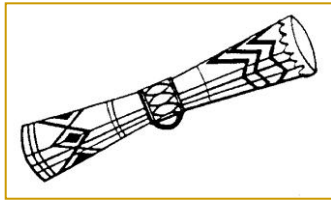


Partners With Melanesians



P.O. Box 1910, Port Moresby
National Capital District
Papua New Guinea

Ph: +675 323 6344

Fax: +675 323 6349

Email: info@pwmpng.org.pg

Location: Milan Investments Ltd, Sect: 36 Allotment: 3
Croton Street, Hohola.

"Maintaining the Dance"

Date: 26th September 2011

ACTIVITY: Participatory 3 Dimensional Model (P3DM) for Manus Province - PNG

INTRODUCTION

Partners with Melanesian Inc working in partnership with The Nature Conservancy (TNC), an International NGO, develop a participatory 3dimensional model, for the whole Province, accept for two outer islands. Manus is one of the Provinces that are under the threats from the effects of climate change. This model was purposely developed to assist the Manus Provincial Government, the CBOs, NGOs and Local Level Governments to develop workable plans that can be effectively implemented. It is a vital tool for the Government especially when developing natural resource development plans. The practical workshop last for two weeks (29th August – 09th September). Representatives from CBOs, NGO groups, LLGs and Government agencies attended this workshop.

PURPOSE

P3DM is a planning tool. The main purpose of this activity was to involve the communities to participate and grasp the idea and skills of constructing 3 - dimensional model and to provide current information on the ground to put onto the model. This is to enable sound decision making and planning for any development project.

METHODS/PROCEDURES

Below are pictures and descriptions showing the steps followed to construct the 3 dimensional model.

1. Two base maps were required to construct the model. One base map was used for tracing the contour lines onto the cardboards. Carbon papers were placed between the base map and cardboards. After the lines are traced onto the cardboards they are then cut. Lines traced: first 10 contour lines were traced at a 10m interval (up to 100m a.s.l). The remaining contour lines up to 700m (the highest peak), were traced at 20m interval.



Setting up base map on the table.



Preparing carbon papers for tracing.



Base map and carbon papers clipped together- ready for tracing.



Tracing of contour lines onto the cardboards.



Cutting of the traced cardboards.

2. The cut cardboards are glued onto the other base map pasted on the table. (Pasting)



Pasting the cut cardboards onto the base map. Dotted traced lines indicate the edge of the next cut cardboard.



3. Coating

There were a total of 40 cardboards cut and glued together to shape the 3 dimensional geographic view of the Manus Island. After pasting (gluing), first coat of water base white paint was applied together with toilet rolls. Toilet rolls were pasted to make smooth the edges of the cardboards.

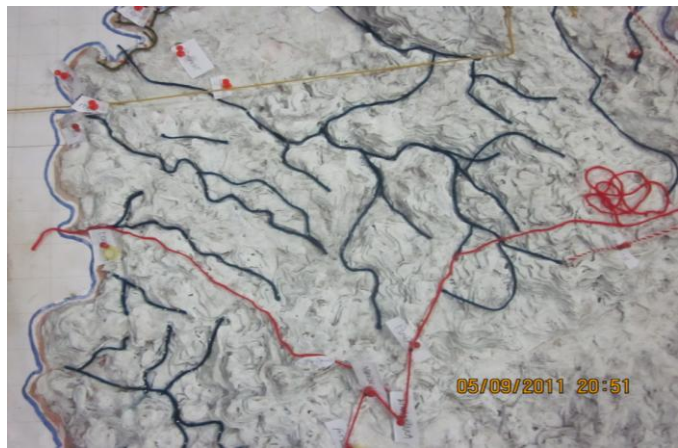


First coat of white paint and toilet rolls.



4. Identification of Geographical Features

Strings were used to demarcate the various linear, polygon and point features (e.g. rivers, streams, roads, Ilg boundaries, tracks, mangrove areas, secondary forests, logging areas, etc.) on the model before they were painted with the agreed coloured paints.



5. Application of coloured water base paint on the marked areas and features.



A Legend was developed before paintings began to guide the participants to apply the right colour assigned for a particular feature. Physical pointed objects (e.g. drawing pins, etc.) were used on the model to represent point data.

6. Handing over of the project (model) to the Provincial Government.

After the model was completed a handover ceremony was held to handover the model to the Provincial Government as per the MOU between the TNC and the Provincial Government. This

was followed by an orientation of the Provincial Administrator and Deputy Governor by the core facilitator.



Handing over of the model to the Provincial Government; Right: An orientation for the Administrator and the Deputy Governor on the model.



7. Presentation of Certificates to the participants.

A certificate of participation was presented to 47 participants, to show they have been participated in the construction of the model. Representatives from CBOs and LLGs in the Manus Island attended this workshop. This will also qualify them to participate or facilitate future workshop on P3DM.

8. A group photo of the participants is taken after the completion of the model.



RESULTS/FINDINGS

The result was an informative coloured P3DM. The participants and the general public could easily see where the rivers flow from and could easily locate certain areas of significance. A discussion amongst the participants on the model was conducted. Most participants comment that the model enable them to see clearly how an effect of a development activity such as mining, will occur, which areas will be affected and which rivers or streams will be used to dump tailings. There are several established and proposed Locally Managed Marine Areas (LMMA), in the seas of Manus. There is also a program call 'Ridge to Reef Program', that is also carried out in the Province, where a certain area from inland right down to the coast is managed. This is because of the fact that, an activity performed inland without proper management, will have an effect on the coastal marine environment. Therefore, the model also assist them to identify which areas or group of people inland and on the coast should work together to effectively implement the Ridge to Reef Program. Attached to this report, are evaluations from the participants on this workshop. They also gave recommendations that the facilitators (PWM) and TNC can consider and improve on.

RECOMMENDATIONS

- It is more appropriate to have such workshop close to a High or Secondary School, so that geography students can involve. It would be good practical work for them and at the same time work will flow smoothly and fast.
- Venue for this type of workshop must be one that participants are relaxed and feel more comfortable to work.
- Try as much as possible to engage the landowners, from the various areas that the model covers, when it comes to putting information onto the model. People at the village level provide current and accurate information as they know exactly where the happenings are occurring on their land.
- A set procedure or steps for constructing P3DM need to be developed so that a theoretical session on the steps is done before practical work begins.

CONCLUSION

Despite the uncomfortable environment that we were working in for the whole two weeks, the end result of the workshop was successful. The model was completed on time as set. The workshop ended with a presentation of the model to the Provincial Government. Participants were presented with certificate as well. Two LLGs in the outer islands have not been included in the model as they were not shown on the base map. The size of the machine that produced the base maps in Brisbane could not include these two most outer islands.

Reporting officer:

Name: PATRICK VUET

Signature:



Appendix-1

Evaluation of the workshop by some participants

Date: Thursday 08/09/2011

Q1: what you like or dislike about the P3D model?

Ans: I like P3D model, because it helps me to know and identify different places and location around Manus which some places I go and visited it and some I came to know their names and location recently. I enjoy working together with different people from every NGO's and wards around Manus. I dislike some people who are just for eating and not doing anything to help accomplish our task.

Q2: How will P3D help you in your work as a CF?

Ans: As a Community Facilitator (CF) working with WCS (NGO organization) this P3D model help me to know some of the places around Manus where WCS and other NGO partners will be working with the little knowledge that I gained from this workshop I can build a small model for myself and if needed I can help anyone who want to build up a model for any places.

Q3: What can we (NGO partners) do differently the next time to improve on P3D Model activity and process?

Ans: I think the next time you do any model like this; you should note things such as;

- The location to stage the activity (should, be done in open air)
- Everybody should participate co-operatively to accomplish the task.
- Outsiders shouldn't be allowed during tracing and pasting because they will mass up everything.
- We should be doing a theory first then the practical in order to avoid done on maps.

Name: Heoa Itariri

: Community Facilitator (CF)

: WCS Manus

: Balopa LLG

Before answering your questions, I just like to take this opportunity to thank all the facilitators, NGO groups the organizers and special one for the participants for their effort and operation to meet their objective in specified time.

Ans: There is nothing like I don't like this activity; therefore I can only say that I like this P3D model.

- a) Firstly, the P3DM signifies in detail the geographical mapping of Manus.
- b) From this P3DM, relevant government sectors can now clearly see and planned not just for climate change and environmental displacement and effects of natural disaster but for most the project is more or less educational for the children, students and also parents.
- c) I will and accept this P3DM for the awareness program in time of climate change and natural disaster. In doing so the map itself will help identify specific areas in Manus that have been affected and plan for improving the situation if need arises.

Ans: As a public servant working in the Rapatona LLG, I can only say that I fully support the outcome of this workshop. P3DM has broadened our view and thinking of specific management to be put in place concerning disaster management and other relevant measures we can hold onto.

Ans: My Command

I can only add on what you already have and that is;

- a) Material
- b) Equipment and
- c) Other necessities to bring or to archive our objective.

With this project we did not have the proper equipment especially cutters.

The process shown from facilitator was more or less not spelt out clear in writing but in verbal which I believe should be improved.

Procedures in application on painting should be specified. Otherwise, all activity should produce step by step activity plan so that it makes it easier for implementation of projects.

All in all, this project has given me something of knowledge, Skills and encouragement.

Name: Salaiau Molean

Dept: MPG – Rapatona LLG

Occupation: Executive Officer

Q1:

- a) What I like about the P3D Model is, I got to know about Manus avoid its surroundings especially the rivers, mountains etc.
- b) What I dislike about the P3D model is that when you work with people who think that they know everything, the slower the process, because so it's better to keep quiet and listen to appointed team leaders only.

Q2: As a community facilitator with wildlife Conservation Society here in Manus, the P3D Model will help assist me in field of work when working with project sites (villages)

Q3: We can look for a better working environment to work in. If the place is cool, people will work properly without complaining about how hot the venue is.

Name: IRENE POKRIS

LLG: LELEMADIH BUR CHUPEU

Position: COMMUNITY FACILTATOR WITH WILD LIFE CONSERVATION SOCIETY (MANUS)

Question 1: What do you a) like about P3D model?

b) Dislike about P3D model?

1. Given me process of constructing a of P3D model in the future.
2. Clear understanding and viewing of Geographical picture of land & sea and its construction into a P3D model.
3. Gives an exact location of my villager, my surrounding,

b) Nothing that I disliked it was an enjoyable new experience.

Question 2: How will P3D model help you in your work?

a) MECCN

- Given more ideas of our locations surroundings.
- Areas of resources being developed the effects on our daily ecosystem.
- These will help us make awareness to the people and the government to make careful and right decision when developing resources and beware of change in the climate and its effects.

Question 3: What can we do (NGO PARTNERS) differently the next time to improve on P3Dmodel activity and process?

- Be more observers, obedient.
- Be more artistic to get a satisfying completion.

Name: Michael. M. Kiromat
LLG: LELEMASI –BUPICHUPEU
POSITION: MECCN

QUESTION 1: What do you like about P3D model?

Ans:

1. Promote participatory planning process within community's people involving in Planning Process.
2. Entire glimpse of whole Manus Island, Geographical features for 97% of Manus Islanders who have not visited most parts of Manus –good for those of us who are illiterate to understand flat maps.
3. P3D model increase participatory lead to good planning for majority benefit.

QUESTION 2: What do you like about P3D model?

Ans: None

QUESTION 3: How will P3D model help you in your work?

Ans:

1. CBOI –Implementation of LLG CBO's current programs;
 - Climate Change Adaptation /Mitigation
 - Manus ridges to reef conservation programs.
 - EAFM one plan for LLG's and Manus
 - 1.2: P3D model is definitely the way forward as a planning tool to use for Manus Planning and 12 LLG Planning.
 - 1.3: It has motivated me to take lead in planning now that the P3D model will greatly talk for in self to cut down on my repeated Awareness programs to gauge support from communities.
- QUESTION 4:** What can us NGO partners do differently the next time to improve our P3D model Activities and process?
- For Manus –CBO's will facilitate and will have our own ways to structure activities and process to develop P3D model. For LLG's and Communities or do another one for Manus. Our ways devil from lesion learnt to improve on timing is cut down on times taken. NGO partners can stand to watch & guide if needed.

Name: Piwen Langarap
LLG: Nali Sopat Penabu
Ward: Pere 5 Wards

Position: Program Coordinator MECCN, Facilitator, Nali Sopat Penabu LLG EAFM one plan.

Q1: a) What do you like about P3D model?

ANS:

- a) Because it helps me understand more about the geographical features of Manus.
- b) Promote, participating planning programs within communities.

Q1: b) What do you dislike about P3D model?

ANS: None

Q2: How will P3D model help you in your work?

- a) CBO? - Planning –Climate Change Adaptation.
 - Resources Management
 - Management of ecosystem.
- b) LLG Ward? –Planning

Q3: What can us NGO partners do differently the next time to improve on P3D model activity + Process?

1. Assist CBO to build P3D modeling for CBO's, LLG expand to accommodate more physical features for planning.

Jenny M. Songan -Bupi Chupeu, LLG, Lele Madiah

Position: CBO rep.

1. What do like about like or dislike about the P3D model?

Actually map Blo Manus I save stap tasol long paper, book na chart, etc. Mi yet mi save olsem Manus long picture form em I luk flat and actual lukluk mi nosave.

P3DM, now I mekim mi lukluk, trupla lukluk blo Manus em dispela map.

- Identify the ACTUAL, LAND SCAPE and all dispela lukluk (model Map)
- All the Marine life and land life is just clear.
- It is something concern Pilot Project Achievement, mipela I folfillim.
- Creating Opportunities for us, Grassroots, school –Leavers, Jobless having this opportunity to do something great for Manus, Government and ourselves at home.

- 2) How will P3DM help you in your work?

CBO – It becomes a tool for Awareness (Transfer onto the chart)

When it comes to our LAND, H2O management concerning the LAND-SURVEY, we can have a CLEARANCE to see our own Areas.

- In our planning mipela ken usim olsem picture blo guidim mipela.

- 3) What can we NGO –PARTNERS, do differently, the next time to improve on P3DM activity process?

- ❖ We can develop our LLG model mapping.
- ❖ We participate in our different Data's (Informations) and put it together and put it onto the Model Map for updating of something new for the Maps.

Name: Pastor, Leslie Kaiih

CBO: TNC –CDF (3L's)

Village (Ward): Lowa Maraman

LLG: Lele –Madih, Bupi Chipeu.

Q1) what do you liked about P3D modeling Map?

- a) The P3D model will help CBO to manage their resource and environment.
- b) The P3D model will help Manus Provincial Government to plan for Development in Manus.
- c) When the disaster occurs the government will know exact places affected by Climate Change and Disaster.
- d) It will stop the development of Manus Provincial Government, because local people will say no to the development. Their land and resources and environment.

QUESTION 2: How will P3D model help you in your work? CBO

ANS:

- a) The P3D model will help CBO to identified conservation areas and spawning area.
- b) LLG- the P3D model will help LLG managers and ward councilors make plan for LLG and ward plan.
- c) The P3D model will help provincial Government to make development plan for Manus, in one way or another to protect Environment and Resources of the Province.
- d) The P3D model will help Public Servant to do Social Economic Survey in each department especially in (DPI) Agriculture and Fisheries.

- e) The P3D model will help local people to say no to proposed development, the illiterate people will use the P3D model to challenge the provincial Government by saying no to the Development Worker.

By: Chris Tapo Londra CBO Coordinators.

Q1: What do you like about the P3D model?

ANS: I like it as it tells about the Manus now compared to past Manus and focuses onto Manus 2015, 30-50 years to come.

Q2: How will P3D model help you in your work?

ANS: Regarding of what sectors of the community we come from Government, Private, and Local community, Hous Boi, Family and individual, we should be aware, assist in whatever ways possible to sustain the life through P3D model.

Q3: What can we (NGO Partners) do different the next terms to improve on P3D model activity + process?

ANS: NGO Partners are to plan together for all limited resources, combined together, order to achieve the planned objectives.

ANS: All scientific research planned objectives are achieves immediate results to current problems instead of telling sweet lullabies music. It will make people go to sleep instead of alert to precaution and serious action.

TIAU NANU

Member for Environment & Conservation, TETIDU, LLG

ERE-KELE LORENGAU

- 1) I like P3D model is because it's new to us to come across to do that modeling of Manus itself. It also helps local people to stand on their feet with the Manus Provincial Government, if there is any future development area in their area. It shows or gives their clear picture whether the development will destroy their environment or not. They will not go to the area of development but to stand up where they are, and just point to the model whether it will affect the people or not.
- 2) P3D model helps me in any work;
 - a) CBO- It makes easier for me to do awareness to the community by using P3D model.
 - b) It also helps wards member to carry out their word planned.
 - c) And MPG with his public servant will come their Provincial planned from the ward level (Bottom up planning) by using P3D model.
 - d) Community Rep will be available with the MPG if any development arises.
- 3) If there is improvement of P3D model in future, it make easier because we all gone through the first one as an experience to most of us.

John Kaor

Lele Bupi (LLG)

3L CBO Lowa

1) What do you like about P3D model?

ANS: P3D model really outstanding, in which it gather the community together in front of the government and the globe to identify the real location affected, or in management (IMMA) (WMA) and other work plan etc.

Dislike? None

2) How will P3D model help your work?

ANS: Ward members will take opportunity by using P3D model to set up infrastructure development in their wards, etc....

a) Manus Provincial Government Public Servant.

To help set up the provincial and administration focus in the climate change adaption and other sensitive issue

b) Community Rep;

Using the P3D model to propose agenda in environment damage using the resource. Meaning affecting the nature and damaging life.

Q. What can we (NGO Partners) do different the next time improve on P3D model activity to process.

ANS: Invite leaders and local people to participate in the next P3D model plan with CBO.

Name: Ms Jacklyne Thomas

LLG: RAPATONA

POSITION: CBO, CDF, NAUNA (WMA)

REP: NGO

PARTNER: TNC, MECCN, CSOF

QUESTION:

What I like about the P3D model was the practical educational aspect of the workshop?

Classroom students learn from concrete to complex according to their mental growth & development. The P3D model is simply an adult concrete material/tool that is very useful for planning etc. I enjoyed the task, mineral as it was, from tracing to cutting & pasting. There was nothing I dislike about the whole process.

QUESTION / ANSWER

I am moving a utility volunteer doing a little here and there than being attached permanently with a group. What I can be able to do is to share/contribute into the planning aspects of the organization, I am attached to. There's the woman in the ward, Pihi Manus the Red Cross for example.

The model is the excellent tool that will aid the process of imparting information effectively.

QUESTION (3)/ANSWER

For the Rapatona, Balopa, N&S Western Islands that have yet to be done, I suggest;

- i. Tracing be done mostly at night – if at Sa-hat when it is cool & the paper boards are soft & the cutting be done day time when the paper's hard.
- ii. That from the beginning, a person from the LLG/wards be represented (from the start) to be part of the process. They are useful in the final part of the task as; Experience has shown. That way they do not blame another for an island deformed, river displaced etc...

Name: Ruta Francis

LLG: Lele Madih /Bupi Chupen

Member: MECCN NETWORK/ Other attachments

- *Executive Member of /in Pihi Manus*
- *Disaster Program Coordinator – Red Cross/ Manus*
- *Peer Education Trainer – Manus PAC*

Appendix-2

Importance of the P3D-Model as a tool, in the various areas underlined.

LMMA/WMA (Piwen and Jacqueline)

- A lot of challenges
- Climate change has brought about sea level rise, temperatures high affecting fish and marine resources. Manus can see the areas of LMMA so that they know the locations of these LMMA. Will assist in the planning for LMMA.
- How it can assist. Pere and Mbuks has an LMMA, but the communities now will realize that if fish are protected in some areas it will feed the other areas. So it will prompt other communities to think about where this fish is coming from, because of the connectivity, where we have the spillover effect.
- How can we establish our own LMMA? - Community to take your own initiative to set their areas for management.
- Its good you talk about planning, it is not easy to do it. If we do not plan, the government will not know our needs. Or won't know what damages will occur and that government does not recognize this. We have tried a lot, but mining and logging is still there. If we do not have a good plan we will die it is our problem. If we do something the government will recognize this. We must recognize what is good.
- Ridges to Reef, one plan and law for Manus so that it aligns to the National Government
- One plan for Manus, I believe it is hard; we have an interest to join this LMMA. If there are alternates to sustain people's livelihoods then people will support the idea. Maybe through the government support, example FADs.
- Nali Sopat, this model will assist the LMMA by providing information about their areas. How they use the systems or resources. They will also be able to assist in the way to manage their bush and sea.
- Show how people of Manus live. This model is useful for people in the community, if we give to government it will assist them in environmental planning; now the government only concentrates on social and economics. It is a guide for planning.
- It will support our LMMA and WMA work, we can identify important areas that can go under tambu so that we can benefit, It depends on the community if they manage it they will benefit from it. So for example the SPAGS work, is that spill -over effect will benefit not only Manus but also nearby provinces such as New Ireland.
- We must stand together through partnership and networking.
- Everything can benefit us, but we need alternative. Example communities that have roads and mining. We look at the model to assist us.
- What is an LMMA? How does it benefit for the communities? Example can be seen from Pere communities, where they fish for food and also sell at the market.
- Why is that Pere community is the only one protecting areas. We all must look after it so that we contribute to the fish of Manus province.
- P3D model is to do with Partnership with wards.
- TNC work in Madang, work with government and develop policies.
- Observation, we have been concentrating on Nali Sopat. MECCN must organize and move to make awareness throughout the island of Manus. We can travel to areas for awareness, when we talk about reef to ridges

National Resource Development (James)

- Relationship to the model. The model will assist as a tool, to see the big picture; we can see the land and sea. It is an important tool for planning. If they want to develop resources they can see the environmental impact to other areas. They can see what sites they should and shouldn't work in.
- Alternatives for people's use of their resources if one system is blocked.
- People are able to see the model and the natural resources, so the people will be part of the planning so it is inclusive, and there can be negotiations between the relevant parties to develop resources. The model can allow us to see that if development takes place we can see the damages that it may cause. A lot of people are now just looking at financial benefits, but this model gives options for people and not compromising the environment, so that one or a few people are benefitting.
- People are able to see the model, and are able to make informed decisions about the development of their resources.
- I think that when the government plans it uses paper to develop it. But this model now shows us Manus province, when the government can see the area they are planning for they can see what damages are there. This model will assist government to reflect on what has been done.
- Model is ok, but if we do not protect some of our resources. We must develop a law to safeguard our resources or some other ways.

Ecosystem

- With this model we can see the different ecosystems. We can see forest and marine, and then the various systems can also be seen we can also locate on the model. We can also see how we are also using the ecosystems, whether it is destroying or protecting it. We talk about food security; it is an alternate to reducing climate change. Government wants to do planning, it can identify where the ecosystems are and then do planning properly.
- Man was created, with the animals and bush and they were in balance.
- The model shows catchment areas so now we can see them and can assist us to plan
- Planners are in a good position to argue or be able to be in an open discussion to see if any developments want to take place, they can be able to make decisions. We will be in a good position
- For example the stones taken from Los Negros to make roads, they will reduce the islands and the local community will be affected
- Model shows that Manus is a small island and the government is able to see that if any developments take place it will destroy the ecosystems. If damages occur in one area it will also affect another area as well. On land and in the sea as well.

Disaster Risk.













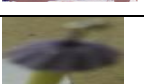















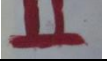
- Disaster is something that happens to affect people, like sea level rise, weather hot. This model shows the level or height, if a disaster occurs how people will be affected if a disaster occurs. We are at high risk – Drought, how can we use it to plan if disaster occurs are we okay or not.
- Risks we have in our area, shortage of food and water. Storage of water should be high inland. We must make food gardens inland.
- Model can assist us to show people in the community why we are affected by certain disasters. We can explain to people using the model, why we are affected by sea level rise,

so we can plan to move to another area. Example our sago areas and also our fish population are being reduced.



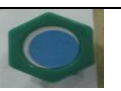
- It's not easy to convenience people in Manus, such as Climate Change, what is our priority in the work for CCA; it will educate the local people and government when we give education and awareness on this.
- Assists CBOs this model is a good tool to make awareness, by looking at the picture they can interpret what information you are giving to them. Useful for local communities.
- Good tool for Manus Provincial Government, it can tell us about where the risks are such as sea level rise- Effectiveness and efficiencies. Assist government to budget for disaster risk before it occurs, planning ahead.
- Model brings the communities closer, just at our fingertips; they don't have to find where certain areas are.
- Manus before, Manus now has a model, if this is a pilot project, man and woman developed this. If we can come back 5 years, see if there are changes.
- No need for government to make assessment. This model Is not for the government only, but for the local people.
- Each LLG must have a model for their individual offices, so that it can assist them in planning to make decision for the good of the people.
- Bring other groups of people in to participate form the community, to show them what disasters are occurring in their area.

Appendix-3

MANUS PARTICIPATORY 3D MODEL LEGEND

FEATURE	SYMBOL	FEATURE	SYMBOL
INFRASTRUCTURE		RECREATIONAL/ TOURISM	
Roading			
National Roads		Sa-Ahut Hall	
Provincial & Feeder Roads		Ovals/ Fields/ Recreational Park	
Logging Roads		Market	
Bridges		Cemetery	
Quarry		Hotel	
Bush Track		Lodges	
Car Parks		Guest Houses	
Bus Stops		Shipwrecks	
Utilities		Diving Sites	
Power Lines		Cultural/ Sacred Sites	
Storage Water Tank		WWII Historical Sites	
PNG Power Station		WWII Airstrips	
Ports		War Relics	
Airport		War Cemetery	
Wharf / Jetty		War Memorial	
Maritime		VEGETATION TYPES	
Lighthouse		Primary Forest	

<i>Light Beacon</i>		<i>Secondary Forest</i>	
<i>Tide Gauge</i>		<i>Grassland</i>	
Telecommunication		<i>Tidal Flat</i>	
<i>Towers / Radar Tower (Telikom/Digicel)</i>		<i>Mangrove</i>	
BASIC SERVICES		<i>Dead Mangroves</i>	
Education		<i>Reef</i>	
<i>Elementary School</i>		<i>Swamp</i>	
<i>Primary School</i>		<i>Seagrass</i>	
<i>Secondary School</i>			
<i>Vocational Training Centre</i>			

UPNG Centre/ PIMS		NATURAL FEATURES	
Health		Terrestrial (Land based)	
Hospital		<i>Ridges</i>	
Health Centres		<i>Caves</i>	
Aid Posts		<i>Water Falls</i>	
GOVERNANCE		<i>Streams</i>	
Settlements/ Political Boundaries		<i>Rivers</i>	
House Holds		<i>Lakes</i>	
Village		<i>Hot Springs</i>	
Lorengau Town		Marine (Sea based)	
LLG Boundary		<i>Lagoon</i>	

Government Bodies		<i>Beaches</i>	
Works Department		<i>Island/ Corals, Stony Islands</i>	
Post Office		<i>Ocean</i>	
NBC Manus		SUBSISTENCE ACTIVITIES	
Provincial Administration		<i>Gardens</i>	
LLG Headquarter		<i>New Garden Clearance</i>	
Law and Order/ Security		<i>Sago Area</i>	
Police Station		<i>Buai Plantation</i>	
Naval Base		PROTECTED AREAS	
RELIGION		<i>Locally Managed Marine Areas (LMMA)</i>	
Church		<i>No Take- Tambu</i>	
Mission Station		MAJOR LAND USES	
BUSINESS		<i>Logged Forest Areas</i>	
Shell Depot		<i>Re-forestation</i>	
Bio-fuel Factory		<i>Logging Camp</i>	
Bank		<i>Rubber Plantation</i>	
		<i>Coconut Plantations</i>	
		<i>Proposed Cocoa Plantations</i>	
		<i>Proposed Mining Areas</i>	
		<i>High Marine Biodiversity Areas</i>	

Appendix-4 - Photos

