

Camp Ebiil 2012

**Ethno-Botany Introduction** 

A partnership between Ebiil Society Inc. and Belau National Museum

By: Ann Kloulechad-Singeo, Executive Director, Ebiil Society Vanray Tadao- Natural History, Belau National Museum Ali – Outside visitor- Independent Observer

#### Introduction

This project was conducted through a partnership between Ebiil Society and Belau National Museum. With the generous support from Critical Ecosystems Partnership Funds, the financial assistance needed to implement the program was made possible. The main purpose of the project is to provide a learning medium for young people on Palau's endemic and native plants and its cultural significance. The development program is branching from the Camp Ebiil summer program that provides education for the young of Palau's indigenous knowledge and practices towards environmental conservation. Belau National Museum as one of Camp Ebiil longest collaborative partner agency has been providing educational support into the program for the last 8 years. This project is the first expansion of the partnership into the provision of a more in depth and long term development of young people to become the next generation of knowledge and appreciation of Palau's endemic and native flora/fauna will help them protect Palau, Babeldaob Island as one of the world's biodiversity hotspot.

#### **Program Description**

## Organizational Background

Ebiil Society was established in 2005 as a nonprofit organization. It is governed by a seven members Board of Directors and administered by a Program Director and staff, and a list of culture and nature experts for hire during training programs. The society's main goal is to educate environmental protection and proper management of natural resources through indigenous knowledge. Ebiil Society provides community-based education through cultural experiences that cultivate and promote protection of nature. This very concept led to the creation of Camp Ebiil in the community of Ollei, Ngarchelong, a small rural community with population of less than 200 people.

Young participants are given experiences and knowledge that lead to respect and peaceful interaction with nature. Trainings are provided by community knowledge holders and science experts from partner agencies. Partner agencies include organizations such as Palau International Coral Reef Center, Palau Conservation Society, Bureau of Arts and Culture, The Nature Conservancy, Belau National Museum, Bureau of Marine Resources, and various private donors. These partners have consistently supported the camp through technical and financial assistance since Camp Ebiil's foundation.

It is Ebiil Society's belief that knowledge and appreciation of one's roots increases a sense of ethnic pride that will promote protection of one's identity and heritage. The program's intent is

to plant seeds of knowledge that may be used later on in a child's life to bring forth the Palauan wisdom "*llomes el reng*" – "light in the heart."

Below is a table with the details goals and objectives for the program.
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Goals	Objectives
1. Increase ethnic pride	<u>1.1</u> . Conduct teachings of nature and culture
	<u>1.2</u> . Pass-on indigenous knowledge
2. Increase youth resilience	2.1. Revive the traditional sense of a community raising a
	child
	2.2. Provide opportunities of life skills building
	2.3. Provide a protective environment that promotes positive
	youth behavior
3. Increase compassion and	3.1. Revive indigenous knowledge that observes and respect
peaceful behaviors	nature and earth
	3.2. Revive indigenous practices of harmony with earth's
	energy

# **Progress Report**

As a result of the support from Critical Ecosystems Protection Funds and Belau National Museum's natural history, education towards the protection of Palau's forest was integrated into Camp Ebiil.

The project was integrated into Camp Ebiil – "Experience Camp," for young people ages 11-22 years, followed by Ebiil – "Research Camp," for those ages 15-22 years, and finally integrated

into primary school. The primary school integration was a pilot project and while initial plans were to focus on Ngarchelong, Ngaraard, and Ngardmau community, their school consolidation was postponed without any concrete With that, the program was date. and introduced at Koror altered Elementary School, Palau's largest primary school and a neighbor to Belau



National Museum. The school was chosen for its size and its walking distance to the museum.

# A. Experience Camp

The "Experience Camp," provides an introduction to the knowledge of plants/animals and critical ecosystems thru various activities and cultural practices. All learning activities for the various cultural knowledge and practices of Palau had a focus on identifying the plant species used for that particular knowledge, its habitat, flowering/fruiting seasons, and its status. Additional activities included identification of Palau's endemic birds and turtles as endangered species. The below table provides details of the learning activities, the trainers, and place of training.

Area of Study	Objectives	Trainer	Place
Indigenous	Identify plant species	Ngirchemat Trolii- oral	Ngarchelong,
Architecture	used in Palau	history on Palau's	Ngiual, and Ngaraard
July 2, 2012	architecture and their	nd their Indigenous Architecture	
	habitat		
		Gabino Llecholech-	
		Identification of historical site associated	
		with oral history	
		Vanray Tadao- Field trip	
		to identify plant species,	
		habitat, and status	
Fishing Epistemology	Various plants	Tino Kloulechad, Nimrod	Ngarchelong
July 6, 2012	Fruiting/flowering	Riungel, Katsishi Skang-	
	seasons in relation to	Fishing techniques and	
	fishing seasons	understanding of the ocean	
		ocean	
		Vanray Tadao- Plant	
		Seasons as indicators of	
		fishing seasons and	
		plant used in fishing	
Mesei (Taro Fields)	Taro species/variety,	Anne Marie Shiro- Mesei	Ngarchelong
Epistemology	ideal plant fertilizer,	cultivation/management	
Material and	plants for pest and	knowledge	
Watershed and	disease control, and herbal medicine in taro		
critical ecosystems	nerbai medicine in taro		

July 6, 2012	fields Forest protection, watershed protection, ecosystems services, livelihood	Joyce K. Beouch- Belau Watershed Alliance, PCS	
"Traditional First Aid with Plants around you" June 28, 2012	Identify medicinal plant species, learn proper use (process/application)	Ening Kloulechad	Ngarchelong
Pottery July 4, 2012	Using plants to shape & create pottery designs	Meked Besebes- Pottery making Vanray Tadao- plants used in pottery, and using plants for creative pottery	Ngarchelong
Birds of Palau July 7, 2012	Bird Watch at Ngerchur Island	Yalap from PCS- identifying endemic birds in the forest	Ngerchur, Ngarchelong
Turtles of Palau July 7, 2012	Turtle nesting identification at Ngerchur Island as main nesting area in the Northern Reef of Palau	Joshua Eberdong- Retired turtle protection program officer	Ngerchur, Ngarchelong

A total of 73 kids participated in the "Experience Camp," conducted in both Ngarchelong and

Ngaraard State. Ngarchelong camp had a total participant of 35 while the Ngaraard camp had a total of 37, altogether a total of 72 campers and counselors. Camp was conducted from June 27<sup>th</sup>-July 9, 2012, at Ollei, Ngarchelong and Elab, Ngaraard State. All participants resided in a *Bai* or community center for the duration of the camp. The older



participants act as camp counselors with the guidance of adult supervisors from the community and Ebiil Society members as volunteers. At the end of the camp, closing event is held for the participants to demonstrate and present back to their parents and community of the things they learned during the camp. Please refer to the below map for reference.



#### B. Research Camp

After the "Experience Camp," the counselors are given an opportunity to choose an area of environmental study that they want to participate in for in depth learning. This is the "Research Camp." The research camps for 2012 were marine science which includes scuba diving certification and Palau's endemic flora and fauna. The "Research Camp," provides direct participation of the young researchers of species identification, flowering/fruiting seasons, habitat, interviews of cultural experts, observation of cultural practice using plant species, plant collection cataloguing, and identification of endemic, native, endangered, introduced, threats etc. The participants are developed to provide training assistance during the "Experience Camp," and other activities throughout the year. Emphasis of the 12 listed endangered species of Palau in the critical ecosystem profile provided for the developing of advocacy messages for its protection by the young people.

The camp was conducted from July 23-28<sup>th</sup>, 2012, with advocacy activities such as presentation to parents, during Ebiil annual membership assembly, during school PTA's, and on the national television. Trainings were conducted by Vanray Tadao, Local Ethno Botanist & Assistant's manager Herbarium for Belau National Museum.

Research activities included daily field visits to the Babeldaob forests as Key



Biodiversity Hotspot to identify habitats of the plants of subject and to interview traditional

knowledge holders for the cultural component or plant use. A detailed description of the training is provided by Mr. Tadao and attached as Appendix A.

The training provided for a strong foundation for these young people who showed keen interest in furthering their knowledge in related fields. Several of the participants are currently attending Palau Community College's environmental science program.



Additional report is provided by a freelance journalist visiting Palau who found interest in Ebiil Society's work and participated as an outside observer. The report is attached as Appendix B. In this report the writer captures the personal experiences of the participants as individuals and as a group and how it relates to the overall Camp Ebiil context of learning and its relevance in today's Palau and the global community. The independent observer refers to the participants whom many have participated in Camp Ebiil programs since 10 years of age, as friendly and showing confidence of young people with "guidance of greater purpose." Below is an insert from the observer's notes.

"Van-ray emphasizes that the specific, clan-based, cultural wisdom isn't something he can provide. It's something the students have to find on their own. The learning process here is personal and identity based, just like the information itself. The participants frequently refer to their culture's "secrets" of plant knowledge. This attitude speaks to the high value of this knowledge, and how protective these young people feel over it. The way they discuss and interact with the plants (touching, smelling, and tasting) testifies to these personal, sacred relationships. Each clan has different techniques and preparations, all of which they're being trained to learn." (Ali Camp Ebiil 2012-journal)

The observer describes the participants capturing the plant knowledge methodically through their interviews and field work. As they learn to cultivate an informal and indirect atmosphere with the elders, they are able to document the "uses of important plants through photography and notes, carefully determining abundance and location." (Ali Camp Ebiil 2012-Journal) The research driving questions include: what do the people of Palau use plants for? Where are these plants? How do we prepare them? When is the right time to harvest or plant? What do we still know about plants from our ancestors? What changes are we seeing in traditional uses and practices? Students learn of the indigenous plant knowledge such as harvesting techniques that avoids destruction to flowering or fruiting and encourages regeneration of the plant. Below table details the learning objectives of the "Research Camp."

Goal: To cultivate indigenous plant knowledge amongst the young Palauans							
Learning Objective	Activity	Trainer	Place	Date			
Plants and Architecture of Palau Bai (Chiefs House)	<ul> <li>Identify specific endemic and native plants for structures</li> <li>Document plant/forest regeneration</li> <li>Identify habitats</li> <li>Document flowering/fruiting seasons</li> <li>Document harvesting period and techniques</li> <li>Identify plant status in IUCN Red list</li> </ul>	<ol> <li>Toto Tellei</li> <li>Vanray Tadao</li> <li>Larry Brikul Mamis- Forestry/ Agriculture</li> </ol>	<ul> <li>Belau National Museum</li> <li>Babeldaob Forests</li> <li>Airai community</li> </ul>	July 23, 2013			
Plants & Traditional dwelling architecture	<ul> <li>Document harvesting techniques encouraging forest protection and conservation safety</li> <li>Document traditional vs contemporary harvesting practices and the differences</li> <li>Identify various species habitats in the different forest (dry, swamp, mangrove, savannahs)</li> <li>Document endemism and plant status</li> </ul>	<ol> <li>Samil Beouch- Indigenous Architect</li> <li>Vanray Tadao</li> </ol>	Belau National Museum Babeldaob Forest	July 24, 2012			
Endemic, Native, Introduced, and Endangered species	<ul> <li>Identification endemic and native plants</li> <li>Identify introduced species</li> <li>Identification of endangered</li> </ul>	<ol> <li>Vanray Tadao</li> <li>Brikul Mamis</li> </ol>	Babeldaob KBA Ngermeskang Nature Reserve in Ngeremlengui State	July 25, 2012			

	<ul> <li>species</li> <li>Identifying of medicinal plants and their habitats</li> <li>Collecting specimens for the Belau National Museum herbarium</li> <li>Prepare specimens</li> </ul>		Visit to office of Forestry and Agriculture in Nekken Aimeliik	
Invasive species	<ul> <li>Interview and document</li> <li>Identify invasive species in Palau</li> <li>Invasive species impact on habitat and endemic/native species</li> </ul>	<ol> <li>Terebkul Tellei- Bureau of Agriculture</li> <li>Vanray Tadao</li> </ol>	<ul> <li>Belau National Museum</li> <li>Babeldaob KBA</li> </ul>	July 26, 2012
Plant specimen preservation and follow up for confirmation	<ul> <li>Identify and collect specimen</li> <li>Photograph documentation</li> <li>Visit abandoned traditional villages</li> <li>Identify and document domestic plants in traditional village</li> </ul>	Vanray Tadao	Babeldaob KBA Belau National Museum	July 27, 2012
Training conclusion	<ul> <li>Presentation to parents, friends, Society members, donors, and general community</li> </ul>	Vanray Tadao	Belau National Museum	July 28, 2012

At the end of each day, back at the lab, the participants learn the processing of plant specimen as part of the Palauan collection. Each participant is responsible to press and dry their plant specimens, glue onto paper, add plant descriptions including the family and genus of each plant, at least two folk names, the scientific name, the location (generally) where it was found, and the GPS coordinates of the site of origin.

"These students have an honest gratitude for their life and land, and their relationships with the natural environment seem deep and personal. "Our entire culture leans on the plants, from before birth to death," Shaun Cepeda (participant) says to me. "Medicine, food, all of life depends on them." They find parts of their identity as individuals and as clan members in the botanical world. Their clans are represented by certain plants in ceremony." (Ali Camp Ebiil 2012-journal)

An evaluation was designed and administered by Mr. Tadao and the results have been entered into a registry in Microsoft Excel and inserted in the appendices. As a result of the evaluation, it is clear from the comparison of the pre and post survey that the participants learned tremendously and their responses reflecting in depth knowledge on the subject. It is clear from their response that the incorporation of the cultural utilization of plants was well maintained throughout the lessons and it's reflected in their description of plants, its use, harvest timing, habitats, and preparation. Participants are additionally able to reflect the social change affecting the forests such as harvesting of trees with mechanical tools and in the processing of the raw material that cause harmful impact and contributing to habitat destruction and even endangering endemic species. The results have been attached as Appendix C.

At the end of the intensive training, the participants invited parents, Belau National Museum board of director and staff, Ebiil Society members, board, friends, and donors to witness their presentations of learned knowledge and to hear their advocacy messages on protection critical ecosystems and endemic species of Palau. The event was very motivating and heartfelt- once again proving the effectiveness of young people as advocates for environmental protection. The participants continue to work with Ebiil as activities coordinators, social survey enumerators, and also participating in the various exchange programs with Universities and other regional programs hosted by Ebiil Society.

# C. Primary School Integration

Third phase of the program is integration into the primary level of schools in the form of "field trip," as field based study of Palau's forest and as an integral part of their classroom lessons. Belau National Museum provides the trainer and the Museums botanical grounds and the material culture exhibit for the cultural significance, while Ebiil Society provides the resources for field studies.



The piloting of the primary school integration was conducted with Koror Elementary School from February till April 2013. A total of 260 students participated in the field studies from March 12-April 5, 2013. Initial planning meeting with teachers and school principal took place in February, following with the implementation taking place from March

till April of this year. Activities for each day involves visiting the Museum's botanical garden with over 300 species of plants, natural history, and witnessing the cultural material display. Individual classes focuses on different learning objectives depending on their learning target. Some focus on science, other culture, and social studies. Participants included students, teachers, and parents. Ebiil Society will continue to provide this program to primary schools and plans to expand the program to all schools of Palau.



Ebiil Society and Belau National Museum are long partners since the inception of Camp Ebiil in 2005 or 9 years ago, and will continue to foster this partnership thru education of Palau's forest and culture for all ages and communities.

Appendix A

## Ebiil "Research Camp" reports

Prepared by: Van-ray Tadao Local Ethno botanist & Assistant's manager Herbarium

Ethno botanical study Activities!!!

- Step by step process in interviews and field work
- > Determine relative abundance and location of rare endemic and native plants
- Target people with specific skills and work within their clan
- Collect and document -- uses and locations of important plants
- Walk in the forest to photograph, collect, preserve plants

#### Main questions

What do the people of Palau use plants for?

Where are these plants?

How do we prepare them?

When is the right time to harvest or plant?

What do we still know about our plants from our ancestors?

What changes are we seeing in traditional uses and practices?

#### Method

- Indirect and informal
- Adaptive yet consistent
- Act as triggers
- Practice What do we know already among ourselves?
- Check and confirm

Interview different age of people, stating with the eldest and work our way down to see how much knowledge is actually being passed down to the younger generations.

-hunters/builders – boats, canoes, ebakl, houses, food, kar, ngasch and traditional uses

-process of how they do it, what do they use, methods, differences and similarities, benefits, uses of certain plants in Palau. Specifically unique or special to rechad er a Belau. (Klechibelau that's Old & still practiced vs. klechibelau that's fairly new and practice its traditions). Belau has a lot of unique and special plants that needs to be documented.

- Interview at Belau National Museum Bai with Toto Tellei @ 10:00 am & follow by field work on july-23-2012
- Interview at Belau National Museum summerhouse with Dingelius Samil Beouch @10:00 am & follow by field work on july-24-2012
- Interview at Nekken forestry office with Brikul Mamis @10:00 am & follow by field work on july-25-2012
- Interview at Belau National Museum Natural History office with Terebkul Tellei @10:00 am & follow by field work on july-26-2012
- Check and Confirm & follow by trip to the native trail to photograph, collect, preserve plants on july-27-2012

Had an informal meeting to introduce the ethno botanical study and how it links to the work at the BNM Natural History Ethno. Office and also how it could help them and the younger generation by passing down information that only they may know. We need to preserve and document their knowledge before it is lost. We were also trying to get their permission and their participation in this study. Since Belau has a lot of unique plants, not to mention an abundance of plant diversity and our culture and traditions are still intact and practiced, it should be definitely documented.

Just a brief explanation to introduce the project and Intern students, what it is about and what information we would like to get from them. So far they are very willing to share their knowledge and stories and are even willing to take us to the field to show us, they rather show us then just say this and that and we wouldn't have at least a picture.

# Supplies and Equipment

-Mounting Paper
-Glue
-G.P.S
-Press Bag
-Camera
-Car use-BNM pick-up truck
-Drying room / 1 ½ day drying
Personnel / Van-Ray Tadao Assistant
-Sean Kyota

Monday 7-23-2012 to Saturday 7-28-2012 Time Assisted: 7:30 a.m. To 5:00 p.m.







## Appendix B

#### Camp Ebiil by Belau National Museum

#### By: Ali; Independent Observer

Part of the continuing education of the Ebiil Society's camp counselors is the enrichment of their education beyond the camp. After the camp itself has ended, many of the counselors participate in a field course about the flora of Palau.

The five day course will teach the students about the flora of their home country. They will learn identification, classification, and – most importantly - traditional cultural knowledge of plant's roles in Palauan life. There is an emphasis on understanding the difference between native, endemic, and introduced plants. Each day includes a trip into the field for observation. Three of the five days involve talks with elders about plant uses in their clan. The course is conducted by a Palauan plant specialist. They will finish the course with a written test, and a presentation back to their community.

Morngul Remengesau, Shaun Cepeda, Joab Kanai, Aikman Beouch, Rurul Osubedereng, Shamira Ldesel, Victor Marugg, Dayton Sekool, Marli Klass, and Sengai Sablan range in age from 16 to 19 years old, and come from various states and clans in Palau. They spend their summers as counselors at Camp Ebiil, a youth camp that teaches indigenous knowledge, skills, and ethnic pride to Palauan youth. This week's students have the friendly constitution and confidence of young people with the guidance of a greater purpose. This weeklong workshop is an extension of their roles as counselors. They will use their new skills guiding the younger campers next summer.

Their trusted leader is Vanray Tadao, the assistant manager of the Palau National Museum's herbarium, and the guide of this week's course. Van-ray's real herbal education came at the feet of his own elders, and he passes that way of learning generously onto his students. Together, they have devised an outline for the weeks learning. Their intention is to work methodically through their interviews and field work. They hope to cultivate an informal and indirect atmosphere with the elders, document the uses of important plants through photography and notes, carefully determining abundance and location. The driving questions are these: what do the people of Palau use plants for? Where are these plants? How do we prepare them? When is the right time to harvest or plant? What do we still know about plants from our ancestors? What changes are we seeing in traditional uses and practices?

Van-ray emphasizes that the specific, clan-based, cultural wisdom isn't something he can provide. It's something the students have to find on their own. The learning process here is personal and identity based, just like the information itself. The participants frequently refer to their culture's "secrets" of plant knowledge. This attitude speaks to the high value of this knowledge, and how protective these young people feel over it. The way they discuss and interact with the plants (touching, smelling, and tasting) testifies to these personal, sacred relationships. Each clan has different techniques and preparations, all of which they're being trained to learn.

The three elders that Vanray has introduced to guide the students come from different Palauan clans. They offer information on plants as food, medicine, shelter, and other traditional uses (i.e. clothing and tools). The goal of the course participants is to tap the elders' inherent knowledge of the uses: where to find these plants, how to prepare, when to harvest and plant them. "We do our best to trigger the elders into telling the secrets of the knowledge of plants," says Vanray.

In addition to this, Van-ray is teaching how to stand on the bridge between modern science and traditional life ways, somewhere amongst the elders and the internet.

Each day begins at 8 o'clock, when the students meet in the Natural History Lab at the Palau National Museum. They start by updating their final presentation with yesterday's notes. If a student has missed a class, the others catch him up. If there's down time, Van-ray throws out plant names for them to identify and describe. When I ask Van-ray about the breakdown of vascular plants on Palau, he turns the question to his students. They're quick to inform me that there are over 1300 vascular plant species found in Palau. 730 are native, 151 are endemic, and over 600 have been introduced.

When the elders arrive, the students gather around the lab table. Monday brings two speakers, one in the morning and one in the afternoon. Frusoto Tellei holds knowledge on the construction of Bai, Palau's traditional meeting houses. He talks to the students about protecting and restoring the country's population of Teuechel trees, which are used to roof the Bai, and the more common Palauan summer houses. The tree is currently harvested year round, but the students are learning the ideal times of to harvest this plant to ensure its regeneration, and the importance of replanting it.

Later on Monday, Larry Berikul Mamis speaks further about forest trees and native plants. His lesson comes to life in the field when we visit one of Palau's oldest standing trees, a Chesemolech in the state of Airai. The natural history lessons stick in the student's minds. Modern life and economy have led to gaps in the observational knowledge that the existence of some plants depend upon. As future stewards of the land and sea of Palau, the information will serve them in protecting the nine endangered species they are studying this week, all of the natural resources of their island. It will connect them further to the land that nourishes them.

On Tuesday, Nigiramoai Samil Beouch visits the class. His clan title is 'Dingelius ra Ngerturong', which means he directly serves the clan's chief. Beouch also focuses on shelter building and Bai. Thursday brings Terebkul Tellei, from the Palau government farm office. He talks to the students about endemic plant species and invasive non-natives, including his work to eradicate them. During these interviews with elders, the students are guided by the courses' questions, Van-ray's facilitation, and their instinctual curiosity. They pay careful attention to the differences between native and introduced species.

The introduced species include agricultural crops like pineapple and chili peppers, as well as ornamental varieties. The students are developing a thoughtful understanding of these facts. As we traverse the main island of Babeldaob on field trips, they point out the introduced plants: "Entire savannahs full of medicine have been cleared and replaced with these plants that have no meaning to us," Sengai Sablan tells me.

Wednesday, the group takes a hike into the jungle. A little over a mile into the forest they reach the Ngeremlengui waterfall. On the way they are learning to identify and describe plants, focusing mostly on native and endemic species. They discuss mutual relationships, invasive plants, and consistently, their traditional cultural uses. Each person collects a specimen to add into the National Museum's herbarium.

Back at the lab, Van-ray teaches them how to press and dry their plant specimens. Later, they will glue them to paper, and add typed descriptions including the family and genus of each plant, at least two folk names, the scientific name, the location (generally) where it was found, and the GPS coordinates of the site of origin. While they're working, Van-ray shows me the museum's herbarium. This is where the student's work will end up. Over 4,000 Palauan plant specimens (and counting) are stored in this room, two steps away from the classroom. Counterparts to this collection are in Kauai and Washington D.C.

On Thursday, Aikman Beouch shows me his work from the day before. He's documented *Melastoma malabathricum,* a flower used for the important first birth ceremony. "A perfect specimen has leaves, and a flower or fruit," he tells me. "The specimen I took yesterday was the leaves and a flower, so someone can come and look at it, and be able to identify it." He explains a little about how the plant is used. When I ask him why he chose it, he says, "I liked the flower."

That response is simple, but telling. These students have an honest gratitude for their life and land, and their relationships with the natural environment seem deep and personal. "Our entire culture leans on the plants, from before birth to death," Shaun Cepeda says to me. "Medicine, food, all of life depends on them." They find parts of their identity as individuals and as clan members in the botanical world. Their clans are represented by certain plants in ceremony.

Their lives are sustained by plant medicine, and they are quick to turn to traditional plant cures over modern pharmaceuticals: "I know where it comes from, so I can trust it."

Over the course of five days, they study close to one hundred plants. As the pick-up truck buzzes over the compact road of Palau on field trips, they point and name the plants they see. There's a mild competition among them, so they're picking up fast. Shamira Ldesel proves herself a go to source of knowledge. In the field they observe ancient trees, modern ornamental gardens, rare plants, mutual relationships. They take note of the various ecosystems on their island, and share fish and taro for lunches.

The students are vibrant participants in the course and in their culture. They reflect on what it means to be Palauan in a natural and passionate way, the legends of their shared past coming forth with reverence and humility. They practice traditional dances for the upcoming Independence Day celebration, and speak excitedly about the resurgence of the dance. They sing traditional songs in the rain, and sketch native designs in their notepads. Although many have spent their whole lives on the islands of Micronesia, they are so grounded in their identity and their people, that there is a maturity about them.

Despite the sum of knowledge, the students are not daunted. Many seem enchanted by this new world. They speak confidently about food security, natural resource conservation, and biodiversity. It is important for these students to go further in addressing their national identity in a globalizing world. The industrial economy will continue to push into Palau. These students have the opportunity to shape a landmark style of conservation, tourism, and preservation in a country that has already taken the lead in conservation awareness. Social issues, like changing gender roles in traditional life, are inevitable. Seed corporations will not overlook these subsistence farmlands. The skills and tools learned at this camp are lasting. For them to withstand the pressures of modern life, the students must begin to process these fast-approaching and challenging issues in light of their new awareness.



# Appendix C: Pre & Post Evaluation of Participants

Participant Name	School Level	Resident		Question 1 (What do people of Palau use plants for?)	Question 2 (Where are these plants?)	Question 3 (How do we prepare them?)	Question 4 (When si the right time	about our plants from our	Question 6 (What changes are we seeing in traditional uses and practices?)
anne	SCHOOL LEVEL	Resident	Dro	They use plants for nearly everything- May use it for					
ab Kanai	High School	Koror	Pre- eval Post		They are all around us where there's light and water	They can be prepared through making of everything			It evolves and everything is not much of importance than before
			eval	MISSING POST EVAL	All and the second second states and the second		United to the second second second second		
engai Sablan	College	Koror	Pre- eval	Plants are used for medicine, food, eating and cleaning utensils	All around, some specifically at wet/moist areas and others at dry areas like savanna, etc.	Cooking, Pounding, Direct contact			Preparation, methods, and purposes of using them
			Post- Eval	MISSING POST EVAL					
				A rechad er a Belau a					
Dautan Sakaal	High School	Maaraard	Pre- eval	ousbech a dellomel el kall, me a kar, e dirrek el ousbech el meruul a blai	Oreomel, me a Ked, me a lechub	They can propore the plants	After er a Orakiruu e ng sebeched el harvest a dellomel		Diak el sal dousbech
Dayton Sekool	High School	Ngaraaru	evai	ousbech et meruut a blai	eng Ochallechutem	They can prepare the plants	er harvest a denomer		Kmal mla mo klou a change- a klekedall er a Belau. A ike el klalou e
					Native plants of Palau can be	First, after you find the tree, if you want it you clean it, cut it	dellomel or kerrekar a sel after er	Some medicinal ways, ways and	dousbech a reua chainsaw, me a gree machine, sondang, ebakl, they change evrything to new tools. Traditional
			Post- Eval	Medicine, ceremonies, shelter	found on Savannas, rain forest, dry forest, or mangroves	down and prepare to slice; first take the skin and start to slice	a Orakiruu me a lechub eng Tab el Buil		uses and practices that have not changed is Bai and houses
Rurul			Pre-			Some plants are prepared by			some Palauan plants are no longer
Dsubdereng	College	Ngaraard	Eval	Food, medicine, shelter	Ked, Chelbacheb, Delomeklochel	cooking			used as medicine Kmal mla mo klou a change er a
			Post	Medicine, ceremonies,	Savannas, rain forests, dry forests,				dongu, kmal betok a dongu e ng di kmal klou a letemellii- ke de mla mo
			eval	shelter	or mangroves	Mukelii, tobtii	Se el tab a buil	shelter	ou surui
			Pre-		Plants are found in the forests, rock islands, coastal areas, harsh	We prepare them by gathring up the specimen and then		Some plants we learn from past generations can be used for	
haun Cepeda	High School	Ngarard	eval	Food, medicine, shelter	climate	drying it up for storage search for that plant, cut it	what plant it is and for planting??		Some are not being used
			Post- Eval	Food, cultural uses,	Mangrove, rain forest, dry forests, savannas	down, restore some, and use it		Our ancestors use to use the moon	tools
			Eval	shelter, medicine	savannas	for useful purposes For medicine you can boil and	when its not ruilmoon	to tell whether its good to harvest	tools
						crush, for shelter you need to			
Shamila			Pre-	Food, medicine, shelter,		cut and then prepare them in any way, Food and traditional	depending on the time of the		A lot has changed and we should try
	High School	Koror	eval	traditional uses	Forest, Ocean, Mesei, Rock Island				and learn the old ways again
			Post-						
			Eval	MISSING POST EVAL					A rechad a dikea el sa lousbech a
									klalou el klokled a rechad er a Belau e
Morngul	College	Koror	Pre- eval	Shelter, medicine, food, and tradtiional use	oreomel, rock island, keburs	Ultuil er a usbechellel tia el dellomel		We still know that plants are for different uses	kmal di mla mo chemau a klalou er a Merikel
Remengesau	Concge	KOTOT	Post-	and traditional use	orcomer, rock isidilu, keburs	actioner		unicient uses	MCHXCI
			Eval	MISSING POST EVAL					
			Pre-	Food making, medicine,				Which plants can be used for medicinal plants, food, housing and	We are changing some of the ways the plants are supposed to be used, and
Marli Klass	High School	Melekeok	eval	traditional practices	Forest, Hills, Rock Island	Depending on what its used for	When its season arrives	other traditional practices	use foreign resources
						Each plant has its own unique way of preparation, for			
						example, trees we have to	When the tree is not blooming or		Tools have changed the most, and no
			Post- Eval	Cultural uses, medicine, shelter, and food	Mangroves, rain forest. Savannas, and dry forests	scrape the bark off, let out its juice, and peel it right away	fruiting, its best to harvest, and to plant when its full moon		many people are informed or aware of our traditional practices
			Lvdi	Kall, kar, besiich, tekoi er a		Depending on what plant is	Every plant has its own season- so		
			Pre	syukang, omeruul blai,	Beluu, daob, chelbachel,	being used and what its used	planting and harvesting depends	-	People are beginning to sustitute
/ictor Marugg	High School	Aırai	eval	ilumel Plants can be used for;	delomeklochel	for	on its season	They could be used in many ways	plants with other things
				medicinal purposes, Food		Some must stay wet if used for			Tools are becoming modern day tool
			Post			housing, some can be peeled			and preserving and conserving plants
			eval Pre	hair utensils	rain forests, swampy areas	off, leaves woven	flowering	how and when to harvest	are not being followed
Fkel Beouch	College	Koror	eval	MISSING PRE EVAL		Depending on what it is used			
			Post-	Shelter, medicine, food,	Mangrove, swamp, dry forests,	for - there are many different ways like skinning, soaking in	Se el lak lomung me a lechub el		
			eval		savannas	salt water		Medicine, Harvestation, Building	Tools, ways of using plants, medicine