselves and introductions were made all around.

5.2 Overview of Workshop.

Mr. Vagi Rei, facilitator for the workshop, asked Mr. Job Opu to give a quick rundown of the workshop program. Mr. Job informed the participants that the program was sent out earlier to them with the official invite letter to the workshop. He asked them to open up the workshop information paper to go through the program. He asked if there were any questions or clarification needed. The participants said that the program was alright and that the workshop continue.

5.3 Stakeholder Presentations.

a. Introduction and Overview of Output 3 CEPA-JICA Biodiversity Project.

Introduction and overview of Output 3 of the project was presented by Dr. Yukio Nagahama – JICA Marine Expert and Mr. Job Opu – local JICA Marine Expert. Dr. Nagahama presented the outline of the project, project design, project targeted areas, methodology and procedures for Output 3, list of

project staff of CEPA – JICA Project, and current actions under this output. There were 5 current actions that included:

- Collect and archive all information on marine environment
- Finalise roadmap for protection of Bootless Bay marine ecosystems
- Conduct marine inception workshop
- Progress Bootless Bay conservation initiative
- Progress and finalise the Bootless Bay Tahira Mangrove Protection and Bird watching MoU between CEPA, CPC and UPNG
- Plan and carryout marine biodiversity survey.

Mr. Opu presented on the last 3 current actions. He mentioned that Bootless Bay Conservation Initiative had an overall aim of trailing and having a process in place to allow for the establishment of MPA under the new PPA arrangements. There were stakeholders within the Bootless Bay and other outside interests that need to work together to see how best they could manage their activities without compromising the ecological balance of the Bay. A map would be presented in the latter part of this workshop whereby stakeholders could indicate where their “interests” lay in the Bay. A seascape map would then be created to zone out areas and “interests” of each stakeholder.

Under such conservation initiative and promoting eco-tourism, research and strict protected area as well, a MoU was progressed between CEPA, UPNG and CPC to plan and zone a portion of Tahira mangrove forest to allow for bird-watching boardwalk. The MoU will be signed in September and will allow for activities to continue.

A marine biodiversity survey will be undertaken for the Bootless Bay in November 2016. There have been many studies undertaken before in the Bay hence all past technical and research reports will be compiled and a desktop review undertaken. Following on from this a survey plan will be developed and executed.

b. NCDC’s Marine Zonation

Ms. Kemo Pepena, Manager for Strategic Planning NCDC Regulatory Services did a short 5-minutes presentation on behalf of NCDC. Ms. Pepena thanked CEPA-JICA Project and said this Bootless bay project was a good initiative. NCDC operations for any major development always made sure they went through the environmental guidelines set up by CEPA. They used the open spaces concept to protect terrestrial and marine areas for special scenic, recreational and conservation purposes. While some terrestrial and marine areas were state land and NCDC could regulate to an extent, others even though within NCD, were under customary ownership and was quite difficult to regulate. In the case of Tuna Bay all the way into Dogura Inlet, NCDC has zoned the area as from the waterfront back into land under 500m to be protected zone, however the Tuna Bay community decided against this and went for a 20 buffer zone. This has resulted in severely degradation of Tuna Bay. NCDC hope that through this project, Tuna bay issues can be jointly addressed.

c. UPNG and Motupore Island Marine Research

Prof. Simon Saulei, Head of Biology Department from UPNG presented on behalf of UPNG. He thanked CEPA – JICA Project for the invitation to the workshop and also developing partnership with CEPA-JICA Project to work in Bootless Bay. UPNG’s Motupore Island Research Center has conducted coastal and marine studies in the past however over the years the facilities on Motupore Island has deteriorated. UPNG’s marine research program has also set up monitoring stations all through Bootless Inlet, Tuna

Bay, and also along the eastern Papuan coast. UPNG is now pushing for Biodiversity Conservation degree including post graduate courses and will be offering them in 2017 and onwards. UPNG is working on getting the facilities on Motupore Island up and running again and when this happens, this will be the centre for all research and monitoring programs which all the stakeholders can utilise. UPNG is keen to cooperate with all stakeholders is pursuing Bootless inlet to become an MPA.

d. CPC, Bautama Development Plans

Mr. Daniel Opa, of CPC presented on behalf of the CPC and the SDA Church. He thanked CEPA-JICA Project for the invitation to the workshop and also for developing partnership to progress work in the conservation of Tahira Mangroves. Mr. Opa said it is timely that this workshop is happening so that all stakeholders can share their concerns. CPC is now clearing land for housing and hospital projects in the Bautama area which is adjacent landwards from the Tahira Mangrove forests. They would like to make sure their Bautama Operations have a minimal impact on the mangrove and the sea. Further to this CPC is very keen to see the bird-watching project come to fruition and that they will be working closely with CEPA-JICA Project and UPNG.

e. TPA. Tourism Operations

Mr. Nathan Lati, Development Project Officer of TPA presented on behalf of TPA. He thanked CEPA-JICA Project for the invitation and presented on Roles of Policy and Planning Division within TPA. TPA was developing bird watching in Variarata and were interested in conservation and bird watching initiative for the Tahira Mangroves. Bootless Bay could be zoned out for some tourism activities and this could be marketed through their systems including catering for large cruise ships as well.

f. Dive Center. Dive Tourism in Bootless Bay.

Mr. John Miller, Manager for the Dive Center presented on behalf of his operations. He thanked CEPA-JICA Project for the invitation and mentioned that previously there were 3 dive operations catering for the divers in Port Moresby and the Bootless Bay. One was based at the Yatch Club, the other on Loloata Island and the third, the Dive Center is located in the Bootless Bay. The Dive Center is now the only active dive operator within Bootless Bay with 12 international dive sites that include reef diving, WWII plane wreck diving. The Dive Center have been operating for 20 years and John has noticed changes in the water quality such as increased sedimentation from runoffs associated with land based activities, and the increase in solid waste such as plastics, bottles, cans etc. from the travelling public and also coming in by currents from Port Moresby Harbour. Despite all these impacts, the reefs in Bootless Bay were still in good condition. This workshop calls for an opportunity to address sedimentation and solid waste deposits in the Bay.

g. Hiri LLG. Local level Government Participation.

Mr. Sibona Mavaru, Manager, Hiri LLG presented on behalf of Hiri LLG. He thanked CEPA-JICA Project for organising and inviting Hiri LLG to the workshop. He outlined that Bootless Bay was located within the boundaries of two wards of east Hiri LLG. These included Tubuseria Ward and Mt Diamond Ward. The land and sea were important for the community. He ended his talk by asking: "who would the Bootless Bay conservation initiative project benefit?"

h. Gereka Community. Fishing grounds within Bootless Bay.

Mr. John Numa, Sailing Instructor with the Papua Yatch Club and a member of the Gereka Community presented on the community's behalf. Mr. Numa thanked CEPA-JICA Project for organising this workshop and choosing Bootless Project as the project site. He said that the community utilised the bay marine habitats for wood and food. This was his first time at such workshop and he was here to

learn and assist in conserving Bootless Bay. As the project progressed and as he learn and appreciate these new conservation initiatives he would be in a better position to contribute more positively in workshops and meetings of this sort.

i. Central Village Environmental Services. Waste Management issues

Ms. Samoa Rage presented on behalf of CVES. She thanked CEPA-JICA Project for organising this workshop and for inviting CVES to attend and do their presentation. In the opening of her presentation she mentioned that there were 5 issues pertaining to waste management in the Bootless Inlet and the Tuna bay areas. These include: Litter, indiscriminate roadside dumping, marine pollution, loss of cultural values and lack of environmental awareness. The built up and accumulation of the solid wastes such as plastic bags and water bottles was a very serious problem in the Tuna Bay and the Tubuseria Village. CVES has put together a Waste Management Plan to address waste management and will start their program in Tuna Bay with the support of NCDC.

j. Office of Coastal Fisheries Development Agency.

Ms. Christine Siwisika presented on behalf of her agency. She thanked CEPA-JICA Project for the opportunity to attend to this workshop and to contribute to this workshop. She mentioned that her organisation were working with local artisanal fishermen and that they were supporting marine livelihood projects. She went on to mention that her agency was interested in setting up a sustainable fisheries project within the Bootless Bay and will be working with the Gereka community to initiate the project. They propose to culture and farm mud-crabs. She will inform CEPA –JICA Project on how their project goes.

6. Session 2. Group Discussions.

6.1. Working Group formation.

Mr. Job Opu explained the process of this session. He provided two maps on the wall. The first map was a larger coastal marine area map of the Bootless Bay including outer barrier reefs and Horse shoe reef. He explained that this would be preliminary zoning activity with all stakeholder present to mark out their area of interest within the Bay. These markers would then be analysed and zoned to indicate areas of interests to stakeholders and to allow stakeholders to appreciate where the interest conflicted with other interest and if they could compromise and agree to remove their activities to allow for other activity only. For example, if community fishing grounds clashed with UPNG research and monitoring sites, maybe the fishing grounds could be removed and allow only for research and monitoring activities.

The second map was a more narrowed down map showing CPC land and coastal boundaries with preliminary zonation proposed by CEPA-JICA Project. This would be part of the CEPA, UPNG and CPC MoU that would allow for core zone (protection), Buffer zone (no development) and transition zone (development with restriction) to encompass research plots, bird watching board walks, and total protection mangrove areas.

The participants were then divided into two groups. The larger group worked on the larger marine coastal maps while a smaller group comprising UPNG, CEPA and CPC worked on the smaller Tahira mangrove map.

6.2 Aim of Working Group Discussions.

The primary Aim of group 1 discussions was to brainstorm and put on the map various stakeholder interests such as fishing grounds, dive tourist sites, research and monitoring sites ...etc. This was a larger group discussion targeting all institutions represented at the workshop.

The primary Aim of group 2 discussions was to do a first attempt at classifying and zoning the Tahira Mangroves for multiuser purposes. This was done on a narrowed down map indicating the land areas and mangrove forests within the boundaries of CPC. The following categories were used: Core Zone (protect), Buffer Zone (no development), and transition zone (development with restriction). This was a smaller group discussion and comprised of UPNG, CEPA and CPC.

6.3. Working Group Discussions

The discussions involved brain-storing and mapping out specific interests on the map. Group 1 had the following areas marked out on the large scale Bootless Bay:

- International tourist diving sites
- Community fishing grounds
- UPNG research and monitoring sites
- International surfing sites
- Proposed Mud crab farming site
- Solid waste sites
- 250m NCDC protected coastline zones

12 international dives sites were identified in this discussions and exercises. There were lots of community fishing grounds, in fact spread all through the bay. There were 15 research and monitoring sites of UPNG. There were two international surfing sites. Only one site for the proposed mud-crab farming was put forward. Two solid waste sites were marked out in Tuna Bay and Tubuseria Village. NCDC's 250m buffer zone extended all the way from Tuna Bay into Dogura Inlet.

The discussions on zoning of Tahira Mangrove bird watching project was led by Mr. Rei of CEPA. Initial zoning was setup following the criteria as listed in Table 3. Initial zoning marks was done in CEPA office by members of the CEPA-JICA Project prior to the workshop. This was then brought to the Motupore Workshop and presented to CPC and UPNG. Discussions amongst the 3 parties indicated the idea in general was good and that a major focus should be given to the river/stream that comes in from Bautama through the mangroves and into the bay. This would also need special protection and that the buffer zone for the river should be at least 100meters as recommended by Professor Saulei and Mr. Pius Piskaut of UPNG. Mr. Opa of CPC agreed and this will be further worked on in CEPA-JICA project office.

Table 3. Preliminary idea for zoning at Tahira inlet (CPC property) by CEPA-JICA project

Category	Sub-category	Colour	Description
Core zone (Protection)	-Mangrove protect zone	-Black line	-At least 50% of existing mangroves
	-Back mangrove protect zone	-Red line	-Inter tidal flats
	-Water line protect zone	-Blue dots	-At least 50 m from water line
	-Hill top protect zone	-Red dots	-Top of hills
	-Steep slope protect zone	-No colouring yet	>25 degree
	-Existing in land forest protect zone	-Light green shade	-Existing inland forest
Buffer zone (no development)	-Research/education activities buffer zone	-Orange shade and dots	-Less than 50% of existing mangrove and inter tidal flats
	-Eco-tourism buffer zone	-Blue stroke	-For example, bird watching, board walk
Transition zone (development with restriction)	-Research/education activities transition zone	No colouring yet	-At least 50% of entire property (other than mangrove area)
	-Eco-tourism transition zone		-Garden, lawn, reforested area
	-Recreation transition zone		

Discussions on zoning for Tahira Mangrove were agreed to in principal however CPC wanted a bit more explanation and to go over the zoning process at a later stage, UPNG also agreed and said that they also would have preferred the zoning to also include the UPNG section of Tahira Mangroves. Mr. Asano replied that this could be done at a later stage. However, for the purpose of the MoU between CEPA, CPC and UPNG, the process had to be trailed on CPC- Tahira potion of mangroves to begin with then extend to other areas.

In conclusion of the discussions, the stakeholder marked map will be captured in map and zoned out and there will final Tahira mangrove zoning with CEPA, CPC and UPNG to finalise zonation map.

6.4. Working group Discussion on the formation of network of Bootless Bay Conservation Working Group.

Mr. Job Opu led the discussions on the formation of the network. He said there was a sub project for the Tahira Mangrove Conservation project that would be part of this network. He mentioned that this would be composed of all major stakeholders for Bootless Bay. He opened the floor for nominees and 11 names were nominated by the participants. This included the following:

- NCDC - Ms. Kemo Pepena, Physical Planning (Keneth Atasoa to be the alternative)
- Hiri LLG - Mr. Sibona Mavaru – Hiri LLG Manager
- UPNG-MIRD – Professor Simon Saulei (Mr John Genolagani to be alternative)
- CPC - Mr. Daniel Opa – Special Projects
- Dive Center - Mr. John Miller, Manager.
- CEPA - Ms. Yvonne Tio, Executive Manager SMEP, CEPA.
- CFDA - Mr. Richard Kaniku, Southern Region Coordinator
- CVES(NGO) - Ms. Samoa Rage
- Gereka Landowner Community - Mr. John Numa
- PNG Ports (HMS) - Ms. Hane Kila

The above would form an interim committee for the “network for the Bootless Bay Conservation Initiative”. As a follow up of the workshop, CEPA would formally write to these individuals and invite them to become members of the committee. CEPA – JICA Project will work on a TOR for the committee and circulate for comments. It is hoped that the committee can meet on a regular basis and provide input into the Bootless Bay Conservation initiative.

7. Closing Remarks

Mr. Bernard Suruman stood in for Ms. Yvonne Tio and closed the workshop with a few remarks. He thanked all participants for coming to the workshop and for making positive contribution to the workshop. Even though the workshop was only for a day, a lot has been achieved over the last hours and that CEPA was happy with the outcomes of the workshop.

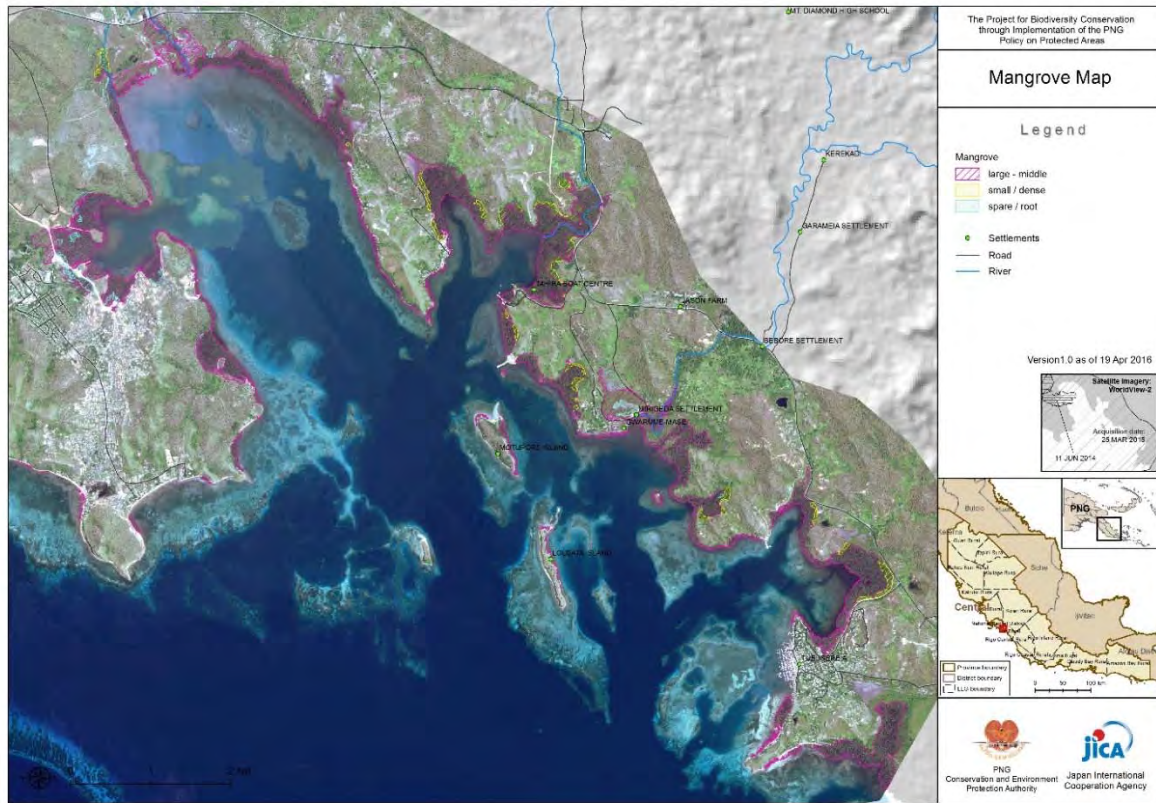
Mr. Rei mentioned that with the new formation of the working group, a lot more cooperation and consultation would be encouraged from all members to provide support into the project.

ANNEXES

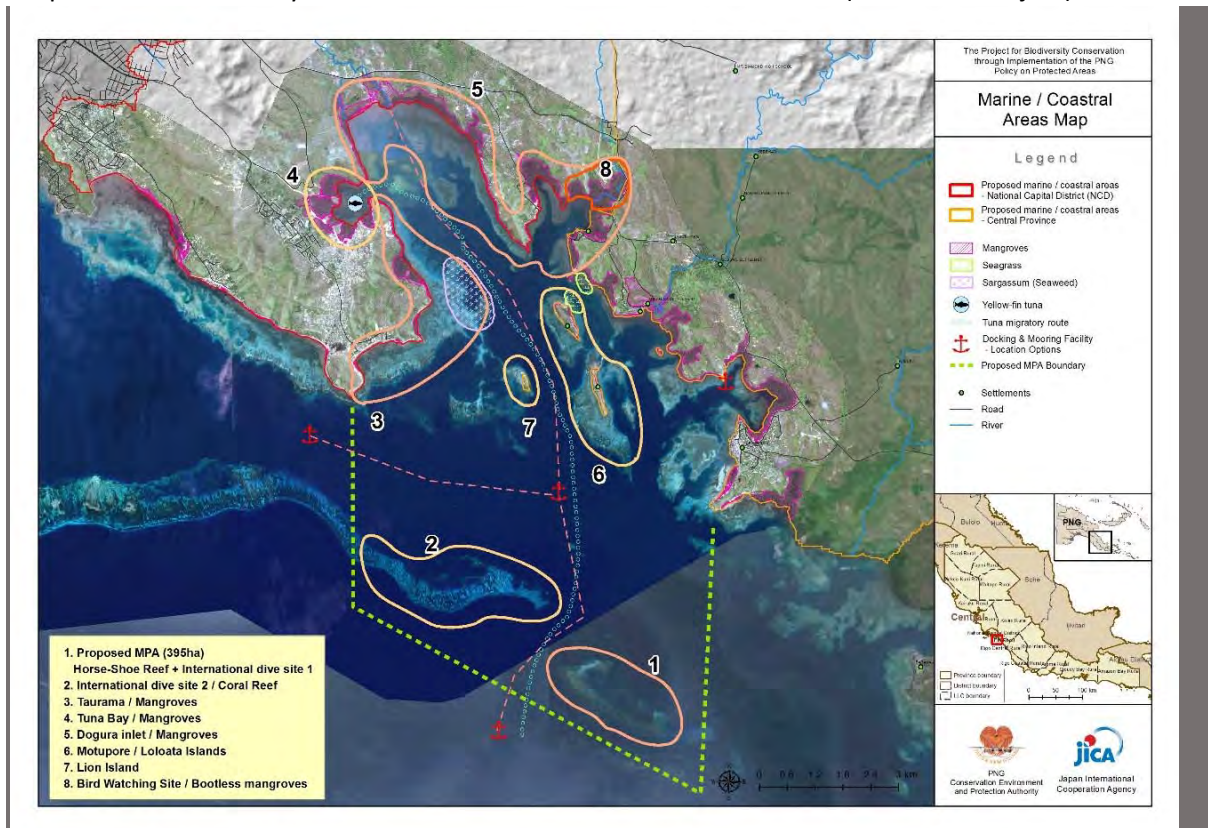
Annex 1. List of Attendees at the Marine Inception Workshop, Motupore Island

No.	Name	Designation	Organisation	Contact details
1	Mr. Koji Asano	Chief Advisor	JICA	
2	Ms. Kemo Pepena	Manager – Strategic Planning	NCDC	
3	Ms. Gertrude Miria	Physical Planner, Environment	NCDC	
4	Mr. Eric Haurumpma	Journalist	EmTV	
5	Mr. Manoa H. Wanaga	Physical Planner	CPC- SDA Church	
6	Mr. Nathan Lati	Project Officer	PNGTPA	
7	Mr. Daniel Opa	Infrastructure Projects coordinator	CPC-SDA Mission	
8	Mr. Vagi Rei	Marine Manager	CEPA	
9	Ms. Christine Siwisika	Project Officer	CFDA	
10	Mr. John Numa	Sailing Instructor	Gereka Community	
11	Mr. John Miller	Dive Master	Dive Center	
12	Mr. Pius Piskaut	Lecturer	Biology, UPNG	
13	Mr. Sibona Hetahu	Project Director,	CVES	
14	Professor Simon Saulei	Head of Biology	UPNG	
15	Mr. John Genolagani	Lecturer	UPNG	
16	Mr. Job Opu	Local Marine Expert	CEPA-JICA Project	
17	Mr. Sibona Mavaru	Manager	Hiri LLG	
18	Ms. Samoa Rage	Representative	CVES	
18	Mr. Bernard Suruman	Marine Manager	CEPA	
20	Mr. Roga Gabido	Manager MIRD	UPNG	
21	Mr. Kapi Genolagani	Student	UPNG	
22	Ms. Nancy Bobola	Assistant	JICA	
23	Mr. Joel Hamari	Journalist	EMTV	
24	Mr. Samuel Siwi	Lecturer	UPNG	
25	Mr. Ted Mamu	National Coordinator	JICA	
26	Dr. Yukio Nagahama	JICA Expert	JICA	

Annex 2. Maps of Bootless Bay– Inception Workshop held on Motupore Island



Map 1. The Bootless Bay inshore and nearshore marine environment. (CEPA-JICA Project)



Map2. Map of Bootless Bay and outer reef zoning. (CEPA-JICA Project)

Annex 3. Photo documentation – Inception Workshop for Bootless Bay Conservation Initiative. Motupore Island



Photo 1. Mr. Vagi Rei of CEPA giving opening remarks



Photo 2. Dr. Yukio Nagahama giving presentation on overview of the CEPA-JICA Project



Photo 3. Participants discussed on the environmental issue in Bootless Bay



Photo 4. Mr. Daniel Opa of CPC stressing a point



Photo 5. Ms Samoa Rage of CVCT presenting on waste management



Photo 6. Ms. Gertrude Miria of NCDC showing the 250m Buffer zoning coastlines designated by NCDC



Photo 7. Mr. Sibona Mavaru of Hiri LLG asked “who would the Bootless Bay conservation initiative project benefit?”



Photo 8. Mr. Nathan Lati of PNGTPA presenting “Bootless Bay could be zoned out for some tourism activities”.



Photo 9. Mr. John Numa, Sailing Instructor said that the community utilised the bay marine habitats for wood and food.



Photo 10. Mr. Koji Asano explained about degradation of mangrove forest around Bootless Bay.



Photo 11. Mr. Vagi Rei indicating project targeted area



Photo 12. Cristine Siwisika sharing coastal fisheries activities



Photo 13. Dr. Nagahama asking about targeted species of fishing in the area



Photo 14. Prof. Simon Saulei of UPNG explained about their field research activities in the area



Photo 15. Mr. Vagi Rei explaining preliminary zonation idea by CEPA-JICA Project in Tahira



Photo 16. Participants exchanging information for project targeted area

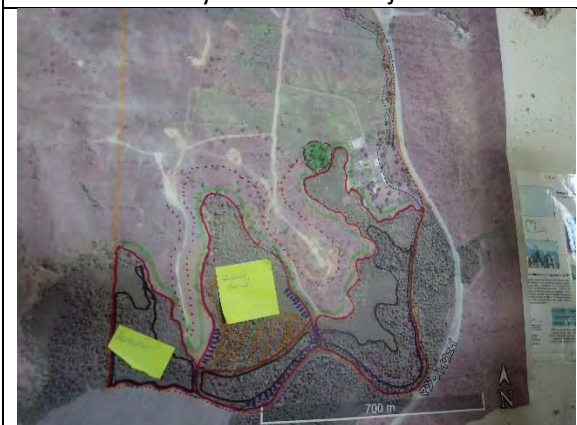


Photo 17. The map showing preliminary zonation idea by CEPA-JICA Project



Photo 18. Mr. Bernard Suruman giving closing remarks

Annex 4. PowerPoint Presentations

4.1. CEPA-JICA Output 3 Project presentation (Mr. Yukio Nagahama).

The Project for Biodiversity Conservation Through Implementation of the PNG Policy on Protected Areas

Inception Workshop for Bootless Bay Conservation Initiative
(networking and particular MPA sub-project)

16th August 2016

Yukio Nagahama
JICA Expert for Output 3 of the CEPA-JICA Project

Contents

1. Outlines of the Project
2. Project Design
3. Project Target Areas
4. Methodology and Procedure for Output 3
5. List of Project Staff of CEPA - JICA
6. Current actions for Output 3

Outlines of the Project

Overall Goal
Protected Area Network is effectively managed by applying PA management (and establishment) model(s), which were developed by the Project.

Project Purpose (Year 2020)
Institutional capacity of CEPA for protected area (PA) management is strengthened through enhancing national-level PA governance and sustainable use of natural resources with local communities in the model PA(s) as per the provision of PPA.

Outputs

1. National-level governance and management arrangement for Protected Area Network (i.e., PPA Action Plan, National Conservation Council (NCC)) is strengthened.
2. The Vannara National Park (VNP) is enhanced as a terrestrial PA management model in accordance with PPA.
3. A model of establishing a new marine PA is developed as per the provision of PPA and concerned laws.
4. Public relations/awareness for biodiversity conservation is improved by disseminating project related information.

Project Design

Overall Goal: Protected Area Network is effectively managed by applying PA management (and establishment) model(s), which were developed by the Project.

Project Purpose: Institutional capacity of CEPA for PA management is strengthened through enhancing national-level PA governance and sustainable use of natural resources with local communities in the model PA(s) as per the provision of the PNG Policy on Protected Areas (PPA).

Component for MPA: A model of establishing a new marine PA is developed as per the provision of PPA and concerned laws.

Outputs:

- Output 1: National-level governance and management arrangement for Protected Area Network (i.e., PPA Action Plan, National Conservation Council (NCC)) is strengthened.
- Output 2: The Vannara National Park (VNP) is enhanced as a terrestrial PA management model in accordance with PPA.
- Output 3: A model of establishing a new marine PA is developed as per the provision of PPA and concerned laws.
- Output 4: Public relations/awareness for biodiversity conservation is improved by disseminating project related information.

Project Target Areas

- ✓ Proposed project target area covers approx. 612 km².
- ✓ Two major types: terrestrial areas (398 km²) and marine/coastal areas (216 km²).
- ✓ Output 3 targets Bootless Bay and surrounding areas for establishing new MPA model as per the provisions of the policy on PAs.

Project Boundary

- Proposed terrestrial areas
- Proposed marine/coastal areas
- National Capital District (NCD)
- Proposed marine/coastal areas
- Central Province
- Vannara National Park
- Proposed buffer area (1, 2, 3 km)
- Islands Initiative
- Integrated Protected Zone (IPZ)
- UG

Methodology and Procedure for Output 3

<Major Products>

- 3.1/PPM Planning Stage**: Situation analysis, Problems analysis, Objective analysis, Roadmap development.
- 3.2/PPM New MPA Preparatory Stage**: Local stakeholder networking, PA Advisory Working Group, PA category, methodology & process definition.
- 3.3/PPM Proposal Preparation Stage**: Natural & cultural values assessment, Social mapping, Conservation & Benefit Sharing Agreements, MPA proposal, Public consultation.
- 3.4/PPM Proposal Validation Stage**: Revision & re-submission of MPA proposal, Declaration of new MPA.
- 3.5/PPM MPA Management Planning Stage**: MPA management committee, MPA management plan.
- 3.6/PPM MPA Management Implementation Stage**: MPA management plan implementation.

List of Project Staff of CEPA - JICA

CEPA		
Name	Title in CEPA	Title in the Project
1. Mr. Gunther Joku	Managing Director of CEPA	Project Director (PD)
2. Ms. Kay Kalim	Director for Sustainable Environment Program	Project Manager (PM)
3. Mr. Maino Virobo	Director for Policy Coordination and Evaluation	Co-Project Manager (Co-PM)
4. Mr. Fredrick Ohmana	Senior Program Officer	Project Coordinator (PC)
5. Ms. Katrina Solles	Manager, Policy (and International) Branch	Team Leader for Output 1
6. Ms. Rose Alghouse	Policy Analyst	Member, Output 1
7. Ms. Carmel Jondoo	Policy Analyst- International	Member, Output 1
8. Mr. Bernside Thomas	Manager, Terrestrial Pas Branch	Team Leader for Output 2 (& 1)
9. Mr. Daniel Kau	Senior Program Officer	Member, Output 2 (& 1)
10. Ms. Madeline Lahari	Program Officer	Member, Output 2 (& 1)
11. Ms. Yvonne Ito	Executive Manager, Sustainable Marine Environment Division	Team Leader for Output 3 (& 1)
12. Mr. Bernard Senumah	Manager	Member, Output 3 (& 1)
13. Mr. Vago Rai	Manager	Member, Output 3 (& 1)
14. Mr. Gerard Natara	Executive Manager, Spatial Systems and Data (GIS)	Team Leader for Output 4

JICA		
Name	Title in JICA	
1. Mr. Koji Asano	Chief Advisor/ Biodiversity Conservation	
2. Mr. Hioki Itai	Biodiversity Policy	
3. Mr. Hiroshi Watanabe	Protected Area Management	
4. Mr. Yukio Nagahama	Natural Resource Management (1)	
5. Mr. Yoshito Mochizuki	Natural Resource Management (2) / Livelihood Development	
6. Ms. Ayako Ochi	Biodiversity Information Management/GIS/Remote Sensing	

- ### Current actions for output 3
1. Collect and archive all information on marine environment including letters and responses, technical reports and meetings memos.
 2. Finalize Roadmap for protection of Bootless Bay marine ecosystem .
 3. Conduct marine inception workshop.
 4. Progress Bootless Bay Conservation Initiative.
 5. Progress and finalize the Bootless Bay/ Tahira mangrove bird watching MoU between CEPA, UPNG and CPC.
 6. Plan and carry out marine biodiversity survey at Bootless Bay.



4.2 CEPA-JICA continuation of presentation. Current Actions for Output 3. (Job Opu)

- ### CURRENT ACTIONS FOR OUTPUT 3
- CONTINUE OF PRESENTATION.....
- Progress higher level council frame work for protection of Bootless inlet
 - Progress and finalise the bootless inlet /Tahira mangrove bird watching MOU (CPC, CEPA, UPNG)and road map
 - Plan and carry out marine biodiversity survey in Bootless Bay

- ### PROGRESS HIGHER LEVEL COUNCIL FRAME WORK FOR PROTECTION OF BOOTLESS INLET
- Management initiative to get all major stakeholders to form a high level committee to manage Bootless Inlet
 - Nominations are sought during this work shop
-

- ### PROGRESS AND FINALISE THE BOOTLESS INLET /TAHIRA MANGROVE BIRD WATCHING MOU (CPC, CEPA, UPNG)
- An MoU between CEPA UPNG and CPC is being progressed to protect mangroves and promote research and bird watching
 - MoU to be finalised and signed in September 2016

- ### PLAN AND CARRY OUT MARINE BIODIVERSITY SURVEY IN BOOTLESS BAY
- Biodiversity survey to be carried out in November 2016
 - Mangroves, seagrass, and coral reefs
 - Survey to cover all of Bootless Bay and Tuna Bay.

4.3 Presentation by TPA. Roles of TPA Policy and Planning

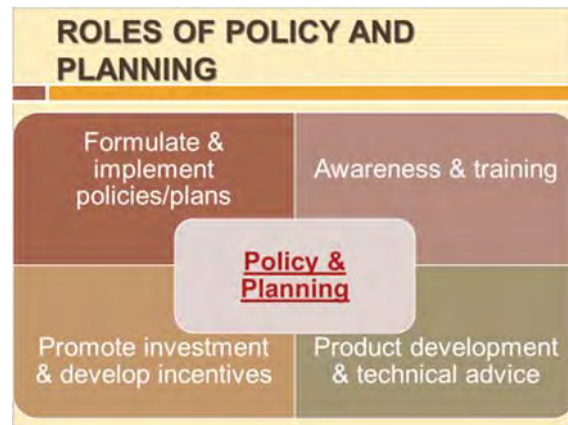


PNG TOURISM PROMOTION AUTHORITY

**CEPA – JICA
Marine Inception Workshop**

The Project for Biodiversity Conservation through the implementation of the PNG Policy on Protected Areas

Tuesday 16th August, 2016
- Motupore Island -



2015 Policy & Planning Projects

Policy/Planning Projects	Product Development Projects
Tourism Master Plan Coordination	Trekking Development
Cruise Shipping Development	Kokoda Track Tourism Assistance
Accommodation Classification System	Mt Wilhelm Tourism Development
Tourism Industry Training/Awareness	Sport/Game Fishing
Tourism Policy Review and Issues Paper	Surfing - Alotau Integrated Management Product Plan
Guidebooks	Cycling & Kayaking
Model Province Support	Bird Watching
Regional Cooperation Assistance (eg. APEC, UNWTO)	Yachting/Sailing
Tokua/Cairns Flight Promotion MOU	Port Moresby City Attractions
	Community Based Ecotourism Projects

The following are adapted from PNG Tourism Master Plan

The Theme by which the PNG Tourism Master Plan is based around is "Growing PNG Tourism as a Sustainable Industry".

- ❖ **The Vision** of this Master Plan is that by 2017 PNG Tourism will be a growing and sustainable industry which:
 - ❖ Is recognized globally as a destination which offers a range of unique niche adventure tourism experiences;
 - ❖ Generates significant investment and employment through profitable business opportunities and subsequently the development

- ### Continued...
- **Celebrates, protects and enhances our unique cultural heritage and natural environment by showcasing these attributes;**
 - ❖ Provides visitors with an enjoyable, distinct and memorable experience;
 - ❖ Demonstrates partnership and collaboration across all stakeholders; and
 - ❖ Provides a broad distribution of benefits across PNG thereby improving the lifestyles of rural and urban communities.

Overall Goal

This vision for the industry in PNG can be summarised in terms of the overall goal that will be adopted and targeted for the next ten years.

The overall goal is to:
Increase the overall economic value of tourism to the nation by doubling the number of tourists on holiday in PNG every five years and maximizing sustainable tourism growth for the social and

Potential Benefits

Based on 3 Possibilities

- ❖ **A vision and overall goal for tourism in PNG will mean little if it does not result in benefits which flow to all sectors of the economy.** The potential benefits of implementing the Tourism Development Plan for PNG are considerable.
- ❖ In terms of employment generation alone the impacts would be significant. For example, if the goal of doubling the number of holiday tourists within five years and then doubling the number again after ten years is achieved, the net result

Continued..

1. Revenue Generation for the country from the community level
2. Those tourists on holiday travel to PNG will spend more money in PNG
3. Increase in employment rate in PNG

These are benefits that can be readily captured by Papua New Guineans with an appropriate policy package designed to mobilise resources and target marketing and industry development activity.

Continued....

- ❑ Furthermore, there are benefits which will flow through to the people at the "grassroots" level particularly as focus is given to the opportunity for tourism development at the communities and remoter rural areas.

In order to achieve the vision for tourism in PNG, the PNG Tourism has identified the need to focus the work program over the next ten years on five key areas, namely:

- ❑ **Marketing the Destination;**
- ❑ **Product Development and Investment;**
- ❑ **Transport and Infrastructure;**
- ❑ **Human Resource Development; and**
- ❑ **Institutions and Industry Partnerships**

The Milne Bay Example

- ❑ Large ships need at least one alongside port to make PNG cruising operable
- ❑ Alotau was close enough to Australia to allow round-trip cruises of under two weeks
- ❑ And Alotau allowed access to many attractive islands/beaches/villages in the Milne Bay region
- ❑ Community participation and cultural exchange
- ❑ Opportunity to sell local arts and crafts
- ❑ Awareness and tourism education



Nevertheless; Sirinumu/Laloki Catchment area will soon be one of the tourism hotspots for many reasons ?

Examples of Benefits



Kokoda Track Project

- ❑ **Product Development**
 - ❑ TPA working on 4 projects with funding from DoE (Australia)
 - 1 ACS – Category 6 (Trekking Accommodation)
 - 2 Bird watching and Guide for Kokoda
 - 3 Owen's Corner Signage (erected 2016)
 - 4 Training & Capacity Building
- ❑ **Marketing**
 - ❑ Do Kokoda Campaign



Kayaking in Kavieng



Kayaking in Tufi



Birding Activities



Port Moresby City Sign

- POM Nature Park
 - Assistance for Water Bird Aviary
- Kuriva Picnic Spot
 - Picnic Facilities (taps, toilets, BBQ stand, shelters)



- Aluraikau Drifters Homestay
 - Home-stay refurbishment



Varirata National Park



Port Moresby City Short Packages

- There are currently 12 tour packages offered by the following PNGTIA members: Sogeri Lodge, PNG Trekking Adventures, PNG Wildest Adventures, Collins Shipping Limited, Port Moresby Nature Park and Tufi Dive Resort. More PNGTIA members are expected to contribute tours to this initiative.



Thank You



Annex 4.3.19 The 2nd workshop for the creation of BBMCI report

The Project for
Biodiversity Conservation through Implementation of
the PNG Policy on Protected Areas

**Report for Second Workshop for Bootless Bay
Marine Conservation Initiative**

January 31st, 2017

Lamana Hotel, Port Moresby

CEPA Project Team

JICA Expert Team

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Abbreviation

JICA	Japan International Cooperation Agency
CEPA	Conservation Environment Protection Authority
UPNG	University of Papua New Guinea
CPC	Central Papua Conference
SDA	Seventh Day Adventist Church
NCDC	National Capital District Commission
LLG	Local Level Government
CVES	Central Village Environment Services
MIRD	Motupore Island Research Department
PA	Protected Areas
PPA	Policy on Protected Areas
GoPNG	Government of Papua New Guinea
MPAs	Marine Protected Areas
TPA	Tourism Promotion Authority
PNG Ports	Papua New Guinea Port Services
NMSA	National Maritime Safety Authority
NFA	National Fisheries Authority
BBMCI	Bootless Bay Marine Conservation Initiative.
CFDA	Coastal Fisheries Development Authority

Acknowledgement

This second marine workshop was made possible with financial and technical support from Japan International Cooperation Agency (JICA) with collaborative partnership from Conservation and Environment Protection Authority (CEPA) through the partnership project for biodiversity conservation through implementation of the Policy on Protected Areas (PPA).

On behalf of the CEPA-JICA project, we thank all the participants who attended the workshop and contributed to the workshop. We extend our thanks to the representatives of Tubuseria and Taurama Bay/Pari communities especially Felix Daroa, Gambga Rei and Geua Sasala for their first-time attendance at the marine workshops. And hopefully we can collaborate to protect the coastal and marine environment of Bootless Bay.

1. Background

This second marine workshop is a follow on from the first marine inception workshop. This workshop is in line with Output 3 of the CEPA-JICA project document (as described in the background section of the inception workshop report) and the consequent Road Map drafted under this component.

The first marine inception workshop brought together all the stakeholders to discuss and recommend ways forward to start addressing the above issues in last August. The objectives of the inception workshop were: Showcase the project goals and expected outputs; Identify and network with all major stakeholders within the bay; Identify and list issues (both present and potential); Recommend ways forward in addressing the issues; and Set up coastal and marine “working” committee. Outcomes achieved were: Strong network of Taurama Bay and Bootless inlet stakeholders established; Stakeholders familiar with the CEPA - JICA Project and the project site; List of issues/threats both current and potential identified and documented or mapped; Zonation maps completed; Workshop report and recommendations specifically addressing issues prepared and shared with stakeholders; and the progressive update of the MoU with CEPA, UPNG on the Bautama Mangrove protection and “bird watching” arrangements documented and shared with partners. The inception workshop report was also produced and distributed to all participants.

The following outputs were achieved in the inception workshop:

- Preliminary plotting of stakeholder interests that included:
 - International tourist diving sites
 - Community fishing grounds
 - UPNG research and monitoring sites
 - International surfing sites
 - Proposed mud-crab farming sites
 - Solid waste sites
 - 250m NCDC protected coastline buffers
- Zoning of Tahira mangroves and bird-watching sites by CEPA, UPNG and CPC.
- An interim working group for the BBMCI was formed as an output of the inception workshop. The purpose of this working group was to provide guidance and advise the BBMCI.

This second workshop in following up from the inception workshop was to progress working arrangement among the working groups of committee of the BBMCI and to have in place a structure to be approved by CEPA. This structure if workable and approved would then contribute towards the process in setting up MPAs under Protected Area Policy.

This is a report on the proceedings of the Second Marine Workshop on BBMCI.

2. Objectives

The overall objectives of the second workshop were:

- Maintaining and strengthening BBMCI and information exchange
- Provide overview of the preliminary marine survey of Bootless Bay by CEPA-JICA
- Propose working arrangements for BBMCI with stakeholders
- Propose 4 working groups for 4 MPAs with Bootless Bay.

Hence the expected Outputs were.

- Bootless Bay Marine Conservation Initiative “working arrangements” set in place. (Paper on “working arrangements” reviewed and approved by the meeting)
- 4 working groups for 4 proposed MPAs and agreed upon.
- 4 leaders of proposed MPAs will be decided.
- Agree to entire Boundary for BBMCI - MPA

3. Methodology

This workshop was a one day workshop that started at 9.00am and ended at 3.00pm. The workshop was carried out through PowerPoint presentations, questions and answers for points of clarity and discussions. All participants were encouraged to participate and make an input into the workshop by interventions and comments.

The workshop was opened with an opening prayer, followed by an opening speech from Ms. Yvonne Tio on behalf of CEPA, and Mr. Kila on behalf of CPG. Mr. Imai also addressed the workshop on behalf of JICA. This was followed by PowerPoint presentations, responding to questions, and group discussions. The workshop ended with a closing remark from Ms. Tio.

All presentations including PowerPoint were done by the CEPA-JICA marine project team. The workshop covered the following:

- Overview of the first marine study of the Bootless Bay by CEPA-JICA project
- Proposed “working arrangements” of the BBMCI
- Presentation and discussions on the four proposed MPAs and the formation of working groups under this MPAs.

The presentations started in the morning and ended before lunch. Discussion followed through till break for lunch then picked up again after 1.30pm. Mr. Bernard Suruman began by presenting “the outcomes of the first marine workshop” in the morning session. Mr. Vagi Rei followed by presenting on the results of the “marine survey in the Bootless Bay” by the CEPA-JICA project, one of the major outputs of the project. Mr. Job Opu followed on by presenting on the “working arrangements” of the BBMCI. Mr. Rei then presented on the 4 possible MPAs as proposed in the “Road Map” by the CEPA-JICA Project. Each presentation took approximately 10 minutes each and questions and comments on the presentation took another 10 minutes for each of these presentations. Discussions then followed on from these presentations until the workshop broke for lunch.

Afternoon session involved group discussions on the formation of the working groups under each of the proposed MPAs. Mr. Rei took the lead with assistance from Mr. Suruman and Mr. Opu. The next steps forward after this workshop was presented by Mr. Rei and Ms. Yvonne Tio then officially closed the workshop at 3:00pm.

Table 1. Expected Target Institutions (and individuals) for the Workshop

No	Representative	Institution
1	Ms. Kay Kalim	CEPA
2	Ms. Beatrix Waiin	UPNG – Natural Resources
3	Mr. Daniel Opa	CPC-SDA Mission
4	Ms. Kemo Pepena	NCDC – Physical Planning
5	Ms. Judith Raka	PNG Ports
6	Mr. Edward Kila	Central Province Govt.
7	Ms. Angela Kwapena	NFA – Seascape program
8	Mr. Andy Bill	CFDA
9	Mr. Sibona Mavaru	CVET
10	Henry Elias	Pacific Energy Aviation Fuel LTD
11	Mr. Pawa Limu	NMSA
12	Mr. John Numa	Gereka Community Rep
13	Mr. John Miller	The Dive Centre, Port Moresby
14	MS. Maxine Anjiga	PNG CLMA
15	Mr. Sibona Mavaru	Hiri LLG.
16	Mr. Nathan Lati	Tourism Promotion Authority
17	Ward Councillor	Tubuseria
18	Ward Councillor	Barakau
19	Women Rep	Pari Women’s Association

4. Information on the Workshop.

Second Marine Workshop was held in the conference room of Lamana Hotel on the 31st January 2017. The workshop rescheduled from December 2016 to January 2017. There was a total of 23 participants at the workshop. Organisations represented included: CEPA, Central Provincial Government, Coastal Fisheries Development Agency, Pari Women’s Development Association In, Gereka Community Rep, Tubuseria Community Rep, PNG Ports, PNGHMS, Pacific Energy Aviation Fuel LTD, CVES, Dive Centre, Central Provincial Administration, HELP-NGO, JICA-project team and Pari Women’s Association. Four important stakeholders within the BBMCI including UPNG, NCDC, CPC and NFA were not present at the workshop.

The workshop started on time at 9.00am and end at 3.00pm. Unlike the first workshop that had some logistical issues, all participants arrived in time and the conference facilities were excellent. The registration of participants was done during the workshop by circulating participants list and having all participants register. The main facilitator for this workshop was Mr. Vagi Rei. Mr. Suruman and Mr. Opu also stepped in to assist on the discussions. Ms. Yvonne Tio opened and closed the workshop on behalf of CEPA.

Table 2. Second Marine Workshop Program

TIME	PROGRAM	
8:00	Arrivals at Lamana Hotel	Lead Persons
9:00	Opening of Workshop. <ul style="list-style-type: none"> • CEPA • CPG • CEPA-JICA Project 	Facilitator: Mr. Vagi Rei
9:30	Introductions <ul style="list-style-type: none"> • Introduction of participants • Introduction of workshop program 	Facilitator: Mr. Vagi Rei
10:00	Overview and outcomes of Inception Workshop CEPA-JICA <ul style="list-style-type: none"> • Questions and discussions. 	
10:30	TEA BREAK	
10:45	Bootless Bay Marine Survey presentation. <ul style="list-style-type: none"> • Presented by CEPA-JICA • Information sharing. • Questions and discussion. 	Facilitator: Mr. Vagi Rei
11:30	Proposal of BBMCI “working arrangements” <ul style="list-style-type: none"> • Definition of BBMCI - CEPA-JICA Project • Explanation of contents of working proposal • Explanation on letter ‘expression of interest’. • Diagrammatic presentation of working arrangements • Question and discussions. 	Facilitator: Mr. Vagi Rei
12:30	LUNCH	
13:30	Proposal for setting up 4 MPA working groups <ul style="list-style-type: none"> • Content of working arrangements • Content of expression of interest • 4 proposals from the roadmap. • Roadmap and proposed MPAs – CEPA-JICA • Questions and discussions 	Facilitator: Mr. Bernard Suruman
14:30	Group Discussions <ul style="list-style-type: none"> • Formation of working groups 	Facilitator: Mr. Bernard Suruman
15:00	Wrap up <ul style="list-style-type: none"> • Wrap up – CEPA JICA • Reminder of expression of interest • Request proposal for setting up MPA • Final discussions • Next Steps 	Facilitator: Mr. Vagi Rei

- Closing remarks – CEPA.
- Products
- Enhanced information exchange within BBMCI network
 - Workshop report
 - Working group on proposed Horseshoe Reef MPA formed.
-

4. Session 1 Speeches and Presentation

4.1 Opening Remarks and Welcome

Mr. Vagi Rei facilitated the Opening of the workshop. Ms. Yvonne Tio, Executive Manager Sustainable Marine Programs, made the opening remarks to start of the workshop on behalf of CEPA. She said this workshop was timely in progressing the much need process for the establishment of the MPA through at the national level that would be included and the Policy on Protected Area and eventually into the proposed Protected Area Act. She welcomed all participants to the workshop. Ms. Tio said in order to the BBMCI to be successful after the project ends, it was important that all stakeholders collaborated and had an input into the BBMCI. She asked all workshop participants to meaningfully contribute to the workshop.

Mr. Kila in his speech representing the CPG thanks CEPA –JICA for inviting CPG to the workshop and said it was indeed an honour to stand before the participants to make a few remarks. Mr. Kila said that BMMCI and Bootless Bay was within Central Province and he would like to see as much as possible the involvement of CPG and especially his technical staff in assisting in achieving the outputs of BBMCI.

Mr. Imai in representing the CEPA – JICA project and on behalf of JICA expert team said a few words of encouragement in support of the project. He said although he was not a marine expert he has seen some of Japan’s coral reefs degraded throughout his life in Japan. When he was a child he saw good and healthy coral growth but these have been degraded. It would be very sad if this happened in PNG and especially Bootless Bay which still had some good coral reefs. Mr. Imai said for the good of Bootless Bay marine habitats and biodiversity, all stakeholders need to cooperate and work with each other.

Following on from Mr. Imai’s speech, the workshop participants were invited by Mr. Rei to introduce themselves and after the introductions the workshop presentations began. Mr. Rei then went direct the participants to the workshop program projected on the screen and went over it.

4.2 Overview and outcomes of Inception Workshop

Mr. Rei, facilitator of the workshop introduced Mr. Suruman to present on the “overview and outcomes of the first inception workshop” that was held in Motupore Island on 16th August 2016. Mr. Suruman started off mentioning that the workshop was held on Motupore Island on the 16th of August in 2016. There were 26 participants and major stakeholder organisations included: CEPA – JICA, Hiri LLG, CPC-SDA, UPNG, NCDC, CFDA, Dive Center, TPA, CVET, including a community representative from Gereka Village. Mr. Suruman also provided an overview of the proceedings of the workshop and

the outputs of the workshop. The outputs included: Bootless Bay map with stakeholder markers, CEPA, CPC and UPNG zoning map, and proposed organisations and names for BMMCI membership.

4.3 Bootless Bay Marine Survey Presentation

Mr. Rei presented a brief overview of the Bootless Bay Marine Survey that was carried out by the CEPA-JICA Project marine team. The objectives of the survey were to: find out major marine habitats within the bay, their distribution and location in the bay, and their status, identify problems and threats on marine biodiversity, and share marine habitat information with stakeholders of Bootless Bay. There were 28 sampling stations and the survey was done using GPS, water depth meter, snorkelling gear. Results indicated 3 major habitat types including: coral reefs, seaweed and seagrass. Three main issues identified included; degradation of fish resources, mangrove degradation and marine debris. To address the issues, following ideas were proposed including: MPAs to address degradation of fish resources, MPAs to address mangrove degradation, and environmental education and awareness to address marine debris.

4.4 Proposal of BMMCI “working arrangements”

Mr. Rei introduced Mr. Opu to present on the working arrangement for BMMCI. Mr. Opu defined BMMCI as an initiative that will have clear aims and objectives to sustainably conserve and manage the Bootless with support from all stakeholders. This initiative is being currently proposed, developed and progressed by the CEPA-JICA project with full endorsement from CEPA.

Mr. Opu presented that the aims of BMMCI were:

- To coordinate activities with regards to MPA development and to facilitate exchange of information and networking within Bootless Bay.
- Exchange information among BMMCI member regarding marine conservation issues
- Take action for conservation and better management of Bootless Bay

The CEPA-JICA project proposed that in order to participate in BMMCI, these were the following steps to take. Step1. Submit letter stating expression of interest to CEPA; STEP 2. CEPA to deliberate and approve by way of notification in a response letter; and STEP 3. NEW Member to be introduced in next BMMCI workshop. Mr. Opu gave a diagrammatic presentation on the formation of the committee. A standard letter for expression of interest drafted by the CEPA-JICA project was presented to workshop participants. They could use this in submitting their expression of interest to be part of the BMMCI network.

4.5 Proposal for setting up 4 MPAs

Mr. Rei invited Mr. Suruman to present on the proposal to set up 4 MPAs. Mr. Suruman pointed out that the 4 MPA proposals were taken out from the “Road Map” for Output 3 which was an output under the CEPA-JICA Project. These proposals included: Tahira Mangrove Conservation Area 1 (CEPA, CPC, and UPNG); Tahira Mangrove Conservation Area 2 (CEPA and UPNG); Horseshoe Reef MPA; and Motupore Island MPA.

Mr. Suruman explained that the CEPA-JICA project would like to set up a process to progress the MPAs and one major step was signing off MoUs with major stakeholders who “owned” the mangroves, islands and coral reefs with CPC and UPNG for Tahira mangroves and Tubuseria Village for Horse shoe reef. Working groups were encouraged under the BMMCI to provide advice and directions for the 4

proposed MPAs. It would be ideal if 4 working groups for each of these MPAs were set up towards the end of this workshop.

5. Session 2. Group Discussions

5.1 Formation of Working Group for MPAs establishment

Mr. Suruman facilitated the group discussions following straight on from his presentation on the MPAs establishment. It was reached by workshop participants' consensus that for a time being the workshop would deliberate on the Horseshoe Reef. The reason was that two very crucial and important stakeholders for the other 3 proposed MPAs were not in the workshop. These included UPNG and CPC. CPC and UPNG were both crucial to the Tahira Mangrove Conservation and UPNG was crucial to the Motupore Island MPA.

Throughout the discussions a few names and institutions were mentioned. The table below provides the names and institutions of the working group for Horseshoe MPA.

Table 2. Working Group for Horseshoe Reef MPA

No.	Organisation	Representative
1	CEPA	Ms. Yvonne Tio
2	Dive Center	Mr. John Miller
3	CVES	Mr. Sibona Hetahu
4	CFDA	Ms. Christine Siwisika
5	NFA	Ms. Angela Kwapena
6	PNG Ports	Ms. Judith Kila
7	Tubuseria Community	Ward Councillor

CEPA-JICA project would be the interim secretariat to coordinate meetings and other activities of the working group initially. The workshop recommended that the first meeting for the Horseshoe Reef MPA Working Group would take place two weeks after the workshop.

6. Session 3. The Next Steps.

Mr. Suruman facilitated this process and next steps forward were set out as:

- Progress MoU with UPNG, CPC and PEA
- Form working group and advise progress to CEPA
- Work with CVES on the proposed coastal clean-up
- Look at livelihood options for local communities
- Erect billboards with support by PEA and IWP.
- Increase awareness on BBMCI
- Advise on the next 3rd Marine Workshop.

There was an urgent need to fast track and progress to get the 3 MoUs signed and endorsed. This would also expedite the work on proposed MPAs. Tahira Mangrove Conservation 1 MoU still needs CPC comments and approval before signing. Tahira Mangrove Conservation 2 MoU between CEPA and UPNG are being currently worked on. CEPA and PEA MoU is a new proposed MoU that will need to be drafted and circulated for comments.

From this workshop the Horseshoe Reef MPA interim working group was formed. Other working groups will also have to be formed as soon as possible to allow for activities to continue.

CVES has submitted a proposal to the project for waste management in Tubuseria village, however the proposal is too lengthy and there are not figures to indicate costs. The project marine team will now step in to assist CVES is developing a simple proposal with a budget and will run it through CVES for comments before funding the waste management activity in Tubuseria Village.

The workshop participants strongly recommended that there should be livelihood options under the BBMCI. An example of livelihood options would be fish farming and the deployment of Fish Aggregation Device (FAD).

Billboards promoting BBMCI are being proposed to be erected on Tahira and other strategic location to promote BBMCI and educate the general public on the conservation initiatives currently progressed in Bootless Bay. The message and design have been developed by the CEPA-JICA marine team and is ready to be produced and erected, however UPNG must agree to this through the MoU that is currently pending.

The workshop also recommended that BBMCI being given more awareness on. In the past and currently the CEPA –JICA project is doing this through avenues such as this workshop and printed media, printing and distribution of t-shirts, a bi-monthly newsletter and on the project Facebook account. Brochures and pamphlets could also be produced and put on public displays during certain events. Other avenues can also be included as the marine project progresses.

The next marine workshop date was not put forward at the end of this workshop and will be announced through emails and phone calls once the date is confirmed. Ample time will be given from the notification date to the actual date of next workshop so that the participants can come prepared for the workshop.

7. Closing Remarks

Ms. Yvonne Tio closed the workshop with a few remarks. She thanked all the participants for attending this very important workshop and for their very contribution to the workshop.

She also mentioned that the CEPA –JICA project team will work quickly on the workshop report and have them distributed in a timely manner so that follow up actions would be implemented quickly.

Annexes

Annex 1. List of Attendees at the Second Marine Workshop, Lamana Hotel

	Name	Designation	Institution	Contact Details
1	Hideki Imai	Biodiversity Policy Expert	JICA	
2	Ted MAMU	Local Technical Coordinator	JICA	
3	Job Opu	Local Marine Specialist	JICA	
4	Monica Kolkia	Local Consultant - Assistant	JICA	
5	Rose Alphonse	Senior Policy Analyst	CEPA	
6	Daniella Tumun	Graduate Trainee - Policy	CEPA	
7	Yvonne Tio	Executive Manager - SMEP	CEPA	
8	Vagi Rei	Manager - Marine Ecosystem	CEPA	
9	Bernard Suruman	Manager - Marine PA	CEPA	
10	Edward Kila	Deputy Administration	CPG	
11	Christine Siwisika	Project Officer	CFDA	
12	Rita Goiye	Senior Standards Officer	CFDA	
13	Sibona Mavaru	Manager	Hiri LLG Office	
14	Geua Sasala	President	Pari Women Association	
15	John Numa	Sailing Instructor	Gereka Community Rep	
16	Felix Daroa	President	Tubuseria Community	
17	Judith Raka	Environment Officer	PNG Ports	
17	Rebecca Ninkama	Compliance Officer	PNGHMS	
19	Henry Elias	General Manager	PEA	
20	John Miller	General Manager	The Dive Centre	
21	Frank Butler	C.E.O	HELP - NGO	
22	Samoa Rage	Project Manager	CVES - NGO	
23	Gambga Rei	Leader	Tubuseria Community	
24	Sibona Hetahu	Director	CVES - NGO Tubuseria	
25	Iga Penny	Advisor	CPG	
26	Morea Arua	Fisheries	CPG	

Annex 2. Photo Documentation - Second Workshop for BBMCI, Lamana Hotel,



Photo1. Participants Group Photo. Standing (L-R) Christine Siwisika, Henry Elias, Frank Butler, John Miller, Daniella Tumun, Bernard Suruman, John Numa, Iga Penny, Edward Kila, Felix Daroa, Imai Hedeki, Vagi Rei, Morea Arua, Rose Alphonse. Seated (L-R) Rita Goiye, Rebecca Ninkama, Judith Raka, Geua Sasala, Gambga Rei, Yvonne Tio, Sibohana Hetahu, Ted Mamu



Photo 2. Opening Ceremony. Mr. Kila addressing the workshop and Ms. Tio and Mr. Imai looking on.



Photo 3. Introductions. Mr. Imai addressing workshop participants.



Photo 4. Opening of workshop. Ms. Tio on behalf of CEPA opening the workshop.



Photo 5. Workshop presentation. Mr. Suruman present "outcomes of the 1st marine inception workshop.



Photo 6. Second Marine Workshop in session. Lamana Hotel Conference Room.



Photo 7. Judith Raka of PNG Ports making a point the workshop with some female participants looking on. L-R. Ms Rita Goiye, Ms Rebecca Ninkama, Ms. Judith Raka and Ms. Geua Sasala.

Annex 3. PowerPoint Presentations

3.1 Outcomes of the Inception workshop.



OUTCOMES OF THE INCEPTION WORKSHOP OF MARINE COMPONENT

BOOTLESS BAY MARINE CONSERVATION INITIATIVE (BBMCI)

GENERAL INFORMATION ON THE WORKSHOP

- ▶ Held on **Molupore Island** – MIRD UPNG on the **16th August 2016**
- ▶ **26 participants**
- ▶ **Organizations represented**
 - ▶ CEPA – JICA
 - ▶ Hiri LLG
 - ▶ CPC – SDA
 - ▶ UPNG
 - ▶ NCDC
 - ▶ CFDA
 - ▶ Dive center
 - ▶ TFA
 - ▶ CVET / Tubuseria Village
 - ▶ Gerega Village



PROCEEDINGS OF THE WORKSHOP

- ▶ **CEPA – JICA Project presentation**

Outline of the Marine component (Output 3) of **“The Project for Biodiversity conservation through Implementation of the PNG Policy on Protected Areas”**

- ▶ **Stakeholders**


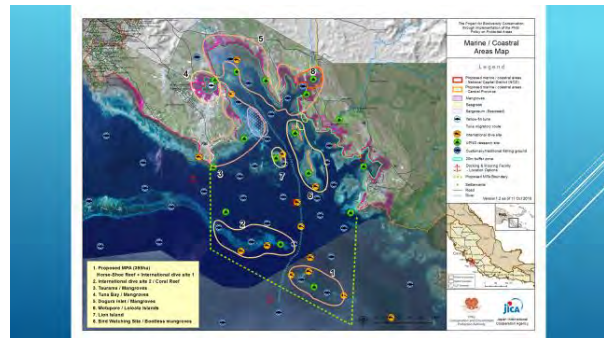
Present their programs etc. in relation to Bootless Bay

- ▶ **Stakeholders**

Express their area of interest (such as fishing grounds, research and monitoring stations, dive sites, etc..)

- ▶ **Stakeholders**

Agreed to form a **“working committee”** for Bootless Bay Marine Conservation Initiative

OUTCOMES OF THE WORKSHOP

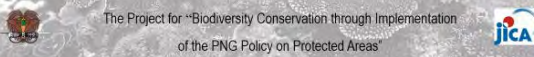
- ▶ **Map with stakeholder markers**
- ▶ **Sharing CEPA, CPC, UPNG Zoning map**
- ▶ **Organisations and names for BBMCI member**
 - NCDC - Ms. Kemo Pepena, Physical Planning (Keneth Atasoa to be the alternative)
 - Hiri LLG - Mr. Sibona Mavaru – Hiri LLG Manager
 - UPNG-MIRD – Prof. Simon Saulei (Mr John Genolagani to be alternative)
 - CPC - Mr. Daniel Opa – Special Projects
 - Dive Center - Mr. John Miller, Manager.
 - CEPA - Ms. Yvonne Tio, Executive Manager SMEP, CEPA.
 - CFDA - Mr. Richard Kaniku, Southern Region Coordinator
 - CVES(NGO) - Ms. Samoa Rage
 - Gereka Landowner Community - Mr. John Numa
 - PNG Parks (HMS) - Ms. Hane Kila
- ▶ **Workshop report**

3.2 Bootless Bay Marine Survey Presentation

Marine Biodiversity Survey in Bootless Bay


Vagi Rei (CEPA)
November 29th, 2016
For 2nd Workshop of BBMCI

The Project for "Biodiversity Conservation through Implementation of the PNG Policy on Protected Areas"



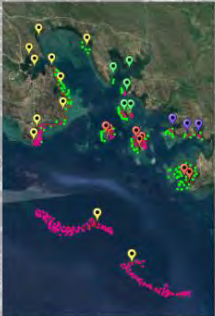
Objectives of marine biodiversity survey

- To understand marine habitat (seagrass, seaweed and coral) distribution and their conditions in Bootless Bay
- To identify problem on marine biodiversity in Bootless Bay
- To share marine habitat information with stakeholders of Bootless Bay (this workshop!!)







Basic survey information

- 28 survey points
- GIS map, GPS, water depth meter, snorkelling
- Condition of habitat, type of habitat



Results

- Pink dots: coral
- Brown dots: seaweed
- Green dots: seagrass



CEPA-JICA Project understood distribution and condition of marine habitats and selected site to establish MPAs.

Identified three main problems by this survey

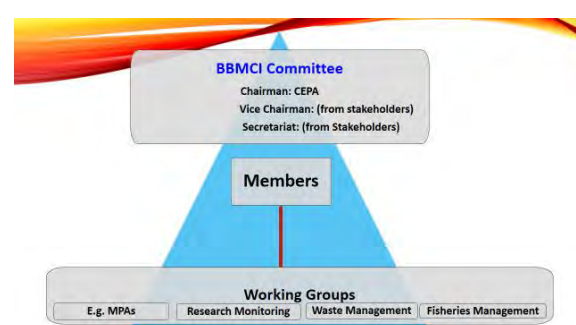
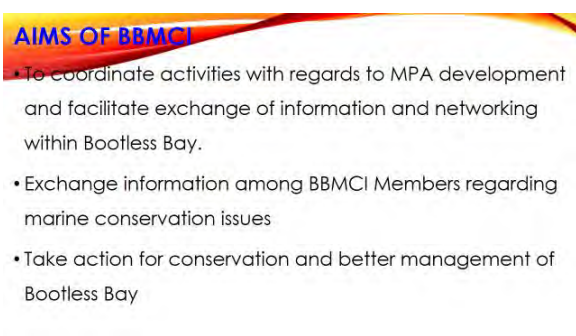
- Degradation of fish resources
- Mangrove degradation
- Marine debris

Direction of CEPA-JICA Project in this BBMCI

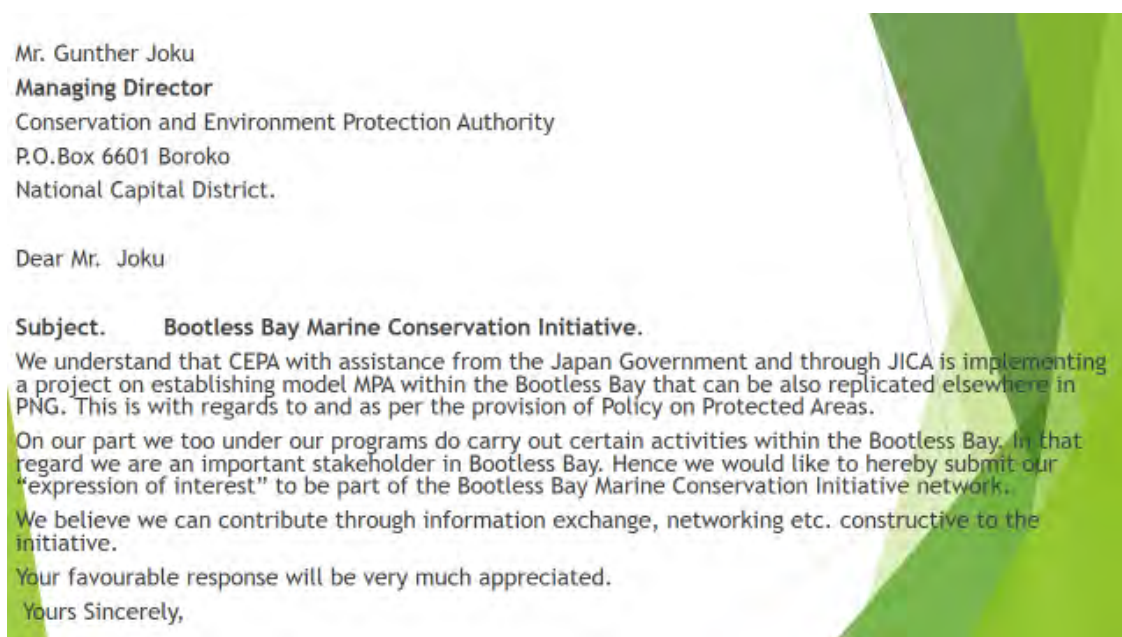
- Degradation of fish resources → MPAs
- Mangrove degradation → MPAs
- Marine debris → Environmental education



3.3 Working Arrangements of BBMCI



3.4 Expression of Interest – sample letter presentation.



Annex 4.3.20 The 3rd workshop for BBMCI report

The Project for Biodiversity Conservation through Implementation of PNG Policy on Protected Areas

3rd Bootless Bay Marine Conservation Initiative Workshop



21 November 2019

CEPA Conference Room, 5^t Floor,
Dynasty Tower Port Moresby

CEPA Project Team

JICA Expert Team

Acknowledgements

The 3rd BBMCI Workshop on 15th of November 2019 at CEPA office, 5th Floor, Dynasty Tower saw 11 BBMCI members, 5 CEPA-JICA project officers, 1 SERACS team member and 7 CEPA staff, 3 interns in attendance.

On behalf of BBMCI Secretariat and CEPA-JICA Project Team, CEPA appreciates the time and commitment made by the BBMCI members and other key stakeholders to attend this 3rd BBMCI Workshop.

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1. Background

Bootless Bay, the ideal site for CEPA JICA Biodiversity project Output 3 “creating a marine protected area model as per the PPA and other relevant laws. The project is now at its final stages of formalizing the Bootless Bay National Marine Sanctuary (BBNMS) Working Group and BBNMS Proposal while BBNMS Management Plan Committee will be established soon to take on the role of developing the final BBNMS Management Plan. The NEC policy submission for BBNMS declaration including the conservation easement drafts are pending State Solicitor’s vetting and clearance.

For this 3rd BBMCI Workshop, more time was spent on discussing and approving of the BBNMS Working Group ToR including agreeing of the BBNMS Working Group members and finalizing of the BBNMS Proposal. The remaining time was spent on information sharing. The workshop was co-chaired by Ms. Yvonne Tio and Mr. Bernard Suruman while presentations were done by Ms. Kove which in the end had a good outcome from the BBMCI members.

Table 1 Chronology of BBMCI Events and Meetings

	Event/ Activity	Date
1	First Marine Inception workshop	16 th August 2016
2	Inauguration of new project boat and dive equipment and accessories	12 th October 2016
3	Second Marine Workshop	31 st January 2017
4	First BBMCI Meeting and Clean-up Event in Tubuseria Village	12 th April 2017
5	Second BBMCI Meeting	19 th June 2017
6	Third BBMCI Meeting	21 st June 2017
7	Launching of CEPA-UPNG MoU and fourth BBMCI Meeting	25 th July 2017
8	Fifth BBMCI meeting	15 th March 2018
9	Sixth BBMCI meeting	03 rd September 2018
10	Seventh BBMCI	25 th January 2019
11	General BBMCI meeting	02 nd September 2019
12	Eight BBMCI meeting	03 rd October 2019

2. Objectives and Expected Outputs

The Objectives;

- Approval of the BBNMS Working Group ToR
- Formulation of the BBNMS Working Group
- Finalize the BBNMS Proposal with public consultation
- Sharing of Information
 - i. Consultation and Awareness of BBNMS in Bootless Bay Communities

Expected Outputs were;

- BBMCI members to agree to BBNMS Working Group TOR and its formulation
- BBMCI members to agree on the BBNMS Proposal
- For BBMCI members to understand the impact of the current condition and issues of the villages in Bootless Bay, Oyster Bay and Joyce Bay.

3. Basic Information on the Meeting

The 3rd BBMCI Workshop was held at the CEPA office, 5th floor of Dynasty Tower 1 on the 15th of November 2019 starting at 9 am which ended at 1pm. The 4 main agendas were discussed in detail in terms of the approval of the BBNMS Working Group, BBNMS Working Group Formulation and approval and finalizing of the BBNMS Proposal.

The Workshop was chaired by Ms. Yvonne Tio and facilitated by Mr. Bernard Suruman and Ms. Evengelyn Kove and assisted by Dr. Yukio Nagahama. Opening remarks were made by Mr. Suruman followed by Word of Prayer by Mr. Felix Daroa. Participants were given opportunity for introduction which also lead to the introduction of workshop objectives. The Output 3 roadmap, BBNMS Working Group ToR and BBNMS Proposal were presented and discussed in detail which lead to the formulation of the BBNMS working group and its approval. The information sharing included the BBNMS management plan framework, the consultation and awareness report for BBNMS in Bootless Bay communities including a brief from SERACS team leader of the socio-economic surveys carried out in Bootless Bay coastal communities.

Table 2 General BBMCI meeting

Time	Activities	Chairperson/ Facilitator
9:00 am	Opening of program <ul style="list-style-type: none"> • Opening remarks • Opening prayer <ul style="list-style-type: none"> - Chairperson – BBMCI – • Participants Introduction 	Chairperson: Ms. Yvonne Tio Opening Prayer: Mr. Felix Daroa Facilitator: Mr. Bernard Suruman, Presenter: Ms. Evengelyn Kove, Dr. Nagahama
09:15 am	Presentations <ul style="list-style-type: none"> • Output 3 roadmap • Presentation, discussions and approval BBNMS Working Group TOR • Discussion on Formulation of members and approval • Presentation of the BBNMS Proposal and participants agree to finalize by 22nd November 	Chair: Ms. Tio Facilitator: Mr. Suruman Presenter Miss Evengelyn Kove, Dr. Nagahama
11:15 am	<ul style="list-style-type: none"> • 5 minutes break 	All
11:20 am	<ul style="list-style-type: none"> • Brief Presentation and discussions on BBNMS Management plan framework • Consultation and Awareness Report of BBNMS in Bootless Bay Communities • Brief information shared of Socio-economic survey status 	Chair and Facilitator: Ms. Tio Presenter: Ms Goiye, Ms. Evengelyn Kove, Dr. Rodney Kameata
00:50 pm	Announcements <ul style="list-style-type: none"> • Exchange of information 	Chair/Facilitator: Ms Yvonne Tio, Ms. Evengelyn Kove
1:00 pm	Close of Workshop and Lunch	Chair Ms. Tio

4. Presentations and Discussions

The introduction of output 3 roadmap gave an overview of the CEPA-JICA Project marine component which lead into the presentation of the BBNMS Working Group ToR and the BBNMS Proposal which opened great discussions. The presentations of the BBNMS management plan, Awareness of BBNMS in Bootless Bay communities and brief information shared of the socio-economic survey status gave some insight of the work done so far by the project.

4.1 Approval of BBNMS Working Group TOR

Ms. Kove presented the output 3 roadmap and went on straight into the BBNMS Working Group TOR.

Table of comments

Section	Comments	Name	Action
Article II	disconnection between article I and II so suggestion to revise the paragraphs link both introduction (article I) and purpose and objectives (article II)	Ms. Maxine Anjiga	Separate purpose article II and objective as article III
	The objective should include clear outputs as it is, it looks more like activities	Mr. Rei	
	Leave the introduction (I) as it is however separate purpose as Article II and objective as Article III	Ms Maxine Anjiga	
	Simplify the objectives	Dr. Nagahama	
Article IV	Replace the word “chosen” as it doesn’t appropriate	Vagi Rei	Replacement of word chosen to compose
	Traditional Governance should be recognized in this arrangement through the Chieftaincy system	Maxine Anjiga	List of member organisations
	Be specific on member organisation to be represented in the working group instead of being general	Bav Kemba	Include ward members in LLG Composition,
	Get views from the communities within the Bay on how Chieftaincy organize the community and how to have as representatives	Peter Moikya	Landowner representation
	For urban villages and specifically for Tubusereia, there is a misconception with the chieftaincy system tied with issues of land benefits therefore LLG representation through Ward members will work for us to avoid further conflicts	Felix Daroa & Sibona Mavaru	EOI for new members to be formally recognized as Working Group Members
	There must be a lower level platform for community engagement to empower chiefs and community leaders to take on their responsibility in MPA		
Article VI	Move some functions in Article 6 to Article 2	Mr. Vagi Rei	Moved some functions in article VI to article II
Article VII	Number the requirements to make it distinct	Vagi Rei	Numbered the functions
	How many members make up 50%?	Maxine Anjiga	
	From the member composition in article IV will make up 50%		
	To include exact number of members instead of the 50%		
Article VIII	3-year term office is quite too long	Mr. Bernard Suruman	Change 3 years to 1 year
	What’s the expiry date for the working group?		Rephrase “Possibility of Second term to “Possibility of Extension”
	Project will end in 4 months’ time therefore the BBNMS working group main purpose is to declare BBNMS	Dr. Nagahama	
	Rephrase possibility of second term to possibility of extension. Also, if CEPA can think of this working group as long term even after the project time is up	Maxine Anjiga	
	It seems we are going from lower level and up however, should it be Management Committee established and working group will be a sub-committee to it	Prof. Simon Saulei	
Article IX	Indicate if a member missed more than 2 meetings instead of 3 so it conveys a strong message for an effective working Group	Mr. Bav Kemba	Replace the phrase “more than 3 meetings with “more than 2 meetings”

4.2 Formulation of BBNMS Working Group

With reference to the BBNMS Working Group in article IV, the participants have identified and listed the members who will make up the composition. New members who were not part of the original BBMCI members will be asked to write an EOI to be formally recognized as Working Group members. CEPA will assist in providing the EOI for each new member to insert their letter head and revert back the signed EOI for CEPA to formally accept and inform.

The following are the listed members;

1. CEPA as the Chairperson;
2. National Government Agencies; (NFA, TPA, PNG Ports, NMSA)
3. Provincial Governments; (CPG, NCDC)
4. Research and Higher Institutions; (UPNG)
5. Private Sector; (Pro-dive Centre, PEAL*, Loloata Private Resort*)
6. Local Level Government: (Hiri Rural LLG, Moresby South LLG*, MKA*)
7. Landowners Nominated Reps/Ward Members; (Tahira Farm, CPC, Joyce Bay*, Gereka*, Tubusereia*, Mirigeda*, Dogura*, Pari, Tuna/Taurama*)
8. Non-Government Organizations; (PNGCLMA, BLRA, PWDA)

This list will be sent out to all BBMCI members to agree and formally endorse in the 9th BBMCI meeting.

4.3 BBNMS Proposal

The BBNMS Proposal was presented with the objective to get feedbacks from the BBMCI members.

Main comments were on the correct spelling from Tubuseria to Tubusereia, Hiri East LLG to Hiri East Rural, Bootless Bay Reafforestation Association to Bootless Lavadae Reafforestation Association.

As for the overall proposal, most participants agreed to give comments by Friday 22nd November 2019.

4.4 BBNMS draft management plan

Ms. Rita Goiye did a brief presentation of the BBNMS draft management plan based on information gathered so far from the bio-surveys, desktop analysis, stakeholder consultation and awareness, and preliminary data from the baseline SERACS team carried out. It is only a draft and will be deliberated by the Management Committee once it's established.

Comments by participants

- Given that Bootless Bay was one of the areas surveyed by the NFA for Bech der mer it would be practical to set a specific Total Allowable Catch (TAC) – Miriam Ovasuru
- Management plan must be consistent with the data profiling -Mr. John Genolagani
- Refer to existing references material that has CEPA has been involved to assist in the BBNMS Management plan (eg; IUCN, CTI, WWF etc...) – Mr. John Genolagani

4.5 Presentation of Consultation and Awareness in Wider Bootless Bay

Ms. Kove gave a presentation of the consultation and awareness carried out in at least 6 communities found within the proposed BBNMS. The presentation included the purpose and objective which was to inform the Bootless Bay communities of the BBNMS, most importantly the significance of Bootless Bay in order to get the consensus of the BBNMS, it was also to support the information collection by SERACS team for development of the Management Plan. The team comprised of CEPA, project team, SERACS team, CPG fisheries, NCDC and TPA.

Response from communities

1. New learning of establishment of MPA
2. Acknowledged the issues highlighted within their communities

3. Interested to know more and how to get involved more in the process of establishing MPA

Community Concerns

1. Unregulated artisanal fisheries
2. Unregulated Land based development (backfilling mangroves, jetty construction)
3. Waste disposal methods

Recommendation

1. Continue with community mobilization
2. Include Videos in the awareness to compliment posters
3. Include posters in Motu Language
4. Include Maps in canvas posters
5. Include Locals in education and awareness programs

Comments from workshop participants

1. There is a difference between Education and awareness so be mindful of the terms used and clearly articulate when developing each program – Mr. Genolagani
2. A few NGOs have come to realize after field experiences to emphasize more on Education rather than awareness for buy in of the idea of conservation and resource management. One such is PNGCLMA who use intergenerational storytelling to connect the hearts of the people to take ownership right from the start with minimal expectation. It would be good to learn from this experience and PNGCLMA stands ready to assist in this area of experience accompanied with Posters – Ms. Maxine Anjiga
3. UPNG will running a 3-week intensive course supported by Exxon mobil on the topics of Biodiversity conservation, community conservation and proposal writing. Minimum requirement is Grade 10 leaver. This course can complement what CEPA-JICA project is doing so CEPA should think now how the stakeholders within Bootless Bay can be supported through this arrangement to receive further trainings.

4.6 Brief update of status of Socio-economic Surveys

Dr. Rodney Kameata from SERACS who have been sub-contracted by the project to carry out the social mapping and the socio-economic surveys.

- The social mapping and the socio-economic surveys carried out by the SERACS team will be the baseline information that will assist in the BBNMS proposal and the management plan
- There are number of issues with resource management pertaining to the management plan
- The team have also taken up reef mapping as well in this exercise
- Friday 15th November 2019 is the last day of field work and next week the team will start on the report

4.7 Announcements and Information exchange

The Chair asked for the announcement of the next meeting and

- Ms. Kove announced that the next meeting will on the 6th December 2019
Main agendas
 - Approval of BBNMS Management Committee TOR by BBNMS working group
 - Formulation of BBNMS Management Committee
- Comments for the BBNMS Proposal will be due on Friday 22nd November 2019

Annex 4.3.21 Project closing/wrap-up seminar report

One Day -Project Final Seminar A Celebration of CEPA-JICA Project Achievements

18th Wednesday November, 2020
Holiday Inn (Ballroom) Port Moresby



Submitted By;

Saina Jeffrey Philyara
CEPA/JICA Project
09th December, 2020

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 - 5.5 Output 4: Key Achievements**
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 - 6.1 Kae Association Inc**
 - 6.2 VNP Management Committee**
 - 6.3 Bootless Bay Management Committee Initiative (BBMCI)**
 - 6.4 UPNG**
- 7.0 Virtual Opening of Tahira Marine Station**
- 8.0 Official Handover of project assets to CEPA**
- 9.0 Entertainments & Gifts**
 - 9.1 Kae Dancing Group**
 - 9.2 Tubuseria village dancing group**
 - 9.3 Gifts**
- 10.0 Wrap Up**
- 11.0 Closing Remarks**

Annex (I): List of Program & Agenda

Annex (II): List of Participants

Annex (III): Photo highlights of Seminar

1.0 Summary

A final seminar was held in Port Moresby on the 18th November 2020 at Holiday Inn to celebrate the achievements and successes by the Government of Papua New Guinea (via CEPA) and the Government of Japan. The one day seminar was hosted by CEPA brought together delegates and partners from over 10 agencies who were involved in the ongoing CEPA-JICA funded projects and representatives of the partner organizations and agencies to deliver conservation projects at Bootless Bay and Varirata National Park.

The Minister for Environment, Conservation and Climate Change was the Keynote Speaker for the seminar and brought together over 30 conservation partners, implementing partners, policy makers, scientists, head of departments and educationists. The seminar successfully harnessed the enthusiasm and experience of participants and reached wide-ranging presentations made from various stakeholders who are project implementing partners.

It was also during the seminar, the official and virtual opening of the Tahira Marine station was witnessed and the official handover of the marine project assets by JICA to CEPA. It was agreed to move forward using the existing working relationship to progress with the existing work after the seminar and the closure of the project.

2.0 Background

The Varirata National Park lies 48km east of Port Moresby, in Sogeri, Central Province, PNG. The Park has an area of about 1,063 (ha) on the State land (originally belongs to four clans of Koiari people) at an elevation of 630–800 m. The Varirata National Park is PNG's first National Park which was declared in 1969 and was officially opened on the 18th October, 1973 by Sir Maori Kiki. After 42 years, the Varirata National Park was revived by CEPA with the support of Japanese Government (via JICA) through this project 'CEPA-JICA Biodiversity Project' which saw the rebirth of Varirata National Park. Declaration and establishment of the new gate fee system for the Varirata National Park was gazetted as (No.G207) on Tuesday 19th March 2019 by the former Minister for Environment & Conservation and Climate Change; Honourable John Pundari for the protection of the park and its endemic flora and fauna species including its people and culture, under the Conservation and Environment Protection Authority (CEPA Act 2014).

The CEPA-JICA project proposes to declare the Bootless Bay as a Marine Protected Area "National Marine Sanctuary (BBNMS)" as output 3 of the project. The targeted Bootless Bay area is approximately 20km SE of Port Moresby (Capital of Papua New Guinea) within NCDC, sharing its eastern-most boundary with Central Province. Bootless Bay is a semi-enclosed Bay on the SW coast of Papua New Guinea containing 5 islands; Motupore, Loloata, Bunemotu, Gairemotu and Manunouha (also known as Lion). The Bay is bordered by the great Papuan Barrier Reef, 3-5km offshore and coastline of southeastern New Guinea. The Bay is approximately 9.5 km along its longest axis (NW-SE) and 2 km wide. The Bay is shallow with a maximum depth of approximately 30m (Drew

et al., 2012). Objectively, this project fulfils the voluntary commitment made by the PNG Government through the former Prime Minister, Honorable Peter O’Neil to declare Bootless Bay as a “Marine Protected Area” (NEC Decision: 163/2017; dated 5th June 2017) as a national contribution towards implementing Sustainable Development Goal 14: *Life Below Water* - and to "conserve and sustainably use the oceans, seas and marine resources for sustainable development." Bootless Bay will be the third Ramsar Site after Tonda in South Fly District of Western Province and Lake Kutubu in Southern Highlands.

3.0 Purpose and objectives of Seminar

- Endorse and celebrate the achievements of CEPA-JICA Biodiversity Project delivered through the Government of Papua New Guinea (via CEPA) and the Government of Japan (via JICA) at Bootless Bay and Varirata National Park.
- Remind the project partners of the broader CEPA-JICA project overall overview including their successes and challenges and contribute in the long term sustainability of their cooperation and collaborations in future.
- Assess and identify the current institutional needs and capacities on these projects and provide a roadmap for additional capacity building for the Government of PNG in future, and
- Obtain feedback and recommendations from the relevant stakeholders on the improved environmental management of the Bootless Bay and Varirata National Park.

4.0 Attendance

The one day seminar was attended by the Minister for Environment, Conservation and Climate Change; Hon. Wera Mori, the Managing Director of CEPA, the Director, Embassy of Japan, Chief Representatives of the JICA PNG Office, Ombudsman Commission, Central Provincial Government, Local Level Government, Local Community Based Organizations and leading agencies and partners attended the seminar (See Annex II; list of participants).

5.0 Outcomes of the Seminar

5.1 Presentations of Key Achievements;

The Chief Advisor of JICA, Mr. Koji Asano, provided the overall project update on the activities based on these four outputs:

- ✓ Output 1. Strengthen National Level PA Governance
- ✓ Output 2. Varirata National Park as a states Management Model
- ✓ Output 3: New Marine PA’s to be created
- ✓ Output 4: Raising Awareness for Biodiversity Conservation & Data Management
- ✓ Project Activity Components

5.2 Output 1: Key Achievements

Mr. Asano briefly made a presentation on the Output 1;

- Legal instrument for functioning Interim NCC/NCC, NPART/RPART.
- Institutional arrangement of VNP management (contribute to output 2).
- Institutional arrangement of marine PA in Bootless Bay (contribute to output 3).
- NEC submission paper for Interim NCC.
- Terms of references to formalise the interim NCC/NPART & RPART.

5.3 Output 2: Key Achievements

Mr. Mochizuki and Mr. Benseid made a shared presentation on outputs 2;

- Facility development of the new Information Centre Complex and Auditorium.
- Development of the Varirata National Park Management Plan and its implementation.
- Collaborative efforts of the development of Central Provincial Development Plan, Koiari LLG Development Plan and the Kae Association Plan.
- Promotion and Development of the UNESCO Man and Biosphere Nature Reserve for Sogeri including VNP.
- Livelihood Development plan implemented in collaboration with Kae during tours, events at park and promotional purposes.

5.4 Output 3: Key Achievements

Dr. Nagahama and Mr. Bernard made a shared presentation on outputs 3;

- Development of three (3) Conservation Easements between; CEPA & UPNG, CEPA & Tahira Farms and CEPA & CPC).
- One Conservation easement was signed. Two are yet to sign.
- Established MOUs with landowners for the protection of PA's (Bootless Bay Marine Protected Area).

5.5 Output 4: Key Achievements

Ms. Ayako made a brief presentation on output 4;

- Data and information for model PA's were collected and managed well.
- Various maps for the model PA's were created and managed.
- Awareness materials, newsletters and information were packaged and distributed to all partners and organisations, including schools.

Many awareness materials produced were not listed and recorded due to limited staff capacity and limitation of time.

6.0 Key Partners Presentations;

6.1 Kae Association Inc

The Chairman of the Kae Association Inc (KAI); Mr Omoro Asi was represented by Mr. Geita Koiari (Administrative Assistant) for Kae Association. Mr. Geita made a presentation on behalf of Kae Association. KAI is a community based group from Koiari who are landowners of the Varirata National Park and its surrounding.

6.2 VNP Management Committee – The Chairman of VNP Management Committee; Mr. Nathan Lati made the presentation on behalf of the VNP management committee. The presentation was based on around the establishment of the management committee, purpose, objectives, and current progress and proposed functions of the park.

6.3 BBMCI – Yvonne as the secretariat of the BBMCI Working group made a presentation on BBMCI's purpose, function, establishment of the management committee and way forward for the group.

6.4 UPNG-Prof. Saulei made a presentation on behalf of UPNG based on the partnership and draft conservation easements pending with CEPA.

7.0 Virtual Opening of Tahira Marine station;

During the one day seminar, the official of the Tahira Marine station was held witnessed by the Ms. Kay and the Chief Representative of JICA PNG Office. The virtual opening of the marine station was acknowledged by CEPA.

8.0 Official Handover of Project Assets to CEPA;

The marine project assets were also officially presented to CEPA signified by the handing over of the marine station office key by JICA to CEPA during the seminar. Mr. Koinuma handed over the dummy key to Ms. Kay from CEPA signifying the handover of the marine project assets by JICA to CEPA.

9.0 Entertainments & Gifts

As part of entertainment during the seminar, two different local community groups from Bootless Bay project and Varirata National Park project areas were involved;

9.1 Kae Dancing group

Kae dancing group also performed during the seminar. The group comprised of 5 males and 5 females who were the members of Kae dancing group. The team raised K700 for their performances and participation during the seminar. This also covered their dressing, singing, costumes and performances. The team was led by Mr. Omoro Asi (KAI Chairman).

9.2 Tubuseria village dancing group

Tubuseria dancing group also performed during the seminar. The group comprised of 5 males and 5 females who were the members of the Bootless Bay Management Committee Initiative dancing group. The team also raised a K700 for their performances and participation during the seminar. This also covered their dressing, singing, costumes and performances. The team was led by Chief Felix Daroa (BBMCI member).

9.3 Gifts

Mugs were printed with logos; Bootless Bay project, Varirata National Park, CEPA and JICA logos and distributed to each of the participants as gifts during the seminar.

10.0 Wrap Up;

The wrap up of the seminar was made by Ms. Kay after all the activities in the program were executed including the presentations and handovers. Ms. Kay highlighted that CEPA has had a very good relationship with JICA worked on the two projects and hope to continue in future if any opportunity arises.

Bootless Bay Local Community Representative- Chief. Felix Daroa also made remarks which he acknowledged CEPA and the project team for giving the local communities the chance to participate on conservation efforts. His village, Tubuseria community has been supportive of the conservation initiatives driven by CEPA-JICA project and this same spirit is to be maintained in the coming years to establish Bootless Bay as a marine protected area.

11.0 Closing Remarks

Ms. Kay made the closing remarks and stated that this projects journey has been a challenging journey and at the same time successful in many aspects of the project. It is now the responsibility for CEPA to move forward and progress with the current and existing relation and network established by this project to continue to implement the way forward and management plans of the two project sites; Bootless Bay and Varirata National Park.

Ms. Kay appreciated and acknowledged the partnership that the Government of Papua New Guinea and the Government of Japan has through this biodiversity project from 2015 to 2020. Despite the challenges and issues faced, CEPA must be congratulated for implementing most of this projects key deliverables which brought significant impacts to the project areas.

Annex (I): Program of Seminar

Program

Time	Activity	Lead
8:00 – 8:30am	Registration of participants <i>Morning Coffee</i>	Master of Ceremony (MC) Ms. Kay Kalim, Director SEP
8:30 – 8:50am	Welcome Address	Ms. Kay Kalim, Director SEP
8:50 – 9:00am	Opening Prayer	MC
9:00 – 9:30am	Keynote Speech – Remarks - JICA-PNG Chief Representative Response – Acting Provincial Administrator, Central Province	Mr. Gunther Joku, MD CEPA Mr. Masato Koinuma Mr. Francis Koaba, LM
<i>Presentation about the Project Achievement</i>		
9:30 – 10:00am	1: Overall Progress of the Project	Ms. Kalim & Mr. Asano
10:00 – 10:30am	2: (Output 1) Protected Area Governance	Ms. Tio & Mr. Asano
10:30 – 11:00am	3: (Output 2) Varirata National Park and PA Mgt	Mr. Thomas & Mr. Mochizuki
11:00 – 11:30pm	4: (Output 3) Bootless Bay and MPA establishment	Mr. Suruman & Dr. Nagahama
11:30 – 12:00pm	5: (Output 4) Data Management and PR	Ms. Ayako Ochi
12:00 – 13:00pm	<i>Lunch (Performances by Kae Dancing group)</i>	
<i>Presentation from Key Partners</i>		
13:00 – 13:20pm	VNP Management Committee	Mr. Nathan Lati
13:20 – 13:40pm	Bootless Bay Marine Conservation Initiative	Ms. Yvonne Tio
13:40 – 14:00pm	KAE Association	Mr. Geita Koiari
14:00 – 14:10pm	Koiari LLG	Mr. Alfred Kennedy
14:10 -14:20pm	UPNG	Prof. Simon Saulei
14:20 -14:40pm	Virtual Opening of Tahira Marine station & Official Handover of Marine Assets by JICA to CEPA	Ms. Kalim, & Mr. Fujiwara
14:40 – 15:10pm	<i>Coffee Break (Performance by Tubuseria dancers)</i>	
15:10 – 15:20pm	Wrap Up & Closing Remarks	Ms. Kalim & Mr. Asano
15:50 – 16:30pm	Photo Session & Media Interviews	MC
16:30pm	<i>Program Ends and Break</i>	
18:00 – 20:00pm	<i>Closing Cocktail Dinner Hosted by CEPA MD</i>	
		Mr. Vagi Rei

Annex (III): Photo highlights of Seminar



Tubuseria dancing group performing



Keynote speaker; Hon. Wera Mori (Minister for Environment, Conservation and Climate Change)



Mr. Akira Fujiwara (JICA PNG) and Ms. Kay Kalim (CEPA); official opening and handover of Tahira Marine station



Mugs printed and decorated for participants gifts



Hon. Wera Mori, Mr. Gunther Joku (CEPA MD) and JICA PNG at the seminar



Mr. Nathan Lati (VNP Chairman) and TPA representative presentation at the seminar