



Sea Turtle Restoration Project of Turtle Island Restoration Network and Mas Kagin Tapani in partnership with Karkum villagers



Lessons learned in community-managed marine area in Karkum, Madang, Papua New Guinea

**Wenceslaus Magun
October 2017**

Captions from page one:

(left) Justin Mabo from Karkum measuring the leatherback turtle at Karkum beach, January 2008

(centre) Leatherback turtle laying eggs at night, Karkum Beach, 2008

(right) Tourism expanding due to leatherbacks: tourist Wren McLean, who visited Karkum during the signing of the Conservation deed in Nov. 2008, enjoys canoeing with Andrew Ungai and child from Karkum.

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The task of creating a “desk top” Lesson’s Learned on Karkum Sea Turtle Restoration Project (STRP) depends on availability of project reports, and individuals from Karkum, Mirap, Kimadi, Magubem, Sarang and other people who were willing to provide information and insight.

I am indebted to Paul Lokani; Mama Graun’s Executive Director, for recognising the efforts Turtle Island Restoration Network (TIRN) and Mas Kagin Tapani (MAKATA) has done in extending the leatherback sea turtles’ conservation from Huon Coast, in Morobe Province, Papua New Guinea (PNG) to coastal communities in Madang, and asked me to write this report.

My special thank you goes to Robert Khon, Otto Khon, Mark Khon, Kenneth Lilai, Adolph Lilai, James Kila, Willie Mayang, Joe Parek, Andrew Ungai, Collins Yapen, Justin Mabo, late Joe Khon and Francis Nanai and other members of Karkum, Mirap, Kimadi, Magubem and Sarang communities who have established this project and strive to sustain it. These individuals and their community members’ stories made it possible to compile this report.

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I am grateful and thankful to Ms Tanya Zeriga-Alone and Judith Damon for reviewing my earlier draft reports and to Ian Mannix for editing and proof reading the final copies.

I hope that this paper will stimulate discussion and help find solutions to achieving sustainable local community based, and community driven resource management and planning tools as we strive to save threatened species.

Wenceslaus Magun
October 2017

ACRONYMS

AGM	Annual General Meeting
BRG	Bismarck-Ramu Group
CBO	Community Based Organisation
CD	Conservation Deed
CCDA	Climate Change Development Authority
CEPA	Conservation Environment and Protection Authority
CFs	Community Facilitators
CI	Conservation International
CMMA	Community-managed Marine Area
CTI	Coral Triangle Initiative
DEC	Dept of Environment and Conservation
GIS	Geographic Information System
GPC	Gildipasi Planning Committee
GPS	Global Positioning Satellite
HOMDAP	Head of Mission Direct Aid Program
IEA	Inform, Empower and Advocate
IUCN	International Union for Conservation Network
LLG	Local Level Government
LMMA	Locally Managed Marine Areas
MND	Mahonia Na Dari
MEEP	Marine Environment Education Program
MAKATA	Mas Kagin Tapani
NAILSMA	National Alliance for Indigenous Land and Sea Managers
NFA	National Fisheries Authority
NGO	Non Government Organisation
PA	Protected Area
PNG	Papua New Guinea
PRA	Participatory Rural Appraisal
PwM	Partners with Melanesian
STRP	Sea Turtle Restoration Project
SPREP	South Pacific Regional Environment Program
SMART	Specific, Measureable, Achievable, Relevant, and Time-bound
SWOT	Strengths, Weaknesses, Opportunities and Threats
TCF	The Christensen Fund
TNC	The Nature Conservancy
TIRN	Turtle Island Restoration Network
UNDP GEF-SGP	United Nations Development Program Global Environment Facility-Small Grant Proposal
WPLT	Western Pacific Leatherback Turtle
WWF	World Wildlife Fund-Melanesia Program

ABSTRACT

This paper was informed by literature review, review of project activities and interviews with key leaders from Karkum, and other local communities the Sea Turtle Restoration Project (STRP) team has worked with in Madang, Papua New Guinea.

Local communities and other stakeholders were informed about the critical status of the Pacific leatherback sea turtle (*Dermochelys coriacea*) which is being pushed to the verge of extinction. The paper further showed the seven resource management planning steps used that enabled Karkums to establish their Community-managed Marine Area using Conservation Deed (CMMA-CD) on 17th November 2008.

The Karkum STRP experience points out that some of the root causes of environmental destruction, often begins 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.

To overcome some of these challenges, the paper indicated that Mas Kagin Tapani (MAKATA) needs long-term funding to carry out further turtle awareness, and conduct problem tree analysis workshop(s) to review the Karkum-Mirap conservation Map, and the Karkum CMMA-CD.

Funds will also be used to carry out sea turtles tagging and beach monitoring exercises, conduct a training needs analysis study, and meet the recommendations identified in the training needs analysis study.

If funded MAKATA will continue to develop and distribute educational awareness materials to local communities and other stakeholders.

The paper revealed further that additional funds are needed by MAKATA to build its infrastructure, recruit staff, and meet its management and governance issues.

DECLARATION

I hereby declare and certify that the information and work contained in this project is original and has been compiled based on facts collected from various reliable sources as acknowledged and referenced as Literature Cited. This work has not been submitted elsewhere for publication or any other academic award.



Signature:

Date: 25 October 2017

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INTRODUCTION

Sea turtles are a “keystone species” or a critical component of the marine environment. A keystone species plays an important role in the ecosystem by being a key feature in the functioning of the ecosystem. If the keystone species is removed it will have an adverse effect on other parts of the ecosystem. Saving keystone species helps prevent its ecosystem processes from collapsing.

Leatherback sea turtle (*Dermochelys coriacea*) (figure1) is a keystone species. It is the most unique of the seven species of sea turtles. It does not have a shell, and It is critically endangered and on the brink of extinction in the Pacific Ocean¹.

This paper examines the Sea Turtle Restoration Project (STRP) at Karkum Village, Madang province, Papua New Guinea.

The Karkum STRP was an initiative of the Turtle Island Restoration Network (TIRN) a US-based Non Government Organisation (NGO). STRP was first introduced in Madang, Papua New Guinea (PNG) in June 2006. Before exiting in December 2008, TIRN helped the author established Mas Kagin Tapani (MAKATA) association, a local NGO to sustain the STRP.



Figure 1: Pacific leatherback sea turtle (*Dermochelys coriacea*) at Dawang village beach 2014 returning to sea after nesting. Picture: Leeray Robin

ended.

The aim of STRP is to prevent the loss of endangered sea turtles, cultures, marine habitat, ecosystems, and biodiversity. It also strives to restore food sources, stimulate alternative economic opportunities and promote integral human development. To achieve this, the STRP aims to establish

Since January 2009, MAKATA has been helping community based groups in turtle conservation efforts. To float MAKATA, the author/project coordinator went into a taxi business to fund the project. The venture stalled when the only taxi his family owned and operated broke down.

In 2011 MAKATA managed to secure a small grant from the United Nations Development Program Global Environment Facility-Small Grant Proposal (UNDP GEF-SGP). The funding enabled MAKATA to extend the project to Kimadi, Magubem and did turtle awareness and boundary survey for Sarang. Unfortunately,

midway through this process, UNDP GEF-SGP cancelled the grant citing technical reasons that did not meet the UNDP GEF-SGP policy. All plans to complete phase four of the project activities

¹ (Pincetich *et al.*, 2012; IUCN Red List of Threatened Species (<http://www.iucnredlist.org/>)).

an enabling environment for marine and near-shore resource management plans through the resource owners. Part of the STRP involves the establishment and management of “Community-managed Marine Areas” (CMMAs), so legal rules apply to their management as well as the bodies in charge of managing them using a Conservation Deed (CD).

Consistent with the spirit of the STRP criteria have been identified for legal applications and management of CMMAs set up by the STRP. These include:

- Land tenure remains with resource owners wherever possible;
- Resource owners must have a large amount of input into the development of the CD; and
- CMMAs must be ‘community owned’ and managed.

The STRP vision is twofold. First - to ensure endangered leatherback sea turtles (*Dermochelys coriacea*), other endangered sea turtles and the marine resources and their habitats in the Bismarck Sea are saved, protected and restored. Second the inhabitants who dwell off the bounty of these resources can sustainably use them to improve their lifestyles, socially and economically, and in harmony with their cultures and spirituality.



Figure 2: Welcome to Karkum STRP. The billboard is a gift from NAILSMA. Picture: Wenceslaus Magun

This paper highlights lessons learned from this STRP.

The benefits of this endeavour are diverse and abundant. The STRP initiative work contributes towards tackling the challenges of our age and expanding the knowledge of our world to improve the quality of life on our planet and the outlook for humankind.

The Karkum’s STRP CMMA-CD experience points out those leatherback sea turtles are not only environmental tragedies which need immediate attention, but as a vehicle for shifting how humans view their relationship with the natural world.

The author wants to share the lessons learned from this experience in the hope that these will help other projects in PNG.

He believes that by saving leatherback sea turtles, communities who share their beaches with these turtles, can help manage the surrounding turtle habitats and their ecosystems and sustainably use their resources in ways that can improve their lives.

OBJECTIVES

This paper documents the Karkum villagers' efforts in saving the critically endangered leatherback sea turtles (*Dermochelys coreacea*) in Madang, Papua New Guinea.

The objective is to share lessons learned:

- Explores why it is critical for local communities to actively participate in saving leatherback sea turtles. Highlights the root causes of environmental destruction, which often begin with lack of community control over resources and the inequitable distribution of power;
- To share the lessons learned from using the "Seven steps resource management planning process" from community entry to CMMA through Conservation Deed (CD); and
- To share successes and challenges the communities encountered and suggestions for improvement.

METHODS

This paper was informed by a literature review, a review of project activities and interviews with key stakeholders. It included a review of all project activities conducted for Karkum with support from TIRN's STRP and under the MAKATA.

Key village leaders at Karkum, in the neighbouring villages and friends of Karkum's STRP, were interviewed on the status of the project from the dates of initial project activities to its current status. Published media articles and related literature on Karkum's turtle conservation efforts were also studied.

RESULTS AND DISCUSSIONS

BACKGROUND

Efforts to save the leatherbacks are being amplified by the author using his own time and personal resources when funding ceased. He promotes STRP work and awareness on Facebook², blog³, face to face interactions, meetings, conferences and through other communication tools.

From these campaigns Karkum and the local communities learned that sea turtles are ancient ocean dwellers. They have lived on the earth for 150 million years, since before the time of

² Wenceslaus Magun, Madang Indigenous People's Concern, Save PNG's Endangered Turtles.

³ Maskagintapani.blogspot.com

Dinosaurs. All seven species of sea turtles are endangered and protected under various national laws and international treaties⁴.

Leatherbacks populations have declined in all ocean basins to an estimated 30-40,000 adult female in 1996⁵. The death of more than one percent of the adult female Pacific leatherback population each year could lead to its extinction⁶. STRP informed local communities that the Pacific leatherbacks have experienced the greatest decline, with populations reduced by 95% in the last several decades⁷. They further learned that the Pacific leatherback sea turtles' population is considered critically endangered because they are in decline for decades⁸. The dramatic decline of leatherback sea turtles is signalling a threat to the balance and biodiversity of the oceans⁹.

Furthermore, these communities learned that if the turtles are gone, it will greatly affect their food source and cultural heritage. They realised that creating a fauna sanctuary or protected areas will also help sustain their ecosystems, conserve endangered species and biodiversity, maintain their spirituality, create educational service, trigger entertainment and recreational opportunities, and provide economic development.

Many villagers who attended STRP trainings were privileged to learn about PNG's Constitution (1974) "Goal 4. – *We declare our natural resources & environment to be conserved – wisely used & replenished for the benefit of future generations*"¹⁰.

The STRP team broadened their knowledge to see beyond their traditional knowledge of turtles. Information about PNG being a very fortunate country to be a perfect host of four of the seven turtle species which include: leatherbacks, Hawksbill (*Eretmochelys imbricata*), Green (*Chelonia mydas*) and the Loggerhead turtles (*Caretta caretta*) impressed the local communities. It also strengthened their traditional knowledge about how turtles have a very important link traditionally and culturally for most of the 13 Maritime Provinces.

⁴WPLT Brief for the PNG Delegation to the 16th SPREP Meeting, Apia Samoa, October 2005.

⁵ (Spotila *et al.*, 1996);

⁶ (Spotila *et al.*, 1996);

⁷ (Spotila *et al.*, 2000)

⁸ (Spotila *et al.*, 1996, 2000; IUCN 2004)

⁹ (Spotila *et al.*, 2000)

¹⁰ (GoPNG, *Constitution of Independent State of Papua New Guinea, 1975 with Amendments through 2014*)

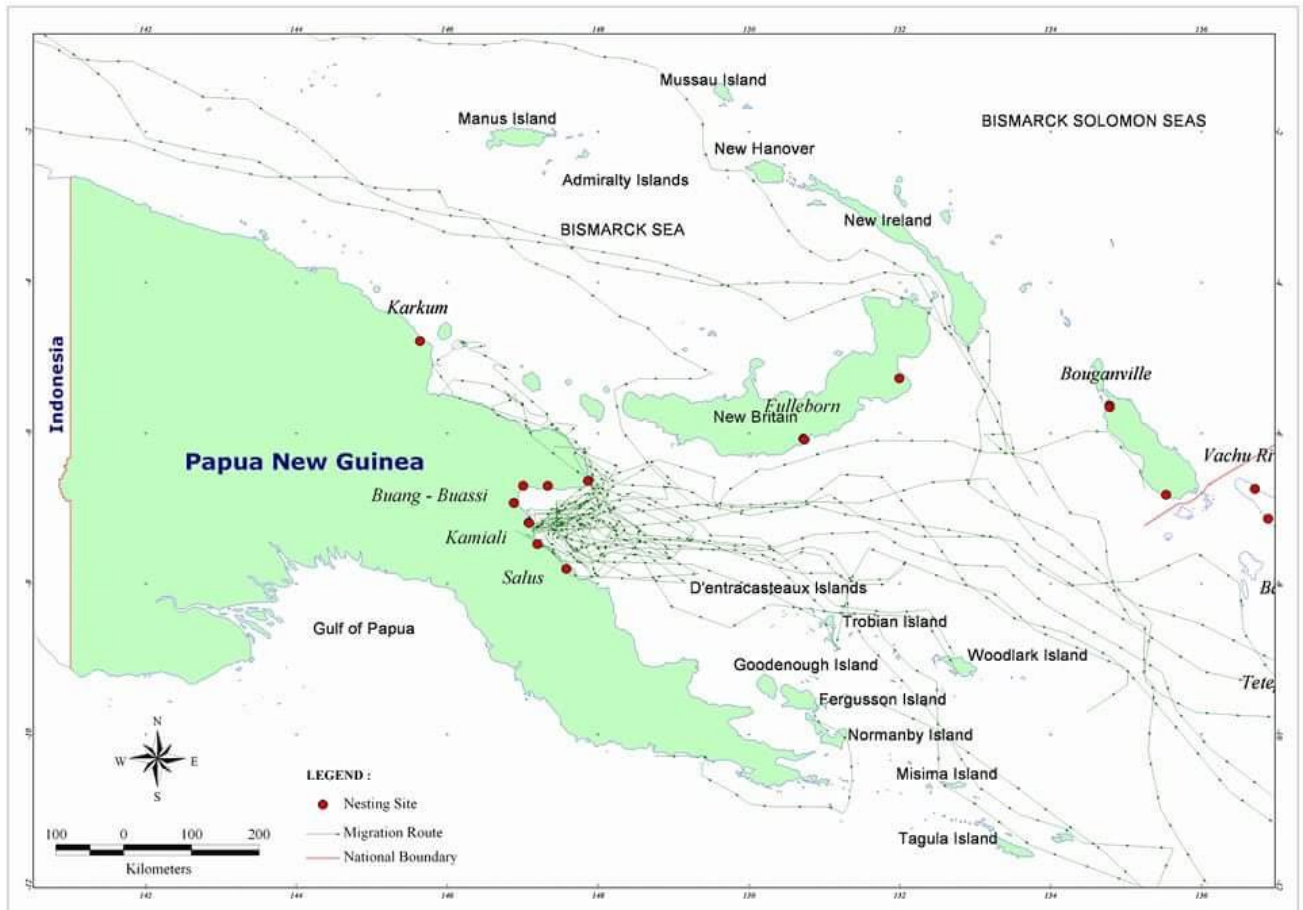


Figure 3: Leatherback migratory route, courtesy of The Nature Conservancy (TNC).

They learned that in PNG some studies on inter-nesting and migratory movements of female leatherback turtles were conducted at Kamiali Wildlife Management Area (WMA), in the Huon coast of Morobe, by scientists from Kamiali Integrated Conservation Development Group, Office of Environment and Conservation, formerly DEC and NOAA Fisheries, between 2001-2002 and 2002-2003 nesting seasons. Further aerial survey of nearly 2800 km of the north Papua New Guinea coastline was conducted during January 2004¹¹.

¹¹(Benson *et al*, CCB, 2007)

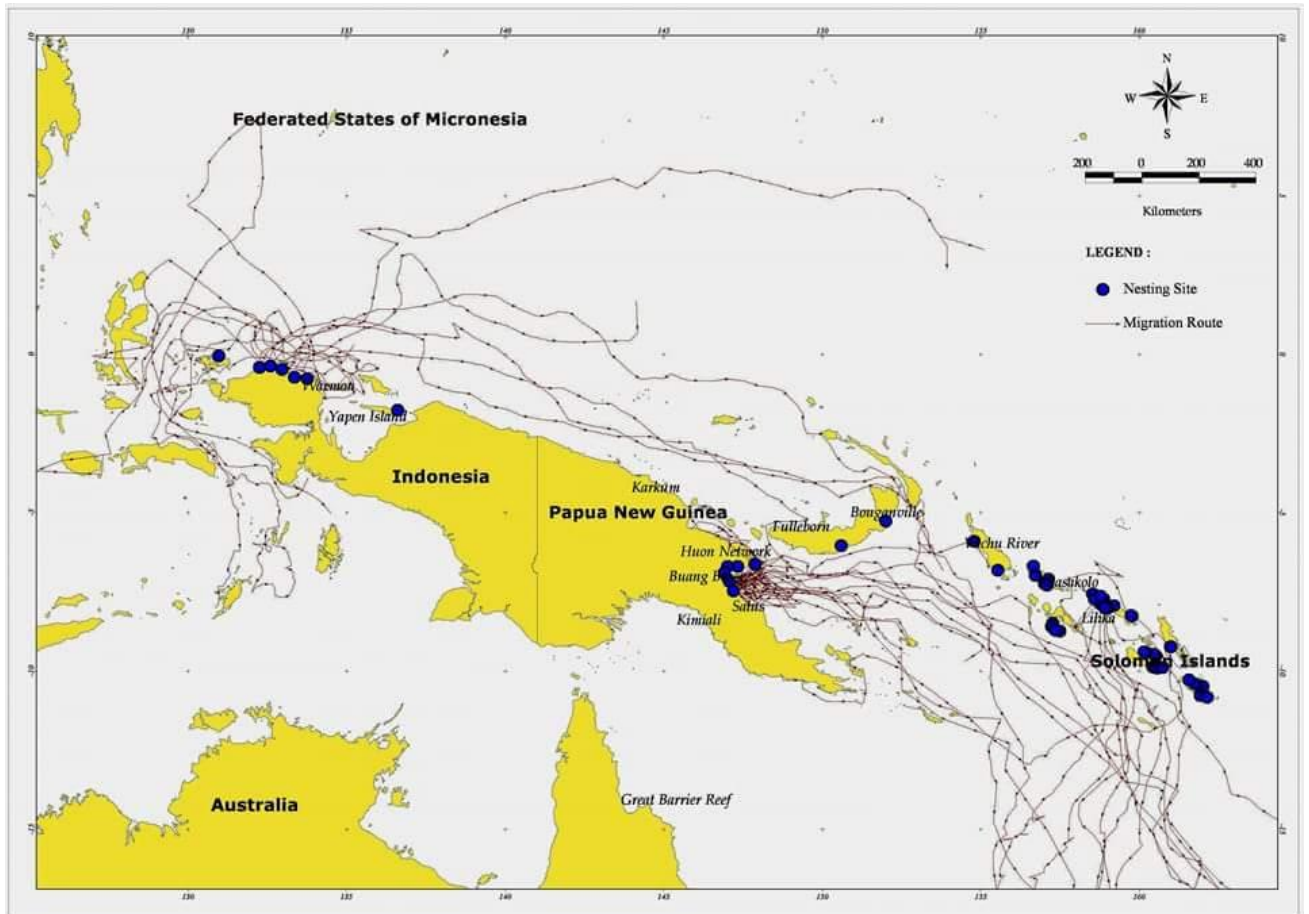


Figure 4: Leatherback migratory route, courtesy of The Nature Conservancy (TNC).

Information on the population stock structure and sizes of the leatherback sea turtles' rookeries in the Solomon Islands, and Papua New Guinea and Vanuatu are unknown¹². This information was also delivered to them.

Moreover, the local communities learned further that leatherback turtles are globally and regionally important shared species as indicated by satellite tracking data showing migration routes through these countries and on their way to feeding grounds around Australia, and the California Current ecosystem offshore of the United States¹³.

They also learned that leatherbacks forage in Gulf of Mexico and Southern California and nest on the Huon coast, which is situated very close to Lae, an industrial city in Morobe, Madang, New Ireland, East and West New Britain and Bougainville; and the beaches of Indonesia, PNG and Solomon Islands support the largest remaining Western Pacific leatherback turtle populations.

¹²(Dutton et al., *Status and Genetic Structure of Nesting Populations of Leatherback Turtles (Dermochelys coriacea) in the Western Pacific*, 2007) even though they nest in these countries

¹³(Benson et al., 2011).

STRP informed the coastal communities that:

“The leatherback turtle is currently the only sea turtle in PNG that is listed as protected fauna under the Fauna (Protection and Control) Act 1966/1976 (Kula and George, 1996), which stipulates that any person who knowingly buys, sells, offers or consigns for sale, or has in possession or control of a protected animal is guilty of an offence and the penalty is K 500. Any person who takes (kills) a protected animal, in contravention of a condition of a permit is guilty of an offence and the penalty is K 40/animal.”

Knowledge about leatherbacks being the largest sea turtle in the oceans intrigued the coastal communities. They learned that the largest known leatherback was three meters long and weighed 908 kg, and was found off the coast of Wales in 1998¹⁴.

STRP also learned that due to lack of effective enforcement and awareness of the Fauna (Protection and Control) Act 1966/76 by the Department of Environment and Conservation (DEC)/ Conservation Environment and Protection Authority (CEPA), many of the local communities did not know much about the laws governing sea turtles.

From these interactions villagers who attended turtle trainings learned that sea turtles return to their original nesting beaches to lay their eggs after spending most of their lives at sea. If they are not caught, killed and eaten, or their eggs harvested for sale at the local markets or also eaten, then the possibility of seeing the next generations of turtles surviving is very slim.

Other threats to turtles include over-harvesting of turtles and predation of eggs and hatchlings by dogs, feral pigs, and goannas.

In PNG the over-harvesting of turtle eggs has become an issue in the last twenty years when eggs began to be sold at local markets in towns and cities. Scientists believe commercial fishing and egg harvesting (especially in the Western Pacific) is the most likely cause of the decline¹⁵.

The other sources of pollution include land-based pollution from major agricultural developments which use chemicals from places like palm oil palm plantations. This is then washed into the river and this also cause major disturbance to the water temperatures. These changes affect important turtle habitats, especially coral reefs, sea grass beds, mangrove forests and nesting beaches¹⁶. Unless current fishing practices are changed, it has been estimated that Pacific leatherbacks will be extinct in as little as 10-30 years¹⁷. Furthermore, alarming threats facing sea turtles today come from land based mining

¹⁴(WPLT Brief for the PNG Delegation to the 16th SPREP Meeting, Apia Samoa, October 2005)

¹⁵(Pincetich et al., Conservation advocacy increases protection for Critically Endangered Pacific Leatherback sea turtles, 2012; WPLT Brief for the PNG Delegation to the 16th SPREP Meeting, Apia Samoa, October 2005)

¹⁶(WPLT Brief for the PNG Delegation to the 16th SPREP Meeting, Apia Samoa, October 2005)

¹⁷Lewis et al., 2004

activities that practice deep sea tailing, and riverine tailing disposal and from the proposed experimental deep seabed mining soon to be underway in Solwara 1.

The local communities were therefore encouraged to save the Western Pacific leatherbacks from extinction and to protect them where they nest, migrate and forage.

Related information can be found in Step 2: Inform Empower and Advocate (IEA).

CAN KARKUMS SUSTAIN STRP?



Figure 5: Todd Steiner (l), TIRN's executive director, wife Lynette McLamb, and Peter Fugazzotto, TIRN's program director at Jais Aben, Madang, PNG in late 2006. Picture: Wenceslaus Magun

Steps taken by Karkum villagers and other coastal communities in Madang, to save the remaining populations of the leatherbacks sea turtles (*Dermochelys coriacea*) through the STRP face turbulent times.

Rebellious factions in the community have killed and eaten turtles after Sea Turtle Restoration Project (STRP) ceased due to lack of funding. Unless supported, Karkum villagers' steps to save the leatherback sea turtles that come to nest on their beach may not succeed.

Karkum village within Ward Seven of the Sumgilbar Local Level Government (LLG) is about 75kilometers northwest from Madang. This tribal indigenous community comprises the Ugerken, Neneng, Gorkom and Niwap/Kirkur clans. They speak the Gawak language. Karkums dwell at the coastal tropical plains and in the hinterlands. They

share common boundaries with Baskan, Dimer, Mirap and Sarang villages. Two thirds of the villagers are Roman Catholics, whilst minority groups have joined the Seventh Day Adventist Church and other protestant denominations.

Karkums rely heavily on garden food crops like taro, banana, yam, sweet potato, vegetables and greens, and protein from sea and the bush. Their main cash crops are betel nut, mustard, coconut, and cacao. A few villagers also own and operate passenger motor vehicles (PMVs) and trade stores. The village has a small water supply project which is in dire need for funding. Unless it is maintained and upgraded it won't meet the increased number of

households (149 with an estimated population of 862 persons) that continues to grow with an annual growth rate of 0.3% in 2011¹⁸.

Other services in the village include Karkum Christian Academy school, Karkum resource centre, and nearby school at the St. Paul's Mirap parish. They also have a village court and Ward Seven Member to maintain law and order and governance in the community. Karkums usually travel to Mugil Catholic Health Centre heading towards Madang or travel to Bunabun Lutheran Sub Health Centre heading towards Bogia for medical service. Both health centres are about 30 minutes away from Karkum. For minor injuries or illnesses they walk to Mirap Aid Post if it is functional to get treatment whilst major illnesses are referred to the Madang general hospital.

Towards the end of 2006, a team of Turtle Island Restoration Network (TIRN)¹⁹ executives comprising of Todd Steiner, executive director, his wife Lynette McLamb, and program director, Peter Fugazzotto visited Karkum. The team had also been to the Huon Coast in Morobe province and Tokain in Madang before stopping at Karkum. Their mission was to set up a Western Pacific STRP after recruiting the author/project coordinator as their Western Pacific Campaigner.

After planting their first STRP seed at Karkum and Tokain, the team left for US happy that coastal communities in PNG who share their beaches with the turtles can now be empowered to save the sea turtles under their program.

SEVEN STRP RESOURCE MANAGEMENT STEPS

The author/project coordinator adapted and tailored seven practical resource management steps to implement STRP in Karkum, Tokain, Kimadi, Magubem and Sarang in north coast and Mur, Sel, Seure, Lalok, Male and Bom-Sagar in Raicoast.

Due to lack of long-term funding STRP concentrated much of its activities in Karkum.

STEP 1: COMMUNITY ENTRY AND COMMUNITY FACILITATION.

Community Entry and Facilitation process is a very critical component of STRP's resource management plan. Any mistake made during this entry process can have a fatal effect on the project. It can make or break the STRP.

¹⁸ National Statics, 2011 (Sum_Fig-CU Level- Madang)

¹⁹ www.seaturtles.org

The author used his experience with WWF, CI and local NGOs to develop a process that aimed at preventing STRP from creating false community expectations. He also maximized limited resources and limited funds STRP had to help Karkums establish their CMMA-CD.

To achieve this objective he engaged experienced Community Facilitators (CFs) from the Bismarck Ramu Group (BRG), a local NGO in Madang to help him. Before visiting Karkum and other local communities, he met with the CFs for briefings.

During the briefings, CFs were reminded to ensure that they avoided creating false “cargo cult”²⁰ expectations from the community. He encouraged his team to use public motor vehicles (PMVs) or dinghy to reach local communities. His team members were advised to live with the community and eat food the community provided. The CFs were instructed not to bring in store goods from Madang town or outside of Karkum into the village unless it was necessary. This principle applied to all field patrols STRP was involved in.

During time in the village they were instructed to spend more time listening to the villagers’ stories then talking. The CFs were urged to pay close attention to community dreams, issues, problems, government, companies, charity or church activities, infrastructure and social services, ward development plans, economic projects, traditional folklores relating to turtles or biodiversity, language, songs and dances, religion, customary conservation practises and similar stories before carrying out social mapping exercise.

Through story-telling the CFs documented the significance of turtles with the local communities. These stories were later shared with the communities during turtle training workshops. Through these workshops communities began to see why it is important to save species such as the green, hawksbill, and leatherbacks because these turtles are important culturally, economically and nutritionally. They confirmed that turtles play a very significant role in their traditional cultures because of their importance through spiritual, ceremonial and medicinal values. The CFs and the author also learned that turtle legends, songs and dances are told and performed to this day because of this special relationship with turtles.

From this exercise, communities themselves told the team that turtle populations, fish and other marine resources were dwindling as modern fishing skills and methods were introduced and used in the communities to meet economic, social and cultural demands for their rapidly increasing population.

Once this task was completed, the CFs held debriefings with the author. At the debriefings they presented all the relevant information and data gathered from their community entry, workshop facilitations and social mapping activities. This process enabled the STRP team to identify community training needs and prepare lessons and materials for their next patrol(s).

²⁰ Author’s views on how cargo is used by politicians, government officials, traders, missionaries, and NGOs to entice locals to obtain land or achieve other objectives.

FOLKLORE DANCE AND RITUALS.

The stories gathered in Karkum, and Tokain in north coast and in Mur, Yamai and Male in Rai coast revealed that these villagers have folklores, songs, dances and rituals which tell of how they originated or have links with the leatherbacks and other sea turtles.

Yamai villagers even have a traditional “singsing” or dance called “*Dala*” connecting them with the leatherbacks. In this singsing, Yamai dancers imitate the leatherbacks coming to nest at their beach.

Dawang clan in Mur have a folklore that tells of how they originated from leatherbacks. They also practise a sacred ritual enabling them to call leatherbacks to shore before killing them for protein. The meat from the leatherback is exchanged with relatives in the inland villages for taro.

According to Karkum’s chief Joseph Parek, the leatherback represents a woman who deserted her husband because he poured hot soup over her back as she went under the house to collect a spoon made of coconut shell. The spoon was intentionally dropped by her husband who had planned to punish her wife with this action. The husband did that after catching her wife cheating him by feeding him flash from her vagina cooked with fresh garden food and vegetables. In frustration about what her husband did to her, she ran to the beach, climbed onto a tree (named) and jumped into the sea. There she transformed herself into a leatherback and swam away. But the thought of leaving behind her two children without feeding them urged her to do something. So many years later she returned to nest at the beach in the hope that her two children and her descendants can feed off from her eggs. Every time she comes to nests, a bird (named) will sing songs to signal



Figure 6: Karkum villagers identifying issues affecting turtles and their marine resources and finding ways to protect them in one of their Participatory Rural Appraisal (PRA) workshop. Picture: Wenceslaus Magun.

her arrival so her children would follow the echoes of the bird to the beach to find their ‘*mother*’ and harvest her eggs for meal.

For generations, Karkums have been doing this. They have not only harvested the leatherbacks eggs but have even slaughtered the female leatherbacks for protein.

Using this information Karkums and coastal communities in Madang were encouraged to do something about this.

The Community Entry and Facilitation process adapted and used by STRP gave communities power to manage their own resources. STRP recognised their strengths and encouraged them to use their customary and local knowledge and practises to be stewards of their natural resources. This step ensured that STRP did not impose rules and regulations for Karkum and the neighbouring coastal communities to manage and sustainably use their resources.

STRP complemented local communities' traditional experiences, with modern scientific knowledge about turtles, and their habitats. The communities were also empowered to see how their flora and fauna interact with each other.

They learned that by destroying a species of plant or animal or their habitats or not managing and sustainably using their resources, this can lead to drastically impacting the entire ecosystem. Many of the villagers who participated in the STRP trainings confirmed that this is evident in their local communities.

After several visits to the different communities and sharing stories with them, these communities were able to make free informed and consent decision to work with STRP. This was done through a formal letter written to STRP and signed by their community elders, community based organisations (CBOs) or through a verbal consent inviting STRP to work with them. Once permission was granted to STRP to work with Karkum and the neighbouring communities, formal work began.

Relevant stories gathered from Karkum and the neighbouring local communities through this baseline study were documented and later used to conduct STRP work. The stories helped STRP planned and delivered trainings and other services to these communities. It also helped STRP to design, develop, produce and disseminate educational awareness materials and news stories on turtles both for the local communities in Madang and a wider audience.

STEP 2: INFORM, EMPOWER AND ADVOCATE (IEA).

Since leatherbacks are a migratory species STRP ensured that its advocacy activities were not limited to Karkum and the neighbouring coastal communities in Madang only but were disseminated to a broader audience. To achieve that objective, STRP captured issues and concerns gathered from the local communities and designed, developed, produced and distributed educational awareness materials widely. STRPs stories were also published in the mainstream media. Stories written by James Kila, Ruth Konia, Alison Anis, the author and other journalists about Karkum's leatherback conservation efforts appeared in *The National*, *Post-Courier*, *Sunday Chronicles* and *Wantok* newspapers.

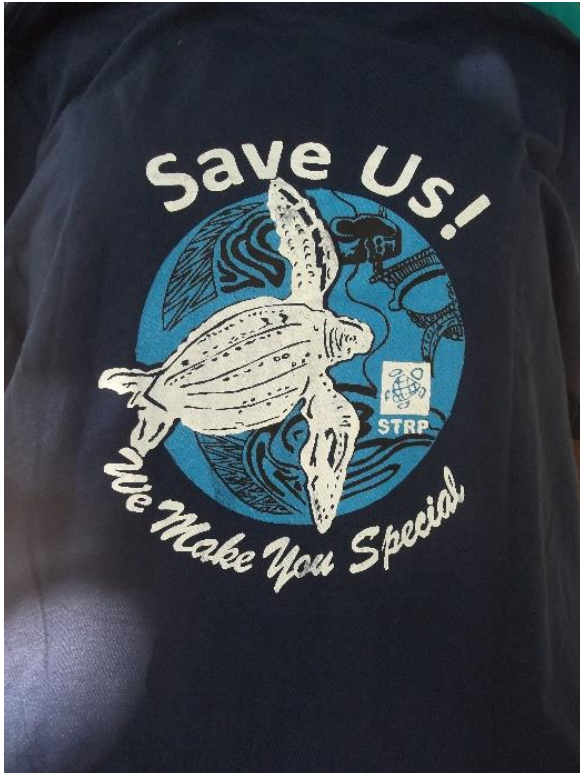


Figure 7: STRP Promotional t-shirt. Picture: Wenceslaus Magun

The author also shared stories of the project activities in meetings; conferences; workshops in PNG and abroad. He continues to use Facebook, and blog. Short videos were produced by Scott Waide, Bismarck-Ramu Group staff and the author and uploaded on YouTube.

Karkum's stories were also written by Peter Fugazzotto and Todd Steiner from TIRN and captured in other scientific journals.

Participants at the Madang Spatial Planning Workshop at Jais Aben on 13-14 November 2013 and at the Mamose Regional Workshop on National Awareness and Consultation on the Protected Areas Policy - the Implementation Plan Development and Legal Framework workshop at the Lae International Hotel from 17-19 May 2016 were informed

about the Karkum's leatherback turtle conservation efforts.

Gerehu Secondary School students and staff and stakeholder partners who attended the 12th Senior Official Meeting and 6th Ministerial Meeting of the Coral Triangle Initiative on Coral Reefs, Fish and Food Security at the conference at Laguna Hotel, in Port Moresby, from the 31 October to 3 November 2016 were further informed about the Karkum STRP. They also received brochures, and posters about Karkum's STRP initiative.

Some of these materials reached Pomio, East New Britain Province; staff of Climate Change Development Authority (CCDA); Conservation Environment and Protection Authority (CEPA); and partner NGOs.

Similar presentations were made in other national, regional and international meetings, workshops, and conferences. Furthermore, Karkum's STRP effort was documented in the *PNG National Plan of Action 2010-2013, Goal # 5: Threatened Species Status Improving*.



Figure 8: Promotional t-shirt: The words mean: "Look after the sea, and it will look after you." Picture: Wenceslaus Magun



Figure 9: In 2014, third year Madang Teachers College students visited Karkum as part of their Marine Environment Education training in partnership with Mahonia Na Dari, a local NGO in West New Britain. The training was facilitated by Adolphina Luvongit. Picture: Adolphina Luvongit

As a result of this, more than 5,000 villagers and other target groups outside of Madang were informed, educated and motivated to wisely save, restore, protect and sustainably use their resources.

In 2009, between 23-28 November, a delegation of indigenous Australians representing the National Alliance of Indigenous Land and Sea Managers (NAISMA) visited Karkum and spent a few days in the village. They shared stories about their resource management efforts in Australia. They also gave Karkums an I-Tracker, sponsored a billboard and supported

the community with information material²¹.

Donations to Karkum included library books, computer and accessories from TIRN and MAKATA. The former Australian High Commissioner to PNG, Ian Kemish, donated funding for a community hall in appreciation of the STRP. The hall is a multi-purpose facility used for village meetings, trainings, and clinics for women and children and by Karkum Christian Academy staff and students²².

Additional key messages developed and delivered to Karkum, other communities and stakeholders include:

- *Pacific leatherbacks are divided into two populations, the Eastern Pacific leatherbacks and the Western Pacific leatherbacks. Eastern Pacific leatherbacks primarily nest in Central America and spend most their lives offshore of nesting beaches or migrating to foraging areas in the South Pacific²³;*
- *Western Pacific leatherbacks nest along the beaches of Indonesia and Papua New Guinea and migrate to forage offshore of Australia in the North Pacific or the California Current ecosystem offshore of the United States²⁴;*

²¹ See the following links for background information (<http://www.oceanrevolution.org/>); (http://www.nailsma.org.au/about_nailsma/index.html); (<http://www.nlc.org.au/index.html>); (<http://www.klc.org.au/>)

²² (New community hall for Karkum village, April 11, 2010 www.thenational.com.pg)

²³ (Shillinger *et al.*, 2009);

²⁴ (Benson *et al.*, 2011)

- There are only a few large nesting populations of the critically endangered leatherback turtles (*Dermochelys coriacea*), green turtle (*Chelonia mydas*), hawksbill turtle (*Eretmochelys imbricata*) and loggerhead turtle (*Caretta caretta*) left in the world, and in PNG we have only a few major nesting sites to conserve for the future generation;



Figure 10: Mirap STRP beach rangers assist NAILSMA scientist in 2009 to count the leatherback sea turtles hatchlings empty egg shells. Unfortunately due to lack of proper beach monitoring, no data was collected. Picture: Tedi Tulem

- Turtles are migratory – Green and Hawksbills have also been tracked from the Solomon Islands to Australia and PNG;
- The waters and beaches of the Western Pacific are important nesting beaches, feeding areas and nurseries for leatherbacks, hawksbills, green and loggerheads;
- The world's oceans are in a state of decline. Populations of sea turtles, sharks and whales are remnant compared to historical accounts of abundance. Fisheries worldwide are also over fished or in states of collapse (www.seaturtles.org);
- Females have two oviducts. These structural adaptations help insure that females lay large clutches of fertile eggs (www.seaturtles.org);
- Sea turtles are reptiles. Their closest relatives are snakes, lizards, crocodiles, and alligators (www.seaturtles.org);
- These turtles are important culturally, economically and nutritionally for the peoples of the Pacific and Indonesia; however they are threatened from natural and human impacts;
- Indonesia, PNG, Solomon Islands agree to conserve leatherback turtles Jakarta, (ANTARA News)- 28 Aug 06: Indonesia, Papua New Guinea (PNG) and Solomon Islands have signed a Memorandum of Understanding (MoU) on conservation and management of western Pacific leatherback turtle nesting sites, feeding areas and migratory routes in the three states. The three countries reached the agreement in a workshop of the 3rd Meeting of Tri-National Partnership to the Conservation and Management of Leatherback Turtles which was being held in Bali's popular tourist resort of Jimbaran on August 28-30, the Forest Ministry said in a statement made available to ANTARA here Monday (8/28)²⁵.

Leatherback information obtained from the (WPLT Brief for the PNG Delegation to the 16th SPREP Meeting, Apia Samoa, October 2005) and used in the project awareness includes:

- Sea turtles' hydrodynamic body shape and paddle shaped limbs or flippers make them agile swimmers;

²⁵ (<http://www.wildsingapore.com/news/20060708/060828-4.htm>);

- *Though fully adapted to marine life, sea turtles depend on land to complete the most critical stage of their life cycle, reproduction;*
- *They build their nests and deposit their eggs only on tropical and sub-tropical sandy beaches;*
- *The leatherback turtle is the only sea turtle without shell;*
- *Listed as endangered in the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and also in the legislations of nearly all the countries where they have nesting beaches;*
- *Live around the world in both tropical and subtropical waters of Atlantic, Pacific and Indian Ocean;*
- *They dive deeper and swim into colder waters than other sea turtles;*
- *Adult leatherbacks have been known to dive up to 1500 meters deep;*
- *Leatherbacks take 8-15 years to reach reproductive maturity;*
- *Leatherbacks lay 50-180 eggs per nest and incubation takes 50-55 days;*
- *Primary breeding grounds in the Western Pacific are in Papua-Indonesia, Papua New Guinea and the Solomon Islands;*
- *The longest known migration journey of a leatherback turtle was from Barat, Indonesia to California and back covering 12,000 miles (Pincetich et al., Conservation advocacy increases protection for Critically Endangered Pacific Leatherback sea turtles, 2012)*

The Pacific leatherback turtle population is crashing. The leatherbacks' population is dropping dramatically and is dangerously critical. Principle causes of the decline include²⁶:

- *Domestic and commercial poaching and exploitation of sea turtle eggs and females;*
- *Interaction with fisheries and accidental entanglement in marine pollution and debris and drowning in tuna, swordfish, and other fishing gear (long lines and gillnets), and watercraft strikes;*
- *Development and destruction of nesting beaches, beachfront lighting;*
- *The disposal of human waste and other pollutants lead to ingestion of plastic bags pose a very serious threat to the nesting females;*
- *Between 1985 and 1995, the number of leatherback turtle nests at a key beach in Mexico dropped from 6500 to less than 500. The South American swordfish fishery expanded tremendously during this same time and may be a significant factor;*

The TIRN's STRP/MAKATA used some of this information to develop educational awareness posters, brochures, t-shirts', promotional slogans etc. However the information, communication and educational awareness and promotional materials produced so far has not been sufficient to meet target communities' needs and those of other stakeholders.

²⁶(Pincetich et al., *Conservation advocacy increases protection for Critically Endangered Pacific Leatherback sea turtles*, 2012; *WPLT Brief for the PNG Delegation to the 16th SPREP Meeting, Apia Samoa, October 2005*).



Figure 11: Communication training for Basken, Sarang, Mirap, and Karkum participants was conducted at Karkum by Caginiveisaqa Vesikula from SeaWeb Pacific from the 17-21 September 2013. Picture: Wenceslaus Magun. To see the workshop in action see video: "They come home" <https://t.co/1dNOecUK6L>

There are other communications tools yet to be used. This was raised in a Communications workshop conducted at Karkum, by SeaWeb, a sister NGO in partnership with MAKATA. These tools include drama, visual art, songs and dances, and other forms of expressive arts. The workshop recommended that more local communities be empowered with communication skills to amplify this cause. Participants at this workshop learned to take minutes, create drama, and other communication skills.

Some lessons learned from this exercise include:

- *Ongoing research, development, production and dissemination of awareness materials is needed but due to lack of funding, this much needed information, communication and educational awareness materials could not be designed, produced and disseminated to target communities and relevant stakeholders;*
- *Lack of cooperation from DEC/CEPA to supply data and related information on sea turtles' conservation in PNG;*
- *Lack of funding to purchase quality computer(s) and accessories, software, digital cameras, video cameras and other tools and accessories necessary to produce awareness materials;*
- *Insufficient community training to build Karkum and other coastal communities' capacities to produce and disseminate awareness materials or conduct their own awareness activities;*

- No monitoring and assessment conducted to assess communities' information, communication and educational awareness needs or impact of these awareness materials and the Communications training;
- Lack of funding to hire skilled personnel (graphic artist, website designer, video producer, jingles, and radio drama writers etc) to help design, develop, produce and disseminate educational awareness materials using appropriate communication tools;
- The group lacked funding to engage actors, musicians, sculptures, comedians, dances, painters to translate awareness materials into art forms; or even partner with top sport celebrities as ambassadors of STRP;
- No funding to pay for airtime on radio for jingles, radio-drama, TV commercials, supplements, or advertisements etc;
- Communities not motivated enough to drive educational awareness on their own using drama, songs and dances and other forms of expressive arts;
- Schools lacked adequate, sufficient and reliable educational awareness materials on forests and marine environment;
- School teachers needed Marine and Forest Environment Education Program in-services; and
- MAKATA needed to strengthen the existing partnership with Mahonia Na Dari (MND). MND is a local NGO in West New Britain specialized in MEEP to be engaged to conduct this training.

STEP 3: LAND USE PLANNING AND BOUNDARY MAPPING

Through the PRA workshops, the CFs enabled the local communities to develop their land use plans. This information was later captured on butcher papers. Information gathered from these trainings were then used to gather raw GPS data to develop their resource maps. This exercise has led to developing STRP project site maps in Madang.

The STRP project site maps have been documented in the *Madang Sustainable Development Ridges to Reefs Gaps and Priorities* – 12 February 2014 document on page 42/105²⁷.



Figure 12: Adolph Lilai from Karkum collecting data using GPS equipment for Karkum, Mirap, Yedigam, Tokain, Magubem, Kimadi and Sarang villages. He is assisted in Karkum by Chief Joe Parek. Picture: Wenceslaus Magun

²⁷ <http://www.leafasia.org/sites/default/files/public/resources/Madang-Sustainable-Development-R2R-Gaps-and-Priorities-12-February> 2014).

Furthermore, it is also captured in the *Low Emission Land Use Planning for Madang Province: Options and Opportunities*, Banka et al, June 2015²⁸.

While this process proved successful for Kimadi, Magubem, Tokain and Yadigam, the group could not reach consensus on the boundary maps for Mirap and Karkum.

Despite at least ten meetings there seemed no likelihood of a positive outcome. Since time was running out against the STRP schedule, the author proceeded to create Karkum CMMA-CD using the Karkum-Mirap conservation areas map anyway to meet STRP timeframe.

The process of bulldozing the Karkum-Mirap map under Karkum CMMA-CD just to meet STRP schedule has not been accepted by Mirap villagers. The process to establish Karkum CMMA-CD using Karkum-Mirap map therefore needs to be reviewed.



Figure 13: Kimadi-Karkum Conservation area map. The entire STRP project site reaches from Kimadi CA to Karkum-Mirap CA

Miraps and Karkums need to resolve this matter amicably. If Miraps insisted that they should have their own map and their own CMMA-CD, will Karkum change their mind and accept their proposal? This is contentious and remains a critical matter which needs to be reviewed and addressed with both communities. For this to happen, STRP needs funding so it can conduct Problem Tree analysis workshop(s), land mediation, review social maps for both Mirap and Karkum, and help both Mirap and Karkum resolve this issue.

²⁸(USAID Lowering Emission in Asia's Forests (USAID LEAF) www.leafasia.org).

Count	Managed Area	Hectares
1	Karkum-Mirap Conservation Area	508
2	Kimadi Conservation Area	550
3	Magubem Conservation Area	924
4	Tokain Conservation Area	773
5	Yadigam Conservation Area	736
Total		3,491

Figure 14: Existing Sea Turtle Restoration Project managed areas in Sumkar District

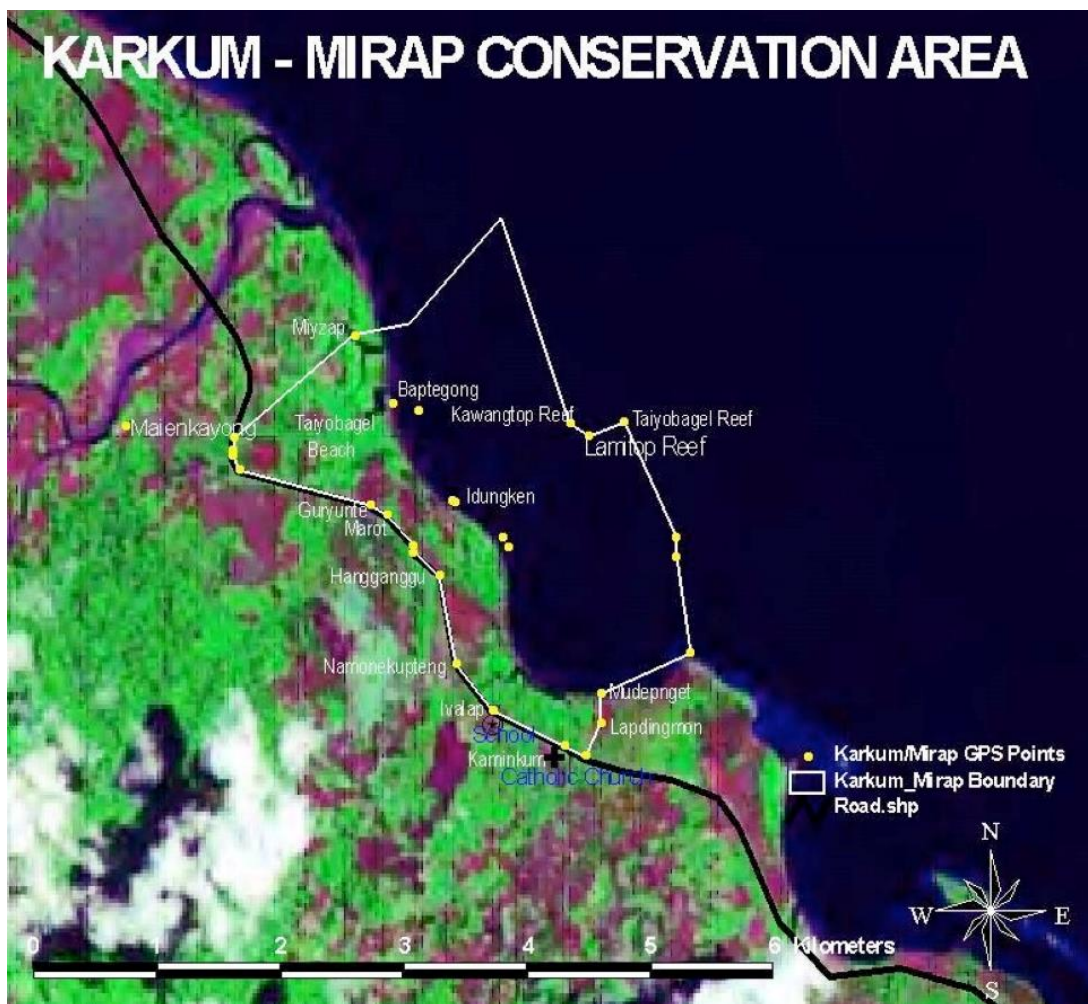


Figure 15: Karkum- Mirap CA. Consists of 508 hectares, including the ocean, turtle breeding sites extend along the entire beach.

STEP 4: CONSERVATION MANAGEMENT AREAS MATRIX

At Karkum, villagers felt it was convenient for them to adapt the Conservation Deed (CD) process and not use a “Wildlife Management Area” (WMA) which comes under the *Conservation Areas Act 1978*. They learned that Conservation and Protected Areas (PA) laws and policies were weak²⁹ leaving coastal areas and marine resources which they rely on for sustenance open to exploitation by domestic and foreign interests. With the CD they would have more control and power over their resources³⁰.

The CD gave them the opportunity to create their own rules and penalties and sanctions. They realised that the CD was more



Figure 16: Community Facilitator Yorba Yurki conducting Conservation Management Areas Matrix training at Karkum village. Picture: Wenceslaus Magun

user-friendly as it maintained customary practises and offered them an opportunity to be direct custodians and stewards of their resources. Karkums realised that by using CD they would not be mere spectators and observers on their own land, water, sea and other natural resources but be able to manage their own resources and not wait for outsiders to come and do this job for them.

STEP 5: CONSERVATION DEED

Karkum CD was signed on 17 November, 2008 by three representatives representing each of the four clans in Karkum. This effectively binds Ugerken, Neneng, Gorkom and Niwap/Kirkur clans as parties to the Contract. (Appendix CD copies in English and Tok Pidgin).

The media reported on the signing (Appendix) and also in www.seaturtles.org.

The Conservation Deed (CD) process creates a Community-managed Marine Area (CMMA) using CD amongst tribal, clan groups and conveniently with other relevant stakeholders. The laws and penalties imposed in the CD are then regulated and enforced by the communities

²⁹ (Kwa, *Biodiversity Law and Policy in Papua New Guinea, May 2004*)

³⁰ (Robert H. Horwich., *A Landowner's Handbook of Relevant Environmental Law in Papua New Guinea year. 2005*).

themselves. The use of CD's is relatively new in the conservation arena but is traditionally accepted and used.

The signing of their CD enabled them to assert their customary rights, to respond to threats, to assist with land and sea management and planning, to identify the most important areas for protection and to record and safeguard their traditional knowledge³¹.

Since it is a community orientated conservation area; Karkum villagers used Appendix 8: Section 41, (p), (q), (s), (z) 42, 44 (o), (p), (q), (s), (ae), 98 (1) of the *Organic Law on Provincial and Local-Level Government (1997)* to protect their turtle nesting sites along the coast using CD as a tool³².

What is a Conservation Deed?

It is a product of a community-driven process that results in increased community awareness, education, and training. It is a formal legal document from the community that creates a community managed conservation area and a long-term community stake in the protection of natural resources in ways that also meet the economic and social needs of the community.

Robert H. Horwich in a *Landowner's Handbook of Relevant Environmental Law in Papua New Guinea year 2005*, states that "The Conservation Deed is a recent innovation which might be considered something like a 'People's Conservation Area.'...Some lawyers feel it may be the strongest kind of legal land protection..."

Conservation Deeds are a relatively new innovation in PNG, spearheaded by the work of the Bismarck Ramu Group (BRG). The first Conservation Deed was signed by eleven clans of Wanang Village in the Sogeram region of Madang Province in June 2000, the culmination of two years' training and community facilitation by the BRG. Activities leading up to and following that event contributed toward the blocking of the operations and expansion of Madang Timbers in the Sogeram Forest Management Area. For the past seven years, there has been no logging in the area.

STRP had successfully implemented two plans for innovating off the current BRG Conservation Deed Trust model.

First Conservation Deeds, as part of the overall BRG conservation process, were implemented by forest communities. STRP applied it to coastal/maritime communities, planned and implemented by the partners including each local coastal community, local planning committees, their contract CFs and community CBOs and facilitators.

³¹Maskagintapani.blogspot.com

³²Maskagintapani.blogspot.com

The second innovation used was a "people empowering people" approach. The group tapped into the experience and knowledge of the Simbukanam, Imbap and Karkum people to facilitate a process in which these community members were the ones to assist their coastal neighbours to set up their marine conservation areas and eventually sign the Karkum CMMA-CD.

Amongst other 'Terms of Contract' the Parties agreed to this CMMA-CD is a legal document which binds the parties to their promises and can be enforced in the National Court of Justice.

The CMMA-CD process stipulates that harvesting and consuming the leatherback sea turtle and all other turtle species is prohibited. A range of fines and other punitive measures against offenders were also incorporated into the CMMA-CD. This CMMA-CD was counter-signed by STRP beach rangers, a Village Court Magistrate, and Sumgilbar Local Level Government (LLG) president. It was witnessed by more than 1000 people including chiefs from neighbouring villages, NGO representatives, Madang CSO representatives and a representative of the Madang Governor's office.



Figure 17: Nineng clan members Mathew Dalek and Francis Nabuai signing their Conservation Deed on 17th November, 2008 at Karkum. They were assisted by STRP CFs Adolph Lilai standing far left, and Leeray Robin wearing cap centre. The launching was witnessed by more than 1000 people. Picture: Wenceslaus Magun.

For the next five years commencing from the date of the execution of their deed, Karkum villagers agreed that they shall conserve their land and sea including the forests, and water resources in their mapped conservation area.

It is important that the Karkum CMMA-CD must be reviewed and corrected, if it is to be recognised and accepted as an appropriate CMMA under the "Convention on Biological Diversity Aichi

Targets", including a goal of "effectively and equitably" managing 10 percent of coastal and marine areas by 2020 *Convention on Biological Diversity, CBD Guideline, 2004*³³. It also

³³ CBD Guideline, 2004 (*Secretariat of the Convention on Biological Diversity, Quick guides to the Aichi Biodiversity Targets, Vision 2 – February 2013*)

enforces the *Fourth National Goal and Directive Principles*³⁴; the *PNG's Protected Area policy*³⁵; the *Protected Areas Bill 2016, 20 September 2016*³⁶; the *Interim report 9, February 2017 Management effectiveness of Papua New Guinea's Protected areas, March 2017*³⁷; and the *Fauna (Protection and Control) Act 1966/1976*³⁸.

In short, the CD was used by Karkum villagers because:

- PNG governments' process of creating and managing protected areas has not proven to be effective;
- Resources owners are in control, they own the process, they make and enforce laws and gain direct benefits from conservation efforts;
- To assert customary rights;
- To respond to threats;
- To assist with land/sea management and planning;
- To identify the most important areas for protection; and
- To record and safeguard traditional knowledge.

Some of the issues that affected Karkum's CMMA-CD include:

- Conflict of interest resulting from inflow of cash from the Karkum village guest house which spilled over to the breaking of laws enacted in the Karkum CMMA-CD;
- Village Court system not effective and not able to impose penalties stipulated in the Karkum CMMA-CD;
- Wantok system may also be a hindrance in ensuring the magistrate strictly applies the principles of justice and does not take sides with relatives or kinsmen who may have violated the rules and penalties in the Karkum CMMA-CD;
- A general lack of trust, respect for the elders and clan leaders by some young people in the village;
- Misconception and rumours of the project spread amongst rival parties within the community who saw the STRP as a medium of "Cargo cult" thus inciting certain elements in the community to think that STRP was using the community for its own gain;
- Lack of ample time to study Karkum CMMA-CD rules and penalties with the communities so they are well versed on the CMMA-CD's content before launching it;
- No money to hire lawyer and team to return to Karkum to review their CMMA-CD and the Seven Resource Management Planning process used to reach this outcome; and
- Karkum villagers were not given the opportunity to decide other alternative resource management planning options to use after this experience.

³⁴(*Constitution of Independent State of Papua New Guinea, 1975 with Amendments through 2014*)

³⁵(*Papua New Guinea Policy on Protected Areas, 2014*)

³⁶(*Protected Areas Bill 2016, 20 September 2016*)

³⁷*Interim report 9, February 2017 Management effectiveness of Papua New Guinea's Protected areas, March 2017*

³⁸*Fauna (Protection and Control) Act 1966/1978*.

STEP 6: CONSERVATION DEED REVIEW

The few key Karkum leaders who attended this workshop learned that:

Consistent with the spirit of the STRP, there are criteria identified for legal applications and management of CMMA-CDs set up by the STRP. These include:

- Land tenure remains with the resource owners wherever possible;
- Resource owners must have a large amount of input into the development of their CD laws for management of the CMMAs, as well as for management plans; and
- CMMAs or Locally Managed Marine Areas (LMMAs) must be community 'owned' and managed.

After the UNDP GEF-SGP fourth grant was aborted, MAKATA could not do further follow-up workshops to review Karkums CMMA-CD. This greatly affected STRP's relationship with the community.

STEP 7: MONITORING AND EVALUATION

The author said that reports from the monitoring and evaluation exercises conducted by STRP team during and after the project phase has helped him in compiling this report.

One of the key elements of project management is monitoring and evaluation. This step enables the organisation to measure its activities against objectives, and targets. It enables the organisation to find its weaknesses, strengths and opportunities and assist find alternative steps to improve based on specific, measurable, achievable, relevant and timely targets.

When the UNDP GEF-SGP's fourth grant was aborted it prevented MAKATA from engaging an independent contract officer to carry out monitoring and evaluation exercise for the project.

Thus adhoc assessments were carried out by the author on voluntary basis after funding ceased.

Having gone through this experience the author recommended that an external contract officer be engaged to do an independent monitoring and evaluation assessment for the Karkum STRP. This will provide a comprehensive and fair view of the STRP.

He pointed out further that with lack of funding MAKATA could not do a staff retreat to discuss the projects plans and outcomes and develop its next plan of actions. The author reiterated that with lack of funds, MAKATA could not hold a board meeting, or engage an accounting firm or private accountant to audit the group. He further stressed that this had also prevented MAKATA from holding Annual General Meeting(s) (AGM). With no AGM the

group could not assess its efforts on the ground, address in-house management and governance issues and allow members to join MAKATA.

PROJECT CHALLENGES

With success come challenges. This paper highlights some of the Project Challenges STRP encountered and lessons gained from this experience.

KARKUM VILLAGE GUEST HOUSE

Balancing conservation outcomes with key livelihood projects encourages local communities who take steps to conserve and sustainably use their resources. But not all goes well. Sometimes this livelihood projects can destroy conservation initiatives. That can happen if feasibility study or studies, finance literacy, and related trainings are not conducted to ease tensions or empower the communities to manage their income generating projects in an accountable and transparent manner. These short-comings can lead to the close of such projects. This is a key lesson encountered at Karkum which can help address future resource management plans.



Figure 18: In September 2010, Jeff Kinch and a delegation from the South Pacific Regional Environment Program (SPREP) visited Karkum. Mr Kinch encouraged Karkums with their STRP. The awareness took place in front of the Karkum Village Guest House. Picture: Wenceslaus Magun

Despite establishing a vibrant Village Guest House in 2008 and operating it successfully into 2009, internal disputes soon crippled this cottage industry and affected the STRP objectives.

In 2009 Karkums earned more than K29, 000.00 from local and international tourists visiting their village. According to the former Ward Seven Member for Karkum, Mark Khon, tourists came to see leatherbacks, the surrounding habitat, its flora and fauna and enjoy the rich, unique and diverse traditional cultures it has when STRP promoted their efforts on multi-media. Mr Khon revealed this information to a SPREP delegation who visited Karkum in

September 2010. He said tourists came from as far as Denmark, USA, Australia, and the South Pacific, officials from DEC/CEPA, provincial government representatives, local tourists and others.

With the inflow of money, jealousy amongst different groups within the community over equity distribution of wealth ignited tensions. These flared into conflict resulting in the demolition of their once thriving village guest house. The leatherback sea turtles' tourist attraction immediately lost its popularity, attractions and customers for a certain period.

Lessons learned from this project show that prior to encouraging communities to embark on any community livelihood projects, feasibility studies must be carried out. These study/ies will determine the viability of any proposed project. It will also recommend the necessary capacity building training exercises needed prior to, during and even after the operations of the business venture. The study will also identify possible threats and recommend steps to deal with these threats.

GILDIPASI ABORTS TIES WITH MAKATA

When STRP began its project, it did a baseline study and turtle awareness, Land Use Planning, and Boundary Mapping for Mirap, Yadigam, Tokain, Kimadi and Magubem. But when TIRN pulled out the neighboring Tokain village through their Gildipasi Planning Community (GPC), a Community-based Organisation (CBO) didn't want to work with MAKATA to sustain STRP.

This experience may look negative from the outset. However, the author sees this as a positive step heading in the right direction. He pointed out that it is good to see GPC take ownership of their resource management planning process. He said, "Institutions like TIRN or MAKATA can come and go but the local communities will always be there". He reiterated that because of this it is therefore good to see GPC taking ownership of their resource management plans and driving the process.

On the other hand the author said this experience demonstrates that lack of long-term funding can cause local communities to lose trust in NGOs. The author reiterated that for MAKATA a newly established local NGO, this is not a positive indicator and a hard lesson for the organisation to learn from.

MIRAP VILLAGERS WANT THEIR OWN CMMA-CD

The neighbouring Mirap village supported the project but did not want to be part of the Karkum CMMA-CD. After holding almost 10 informal and formal meetings with key leaders from Mirap including Anton Dagil, late Mechior Kasap, and others, they expressed dissatisfaction to collaborate with Karkums under one conservation area map and sharing a common CMMA-CD. They insisted to have their own conservation area map and CMMA-CD.

Listening to both Miraps and Karkums the author realised that this is a complex issue and that more time is needed to iron out these differences and help both communities to reach consensus.

The author believes a common shared value of saving the leatherback sea turtle can leverage Miraps and Karkums to reach consensus over their grievances and find lasting solution for their CMMA-CD.

He pointed out that with support from STRP some positive outcomes have been achieved. These positive outcomes should help both communities find common shared values necessary to help sustain their STRP. These positive outcomes include:

- Madang Government has documented their STRP CMMA-CD in its Spatial Planning document³⁹; and
- In its related document, “*The Low Emission Land Use Planning for Madang Province: Options and Opportunities*,” Banka *et al*, June 2015 USAID Lowering Emission in Asia’s Forests (USAID LEAF)⁴⁰.

In addition, the National Government through the Department of Environment and Conservation (DEC) now (CEPA), has even captured this project in its *Coral Triangle Initiative document*⁴¹.

The author is optimistic that Mirap and Karkum villagers can build from these positive outcomes to iron out their differences. He recommended that MAKATA should be assisted so it can conduct Problem Tree Analysis workshop(s), dialogue, or any other customary practises to help Karkum and Mirap find a way forward in strengthening their STRP initiative.

³⁹<http://www.leafasia.org/sites/default/files/public/resources/Madang-Sustainable-Development-R2R-Gaps-and-Priorities-12-February-2014>

⁴⁰www.leafasia.org

⁴¹www.coraltriangleinitiative.org

VIOLATION OF CMMA-CD RULES AND PENALTIES

Another challenge Karkums experienced is the violation of their CMMA-CD rules. This disrupted their initiative to save and restore the population of the leatherbacks and also help them manage and sustainably use their marine and terrestrial resources.

The conflict of interest over the village guest house was one of the major causes of this rebellious action. Disgruntled community members mounted reckless actions against the CMMA-CD rules. Their actions influenced others to disregard the rules and penalties imposed in their CD. Adhoc monitoring and evaluation by the author indicated that even the local village court officials, and the Ward Member could not settle disputes and penalize those found to violate the CMMA-CD rules or impose penalties. These challenges tested the effectiveness of the CMMA-CD conservation tool. It provides an opportunity to learn from and improve.

For MAKATA this means that either the communities did not understand the CMMA-CD rules and penalties and were not familiar with them before they were enacted as law and enforced or that they did not respect their elders representing each clan who signed the CMMA-CD at the launching.

The monitoring and evaluation exercise carried out by the author showed that there was lack of respect by certain elements in the community. These individuals intentionally killed green turtles (*Chelonia mydas*) and harvested their eggs for consumption with the aim to disrupt STRP and their Village Guest House for their own ego and personal gain.

At some point in Karkums CMMA-CD, these negative actions destroyed the once well respected Karkum STRP. These negative actions caused their fish and other marine resources to decline.

James Kila a journalist from Karkum reaffirmed this negligent behaviour when he contacted the author and requested MAKATA to return to Karkum, and team up with key leaders from the village to address this situation.

This can be done if MAKATA is supported with funding assistance.

MAKATA SUSTAINS STRP

The exit of TIRN and the establishment of MAKATA to sustain its STRP provide an opportunity for local communities who share their beaches with the leatherbacks and other sea turtles to take ownership of this endeavour.

The challenges faced by local communities and MAKATA in the absence of TIRN in sustaining STRP is healthy. It provides an opportunity for MAKATA to take lead in this project. In ensuring that this happens, the author and MAKATA's Board have developed the organisations Constitution, Finance Management policy, Staff Manual Handbook and other related policies, and strategies that will take STRP into new heights once implemented.

CLIMATE CHANGE EFFECTS

Beaches in the Karkum area are fragile. King tides are already washing nesting habitats away. It is predicted that Global Warming will result in higher sea levels, in which case, king tides will be even more serious. They continue to wash away leatherback turtle's nests habitats. If this continues, leatherback sea turtles may not return to nest at Karkum or Mirap but migrate to other nesting beaches.

Further urgent research is needed to determine the possible impact on the nesting sites of leatherbacks from rising sea levels.

UNDP GEF-SGP ABORTS FOURTH GRANT



**Figure 19: A “tambu” sign pegged in a nesting site at Karkum,
Picture: Wenceslaus Magun**

In 2011 MAKATA secured a small grant from UNDP GEF-SGP. The funding enabled the organisation to extend the project to Kimadi, Magubem and Sarang villages. Sadly, midway through the project activities the group could not continue their STRP efforts. When the author submitted MAKATA's third quarter report to the UNDP GEF-SGP it was turned down on technical reasons as per the UNDP GEF-SGP policy.

The author pointed out a couple of lessons learned from this experience.

First, the technical reason used against MAKATA was unfair even if it was legally correct. He asserted that he had followed the first and second quarter acquittals process to acquit funds in the third quarter report. Since a precedent was set, and was accepted by the previous grant coordinator; he did not see any reason not to follow the same procedure to acquit the third grant report.

Secondly, he said by forfeiting the fourth grant, it grounded all plans to complete phase four of their STRP activities. What emanated from this experience according to the author was that it gave a severe blow to MAKATA and to the STRP. As highlighted above, communities lost trust in MAKATA. It also made it difficult for MAKATA to seek funding from other donors.

The author said, as a local NGO just starting up, such experience is not good for the group. He stressed that such experience discourages them from pursuing a worthy cause and urged donor agencies operating in PNG to be lenient to Community Based Organisations (CBOs) and local NGOs.

He added that by strictly adhering to the UNDP GEF-SGP's terms and conditions, he could have avoided this problem. However, in doing so he would have condoned a "cargo cult" practise which he strongly advocates against. Thus, he said for losing the fourth grant as a matter of not complying strictly with the UNDP GEF-SGP's grants policy is in the long-term in favour of MAKATA's principles and philosophy and is therefore worth the pain and sacrifice.

REVIVAL OF KARKUM'S STRP

Positive steps occurred in 2016. According to a newspaper article⁴² and reports received from Karkum leaders, Karkum Christian Academy revived the STRP with support from the GPC after receiving funding from The Christensen Fund, a philanthropist group in US.

The author believes, to achieve global goals at community level, such as saving critically endangered leatherback sea turtles, all parties must be engaged and involved. He stressed that by working in harmony, and with a concerted, cohesive and collaborative effort, actions pushing leatherback sea turtles to the verge of extinction can be contained.

Additional views elicited from reliable sources outside of Karkum revealed that there is lack of ownership of the Karkum STRP project. Former Madang Administrator, Clant Alok who once visited Karkum for the opening of a local Church there, said he was impressed with STRP efforts in Karkum. However he observed that Karkums did not take ownership of the project.

Mr Alok said, unless Karkums, Miraps and the neighboring communities take ownership of this project, sustainable resource management of the critically endangered leatherback

⁴² See: ([www.postcourier.com.pg/Children take lead in leatherback turtle conservation effort](http://www.postcourier.com.pg/Children%20take%20lead%20in%20leatherback%20turtle%20conservation%20effort), By JAMES KILA, Weekend Courier, Friday, August 19, 2016).

turtles, its habitat and their marine resources will continue to face threats by the locals themselves.

Mr Alok further pointed out that there are no "tambu" or forbidden signs placed along the beach front indicating that there is a leatherback sea turtle conservation site to warn outsiders visiting Karkum. He further recommended that notices or posters and flyers be placed in a billboard in Karkum to inform visitors about the STRP; like the one placed at the Varirata National Park in the Central Province.

"Our people must value nature as a source and not just a resource," he said. "When we take nature as a source for our sustenance, we will take steps to look after it. But when we take nature as a resource, we will continue to extract minerals, fish, gas, timber etc and add to the long list of unabated natural resource extraction contributing to humans' negative foot print of environmental destruction"⁴³.



Figure 20: In 2008, Justin Mabo and other Karkum villagers conducted a turtle tagging and monitoring exercise. In September 2013, Karkum villagers jubilantly released leatherback sea turtle hatchlings back to sea. Please see video: "They come home." <https://t.co/1dNOecUK6L>. Picture and Video: Wenceslaus Magun

As a result of the STRP's work, adult female leatherbacks that came to nest at Karkum where protected and released back to sea since 2008. In 2013, leatherback sea turtle hatchlings were also released back to sea. Unfortunately, this exercise was not properly done because there was no marine biologist on the ground to supervise their efforts. To ascertain the positive outcome of the STRP, beach monitoring, and tagging exercise must be carried out. Data collected from this effort will contribute to the national and global initiative to save and restore leatherbacks population in the Western Pacific. This can be done if local communities' STRP initiatives are supported with long-term funding.

⁴³ Interview with author

NEXT STEPS AND LESSONS LEARNED

MAKATA's monitoring and evaluation exercises conducted both during and after funding ceased indicated that problem tree analysis workshop(s) and related trainings must be conducted to find possible solutions to problems affecting the STRP. The exercise further showed that there is need for training needs analysis exercise. Through this exercise STRP can identify training needs gaps and look for resources, technical or professional assistance to support the Karkum STRP. These trainings will help Karkums find long-term solutions to their STRP and livelihood project(s) and hopefully enable them to take full ownership of the STRP. Unless this is done the challenge to fulfil the Fauna (*Protection and Control*) Act 1966/76 and related laws and policies won't materialize at the grassroots level.

In addition, to effectively conduct beach monitoring exercises and tag leatherbacks in Karkum and other coastal communities, long-term funding is needed. Without long-term funding to address this issue Karkums and other coastal communities in Madang cannot provide authentic data to relevant authorities. The local communities can only provide photos and amateur videos of leatherbacks and their hatchlings released to sea from their beaches as proof of successfully saving and restoring the leatherbacks.

SUMMARY OF LESSONS LEARNED

Figure 21:

Lesson Learned	Recommendation
<p>Government.</p> <p>Lack of support from CEPA on data, funding, equipment, sharing knowledge.</p>	CEPA to visit Karkum and neighbouring villages and support them in their technical needs.
<p>Donor.</p> <p>Too strict.</p>	Be lenient with local NGOs and CBOs particularly those that are just starting.
<p>Timing of project milestone not flexible.</p> <p>When the project funder suddenly stops the program.</p>	<p>Be flexible.</p> <p>UNDP GEF-SGP.</p>

<p>Livelihood Project.</p> <p>Livelihood activities not viable.</p> <p>Jealousy/ Inequitable distribution of power and wealth.</p>	<p>There must be a proper feasibility study carried out by a qualified Business Development Officer prior to engaging in any community livelihood project.</p> <p>Problem Tree analysis workshop needed.</p>
<p>CBOs (Including MAKATA).</p> <p>Lack of financial management skills.</p> <p>No capacity building exercises.</p> <p>Lack of capacity, funding, and resources to sustain STRP.</p> <p>Conflict of interests resulting from inflow of cash from the Karkum village guest house which spilled over to the breaking of laws enacted in the Karkum.</p> <p>Lack of funding to do project related activities (board meeting, audit of finances, annual meetings, capacity building).</p>	<p>Adequate and appropriate financial management training must be conducted prior to supporting communities with the community livelihood project.</p> <p>MAKATA needs long-term funding and fund raising drive.</p> <p>MAKATA needs full time staff who can visit Karkum and other coastal communities more often and listen to their needs, challenges, strengths, weaknesses, and opportunities to assist them.</p> <p>Staff and CBO leaders' capacity building is needed based on their training needs analysis assessment.</p> <p>Problem Tree Analysis Workshop needed to find root causes of the problems and their solutions.</p> <p>Fund raising.</p> <p>Work in partnership with other relevant NGOs.</p>

<p>No tools to communicate project idea/s.</p> <p>Lack of publicity.</p>	<p>Work closely with Media.</p> <p>Purchase reliable communication softwares.</p> <p>Engage or employ technical specialists.</p>
<p>Local Projects Partner</p> <p>Lack of community control over resources.</p> <p>Lack of resources for project.</p>	<p>Monitor, evaluate and assess the situation on the ground.</p> <p>Fund raise.</p>
<p>Village Court Magistrate, Council, Court Officials, District Magistrate, Clan and community leaders.</p> <p>Village Court system not effective to impose penalties stipulated in the Karkum CMMA CD laws.</p> <p>Wantok system hindered application of justice on those who violated the rules and penalties in the Karkum CD.</p> <p>A general lack of trust, respect for the elders and clan leaders.</p> <p>Misconception and false rumours of the project spread amongst rival parties within the community who saw the STRP as a medium of "Cargo Cult".</p> <p>Many members of the community did not fully grasp the intent, rules and penalties of the CMMA CD.</p>	<p>Legal Training.</p> <p>Legal Training.</p> <p>Problem Tree Analysis Workshop needed to find root causes of the problems and their solutions.</p> <p>Problem Tree Analysis Workshop needed to find root causes of the problems and their solutions.</p> <p>Problem Tree Analysis Workshop needed to find root causes of the problems and their solutions.</p>
<p>Lack of adequate educational awareness and promotional</p>	<p>Secure funding to produce adequate, reliable, informative, influential, beneficial, empowering, and motivational</p>

<p>materials.</p> <p>To reinforce messages delivered through workshops on turtle conservation and sustainable use of marine and forest resources, adequate and sufficient educational awareness/promotional materials needed to be produced. These materials should be distributed to partner stakeholders such as schools, churches, health service providers, Ward Members, Local Level Governments, Provincial Governments, NGOs, CBOs, women groups, youths, and communities.</p>	<p>educational awareness and promotional materials.</p> <p>Identify “Publics” and “Products” with specific key objectives, and key messages to impact change.</p> <p>Engage artists, sports/music celebrities to promote key messages.</p> <p>Advocate using Web2 tools (blog, Facebook, twitter, and etc)</p> <p>Conduct Communications Training to build local communities to utilize local talents and resources such as drama, arts and crafts, music, painting, and etc to drive turtle conservation and related resource management or species protection and restoration messages.</p> <p>Engage graphic artists, cartoonists, painters, sculptures and technical experts to assist in the design, and production of key “Products”.</p>
<p>Other.</p> <p>Adverse natural events affect program.</p>	<p>CCDA, CEPA, NFA and relevant stakeholder partners invited to assist.</p>

CONCLUSION

This paper reveals that if Karkum and other local communities who share their beaches with the critically endangered leatherback sea turtles (*Dermochelys coriacea*), are not supported, their actions to prevent leatherbacks from being pushed further to the verge of possible extinction can fail. Although Karkum villagers have managed to successfully save some leatherbacks and their hatchlings since 2008, with support from the STRP, this report pointed out that disgruntled community members disrupted this initiative by killing and eating sea turtles. This has seen members of Karkum seeking help from MAKATA to return and help them restore and sustain this project. Furthermore, the STRP monitoring and evaluation report indicated that there is need for Problem Tree Analysis workshop(s), and other related training. It also recommended the review of Karkum and Mirap CMMA-CD. Lessons learned from Karkum STRP CMMA-CD experience points out that Karkums and the other coastal communities should also take ownership of the STRP to sustain it. The long-term sustainability of STRP in Karkum, and in other coastal villages in PNG hinges on sufficient and long-term funding. Without adequate funds, resources, infrastructure and full time staff, MAKATA cannot help coastal and offshore island communities in PNG meet global, national and regional goals and objectives in saving, protecting and restoring the leatherback population.

APPENDIX

Conservation deed (English)

CONSERVATION DEED - KARKUM

1. **Date of Deed**

This Deed is hereby made on the 17th day of November 2008 and we declare that this Deed binds **members of UGERKEN, NENENG, GORKOM and NIWAP/KIRKUR** Clans from Karkum Village in the SUMKAR District of the Madang Province.

2. **Parties to the Contract**

2.1 **It is acknowledged that only three (3) individuals** (men or women) whom the clan has chosen as their leader or spokesperson shall be signatories for and on behalf of the Clan on this **Conservation Deed**.

2.2 **We declare** that the UGERKEN, NENENG, GORKOM and NIWAP/KIRKUR Clans control those areas of land described and marked on the map attached to this Deed.

3. **Term of the Contract**

3.1 **We recognize that this Deed is a legal document** which binds the parties to their promises and can be enforced in the National court of Justice.

3.2 **We agree** that this Deed shall take effect commencing on and from the date of execution of this Deed and shall remain in effect for a period of five (5) years, that we the people shall conserve our land and sea, including the forests, water-resources, native plants and the animals in their current state.

3.3 **We agree** that this Deed shall take effect over the land and sea area as designated in the Map attached and marked as *Schedule D*.

4. **Conservation Area Management Rules**

4.1 **We agree** that we will not kill and eat or kill and dump all turtle species from the open ocean and river within the conservation area.

Penalty: Offenders will be charged a fine of K200.00 and or 6 months community service.

4.2 **We agree** that we will not dig and remove eggs for all turtle species that come and lay eggs on the sand dunes.

Penalty: Offenders will be charged to pay a fine of K200.00 and or 6 months community service.

4.3 **We agree** that we will not use poison ropes, dynamite, fishing nets, diving at night using spear guns and any other modern or traditional fishing methods within the conservation area.

Penalty: Offenders will be charged to pay a fine of K200.00 and or 6 month community service.

- 4.4 **We agree** that we will not cut trees, shrubs and vines near the beach within the conservation area.

Penalty: Offenders will be charged to pay a fine of K100.00 and or 4 months community service.

- 4.5 **We agree** that we will not make any fire or roam with torch and lamp within the Conservation Area. Only the Sea Turtle Restoration Project Committee has the power to authorise anyone with interest or concerns to do such things within the Conservation Area.

Penalty: Offenders will be charged to pay a fine of K100.00 and or 4 months community service.

- 4.6 **We agree** that we will not throw all kinds of rubbish or garbage such as plastic, bottle, tin, iron, laplap, battery, oil, and paper within the conservation area that will disturb people's minds to clean and keep safe our environment.

Penalty: Village offenders will be charged to pay a fine of K100.00 and or 4 months community service. Corporations will be charged to pay a fine of K1000.00

- 4.7 **We agree** that we will not collect or destroy other wildlife in the sea such as echinoderms, molluscs, sea grasses, etc. within the conservation area.

Penalty: Offenders will be charged to pay a fine of K100.00 and or 4 months community service.

- 4.8 **We agree** that we will not remove or disturb reefs in the sea or on the beach within the conservation area.

Penalty: Offenders will be charged to pay a fine of K100.00 and or 4 months community service.

5. **Clan Rights and Obligations**

- 5.1 **We acknowledge and accept** that this Deed is subject to the Laws of the Independent State of Papua New Guinea and is guided by the Common Law Principles of Contract.

- 5.2 **We acknowledge and accept** that this Deed binds all who identify themselves with the Clans mentioned herein, and can be upheld in any Court of Law in PNG.

- 5.3 **All mature natural persons** found to be in violation of any of the rules of Management under Section 4, will be penalized accordingly upon reasonable proof being shown and determined on a balance of probabilities.

- 5.4 **We acknowledge and accept** that all monetary fines collected will be paid to the designated Environment Sub-Committee of the Duargo Community Development

Association and shall be managed and used for community projects as approved by all the Clans.

5.5 **We acknowledge and accept** the need for cooperation to find, develop and manage developments occurring on the land, beneath the land and under the sea.

5.6 **We acknowledge and accept** that this Deed constitutes the entire Agreement between the four (4) Clans.

6. General Provisions

6.1 This Agreement shall remain in effect and shall not be affected;

- (a) in event of death,
- (b) in event of unsoundness of mind,
- (c) in event of a conviction in a court of law,
- (d) in event of being declared bankrupt,

any or all of the Clan representatives who have endorsed this Agreement for and on behalf of their Clan.

6.2 Where a situation under Section 6.1.1(a)-(d) occurs, the Clans shall;

- (a) immediately appoint a date to meet,
- (b) they will take steps to nominate and appoint a new representative,
- (c) the successful party will be nominated by a two thirds majority of voting age member of the clan present.

6.3 The new representative shall take immediate steps to;

- (a) within 7 days to notify the other three (3) Clans in writing, and
- (b) shall accompany the Notice with a Minute of the Meeting, and
- (c) The minute shall be endorsed by three (3) most elder clans men or women as nominated by the Clan during the same meeting.

Verification of Signatures

We the undersigned hereby endorse our signature on this **Conservation Deed** as contained under Schedules A, B and C **for and on behalf of the Government, respective community Association and Clans and undertake that we have done so after fully reading and understanding the purpose of this document during this** launching ceremony at **Karkum** village on the **17th of November 2008:**

SCHEDULE A

Chairman – Tokain-Sarang Village Court

Name	Address	Signature
Tamol Dalek Mathew	<u>P.O.Box 788, Madang</u>	_____

President – Sumgilbar Local Level Government

Name	Address	Signature
John Sekum	<u>P.O.Box 788, Madang</u>	_____

Ward 7 Member – Sumgilbar Local Level Government

Name	Address	Signature
Peter Nambon	<u>P.O.Box 788, Madang</u>	_____

SCHEDULE B

These following men and women who represent the four clans have signed:

UGERKEN CLAN

	Name	Signature
1.	<u>Willie Mulom</u>	_____
2.	<u>Larry Yapen</u>	_____
3.	<u>Danip Yaiam</u>	_____

NINENG CLAN

	Name	Signature
1.	<u>Mathew Dalek</u>	_____
2.	<u>Francis Nabuai</u>	_____

3. Dominic Nambon _____

NIVAP/KIRKUR CLAN

Name **Signature**

1. Willie Mayang _____

2. Willie Karem _____

3. Vincent Nanai _____

GORKOM CLAN

Name **Signature**

1. John Pakang _____

2. Joseph Labi _____

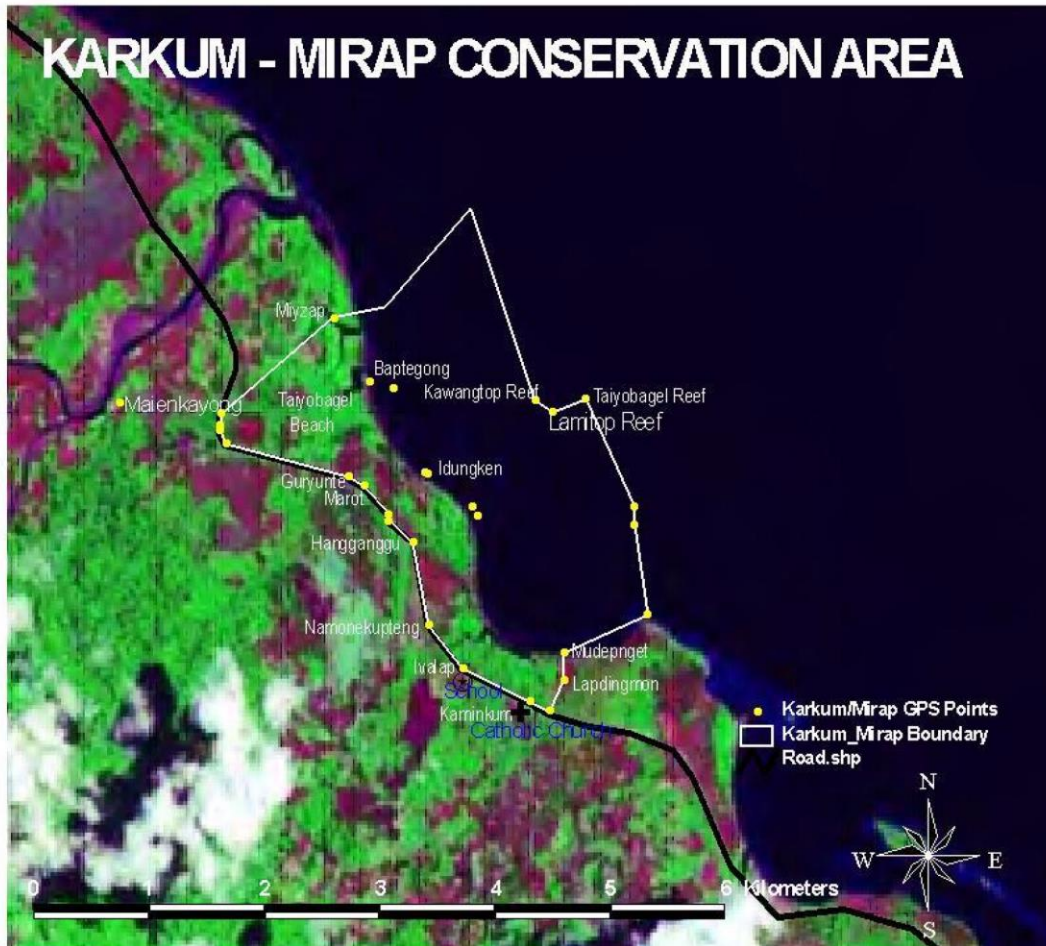
3. Wong Toles _____

SCHEDULE C

Sea Turtle Restoration Project Committee Members' Names (DUARGO COMMUNITY DEV. ASSOCIATION)

Name	Signature	Clan
1. <u>Francis Nanai</u>	_____	_____
2. <u>Lennon Mulom</u>	_____	_____
3. <u>Vero Aimos</u>	_____	_____
4. <u>Dick Akaski</u>	_____	_____

SCHEDULE D



I, hereby certify this to be a true reflection of the communities desires to conserve and manage their land and sea as identified with by the accompanied map with the accompanied rules herein. This Deed shall be binding on all parties that have jointly and or severally endorsed their respective signatures on this document.

Dated: day of 2008.

Conservation Deed (Tok Pisin)

KONSEVESEN KONTRAK O WANBEL - KARKUM

1. Deit bilong Kontrak o Wanbel

Dispela **Kontrak o Wanbel** mipela i kamapim long namba **17th dei bilong mun Novemba long yia 2008**, na mipela i tokaut olsem dispela Wanbel em i pasim o banisim **UGERKEN, NENENG, GORKOM na NIWAP/KIRKUR** klen long Karkum ples insait long **SUMKAR** Distrik bilong Madang Provins.

2. Ol pati bilong Kontrak o Wanbel

2.1 **Mipela i tokaut na wanbel** olsem tripela man o meri husat klen bilong ol i makim ol olsem lida o mausmanmeri, bai ol dispela tripela man o meri tasol i putim hanmak long **dispela wanbel pepa**.

2.2 **Mipela i tokaut na wanbel** olsem ol Klen nem bilong ol **UGERKEN, NENENG, GORKOM na NIWAP/KIRKUR** klen i gat ol rait i kam long tumbuna bilong ol long bosim graun na solwara olsem mak ol i makim na putim antap long dispela mep. Dispela mep i stap baksait long dispela Kontrak na taitol bilong em i *Schedule A*.

3. Tem bilong Kontrak o Wanbel

3.1 **Mipela i luksave olsem dispela wanbel em i strongpela lo** we i karamapim, pasim na banisim foapela (4) klen wantaim, taim ol i mekim dispela wanbel o promis namel long ol yet na Nesenel Kot bilong Jastis i ken luksave long dispela Wanbel pepa o Kontrak.

3.2 **Mipela i wanbel** olsem stat long dei mipela i putim hanmak bilong mipela long dispela Wanbel pepa o Kontrak inap faivpela (5) krismas, mipela olgeta pipel insait long dispela foapela (4) klen bai i lukautim graun na solwara bilong mipela wantaim bus, ol wara, ol diwai na ol animal na binatang, bai ol i stap wankain olsem ol i stap nau yet.

3.3 **Mipela i wanbel** olsem ol lo bilong konsevesen eria insait long dispela Wanbel pepa o Kontrak bai i lukautim graun na solwara olsem mipela i makim long Mep, na makim olsem *Schedule D*.

4. Lo bilong Konsevesen Menesmen Eria

4.1 **Mipela wanbel** olsem i tambu long kilim na kaikai o kilim na tromoi olgeta kain trausel bilong solwara na wara insait long konsevesen eria.

Sas: Ol man o meri ol i no bihainim dispela toktok bai kisim sas aninit long dispela lo bai baim moni inap long mak K200.00 moni o mekim 6 mun komuniti sevis.

4.2 **Mipela wanbel** olsem i tambu long digim na rausim kiau bilong ol kain trausel i karim long Nambis

Sas: Ol man o meri ol i no bihainim dispela toktok bai kisim sas aninit long dispela lo bai baim moni inap long mak K200.00 moni o mekim 6 mun komuniti sevis

- 4.3 **Mipela wanbel** olsem i tambu long usim poisin rop, gris bom, umben, galas long nait na ol narapela kain wei long kisim pis insait long konsevesen eria.

Sas: Ol man o meri ol i abrusim dispela toktok bai kisim sas aninit long dispela lo bai baim moni inap long mak K200.00 moni o mekim 6 mun komuniti sevis.

- 4.4 **Mipela wanbel** olsem i tambu long katim ol diwai na rop arere long nambis insait long konsevesen eria.

Sas: Ol man o meri ol i no bihainim dispela toktok bai kisim sas aninit long dispela lo bai baim moni inap long mak K200.00 moni o mekim 4 mun komuniti sevis.

- 4.5 **Mipela wanbel** olsem i tambu long wokim paia o raun wantaim tos na lam insait long konsevesen eria. Sea Turtle Restoration Project Komiti tasol i ken givim tok olrait i go long husat i gat wari o laik long mekim kain pasin insait long konsevesen eria.

Sas: Ol man o meri i no bihainim dispela toktok bai kisim sas aninit long dispela lo bai baim moni inap long mak K200.00 moni o mekim 4 mun komuniti sevis.

- 4.6 **Mipela wanbel** olsem i tambu long tromoi ol kainkain rabis o pipia olsem plastik, botol, tin, ain, laplap, batri, oil, na pepa insait long konsevesen eria we bai i bagarapim tingting bilong ol pipel long klinim na lukautim envairomen bilong mipela.

Sas: Ol man o meri ino bihainim dispela toktok bai kisim sas aninit long dispela lo bai baim moni inap long mak K100.00 o mekim 4 mun komuniti sevis. Ol Kampani abrusim dispela toktok bai peim moni long mak K1000.00

- 4.7 **Mipela wanbel** olsem i tambu long kisim o bagarapim ol arapela wel abus insait long solwara olsem solwara kokomba, sel bilong solwara na gras bilong solwara insait long konsevesen eria.

Sas: Ol man o meri ino bihainim dispela toktok bai kisim sas aninit long dispela lo bai baim moni inap long mak K100.00 moni mak o mekim 4 mun komuniti sevis.

- 4.8 **Mipela wanbel** olsem i tambu long rausim ol rip na tanim ol ston bilong rip insait long solwara na nambis insait long konsevesen eria.

Sas: Ol man o meri ino bihainim dispela toktok bai kisim sas aninit long dispela lo bai baim moni inap long mak K100.00 moni o mekim 4 mun komuniti sevis.

5. Rait na Wok bilong Klen

- 5.1 **Mipela i luksave** olsem dispela kontrak em wok wantaim Lo bilong kantri-Papua Niugini na i pasim ol klen husait i wanbel long ol toktok insait long dispela kontrak o Wanbel pepa bihainim Komon Lo, Prinsipels Ov Kontrak.

- 5.2 **Mipela i luksave na wanbel** olsem dispela kontrak o wanbel i pasim ol klen husait i wanbel long ol toktok insait long dispela kontrak o wanbel pepa, na ol man o meri i ken yusim long olgeta Kot bilong Jastis. (Vilis kot, Nesenel kot)
- 5.3 **Olgeta man o meri** husat i brukim wanpela bilong ol Konsevesen Menesmen Lo aninit long Seksen 4 bilong dispela Kontrak o Wanbel pepa, bai kisim mekim save bihainim wanem lo na sas ol i brukim sapos i gat inap witnes o rot i soim olsem ol brukim lo tru.
- 5.4 **Mipela i luksave na wanbel** olsem Envairomen Sab-Komiti bilong Duargo Komuniti Developmen Asosiesen tasol i gat pawa long holim olgeta fi, kompensesen, na fain moni we ol manmeri i baim na mipela bai yusim long kamapim ol komuniti projek we olgeta klen bilong mipela yet bai makim.
- 5.5 **Mipela i luksave na wanbel** olsem mipela olgeta i mas wok bung wantaim long painim rot bilong bringim na kamapim developmen o wok kamap na lukautim o menesim dispela developmen antap na aninit long graun na solwara bilong mipela.
- 5.6 **Mipela i luksave na wanbel** olsem dispela Kontrak o Wanbel i karamapim olgeta tok orait insait long dispela Kontrak o Wanbel pepa namel long foapela klen bilong mipela.

6 General Provisen o Gaidlain

- 6.1 **Dispela kontrak** bai i go het yet maski sapos wanpela bilong ol tripela man o meri insait long wanpela bilong ol foapela klen husait i sainim dispela Kontrak o Wanbel pepa:
 - (a) i dai;
 - (b) i sik nogut tru na ino inap long wokim toktok bilong dispela kontrak;
 - (c) kot i painim olsem em i brukim lo na i mas go kalabus;
 - (d) Long taim em i nogat moni long beng.

Olgeta wanwan Klen mausmanmeri husat i makim wanwan klen bilong mipela i luksave na wanbel long dispela Kontrak o Wanbel pepa.
- 6.2 **Sapos wanpela** hevi i kamap aninit long Seksen 6.1.1 (a)-(d), ol klen bai:
 - (a) kwiktaim makim deit blong bung;
 - (b) ol bai bihainim rot bilong makim wanpela nupela mausman o meri;
 - (c) ol manmeri i gat rait long vot tasol inap votim dispela nupela mausman o meri bilong makim ol.
- 6.3 **Dispela nupela mausman o meri** kwiktaim i mas mekim ol dispela samting;
 - (a) insait long sevenpela (7) de i mas rait pas na toksave long ol arapela tripela (3) Klen, na
 - (b) i mas putim kopi bilong wanplea minit bilong bung bilong klen bilong em we i soim olsem klen i bin makim em olsem mausman o meri wantaim dispela Notis, na
 - (c) tripela bikman o bikmeri bilong klen i mas givim tok orait long minit bilong dispela bung bilong soim tru olsem Klen bilong ol i bin makim dispela mausman o mausmeri bilong makim ol.

Mipela ol lain i putim hanmak bilong mipela long **dispela Kontrak o Wanbel pepa na** aninit long Schedule A, B na C i kisim maus bilong Gavman mipela i wok long em, na Asosiesen na blong Klen, na i luksave wanbel olsem mipela i ritim na save gut long olgeta toktok insait long dispela Kontrak o Wanbel pepa long wanpela bikpela bung long ples **Karkum long dei namba 17th bilong mun Novemba long yia 2008**, long ai bilong ol lain witnes:

SCHEDULE A

Siaman – Tokain-Sarang Vilis Kot

Nem	Adres	Hanmak
Tamol Dalek Mathew	<u>P.O.Box 788, Madang</u>	_____

Presiden – Sumgilbar Lokal Level Gavman

Nem	Adres	Hanmak
John Sekum	<u>P.O.Box 788, Madang</u>	_____

Wod 7 Memba – Sumgilbar Lokal Gavman

Nem	Adres	Hanmak
Peter Nambon	<u>P.O.Box 788, Madang</u>	_____

SCHEDULE B

Ol dispela lain husait I makim ol foapela klen I bin sainim:

UGERKEN KLEN

Nem	Hanmak
1. <u>Willie Mulom</u>	_____
2. <u>Larry Lapen</u>	_____
3. <u>Danip Yaiam</u>	_____

NINENG KLEN

	Nem	Hanmak
1.	<u>Mathew Dalek</u>	_____
2.	<u>Francis Nabuai</u>	_____
3.	<u>Dominic Nambon</u>	_____

NIVAP/KIRKUR KLEN

	Nem	Hanmak
1.	<u>Willie Mayang</u>	_____
2.	<u>Willie Yamai</u>	_____
3.	<u>Vincent Nanai</u>	_____

GORKOM KLEN

	Nem	Hanmak
1.	<u>John Padang</u>	_____
2.	<u>Joseph Labi</u>	_____
3.	<u>Wong Toles</u>	_____

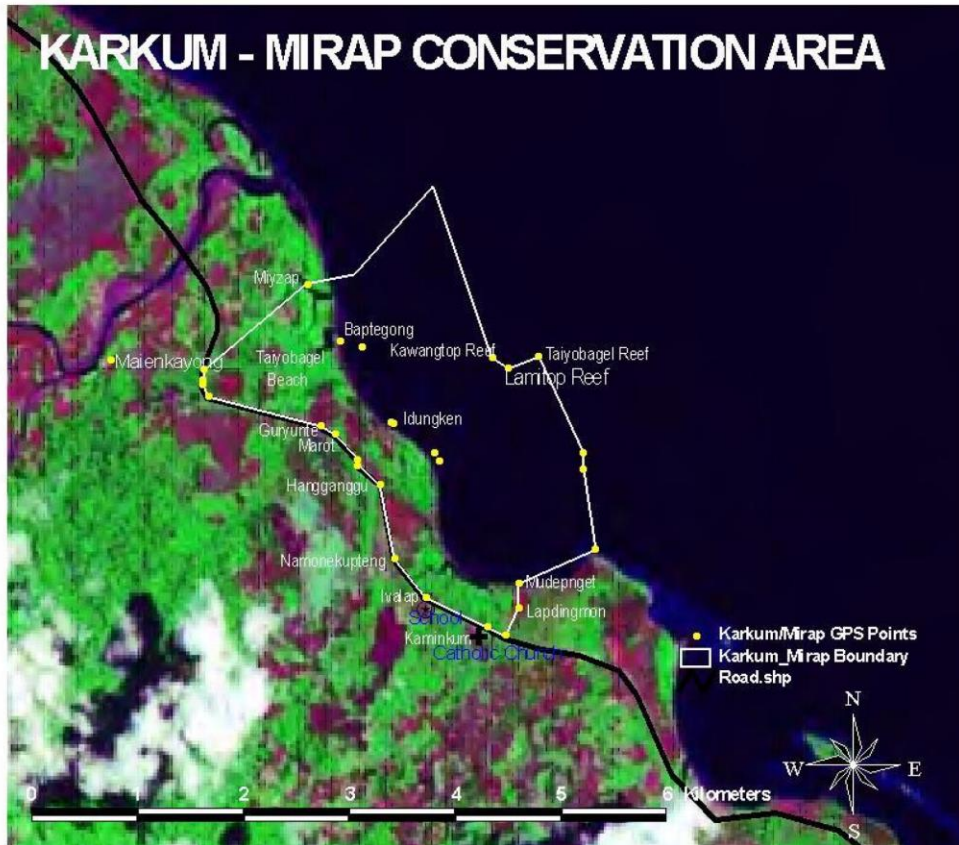
SCHEDULE C

Nem bilong ol Sea Turtle Restoration Project Komiti Mema (DUARGO COMMUNITY DEV. ASSOCIATION)

Mipela ol memba bilong Duargo Community Development Association i putim hanmak bilong mipela bilong soim luksave bilong mipela long dispela Kontrak ol Klen i wokim bilong lukautim environment bilong ol.

Nem	Hanmak	Klen
1. <u>Francis Nanai</u>	_____	_____
2. <u>Lennon Mulom</u>	_____	_____
3. <u>Vero Aimos</u>	_____	_____
4. <u>Dick Akaski</u>	_____	_____

SCHEDULE D



Dispela em it tok olrait olsem ol toktok na hanmak ol manmeri i bin putim insait long dispela **Kontrak o Wanbel Pepa** em i kamap long tingting na wanbel bilong ol Klen bilong lukautim graun na solwara bilong ol olsem ol i makim insait long Mep. Dispela pepa bai applai long olgeta Klen Memba bilong ol Klen i putim hanmak bilong ol insait.

Date: dei bilong mun 2008.

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FEATURE

Karkum Villagers sign Conservation Deed



Wren and children building turtles out of sand dunes.

By WENCESLAUS MAGUN, Sea Turtles Restoration Project's Western Pacific Campaigner

PNG was a signatory to the trilateral agreement along with Indonesia and the Solomon Islands to protect the critically endangered Pacific leatherback turtles. The Karkum people cannot wait for the State to implement its policies. With support from Sea Turtles Restoration Project they have gone ahead to establish their Marine Protected Area using a Conservation Deed.

The race to protect and restore the last remaining population of the critically endangered leatherback sea turtles or Dermochelys Coriacea in the Western Pacific region will now be a thing of the past at least in Karkum village, Madang, Papua New Guinea.

It will also be a dawn of a new era as Karkum villagers will now be documenting their cultural connections to their marine resources in order to have their traditional rights to land and sea recognized. The signing of their Conservation Deed will enable them to assert their customary rights, to respond to threats, to assist with land and sea management and planning, to identify the most important areas for protection and to record and safeguard their traditional knowledge.

As it is a community oriented conservation area, Karkum villagers have used Section 41 and 42 of the Organic Law on Provincial and Local-level Governments

(Consolidated to No 29 of 1998) to protect their turtle nesting sites along the coast using Conservation Deed as a tool.

Conservation Deeds are a relatively new innovation in PNG, spearheaded by the work of the Bismarck Ramu Group (BRG). It is a result of a community-driven process that creates a locally managed conservation area, and along term community stake in the protection of natural resources in ways that also meet the economic and social needs of the community.

On Saturday 15th November, our team which comprised of Sea Turtles Restoration Project (STRP) Western Pacific Campaigner Wenceslaus Magun, Community Facilitators Leeray Robin, Adolf Lilai, Peter Gabu, Timon Dulau and Wren Mclean arrived at Karkum village at 3.00pm after one and a half hours drive from Madang town. Ms Mclean, is a student from Australia who came to PNG to do her internship (voluntary work placement) with the Bismarck Solomon Seas Indigenous People's Council and STRP on resource mapping. On this particular trip she wanted to learn more about the indigenous people and their connection to the sea.

After being shown the place to stay for a couple of nights, we held our briefing and later met with the Karkum leaders, elders and some members of the community and discussed the issue of the Submarine

Tailings Disposal (STD) and Deep Sea Mining, a topic the villagers were eager to learn more about. After the meeting the team then rested for the day having informed the villagers that they will have a meeting on the following day to discuss and review their plans for the Karkum Deed launching program with them.

After the Church Service, our team met with the leaders and the clan representatives at 2.30pm on the following day and reviewed the contents of the Conservation Deed agreement. The purpose of this review was to see if they all understood the content of the Deed and agreed to all that was written in the document before the signing can take place. After they all agreed that everything in the contract was clear to them, the team moved on to explain the process of signing the Deed where 12 clan leaders, four conservation committee members and three witnesses are to sign on all the 14 Conservation Deed copies. After satisfactorily going through the process of the Conservation Deed signing the team ended the days meeting at 5.00pm. There were about 78 people of which five were women who had gathered for this meeting.

On November 17th the village was up at about 3a.m. Some women had gone to the garden to bring in food for the feast during the launching. Some men had teamed up to kill a couple of pigs while some women, men and children went down to the beach to prepare the stove, sweep and

clean up the place. For Wren our intern it was an opportunity for her to share her skills in making turtles out of sand dunes. She was gladly joined by a few children. Willie Mayang, one of the village elders could not avoid the temptation to build sand turtles and soon was crawling amongst the children happily building his own as well.

The fun of making turtle dunes soon attracted the visitors and guests who lined the beach to watch in amazement. The main event for the day then started at 11.00am after many weeks of preparations with a traditional welcome dance by the Karkum Culture Group who led the guests into the main square. As the clan leaders and invited guests made their way to the stage for the signing of the deed the singing group continued to entertain them belting out a few of their traditional songs with their kundu drums as they danced to the rhythm of their beat.

Three pigs had been killed and there was enough food for everyone - pork, sweet potato, taro, cassava, bananas and greens.

After introductions, Mark Khon (former Ward Member), one of the leaders in the community gave the profile of the Karkum Sea Turtle Restoration Project. He stated that in the last 10 years, they had not seen any turtle coming up to lay eggs on the beach and that it was a great concern to them. They knew that if they continued to kill the turtles and take

their eggs, their future generations may not be able to see the turtles. Mr Khon stressed that traditionally, they are connected to the leatherbacks as it originated from them based on their folklore.

"It is part of our culture to kill, share and eat everything out of it. This has resulted in the drastic decline of the leatherbacks. With this threat facing us, not to mention the threats from pigs, dogs, birds or other feral animals and the rising sea level, we have decided to conserve the leatherback turtle in our community," he said.

He said, with the help and support of STRP, the conservation deed process got underway together with traditional conservation practices, and "today we see the result of what we were striving for, for two years with many ups and downs."

He said since they started to protect their nesting beach even before signing the deed, they have witnessed 10 leatherbacks coming to nest on their beach. Sadly the nests were swept away by the strong waves.

Following his speech, Mr. Alphonse Igag, a community leader read out the content of the Conservation Deed agreement (contract). Another clan leader Joseph Parek shared their folklore on the leatherback turtles before the facilitator Otto Khon asked the clan leaders to go up to sign the Deeds that were laid out on a table.

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FEATURE

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They were followed by the STRP conservation committee members: Francis Nana, Lennon Mulom, Vero Aimos, and Dick Akaski. The Local Level Government President John Sekum, the Ward 7 Council Member Peter Nambon, and the Chairman of the Sarang-Tokain village court area Tamol Dalek Mathew signed as witnesses. This signing took place in front of more than 1000 people who gathered to witness this launching.

All the clan representatives who signed the Deed, strengthened their agreement in their traditional ritual by making a knot on a tanget leaf and placed it on a leatherback sea turtle image carved on wood and placed on a table. Traditionally, this sign tells the public not to kill and destroy the turtle population.

After the Conservation Deeds were signed copies of the Deed were presented to the leaders of each of the four clans, the LLG president, the Village Court chairman and STRP.

The signing was witnessed not only by villagers from Karkum, but by neighboring villagers from Sarang, Mirap, Dimer, Basken and invited guests. These included Amos Ona from the World Wildlife Fund, Francis Hurahura from The Nature Conservancy, Hais Wasel -NGO Chairman with Madang Provincial Executive Council, Michael Samuga from NBC-Radio Madang, Mrs Matricia Mari from the Madang Provincial Aids Council, Jane Nasd from Madang Visitors and Culture Bureau, Semus Takei representing the Madang Governor's office, Gabriel Kagup Project Officer for the Member for Sumkar Open, John Sekum - Sumgilbar Local Level

Government President, Brian Frey from the Summer Institute of Linguistics, and Timon Dulau from the Madang Rehabilitation Association.

This occasion tells a story of how people's attitudes, habits and behaviours of doing things can change for the better or for the worst depending on the training given. Fortunately, the Karkum experience has been one that has changed for the better as the villagers' habitual attitudes of harvesting turtles has completely stopped.

The community has moved from a self-reliant community to being entrepreneurs and business-minded people prepared to take on new challenges and finding greater opportunities in the resources they have to improve their lives. They have also embraced the value of conservation for sustainable livelihood options. These initiatives were clearly demonstrated as they have built their community development learning center, two guest houses and good pit toilets. In fact prior to the launching of their Conservation Deed, numerous important events were staged in Karkum. Just to mention a few the Seventh Day Adventists Church had hosted their National Convention at Karkum. Similarly the Bismarck Solomon Seas Indigenous People's Council was established after a week-long forum in Karkum in June this year.

Speaking at the launching, Karkum village Councillor Peter Nambon thanked everyone for making this occasion a reality. He said the signing of the conservation deed will see turtles and fish come back to Karkum. "They will reproduce. There will be plenty of fish and tur-

ties to feed us and our children and future generation if we take this initiative to protect our resources seriously," he stressed.

WWF Program Manager, Mr Amos Ona was happy to share their work experience with the Kikori Project and the Madang Lagoon Project. He said there is no easy solution to conservation outcomes but that all parties must work together to achieve a positive outcome.

TNC Program Manager for Madang, Mr Francis Hurahura challenged the Karkum villagers to link conservation with business opportunities. Mr Hurahura said they have not found an answer to that yet, however he said "change will happen if we work together to achieve a common dream."

Jane Nasd from the Madang Visitors and Culture Bureau made a commitment to support Karkum through training and other capacity building workshops. Mr. Wasel and Mr. Sekum also made pledges to support Karkum financially.

Community

Karkum village is situated about one and half hours drive north of the Madang town, in Madang Province, Papua New Guinea. It is in the Ward 7 area of the Sumgilbar Local Level Government in the Sumkar District. It has a population of about 700 people.

Karkum is one of the six communities STRP had been working with for the last two and a half years since this project was established in the western pacific region. The other villages STRP is working with to establish Conservation Deeds are Mirap, Yadigam, Tokain, Magubem and Kimadi.

Training

With the help of Mr Magun and his community facilitators the Karkum people have learnt about PNG history timeline, true development and false development, the different conservation practices in PNG and what form is suitable for them. The communities have appreciated the wealth of abundant resources and skills they have and found ways to use these for their positive development without asking for handouts.

They have appreciated the fact that the leatherback turtle makes them very special as it comes to nest on their beaches and then travel to as far as California to forage before returning to their beaches to lay their eggs. They also learnt that leatherback turtles are the only remaining turtle species from the time of dinosaurs and that they are the biggest turtle species weighing about 92 kilograms and can grow to two meters long. But their population has plummeted so much so that it is estimated in 1982 that 11,500 adult female leatherbacks existed worldwide. In the Pacific the nesting leatherbacks have declined in an alarming rate (95%) and if nothing is done these special turtles will soon be another extinct creature in the next 5-30 years. In fact reports show that as few as 2,300 adult female leatherbacks now remain, making the Pacific leatherback the world's most endangered marine turtle.

The year-long training has also built the community capacity to learn about the imminent threats facing their marine resources including the increasing number of fishing companies in the region, the possibility of deep sea tailings disposals by Ramu Nickel and the proposed Sea Bed

mining by Nautilus Limited. They are now at the crossroads. It is up to them to protect their resources and share it with their children and their future generations or allow outsiders to deplete and destroy the remaining resources they have been blessed with.

Conservation Area Management Rules

For the next five years commencing on and from the date of the execution of their deed, Karkum villagers have agreed that they shall conserve their land and sea including the forests, and water resources in their mapped conservation area.

The four clans have agreed to, among other things, not kill and eat or kill and dump all turtle species from the open ocean and river within the conservation area. A range of fines or other punitive measures against offenders have also been written into the deed.

The Karkum villagers gathered the following weekend to seal the knot on the tanget leaf according to traditional rituals. The tanget leaves were taken to the Conservation Area and were dropped into the sea to mark the area as a "No Go Zone" or a taboo area for the next five years. This was followed by feasting to celebrate the occasion.

Mr Magun and his team noted that there is a need for training on turtle hatchery, tagging and monitoring to save the eggs and allow the hatchlings to return to the sea. The team will continue to work with Karkum on resource mapping with support from Wren and with the other four communities in the area as they are now at the final stages of the conservation deed process.



Villagers sign Conservation Deed

VIDEO

- THEY COME BACK, <https://t.cp/Nt5NcaY1m0>
- They come home, <https://t.co/1dNOecUK6L>
- Against All Odds, Preservations of Leatherback turtles, BRG films:
([YouTube.com/watch=v7jTv62dy2c&sns=fb](https://www.youtube.com/watch?v=7jTv62dy2c&sns=fb))

