Rehabilitation Plan

The Last Paradise Resort

An Eco-tourism resort in El Nido, Palawan

Rehabilitation Plan
of The Last Paradise Resort in El Nido Palawan

June 30, 2023

Jorge Dela Torre
Owner

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1 Introduction

In recent years, the Philippines have seen a rise in the number of tourists visiting the country. Millions of tourists go to the country every year to see its famed beaches, tropical environment, and unique culture. The Philippine government has set a goal of 12 million tourists by 2022, up from the estimated 7.1 million who visited the country in 2019. However, in the year 2020, the sector has been severely impacted because of the epidemic. The establishment of additional internal destinations and the gradual thawing of international borders have helped it begin to revive in 2021-2022.

El Nido, on the Philippine island of Palawan, is a favourite vacation spot because of its picture-perfect beaches, gin-clear waters, and abundance of marine life. Popular tourist activities include island hopping, snorkeling, and diving, earning it the nickname "final ecological frontier" of the Philippines. Tourists go to Bacuit Bay, one of El Nido's 45 islands and islets.

El Nido relies heavily on tourism as a source of both income and employment. Overcrowding, pollution, and the death of coral reefs are all unwelcome side effects of the recent surge in tourism, which has also benefited local economies. Sustainable tourism is something that the local government and community groups have been working to improve.

2 Description of the SAPA Area

2.1 Land Cover

According to SPOT 5 data, the municipality has around 23,600 hectares of forest cover (excluding mangrove forest), which accounts for 43% of the entire land area. Secondary growth forest accounts for approximately 17,200 hectares (73%) of total forest cover, primary forest accounts for approximately 3,400 hectares (14%), and limestone forest accounts for approximately 3,000 hectares (13%). In the municipality, seven (7) endangered tree species were identified, including kamagong, malaipil, sakat, apitong, antipolo, and malasantol.

Local citizens have utilised the municipality's forest resources for a variety of reasons that have benefited them financially. Forest resources are used for a variety of purposes, including lumber, furniture, building materials, boat and boat hull fabrication, and bridge and building construction.

Second growth forests in the municipality have been exploited for upland farming and as a source of non-timber goods such as honey, wild vines, palm and bamboo for handicrafts, and cogon for shingle building. 76.3% of the Tagbanuas and Bataks in the municipality supplement their farming income with honey collection, while 67.8% make a living from rattan harvesting. The forest is also a source of food for wild pigs and other animals, as people of Bebeladan and Bucana have discovered.

2.2 Tree Inventory

As shown in the figure below, site is covered by various types of grassland, wetlands, and various types of wooded land and plants.

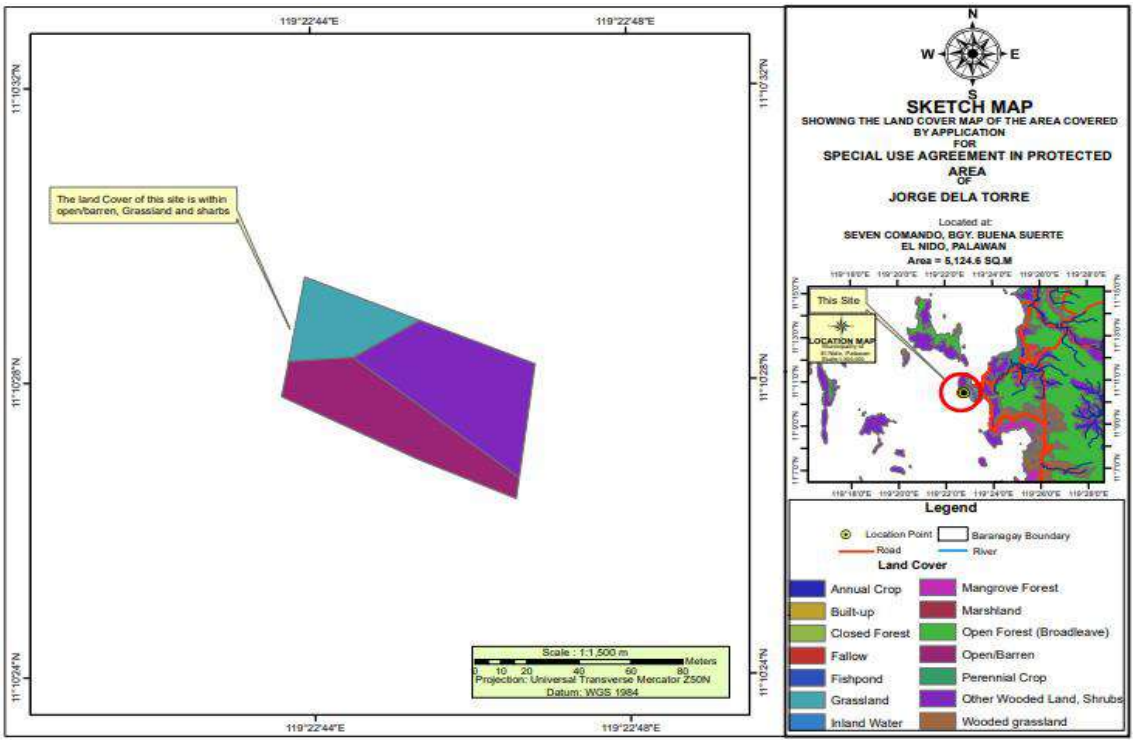

Figure 1. Land Cover Map of the Area Covered by Application for SAPA

Tree inventory was conducted on site by DENR – CENRO on 21st of February 2021 (see **Annex A – Tally Sheet of Inventoried Trees**).

A total of 109 trees from 28 different species which were identified within the area applied for SAPA. The trees surveyed have DBH measurement ranging from 15-70 centimeters. Ipil-ipil (*Leucaena leucocephala*) and Malapapaya (*Polyscias nodosa*),

were found dominant in terms of number in the site. The table below presents the summary of the tree inventoried in the area.

Table 1. Summary of Tree Inventory Survey

SPECIES			**Total No.**	**Total Volume (m^3)**	**IUCN Red List**	**DAO 2017 -11**
Local Name	Family	Scientific Name				
Dungon	Sterculiaceae	*Tarrieta sylvatica*	9	8.101782	NL	NL
Kalios	Moraceae	*Streblus asper*	8	1.586024	LC	NL
Alim	Euphorbiaceae	*Melanolepis multiglandulosa*	7	2.257954	LC	NL
Manga	Anacardiaceae	*Mangifera indica*	2	0.029878	DD	NL
Talisay	Combretaceae	*Terminalia catappa*	1	0.233952	LC	NL
Kalumpang	Malvaceae	*Sterculia foetida*	2	2.373638	NL	NL
Bitaog	Clusiaceae	*Calophyllum blancoi*	1	0.2437	NL	NL
Bogo	Burseracaeae	Garuga floribunda	1	0.09748	LC	NL

Binayuyo	Phyllantaceae	Antidesma ghaesembilla	1	0.238826	LC	NL
Ipil-Ipil	Fabaceae	*Leucaena leucocephala*	28	6.833324	LC	NL
Neem Tree	Meliaceae	*Azadirachta indica*	1	0.0329	LC	NL
Sampalok	Fabaceae	*Tamarindus indica*	1	0.04874	LC	NL
Santol	Meliaceae	*Sandoricum koetjape*	2	0.09748	LC	NL
Malapapaya	Araliaceae	*Polyscias nodosa*	19	9.735524	LC	NL
Anislag	Phyllanthaceae	Securinega flexuosa	3	0.517814	NL	OTS
Balinghasay	Anacardiaceae	*Buchanania arborescens*	2	0.266705	LC	NL
Kasoy	Anacardiaceae	Anacardium occidentale	1	0.087732	LC	NL
Akle	Loguminosae	Serialbizia acio	1	0.61778	NL	NL

Langka	Moraceae	Artocarpus heterophyllus	1	0.078959	NE	NL
Amugis	Anacardiaceae	Koordersidendron pinnatum	1	0.154701	NE	OTS
Hauili	Moraceae	*Ficus septica*	5	0.655943	LC	NL
Tibig	Moraceae	*Ficus nota*	2	1.499974	LC	NL
Ipil	Fabaceae	Instia bijuga	1	0.38992	VU	VU
Batino	Apocynaceae	Alstonia macrophylla	1	0.045694	LC	NL
Bansalagin	Sapotaceae	Mimusops parviflora	4	1.098648	NL	NL
Pagsahingin	Burseraceae	Canarium asperum	2	0.557391	LC	NL
Burawis			1	0.40035		
Lanete	Apocynaceae	Wrightia lanete	1	0.545888	LC	NL

Legend: LC – Least concern; NL – Not Listed; DD – Data deficient; VU – Vulnerable; NT – Near Threatened; EN - Endang

3 Rehabilitation Plan

This serves as the initial plan for the rehabilitation of the SAPA area following the cessation of the resort's operations. The plan will undergo revisions based on the resort's current condition and in accordance with the guidance provided by DENR and the Protected Area Management Board after the agreement's expiry.

3.1 Objectives

This Rehabilitation Plan (ERP) aims to restore and rehabilitate the areas surrounding and affected by the project upon the cessation of operations or termination of the SAPA agreement.

3.2 Responsibility

The Resort Manager is the main person responsible for overseeing the implementation of this Rehabilitation Plan. The following shall be the main roles and responsibilities of the team in respect to the implementation of the Rehabilitation Plan.

Table 2. Roles and responsibility in the Rehabilitation Plan

POSITION	ROLES AND RESPONSIBILITIES
Resort Manager	Responsible for ensuring the implementation of the entire Rehabilitation Plan within the project site.

Health and Safety Officer	Responsible in ensuring the work site are safe for all personnel and that the Rehabilitation Plan is implemented in a safe manner.
Pollution Control Officer	Responsible in checking the actual progress of the Rehabilitation Plan. Will assist in the preparation and circulation of the necessary reporting requirement under the Rehabilitation Plan.

3.3 Notification and coordination of Abandonment

Prior to the decommissioning process, essential coordination will be undertaken with the local government unit, the Protected Area Management Board, and DENR. Adequate notification will be provided to DENR - Environmental Management Bureau before abandonment, along with the submission of the final abandonment plan.

3.4 Decomissioning of Structure

In the event of resort abandonment, where the structures are deemed non-usable by DENR (Department of Environment and Natural Resources), the removal of structures and facilities will be conducted with the utmost care to minimize any adverse impact on the natural surroundings. Every effort will be made to salvage, recycle, or repurpose materials whenever feasible.

3.5 Waste Management

All waste generated during the decommissioning process will be managed in accordance with best practices for waste management. Our priority will be to emphasize recycling, reusing, and environmentally friendly disposal methods. To ensure responsible waste disposal, all generated waste will be transported to the mainland and deposited at the designated municipal landfill facility. Prior to waste disposal, an agreement between the resort owner and the local government unit will be established, outlining the terms and procedures for waste management.

During the abandonment process, any hazardous waste generated will be handled by an accredited hauler and treater approved by DENR - Environmental Management Bureau. To comply with Republic Act 6969 and its implementing rules and regulations, all hazardous waste will follow the manifest system prior to hauling. Additionally, a certificate of treatment will be obtained, and copies will be submitted to both the Protected Area Management Board and DENR for proper documentation and monitoring.

3.6 Revegetation Plan

In the implementation of the revegetation plan, native species trees shall be the priority to be used in the planting. All tree planting activity shall be coordinated with DENR-CENRO and PAMB.

A total of 109 that can be potentially cut for the implementation of the project. Following the DENR Memorandum 2012-02 otherwise known as the Uniform Replacement Ratio for

Cut or Relocated Trees a 1:100 ratio (trees to be affected: replacement) shall be observed. This would translate to a total of 10,900 trees to be planted assuming that all trees will not survive when transplanted or earthballed. With the total number of tree replacement, a total of 4.36 hectares is required as planting site following the 2500:1 ratio for trees to hectarage.

In addition to the tree replacement efforts, all areas where structures have been completely removed will undergo tree planting and nurturing activities.

3.6.1 Tree Nursery Management

A tree nursery will be established by the resort to nurture tree seedlings and vetiver slip that will be supplied for the rehabilitation program. Moreover, no exotic species will be planted. Tree nursery management shall be guided by FMB Technical Bulletin No. 19 otherwise known as Guidelines in the Establishment and Management of an Arboretum for Native and Endemic Trees (see Annex C).

Rainforestation shall be the primary aim of the rehabilitation where native forest tree species shall be the top priority for planting. In every 500 sqm, species to be planted shall be varied, monospecies shall be discouraged.

Table 3. Priority Plant Speices to be Planted

Local Name	Family	Scientific Name
Dungon	Sterculiaceae	*Tarrieta sylvatica*
Kalios	Moraceae	*Streblus asper*
Alim	Euphorbiaceae	*Melanolepis multiglandulosa*
Manga	Anacardiaceae	*Mangifera indica*
Talisay	Combretaceae	*Terminalia catappa*
Kalumpang	Malvaceae	*Sterculia foetida*
Bitaog	Clusiaceae	*Calophyllum blancoi*
Bogo	Burseracaeae	*Garuga floribunda*
Binayuyo	Phyllantaceae	*Antidesma ghaesembilla*
Ipil-Ipil	Fabaceae	*Leucaena leucocephala*
Neem Tree	Meliaceae	*Azadirachta indica*
Sampalok	Fabaceae	*Tamarindus indica*
Santol	Meliaceae	*Sandoricum koetjape*
Malapapaya	Araliaceae	*Polyscias nodosa*
Anislag	Phyllanthaceae	*Securinega flexuosa*
Balinghasay	Anacardiaceae	*Buchanania arborescens*

Kasoy	Anacardiaceae	*Anacardium occidentale*
Akle	Loguminosae	*Serialbizia acio*
Langka	Moraceae	*Artocarpus heterophyllus*
Amugis	Anacardiaceae	*Koordersidendron pinnatum*
Hauili	Moraceae	*Ficus septica*
Tibig	Moraceae	*Ficus nota*
Ipil	Fabaceae	*Instia bijuga*
Batino	Apocynaceae	*Alstonia macrophylla*
Bansalagin	Sapotaceae	*Mimusops parviflora*
Pagsahingin	Burseraceae	*Canarium asperum*
Burawis		
Lanete	Apocynaceae	*Wrightia lanete*

To minimize seedling mortality, seedlings shall be sourced out from the nearest community in as much as possible and shall be transported to the project site's tree nursery. Seedlings propagated by members of the indigenous cultural communities shall be the highest priority as source for planting. Importation of seedlings from other provinces shall be the least option.

Bamboos shall also be an for the revegetation especially on areas prone to landslides. The extensive root system of the bamboos can hold eroded soils and hasten recharge of aquifers in the area. Planting of such grass is in line with the Enhanced National Green Program of the Department of Environment and Natural Resources.

3.6.1.1 Weeding

Weeding is usually done after irrigating or rainfall because it is easiest to pull or dig weeds out in the entirety when the ground is soft. Invasive weeds will also be pulled out by cutting the roots and cultivated by hands.

3.6.1.2 Inventory

Number of seedlings at the nursery area are monitored especially the mortality and number of new seedlings. It will be tabulated and recorded for reference and easy validation.

3.6.2 Tree planting

The proponent has the primary commitment and responsibility to plant indigenous trees within the planting zone. Planting areas can be done outside the SAPA area but will be coordinated with the DENR - Community Environment and Natural Resources Office.

The tree planting shall not form part of the immediate environmental restoration and rehabilitation works. Instead, this shall be a continuing effort by the company to do the tree planting. Moreover, the company shall participate or organize tree planting activities with its stakeholders to promote awareness of the importance of the forest highlighting the relationship with watershed.

A total of 10,900 trees is required as tree cutting replacement based on DENR Memorandum Order 2012-02 otherwise known as the Uniform Replacement Ratio for Cut or Relocated Trees, assuming that all trees will be cut or will not survive during relocation. This volume of trees will require about 4.36 hectares with a ratio of 2500 trees per hectare.

It is estimated that the 10,900 trees to be replaced shall be done until Year 11 – Year 12 (see figure below) from the actual year of tree cutting. The tree replacement was extended to 10 years to ensure quality growth of the seedlings and lessen the mortality rate. The company shall continue to plant at least 300 trees from the time of accomplishing the required replacement as part of its Corporate Environmental Responsibility (CER).

Within the 25-year tenure of the project within the SAPA, it is estimated that the project shall plant about 15,098 trees.

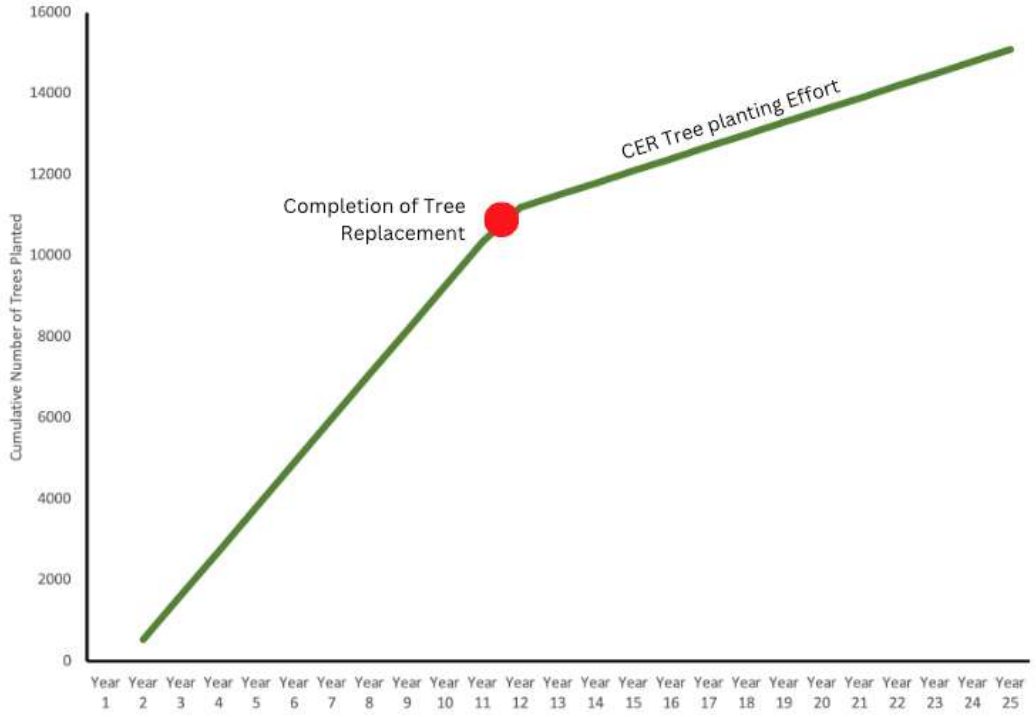

Figure 2. Cummulative Trees to be Planted

3.6.2.1 Tree planting location

A 5-meter buffer zone from the boundary going inside the proposed SAPA area shall be maintained and shall act as the primary planting site for the tree placement. Another 20-meter planting area from the SAPA boundary going outward shall be requested to PAMB and DENR as additional area for tree planting. The remaining balance of area to be planted shall be discussed and requested with the said board and agency. In the case that planting sites identified below are still not sufficient to accommodate the target number of trees to be planted, proponent shall request assistance from DENR-CENRO and PAMB for potential areas to be planted. At all times, tree planting shall be done only

within the National Greening Program identified sites, within the protected area or any public domain. No tree replacement shall be planted in alienable and disposable land or private lands unless permitted by DENR CENRO.

Table 4. Planting Areas

Planting Site	Total Area (Hectare)
Buffer Zone (within SAPA area) – Primary planting site	0.1143
Secondary Planting Site (20-meter outward SAPA area)	0.3564
Planting areas to be identified along with DENR CENRO outside	3.8893
Total Area	4.3600

Planting activities within the forestland shall be done in close coordination with the Municipal Environment and Natural Resources Office and DENR-Community Environment and Natural Resource Office. The figure below shows the initial area identified by to conduct tree planting activities. The technical description of these planting sites is in Annex F.

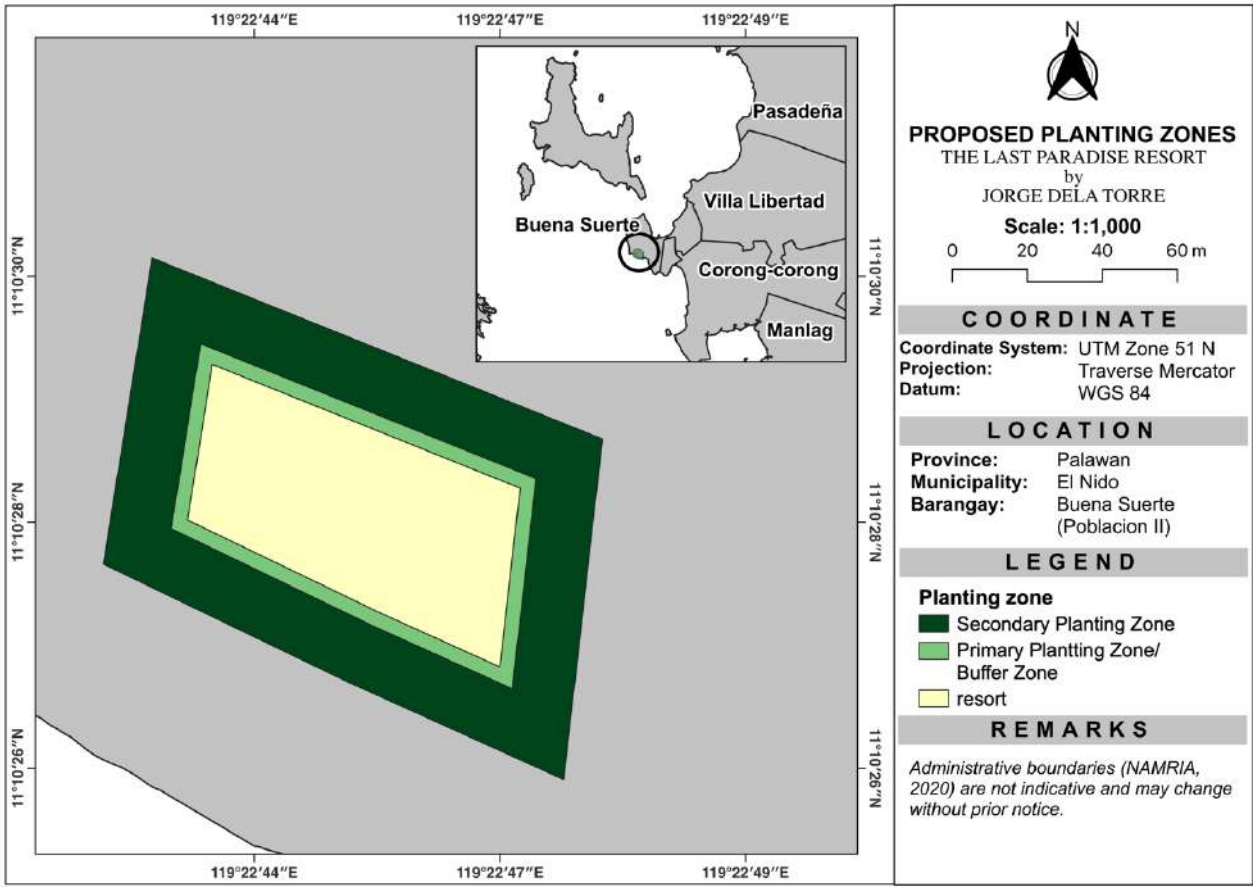

Figure 3. Proposed Planting Zones

3.6.2.2 Sequence of planting

The tree planting process will be carried out in a sequential order, starting with the primary area during the first 10 years of the SAPA Agreement. Subsequently, the secondary area will be planted from Year 11 to Year 24. Following the decommissioning and removal of all structures, the resort area will be planted on Year 25.

This sequential approach aims to ensure a systematic growth of trees surrounding the resort and its buffer area. Moreover, it will aid in neutralizing the soils in the vicinity of the resort area before proceeding with the rehabilitation process. By implementing this

strategic planting sequence, we aim to establish a sustainable and thriving ecosystem that complements the resort's natural surroundings.

3.6.2.3 Clearing

Clearing of the planting site shall also be conducted to remove weeds and other plan competitors for the first three (3) months starting the time the seedling is planted. This clearing shall only ensure the growth of the seedlings and will not leave the area baren. In such case, the area where a seedling is to be transplanted and the surrounding area that will directly affect the growth of the seeding are the only area where clearing shall be made.

3.6.2.4 Geotagging and Staking

One a tree is planted; geotagging will be done for the monitoring purposes. Afterwards, staking and bracing the planted seedlings will be done to allow the seedlings to grow and not concentrate its energy on standing upright. With this method, it is expected to have higher rate of seedling survival. If it is unable to do so, workers are thinning out the upper branches to reduce wind resistance. If that is not enough workers have to stake a tree buried at least 1.5 feet underground to provide ample support.

3.6.2.5 Hole Digging

As a rule, trees shall be transplanted no deeper than the soil in which they were originally grown. The width of the hole shall be at least 3 times the diameter of the root ball or container or the spread of the roots in the case of bare root trees. This will provide the tree with enough worked earth for its root structure to establish itself.

3.6.2.6 Hauling of Seedlings

Transporting of seedlings from one place to another has always impacts on its health and condition. Workers will carefully be loading the seedlings in enclosed vehicle with ample space and support to maintain its leaves and branches intact. Seedlings will be transported to the actual site manually by the project staff going to the project site.

3.6.2.7 Actual Planting

During planting, workers will tear the plastic container and checked the roots before transplanting it into the hole. Once the tree is seated in the hole, the original soil is then backfilled into the hole to the soil level of the container. Workers will ensure not to overly compress the back-filled soil especially by tramping it with feet but by compressing it gently using hands instead.

3.6.3 Plantation Maintenance and Protection

3.6.3.1 Brushing

The goal with plant brushing is to make the plants bend without breaking eaves or stems or causing any other damage.

3.6.3.2 Pest Control

For the prevention of pest infestation, workers should pull away any weak plants. They may already be infected. If not, they will attract predators. Building of organic and healthy soil will develop strong, vigorous plants. Also, workers should minimize insect habitat by clearing garden area of debris and weeds, which are breeding places for insects.

3.6.3.3 Revegetation

Immediately after the clearing, revegetation shall be conducted following the process mentioned in the previous sections.

3.7 Budget Requirement

The total area for planting is about 4.36 hectares for the tree replacement, excluding the corporate environmental responsibility program of the resort, which surrounds the project area. Using the National Greening Program average budget for tree planting and maintenance of about PHP 50,000/hectare plus the other related cost, the total amount for the implementation of this plan is about PHP 1,337,300.00.

Schedule of expenses per year is presented in **Annex B.**

3.8 Budget Requirement

The entire program will be fully implemented within 25 years from after the signing of a memorandum of agreement between the Department of Environment and Natural

Resources and the community or local government units. The memorandum of agreement shall act as the consensual understanding between the company, DENR and the LGU that the implementation of this plan shall have a corresponding roles and obligations of all parties. The overall schedule for the implementation of the ERP is presented in **Annex C**.

3.9 Monitoring and Reporting

Trees shall be monitored on a weekly basis to ensure growth of the seedlings. A monthly monitoring sheet (see Annex E) shall be accomplished by the Pollution Control Officer to monitor the growth of the trees planted.

An Annual Rehabilitation Status Report shall be generated every January of the succeeding year. The report shall be submitted to the Department of Environment and Natural Resources (DENR) Regional Director (MIMAROPA Region), Provincial Environment and Natural Resources Officer (PENRO), Community Environment and Natural Resources Officer (CENRO), Protected Area Management Board (PAMB) and the Municipal Environment and Natural Resources Officer (MENRO).

4 Annexures

Attachment No.	Title of Document
A	Tally Sheet of Inventoried Tree (prepared by DENR)
B	Expenses for Rehabilitation / Year
C	Schedule of Rehabilitation
D	FMB Technical Bulletin No. 19
E	Monthly Tree Planted Monitoring Sheet

Annex A

Tally Sheet of Inventoried Trees

TALLY SHEET OF INVENTORIED TREES

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ELVIE C. BASE 4.20.21
AO I - RECORDS

Name of Proponent : Jorge Dela Torre
Location of Applied Area : Seven Commando, Buena Suerte, El Nido, Pal.
Area Inventoried (ha): 0.5124 Hectare
Date of Inventory : February 11, 2021

NO.	SPECIES	DBH/DAB (cm)	MH (m)	TH (m)	Volume (cu.m)	Tree Location (GPS Northing	Easting	Tree Category Planted (A)/Natural (B)	STEM QUALITY
1	Dungon	70	8	13	1.910608	119.3800	11.1740	B	1
2	Dungon	70	8	13	1.910608	119.3790	11.1742	B	1
3	Kalios	15	4.5	10	0.049349	119.3790	11.1743	B	1
4	Kalios	28	4	10	0.152849	119.3790	11.1743	B	1
5	Alim	20	7	11	0.136472	119.3790	11.1743	B	1
6	Alim	20	3.5	10	0.068236	119.3790	11.1743	B	1
7	Manga	18	1	7	0.015792	119.3790	11.1744	B	1
8	Manga	17	1	8	0.014086	119.3790	11.1744	B	1
9	Talisay	40	3	10	0.233952	119.3790	11.1743	B	1
10	Kalumpang	70	7	14	1.671782	119.3790	11.1743	B	1
11	Bitaog	25	8	11.5	0.2437	119.3790	11.1743	B	1
12	Bogo	20	5	8	0.09748	119.3790	11.1744	B	1
13	Kalumpang	40	9	14	0.701856	119.3790	11.1744	B	1
14	Binayuyo	35	4	10	0.238826	119.3790	11.1744	B	1
15	Alim	25	4	8	0.12185	119.3790	11.1744	B	1
16	Ipil-ipil	27	11.5	3	0.408612	119.3790	11.1744	B	1
17	Kalios	20	4	8	0.077984	119.3790	11.1744	B	1
18	Ipil-ipil	20	3	11	0.058488	119.3790	11.1744	B	1
19	Neem tree	15	3	8	0.0329	119.3790	11.1744	B	1
20	Dungon	40	5	12	0.38992	119.3790	11.1744	B	1
21	Sampalok	20	2.5	8	0.04874	119.3790	11.1744	B	1
22	Santol	40	0.5	12	0.038992	119.3790	11.1744	B	1
23	Santol	20	3	8	0.058488	119.3790	11.1745	B	1
24	Ipil-ipil	20	4	10	0.077984	119.3790	11.1745	B	2
25	Ipil-ipil	28	5	11	0.191061	119.3790	11.1745	B	2
26	Ipil-ipil	20	4	10	0.077984	119.3790	11.1745	B	2
27	Ipil-ipil	23	2	10	0.051567	119.3790	11.1745	B	2

Inventoried by:

For. Christian C. Cuyo
Forest Technician II

Faith D. Bangalisan
Clerk

Steven John E. Andao
Park Ranger

Recommending Approval:

Jenuel P. Casel
PMF/Asst. PASu, ENTMRPA

Noted by:

For. Mildred A. Suza
SVEMS/PASu, ENTMRPA

Approved by:

Engr. Alan L. Valle
ENGR. IV/OIC-CENRO

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TALLY SHEET OF INVENTORIED TREES

28	Malapapaya	24	5	10	0.140371	119.3790	11.1745	A	1
29	Malapapaya	20	9	10	0.175464	119.3790	11.1745	B	1
30	Ipil-ipil	20	4	10	0.077984	119.3790	11.1745	A	1
31	Anislag	25	8	12	0.2437	119.3790	11.1745	A	1
32	Ipil-ipil	35	9	14	0.537359	119.3790	11.1745	B	1
33	Ipil-ipil	40	5	14	0.38992	119.3790	11.1746	B	2
34	Ipil-ipil	30	5	10	0.21933	119.3790	11.1746	B	2
35	Ipil-ipil	30	6	12	0.263196	119.3790	11.1745	B	2
36	Dungon	55	5.5	10	0.810912	119.3790	11.1745	B	2
37	Dungon	50	11	13	1.34035	119.3790	11.1745	B	1
38	Ipil-ipil	28	5	12	0.191061	119.3790	11.1746	B	2
39	Ipil-ipil	38	3.5	13	0.246332	119.3790	11.1746	B	1
40	Malapapaya	30	5	10	0.21933	119.3790	11.1746	B	2
41	Balinghasay	22	8	12	0.188721	119.3790	11.1746	B	1
42	Malapapaya	29	8	12	0.327923	119.3790	11.1746	B	1
43	Balinghasay	20	4	10	0.077984	119.3790	11.1746	B	1
44	Ipil-ipil	28	6	11	0.229273	119.3790	11.1746	B	2
45	Dungon	60	2	13	0.350928	119.3790	11.1746	B	2
46	Ipil-ipil	40	3	11	0.233952	119.3790	11.1746	B	1
47	Dungon	27	9	13	0.319783	119.3790	11.1746	B	1
48	Ipil-ipil	30	2	8	0.087732	119.3790	11.1746	B	2
49	Ipil-ipil	35	6	11	0.358239	119.3790	11.1746	B	2
50	Kasoy	20	4.5	8.5	0.087732	119.3790	11.1747	A	1
51	Ipil-ipil	50	3.5	12	0.426475	119.3790	11.1747	B	2
52	Ipil-ipil	28	9	13	0.343909	119.3790	11.1747	B	1
53	Dungon	40	8	15	0.623872	119.3790	11.1747	B	2
54	Ipil-ipil	29	4	13	0.163961	119.3790	11.1747	B	2
55	Akle	65	3	11	0.61778	119.3790	11.1747	B	1
56	Langka	18	5	10	0.078959	119.3790	11.1747	A	1
57	Ipil-ipil	25	5	14	0.152313	119.3790	11.1747	B	2
58	Ipil-ipil	36	3	10	0.189501	119.3790	11.1747	B	2
59	Ipil-ipil	20	4	10	0.077984	119.3790	11.1747	B	2
60	Ipil-ipil	25	10	14	0.304625	119.3790	11.1748	B	1

ELVIRA Z. BASE 4.26.21
AO I - RECORDS

Inventoried by:

For. Christian O. Cuyo
Forest Technician II

Faith D. Bangalisan
Clerk

Steven John B. Andao
Park Ranger

Recommending Approval:

Jenuel P. Casel
PMF/Asst. PASu, ENTMRPA

Noted by:

For. Mildred A. Suza
SVEMS/PASu, ENTMRPA

Approved by:

Engr. Alan L. Valle
ENGR. IV/OIC-CENRO

TALLY SHEET OF INVENTORIED TREES

61	Ipil-ipil	39	8	14	0.593068	119.3790	11.1748	B	2
62	Ipil-ipil	35	4	10	0.238826	119.3790	11.1748	B	2
63	Ipil-ipil	36	4	11	0.252668	119.3790	11.1748	B	1
64	Ipil-ipil	40	5	13	0.38992	119.3790	11.1747	B	1
65	Amugis	23	6	11	0.154701	119.3790	11.1747	B	1
66	Hauili	20	5	11	0.09748	119.3790	11.1747	B	2
67	Alim	46	9	15	0.928205	119.3790	11.1746	B	1
68	Tibig	65	7	16	1.441486	119.3790	11.1746	B	1
69	Tibig	20	3	10	0.058488	119.3790	11.1746	B	2
70	Hauili	25	6	12	0.182775	119.3790	11.1745	B	1
71	Kalios	28	7	13	0.267485	119.3790	11.1745	B	1
72	Ipil	40	5	13	0.38992	119.3790	11.1746	B	1
73	Malapapaya	30	4	12	0.175464	119.3790	11.1745	B	2
74	Malapapaya	25	4	13	0.12185	119.3790	11.1745	B	2
75	Anislag	25	2	13	0.060925	119.3790	11.1744	B	2
76	Malapapaya	40	6	12	0.467904	119.3790	11.1743	B	1
77	Alim	38	5	13	0.351903	119.3790	11.1744	B	1
78	Alim	30	6	14	0.263196	119.3790	11.1744	B	1
79	Batino	25	1.5	11	0.045694	119.3790	11.1743	B	1
80	Bansalagin	40	1.5	10	0.116976	119.3790	11.1743	B	1
81	Bansalagin	33	1	12	0.053078	119.3790	11.1743	B	1
82	Bansalagin	30	9	14	0.394794	119.3790	11.1743	B	1
83	Alim	35	6.5	13	0.388092	119.3790	11.1742	B	1
84	Bansalagin	37	8	13	0.5338	119.3790	11.1743	B	1
85	Dungon	39	6	12	0.444801	119.3790	11.1744	B	1
86	Pagsahingin	30	11	14	0.482526	119.3790	11.1744	B	1
87	Pagsahingin	16	6	10	0.074865	119.3790	11.1745	B	1
88	Kalios	20	3.5	11	0.068236	119.3790	11.1745	B	1
89	Kalios	33	10	15	0.530779	119.3790	11.1746	B	1
90	Hauili	18	6	12	0.094751	119.3790	11.1746	B	1
91	Kalios	20	2	11	0.038992	119.3790	11.1746	B	1
92	Kalios	37	6	13	0.40035	119.3790	11.1745	B	1
93	Burawis	37	6	13	0.40035	119.3790	11.1745	B	1

ELVIE C. BASE 4-20-21
AO I - RECORDS

Inventoried by:

For. Christian O. Cuyo
Forest Technician II

Faith D. Bangalisan
Clerk

Steven John B. Andao
Park Ranger

Recommending Approval:

Jenuel P. Casel
PMF/Asst. PASu, ENTMRPA

Noted by:

For. Mildred A. Suza
SVEMS/PASu, ENTMRPA

Approved by:

Engr. Alan L. Valle
ENGR. IV/OIC-CENRO

TALLY SHEET OF INVENTORIED TREES

[illegible]	Malapapaya	70	10	13	2.38826	119.3800	11.1745	B	1
[illegible]	Anislag	27	6	11	0.213189	119.3800	11.1744	B	1
96	Malapapaya	36	7	14	0.442169	119.3790	11.1747	B	1
97	Malapapaya	30	6	12	0.263196	119.3790	11.1743	B	1
98	Malapapaya	35	9	14	0.537359	119.3790	11.1742	B	1
99	Malapapaya	40	9	13	0.701856	119.3790	11.1742	B	1
100	Malapapaya	60	10	15	1.75464	119.3790	11.1744	B	1
101	Hauili	20	6	13	0.116976	119.3790	11.1744	B	1
102	Hauili	29	4	11	0.163961	119.3790	11.1744	B	1
103	Malapapaya	22	7	13	0.165131	119.3790	11.1745	B	1
104	Malapapaya	20	5	14	0.09748	119.3790	11.1745	B	1
105	Malapapaya	18	10	14	0.157918	119.3790	11.1745	B	1
106	Malapapaya	45	11	14	1.085684	119.3790	11.1744	B	1
107	Malapapaya	16	6	11	0.074865	119.3790	11.1743	B	1
108	Malapapaya	30	10	14	0.43866	119.3790	11.1744	B	1
109	Lanete	40	7	13	0.545888	119.3790	11.1744	B	1
TOTAL					**39**				

Inventoried by:

For. Christian O. Cuyo
Forest Technician II

Faith D. Bangalisan
Clerk

Steven John D. Andao
Park Ranger

Recommending Approval:

Jenuel P. Casel
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Noted by:

For. Mildred A. Suza
SVEMS/PASu, ENTMRPA

Approved by:

Engr. Alan V. Valle
ENGR. IV/OIC-CENRO

CERTIFIED XEROX COPY
EL... CASE 4.20.21
ADI - RECORDS

Annex B

Schedule of Expenses of Rehabilitation

25-Year Rehabilitation Plan Budget

The Last Resort, El Nido, Palawan

Description	Details	25-Year Budget	Ye
			Semi-Ann 1
Target trees to be planted			
Target trees to be planted as replacement	Number of seedlings	10,900.00	
Corporate Environmental Responsibility	Number of seedlings	8,100.00	
Preliminary			
Local Information Drive with community	Once a year engagement	PHP 125,000.00	PHP 5,000.00
Signing of MOA with DENR and Community	Once	PHP 10,000.00	
Establishment of Tree Nursery			
Tree Nursery Construction	One Structure	PHP 50,000.00	
Maintenance	Yearly-maintenance	PHP 115,000.00	
Tree Planting Maintenance			
Tree Planting	PHP 50,000/year for planting	PHP 512,300.00	
Tree Planting with Community	Once a year engagement	PHP 240,000.00	
Monitoring and Validation			
Tree Planting Site	Once a year Third-party validation	PHP 115,000.00	
Monitoring and Validation			
Annual Report	Once every year	PHP 120,000.00	
Terminal Rehabilitation Report	Once	PHP 50,000.00	
	Total	PHP 1,337,300.00	PHP 5,000.00

ar 1	Year 2		Year 3		Year 4	
Semi-Ann 2	Semi-Ann 1	Semi-Ann 2	Semi-Ann 1	Semi-Ann 2	Semi-Ann 1	Semi-Ann 2
		545	545	545	545	545
PHP 10,000.00	PHP 5,000.00		PHP 5,000.00		PHP 5,000.00	
	PHP 50,000.00		PHP 5,000.00		PHP 5,000.00	
PHP 10,000.00	PHP 10,900.00	PHP 10,900.00	PHP 10,900.00	PHP 10,900.00	PHP 10,900.00	PHP 10,900.00
	PHP 5,000.00		PHP 5,000.00		PHP 5,000.00	
PHP 5,000.00	PHP 5,000.00	PHP 5,000.00	PHP 5,000.00	PHP 5,000.00	PHP 5,000.00	PHP 5,000.00
PHP 15,000.00	PHP 55,000.00	PHP 25,900.00	PHP 25,900.00	PHP 25,900.00	PHP 25,900.00	PHP 25,900.00

Year 5		Year 6		Year 7		Yea
Semi-Ann 1	Semi-Ann 2	Semi-Ann 1	Semi-Ann 2	Semi-Ann 1	Semi-Ann 2	Semi-Ann 1
545	545	545	545	545	545	545
PHP 5,000.00		PHP 5,000.00		PHP 5,000.00		PHP 5,000.00
PHP 5,000.00		PHP 5,000.00		PHP 5,000.00		PHP 5,000.00
PHP 10,900.00	PHP 10,900.00	PHP 10,900.00	PHP 10,900.00	PHP 10,900.00	PHP 10,900.00	PHP 10,900.00
PHP 10,000.00	PHP 10,900.00	PHP 10,900.00	PHP 10,900.00	PHP 10,900.00	PHP 10,900.00	PHP 10,900.00
PHP 5,000.00		PHP 5,000.00		PHP 5,000.00		PHP 5,000.00
	PHP 5,000.00		PHP 5,000.00		PHP 5,000.00	
PHP 25,900.00	PHP 25,900.00	PHP 25,900.00	PHP 25,900.00	PHP 25,900.00	PHP 25,900.00	PHP 25,900.00

Year 8	Year 9		Year 10		Year 11		Year
Semi-Ann 2	Semi-Ann 1	Semi-Ann 2	Semi-Ann 1	Semi-Ann 2	Semi-Ann 1	Semi-Ann 2	Semi-Ann 1
545	545	545	545	545	545	545	545
	PHP 5,000.00						
	PHP 5,000.00						
PHP 10,900.00	PHP 10,900.00	PHP 10,900.00	PHP 10,900.00	PHP 10,900.00	PHP 10,900.00	PHP 10,900.00	PHP 10,900.00
PHP 10,000.00		PHP 10,000.00		PHP 10,000.00		PHP 10,000.00	
	PHP 5,000.00		PHP 5,000.00		PHP 5,000.00		PHP 5,000.00
PHP 5,000.00		PHP 5,000.00		PHP 5,000.00		PHP 5,000.00	
	PHP 5,000.00		PHP 5,000.00		PHP 5,000.00		PHP 5,000.00
	PHP 5,000.00						
PHP 25,900.00	PHP 25,900.00	PHP 25,900.00	PHP 25,900.00	PHP 25,900.00	PHP 25,900.00	PHP 25,900.00	PHP 25,900.00

r 12	Year 13		Year 14		Year 15		Yea
Semi-Ann 2	Semi-Ann 1	Semi-Ann 2	Semi-Ann 1	Semi-Ann 2	Semi-Ann 1	Semi-Ann 2	Semi-Ann 1
300	300	300	300	300	300	300	300
	PHP 5,000.00		PHP 5,000.00		PHP 5,000.00		PHP 5,000.00
	PHP 5,000.00		PHP 5,000.00		PHP 5,000.00		PHP 5,000.00
PHP 10,900.00	PHP 10,900.00	PHP 10,900.00	PHP 10,900.00	PHP 10,900.00	PHP 10,900.00	PHP 10,900.00	PHP 10,900.00
PHP 10,000.00		PHP 10,000.00		PHP 10,000.00		PHP 10,000.00	
	PHP 5,000.00		PHP 5,000.00		PHP 5,000.00		PHP 5,000.00
PHP 5,000.00		PHP 5,000.00		PHP 5,000.00		PHP 5,000.00	
PHP 25,900.00	PHP 25,900.00	PHP 25,900.00	PHP 25,900.00	PHP 25,900.00	PHP 25,900.00	PHP 25,900.00	PHP 25,900.00

r 16	Year 17		Year 18		Year 19		Yea
Semi-Ann 2	Semi-Ann 1	Semi-Ann 2	Semi-Ann 1	Semi-Ann 2	Semi-Ann 1	Semi-Ann 2	Semi-Ann 1
300	300	300	300	300	300	300	300
	PHP 5,000.00		PHP 5,000.00		PHP 5,000.00		PHP 5,000.00
	PHP 5,000.00		PHP 5,000.00		PHP 5,000.00		PHP 5,000.00
PHP 10,900.00	PHP 10,900.00	PHP 10,900.00	PHP 10,900.00	PHP 10,900.00	PHP 10,900.00	PHP 10,900.00	PHP 10,900.00
PHP 10,000.00		PHP 10,000.00		PHP 10,000.00		PHP 10,000.00	
	PHP 5,000.00		PHP 5,000.00		PHP 5,000.00		PHP 5,000.00
PHP 5,000.00		PHP 5,000.00		PHP 5,000.00		PHP 5,000.00	
PHP 25,900.00	PHP 25,900.00	PHP 25,900.00	PHP 25,900.00	PHP 25,900.00	PHP 25,900.00	PHP 25,900.00	PHP 25,900.00

r 20	Year 21		Year 22		Year 23		Yea
Semi-Ann 2	Semi-Ann 1	Semi-Ann 2	Semi-Ann 1	Semi-Ann 2	Semi-Ann 1	Semi-Ann 2	Semi-Ann 1
300	300	300	300	300	300	300	300
	PHP 5,000.00		PHP 5,000.00		PHP 5,000.00		PHP 5,000.00
	PHP 5,000.00		PHP 5,000.00		PHP 5,000.00		PHP 5,000.00
PHP 10,900.00	PHP 10,900.00	PHP 10,900.00	PHP 10,900.00	PHP 10,900.00	PHP 10,900.00	PHP 10,900.00	PHP 10,900.00
PHP 10,000.00		PHP 10,000.00		PHP 10,000.00		PHP 10,000.00	
	PHP 5,000.00		PHP 5,000.00		PHP 5,000.00		PHP 5,000.00
PHP 5,000.00		PHP 5,000.00		PHP 5,000.00		PHP 5,000.00	
	PHP 25,900.00	PHP 25,900.00	PHP 25,900.00	PHP 25,900.00	PHP 25,900.00	PHP 25,900.00	PHP 25,900.00

r 24	Year 25	
Semi-Ann 2	Semi-Ann 1	Semi-Ann 2
300	300	300
	PHP 5,000.00	
	PHP 5,000.00	
PHP 10,900.00	PHP 10,900.00	PHP 10,900.00
PHP 10,000.00		PHP 10,000.00
	PHP 5,000.00	
PHP 5,000.00		
		PHP 50,000.00
PHP 25,900.00	PHP 25,900.00	PHP 70,900.00

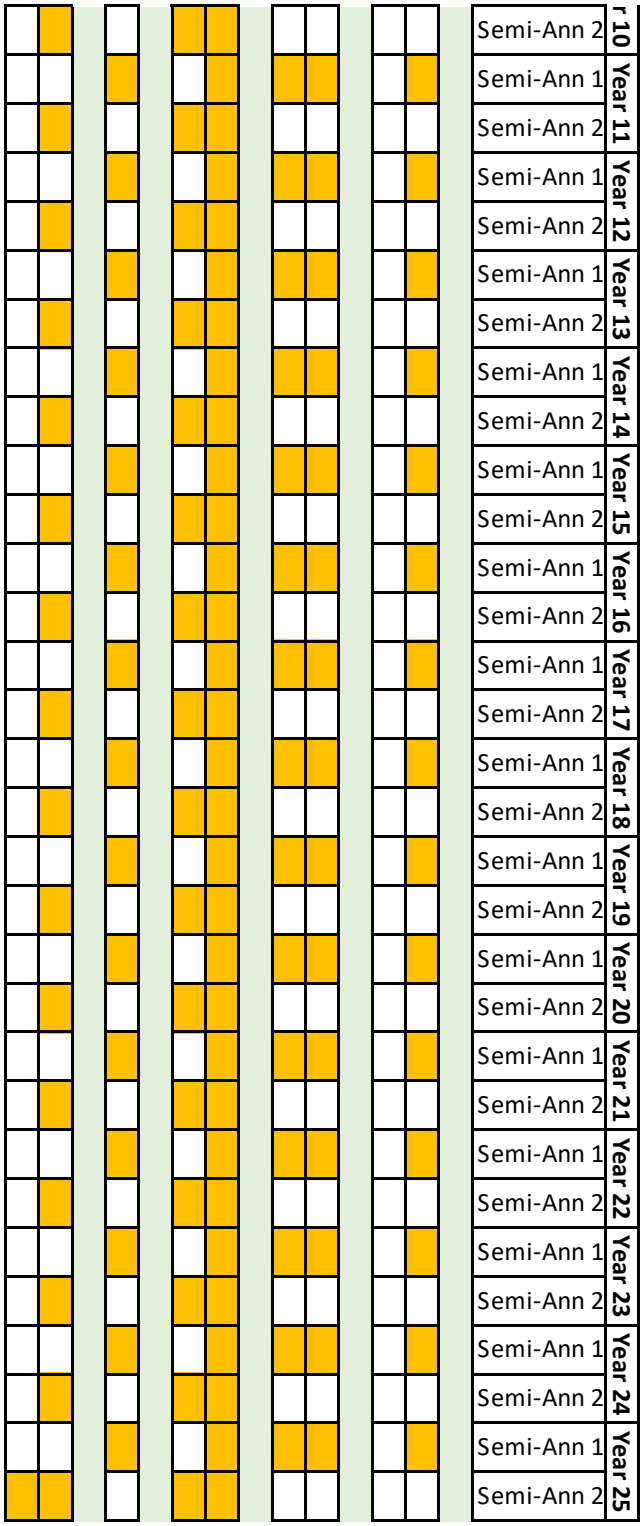
Annex C

Timeline and Schedule of Rehabilitation

25-Year Rehabilitation Plan

The Last Resort, El Nido, Palawan

Description	Year 1		Year 2		Year 3		Year 4		Year 5		Year 6		Year 7		Year 8		Year 9		Yea
	Semi-Ann 1	Semi-Ann 2	Semi-Ann 1	Semi-Ann 2	Semi-Ann 1	Semi-Ann 2	Semi-Ann 1	Semi-Ann 2	Semi-Ann 1	Semi-Ann 2	Semi-Ann 1	Semi-Ann 2	Semi-Ann 1	Semi-Ann 2	Semi-Ann 1	Semi-Ann 2	Semi-Ann 1	Semi-Ann 2	Semi-Ann 1
Preliminary																			
Local Information Drive with community																			
Signing of MOA with DENR and Community																			
Establishment of Tree Nursery																			
Tree Nursery Construction																			
Maintenance																			
Tree Planting Maintenance																			
Tree Planting																			
Tree Planting with Community																			
Tree Planting Site																			
Monitoring and Validation																			
Annual Report																			
Terminal Rehabilitation Report																			


Semi-Ann 2
Year 10
Semi-Ann 1
Year 11
Semi-Ann 2
Year 12
Semi-Ann 1
Year 13
Semi-Ann 2
Year 14
Semi-Ann 1
Year 15
Semi-Ann 2
Year 16
Semi-Ann 1
Year 17
Semi-Ann 2
Year 18
Semi-Ann 1
Year 19
Semi-Ann 2
Year 20
Semi-Ann 1
Year 21
Semi-Ann 2
Year 22
Semi-Ann 1
Year 23
Semi-Ann 2
Year 24
Semi-Ann 1
Year 25
Semi-Ann 2

Annex D

FMB Technical Bulletin No. 19

The National Greening Program (NGP) as mandated by Executive Order No. 26 issued in 2011 aims to pursue sustainable development for poverty reduction, food security, biodiversity conservation and climate change mitigation and adaptation. To further enhance the implementation of NGP, the planting of native/endemic trees that best thrive in specific region/province/municipality and showcase the site-matching requisites would reinforce significant milestone for NGP. Thus, the establishment of Arboretum of Native Trees for every PENRO is being pursued.

An arboretum is essentially a well-grown and representative collection of trees maintained for the purpose of reference and convenient source of seed and herbarium materials for useand exchange. It is a collection of living specimen for scientific studies, conservation of genetic resources, learning areafor Dendrology and for the study of phenology and the reproductive biology of species (ITTO, 2000).

❶ The Technical Bulletin:

This Technical Bulletin aims to provide the Field Offices guidance on the considerations and procedures in the establishment of Arboretum of endemic or native tree species, including the materials to be used and standard costing or budgetary requirements. In addition, this would also serve as guide for field offices in the establishment of Arboretum which could mitigate the extinction or loss of endemic or native treesin the respective regions.

❷ Users of this Technical Bulletin

The users of this Technical Bulletin are technical personnel of the DENR Field Offices. Likewise, LGUs and other stakeholders who endeavor to establish similar projects may use this TB as guide in establishing Arboretum in their respective areas.

❸ Arboretum Establishment

A. Considerations

1. **Location of Arboretum**

The Arboretum of native trees shall be located in accessible and visible areas along the national/nautical highway or in established parks/protected areas, portion of forestlands (tenured and/or untenured), mangrove areas, ancestral domain, grazing lands, community watersheds and communal forests. Landslide & flood-prone areas should be avoided, including areas nearby human settlements.

2. **Functionality**

The Arboretum should focus more on the conservation flora in the province. The DENR PENRO offices should have an initial listing of native plants in their areas of jurisdiction as sources of their planting materials to enrich the database afterwards.

3. **Contribution to Scientific and Cultural life**

The Arboretum should put emphasis on the existing native plant vegetation and unique ecology of the place as important plant areas (IPAs) under a specific forest type with its ultimate floristic composition within the region/island/province or municipality. It is the finer print or species trail of the original vegetation and ecosystem in a particular area. It should be based on existing and recognized bio-geographic zones of the Philippines.

4. **Economic Importance**

The Arboretum serves as a showcase of important economic plants in a particular place as major sources of food, building materials, clothing and medicine of the indigenous/ local communities. The Arboretum also serves as demonstration sites for ecotourism and educational purposes for students and local citizenry and sources of seeds/plus trees.

5. **Mapping and Establishment of Arboretum**

a. The current or existing arboretum and botanic gardens in country, with facilities and areas for the allocation of Philippine forest trees can be considered by some PENROs having jurisdiction over them;

b. Proper enhancement with native trees the existing IN-SITU IPAs having specific vegetation like pine forest, molave forest, dipterocarp forest, among others. The PENRO in coordination with the Local Government Units (LGUs) can establish and declare the important vegetation as Arboretum by planting additional native trees to build the collection of Philippine trees;

c. Water reservoir should be present and accessible or a construction of a natural pond is a prerequisite, but should not destroy the natural ecosystem and should be located away from visitor's sight; and

d. Consider the size of the Arboretum for potential areas for expansion in the long-term period.

B. Procedures

1. Name of the Arboretum

The Arboretum should be the specific vegetation that it represents and bears the name of the place or municipalities. A permanent billboard/signage showing important details of the Arboretum must be put up in conspicuous place for public awareness campaign and purposes, as shown in ANNEX A.

2. Area Requirement

The Arboretum with an area of at least two (2) hectares is accessible within areas enumerated in Item no. III.A.1 above, to be managed and protected for a long-term period, with a natural or near natural vegetation for ecological research and a well maintained collection records for monitoring purposes.

The area must be delineated/surveyed using GPS in WGS 1984 projection. A GIS-generated map shall be generated.

3. Planting

The Arboretum should follow the NGP's planting design in terms of specimen/plant distribution

or spacing allocation in the planting site. Planting shall be by group or cluster of species by family.

A minimum of 200 saplings representing at least 50 different native and endemic tree species must be planted, in 10m x 10 meters spacing or closer depending on the species, in open two(2) hectare area/space without disturbance to the existing patches of trees/vegetation. Coordinates of all planted species shall be determined and all species shall be charted/ mapped.Each sapling (at least 3 meters in height) must be labeled/tagged using recycled soft drink tin cans or sturdier materials with consecutive numbers, corresponding common names and scientific names and secured by a nylon string for identification. A permanent marker with the same information in the species tag shall likewise be placed in front of every sapling, as both shown in ANNEX "B".

❹ Site management and protection

The Arboretum should be managed by the PENRO who will be responsible in the implementation/ monitoring of the different activities in collaboration with partners, private sectors, LGUs and institutions/peoples' organizations (POs). There will be outright replacement for sapling mortality to complete the total number of arboretum species. All saplings shall have a tree guard for protection purposes. Maintenance and protection shall be conducted by PENRO.

❺ Budgetary requirement

The funding for this activity shall be chargeable against OSEC Fund and form part of the NGP target for 2015. The Work and Financial Plan shall be prepared by the concerned PENRO and to be endorsed by the respective Regional Director to DENR Central Office thru the Forest Management Bureau.

Hereunder are the activities and materials in the establishment of arboretum and corresponding cost:

Activity	UWM	Cost (P)
1. Site validation, assessment and planning.	ha	450.00
2. Site Preparation and planting.	ha	3,000.00
3. Maintenance & Protection	ha	1,500.00

Materials	Specifications	Cost (P)
1. Sapling	Endemic/native	75.00/sapling
2. IEC/Billboard		8,000.00
- Tarpaulin	1	
- marine plywood	4' x 8'	
- angle bar	4' x 8' x1/2"	
- G.I. pipe	1 ½" x 1 ½"	
- Cement/gravel and sand (for foundation)	2"	

3. Tree Guard		150.00/pc
4. Nursery Shed / Information site / Bahay Kubo		15,000.00
5. Foot trails or path walks		
6. Species tags	3.5" x 6"	
7. Tree Marker	5" x 8.5"	

Tree Markers printed on tarp/sticker with board or G.I. sheet and pvc pipe as stand placed in front of the 200 saplings.

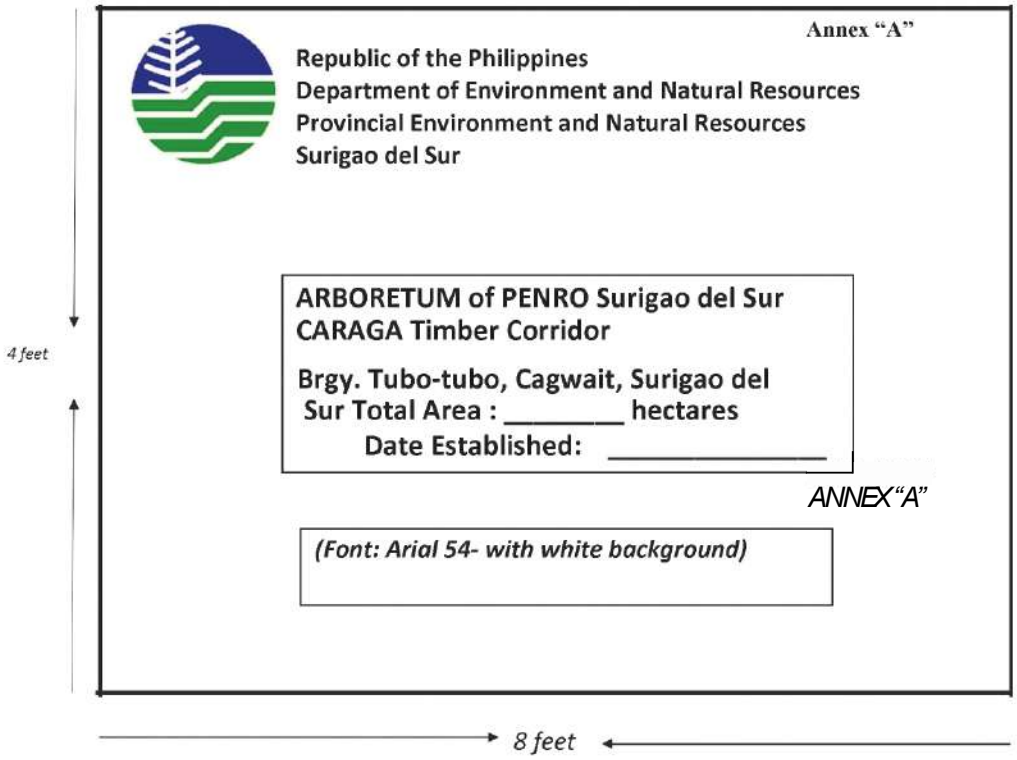
❻ Arboretum Database and Maintenance

A complete database with attributes on the established Arboretum must be properly organized, prepared and submitted for monitoring purposes. The important information includes total area showing the geo-tagged planted sapling. A yearly monitoring and re-measurement of planted native trees shall be done by the PENROs for documentation purposes.

All native plant collections should be recorded in electronic and data log books within the PENROe Offics. Considering that precise labels/tree tags are indicated in each planted native tree following a standard database system in the PENR Offics, a central database storage can be done for the whole network of Arboreta.

Records will be submitted to the FMB in standard form (MS excel; landscape orientation) together with the geo-tagged photos every end of July and December of each year, as shown in Annex "C". Font is "arial narrow".

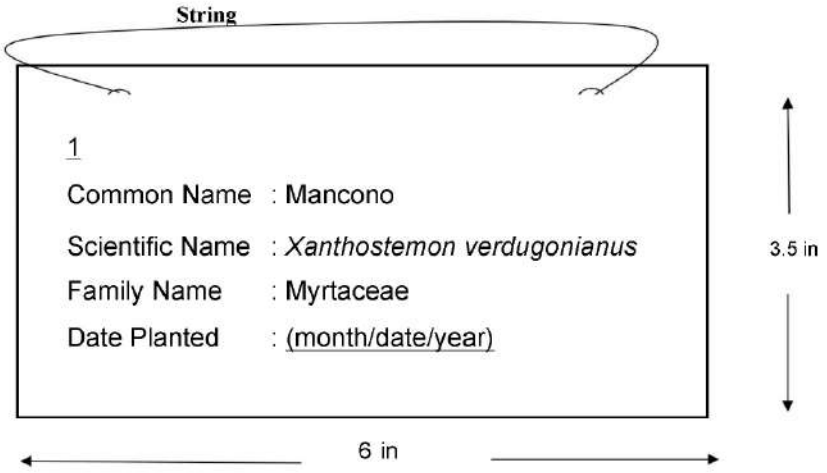
Annex "A"



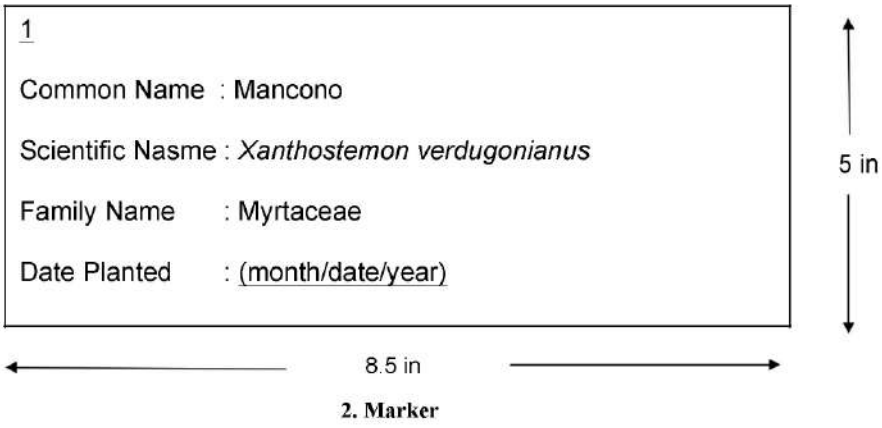
Billboard/Signage

5

Annex "B"



1. Species Nametag



2. Marker

ANNEX "C"

INDEX SHEET
ARBORETUM OF PENRO_____
Region_____

Date of Reporting:_____

Species No.	Scientific Name	Family Name	Common / Local Name	Provenance (locality of collection)	Date Planted	Coordinates of Planted Sapling	Ecological status	Height and Diameters as month /year	Health/Vigor
Species 1	Xanthostemon verdugonianus	Myrtaceae	Mancono	Sibuyan Island, Romblon	Nov. 3, 2014		Endangered		

*Same species as appeared in the species nametag and marker

This material is produced by the Forest Management Bureau, Department of Environment and Natural Resources, FMB Building, Visayas Avenue, Quezon City, Philippines. June 2016

Annex E

Monthly Tree Planted Monitoring Sheet

Monthly Tree Planted Monitoring Sheet

The Last Resort, El Nido, Palawan

Tree Code	GPS Location	Diameter-at-Breast Height	Total Height	Picture

Annex F

Technical Description of Planting Sites

Technical Description of Primary and Secondary Planting Sites

The Last Paradise Resort, El Nido, Palawan

Development Area / Resort

Corner	Latitude	Longitude
1	11° 10 ' 29"	119° 22 ' 44"
2	11° 10 ' 28"	119° 22 ' 44"
3	11° 10 ' 27"	119° 22 ' 45"
4	11° 10 ' 26"	119° 22 ' 47"
5	11° 10 ' 28"	119° 22 ' 47"

5-meter primary planting zone / buffer zone

Corner	Latitude	Longitude
1	11° 10 ' 29"	119° 22 ' 44"
2	11° 10 ' 28"	119° 22 ' 44"
3	11° 10 ' 27"	119° 22 ' 45"
4	11° 10 ' 27"	119° 22 ' 47"
5	11° 10 ' 28"	119° 22 ' 47"

20-meter secondary planting zone

Corner	Latitude	Longitude
1	11° 10 ' 30"	119° 22 ' 44"
2	11° 10 ' 27"	119° 22 ' 43"
3	11° 10 ' 26"	119° 22 ' 45"
4	11° 10 ' 26"	119° 22 ' 47"
5	11° 10 ' 29"	119° 22 ' 47"