COMPREHENSIVE AGROFORESTRY DEVELOPMENT PLAN

1. Introduction

The impacts of traditional agroforestry practices practiced in the upland communities throughout the Philippines vis-a-vis the prevention of land degradation and enhancement of rural livelihoods is significant, thus, to sustain and further improve livelihood and environmental conditions, several agroforestry systems were promoted by the government and several non-government organizations. One (1) of the significant enabling policy on agroforestry systems that the government has institutionalized is the Department of Environment and Natural Resources Administrative Order No. 2005-25 dated November 17, 2005 otherwise known as "*The Guidelines in the Implementation of Upland Agroforestry Program.*" This guideline was aimed to: a) reduce rural poverty by increasing productivity and employment in the uplands through the development of upland agroforestry farms and plantations nationwide, b) to enhance forest cover of forest lands by planting economically beneficial crops in addition to timber species, c) ensure sufficient supply of agricultural and fruit tree crops through public-private partnership and by encouraging all sectors to engage in the development of agroforestry farms and plantations, and d) improve the economic well-being of upland people and communities dependent on forest lands and forest resources by ensuring equitable opportunities and access to forest lands and forest resources.

Recognizing the impacts of agroforestry interventions in the increase of the upland planters' income through employment and the selling of their farm products, as well as by improving the ecological conditions of these areas they till through reduction of soil erosion, increasing tree coverage and maintaining soil fertility, the Lionheart Farms (Philippines) Corporation or LFPC which is a subsidiary of Lionheart Agrotech Limited, domiciled in Hong Kong, and its local office located at Punta Baja, Jose P. Rizal, Palawan, has entered into a Joint Venture Agreement (JVA) with the DENR on October 29, 2018 consistent to the provisions of DAO No. 2005-25, for the establishment of an upland agroforestry farm over a 3,500 hectares of forest land within Barangays Ransang, Candawaga and Culasian, Municipality of Jose P. Rizal, Palawan.

LFPC aims to create more output on less land via smart agrotechnology solutions building sustainable food and greenfield projects to meet the rapidly evolving and increasing needs in the food and energy markets. Thus, contributing to sustained long-term income and better livelihoods, healthy ecosystems and building resilient and prosperous communities.

The JVA entails the development of the portions of the subject forest land suitable to cater plantations of hybrid coconut, forest and agricultural crops in a participatory manner. Consequently, due recognition of the intergovernmental relations of the national and local government agencies vis-à-vis the involvement of the indigenous communities and civil society organizations in this endeavour is of utmost importance.

In retrospect, LFPC's developmental activities within Barangay Ransang, J.P. Rizal, Palawan and its adjacent areas has started in 2017 upon securing the relevant rights and all the pertinent documents that would warrant its activities thereon. Among the Corporation's developmental activities which are related to hybrid coconut and agroforestry farming systems include the following:

1. Establishment and operation of 5.31-hectare nursery where hybrid coconuts purchased from Philippine Coconut Authority - Zamboanga Research Center (PCA-ZRC) are being propagated;
2. Establishment of 32.79 hectares experimentation site to observe the growth of coconut under different growth hormones, such as Trichoderma, Indigenous Microorganism (IMO), Fermented Plant Juice (FMJ), and Kuhol Amino Acid (KAA), to ensure the maximum yield; and

3. Establishment of 134.63 hectares hybrid coconut plantation.

The lands that hosts the preceding developments are within private lands, Alienable and Disposable (A&D) lands, and ancestral domain. The rights over these lands were acquired by the Corporation through lease contracts from private individuals in the locality.

The preceding basics of starting a new coconut plantation undertaken by the Corporation is a manifestation that, as with all crops of economic value, the recognition of the rights over the land and the application of appropriate technologies are essential to ensure a successful agroforestry farming enterprise.

2. Objectives

General:

To establish an agroforestry plantation using appropriate agricultural and forestry technologies and operate modern processing facilities with the active participation of the IPs/ICCs, LGUs, national government agencies and other relevant stakeholders towards socio-cultural, economic and ecological improvements in the host communities.

Specific:

1. To gain tangible and intangible benefit from less productive land by establishing vast plantation of high yielding coconut varieties and suitable forest tree species using appropriate agricultural and forestry and environment friendly technologies:

    1.1 to contribute in the production of raw materials for virgin coconut oil, coir fibers, and dust to produce many downstream products, young nuts for coconut juice, and soft cotyledon or meat and coconut water, coconut cream, coconut milk, ethanol to fuel transport vehicles, coconut husk as feedstock for electricity, calories, coconut sugar to meet the increasing worldwide demand for sweeteners suitable for diabetics.

    1.2 to produce relevant forest products mainly of edible fruits from established plantation of fruit bearing trees within the project area and sustain biodiversity conservation through enrichment planting.

2. To provide goods and services and income and decent work opportunities to the host communities within the enterprise's supply or value chain vital to uplift their present social, health, and economic status.

3. To enhance the current land cover/land use of the project area through appropriate management strategies, which include establishment of tree plantation and assisted natural regeneration within open forest (454.86 has.), establishment of coconut plantation on brush/shrub land (2,383.22 has.), establishment of patches of coconut plantation and cultivation of annual crops and perennial crops on lands determined for annual crop (67.35 has.) and perennial crop (98.74 has.), respectively, and enrichment planting and stabilization of the easement zones of the inland water or rivers (40.84 has.) thereon.

4. To contribute in the government's thrust towards healthy ecosystems and building resilient and prosperous communities through active participation in the holistic enforcement of environmental conservation and protection laws, policies, and guidelines for the purpose.

3. Area Description

3.1 Location

The project site is within Barangays Ransang, Candawaga and Culasian, Municipality of Jose P. Rizal, Palawan with a total area of 3,500 hectares of forest land per LC Map No. 3400, Project No. 13-G Block A and Project No. 13-J, certified on October 28, 1986. Specifically, the area lies between north latitudes 8° 51' 2" and 8° 50' 1" and between east longitudes 117° 30' 57" and 117° 36' 49". Generally, the terrain of the area is flat with a vegetative cover mostly comprised of brush lands and degraded residual forests with patches of open lands and coconut plantations. The area is under the administrative jurisdiction of DENR CENRO Quezon, Palawan, and it is about 295 kilometers from Puerto Princesa City, Palawan *(Figure 1).*

- Candawaga

  Candawaga is situated at approximately 8.8373, 117.5402, in the island of Palawan. Elevation at these coordinates is estimated at 75.0 meters or 246.1 feet above mean sea level.

  Candawaga shares a common border with the following barangay(s): 1) Culasian and Ransang of Rizal; 2) Marangas, Bono-bono, and Inogbong of Bataraza; and 3) Malis of Brooke's Point.

- Culasian

  Culasian is situated at approximately 8.7932, 117.5116, in the island of Palawan. Elevation at these coordinates is estimated at 39.7 meters or 130.2 feet above mean sea level.

  Culasian shares a common border with the following barangay(s): 1) Bulalacao of Bataraza; 2) Candawaga and Panalingaan of Rizal; 3) Marangas, Bono-bono and Malihud of Bataraza.

- Ransang

  Ransang is situated at approximately 8.8746, 117.5847, in the island of Palawan. Elevation at these coordinates is estimated at 92.6 meters or 303.8 feet above mean sea level.

  Ransang shares a common border with the following barangay(s): 1) Campong Ulay Candawaga of Rizal; 2) Inogbong of Bataraza; 3) Malis, Salogon, and Samareñana of Brooke's Point

3.2 History of the area

The area which is the subject of this management plan is within the ambit of the 3,500 hectares of forest land being claimed by the Pala'wan tribe of Barangay Culasian, Candawaga and Ransang as their ancestral domain, and this large tract of land remains uncultivated and suitable for agricultural purposes even it is classified as forest land per LC Map No. 3400, Project No. 13-G Block A and Project No. 13-J, certified on October 28, 1986.

Filipino or Tagalog is the commonly used language. Other major dialects spoken are Ilonggo, Cebuano, Hiligaynon and Palaw'an.

There are three (3) principal rivers run north of Poblacion while another nine (9) run south. These are commonly utilized for irrigation purposes.

Rizal is also blessed with a rich diversity of wild animals and plants which is attributable to the biological diverseness of Mantalingahan Range which portion of it forms part of the total municipal land area.

3.3 Topography

The topography of the land in Rizal is generally hilly and mountainous. Coastal areas are generally flat to rolling flat.

Mount Mantalingahan Protected Landscape (MMPL) with an elevation of 2,086 meters above sea level (ASL) is the highest mountain range in the province of which lies between the mountain ridge of the municipality and Brooke's Point *(Figure 2). Source: Socio-Economic and Physical Profile (2018)*

3.4 Slope

Slope determination was done through the use of topographic maps. Slope ranges from 0-3% to 15% and above.

Approximately 20,077 hectares or 16% of the total land area has a slope of 0-3%. Undulating to rolling slope of 3-8% comprises approximately 8,298 hectares or 7% of the total land area. Strongly rolling and sloping area with 8-18% slope accounts for 12,418 hectares or 10% of the total land area. Strongly hilly to mountainous slope of 18% and above total to about 85,122.45 hectares or 67% of the total land area (Table 1)

Slope is one factor in determining the erosion potential and it is directly proportional to the slope percentage. It is also one factor in determining the capability of the land for cultivation and urban development. Thus 0-3% slope characteristics are greatly favourable for urban development and cultivation. On the other hand, slope of fifteen percent (%) and above may result in severe soil erosion rendering the land difficult to develop and/or cultivate *(Figure 3)*

Table 1. Slope Per Barangay

Barangay	0-3% In Hectare	3-8% In Hectare	8-18% In Hectare	18-30% In Hectare	30-50% In Hectare	50-100% In Hectare
Bunog	845.69	00	1,012.00	3,930.00	3,700.98	1,200.00
Iraan	2,379.27	00	1,099.40	5,000.00	300.00	3,200.00
Punta-Baja	1,800.00	2,400.00	1,233.00	3,000.40	700.00	4,245.27
Campong-Ulay	200.00	700.00	1,579.27	3,400.00	2,000.00	5,299.41
Ransang	2,000.00	2,100.47	1,200.00	4,799.20	2,579.00	6,000.00
Candawaga	1,100.00	1,800.65	00	4,479.00	1,100.00	1,699.00
Culasian	400.13	750.30	00	4,645.00	600.15	1,533.10
Panalingaan	1,783.00	600.68	00	7,735.00	700.00	100.00
Taburi	2,079.05	00	00	2,799.39	4,200.25	00
Latud	945.23	00	933.45	1,500.00	5,500.00	00
Canipaan	2,779.77	800.00	2,790.40	2,609.00	2,050.00	00

Source: Socio-Economic and Physical Profile (2018)

Table 2. A distribution of Slopes Ranges in the Municipality of Jose P. Rizal, Palawan, 2006

Mapping Symbol	Slope Range	Description	Area	
			(Has.)	(%)
M	0-3	Level to nearly level	26,944	21.39
N	3-8	Nearly level to undulating	7,332	5.82
O	8-18	Undulating to rolling	12,084	9.61
P	18-30	Rolling to moderately steep	18,079	14.35
Q	30-50	Steep	24,751	19.66
R	>50	Very steep	33,685	26.75
		Built-up Area	2,840	2.26
		Major River	200	0.16
Total			**125,915**	**100.00**

Source: Socio-Economic and Physical Profile (2018)

Generally, the terrain of the area is flat with a vegetative cover mostly comprised of brush lands and degraded residual forests with patches of open lands and coconut plantations. The area is under the administrative jurisdiction of DENR CENRO Quezon, Palawan, and it is about 295 kilometers from Puerto Princesa City, Palawan.

The municipality has mixed topographical relief, Rizal is characterized by gently rising hills to mountains except to coastal areas that are flat to rolling. The areas on the eastern side of the Poblacion and those along the shores of the western side are characterized as predominantly level to gently sloping. The mountainous areas are generally on the northwest section. A major portion of the total municipal land area is classified as falling in the zero to eight percent slope category. The offshore area is situated west of the Taburi lowlands with an average depth of 20 fathoms *(Bureau of Fisheries and Aquatic Resources, Palawan Office).*

3.5 Drainage

There are four (4) principal rivers within the JVA area which run on north western direction of Poblacion. These are Candawaga, Malutoc, Sumurom and Ransang rivers.

The waters flowing on these rivers are for domestic usage such as for washing dishes and clothes, and for irrigation purposes. There are also waterfalls and lagoon in Ransang (Buar-Buar falls) and Culasian (green lagoon), respectively.

The project site has a productive aquifer which can further tapped by the community as source of ground water, and can be normally extracted within 20 meters from the ground.

The easement zone or the twenty (20) meters buffer from the both sides of the said rivers were surveyed on the ground by the representatives from CENRO Quezon, LFPC and the host communities on August 20, 2019. The corresponding buffer zone for each river identified by the group are presented in Table 3 below and *Figure 4.*

Table 3. Area of the buffer zone of the principal rivers in the JVA area.

Name of river	Buffer zone (ha.)
Malutok	18.04
Ransang	12.94
Sumurom	16.19
Candawaga	7.02
Total	54.19

To ensure that the 20-meter wide buffer zone of these rivers are protected from untoward human and animal destruction and for the river banks to withstand soil erosion, suitable species of indigenous trees, bamboo, rattan will be planted thereon.

3.6 Climate

The project site located in an area classified as Type I of PAGASA's Modified Coronas Classification of Philippine climate. In Jose P. Rizal, like the rest of the province, is relatively dry from December to May and wet during the rest of the year. The driest month is March, and the rainiest months are September and October. In terms of historical typhoon frequency, it is in a region less frequently visited by typhoon.

3.7 Geology of Soil

The soils of Rizal generally belong to old alluvial deposits, brown to dark brown silt and silty clay loam surface texture. Subsoil are light clay silty to clay underlain by dark yellowish brown, sometimes gray, sandy clay to loamy fine sand substrata.

3.8 Vegetation and Forest Cover

The JVA area has different physical aspect (land cover) and land use classes and the breakdown are presented in Table 4 below.

Table 4. Breakdown of the different physical aspect and land use classes of the JVA area.

Land cover/Land use	Area (has.)	Percentage composition of the land cover as to the total JVA area (%)
1. Open forest	454.86	13
2. Brush/shrubs	2,838.22	81
3. Annual crops	67.35	1.9
4. Perennial crops	98.74	2.8
5. Inland water	40.84	1.2
Total	3,500.00	100

Reference: Land Cover Map 2015 (The JVA land cover map is appended as Figure 5.)

The vast open forest within the project area are located in the Sitios of Malutok, Dinakpan and Balen-Balen, Barangay Ransang, while the remaining areas have been deforested and devoted to agricultural uses. Majority of the brush/shrubs land is within Barangay Ransang.

3.9 Forest Resource Data

The JVA area being an open forest is endowed with relatively low to moderate species diversity of plants and wild animals. Notably, some of the wildlife species found in the Mantalingahan Range are endemic only in Palawan. *(Reference: Socio-Economic and Physical Profile 2018 Municipality of Rizal*

3.9.1 Flora

The historic development pattern of land use in the project site is predominantly upland grass ecosystem with scattered patches of shrubs and trees, which suggest that the ecosystem in the area are most likely, characterized by relatively low to moderate species diversity and impaired rates of ecological functioning.

Species composition, distribution and density is moderately low since the site is highly disturbed mixed shrub land and grassland as evidenced by the presence of sambong, hagonoy, cassava,

cogon, carabao grass, sour grass, guinea grass, node weed, talahib, and fern species. Fruit bearing trees like mango, caimito, santol, jackfruit, and kansi are evident in the area. Among the non-tree species include bikal, buho, pamulaklakin, and ooko.

3.9.2 Fauna

Most of the common faunal species encountered or sighted during the project site assessment conducted by the Center for Conservation Innovation on October 16-21, 2017 were birds, and according to the local residents, there are about twenty-five species of birds inhabiting the project site like the Philippine bulbul, pygmy swiftlet, glossy swiftlet, brown-backed needle tail swiftlet, amethyst fruit dove, and white eared fruit dove.

However, based from the result of the biodiversity assessment in the project are, there are 43 species of birds were observed and these are either rare, endemic, and threatened per IUCN red list of threatened species and DAO No. 2004-50. These are:

Table 5. Conservation status of birds surveyed.

Conservation Status	Quantity
Rare	18
Endemic	9
Threatened	6
Total	43

Likewise, there were 3 species of birds observed as migratory in the project area.

The presence of marginal bird species in the project area can be attributed to the highly disturbed ecosystem or insufficient vegetation cover which provide not only good sanctuary and nesting place to these birds.

The most abundant mammal species in Palawan are bamboo bat, common short-nosed fruit bat, and musky fruit bat.

Also, there are reptiles and amphibians in the area, like python, common snake, turtle, bubuli, bayawak, variable Malay monitor lizard, common house lizard, Philippine gecko, puddle frog, common forest frog, variable-backed frog, marine toad, estuarine frog, and variable Malay Everett's frog.

The incidence of insect infestation in the area is low. This may be attributed to the presence of several insectivorous birds, amphibians, and reptiles that inhabit and frequent the area.

On the other hand, there are several domestic animals raised by the local residents which include cattles, cats, dogs, chickens, goats, carabaos, and pigs.

The biodiversity assessment within the project area was jointly conducted by the personnel from the Center for Conservation Innovation (CCI) and LFPC on November 14-19, 2017. The personnel of CCI that facilitated the biodiversity assessment are presented below as Table 6.

Table 6. The CCI's personnel involved in the biodiversity assessment.

Name	Designation
For. Harold Centeno	Field Team Leader; Habitat Specialist
Dennis Tablazon	Field Operations Manager; Avifauna
Wyne Edano	Mammals Specialist
Rochelle Tabi	Mammals Specialist
For. Bernard Redoblado	Habitat Specialist
Uldarico Carestia Jr.	Herpetofauna Specialist
Medel Silvosa	Avifauna Specialist
For. Manolito Sandoval	Habitat Specialist
Ace Amarga	Soil Biodiversity Specialist

3.9.3 Relevant information on the different land cover types encompassing the JVA area

3.9.3.1 Open forest

The 454.86 hectares open forest within the JVA area hosts various patches of naturally grown trees and these can be found in Sitios Malutok and Balen-Balen, Barangay Ransang, Rizal, Palawan. On 15-21 August 2019, representatives from the CENRO Quezon, Palawan and LFPC conducted a tree inventory thereon and within the two (2) blocks established by the inventory team, Block I and Block II which encompasses 400 hectares and 301 hectares, yields about 1,716 trees and 689 trees, respectively. The trees inventoried were those trees having a 20 centimeters and above diameter at breast height (dbh).

Specifically, within Block I and II, there are about 2,405 trees inventoried with a total volume of 2,688.83 cubic meters. In Block I alone, there are 1,716 trees with a total volume of 1,732.2 cubic meters, while in Block II there are 689 trees with a total volume of 956.61 cubic meters, further presented below.

Table 7. Number and volume of trees inventoried.

Block	No. of Hectares	No. of trees inventoried	Volume (cu. m.)
I	400	1,716	1,732.2
II	301	689	956.61
Total	701	2,405	2,688.83

Consequently, there are seven (7) group/species identified in Block I and II and these include: i) Apitong, ii) Nato, iii) Furniture/construction hardwood, iv) Premium, v) Lesser-used, vi) Miscellaneous, and vii) Pulpwood/matchwood.

Of the 2,405 (which is the sum of 1,716 plus 689) inventoried trees, there are 1,066 tree species with a total volume of 555.5 cubic meters identified that belongs to the miscellaneous group, and this group embraces the highest number of species identified in the area. For the furniture/construction hardwood group, there are about 742 trees inventoried with a total volume of 1,144.92 cubic meters. Under the Apitong group, there are about 229 trees inventoried with a corresponding volume of 585.88 cubic meters. There are about 159 trees inventoried with an equivalent volume of 69.8 cubic meters that belongs to the premium group. Also, there are about 79 trees inventoried with a volume of 83.58 cubic meters that belongs to lesser used group, and the 74 trees inventoried which belongs to the Nato group revealed a volume equivalent to 163.23 cubic meters. Lastly, there are about 56 trees inventoried with a

volume of 85.92 cubic meters that belongs to the pulpwood/matchwood group, and this group contains the lowest number of species identified in the area.

The informations on timber inventory jointly conducted by the DENR-CENRO Quezon, Palawan and LFPC within the JVA area are further presented below as Table 8.

Table 8. Species group, diameter class, total no. of trees inventoried and corresponding volume.

Species group	Diameter class (cm.)	Total no. of trees	Total volume (cu.m.)
Miscellaneous	20-120	1,066	555.50
Furniture/construction		742	1,144.92
Apitong		229	585.88
Premium species		159	69.80
Lesser-used		79	83.58
Nato		74	163.23
Pulpwood		56	85.92
Total		2,405	2,688.83

3.9.3.2 Brush/Shrub land

The extent of the brush/shrub land within the JVA area is about 2,838.22 hectares and it is a habitat of several brush land wildlife species. These areas were usually subjected to wildfires before, thus, populations of brush land wildlife species have declined. On the other hand, this periodic wildfires have resulted in the improved condition of the brush/shrub lands because the over-mature brush and small trees were burned and vigorously sprout new growth, providing optimum habitat for brush land species for several years.

The occurrence of wildfires in the area have helped in the management of the brush/shrub lands since as these unwarranted burning kills brush and small trees, reduces litter, encourages seed germination, stimulates sprouting, and often improves berry production, thereby providing excellent sources of food for wildlife.

Also, there were small patches of the brush/shrub lands used as food plots consisting of small grains, legumes, or corn as source of readily available materials or food by several people in the locality.

These patches of brush/shrub lands also serves as grazing area of the livestock of some community residents since there are mixture of grass and brush thereof enough for a season-long grazing period.

3.9.3.3 Annual crop

Per land cover analysis, there are about 67.35 hectares identified as suitable for annual crops within the JVA area. Among others, the most common crops cultivated over these areas include paddy rice and upland rice, corn, cassava, and variety of vegetable crops. To enhance the productivity of the farmers in the locality, the Department of Agriculture Regional Field Office No. IV-B periodically provides seed assistance on upland rice verities and facilitates trainings and orientation on high value crops development programs and policies. These government interventions aims to ensure the adequate supply of commodities like cereals, vegetable and root crops at the household and market levels.

3.9.3.4 Perennial crop

The extent of the area identified as perennial crop area per land cover types of the JVA area is about 98.74 hectares. This area is basically dominated by crops that are typically considered as those that are more permanent, requiring a number of growth cycles before fruit is produced, and do not need to be replaced after each harvest such as fruit trees, shrubs and nuts. Perennial crops are valued for a combination of their total production and the quality of the harvested product. Perennial crops such as coconut (Cocos nucifera) and oil palm (Elaeis guineensis) plays an important roles the agriculture as cultivated on a large scale in both plantations and smallholdings for food and non-food industrial purposes. Aside from the nuts, there are several productive or fruit bearing crops like avocado, coffee and other fruit trees growing in the area.

3.9.3.5 Inland water

The 48.40 hectares inland water encompassing the river systems, nipa swamp, and mangrove forests of Barangay Ransang, Candawaga and Culasian plays an important role to the communities and its environs through its provisioning functions to deliver goods and services. For instance, the principal rivers within the JVA area are used for navigation purposes to transport goods and services. The other uses of inland water include mudcrab fattening and tilapia culture. Crab catching and *tuway* (freshwater bivalve) gathering are common activity of Palawan tribe and migrants as source of their alternative livelihood. The rivers within the Municipality of Rizal are noted home of freshwater crocodiles. Also, along the river systems of the three (3) host barangays, sand and gravel are being extracted for household usage and commercial purpose.

3.10 Demographic and socio-economic condition of the community

3.10.1 Population

The total population of the Municipality of Rizal, Palawan is 56,318. (*Philippine Statistics Authority Barangay Inhabitants Survey 2018*)

3.10.1.1 Barangay Candawaga

Candawaga is a barangay in the Municipality of Rizal, in the province of Palawan. Its population as determined by the 2018 Census was 6,467. This represented 11.48% of the total population of the Municipality of Rizal.

The population of Barangay Candawaga grew from 5,771 in 2015 to 6,467 in 2018, an increase of 696 people.

3.10.1.2 Barangay Culasian

Culasian is a barangay in the Municipality of Rizal, in the province of Palawan. Its population as determined by the 2018 Census was 3,129. This represented 5.55% of the total population of the Municipality of Rizal.

The population of Barangay Culasian grew from 2,620 in 2015 to 3,129 in 2018, an increase of 509 people.

3.10.1.3 Barangay Ransang

Ransang is a barangay in the Municipality of Rizal, in the Province of Palawan. Its population as determined by the 2018 Census was 5,317. This represented 9.44% of the total population of the Municipality of Rizal.

The population of Barangay Ransang grew from 4,983 in 2015 to 5,317 in 2018, an increase of 334 people.

3.10.2 Household population by barangay and the average household size in 2018

The household population by barangay and the average household size in 2018 is presented below.

Table 9. Household population

Barangay	Population	Estimated no. of household	Average household size	Average income per household (P)
Candawaga	6,467	1,487	4	Above 72,000.00
Culasian	3,129	689	4	Above 72,000.00
Ransang	5,377	1,217	4	Above 72,000.00

3.10.3 Population composition by school age and sex for year 2018.

The population composition by school age and sex is presented below.

Table 10. Population composition by school, age and sex.

Age group	Candawaga		Ransang		Culasian	
School going population	Male	Female	Male	Female	Male	Female
Pre-school (3-6)	16	27	33	20	27	22
Elementary (7-12)	591	536	562	555	189	219
Secondary (13-16)	309	272	128	175	n/a	n/a
Tertiary (17-21)	n/a	n/a	n/a	n/a	n/a	n/a

Source: Department of Education, Rizal District, Rizal, Palawan

3.10.4 Dialect

The language commonly used in the area is Filipino or Tagalog. Other major dialects spoken are Ilonggo, Cebuano, Hiligaynon and Palaw'an. Aside from the Palaw'ans, there are other settlers in the area from different regions of the country like Ilonggo, Tagalog, Cebuano, Ilocano, Waray, Bicolano, Tagbanua, Mulbog, Cuyonin, Calamian, Agutaynin and Batac.

3.10.5 Socio-economic condition

The primary economic activities within the Barangays of Candawaga, Culasian and Ransang are mostly agricultural-based like farming, livestock and poultry production, fishing, and wage labor. Among the crops usually planted by the farmers include:

Table 11. Crops usually planted by the farmers

Agricultural crops	Approximate area planted per barangay (hectares)		
	Candawaga	Culasian	Ransang
Coconut	1,719.7	1,453.3	3,063.1
Rice	1,220.7	607.8	667.9
Mixed crops	722.2	315.5	1562.3
Cacao	0	361.4	0

Source: Municipal Planning Development Office, Rizal, Palawan

The livestock and poultry production within the three (3) barangays is small scale and backyard type.

Several community residents are also engaged in fishing activities within and adjacent the municipal waters of Rizal. The major fish species in the area are red and green grouper, round scud, maya-maya, red snapper and mackerels. Octopus, lobsters and crabs are abundant within the seas and swamps as well.

Mostly, all the able bodied male community residents are engaged in labor wage by engaging in seasonal farming, carpentry, and masonry works within the locality.
In terms of business trade there are sari-sari stores in each barangay selling or retailing basic commodities and grocery items. The number of sari-sari stores in each barangay as of 2018 is presented below.

Table 12. No. of sari-sari stores per Barangay

Barangay	No. of sari-sari stores
Candawaga	44
Culasian	21
Ransang	89

Source: Lionheart Farms (Philippines) Corporation (Based on actual survey)

3.10.6 Potential tourism site

There are sites within the JVA area which are potential for ecotourism activities, if developed, these may generate additional income to the community residents and the local government units thereon such as the following:

Table 13. Natural attractions per Barangay

Natural attractions	Location
Mt. Mantalingahan Range Eco-Adventure Trekking	Bunog-Culasian
Mantayog cave	Culasian
Soslodon cave	Culasian
Tau't Bato caves	Sitio Singnapan Valley, Ransang
Buar-Buar falls	Ransang

Source: Municipal Tourism Office, Rizal, Palawan

3.10.7 Status on the production and consumption of basic food items within the Municipality of Rizal

The production of rice, vegetable and banana in the municipality is more than enough to cater the demand of its population, however, on the other hand, the production of some basic food

items cannot cater the demand of its population. The status of the production and consumption of basic food items in the Municipality of Rizal is presented below as Table 14.

Table 14. Status of the production and consumption of basic food items in the Municipality of Rizal

Commodity	Existing Production	Potential Production	Production (mt/yr)	Consumption (mt/yr)	Difference
Rice	4972	570	37,314.60	6,831	30,483.60
Corn	70.25	200	203.725	252	(48.275)
Vegetable	4.25	15	4000	2148	1852
Onion& Garlic	0	0	0	1.2	(1.2)
Pork	Backyard type	5	3.021	2.97	.05
Native Chicken	0		1.8	2.97	(1.17)
Eggs	4.8	3.0	6.0	2.20	1.60
Banana(Saba & Lakatan)	16.5	20	41.23	15.0	25.23

Source: Municipal Food Security Plan 2018

3.11 Infrastructure and utilities

The existing facilities within adjacent the JVA area are:

3.11.1 Roads

The project area can be accessed by any 4-wheel vehicle through a 47 kilometers dirt road network emanating and traversing the host barangays and jointly maintained by the concerned LGU's and LFPC. The latter provides applicable assistance for the maintenance of the strategic access route leading to and from the project area. The road network in the locality are:

Table 15. Road networks in the host Barangays

Location	Length (km)	Width (m)
Barangay Ransang		
So. Malutok to Binikyat	8	6
So. Malutok to Dinakpan	9	6
So. Balen-Balen to So. Bagontor	3	6
Ransang South Elementary School to So. Pinagkubuan	6	6
So. Pinagkubuan to So. Pandan	4	6
So. Pinagkubuan to So. Suminanga	6	6
Barangay Candawaga		
So. Maruso to So. Tigkawayan	4	6
So. Maruso to So. Oras-Oras	3	6
Dump site Candawaga to So. Tawa-Tawa	4	6

3.11.2 Barangay Halls

Table 16. Location of Barangay Halls

Barangay LGU	Location of the Barangay Hall
Candawaga	So. Sicud
Culasian	So. Gemba
Ransang	So. New Site

3.11.3 Schools

Table 17. Schools in Barangay Ransang

Name of school	Location
North Elementary School	Ransang
South Elementary School	Ransang
Balen-Balen Elementary School	Ransang
Malutok Elementary School	Ransang
Cabcungan Elementary School	Ransang
Sumurom Elementary School	Ransang
Ransang National High School	Ransang

3.11.4 Health Care Unit/Basketball Court/Solar Dryer/Covered Court/Church

Table 18. Existing facilities in its host barangay

Facilities	Location			Status
	Candawaga	Culasian	Ransang	
Health care unit	✓	✓	✓	Existing
Basketball court	✓	✓	✓	Existing
Solar dryer	✓	✓	✓	Existing
Covered court	✓	✓	✓	Existing
Church	✓	✓	✓	Existing

3.11.5 Bridges

Table 19. Bridges in the host barangay

Name of bridge	Location	Bridge capacity (ton)
Pinagkubuan bridge	Pinagkubuan, Ransang	Maximum of 2 tons
Malutok bridge	Malutok, Ransang	Maximum of 2 tons
Maruso bridge	Maruso, Candawaga	Maximum of 2 tons
Tuburon bridge	Tuburon, Culasian	Maximum of 2 tons

3.11.6 Processing Facility

LFPC's processing facility and its storage room comprising an area of about 0.07892 hectare is located in Barangay Culasian and built at a high elevation so as to ensure that the raw materials, processing equipment and the produce will not be inundated because the subject barangay and its adjacent vicinities are susceptible to flooding. Relatedly, LFPC, as necessary, may establish its processing facility within the proximity of the coconut plantations in Barangays Candawaga and Ransang.

3.11.7 Waste Management Facility

To complement the concerned LGU's efforts on proper solid waste management in the host communities, the company has established two (2) material recovery facilities (MRF) on strategic locations which are within project's botanical area in Ransang and in the processing hub's premises in Barangay Culasian, both in the Municipality of Rizal. The wastes disposed in these MRF's are being collected by accredited waste management enterprise and subsequently transported to waste treatment facilities.

3.11.8 Telecommunication Facilities

There are community-based (Palawan) radio stations in AM and FM bands, and two (2) mobile phone companies (Globe and Smart) that provides local and international call and text or short messaging services in the locality. Also, there are satellite-linked television stations which offers dozens of foreign and local channels. In addition there are post office and number of cargo forwarders and freight services in the Municipality of Rizal.

3.11.9 Electricity

The Palawan Electric Cooperative (Paleco) provides electric service to the member-consumer-owners in the Municipality of Rizal. However, there is no electric supply in Barangay Ransang.

LFPC has a several standby generator which can cater some of the electric power requirement of the project.

3.11.10 Water Facilities

Water facilities in Palawan are classified as Level I (deep well, hand pump), Level II (communal faucet), or Level III (house connection). Among all of these types, Level I has the most number of units in the Municipality of Rizal which manifests that water systems considered being safe water sources are community water systems, deep well and artesian wells. While those households with no access to safe drinking water get their water from dug wells and bodies of water like river, springs and streams.

In the LFPC's nursery, there is an overhead water tank connected to a submersible pump which serves as depository of water for watering the plants/seedling in the nursery and for other essential purposes.

Within the municipality of Rizal, Barangay Culasian, Iraan and Campong Ulay have the lowest proportion of households with access to safe water. Barangay Bunog has the highest access to safe drinking water.

3.12 Environmental Information

The project site is situated in the generally flat, narrow coastal plain facing Honda bay. The topographic data of the project site shows that the elevation varies from about 6 to 16 meters in the western part to 2 to 5 meters in the eastern portion or near the coastline. Most of the areas have elevation ranging from 4 to 7 meters.

The project area is an integral part of Mt. Mantalingahan Protected Landscape by virtue of Presidential Proclamation No. 1815 dated 23 June 2009. Hence, the project will help in the protection and enhancement of the diverse flora and fauna species within the protected landscape by employing foot patrol, protection and IEC activities to deter unlawful activities and planting of appropriate indigenous tree species within the designated planting area thereon. On the other side, with the vigilance of the project and the biodiversity thereon, being intact, the provisioning capacity of Mt. Mantalingahan Protected Landscape to provide goods and services to the host communities and to the project as well will be ensured and sustained.
With the employment of various IP's in the implementation of the project activities, it is assumed that the dependency of these IP's with the resources found within of Mt. Mantalingahan Protected Landscape will be minimized.

3.13 Security

The Armed Forces of the Philippines (AFP), Philippine National Police (PNP), Philippine Coast Guard (PCG), and other government law enforcement agencies, including the units of bantay bayan in the locality are responsible for the maintenance of the peace and order in Barangays Candawaga, Culasian, Ransang.

Also, LFPC through its security personnel provides security service within and adjacent to the project site to ensure the safety of its employees, farm workers, equipment and other properties.

4. Development Plan

4.1 General Strategy

The LFPC's general strategy will entail the most suitable management strategies that could enhance the present land use and vegetative cover of the JVA area. The corresponding management strategies for each land use are presented below as Table 20.

Table 20. Management strategies for each land use.

Present land use & vegetative cover	Area (ha.)	Management strategies	Development Area (ha.)
Open forest	454.86	• Tree plantation development • Assisted Natural Regeneration (ANR)	454.86
Perennial crop	98.74	• Establishment of hybrid coconut plantation • Tree plantation development • Planting of perennial crops	88.866 - coconut plantation (90% of 98.74) 4.937 – tree plantation (5% of 98.74) 4.937 – perennial crops (remaining 5% of 98.74)
Annual crop	67.35	• Establishment of hybrid coconut plantation • Tree plantation development • Planting of annual crops • Establishment of SALT models	16.8375 – coconut plantation (25% of 67.35) 16.8375 – tree plantation (25% of 67.35) 33.675 (remaining 50% of 67.35) – annual crops (28.675 ha.) and SALT models (5 ha.)
Brush/shrub	2,838.22	• Establishment of hybrid coconut plantation	2,838.22 - pure coconut
Inland water	40.84 (with an easement zone of 54.19 hectares)	• Enrichment planting • Establishment of hybrid coconut plantation • River bank stabilization (by planting indigenous tree, bamboo, and rattan species for protection purposes)	15-Enrichment planting (tree plantation) 4 - coconut plantation Note: Only 20 (i.e. 15+5) hectares of the 54.19 easement zone will be planted.
Total	**3,500.00**		**3,479.17**

4.1.1 Choice of species

4.1.1.1 Choice of species for the hybrid coconut plantation

The hybrid coconut seedlings purchased from Philippine Coconut Authority - Zamboanga Research Center (PCA-ZRC) and raised under experimental mode at the LFPC's nursery in Barangay Culasian will be used as the planting stock in the establishment of hybrid coconut plantation. The experiment was undertaken to observe the growth of coconut under different growth hormones, such as Trichoderma, Indigenous Microorganism (IMO), Fermented Plant Juice (FMJ), and Kuhol Amino Acid (KAA), to ensure the maximum yield.

Additional hybrid coconuts to be planted within the JVA area will be procured from PCA-ZRC. The varieties of coconut nuts and/or seedlings to be procured by the Corporation as its planting stocks are Catigan, Tacunan, Kinabalan, Magtuod, Aromatic hybrid varieties.

As to the selection of mother palms, palms should be regular bearers with annual yield of greater than 80 nuts and copra weight not less than 150g/nut under rain fed condition (irrigation 120 nuts/year). Coconut should have reached full bearing stage and have been giving consistently high yields for at least four years. Avoid very old palms of above 60 years age. Coconut which produce unproductive nuts or those shedding large number of immature nuts should be rejected.

In the collection of seed nuts, it is important to collect seed nuts from January to April. Only fully matured nuts which is about 12 months old should be harvested, and nuts should not be damaged while harvesting. Discard nuts having irregular shape and size.

4.1.1.2 Choice of species for forest tree plantation and enrichment planting

Considering the laborious activities and high cost needed in the establishment of forest tree plantations, it is necessary to ensure that maximum returns are obtained from this investment. The species planted should be capable of producing quality wood and other wood-based products with promising market value. Priority must be given to planting of fast growing species such as but not limited to Yemane *(Gmelina arborea),* Mahogany *(Swietenia mycrophylla)* and Magium- *Acacia mangium* within the open forest and brush/shrub lands of the JVA area.

In the exercise of enrichment planting, species of trees that are indigenous to the locality will be planted within the 20-meter buffer zone of the rivers that straddles the JVA area.

Valuable timber species, such as species of dipterocarpaceae and fabaceae (Ipil- *Instia bijuga,* Kamagong-*Diospyros philippinensis*, Narra- *Pterocarpus Indicus*) that were known to have been found growing in the area will be considered as well to be planted with the view to improve the plant diversity of the area.

The following silvicultural features should be considered when selecting the species or planting materials for the enrichment planting in the JVA area:

- Frequent flowering and fruiting;
- Easy nursery handling;
- High germination rate;
- Fast height growth in the early stage;
- Tolerant of reasonable amounts of shade and site competition;

- Rapid growth in girth, or fast volume producer;
- Producer of timber of high, or above average, economic value;
- High survival rate on planting-out;
- Naturally self-pruning;
- Normally free from all types of insect and disease;
- Site specificity (should be low);
- Natural regeneration capacity (stands capable of regenerating naturally within the assumed rotation period); and
- Apical dominance (maintained even at later age or can be enhanced through stand density regulation)

It will certainly be almost impossible to locate any species in Philippines that possesses all of the above silvicultural requirements. A compromise should be sought to select species that can adapt successfully in the new sites.

From economic point of view, it will be desirable to select species with shorter rotation period. This is feasible for species having fast diameter growth of the crop trees. Rotation period of 10 to 20 years should be targeted.

Wherever and whenever possible, select species having initial height growth of at least 1.0 meter per annum. This is important in order to avoid the costly weeding after post-planting.

Among other factors contributing to the success of enrichment planting, site specificity plays a very important role. Ideally, the lower the requirement of the species to the site the greater will be the chance for the species to establish. The very heterogeneous nature of the moist tropical forest conditions will require judicious species-site matching. A useful guideline toward matching of species to broad site categories is shown in Table 21 below:

Table 21. Species-site matching guide

Site Condition	Species
1. Exposed site prone to water stress (e.g, ridge hill tops)	*Mahogany (Swietenia mycrophylla), Yemane (Gmelina arboria)*
2. Sites with sufficient soil water, only occasional water stress, no perched water, tables, also low-lying land with high ground water table,	*Instia bijuga, Diospyrous philippinesis, Terminalia foetidissima, Schefflera odorata, Palaquium luzonense, Dipterocarpus grandiflorus, Dimocarpus longan, Pterocarpus indicus*
3. Sites with perched water tables, sites with impeded drainage	Putat *(Barringtonia Asiatica)*, Bangkal *(Nauclea orientalis), Banaba (Lagerstroemia speciola)*
4. Riparian sites, occasional inundation	*Banaba (Lagerstroemia speciola), Bamboo family*

As enrichment planting in open forest is normally carried out under partial canopy conditions, there will be certain amount of shading the planted seedlings will be subjected to. Under such situation, species having shade tolerant characteristics during their seedling or sapling stage should only be planted.

4.1.1.3 Choice of species for the production of agricultural crops

4.1.1.3.1 Perennial and annual crops

The potential perennial and annual crops that may be planted within the parcel of land devoted for agro-forestry activities in the JVA area are presented in Table 22 below.

Table 22. Potential perennial and annual crops for agro-forestry activities in the JVA area.

Perennial crops	Annual crops
Ginger	Rice
Potatoes	Corn
Chayote	Cassava
Peppers	Eggplant
Yams	Okra
Chili	Peanut
Squash	Watermelon
Cashew	Melon
Turmeric	Peas
Spinach	Onion bulb
Calamansi	Garlic
Coffee	Cabbage
Pineapple	Tomato
Banana	Sweet potato
Sugarcane	Mungbean

A part of the vegetable should be kept to secure as seeds for the next season. In doing so, the first or second vegetable fruits would be better to be kept. Selecting better vegetable fruits will result in better production in the next harvest.

Perennial vegetables like chili, green leafy vegetables, squash, tomato, spinach, turmeric, ginger, chayote (lettuce), etc., can be cultivated as well in the backyard gardens of the community residents.

Legume crops, such as cow pea and beans, are not only source of rich in protein but also easy to grow. It also helps to maintain the soil fertility. Therefore, legume crops should be frequently included in the production of vegetable in agro-forestry area.

4.1.2 Silviculture for all product categories

4.1.2.1 Hybrid coconut plantation

There are three (3) pests that usually attack coconut plantations, and these are the: 1) brontespa, 2) termite, and 3) beetles. Brontespa is the main pest problem, and the second most cause of coconut tree mortality are termites, and third are beetles (Rhinoceros beetle).

An identified fungal disease of the young coconut seedlings called bud rot can also be a problem. To control the infestation of brontespa, frequent spraying of organic pesticide/insecticide will be implemented by LFPC.

Organic fertilizer will be applied within the coconut plantations to enrich the soil thereon and to cure the yellowing of the coconut leaves which is an indicator that the land thereon

is infertile. Leaf and soil analysis is performed in coconut plantation once a year to adjust fertilizer doses. Seedlings are given two (2) kilograms of organic fertilizer when planted. Salt is added or mixed to the fertilizer after the third year to facilitate the uptake of nutrients. Nitrogen fertilizers are no longer applied after the third year as the ground cover (cudso, centrosema, peanut-peanut, sweet potato, peanut and other nitrogen fixing plants) were already established. Ground cover also suppresses weeds, an important consideration in an area receiving around 3,000 mm of rain a year. Dead coconut seedlings will be replaced by seedlings that are exceptionally selected from the coconut seedling nursery.

LFPC will ensure that a well-established ground cover comprising of nitrogen-fixing plants that will protect the soil and provides nitrogen to the palms will be in place. Intercropping (through agroforestry activities) will be practiced as well so as to diversify the operation of the coconut plantations. Among the potential crops to be intercropped in the coconut plantation include madre de cacao, grafted native rambutan, durian and lanzones.

4.1.2.2 Forest tree plantation

Open forest

Assisted natural regeneration (ANR) techniques/treatments as a protection and preservation of natural tree seedlings (NTS or regeneration seedlings) in the open forest thereby improving their growth and diversity will be implemented by LFPC.

These NTS will be protected from undergrowth and extremely flammable plants such as imperata grass. All the NTS (i.e. seedlings with ≤ 1.3m in height) found within the open forest will be identified, counted and tagged. The two (2) ANR treatments will be brush cutting and tillage. Brush cutting here involves cutting of grasses around the NTS and vines clinging to NTS while making sure that these NTS within the area will not be cut or damaged. The tillage treatment, also known as cultivation, will be carried out by manually removing all the grasses and vines (including their root systems) within at least 0.5 meter radius around the stem of the NTS including woody debris, stones and litter layers, thus turning over of the soils in the process while giving the NTS enough space to grow. The brushing and tillage will be conducted in the second and fourth month within a six-month period.

Various silvicultural treatment for the trees with 15 centimeters diameter at breast height (DBH) and above will be implemented. The treatments will include:

Weeding - process of getting rid of saplings' or seedlings' competition with the weeds by mowing, application of herbicide, or other method of weeds removal from the surroundings.

Cleaning - release of select saplings from competition by overtopping trees of a comparable age. The treatment favors trees of a desired species and stem quality.

Pruning as a silvicultural practice, refers to the removal of the lower branches of the young trees (also giving the shape to the tree) so clear knot-free wood can subsequently grow over the branch stubs. Pruning can be done to all trees. There are two types of pruning: natural or self-pruning and artificial pruning.

Most cases of self-pruning happen when branches do not receive enough sunlight and die. Wind can also take part in natural pruning which can break branches. Artificial pruning is where people are paid to come and cut the branches.

Stock enhancement through enrichment planting (EP) of indigenous tree species, fruit bearing trees and palm species will be implemented in view of the result of the fauna inventory within the open forest of the JVA area.

This means increasing the planting density (i.e. the numbers of plants) in an already growing forest. Also, it is a strategy for enhancing natural forests' economic value by planting seeds or seedlings of indigenous tree species, fruit bearing trees and palms for protection and future harvest.

The production of planting stock will be involve collection of seeds and collection of wildlings from reliable source. The participation of the CENRO and the host communities in this endeavour will be highly regarded and prevailing prices of seedlings will be observed as well.

Subsequent seedling replacement (in case of seedlings death), maintenance and protection will be undertaken to ensure a good survival of the seedlings planted.

Implementation of fire management measures

Fire management will be of paramount concern of the company because fire is a natural phenomenon and wildfires can occur on forest and national parks, although some fires have nature conservation benefits while others, can cause damage to property and the environment.

The company will monitor wildfire risk and fire danger conditions across the JVA area to maintain preparedness levels and emergency response plans. This ensures rapid response to any wildfire event.

Among the strategies to be implemented by the company to mitigate the risk of wildfires include:
-No burning of vegetation and other debris.
-Maintenance of an extensive network of roads and fire lines and firebreaks
-Maintenance of well-trained and equipped staff to respond to wildfire outbreaks.
-Establishment of fire look-out towers at the vantage point of the project area.
-Protect the company's facilities and related properties.
-Observe cooperative approach to fire management across the landscape with the Bureau of Fire Protection (BFP), other land management agencies and the community.

Implementation of no cutting policy

No cutting of natural grown trees within banks of creeks, streams and rivers consistent with existing forestry laws, policies and regulations (e.g. Presidential Decree No. 705, as amended and Executive Order No. 23 an Order "Declaring a Moratorium on the Cutting and Harvesting of Timber in the Natural and Residual Forests and Creating the Anti-Illegal Logging Task Force")

Implementation of cross-cutting IEC activities.

IEC activities shall include dissemination of appropriate forest protection and environmental laws, policies, rules and regulations through house-to-house visits, during community meetings, provision of IEC reading materials (on local dialect), broadcasting through local radio stations, internet, and posting of tarpaulins/signages on strategic areas within the JVA area.

4.1.2.3 Agricultural crops

Annual crop

The cultivation of suitable annual crops will entail planting of appropriate agricultural crops in support to the food production and additional income generation activity of LFPC and the host communities.

The seedling requirements for this purpose will be produced or procured by LFPC from the host communities. To ensure the vigorous growth of the vegetables planted and to prevent and control insect or pest infestation within and adjacent the vegetable gardens in the area, application of organic fertilizers, pesticides and insecticides will be employed by LFPC. Regular weeding, cleaning, watering, trimming and pruning will be observed as well.

Perennial crop

LFPC will venture in planting of appropriate perennial crops that could generate additional income for the same and can augment a portion of the food requirements of the host communities.

Like in the management of annual crops, and to ensure the vigorous growth of the vegetables planted and to prevent and control insect or pest infestation within and adjacent the areas planted with perennial crops, application of organic fertilizers, pesticides and insecticides will be administered by LFPC. Also, regular weeding, cleaning, watering, trimming and pruning will be implemented.

4.1.2.4 Inland water

The saplings and tree stand along rivers/creeks/streams/gullies will be conserved and maintained through observance of the no cutting/clearing and no burning policy.

Enrichment planting will be employed as well through planting of appropriate indigenous forest tree, bamboo and rattan species along the easement zones and river banks of the rivers that straddles the JVA area.

Implementation of fire management measures:

-Application of the same fire management activities intended for the management of the open forest portion of the JVA area.

-Implementation of cross-cutting IEC activities.

4.1.3 Annual development program for all product categories

To attain its objectives, LFPC will implement its activities based on this comprehensive agroforestry development plan, and with the view to create decent livelihood by involving the local communities in the implementation of the activities stipulated in the said plan.

4.1.3.1 Areas to be developed and the activities relative to the hybrid coconut plantation

Vast plantation of high yielding coconut varieties will be established on 2,948.9235 hectares comprising brush/shrub lands, land suitable for annual and perennial crops, and easement zones

of the inland water or rivers that straddles the JVA area. The breakdown of the 2,948.9235 hectares is presented as Table 9 below.

Breakdown of the present land use and vegetative cover of the JVA area comprising the 2,948.93 hectares to be planted with coconuts presented below as Table 23.

Table 23. Present land use and vegetative cover of the JVA area

Present land use & vegetative cover	**Area per land use assessment (ha.)**	**Area to be planted with coconuts (ha.)**	**Remarks**
Brush/Shrub	2,838.22	2,838.22	-
Annual crop	67.35	16.8375*	*25% of 67.35 ha.
Perennial crop	98.74	88.87*	*90% of 98.74 ha.
Inland water	40.84 (with 54.19 hectares easement zone)	5	Available area within the easement or buffer zones of the four (4) rivers that comprises the inland water within the JVA area
Total		**2,948.9235**	

The breakdown of the 54.19 hectares determined as easement or buffer zones of the inland water or rivers that straddles the JVA area is presented below as Table 24.

Table 24. Breakdown of the easement or buffer zones suitable for coconut plantation.

Inland water (Name of river)	Easement zone (ha.)	Percentage of the easement zone suitable for coconut plantation (%)	Area within the easement zone suitable for coconut plantation (ha.)
Malutok	18.04	11	2
Sumurom	16.19	9	1.5
Ransang	12.94	7	1
Candawaga	7.02	7	.5
Total	54.19	-	5

Table 25. Development plan for the establishment of hybrid coconut plantation.

Activities	Unit of measure	Time frame	Resources needed	Development partners
Coconut nursery establishment and operation	5 has.	2018 onwards	Construction materials, coconut seedlings, nursery equipment, farm implements and related farm inputs	Host communities, DENR, DA, PCA
Establishment of hybrid coconut plantations within 2,948.9235 has.	Year 1 = 609 Year 2 = 723 Year 3 = 625 Year 4 = 535 Year 5 = 457	1. 2019-2020 2. 2020-2021 3. 2021-2022 4. 2022-2023 5. 2023-2024	Coconut seedlings, farm implements and related inputs	Host communities, DENR, DA, PCA
Maintenance and protection of coconut plantations	2,948.9235 has.	2019-2043	Farm implements and related inputs	Host communities, DA, PCA
Harvesting of coconuts - Matured Nuts - Coco Sap	 12,671 nuts/ha 294 liters/ha	2024-2043	Farm implements and related inputs	Host communities, DA, PCA
Hauling of harvested coconuts - Matured Nuts - Coco Sap	 12,671 nuts/ha 294 liters/ha	2024-2043	Farm implements and related inputs	Host communities, DA, PCA

4.1.3.2 Areas to be developed and the activities relative to the development of forest tree plantation and implementation of enrichment planting

Plantation of forest tree species will be established on 491.6 hectares comprising open forest, and the land suitable for annual and perennial crops, and easement zones wherein enrichment planting will be implemented within the 15 hectares along the easement zones of the inland water or rivers that straddles the JVA area. The breakdown of the 491.6 hectares which is 476.6 hectares for forest tree plantation and the 15 hectares for enrichment planting, respectively, is

presented as Table 12, and the development plan for the establishment of forest tree plantation and enrichment planting is presented as Table 26 below.

Table 26. The breakdown of the 476.6 hectares for forest tree plantation and 15 hectares enrichment planting.

Present land use & vegetative cover	Area per land use assessment (ha.)	Area to be planted with forest trees (ha.)	Remarks
Open forest	454.86	454.86	-
Annual crop	67.35	16.84*	*25% of 67.35 ha.
Perennial crop	98.74	4.9*	*5% of 98.74 ha.
Inland water	40.84 (with an easement zone of 54.19 has.)	15	Available area for enrichment planting within the easement or buffer zones of the four (4) rivers that comprises the inland water within the JVA area
Total		491.6	

Note: 476.6 plus 15 equals 491.6

Table 27. Development plan for the establishment of forest tree plantation and enrichment planting.

Activities	Unit of measure	Time frame	Resources needed	Development partners
Forest tree nursery establishment and operation 1 central nursery and 2 satellite nurseries	3 hectares	2018 onwards	Construction materials, forest tree seeds, nursery equipment, farm implements and related farm inputs	Host communities, DENR
Establishment of forest tree plantations and implementation of enrichment planting within 491.6 has.	Year 1 = 79 Year 2 = 104 Year 3 = 120 Year 4 = 114 Year 5 = 75	1. 2019-2020 2. 2020-2021 3. 2021-2022 4. 2022-2023 5. 2023-2024	Forest tree seedlings, farm implements and related inputs	Host communities, DENR, seedling producers
Maintenance and protection of tree plantations and the area subjected to enrichment planting	491.6 has.	2019-2043	Farm implements and related inputs	Host communities, DENR
Harvesting of forest trees within 476.6 has. (excluding the indigenous tree species within the 15 hectares subjected to enrichment planting)	11 cubic meters/ha	2028-2032 2037-2041	Farm implements and related inputs	Host communities, DENR

The breakdown of the 54.19 hectares determined as easement or buffer zones of the inland water or rivers that straddles the JVA area which is suitable for enrichment planting is presented below as Table 28.

Table 28. Breakdown of the 54.19 hectares easement or buffer zones suitable for enrichment planting.

Inland water (Name of river)	Easement zone (ha.)	Percentage of the easement zone suitable for enrichment planting (%)	Area within the easement zone suitable for coconut plantation (ha.)
Malutok	18.04	40	7.2
Sumurom	16.19	30	4.8
Ransang	12.94	16	2.0
Candawaga	7.02	15	1.0
Total	54.19	-	15

Areas to be developed and the activities relative to the cultivation of agricultural crops and establishment agro-forestry farms. The development plan for the purpose is presented below as Table 29.

Table 29. Development plan for the development of agro-forestry farms and cultivation of agricultural crops.

Activities	Unit of measure	Time frame	Resources needed	Development partners
Establishment of agro-forestry farms (SALT models) within the land suitable for annual crops	5 has. (Note: *Said 5 is 15% of 33.675 which is 50% of 67.35 categorized as for annual crops per land cover of the area*)	2019 onwards	Construction materials, forest tree seedlings, agricultural seeds, farm implements and related farm inputs	Host communities, DENR, DA
Establishment of 28.675 has. plots and planting of annual crops	28.675 has. (*Note: Said 28.675 and 5 are part of the 50% of 67.35 which is equivalent to 33.675, and 5 for SALT was deducted therefrom so it becomes 28.675.)* *The other two (2) 25% of 67.35 which is 16.8375 has. will be devoted for coconut plantation, and the other 25% (16.8375) is for forest tree plantation, respectively.*	2019 onwards	Planting stock and seeds of annual crops, farm implements and related inputs	Host communities, DENR, DA, seedling producers
Establishment of 4.9375 has. plots and planting of perennial crops	4.9375 has. (*Note: Said 4.9375 is 5% of 98.75 which will be devoted for perennial crops, the other 5% will be developed into forest plantation, and the remaining 90% of which will be developed into coconut plantation)*	2019 onwards	Planting stock and seeds of perennial crops seeds, farm implements and related inputs	
Maintenance and protection of the agro-forestry farms and the agricultural crops	-5 has. (AF) -28.675 has. (AC) -4.9375 has. (PC)	2021-2043	Farm implements and related inputs	Host communities, DENR
Harvesting of produce from the SALT models	Above P20,000.00 /year (assumption only)			
Harvesting of produce from the agricultural plots	Above P20,000.00/year (assumption only)	2025-2043	Farm implements and related inputs	Host communities, DENR

Note: AF – agro-forestry
AC – annual crops
PC – perennial crops

4.1.4 Development along inland water

There are four (4) rivers in the JVA area namely: i) Malutok River, ii) Ransang River, iii) Sumurom River, and iv) Candawaga River which comprises the inland water thereon with an approximate area of 40.84 hectares. Per ground survey and verification of CENRO Quezon Palawan and LFPC on August 20-22, 2019, the total area of the 20-meter easement zones or buffer zones from the margins of these rivers landward identified is about of 54.19 hectares. The headwater of these rivers are emanating from the Mt. Mantalingahan Protected Landscape (MMPL). Except Candawaga River which can be found in Barangay Candawaga, Municipality of Rizal, and all the rest are located within Barangay Ransang of the same municipality. The breakdown of the areas of the easement zone for each river was presented as Table 24 above.

The area identified as suitable for coconut plantation along the easement zones of the said rivers is only about five (5) hectares and details of which was already discussed in the preceding topics.

4.1.5 Amendment/Plan Revision

The stipulations of this 25-year CADP shall be reviewed within the first week of November every five (5) years starting on November 2023 with the view to calibrate the activities that needs to be attuned to the current conditions and government policies that are essential to efficiently attain the project's objectives.

4.2 Boundary Delineation and Maintenance

Consistent with the terms and conditions of the JVA, the project area will be delineated through actual ground survey with the assistance of the DENR within one (1) year from the execution of the JVA. The nearest Philippine Reference System of 1992 (PRS '92) monument or other relevant ground control points established by the DENR will serve as a reference in the delineation survey. LFPC will establish monuments made of PVC (4" size, orange in color) filled with concrete and steel reinforcing bar on selected or strategic survey corners on the ground for geographical reference purposes. Aside from the PVC monuments, biological markings will be established on the ground by planting indigenous tree species (live post) on the survey corners and along the survey lines, subsequently, these tree species planted will serve as boundary markers along survey lines. Both the PVC and biological markers will be maintained/preserved by LFPC through frequent inspection and cleaning and simultaneous patrolling within and adjacent the perimeter of the JVA area.

4.2.1 Infrastructure Development

The following are the existing infrastructure development within and outside the JVA area:

Table 30. Existing infrastructure development within and outside the JVA area

Infrastructure	Location	Area (hectare)
Field office	Ransang & Culasian Rizal, Palawan	0.0031724
Storage room/Bodega	Culasian, Rizal, Palawan	0.016
Mess hall	Ransang, Rizal, Palawan	0.0056784
Guard house	Ransang, Rizal, Palawan	0.00348348
Garage	Ransang, Rizal, Palawan	0.060
Comfort rooms	Ransang, Rizal, Palawan	0.00502855

4.2.2 Field Office, Nursery and Related Facilities

The LFPC's field office which is away from the Company's main office, nursery and related facilities are located in a private land located at So. Malutok, Barangay Ransang, Rizal. The other facilities include:

a) Storage room – a room or space for the storing of goods or supplies, e.g. where coconut seedlings for processing and other relevant supplies/equipment ancillary to the processing hub are kept.
b) LFPC will establish field based offices with tools set to which worker enabling to report on various areas in the farm. LFPC also expect to establish several handling areas for harvested raw materials.
c) Mess hall – a building or room used for serving and eating meals.
d) Guard house – also known as watch house or security booth used to house personnel and security equipment.
e) Garage – a building or indoor space in which to park or keep a motor vehicle.
f) Comfort room – a room in a workplace furnished with amenities such as facilities for resting, personal hygiene and storage of personal items.

4.2.3 Proposed improvement within the JVA area

The Company, as necessary may improve existing roads, establish a new field office and processing hub, and related infrastructures/facilities necessary to the Company's efficient operation within the JVA area:

Table31. Proposed infrastructures

Proposed Infrastructures	Location
Field offices	Ransang, Candawaga & Culasian
Processing Facility	Ransang, Candawaga & Culasian
Warehousing	Ransang, Candawaga Culasian
Workers Housing	Ransang, Candawaga & Culasian
Storage room/Bodega	Ransang, Culasian & Candawaga
Guard house	Ransang, Candawaga & Culasian
Waiting sheds	Ransang, Candawaga & Culasian
Access road	Ransang, Candawaga & Culasian
Water impounding pond	Ransang, Candawaga & Culasian
Irrigation	Ransang, Candawaga & Culasian
Raw material Transport System	Ransang, Candawaga & Culasian
Raw Material Handling materials	Ransang, Candawaga & Culasian
Bridges	Ransang, Candawaga & Culasian
Organic Fertilizer Factory	Ransang
Infirmary/Clinic	Ransang, Candawaga, Culasian
Check Point	Ransang, Candawaga, Culasian
Canteen	Ransang, Candawaga, Culasian
Legal Assistance Center	Ransang
Quarantine	Ransang, Candawaga, Culasian
Social Hall	Ransang, Candawaga & Culasian
Solar Energy/Biomass power station	Ransang, Candawaga & Culasian
Nursery	Ransang, Candawaga & Culasian

4.2.4 Permanent Improvements

The permanent improvements of the Company within and adjacent the JVA area will include the following:

Field office – the building where the Company's business, professional duties and clerical work are carried out.

Access road - road that provides access to a specific destination, as to main highway or to a property that lies within another property.

Storage room – a room or space for the storing of goods or supplies, e.g. where coconut seedlings for processing and other relevant supplies/equipment ancillary to the processing hub are kept.

Coconut processing hub – a facility to be built at a vantage point that could process coconut water (sap) and coconut meat into many different products such as virgin coconut water, coconut syrup, and coconut sugar.

The facility is equipped with the following machines and boiler that uses a biomass fuel out of coconut husk, coconut shell and rice hull.

- Dehusking machine
- Peeling machine
- Cutting machine
- Pasteurizer
- Condensate recovery tank

Likewise, the processing hub is equipped with waste water tank and treatment facility in compliance with the environmental requirements of the concerned authorities.

The operation of the coconut processing hub over forest land will be authorized under a Special Land Use Permit (SLUP) or Forest Landuse Agreement (FLAg).

4.2.4.1 Roads and Irrigation canals

There are about 37 kilometers long road that exists within the Barangays of Candawaga, Ransang and Culasian which is vital in the implementation of the activities stipulated in the JVA. The following roads were constructed by the provincial/municipal local government units upon the request of the concerned local communities supported by their respective barangay councils:

Table 32. Roads constructed within the host barangays

Name of road	Location	Road route	Approximate dimension
Malutok	Barangay Ransang	Malutok to Binikyat	6.2 km. x 6 m.
		Malutok to Dinakpan	6.229 km. x 6 m.
Balen-Balen		Balen-Balen to New Site/ Dinakpan	4.6 km. x 6 m.
Sumurom		Sumurom to Pandan	5.5 km. x 6 m.
Baguntor		Baguntor to Balen-Balen	2.132 km. x 6 m.
Pinagkubuan		Pinagkubuan to Suminanga	3.4 km x 6 m
Tawa-Tawa	Candawaga	Tawa-Tawa to Maruso	3.2 km. x 6 m.
Maruso		Maruso to Nasbakan	3 km. x 6 m.
Suminanga		Suminanga to Nasbakan	2.9 km. x 6 m.
Culasian	Culasian	Culasian Proper to Balingasag	3.7 km. x 6 m.

4.2.4.2 Irrigation canal

An irrigation canal (for drip irrigation purposes) with a 0.2 meters width and seven 7 kilometres length exist within the JVA area.

In laying out the abovementioned facilities, the implementation procedures is in conformity with the applicable standards, existing regulations and due considerations on the water ways, slope and topography of the area.

4.2.5 Temporary improvements

4.2.5.1 Workers camp

Camps made of light materials as temporary means of shelter of the workers will be established near the plantation site taking into account the far distance of the barangay proper of Candawaga, Culasian and Ransang from the plantation site. The proximity of the workers to the plantation site is necessary since the operations of the coconut plantation requires early in the morning start of work, hence, it requires early workers assembly. Also, the presence of the workers within the JVA area on a 24/7 basis is essential in the prevention of illegal activities or any untoward events e.g. forest fire incidence.

4.2.5.2 Look-out towers

Look-out towers made of indigenous materials will be pre-positioned on strategic vantage point within the JVA area to ease monitoring of untoward incidents like forest fire, property destruction by stray animals, forest resources poaching, gathering of coconut and other related

resources. Subsequently, the appropriate response to address any untoward incident in the JVA area can be provided immediately by the forest protection teams deployed thereon manning the look-out towers. These look-out towers will be equipped with fire fighting and communication equipment.

5. Nursery Operations/Nursery Work Program

In the establishment of its nurseries for the production of hybrid coconut seedlings and forest tree seedlings, LFPC will consider the following: a) good dimension of the nursery site, b) accessible location, c) good permanent water supply system, d) gently sloping, e) well drained site, and f) with ample supply of suitable soil materials.

Several important operations and activities while carrying out proper management of the nurseries like watering, weeding, good hygiene practices within the nursery sites will be observed as well in order to produce healthy and quality seedlings.

5.1 Seedling production for the Hybrid Coconut Plantation

The significant processes in the production of hybrid coconut seedlings are presented below.

5.1.1 Seed Procurement

In addition to the hybrid coconuts being propagated and subjected to experimentation at the LFPC's nursery in Barangay Ransang (outside the JVA area) which were purchased from the Philippine Coconut Authority - Zamboanga Research Center (PCA-ZRC), the hybrid coconuts to be planted within the JVA area will be procured from the same supplier.

The varieties of coconut nuts and/or seedlings to be procured by the Corporation as its planting stocks are Catigan, Tacunan, Kinabalan, Magtuod, Aromatic hybrid varieties.

5.1.2 Nursery Operations

Nursery operations will be confined in Barangay Ransang (outside the JVA area) taking into consideration the existing nursery facilities thereon. However, as necessary, LFPC's nursery operation will likely to happen within the JVA area.

The different activities within the nursery are:

5.1.3 Seedbed Preparation

A seedbed or plot having a 1.5 meter width and 10 cm to 20 cm in height to provide an adequate root-room and drainage will be prepared in an open and well-drained space having a coarse soil texture. To facilitate easier planting (or putting the nut shell to the polybag), cleaning, watering, inspection, inventory, maintenance and transfer of the seedlings, a 60 cm to 75 cm distance between seedbeds will be observed. For immediate access of water for irrigation, the seedbed should be located near water sources. An artificial overhead shade made of plastic net with appropriate width and length will be established to eventually cover or shade the seedbeds/seedlings from the direct rays of sunlight.

5.1.4 Sowing of Seed Nuts

Seed nuts will be sown in the seedbeds at 30 cm X 30 cm apart and the nuts may be entrenched vertically or horizontally into the seedbed soil at 20-25 cm deep to facilitate early root emergence.

5.1.5 Sorting or grading of nuts for removal from the seedbeds

Seed nuts that do not sprout after 3 months to 4 months upon sowing including the chlorotic, contorted, damaged, off-types or undesirable seedlings will be discarded from the seedbeds where the nuts are sown. In discarding the undesirable seed nuts, the age, size, color of the nuts will be considered as well

5.1.6 Pricking-Off of Seedlings

From two (2) months after root development, seed nuts that germinated early or with about 5 cm to 6 cm long shoots are selected for transplanting into polybags, and these polybags are piled/arranged in the seedbed. This operation allows the seedling within the polybags to have an appropriate space for its roots development needed for the seedling to grow vigorously and subsequently, the undesirable seedlings are further discarded in this procedure.

5.1.7 Soil Mixing and Bagging

The potting media (soil) is a mixture of rice hull, rotten debris (branches, leaves, roots), sandy loam and pig manure. Perforated polybags at 45cm X 45cm (lay flat) and 500-gauge black are filled one third of potting media and then transferred or piled into the hardening beds. These polybags will be filled with seed nuts with good root growth from the seedbeds and subsequently filled with soil to make the seed nuts and its roots firm thereon. To ensure early root development of the seed nuts in the polybags, watering must be done thoroughly, hence, the polybags filled with seed nuts will be watered twice a day.

5.1.8 Seedlings at Hardening Bed

Prior to out planting, seed nuts within polybags and fully grown into seedlings are hardened at the hardening bed for a period of two (2) months to 12 months. However, after the four (4) months stay of the seedlings at the seedbeds, these seedlings are already deemed hardened and their adaptability with the variable condition at the planting site are ensured. To prevent seedlings stress, the same must be watered 24 hours before transplanting.

5.1.9 Culling of Seedlings (after pricking-off based on germination monitoring)

Seedlings with stunted growth semblance, deformed and rotten appearance, infected by disease, having stunted root will be culled out from the seedbeds and disposed of properly.

5.1.10 Seedling Disposal

Quality seedlings at six (6) months old and deemed having a minimum six (6) leaves and 10 (ten) centimeters root diameter at collar, and free from pest and disease will be selected for out planting.

5.2 Hybrid coconut plantation seedling requirements is presented below as Table 33.

Table 33. Seedling requirements for the hybrid coconut plantation

Seedling requirements					
Year	Hybrid coconut				
	No. of seedlings/ha. @ 10 m. x 10 m. triangular method of spacing	Area to be planted (ha.)	No. of seedlings required for the total area to be planted	No. of seedlings as replacement for a 10% mortality/ha.	Total
1	294	609	179,046	17,905	196,951
2	294	723	212,562	21,256	233,818
3	294	625	183,750	18,375	202,125
4	294	535	157,290	15,729	173,019
5	294	457	134,358	13,436	147,794
Total		2,949	867,006	86,701	953,707

Note: 241 (flat) + 347 (sloping) = 294 (average per hectare)

5.3 Seedling production for the Forest Tree Plantation

The significant processes in the production of forest tree seedlings are presented below.

5.3.1 Seed Procurement

LFPC will procure seeds of indigenous tree species and fast growing forest species e.g. Yemane, mahogany from reliable seed source. Also, seeds of indigenous tree species will be sourced out from neighbouring forest communities in coordination with the CENRO in the locality.

5.3.2 Nursery Operations

Central nursery operations will be confined within Barangays Ransang, Candawag and Culasian with the view of bringing the seedlings near to the planting sites of each barangay. However, as necessary, satellite nurseries will be established at strategic locations to lessen the stress factors that might affect the health of the seedlings as they are transported during planting season.

The different activities within the nursery are:

5.3.2.1 Seedbed Preparation

A seedbed or plot having a 1.5 meter width and 10 cm to 20 cm in height to provide an adequate root-room and drainage will be prepared in an open and well-drained space having a coarse soil texture. To facilitate easier planting (or putting seeds or young seedlings to the polybag), cleaning, watering, inspection, inventory, maintenance and transfer of the seedlings, a 60 cm to 75 cm distance between seedbeds will be observed. For immediate access of water for irrigation, the seedbed should be located near water sources. An artificial overhead shade made of plastic net with appropriate width and length will be established to eventually cover or shade the seedbeds/seedlings from the direct rays of sunlight.

5.3.2.2 Collection and potting or bagging of soil

The potting media (soil) is a mixture of rice hull, rotten debris (branches, leaves, roots), and sandy loam. Black perforated polybags at 43.18 cm X 53.34 cm (lay flat) and 0.05 mm gauge, are

filled one third of potting media and then transferred or piled into the hardening beds. These polybags will be filled later with seedlings with good root growth from the seedbeds and subsequently filled with soil to make the seedlings and its roots firm thereon.

To ensure better root development of the seedlings in the polybags, watering must be done thoroughly, hence, the polybags filled with seedlings will be watered twice a day.

5.3.2.3 Sowing of forest tree seeds

Seed will be sown in the seedbeds at 30 cm X 30 cm apart and these seeds may be entrenched vertically or horizontally into the seedbed soil or directly at the polybag at 1 cm to 2 cm deep to facilitate early root emergence.

5.3.2.4 Sorting or grading of seedlings for removal from the seedbeds

Seed that do not sprout after 2 weeks to 4 weeks upon sowing including the chlorotic, contorted, damaged, off-types or undesirable seedlings will be discarded from the seedbeds where the seeds are sown. In discarding the undesirable seedlings, the age, size, color of the seedlings will be considered as well.

5.3.2.5 Pricking-off of seedlings

For seeds sown on seed beds, from one (1) month after root development, seeds that germinated early or with about 10 cm to 20 cm long shoots are selected for transplanting into polybags, and these polybags are piled/arranged in the seedbed. This operation allows the seedling within the polybags to have an appropriate space for its roots development needed for the seedling to grow vigorously and subsequently, the undesirable seedlings are further discarded in this procedure.

5.3.2.6 Seedlings at Hardening Bed

Prior to out planting, seed nuts within polybags and fully grown into seedlings are hardened at the hardening bed for a period of two (2) months to 12 months. However, after the four (4) months stay of the seedlings at the seedbeds, these seedlings are already deemed hardened and their adaptability with the variable condition at the planting site are ensured. To prevent seedlings stress, the same must be watered 24 hours before transplanting.

5.3.2.7 Culling of Seedlings (after pricking-off based on germination monitoring)

Seedlings with stunted growth semblance, deformed and rotten appearance, infected by disease, having stunted root will be culled out from the seedbeds and disposed of properly.

5.3.2.8 Seedling Disposal

Quality seedlings at six (6) months old and deemed having a minimum six (6) leaves and 10 (ten) centimeters root diameter at collar, and free from pest and disease will be selected for out planting.

5.3.3 Forest tree plantation seedling requirements is presented below as Table 34.

Table 34. Seedling requirements for the forest tree plantation

Seedling requirements				
Year	Area subject to forest tree plantation and the no. of seedlings required			
	No. of seedlings/ha. @ 10 m. x 10 m. spacing	Total area to be planted within 5 years (477 ha.)	No. of seedlings required for the total area to be planted	No. of seedlings as replacement for a 10% mortality/ha.
1	100	74	7,400	740
2	100	98	9,800	980
3	100	117	11,700	1,170
4	100	113	11,300	1,130
5	100	75	7,500	750
Total		477	47,700	4,770

Note: The 476.6 or 477 hectares comprises open forest, perennial crop, and annual crop areas

5.3.3.1 Enrichment planting seedling requirements is presented below as Table 35.

Table 35. Seedling requirements for the enrichment planting component

Seedling requirements				
Year	Area subject to enrichment planting and the no. of seedlings required			
	No. of seedlings/ha. @ 10 m. x 10 m. spacing	Total area to be planted within 4 years (15 ha.)	No. of seedlings required for the total area to be planted	No. of seedlings as replacement for a 10% mortality/ha.
1	100	3	300	30
2	100	3	300	30
3	100	5	500	50
4	100	4	400	40
Total		15	1,500	150

The indigenous forest tree species to be produced and/or procured by LFPC for the enrichment planting are: a) Apitong b) Kamagong c) Ipil d) Narra e) Nato and other other endemic trees.

5.3.3.2 SALT model seedling requirements is presented below as Table 36.

Table 36. Seedling requirements for the SALT model

Seedling requirements				
Year	Area subject to SALT and the no. of seedlings required			
	No. of seedlings/ha. @ 10 m. x 10 m. spacing	Total area to be planted within 2 years (5 ha.)	No. of seedlings required for the total area to be planted	No. of seedlings as replacement for a 10% mortality/ha.
1				
2				
3	100	2.5	250	25
4	100	2.5	250	25
Total		5	500	50

Note: In the implementation of SALT model, the seedling requirements for agro species (fruit bearing trees) and forest tree species will be equally divided or about 250 seedlings of fruit bearing trees and 250 forest tree seedlings plus their corresponding mortality replacement seedlings will be produced and/or procured by LFPC.

The fruit bearing trees to be produced and/or procured by LFPC for the SALT model are: a) Durian b) Rambutan c) Lanzones, and d) Mangosteen, while the forest trees to be produced or procured by the same for the SALT model are: a) Mahogany b) Yemane, and c) Falcata.

As to the number of seedlings that will comprise the SALT model, 50% will be fruit bearing trees and the remaining 50% will be forest tree species and interspersed with vegetables.

6. Plantation Establishment and Maintenance

6.1 Hybrid Coconut Plantation Establishment and Maintenance

6.1.1 Clearing/Brushing

The areas for the establishment of coconut plantation, perennial and annual crops farming will not be totally be cleared of vegetation, only the affected area will be cleared thereon. Likewise, the Corporation will strictly adhere to the relevant laws, policies and regulations which prohibits the clearing or cutting of vegetation within the designated 40 meters buffer area which starts from the both margins or banks of the rivers, creeks and streams in landward direction which is an integral part of the JVA area.

6.1.2 Establishment of Baseline

To have an appropriate alignment of the coconut seedlings to be grown in the plantation sites of the JVA area, a baseline running either in north-east or south-west direction will be established and the same will serve as reference in lay outing the blocks or compartments of hybrid coconut plantations.

6.1.3 Alignment and Staking

From the baseline on the ground, lines not parallel to the baseline will be established as rows and upon a number of blocks having one (1) hectare dimension has been projected on the ground, subsequently, staking or pit marking will ensue. Staking is important in establishing right alignment of coconut seedlings in rows so that optimum utilization of the land space and for better sunlight absorption of the coconut seedlings will be achieved.

6.1.4 Planting Design (based on the Philippines Coconut Authority (PCA) recommendation)

6.1.4.1 Triangle Method for Flat Area

Within flat areas, the triangle method will be employed. In this design, seedlings are planted in the shape of triangle, and the three (3) seedlings planted in the three (3) holes depicting a triangular shape are two (2) meters apart. The triangular formation of the seedlings is considered as a one (1) hill, and the distance between the rows where the hills are located is 10.40 feet apart. The distance between the markings [*where the three (3) pit holes located*] is twelve (12) meters apart. There are about 241 seedlings per hectare that will be planted under this planting design.

6.1.4.2 Triangle Method for Sloping/Slanting Area

On sloping or slanting areas, the same triangle method will be used. The difference with that of the flat area is in terms of the distance of the rows which is 8.66 feet and the distance between

the markings which is ten (10) meters apart. Also, the number of seedlings to be planted per hectare under this planting design is 347.

The table below shows the methods and proportions of the distance of rows, markings and number of seedlings requirement per hectare vis-à-vis the LFPC's triangular planting method on a flat and sloping area.

Table 37. The method, distance and density of coconut seedlings planted per hectare on a flat and sloping area.

Method (*triangular*)	**Distance between rows (*feet*)**	**Distance between markings (*3-pit holes location*)**	**Number of coconut seedlings (*hectares*) with 3 palms/hill**
Flat area	10.40	12	241
Sloping area	8.66	10	347

6.1.5 Holing

The portions of the plantation areas entrenched with stakes will be dug to have pit-holes and the ideal size of the pit is 0.8 meter X 0.8 meter X 0.8 meter within general soil, and in rocky soil, the pit size is 1 meter X 1 meter X 1 meter. Said pit sizes will be adopted taking into account the condition of the soils in terms of fertility, structure, and the presence of termites.

6.1.6 Pit-Hole Filling

Prior to out planting, the about half of the depth of the pit-holes will be filled with applicable organic (compost) materials as a soil amelioration measure to create a congenial atmosphere for root growth and healthy seedling growth. Such organic materials will enhance root formation/growth and will provide good underground aeration to the seedlings to be planted in the holes. Also, these organic materials will provide various nutrients to be absorbed immediately by the seedlings essential to accelerate their growth, girth formation and early flowering.

6.1.6.1 Application of Organic Filling Material on the Pit-Holes is presented as Table 38

Table 38. The organic materials and the dosage applied in Triangle Method for Sloping/Slanting Area

Organic material	Application dose
Green compost	The bottom of the pit should be filled with 15kg - 20kg of green/dry leaves.
Top soil	The top soil which is about one foot in depth from the surface soil to the underneath soil should be dug and mixed it to the green manure to produce black organic substance consisting of decayed plant materials (humus) and nitrogen and is called "Basic Mother Feed".
Farm yard manure (FYM)	Add 10kg - 20kg of fully decomposed FYM along with small quantity of bio-pesticide liquid or powder such as derris elliptica dust 10% to destroy maggots or larvae of beetles.
Bio-fertilizer	After filling almost half of the pit, the top layer of the materials filled should be mixed Tricoderma to enhance the growth of the microorganism thereon essential to increase the ability of the plants to absorb nutrients.

6.1.7 Planting the seedling

The seedling will be planted or entrenched over the organic materials filled on the pit-hole, and that portion (unfilled portion) of the pit-hole where the seedling will be planted should be at least six (6) inches deep from the surface soil. However, if the planting area is prone to flooding or deemed as a waterlogged areas, then the centre material in the pit-hole should be raised up higher than the surface of the land, and the seedling is planted at a slightly higher level than the level where water saturates.

6.1.8 Planting of Cover Crops

Covers crops among others, like leguminous species (e.g. mongo and peanut), centrosema and sweet potatoes will be planted between the rows to maximize the use of the area, and to hold/retain the soil and moisture thereon. Likewise, these cover crops will harbour beneficial insects for cross pollination purposes.

6.2 Establishment and Maintenance of the Plantation of Forest Trees

6.2.1 Land Preparation

The areas for the establishment of forest tree plantation will not be totally cleared of vegetation, only the affected area will be cleared thereon. Likewise, the Corporation will strictly adhere to the relevant laws, policies and regulations which prohibits the clearing or cutting of vegetation within the designated 40 meters buffer zone which starts from the both margins or banks of the rivers, creeks and streams in landward direction which is an integral part of the JVA area.

6.2.2 Establishment of Baseline

To have an appropriate alignment of the forest tree seedlings to be grown in the plantation sites of the JVA area, a baseline running either in north-east or south-west direction will be established and the same will serve as reference in lay outing the blocks or compartments of forest tree plantations.

6.2.3 Alignment and Staking

From the baseline on the ground, lines not parallel to the baseline will be established as rows and upon a number of blocks having one (1) hectare dimension has been projected on the ground, subsequently, staking or pit marking will ensue. Staking is important in establishing right alignment of forest tree seedlings in rows so that optimum utilization of the land space and for better sunlight absorption of the forest tree seedlings will be achieved.

6.2.4 Planting Design

6.2.4.1 10m by 10m spacing

Considering the 10m by 10m spacing design, about 1,000 seedlings will be planted in one (1) hectare. Such spacing will give each seedlings an appropriate distance, thus giving their roots a wider space to grow and it will lessen the competition in the absorption of nutrients from the soil and from the sun's energy wherein both nutrients and energy stimulates good plant growth.

Also, employing the preceding spacing ensures that there will be no more cutting or salvaging of undesirable tree saplings or trees that grown in the plantation because it is assumed that each grown tree will display a significant growth, vigor and health.

6.2.5 Holing

The portions of the plantation areas entrenched with stakes will be dug to have pit-holes and the ideal size of the pit is 8 cm X 8 cm X 20 cm within general soil, and in rocky soil, the pit size is 12 cm X 12 cm X 25 cm. Said pit sizes will be adopted taking into account the condition of the soils in terms of fertility, structure, and the presence of termites.

6.2.6 Pit-Hole Filling

Prior to out planting, the about half of the depth of the pit-holes will be filled with applicable organic (compost) materials as a soil amelioration measure to create a congenial atmosphere for root growth and healthy seedling growth. Such organic materials will enhance root formation/growth and will provide good underground aeration to the seedlings to be planted in the holes. Also, these organic materials will provide various nutrients to be absorbed immediately by the seedlings essential to their accelerate growth, girth formation and early flowering.

6.2.6.1 Application of Organic Filling Material on the Pit-Holes

Table 39. The organic materials and the dosage applied in a 10m by 10m spacing

Organic Material	Application Dose
Top soil	The top soil which is about one 1 foot in depth from the surface soil to the underneath soil should be dug and mixed it to the green manure to produce black organic substance consisting of decayed plant materials (humus) and nitrogen and is called “Basic Mother Feed”.
Farm yard manure (FYM)	Add 100 mg – 200 mg of fully decomposed FYM along with small quantity of bio-pesticide liquid or powder such as derris elliptica dust 10% to destroy maggots or larvae of beetles.
Bio-fertilizer	After filling almost half of the pit, the top layer of the materials filled should be mixed Tricoderma to enhance the growth of the microorganism thereon essential to increase the ability of the plants to absorb nutrients.

2.7 Planting the seedling

The seedling will be planted or entrenched over the organic materials filled on the pit-hole, and that portion (unfilled portion) of the pit-hole where the seedling will be planted should be at least one (1) inches deep from the surface soil. However, if the planting area is prone to flooding or deemed as a waterlogged areas, then the centre material in the pit-hole should be raised up higher than the surface of the land, and the seedling is planted at a slightly higher level than the level where water saturates.

6.2.8 Forest Tree Plantation Protection and Maintenance and Protection

Inherently, LFPC’s farm operation department will administer the protection of the forest tree plantation and its adjacent areas from encroachment, forest fire, diseases, insect infestation, man-made destructions, and natural disasters. Should need arises, concerned agencies and

organizations may be tapped to assist in the implementation of the planned protection strategies.

The maintenance activities includes: a) weeding; b) organic fertilizer application; c) pruning/removing of dead branches.

a) Ring weeding – forest tree plantations are fairly bare of grasses and weeds during the high productivity years (years 5-10). On the other hand, it is good practice not to kill off all the weeds and grass, but instead it should managed and crop them down. This helps to hold the soil and retain moisture, house beneficial insects, control the insect damage and fungal diseases, keep the saplings/trees in a good and healthy state. Thus, mowing down the grass and leafy weeds is the suggested option, for broadleaf shrubs, contact weedicides could be used.

b) Organic fertilizer application - should be done to supplement inherent soil nutrients in order to provide a steady supply of balanced nutrient range required for the healthy growth of palms. The quantity and quality of the fertilizer applied, and their timing and placement, are important aspects to be considered to ensure proper realization of this input.

   The rates of fertilizer for each tree per year, the amount will be splitted according to how many round of fertilizer application is carried out in a year. It is recommended that at least 4 rounds be carried out, but preferably, 8 rounds is ideal.

   When manuring, avoid spreading the fertilizer to broadly. It is important that the fertilizers are applied within the root zone area. Applying some fertilizer onto the heap would target the coconut roots there, thereby feeding the palms more efficiently.

   Fertilizer rates will vary according to soil type, productivity, foliar nutrients status, age and yield targets.

e.) Pruning/removing of dead branches and twigs – forest trees are normally self-pruning, meaning that dead branches and twigs will dry and fall on their accord. However, it is still a good practice to remove them off the tree where they don't fall naturally, and stack them neatly on the inter-tree rows. There is great value in keeping this practice, as the dead branches and twigs break down, they actually release micronutrients back into the soil. This help increase soil nutrient content and biomass over time, which will further improve the forest trees health. In addition, such branch and twig heaps act as moisture traps, and help provide an alternate source of moisture to the trees roots.

6.3 Cultivation and maintenance of Agricultural Crops

Cultivation of vegetable crops on allowed areas suitable for perennial and annual crops within the JVA area can be grown in two ways, either by sowing seed straight in the field, or by preparing seedlings in seedbeds and transplanting the seedlings in the permanent planting area.

The appropriate perennial and annual vegetable crops will be planted on the plots designated for the purpose in accordance with the suitable land preparations for agricultural crops, i.e. 4.9375 hectares (perennial crops), 28.675 hectares (annual crops), and interspersed along or between the space of the fruit bearing trees and forest trees that comprises the SALT model to be established within the 5 hectares of land devoted for agro-forestry. The seedling requirements (vegetable crops) for this purpose will be produced or procured by LFPC from the host communities.

The perennial and annual crops that may be raised within the JVA area are listed in Table 40 below.

Table 40. Perennial and annual crops to be grown in the JVA area.

Perennial crops	Annual crops
Ginger	Rice
Potatoes	Corn
Chayote	Cassava
Peppers	Eggplant
Yams	Okra
Chili	Peanut
Squash	Watermelon
Cashew	Melon
Turmeric	Peas
Spinach	Onion bulb
Calamansi	Garlic
Coffee	Cabbage
Pineapple	Tomato
Banana	Sweet potato
Sugarcane	Mungbean

A vegetable nursery may be put in place for raising young vegetable seedlings until they are ready for transplanting. Among the advantages of having a vegetable nursery bed include; a) cost effectiveness in land management, b) easy in management of pest, disease, weed control, irrigation, damage from strong winds and animals, c) possible to provide favourable growth or germination conditions, d) improved crop uniformity, e) easy to produce strong and healthy seedlings or saplings, and f) nursery can be prepared in unfavourable season.

To enhance the growth of the annual/perennial vegetable crops, soil amendments procedures to make the soil rich in micro nutrients is essential, hence, well decomposed compost manure or farm yard manure will be applied within the plots where the vegetable crops are planted.

In case of sowing and/or transplanting of vegetable crops, it is good to directly sow seeds 7-14 days after a compost has been filled in the pit at 2-3 cm deep. On the other hand, sow seeds of vegetable crops 3-4 cm in a seed bed to ensure good germination. At times of transplanting, the seedlings should be 7-10 cm tall with 4-5 true leaves in each seedling, and one (1) seedling should be transplanted at one place.

6.4 Planting/Development Schedule

The table below shows the schedule of planting coconuts, forest trees and agricultural crops within the JVA area.

Table 41. The schedule of planting of coconuts, forest trees and agricultural crops in the areas categorized as brush/shrub, open forest, inland water, perennial and annual crop.

Year	Brush/ shrub	Open forest	Inland water		Perennial crop			Annual crop			
	Hybrid coconut (2,838. 22 has.)	*Tree plantation / ANR* (454.86 has)	*Enrichment planting* (15 has)	*Hybrid coconut plantation* (5 has)	*Hybrid coconut plantation* (88.866 has)	*Tree plantation* (4.937has)	*Agri crops* (4.937 has.)	*Hybrid coconut plantation* (16.8375 has.)	*Tree plantation* (16.8375 has.)	*SALT model* (5 has.)	*Agri crops* (28.675 has.)
2019	600	70	3	2	5	2		2	2		
2020	700	90	3	3	15	3		5	5		
2021	600	110	5		20		Yearly =5ha.	5	7	Yearly= 2.5ha	Yearly= 29has
2022	500	110	4		30		Yearly =5ha.	5	3	Yearly= 2.5ha	Yearly= 29has
2023	438	75			19		onwards			onwards	onwards
2024											
2025											
2026											
2027											
2028											
2029											
2030											
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2039											
2040											
2041											
2042											
2043											
TOTAL	2,838.22 has	454.86 has	15 has	5 has	88.866 has	4.937 has	5 ha./ year	16.8375 has	16.8375 has	2.5 ha/ year	29 ha/year

Note: Planting activities including replanting will be done within the span of five (5) years e.g. 2019 to 2023. The remaining 20 years e.g. 2024 to 2043 will be devoted for maintenance and protection. The expected life span of hybrid coconut is less than 50 years (30-40 years).

7. Plantation Maintenance and Protection

7.1 Maintenance and Protection of Hybrid Coconut Plantation

The LFPC's farm operation department will administer the protection of the coconut plantation and its adjacent areas from encroachment, forest fire, diseases, insect infestation, man-made destructions, and natural disasters. In certain cases, concerned agencies and organizations may be tapped by LFPC to assist the same in the implementation of its planned protection strategies.
The maintenance activities includes: a) weeding; b) organic fertilizer application; c) pruning/removing of dead fronds and bunch stalks.

a) Weeding - coconut plantations are fairly bare of grasses and weeds during the high productivity years (years 8-18). However the immature and late years, when sunlight penetration is high, weeds will be more abundant. Nonetheless, it is good practice not to kill off all the weeds and grass, but instead to manage and crop them down. This helps to hold the soil and retain moisture, house beneficial insects, control the insect damage and fungal diseases, keep the palm in a good and healthy state. Thus, mowing down the grass and leafy weeds is the suggested option, for broadleaf shrubs, contact weedicides could be used.

b) Organic fertilizer application - should be done to supplement inherent soil nutrients in order to provide a steady supply of balanced nutrient range required for the healthy growth of palms. The quantity and quality of the fertilizer applied, and their timing and placement, are important aspects to be considered to ensure proper realization of this input.

   The rates of fertilizer for each palm per year, the amount will be divided according to how many round of fertilizer application is carried out in a year. It is recommended that at least 4 rounds be carried out, but preferably, 8 rounds is ideal.

   When manuring, avoid spreading the fertilizer to broadly. It is important that the fertilizers are applied within the root zone area. Applying some fertilizer onto the heap would target the coconut roots there, thereby feeding the palms more efficiently.

   Fertilizer rates will vary according to soil type, productivity, foliar nutrients status, age and yield targets.

c) Pruning/removing of dead fronds and bunch stalks - coconuts are normally self-pruning, meaning that dead fronds and bunch stalks will dry and fall on their accord. However, it is still a good practice to remove them off the palm where they don't fall naturally, and stack them neatly on the inter-palm heap. There is great value in keeping this practice, as the dead fronds and bunch stalks break down, they actually release micronutrients back into the soil. This help increase soil nutrient content and biomass over time, which will further improve the coconut palm's health. In addition, such frond heaps act as moisture traps, and help provide an alternate source of moisture to palm roots.

d) Planting of Covers Crops
   Covers crops among others, like leguminous species (e.g. mongo and peanut), centrosema and sweet potatoes will be planted between the rows to maximize the use of the area, and to hold/retain the soil and moisture thereon. Likewise, these cover crops will harbour beneficial insects for cross pollination purposes.

e) Implementation of fire management measures

- Fire management will be of paramount concern of LFPC because fire is a natural phenomenon and wildfires can occur on the forest and its adjacent areas, although some fires have nature conservation benefits while others, can cause damage to property and the environment.

- LFPC will monitor the wildfire risk and fire danger conditions across the JVA area so as to have a well prepared and updated emergency response plans. This ensures rapid and efficient response to any wildfire incident.

- Among the strategies to be implemented by LFPC to mitigate the risk of wildfire include:

  - ✓ No burning of vegetation and other debris within the JVA area.
  - ✓ Establishment and maintenance of an extensive network of roads and fire lines and firebreaks.
  - ✓ Maintenance of firefighting equipment (including communication gadgets) and well-trained staff to respond to wildfire outbreaks.
  - ✓ Establishment of fire look-out towers at the vantage point of the project area.
  - ✓ Observe cooperative approach to enhance fire management across the locality with the host communities, Bureau of Fire Protection (BFP), and other agencies involved in land management.

- Implementation of cross-cutting information, education and communication (IEC) activities

7.2 Maintenance and Protection of the Forest Trees Plantation

7.2.1 Maintenance and Protection of Forest Trees Plantation

Once a plantation has been established, the work should not be considered finished. It will be, for example, to protect the plantation against weather, fire, insects and fungi, and animals. A variety of cultural treatments also may be required to meet the purpose of the plantation.

Inherently, LFPC's farm operation department will administer the protection of the forest trees plantation and its adjacent areas from encroachment, forest fire, diseases, insect infestation, man-made destructions, local weather phenomena patterns, wild or domestic animals and natural disasters. Should need arises, concerned agencies and organizations may be tapped to assist in the implementation of the planned protection strategies.

The maintenance and protection activities includes: a) weeding; b) organic fertilizer application; c) pruning/removing of dead branches, and d) fire management measures.

a) Ring weeding – forest tree plantations are fairly bare of grasses and weeds during the high productivity years (years 5-10). On the other hand, it is good practice not to kill off all the weeds and grass, but instead it should managed and crop them down. This helps to hold the soil and retain moisture, house beneficial insects, control the insect damage and fungal diseases, keep the saplings/trees in a good and healthy state. Thus, mowing down the grass and leafy weeds is the suggested option, for broadleaf shrubs, contact weedicides could be used.

b) Organic fertilizer application - should be done to supplement inherent soil nutrients in order to provide a steady supply of balanced nutrient range required for the healthy growth of palms. The quantity and quality of the fertilizer applied, and their timing and placement, are important aspects to be considered to ensure proper realization of this input.

The rates of fertilizer for each seedling/tree per year, the amount will be divided according to how many round of fertilizer application is carried out in a year. It is recommended that at least 4 rounds be carried out, but preferably, 8 rounds is ideal.

When manuring, avoid spreading the fertilizer too broadly. It is important that the fertilizers are applied within the root zone area.

Fertilizer rates will vary according to soil type, productivity, foliar nutrients status, age and yield targets.

c) Pruning/removing of dead branches and twigs – forest trees are normally self-pruning, meaning that dead branches and twigs will dry and fall on their accord. However, it is still a good practice to remove them off the tree where they don't fall naturally, and stack them neatly on the inter-tree rows. There is great value in keeping this practice, as the dead branches and twigs break down, they actually release micronutrients back into the soil. This help increase soil nutrient content and biomass over time, which will further improve the forest trees health. In addition, such branch and twig heaps act as moisture traps, and help provide an alternate source of moisture to the trees roots.

d) The fire management measures to be implemented to safeguard the forest tree plantations is the same of that fire management measures for the coconut plantation.

Care taken in the establishment and maintenance operations during the early years of a plantation (resulting in healthy vigorous young trees or shrubs) can help to make a plantation more resistant to insects and fungi. However, when evidence of pest attack appears, it should be investigated promptly and the cause identified. Various control measures are available; these may be silvicultural, chemical, biological, or mechanical.

7.3 Forest Protection

LFPC's strategies and activities relative to forest protection

- Create forest protection unit (with a designated team leader and members) aimed to protect the JVA area and its adjacent environment from among others, wild forest fires, poaching of flora and fauna resources, kaingin making, insect infestation, biodiversity loss, and illegal squatters'.

- In coordination with the local DENR, create a unit (with a designated team leader and members) that will facilitate the enforcement of forest and ENR management related laws within and adjacent the JVA area.

- In coordination with the host communities and relevant authorities, LFPC will present the forest protection policies, rules and regulations to the host communities in local dialect to ensure easy comprehension on the said guidelines.

- Equip the forest protection and forest law enforcement units with the recent forest and ENR management related capabilities (including paralegal aspect) to ensure the efficient delivery of service within and adjacent the JVA area.

- The forest protection unit will conduct regular foot patrol and IEC activities within and adjacent the JVA area, and record and report all their observations during the said activities so as to have sufficient information in updating the LFPC's overall projects, plans and activities.

- Through the LFPC's IEC activities, ensure the active participation of the host communities in the implementation of forest protection activities and their adherence to the relevant laws, policies, rules and regulations to be enforced within and adjacent the JVA area.

- In the overall implementation of the forest protection activities and enforcement of relevant forest and ENR management laws, LFPC will closely coordinate with the concerned local government units (BLGU/MLGU/PLGU), indigenous peoples (IPs), local law enforcement agencies, Palawan Council for Sustainable Development (PCSD), Kilusan Sagip Kalikasan (KSK) and DENR.

- LFPC may consider to develop a system that will grant an incentive or reward system to active and polite volunteers in the implementation of forest protection activities and ENR management concerns. This may include livelihood or honorarium.

- As part of LFPC's IEC activities, the same will distribute reading materials/pamphlets on forest protection and law enforcement to the host communities and relevant partner agencies. To further disseminate the IEC activities, LFPC will also tap the services of the print, broadcast and digital media for the purpose.

- No cutting of natural grown trees within banks of creeks, streams and rivers consistent with existing forestry laws, policies and regulations (e.g. Presidential Decree No. 705, as amended and Executive Order No. 23 an Order *"Declaring a Moratorium on the Cutting and Harvesting of Timber in the Natural and Residual Forests and Creating the Anti-Illegal Logging Task Force"*

7.4 Maintenance and Protection of Agricultural Crops

7.4.1 Watering and weeding.

- To ensure good growth of agricultural crops, watering and weeding is necessary to loosen the soil and controlling the weeds, and first, weeding has to be done at the time of putting additional fertilizer, and second, weeding would be better at the time of covering plant root by soil.

7.4.2 Top dressing (fertilizer application)

- In case of direct sowing, about 15-20 days after sowing, apply about 1 kg of well decomposed compost or FYM around the base of each plant. In case of transplanting,

25-30 days after transplantation, about 1-2 kg well decomposed compost manure should be applied around the base of plant.

- If it is available, a tea spoon (2-3 grams) urea can be applied as top dressing after 25-30 days of transplantation near to each plant, and cover it by soil.

- After a month of first weeding, or when the plant starts flowering, about 2 kg compost should be applied in each plant as second top dressing.

8. Harvesting and Transport

8.1 Harvesting and transport of produce from the hybrid coconut plantation *(Coconut Production Guide- Business Diary Philippines and Expert System for Coconut- Tamil Nadu Agricultural University)*

8.1.1 Harvesting of Tender Nuts

In case LFPC will opt to process soft coconut flesh, tender nuts will be harvested when the nuts are about 7 months old. Harvesting may be done at 17-21 days interval since the start of harvesting and will depend on the preferences of the buyers or consumers. At 17 days, the flesh are very jelly-like, and at 21 days, there is some firmness to the flesh.

During harvesting, the harvester must remove all dried fronds and place them along the field drain edges, or cut them into smaller section and place them in the inter-palm spaces.

Harvesting operation is a two-man job. On person climbs up the palms using a sturdy ladder and attaches a harvesting harness (hook and rope) onto the bunch of coconut. The person below pulls the harness tout, to give some tension onto the bunch, and the stalk of the bunch is then cut and freed from the palm by the person on top. The person will then carefully lower the bunch of coconut onto the ground.

This method of harvesting ensures that the tender young coconuts are not bruised or damaged, since this will not only affect the appearance of the nuts, but any interval damages will cause the nuts to spoil fast. Bunches harvested this way will have a shelf life of 4-5 days if kept in chilled room.

8.1.2 Harvesting of Mature Nuts for VCO

For mature nuts, coconuts are plucked or the bunch of coconuts will be hooked and tied to a rope and cut down using a sharp slightly curved knife when their exocarp (skin) turns fully brown. The workers are assumed experts in deciding which coconut fruit is mature enough to make into copra or other products. Harvesting of hybrid and dwarf coconuts will be done every 45 days from the time that the exocarp turned full brown or harvesting maybe done for 8 rounds per year.

The harvesting operation may also be done by shaking the nuts to loose from the bunch using a long pole. Care must be given in this method of harvesting since there might be cases when loose mature coconuts will fallen on people's heads, leading to serious head injuries and even death. Hence, safety helmets will be provided to the harvesters when dealing with especially tall palms.

8.1.3 Harvesting of Coconut Sap

8.1.3.1 Harvesting techniques

Harvesting operations and methods should be conducted with consideration on the possible sources of contamination. Harvesting tools, implements and equipment that have direct contact with the sap should be cleaned and disinfected regularly.

Equipment, containers or any other collecting vessels used for harvesting should be made from non-toxic materials. They should be designed and constructed in such a way that they can be cleaned, disinfected and maintained to avoid contamination. They should be kept sanitary through regular cleaning. Generally, polyethylene terephthalate (PET) plastic is used as vessel to collect the dripping sap. Cleaning may be done through rinsing with soap and water to remove coconut sap left in the vessel that may trigger the fermentation process. Containers previously used for toxic materials shall not be used for holding the coconut sap.

In sap collection, it is recommended to select bearing trees with healthy unopened inflorescence. Interval of collection of coconut sap or toddy is generally every five (5) hours to prevent fermentation and maintain pH not lower than six (6). Coconut sap gathered must be evaluated for the following: pH (≥6), and clarity (translucent to clear). Determining the pH and clarity is important to detect the degree of fermentation of the sap. The harvested sap should be processed right after collection. This is to avoid the start of the fermentation process. Once fermentation begins, the coconut sap will not form any sugar granules.

8.1.4 Piling and hauling or transporting of nuts and sap harvested from LFPC plantations to the processing facility.

8.1.4.1 Transportation of Nuts

The farm workers will gather and pile or load the nuts harvested in a primitive bamboo cart without wheels which is attached to a carabao's shoulder, and subsequently pulled going to the farm gate. At the farm gate, the workers will unload and pile again the coconuts in a designated piling area or storehouse prior or to the hauling of the huge volume of coconuts by motorized vehicles going to the processing hub.

8.1.4.2 Transportation of Sap

Conveyances for transporting the harvested coconut sap should be made of such material and construction that will permit easy and thorough cleaning. Facilities should be clean and maintained clean and when necessary disinfected so as not to constitute a source of contamination to the coconut sap. All handling procedures should prevent the coconut sap from being contaminated. Care should be taken to prevent fermentation and to protect against contamination.

8.2 Harvesting at Forest Tree Plantations

Harvesting some trees allows more growing space for the remaining trees and tree seedlings. A well-planned harvest focuses on the trees that are to remain rather than on the trees that are to be cut. These "residual" trees and seedlings will provide the forest benefits that future generations will enjoy, so it is important to choose them with care.

Harvesting can lessen competition for soil nutrients and sunlight. Trees grow bigger and more rapidly when other trees do not crowd them. Given enough space, a tree can increase its crown, or treetop, size. Large crowns allow trees to capture more sunlight and, through photosynthesis, produce more sugars to grow faster. Nature thins out a forest on its own. Good harvesting mimics nature but speeds the process.

Foresters measure trees for volume, quality, and growth rate. They write forest management plans. Foresters must make careful observations of not only the trees, but also the soils, wildlife habitat, streams, and other important features in the area.

The forester's management plan might give a "prescription" for a tree harvest. Just like a doctor's prescription tells us what medicines to take to feel better, a harvest prescription tells what to do to keep a forest healthy and productive. Harvesting prescriptions describe which trees to cut to help landowners carry out their plans. Harvesting prescriptions also describe how harvests should be conducted. Careful, knowledgeable planning is needed to minimize any negative effects on the surrounding environmental features and on the residual stand.

8.2.1 The Harvesting Process

Following the guidelines of the prescription, the forester marks selected trees with paint. The paint shows a logger, the person who cuts the trees, which trees to cut and which ones to leave, and limit logging damage.

Loggers use chainsaws and other special equipment to cut marked trees. Once a tree is felled, its branches are cut off. This is called delimbing. Most of the time the branches are left in the woods. These branches, or "slash," may protect new tree seedlings from any natural or man-made induced harm. As slash breaks down through decay over a few years, nutrients return to the soil.

The trees are then pulled, or "skidded," through the harvest area to an open place called the "landing." Depending on tree size and site conditions, rubber-tired skidders, or mechanized conveyances and horses are used to move trees. Matching the right equipment to the forest's conditions is an important part of good harvesting. At the landing, trees are "bucked" or cut into smaller sections called logs.

Protecting forest soils, and other factors that contribute to the productivity of the forest site, is essential. Special effort must be made to control the amount and direction of water flow on logging roads, skid trails, and log landings during timber harvests. Improper water flow can wash away forest soils.

From the landing, the logs are loaded onto trucks and delivered to mini sawmills. At mills such as this, logs become into various products that we use every day.

8.3 Harvesting of agricultural crops

The nutritional value, freshness, and flavour of fresh produce (includes all vegetables and fruits) will depend on the stage of maturity and the time of day at when they are harvested. If the harvested produce is overly mature they will be stringy and coarse. Produce picked too soon may be too tender and will lack substance and flavour.

8.3.1 Harvesting Processes

Before harvesting can commence, a number of decisions must be taken and preparations must be made.

Based on the maturity indexing data and the crop estimate, a decision has to be taken on when picking will start, and on the picking period.

A decision can also be taken on the number of pickers and picking teams that will be required. The necessary workers are recruited and trained, if necessary prior to the harvest.

In preparation for harvesting, a general inspection of the equipment is required to ensure that maintenance has been adequately seen to. Pruning shears, picking bags, ladders, bins, conveyances, and tractors are inspected to ensure that they are in the proper working condition. All equipment that may come into contact with fruit must also be cleaned and sterilized to limit waste and decay.

8.3.2 Harvesting Methods

Fruit picking can be done through snap picking; and clipping methods.

Snap picking is a method whereby fruit is twisted off sharply by hand without using an implement. Clipping makes use of specifically designed pruning shears that are used to cut the stem of the fruit. Clipping is generally recommended in most situations, but there are cases where snap picking, which is faster, is appropriate.

In the case of clipping, purpose-built pruning shears are used to cut the stem as close to the button, or calyx, as possible without injuring the shoulder of the fruit. Long stems of between 1mm and 4mm, which result from inefficient cutting, are a frequent problem in harvesting and can lead to injuries to fruit when they are put into the picking bags, trailers or bins. Injuries of this nature can cause the fruit to decay at a later stage. If fruit is handled roughly or if the shoulders are cut by inexperienced pickers or pickers who are not taking enough time, it also increases the risk of fruit decay.

Snap picking is not recommended for produce such as export citrus fruit for a number of reasons. The calyx buttons are pulled out easily, oleocellosis develops because of the pressure on fruit as it is pulled and twisted, and stems are sometimes not cleanly broken off.

Snap picking is often done in tomatoes and other vegetable fruit crops, while the use of clipping is often done to improve the quality of the produce less bruising and other physical damage associated with snap picking occurs.

8.3.2.1 Harvesting of leafy vegetables

In most cases, as practiced in the harvest of cabbage and lettuce, cabbage and lettuce heads are cut from the root at the base of the head and as close as possible to the soil surface, using a knife. Where individual leaves are harvested such as Swiss chard (spinach) or lettuce, the fingers are placed close to the base of the petioles and while firmly keeping hold of the petiole the leaf will be removed from the plant in the same way as the snap pick procedure followed in tree fruit. This may, however, cause tearing of the petiole tissue and knifes could also be used for a cleaner cut.

8.3.2.2 Harvesting of grain and seed crops

If small areas are to be harvested, for instance, maize ears can be harvested with the snap picking while pruning shears can be used cut the heads of the stem. The ears can then be taken to the shed where the ear leaves have to be removed to gain access to the kernels. By simply rubbing the hand palm firmly over the ear, the kernels can be removed. An alternative is to rub two ears together. When soybeans are harvested it would be easier to cut the stem with pruning shears or any other sharp tool close to the soil surface, taking the stems to the shed and manually removing the pods from the stem there. The seeds can be removed by pressing hard on the sides of the pods to force it open.

8.3.2.3 Harvesting of Vegetable Crops

Vegetables should be harvested during the cool part of the morning and should be stored as soon as possible. If the produce is destined for the market, ensure that the storage conditions are correct for the produce. If they are destined for processing, they should be cooled and stored under refrigeration to preserve flavour and quality. It is important to ensure that the pickers are familiar with the basic harvest practice for each crop they are dealing with. What follows are some examples of harvest practices for different crops.

Beans – green - Start harvesting before seeds develop in the pod – when the green pods are about the diameter of a pencil. To determine harvest readiness bend them in the middle, if they snap easily, they can be harvested.

Broccoli - Harvest the dark green compact clusters or heads when they are about 15 cm in diameter. The buds must be tight and should be harvested before any yellow flower develops. As you harvest the heads, smaller side shoots will develop providing an almost continuous harvest.

Cabbage - Harvest cabbage when the heads feel hard and solid. If left to late the heads will crack and split. Cut the heads from the stem just below the point of attachment to the stem. Ensure that you use a clean, sharp suitable knife. Always clean the knife using a dip mixture of suitable sanitizer in water. One can harvest the sprouts that develop as a later crop.

Cucumbers - Harvest when the fruits are deep green and before a yellow colour develops. The cucumber fruit should be 5 – 8 cm long for sweet pickles; 13 – 16 cm for dill pickles, and 16 – 20 cm for slicing pickles. Harvest 4 to 5 times per week to encourage continuous production. Mature cucumbers left on the vine will stop the production of the entire plant.

Lettuce - For non-heading types harvest the older, outer leaves from leaf lettuce when they are approximately 12 cm long. For heading types harvest when the heads are moderately firm but well before seed stalks form.

Onions - Harvest when the tops fall over and begin to turn yellow. Dig out the onions and place them to dry out in the open sun for a few days. The onions are sufficiently dry when skin is toughened. Remove the dried soil by brushing the onions lightly. Cut the stem, leaving 4 to 5 cm and store in a net bag in a cool, dry place.

8.3 Harvesting of fruits of fruit bearing trees

8.3.1 Important considerations in harvesting fruits of fruit bearing trees:

- Do not shake the branches of the trees to make the fruits fall down as this will lead to bruising.
- Use ladders where possible.
- When harvesting for processing, a harvesting stick can be used where fruit are too high to reach but allow the fruits drop onto a soft surface, such as a net.
- When mango and avocados are to be exported or transported for extended periods, leave a portion of the stalk on the fruit.
- Do not throw fruits out during harvest.
- When harvesting heavy banana bunches use two people per bunch.
- Harvest in the early morning or late afternoon.
- Do the first grading according to market destination during harvest.
- Ensure that the latex from mango and banana does not come into contact with the skin of the fruit. If this happens wash the fruit in clean water.
- Take care of your eyes, if harvested fruits contain latex juice.
- Place your fruits on a well-aerated surface or in containers that are not made of rough surfaces.
- Handle the fruit as little as possible.
- Pack the fruits as soon as possible into the final transport box or container.
- Export fruit may have to be cooled.

9. Coconut Processing and Packaging *(Reference: ICAR-Central Plantation Crops Research Institute, Kasaragod-671 124, Kerala)*

Harvested coconuts will be processed in the coconut processing hub or facility which is equipped with the following machines and boiler that uses a biomass fuel out of coconut husk, coconut shell and rice hull:

- Dehusking machines
- Peeling machines
- Cutting machines
- Hydraulic machines
- Centrifuge Machines
- Pasteurizers
- Product Storage Tanks
- Product drying machines
- Packaging Machines

9.1 Processing of virgin coconut oil

Virgin coconut oil (VCO) is one of the edible oil growing in popularity as a nutritional supplements and functional food in the emerging functional food market. The present health scenario characterized by the highest prevalence of cardiovascular diseases demands the consumption of oil and fats that can lower the lipid level in serum and tissues to sustain the human health. In this context, coconut oil is given importance based on their medium chain fatty acid profile that could contribute to the healthy heart besides being a source of energy and fat-soluble vitamins in the maintenance of human nutrition. Virgin coconut oil has received much attention as a “healthiest oil in the world”, due to its rich amount of medium chain fatty acids especially 48-53 % of lauric acid that could augment the metabolism, immunity, digestibility and ensure the sound serum lipid profile contributing to the

healthy survival. VCO is oil derived from the fresh and mature kernel (12 months old from pollination) of the coconut (Cocos nucifera L.) by mechanical or natural means with or without the application of heat, which does not lead to alteration of the nature of the oil. VCO has not undergone chemical refining, bleaching or deodorizing and suitable for consumption in the natural state without the need for further processing and it is consists mainly of medium chain triglycerides, which are resistant to oxidation and the fatty acids present in VCO are distinct from animal fats, which contain mainly of long chain saturated fatty acids. Virgin coconut oil is colorless, free of sediment with natural fresh coconut scent. It is free from rancid odor or taste.

Virgin coconut oil, a coconut oil that has been extracted from copra obtained from the fresh kernel of coconut by mechanical or natural means with or without the application of heat and which does not lead to alteration of the oil in any way.

Virgin coconut oil is suitable for human consumption in its natural state without refining. Beside other standards one important proposal is that, no additives may be added to virgin coconut oil. Extraction of oils from oilseeds is a major influential step for their commercialization. The extraction process has a direct effect on the quality and quantity of oils obtained. VCO is extracted from fresh and mature kernel of the coconut by natural and mechanical means with or without the use of heat and without undertaking chemical treatment and refining procedure therefore, retaining the sensory and functional characteristics of fresh coconut. Various methods like Solvent extraction method, dry method and wet methods are available for extraction of coconut oil from coconut kernel. The use of solvents for oil recovery has several drawbacks such as high safety hazard, high-energy input, low quality oil, environmental risk and low quality meal. In wet method, oil is extracted through coconut milk by heating and non-heating processes. In heating process, oil is extracted by direct heating of coconut milk whereas in non-heating process the oil is extracted through aqueous extraction process, fermentation process, supercritical fluid extraction process and enzymatic extraction process. In non-heating process, the coconut milk is not undergone to heating for the extraction of VCO therefore found to be advantageous over heating process in retaining the functional characteristics of fresh coconut.

9.1.1 Cold extraction processes

Cold extraction is the term used for the extraction coconut oil from coconut milk by breaking the emulsion without heating. The high stability of the coconut milk emulsion need the destabilization of coconut milk can be done in three stages. In the first stage cream is separated by the action of gravitational force resulting in two phases, the top phase with the creamy layer and the down phase with aqueous layer. The second stage is flocculation and clustering in which the oil phase moves as a group and which does not involve the rupture of the interfacial film that normally surrounds. The third phase is most critical phase in the destabilization of coconut milk, coalescence in this stage the interfacial areas is ruptured and reduce that help to joined oil globules together. This method appears more desirable due to elimination of solvent and refining, bleaching and deodorizing process, which reportedly may lower the investment cost and energy requirements, thus more environmentally friendly than the solvent extraction. Therefore, it can be carried out at home by anyone who is interested in producing their own natural oil. Even though the concept appears potentially attractive, however, the method yields comparatively low content of oil, which has discouraged its commercial use. Cold extraction processes reviewed and presented under the following heads.

9.1.2 Chilling, freezing and thawing method

The stability of coconut milk emulsion in this process is broken by chilling, freezing and thawing, and thawed cream separated by centrifugation. The emulsion was centrifuged before chilling and thawing to allow better packing of the coconut oil globules. used the temperature 10°C and - 4°C for chilling and freezing process, respectively, and the thawing process was carried out in a water bath at 40°C until the coconut cream reached room temperature (25°C). In addition, this action also helps in removing un-dissolved solids after extraction. The removal of solids present in high percentages in the dispersion of oil seed was important for efficient recovery of oil by centrifugation. The centrifugation step was followed to enable the packing of cream oil globule to crystallize on lowering the temperature. Centrifugation process as carried out from 2000 to 5000 rpm up to 6 min. During thawing, the oil coalesced due to loss of spherical shape and formed large droplets of varying sizes. Investigated the freezing and thawing techniques using Robledano-Luzuriage and Krauss-Maffei methods as alternative of fermentation method. In the Robledano-Luzuriage method, the cream was exposed to control enzymatic conditions and oil was obtained by repeated centrifugation following by freeze-thaw operation. However, in the Krauss-Maffei method, first, the autoclaved coconut kernels was grated using cutter mill and roller mill and then pressed in hydraulic press to extract milk emulsion. The emulsion was centrifuged and the separated cream was heated at 92°C to obtain oil. Even though the yield of oil is slightly higher (89%), the quality of oil is lower, in Krauss-Maffei process. The study shows that quite a high recovery of oil was obtained, but the temperature employed was slightly high, which might destroy some of its minor components such as phenolic compounds.

9.1.3 Centrifugation method

The extraction of VCO was studied by using various centrifugation speeds, temperature and time intervals. The results showed that the yield of VCO was 13.53% at 12000 rpm, at 120 minutes. The highest yield of VCO was 13.80% at centrifugation temperature of 40°C. studied the potential of the centrifugation in demulsification of coconut milk that was collected from local market and centrifuge at different speed from 6000 to 12000 rpm for time varied from 30 to 105 min, resulting that enhanced the demulsification of coconut milk in a very short time compare to the fermentation method and provide higher yield.

9.1.4 Fermentation method

Fermentation is also a well-known method in cold process for the extraction of virgin coconut oil from the coconut milk. The fermentation method is being done to extract VCO by inoculating the pure culture of probiotic bacteria (Lactobacillus plantarum 1041 IAM) in different ratio of coconut kernel to water (1:1 to 1:3) at different temperature (30 to 70°C) and time (2-6 h). The results revealed that inoculums assisted in the rapid breakage of emulsion and the release of 95% of the oil due to the virulence of a Lactobacillus plantarumstrain in coconut milk compared to Lactobacillus delbrueckii inoculums.

Extracted VCO uses bacterial cultures by adjusting the pH to destabilize the coconut milk emulsion. Similarly, also showed the improved quality and quantity of VCO by inducing fermentation method using Lactobacillus sp. Under controlled condition in a bioreactor. However, the main disadvantages of fermentation based wet process are time consuming (24-48 h) and poor quality of oil characterized by yellow in color and fermented odor, which can mask the characteristic coconut flavor of the oil due to the presence of unwanted microorganisms and uncontrolled conditions.

Investigated the effect of 25% (w/v) acetic acid to disrupt the coconut milk emulsion and revealed that treatment of acetic acid at a level 0.1 to 0.4% followed by reaction time of 10 to 14 h at ambient temperature was assisted to release 58.3 to 60.3% of oil with improved quality. These processes were possible due to the fact the coconut milk proteins were easily coagulated and precipitated at pH 4.

9.1.5 Aqueous enzymatic extraction method

VCO extraction can also be carried out by the use of enzymes in the aqueous extraction process. Extracted coconut oil by an action of mixture of enzymes including Cellules, Term amyl (endoamylase), Viscozyme L, neutrase and alcalase (protease) on fresh coconut kernel through coconut milk that yielded 83% of good quality oil.

Augmented the yield of coconut oil up to 65.5% from copra by using a mixture of protease, α-amylase, cellulase, hemicellulase and pectinase enzymes in an aqueous system. Reported that extraction of coconut oil from the freshly grated coconut kernel using a commercial the gamanase enzyme. Used a 2% mixture of hemicellulase, pectinase, cellulase and gamanase enzyme that yielded 84% of oil from the desiccated coconut kernel.

Used a 1% (w/w) mixture of cellulose, α-amylase, polygalacturonase and protease enzymes at 60 °C of pH 7 that yielded 73.8% of oil from grated coconut kernel. Revealed that cellulase treatment of fresh and desiccated coconut kernel reduced the fibrous content by 17% and 62%, respectively and significantly increased the extractability of oil and protein. Showed that combined effect of galactomannase and a soya polysaccharide degrading enzyme complex treatment on desiccated coconut for releasing oil. Extracted coconut oil through the enzymatic action of mixed enzymes including α-amylase, polygalacturonase and protease on diluted coconut paste resulting in an 80% yield of good quality oil that has not undergone any purification step.

9.1.6 Hot extraction process

In Hot extraction processes, coconut oil is extract from coconut milk by heating. Due to heating the proteins of coconut milk are denatured and destabilized the milk emulsion. Extracted the VCO by heating coconut milk at 100-120°C for 60 mints until the water was completely evaporated. To extract the VCO from coconut milk, the protein is coagulate by slow heating in VCO cooker and releases the oil that separated from pertinacious residue by filtering through muslin cloth and remaining residue further heated to remove more oil.

9.2 Coconut sap sugar production *(Reference: Philippine Council for Agriculture, Forestry and Natural Resources Research and Development, Department of Science and Technology)*

Coconut sap sugar is a natural sweetener derived from tapping the unopened inflorescence of the coconut palm. It is a simple farm-level technology involving a natural process of heat evaporation to convert liquid sap to solid form of sugar granules.

9.2.1 Conversion of sap into syrup

The production of coconut sap sugar is highly dependent on critical parameters such as pH, temperature, and level of microbial activity of natural yeast present in the sap. Coconut sap should be strained prior to boiling to remove unnecessary materials. The pH level of the sap should not be lower than six (6) otherwise, fermentation may occur.
Boiling is usually done at around 115°C for three (3) to four (4) hours depending on the volume to remove the water content of the sap. When the liquid is already boiling, scum or

foam will be produced and should be removed to avoid the formation of dark residues on the final product. Constant and vigorous stirring of the boiling sap will hasten the conversion of the sap into syrup form.

9.2.2 Conversion of syrup into granulated sugar

The transfer of the syrup to a smaller cooking vessel under low heat source with continuous stirring should be done to allow cooling and prevent burning. Stirring allows air to enter into the sticky syrup which will cause the gradual cooling of the mixture resulting to granulation.

9.2.3 Sieving and drying of coconut sap sugar

Granules may be reduced in particle size using a food grade stainless steel sieve or similar material, to produce uniform granules. The granules should be allowed to dry in a clean, dry and enclosed room for at least one (1) hour to reduce the moisture content to about 4%.

9.2.4 Removal of unfit raw material

Fermented coconut sap, which is not suitable for coconut sap sugar production should be segregated during harvesting and processing to avoid contamination of raw material or other food materials. Those that are unfit can be further processed into coconut sap syrup, vinegar or lambanog. Proper disposal of the unfit raw material should be strictly followed to prevent possible mixing with the sap for sugar production.

9.2.5 Control of pest and other contaminants

Pests should be controlled in a way that does not contribute to the contamination of the raw materials, finished product or the processing area with chemical residues. Likewise, precautions should be taken to protect the product from microbiological and physical contaminants as well as other objectionable substances.

9.2.6 Packaging

Care should be taken to ensure that coconut sap sugar is not contaminated. It should not be manually handled. Mechanical devices, containers, scoops or other implements constructed of impervious materials should be used to prevent contamination. Such implements should be washed and disinfected before and after use.
Packaging materials should be handled in a sanitary manner and stored in a clean, dry place. Packaging materials shall be food grade and suitable for intended use. Packaging activities should be done in a separate room under conditions that preclude the introduction of contamination into the product. All workers and food handlers should follow practices indicated in the *Codex Recommended International Code of Practice-General Principles of Food Hygiene (CAC/RCP 1-1969, Rev 4:2003)* and the *FDA Revised Guidelines on Current Good Manufacturing Practice in Manufacturing, Packing, Repacking, or Holding Food (Department of Health Administrative Order No. 153 S. 2004)* to avoid contamination.

9.2.7 Handling, storage and transport

The finished product should be stored and transported in a clean, cool and dry place to prevent infestation and contamination with or development of pathogenic microorganisms. Transport of products at ambient temperature will protect the product against deterioration. Exposure to high heat or extreme conditions should be avoided.

9.2.8 Equipment and utensils

All food contact surfaces should be smooth; free from pits, crevices and loose scale; non-toxic; resistant to corrosion and capable of withstanding repeated exposure to normal cleaning and disinfection; and non-absorbent unless the nature of a particular and otherwise acceptable process renders the use of a surface, such as wood, necessary.
All equipment in boiling and packing sections coming into direct contact with coconut sap should be made of a food grade material such as stainless steel and should be cleaned and sanitized before and after use. There should be regular cleaning schedule for all equipment and food contact materials used during processing.

10. Yield and Production

10.1 Yield per hectare and yield projection for all products

10.1.1 Whole matured nuts

The average harvest of whole nuts per hectare annually is twelve thousand six hundred seventy-one (12,671) pieces. The yield projection is two hundred twenty-eight thousand seventy-eight (228,078). The full bearing of coconuts is started from seven (7) years old of age.

10.1.2 Coconut sap

The spathe of coconut trees in good stand can yield an average of 1 liter of sap per day. The yield of coconut sap per hectare per day is two hundred ninety-four (294) liters. The harvest of coconut sap per hectare per year is seventy-nine thousand three hundred eighty (79,380) liters.

The LFPC can start to produce all products from the hybrid coconut depending on the performance of the coconut planted. The early stage to harvest coconut for all products can start from the sixth (6^{th}) year upon planting the coconut seedling. The full bearing of fruits of the hybrid coconut depends on the soil condition, topography and climate condition of the area. The details of the coconut products and the yield per hectare is presented below as Table 42.

Table 42. Coconut products and the yield per hectare.

Coconut Products	Unit	Yield per hectare/year
Whole nuts	Piece	12,671
Coconut sap	Liter	79,380

The corresponding percentage allocated for each coconut products versus the total area planted with coconut is presented in the table below.

Table 43. Percent allocation of each coconut products (whole nuts & coconut sap) versus the total hectares planted with coconut.

Coconut Products	Percent allocation (%)	Extent of allocation (ha)
Whole nuts	60	1,769.3541
Coconut sap	40	1,179.5694
Total	100	2,948.9235

Sixty percent (60%) of the whole coconut plantation will be subjected to produce whole nuts for sale to the market, while the remaining forty percent (40%) will be allocated to produce coconut sap to be processed by LFPC and/or the sap will be sold directly to the market.

10.1.3 Forest trees

Gmelina arborea (Roxb.) plantations established through by block planting method on a one (1) hectare at 10 meters by 10 meters spacing produces 100 trees. Cutting of these Gmelina trees will start at the eight (8) year after planting the same, and when the diameter at breast height (dbh) are already about 30 centimeters and above. Also, at the 8th year of the trees, their merchantable height are assumed to be at seven (7) meters, hence, a single Gmelina tree will produce about 0.307 cubic meter volume of wood. The total volume of wood to be produced by the 100 trees per hectare is 30.7 cubic meters.
For, mahogany trees at the same method of planting and spacing per hectare, at the 20th year after planting, and the dbh of these trees are assumed to be at 25 centimeters and their merchantable height are 10 meters, hence, a single mahogany tree will produce a 0.305 cubic meter volume of wood. The total volume of wood to be produced by the 100 trees per hectare is 30.5 cubic meters.

10.2 Financial analysis/projected cash flow

The table below shows the financial analysis/projected cash flow of the company from 2018 to 2043.

Table 44. Financial analysis/projected cash flow

CASH INFLOW	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13
	2018-19	2019-20	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	2029-2030	2030-2031
I. CAPITAL INVESTMENT	85,300,000	3,193,000	3,798,500	17,174,000	47,380,500								
II. REVENUES													
8.1 Coconut													
- Nut						23,149,920	73,783,230	125,024,760	169,119,840	206,828,730	224,200,670	224,200,670	224,200,670
- Sap						48,342,420	154,076,580	261,080,820	353,161,620	431,906,580	468,183,240	468,183,240	468,183,240
-Other by products													
8.2 Forest trees										16,855,720	22,322,440	26,650,260	25,739,140
8.3 Agricultural crops			1,360,000	1,360,000	1,360,000	1'360,000	1,360,000	1,360,000	1,360,000	1,360,000	1,360,000	1,360,000	1,360,000
TOTAL CASH INFLOW			1,360,000	1,360,000	1,360,000	72,852,340	229,219,810	387,465,580	523,641,460	656,951,030	716,066,350	720,394,170	719,483,050
CASH OUTFLOW													
I. Nursery establishment and operations	27,820,640	33,061,770	28,714,750	24,623,410	20,965,410	68,000	68,000	68,000	68,000	169,750	202,750	228,875	223,375
II. Plantation establishment													
1. HYBRID COCONUT	60,900,000	72,300,000	62,500,000	53,500,000	45,700,000								
2. FOREST TREES	3,050,000	4,010,000	4,890,000	4,730,000	3,000,000					2,960,000	3,920,000	4,680,000	4,520,000
3. AGRICULTURAL CROPS			535,000	535,000	535,000	535,000	535,000	535,000	535,000	535,000	535,000	535,000	535,000
III. Maintenance and protection	16,765,000	35,320,000	51,885,000	65,165,000	75,735,000	74,235,000	74,235,000	74,235,000	74,235,000	75,715,000	76,195,000	76,575,000	76,495,000
IV. Direct costs (salaries wages including maintenance and operating expenses)	31,668,866	62,953,140	70,475,884	77,913,472	85,654,819								
V. Boundary delineation	346,140												
VI. Forest protection	490,000	490,000	490,000	490,000	490,000	490,000	490,000	490,000	490,000	490,000	490,000	490,000	490,000
VII. Government share			64,000	64,000	64,000	2,208,770	6,899,794	11,647,167	15,732,444	19,731,731	21,505,190	21,635,025	21,607,691
VIII. Share of the community						714,923	2,278,598	3,861,056	5,222,815	6,555,910	7,147,064	7,190,342	7,181,231
IX. Etc.													
Land Rental	2,131,500	5,035,013	8,103,647	11,394,273	14,987,757	16,899,596	18,301,907	19,219,933	19,674,018	19,674,018	19,674,018	19,674,018	19,674,018
Sub-total	143,172,146	213,169,923	227,658,281	238,415,155	247,131,986	95,151,289	102,808,299	110,056,156	115,957,276	125,831,409	129,669,021	131,008,260	130,726,314
Contingency expenses (10%)	14,317,215	21,316,992	2,765,828	23,841,516	24,713,199	9,515,129	10,280,830	11,005,616	11,595,728	12,583,141	12,966,902	13,100,826	13,072,631
TOTAL CASH OUTFLOW	157,489,360	234,486,915	250,424,109	262,256,671	271,845,184	104,666,418	113,089,129	121,061,772	127,553,004	138,414,550	142,635,924	144,109,086	143,798,946

NET CASH INFLOW	0	0	0	0	0	0	116,130,681	266,403,808	396,088,456	518,536,480	573,430,426	576,285,084	575,684,104
CASH INFLOW	**Year 14**	**Year 15**	**Year 16**	**Year 17**	**Year 18**	**Year 19**	**Year 20**	**Year 21**	**Year 22**	**Year 23**	**Year 24**	**Year 25**	**TOTAL**
	2031-2032	**2032-2033**	**2033-2034**	**2034-2035**	**2035-2036**	**2036-2037**	**2037-2038**	**2038-2039**	**2039-2040**	**2040-2041**	**2041-2042**	**2042-2043**	
I. CAPITAL INVESTMENT													**156,846,000**
II. REVENUES													
8.1 Coconut													
- Nut	224,200,670	224,200,670	224,200,670	224,200,670	224,200,670	224,200,670	224,200,670	224,200,670	224,200,670	224,200,670	224,200,670	224,200,670	3,960,916,530
- Sap	468,183,240	468,183,240	468,183,240	468,183,240	468,183,240	468,183,240	468,183,240	468,183,240	468,183,240	468,183,240	468,183,240	468,183,240	8,271,316,620
-Other by products													
8.2 Forest trees	17,083,500					16,855,720	39,069,380	48,828,640	52,217,410	42,656,530	16,973,250		325,251,990
8.3 Agricultural crops	1,360,000	1,360,000	1,360,000	1,360,000	1,360,000	1,360,000	1,360,000	1,360,000	1,360,000	1,360,000	1,360,000	1,360,000	31,280,000
TOTAL CASH INFLOW	**710,827,410**	**693,743,910**	**693,743,910**	**693,743,910**	**693,743,910**	**710,599,630**	**732,813,290**	**742,572,550**	**745,961,320**	**736,400,440**	**710,717,160**	**693,743,910**	**12,588,765,140**
CASH OUTFLOW													
I. Nursery establishment and operations	171,125	68,000	68,000	68,000	68,000	169,750	202,750	228,875	223,375	171,125	68,000	68,000	137,857,730
II. Plantation establishment													
1. HYBRID COCONUT													294,900,000
2. FOREST TREES	3,000,000					2,960,000	3,920,000	4,680,000	4,520,000	3,000,000			57,840,000.00
3. AGRICULTURAL CROPS	535,000	535,000	535,000	535,000	535,000	535,000	535,000	535,000	535,000	535,000	535,000	535,000	12,305,000
III. Maintenance and protection	75,735,000	74,235,000	74,235,000	74,235,000	74,235,000	75,715,000	76,195,000	76,575,000	76,495,000	75,735,000	74,235,000	74,235,000	1,748,650,000
IV. Direct costs (salaries wages including maintenance and operating expenses)													328,666,181
V. Boundary delineation													346,140
VI. Forest protection	490,000	490,000	490,000	490,000	490,000	490,000	490,000	490,000	490,000	490,000	490,000	490,000	12,250,000
VII. Government share	21,348,022	20,835,517	20,835,517	20,835,517	20,835,517	21,341,189	21,505,190	22,300,376	22,402,039	22,115,213	21,344,715	20,835,517	377,694,147
VIII. Share of the community	7,094,674	6,923,839	6,923,839	6,923,839	6,923,839	7,092,396	7,314,533	7,412,126	7,446,013	7,350,404	7,093,572	6,923,839	125,574,851
IX. Etc.													
Land Rental	19,674,018	19,674,018	19,674,018	19,674,018	19,674,018	19,674,018	19,674,018	19,674,018	19,674,018	19,674,018	19,674,018	19,674,018	430,531,925
Sub-total	**128,047,839**	**122,761,374**	**122,761,374**	**122,761,374**	**122,761,374**	**127,977,353**	**129,836,490**	**131,895,394**	**131,785,445**	**129,070,760**	**123,440,304**	**122,761,374**	**3,526,615,973**
Contingency expenses (10%)	12,804,784	12,276,137	12,276,137	12,276,137	12,276,137	12,797,735	12,983,649	13,189,539	13,178,545	12,907,076	12,344,030	12,276,137	**352,661,597**
TOTAL CASH OUTFLOW	**140,852,623**	**135,037,511**	**135,037,511**	**135,037,511**	**135,037,511**	**140,775,088**	**142,820,139**	**145,084,934**	**144,963,990**	**141,977,836**	**135,784,335**	**135,037,511**	**3,879,277,570**
NET CASH INFLOW	**569,974,787**	**558,706,399**	**558,706,399**	**558,706,399**	**558,706,399**	**569,824,542**	**589,993,151**	**597,487,616**	**600,997,330**	**594,422,604**	**574,932,825**	**558,706,399**	**8,709,487,570**

11. Monitoring and Quality Control

11.1 Project's implementation monitoring

Monitoring of LFPC's compliance with the terms and conditions of the JVA, ECC and other government permits will be undertaken by the DENR, concerned LGU's and other relevant agencies consistent with the existing guidelines on the matter.

The physical development aspect of the project like the quantity and health condition of the nurseries, coconut plantations, and agro-forestry plantations will be monitored by LFPC on a monthly basis. Monitoring results shall be recorded and reported monthly to concerned units within the LFPC table of organization as basis for further appropriate action.

Appropriate maintenance and protection activities but not limited to the application of indigenous or organic fertilizer/pesticide/insecticide/fungicide and foot patrolling will be implemented as well to deter pest and insect infestation and any untoward destruction that maybe induced by human or animal. Moreover, regular weeding and watering the seedbeds/seedlings through canal and sprinkler irrigation system is a necessary activity in the plantations.

11.2 LFPC's internal monitoring and evaluation

The Corporation will implement its administrative and technical activities with efficient monitoring and evaluation tool and control measures to ensure that its investment is not wasted. It will treat monitoring and evaluation as an important integral part of the implementation process and assign competent staff to monitoring duties. It will establish a schedule of meetings to evaluate progress.

A spreadsheet containing the planned physical and financial activities will be set and the progress of the activities implementation will be regularly monitored. Periodic evaluation as part of the operation will help the Corporation eliminate or modify ineffective strategies that are not worth the effort, time and money spend in creating these strategies. At regular intervals, the Corporation will conduct an evaluation on its objectives through an evaluation guideline that include timelines for reaching specific objectives. If found that the progress toward one is slower than the others, then, may be strategies at hand are ineffective, hence, there is a need to be ramped up.

Likewise, the Corporation will pay particular attention to strategies that may cost a large amount of money to make sure that the return on investment is worthwhile and will make room for new efforts.

11.3 Managerial strategies to ensure efficiency of the Company's workforce

The Corporation will spell out its overall objectives as fully as possible. It will set concrete and measurable goals with a seal of approval on these goals from senior management before it will jump into brainstorming among the supervisors and staff or co-workers about specific tactics. It will not discount the value of brainstorming with trusted advisers.

On physical and financial plans, it will set a financial budget and break down large numbers into more specific ones, and calculate the cost of each project or activity and the man-hours that go into each project and then measure that cost against the project's profits to determine the return on investment. Relevant graphs and charts needed to illustrate important segments of the plan will be produced.

In terms of the requirements on resources, it will allocate in-house resources and determine or set what activities should be outsourced.

11.4 Corporation's strategy to ensure quality management, quality service, and quality production.

The Corporation will employ relevant organizational development and management (ODM) strategies that involves the observance of relevant appraisal process, ethics, code of ethics, safety, security, internal conduct, employment and training, and employee time to ensure quality management, quality service, and quality production.

The appraisal process will include the following:

Table 45. The appraisal processes

Work planning	Performance review	Performance planning	Continuing education
Review job descriptions	Discuss performance among supervisor and staff	Agree on standards and goals for next period	Skills improvement
Discuss current priorities and work improvement	2-way conversation with employee self-assessment	Discuss training and resources needed	Take new responsibilities
Agree on specific work objectives and activities for next review period	Evaluation of the last work plan	Improve work planning for the next period	Strengthen pride and commitment

The other ODM parameters are presented below.

Table 46. ODM parameters

ODM parameters	Concerns to address
Ethics which are the rules, standards and moral choices that govern a person's conduct	Individual, organizational, professional, and legal and regulatory ethics
Code of Ethics	Ethical dealings with law enforcement, government offices and media.
Safety and Security	Workplace security and data security to safeguard physical, technical administrative and personnel
Workplace Safety and Security	Site security, travel security, inclement weather policy, medical emergency policy, and disaster policy and community safety procedures
Internal Conduct	Anti-discrimination, anti-harassment, dress code, travel expenses and reporting, drug and alcohol policy, other legal governance, operations and process manuals.
Employment and Training	Employees eligibilities and job descriptions, expenses reporting and reimbursements, employee record polices, disciplinary procedures, termination, resignation
Employee Time	Hours of operation and scheduled hours, holidays, absences, sick leave, paid time-off, and other leave
Compensation and Evaluation	Salary policy, benefits policy, performance appraisal process
Employee Conduct	Ethics policies and guidelines, anti-discrimination policy, anti-harassment policy, data security, workplace safety and security, dress code, expenses reporting, other conduct policies
Staff Training	Training, capacity building

While having an excellent strategy is a necessity, its execution that ultimately determines success or failure. Basing from the business strategy of the Corporation, it will take specific and measurable steps to ensure that its staff will deliver actual results. It will emphasize what should be accomplished within one year, but include shorter-term benchmarks to track results along the way.

12. Forest Management and Records Systems

12.1. Demarcation of the hybrid coconut plantation

The would-be coconut plantations will be delineated and compartmentalized in varying dimensions (e.g. 10 ha., 50 ha., 100 ha.), and these compartments will be subsequently demarcated on the ground depending on the contiguity of the areas (e.g. 10 ha., 50 ha., 100 ha.) to be planted with coconuts.

The Corporation, in coordination with the CENRO will conduct demarcation activities through installation of monuments or markers on the ground made of PVC (4" size, blue in color) filled with concrete and steel reinforcing bar on the corners of the compartmentalized plantation area prior to out planting. Once the plantation areas are demarcated, a data base for the purpose will be established, and the existence of such data base on the demarcated compartmentalized areas planted with coconuts within the JVA area will ease the monitoring and reporting activities of the Corporation and the other relevant agencies as well.

12.2. Records management

To ensure comprehensiveness, non-redundancy and appropriate structure of data and information, the Corporation's administrative department will maintain a data base as a repository of all the administrative technical records or accounts. Among the concerns or activities to be recorded or accounted are:

Table 47. Concerns to be recorded by the Company's administrative department

Administrative concerns	Technical concerns
Table of Organization	Farm size (hectares)
Work plans (financial, technical)	Farm inputs (seedlings, crops, organic chemicals)
Financial management (budgeting, disbursements, accounting)	Farm implements
Auditing	Production per year
Manpower services	Sales
Employees welfare	Nursery operations
Gender and Development	Plantation establishment
Corporate social responsibility	Coconut plantation protection and maintenance
Salaries and wages	Silvicultural systems (enrichment planting, assisted natural regeneration)
Rentals and taxes	Forest protection and maintenance
Government permits	Environmental management compliance
Office equipment and facilities	Information, Education and Communication

13. Market and Utilization

13.1. Market information

LFPC has a range of different products to be produced and marketed, among others, coconut flower vinegar, coconut virgin water, coconut syrup, and coconut powder sugar; Correspondingly, LFPC is deemed as a coconut grower; coconut products processor, manufacturer and exporter.

It has been observed in the previous years that the Philippine coconut industry has been struggling with the problem of low productivity for several years now due to occurrence of natural calamities, the conversion of coconut farms to other land use, and the number of declining number of coconut farmers. However, in 2017, the Philippine Coconut Authority (PCA) reported that trade in coconut products is now picking up not only in the domestic market but in the foreign market as well. Aside from copra, the market for coco water, activated carbon from coco shell and geo-textiles from coco coir is now showing a wider expansion in the foreign market.

The Philippine Coconut Authority released its data covering the period from Jan. to May 2017. According to this, there was a growth of over 90% in the volume of coco oil exports. This growth is extended to non-traditional products like hydrogenated coconut oil, coconut chips, bukayo and coconut sugar. The Philippines has also opened new markets in China and Russia through President Duterte's diplomatic initiatives.

The Philippine Coconut Authority has rolled out its 2018 to 2022 road map which will strengthen the industry's productivity in order to serve the growing global demand for coconut products. With the new roadmap, the country will see an increase in the hectares of coconut trees from 3.4 million to 4.4 million hectares in the next seven years. The improved performance of coconut products, of which the Philippines is the leading exporter, comes on the heels of a negative campaign against coconut oil in the US. The Philippines' claim and answer to the negative stand of the American Heart Association is that their assertions are based on old studies. The country has formed the Asia Pacific Coconut Community or APCC under the auspices of the United Nation's Economic and Social Commission for Asia and Pacific based in Malaysia and Indonesia. This is for the purpose of strengthening regional cooperation among coconut producing countries.

LFPC sees the global market for coconut-based products as large and well established since many years with the Philippines known as a leading reliable country of supply for quality products. The market size is well beyond the capacity of LFPC's projected production labels with significant flexibility over time to adopt to specific products including both nut and flower-based products. LFPC do not expect to become dominant in any single product market with market shares above 2% of global supply.

LFPC expect the global market for coconut flower-based products to expand significantly in particular for low glycemic coconut sugar and vinegar. Both products which benefit from the strong global food trends towards plant-based products, healthy natural sugar and products produced with a strong focused on environmentally and socially responsible business model.

LFPC see potential for market expansion via substitution by coconut-based products of traditional much larger sugar, vinegar, water, dairy and oil markets.

To facilitate marketing of these coconut products, the participation of relevant national government agencies (NGA's) and international companies are vital. These NGA's will include the Department of

Science and Technology, Department of Trade and Industry, Department of Agriculture – Philippine Coconut Authority, Department of Health – Bureau of Food and Drugs.

Among the international related companies whose services that LFPC might engage are the: Global companies for sourcing solutions such as Omni Global; and brand owners such as Unilever, Nestle, Coca Cola, Pepsiso, Danone, Vitacoco and niche brand owners like Orana, Osterberg and Cocoes; and other coconut related business firms recognized by the United States Department of Agriculture (USDA), and the European Union.

13.2. Utilization

Internationally, Philippines has a relative comparative advantage in the coconut industry sector due to its geographical location, skilled labor and indigenous technologies for plantation establishment and processing the products of the same. To increase production and to meet the market demand, new varieties will be introduced to reduce gestation period and reduce height of trees for easier harvesting.

Aside from the above mentioned coconut-based products, there is a significant demand of raw coconut material to produce coir products from excess husk, booming demand for coconut water as energy drink based on hydrating properties, construction material due to increasing infrastructure across the country like roads and ports, hence, the new varieties and eco-friendly technologies being introduced by LFPC to reduce gestation period and reduce height of trees for easier harvesting are worthy to note towards climate change resilient communities.

Table 48. Assumptions on the potential market at the local, national and international levels

Potential market levels					
Local		National		International	
Company	Quantity required	Company	Quantity required	Company	Quantity required
SM	>1,000kgs	SM	<50,000kgs	Unilever	>125,000mts
Robinson	>1,000kgs	Robinson	<30,000kgs	Nestle	<10,000mts
NCCC	<1,000kgs	Health stores	<30,000kgs	Mars Intl.	>10,000mts
Ind. Stores	<1,000kgs	Lazada/Shoppee	>30,000kgs	Amazon	>10,000mts

13.3. Description of the identified market, demand, existing supply, and the would-be gap on the existing supply

Coconuts and products produced from coconut has a long history of global demand and consumption. As global distribution systems are improved to handle fresh products and in particular the infrastructure in Palawan is also improving, then sales and the market of fresh whole nuts will expand, hence, it is likely that a larger portion of whole nuts will be sold to the market considering the emergence of processors based in Palawan – currently there are two local based processors requesting supply from Lionheart for up to 500,000 nuts per day to supply the required volumes that will be distributed to other processors around the Philippines. Typically about 400,000 to 800,000 nuts per day is the requirement of a medium to large scale processor.

As the demand of supply of organic nuts from Lionheart is assumed to gradually increase, the same will ensure that a stable supply of coconuts is in place to sustain the coconut requirements of the processors. This is the market gap and opportunity which Lionheart is aiming to fulfill. Further harvesting of sap is seen as an opportunity for a more specialized form of harvesting, which is also more labor intensive and hence, an addditional benefits to the community via more job creation and

higher wages than the simplest forms of traditional coconut harvesting. Sap harvesting is a daily activity compared to nut harvesting being a once every 30-45 days activity.
The market for this sap is still embryonic in the Philippines but more evolved in countries like Indonesia, Thailand and India. Looking at these countries then it is reasonable to assume the market demand will be very significant and over time, assuming the cost of this labor-intensive form of harvesting can remain competitive compared to Indonesia in particular. The primary markets for these coconut-based products are within Asia Pacific, Europe and North America. As such, it is expected that the current circle of markets will expand due the high demand for healthy and socially responsible organic products.

13.4 Related trends vis-à-vis the demand and supply of organic coconut syrup, coconut sugar, virgin coconut water extracted from the 2016-2024 Transparency Market Research (TMR)

13.4.1 Coconut syrup

Organic coconut syrup refers to a syrup which prepared from the nectar of coconut flower. The liquid collected from the coconut flower is processed to form coconut syrup which is obtained after removal of moisture. To avoid fermentation and caramel formation the treatment of the nectar is done as soon as it is received. Organic coconut syrup is commonly used as a natural sweetener. Organic coconut syrups helps in maintaining the underlying basis for organic agriculture and interaction of the ecological effects of the inputs into our food supply. Organic coconut syrups do prefer over natural and artificial sweeteners due to the negative impact of other sweeteners on ecology and the human body. One of the biggest problems with genetically modified syrup is the genetic engineering in which a gene is done into the DNA of food plant is random, and scientists have no idea where the gene goes. This engineering can disrupt the functioning of other genes and can create novel proteins which are not there in our food supply and can create toxins and allergies in the human body. Organic coconut syrup is misguided as Non-GMO syrup; organic syrup is 95%-100% organic (might contain up to 5% non-organic components which are not supposed to be GMO) whereas, Non-GMO syrup can still contain a certain amount of pesticides, herbicides, and other harmful components. Despite all the positive and negative things, organic coconut syrup market has witnessed an exponential growth in the global market which is expected to continue because of high demand among the consumers.

Organic coconut syrup market is mainly driven by the changing consumer preferences towards healthy and non-genetically modifies food. Adverse effects have reduced the demand for GMO and Non-GMO food. Organic Coconut syrup doesn't create any harmful consequences on soil and human health whereas GMO Syrups have both the problems. Organic coconut syrup has low glycemic index (35) as compared to other forms of sweeteners such as Cane Sugar (68), Honey (55) and Agave (42). Consuming low glycemic index food can help in avoiding chronic diseases such as type 2 diabetes. Coconut syrup also contains Vitamin C, Vitamin B Complex, amino acids and various minerals. Organic coconut syrup market is large as compared to GMO coconut syrup market and Non-GMO coconut syrup market due to the vast plantation of coconut trees globally. A coconut tree lives for around 40 years which removes the burden of replantation and continuously produce fruits and flower further used in various applications. Organic coconut syrup market will face a surge in demand as many food producing companies started focusing on organic foods. As per the experts, there is no scarcity of organic coconut syrups and farmers are willing to grow coconut crops, but in the long run, the supply-demand chain will disrupt due to the low yields which will create an opportunity for organic coconut syrup suppliers and farmers. Hence, organic coconut syrup market is expected to grow during the forecast period due to its versatile benefits.

However, organic coconut syrup comes along with many restraints. Organic coconut syrup is high in calories almost equivalent to cane sugar. A person needs to consume a large quantity of organic coconut syrup to fulfill its taste but which can be done with a much smaller amount of cane sugar. Thus, a person might end up consuming plenty of calories for the same taste. Also, organic coconut syrup is made of 70-80% sucrose of which half is fructose. Thus, organic coconut syrup will supply the same amount of fructose to the human body as compared to cane sugar. Crops produced for organic coconut syrup still can persist use of synthetic pesticides, herbicides, the residue of hexane, sewage sludge, growth promoting antibiotics and ractopamine drug residue which are harmful to nature and humans. The commercial scale production of organic coconut syrups needs to be reviewed carefully because a change in the quality of nectar can improve the quality of syrup and finished food product. Changes in water sources and quality of water and growth methods are the most important factors to be taken care of in crop production.

Organic coconut syrup market has an opportunity to replace cane sugar because of changing food preferences and health hazards. Organic coconut syrup can give tough competition to honey market which is costly and requires special care.

Organic coconut syrup market can be segmented on the basis of form which includes liquid and powder. Organic coconut syrup market can be segmented on the basis of the type which includes plain and flavored. Organic coconut syrup market can also be segmented on the basis of applications which include food (bakery and confectionary, dairy products, breakfast cereal and others), beverage (alcoholic beverages, tea and coffee and others) and others.

Regional coverage for organic coconut syrup market includes North America, Latin America, Europe, Asia-Pacific and China and the Middle East and Africa. Organic Coconut Syrup market witnesses a high demand in APEJ region due to the vast plantation and historical presence. Changing consumer perceptions in these areas will boost the growth of the market. However, the organic coconut syrup market is expected to grow significantly in North America and Europe region as consumers have widely adopted this syrup.

The market participants in Organic Coconut Syrup market are Honest to Goodness Organic Food & Natural Food, Wholesome Sweeteners Inc., Rockwell's Whole Foods, Wilderness Family Naturals, Bali Nutra Ltd Niulife, Wuhu Deli Foods Co., Ltd. and many more.

13.4.2 Coconut sugar

Coconut sugar is a natural sweetener, manufactured from dried nectar of flowers, grown on top of coconut palm trees, is considered to be a beneficial alternative to conventional table sugar. Coconut sugar is healthier than table sugar for diabetic patients and consumers suffering from health problems related to blood sugar. Coconut sugar market witnesses a high demand owing to its nutritional attributes. Coconut sugar offers more minerals and vitamins as compared to white sugar. Coconut sugar contains traces of potassium, vitamin C, calcium, iron, zinc, phosphorus. Besides these, coconut sugar also offers minimal amounts of phytonutrients such as flavonoids, antioxidants, polyphenols, and anthocyanidin. United Nations' Food and Agricultural Organization recognizes coconut sugar as the world's most sustainable sweetener.

Coconut palm, as compared to sugar cane require a minimum amount of water, it produces a plenty of coconut products and also supports multi-cropping of various coconut products, coconut sugar being one of them which in turn, has resulted into greater manufacturing of coconut sugar thereby fuelling the growth of coconut sugar market. According to Big Farm

Trees, coconut palms produces more than 50% to 70% of coconut sugar per acre in comparison to sugar cane on average. Coconut sugar's nutritional benefits over table sugar have helped the coconut sugar market to witness a significant adoption among the consumers. Coconut sugar can melt and blend gently in recipes along with producing a mild caramel flavor and subtle coconut aroma. This characteristic has uplifted the demand of global coconut sugar market.

However, the coconut sugar market faces few restraints to its continuous ascent. Production of coconut sugar is a labor intensive process owing to the lack of mechanization process. With the aim to produce environment-friendly sweetener, manufacturing of coconut sugar is a time-consuming process. Thus, the rapid growth in coconut sugar demand makes it difficult for the coconut sugar manufacturers to meet the increasing demand which thereby hindering the growth of coconut sugar market. The cost of coconut sugar is higher than other sweetener alternatives such as sugar cane, agave and beet sugar which also acts as an obstacle to the coconut sugar market growth.

Coconut sugar is healthier than traditional table sugar owing to its nutritional attributes. Coconut sugar market is segmented on the basis of nutritional components. Coconut sugar contains Vitamin C, minerals such as potassium, iron, zinc and phosphorus and phytonutrients such as flavonoids, antioxidants, polyphenols, and anthocyanidin. Coconut sugar has a significant usage in the food and beverage industry hence it can be classified by form of industrial application. It has its usage in bakery products such as biscuits, confectionary products such as cakes, chocolates, and brownies. Coconut sugar acts as a tea sweetener, juice sweetener or any other beverage sweetener. Coconut sugar also acts as a food seasoning agent.

Regional coverage for coconut sugar market includes North America, Latin America, Western Europe, Eastern Europe, Asia Pacific excluding Japan (APEJ), Japan and the Middle East and Africa (MEA). US coconut sugar market in North America accounts for the fastest growing natural sweetener owing to its growing health consciousness. Latin America, Western and Eastern Europe, APEJ, Japan and MEA are however likely to contribute to the coconut sugar market during the forecast period.

Few coconut sugar players in the market are Tree Life, Coco sugar, Tradin Organic, Holos Integra and others.

13.4.3 Virgin coconut water

Coconut water, a clear liquid that occurs inside a coconut. Coconut water is a popular beverage in the tropics but its popularity has risen across the world in recent years. The growing demand for coconut water can be ascribed primarily to its refreshing and hydrating properties without the calories associated with many other popular beverages available on the market today. Organic coconut water is an isotonic beverage that is healthy and has a palatable flavor. However, the key differentiator between regular and organic coconut water is that the latter contains lower chemicals. The consumption of organic coconut water is also beneficial as it contains electrolytes.

It comprises the right balance of electrolytes, which help replenish the body after strenuous exercises and workouts. Organic coconut water also contains a variety of minerals such as magnesium, potassium, calcium, sodium, and vitamins (A, B, C), amino acids, and phosphorous.

Many studies have evidenced that organic food typically contains a higher level of antioxidants, which help safeguard against the detrimental health effect of toxic heavy metals. The market for organic coconut water is expanding at a brisk pace because as it the drink is being considered a suitable alternative for sports drinks, many of which contain synthetically formulated ingredients.

It has thus become more common to see organic coconut water on the shelves of supermarkets and convenience stores across the world. Moreover, organic coconut water is also being retailed online, which has helped companies spread their presence worldwide. Customers today are increasingly showing a preference for organic beverages as compared to other conventional types of drinks. The focus, especially, is on consuming low-sugar drinks – organic coconut water fits this changing trend perfectly.

The global market for organic coconut water is expected to be steered by the many health benefits it offers. Moreover, its other characteristics such as the presence of antioxidants, better taste, and micronutrients content could prompt consumers to choose it over other conventional soft drinks. Also, the drink is regarded as having curative properties for disorders such as vomiting and diarrhea. There are recent reports that suggest the benefits of organic coconut water for the heart, as it contains lower levels of cholesterol.

As compared to regular coconut water, organic coconut water contains fewer unhealthy chemicals or traces of pesticides. These factors will help the demand for organic coconut water rise steadily in the years ahead.

In order to meet the challenges associated with the relatively short shelf life of organic coconut water, several producers are now offering frozen organic coconut water. This enhances its shelf life, allowing it to be transported to regions where coconut water isn't readily available.

Packaging is proving to be an especially important product differentiator for companies competing in the global organic coconut water market. It is now available in small, easy-to-carry tetra packs and plastic bottles. Emerging evidence about the skin and hair benefits of coconut water are expected to serve as an opportunity for companies in the organic coconut water market. The product is consumed in yoga institutes and health centers as well as in gyms.

The global market for organic coconut water can be broadly segmented based on the form, flavors, packaging, applications, and regional market. Based on the type of flavor, organic coconut water can be classified as aloe vera, natural, grape and pear, white grape, mango, pineapple, and coffee.

Similarly, on the basis of its form, organic coconut water is sold in the form of powder (dried) and liquid coconut water.

Segmented based on packaging, the market can be divided into: Plastic bottles, tetra packs, and cans. In terms of distribution channels, the market for organic coconut water can be segmented into specialty stores, online stores, and hypermarkets/supermarkets.

From the geographical standpoint, the global organic coconut water market has been divided into the following segments: Latin America, North America, Asia-Pacific, Western and Eastern Europe, Japan, and the Middle East and Africa. South Africa has been identified as the fastest-growing regional market for packed coconut water. The country is developing briskly and

consumers in the country regard packed products as being more hygienic and healthy. In the United Kingdom, the consumption of organic coconut water approximates 25-26 million liters. However, the consumption of coconut water is also remarkably high in tropical countries - such as Sri Lanka, India, Thailand, and Brazil - where coconuts grow in abundance.

The leading players in the organic coconut water market are: Harmless Harvest (San Francisco, US), Celebes Coconut Corporation (Philippines, Southeast Asia), VITA COCO (New York, United States), COCOZIA, Coco Libre, The Coca-Cola Company (ZICO), Navitas Naturals, and COPRA Inc., among others.

14. Community Involvement/ Development

The project area is classified as forest land/timberland, inhabited by Indigenous People's (IP's) wherein the usual source of their living are from the goods and services being provided by the forest land and its resources. Shifting cultivation or kaingin type of farming, charcoal making, wild animals hunting, harvesting of non-timber forest products such as rattan, almaciga resins, honey and bamboos mainly supplements their daily living needs. In some instances, they also harvest timber from the natural residual forest for domestic consumption to built houses.

Notably, there are several predicaments experienced by the IP's within the range of their upland communities in terms of social, economic, political and environmental aspects. Among others are, poverty, lack of education, can be easily manipulated by educated people, continuing upland kaingin, gathering of endangered plants and animals, and poaching of timber and non-timber forest products.

To alleviate poverty, LFPC is aiming to provide employment opportunities to the able bodied residents of the three (3) Barangays of Candawaga, Ransang and Culasian at 15 to 20%, 20 to 25% and 20 to 25 % rate, respectively, of the total population of each barangay.

Workers of legal age with a percentage of 70% men and 30% women are the projected labour needed in the operation. Adhering to the regulations of Department of Labor and Employment (DOLE) and other relevant laws and policies on the matter.

In the project area, there are several active organizations in the community, among others are, Farmers Association, Coconut Farmers' Association, Fisher Folks Organization, Landowners Association and Landless Federation Association.
The benefits that the project may extend to the residents of the subject three (3) barangays includes, employment opportunities, insurance benefits for the employees per existing government regulations, education/scholarship assistance, health and medical assistance, cultural advancement and environmental protection and conservation.

Moreover, in relation to the free and prior informed consent (FPIC) and per provision of the Memorandum of Agreement (MOA) between the Indigenous Peoples/Indigenous Cultural Communities and Lionheart, the host communities will have a one percent (1%) share from the value of the harvested fruits, and the same communities will benefit among others, from the community-based programs aimed to promote education and skills improvement, social welfare, nutrition and health concerns, social justice and indigenous peoples culture advancement.

15. Organization

15.1 Company Organization

Lionheart Farms (Philippines) Corporation is a subsidiary of Lionheart Agrotech Limited, domiciled in Hong Kong, and headed by its President Carl Christian Eyde Pentz Moeller. Its office is located at Punta Baja, Jose P. Rizal, Palawan.

15.2 Project Organization

The operation of the hybrid coconut plantation and processing facilities will be managed and facilitated by the following LFPC's officials and personnel:

Table 49. Level of management and their corresponding duties and responsibilities

Level of Management	Duties and Responsibilities
Executive	Planning, policy direction, etc.
Administrative	Human resource and financial management concerns
Operations	Policy and programs implementation
Technical	Greenfield projects implementation

** Duly certified headcount of fifty-nine (59) manpower occupying key positions in the organization is attached as Annex F.

Basically, the indigenous peoples (IPs) and non-IP in the host communities will comprise the LFPC's manpower requirement for the nursery operations, plantation establishment, plantation protection and maintenance, and coconut harvesting and manual hauling. Likewise, LFPC will consider gender sensitivity in assigning workloads to its employees.

16. Financial Aspects

16.1 Costings including assumptions for the nursery operation for a 1 hectare coconut plantation is presented below as Table 50.

Table 50. Nursery operation for one (1) hectare coconut plantation.

Nursery operation for one (1) hectare coconut plantation		
Activities	**Cost of materials/labor (P)**	**Remarks**
1. Construction of nursery facilities within 0.5 hectare ➢ nursery bunkhouse ➢ potting shed ➢ seed beds ➢ establishment of fence	55,000.00	❖ Under the triangular method spacing, the average no. of nuts per ha. is 387 • The allocated area for the nursery and related facilities is 0.5 hectare • Nursery bunkhouse (30,000) • Potting shed (10,000) • Seed beds (10,000) • Establishment of fence (5,000)
2. Procurement or collection of seeds	59,640.00	• 387 nuts plus 39 nuts (additional 10% for mortality) = 426 x 140.00 = 59,640.00
3. Procurement of potting bags	10,650.00	• 426 potting bags x P25.00 = 10,650
4. Collection or procurement of potting soil/media	12,000.00	• 12 cubic meter of garden soil @ P1,000.00/ cubic meter = 12,000.00
5. Potting of soil and nuts	4,260.00	• P10.00/potting bag x 426 = 4,260.00
6. Stacking of potted nuts in the seed beds	2,130.00	• P5.00/pot x 426 = 2,130.00
7. Protection and maintenance of the seedlings	6,000.00	• P6,000.00 for three (3) months • out planting will start before the 3-month stay of the seedlings at the nursery is consumed
Total	**149,680.00**	

16.2 Costs

16.2.1 Development cost

16.2.1.1 Cost for coconut seedling and forest tree seedling production including inputs for perennial and annual crops

Table 51. Costs for nursery operation/seedling production for coconut and forest tree species including inputs for perennial and annual crops

Activity/ Component	Area per component (has.)	Seedlings per hectare	Seedling requirement (actual seedlings plus 10% mortality replacement)	Activity cost (P)	Total Cost	Remarks
Nursery Operation/ Seedling Production						
- Coconut	2,948.9235	294	953,707 (867006 + 86,701)	140.00/ nut	133,518,980.00	Flat-241 Sloping-347 (294 = average/ha.)
- Forest tree*	476.636	100	51,700 (47,000 + 4,700)	25.00/ seedling	2,623,500.00	10m X 10m spacing
- Enrichment planting (forest tree species)	15	100	1,650 (1,500 + 150)	50.00/ seedling	82,500.00	10m X 10m spacing
- SALT model Fruit bearing/ agroforestry*	5	100	550 (500 + 50)	125.00/ seedling	68.750.00	10m X 10m spacing
- Perennial crops-	4.937	More than 1 kilogram of seed grain *(depending the kinds of variety to be raised)*	More than 1 kilogram of seed grain *(depending the kinds of variety to be raised)*	20,000/ hectare	230,000.00	The area for each crops are presented to reflect the whole extent of the area to be developed.
- Annual crops	28.675	1 kilogram above of seed grain *(depending the kinds of variety to be raised)*	1 kilogram above of seed grain *(depending the kinds of variety to be raised)*	20,000 / hectare	1,334,000.00	
Total	**3,479.1715**				**137,857,730.00**	

Note: *Aside from the target, additional seedlings will be procured.

16.2.1.2 Plantation Establishment

Coconut plantation establishment which requires bulk of LFPC's resources may be done within five (5) years taking into account the terrain and location of the planting sites vis-à-vis the manpower requirement and the mode of hauling the seedlings from the nursery to the planting sites which entails ample time. Likewise, forest tree plantation establishment will done in five-year period. The information on the physical development, area, costs and the extent of the area for the coconut and forest tree plantations and related crops is presented below as Table 52.

Table 52. Physical development, area, costs and the extent of the area for the coconut and forest tree plantations and related crops.

Activity/Physical Development (Plantation establishment)	Area (hectare)	Cost of establishment per hectare (P)	Total cost (P)	Remarks (Extent of the area of the plantations in relation to the identified land cover of the JVA area)
Coconut plantation	2,948.9235	100,000.00	294,892,350.00	2,835.22 + 88.866 + 16.8375 + 5
-Coconut plantation in brush land/ shrub land	*2,838.22*			
-Coconut plantation within perennial crops	*88.866*			
-Coconut plantation within annual crops	*16.8375*			
-Coconut plantation within buffer zones of the inland water	*5*			
Tree plantation	476.6345	40,000.00	57,240,000.00	454.86 + 4.937 + 16.8375 = 476.6345
-Tree plantation and ANR within open forest	454.86			
-Tree plantation within perennial crops	4.937			
-Tree plantation within annual crops	16.8375			
Enrichment planting along inland water	15	30,000.00	450,000.00	Within the 54.19 hectares buffer zones of the inland water
Agroforestry plantation/ SALT model	5	30,000.00	150,000.00	Within the 67.35 has. for annual crop
Annual crops	28.675	15,000.00	10,005,000.00	43% of 67.35 has. for annual crop
Perennial crops	4.937	20,000.00	2,300,000.00	4.937 – perennial crops (remaining 5% of 98.74)
Total	**3,479.17**		**365,045,000.00**	

16.2.1.3 Post Development Phase (Protection and Maintenance)

The protection and maintenance (PM) activities will include weeding, watering, foot patrol, IEC, and application of organic fertilizers, insecticides, and pesticides. The cost allocation for PM is presented below as Table 53.

Table 53. Costs of protection and maintenance for all types of crops

Activity/Component Protection and maintenance (PM)	Area (has.)	Cost of activity per hectare (P)	Total cost (P)	Remarks
- Coconut	2,948.9235	25,000.00	1,707,975,000.00	24 years PM (68,093,750.00/yr.)
- Forest tree	476.6345	20,000.00	28,620,000.00	24 years PM (1,192,500.00/yr.)
- Enrichment planting	15	20,000.00	300,000.00	24 years PM (12,500.00/yr.)
- SALT/ Agroforestry	5	5,000.00	25,000.00	2 years PM (12,500.00/yr.)
- Annual crops	28.675	5,000.00	1,725,000.00	23 years PM (75,000.00/yr.)
- Perennial crops	4.937	15,000.00	10,005,000.00	23 years PM (435,000.00/yr.)
Total	3,479.17		1,748,650,000.00	

Note: Information, Education and Communication (IEC) activities, and protection of the JVA area is incumbent upon LFPC, hence, a cross-cutting fund will be allocated for the purpose.

16.2.1.4 Boundary delineation and Forest protection

The boundary delineation of the 3,500 hectares JVA area will entail the following activities such as actual ground survey, fabrication and installation of boundary monument.

Subsequently, forest protection and related activities within and adjacent of the JAVA area will be implemented with the active participation of local communities and the concerned Barangay Local Government Units (BLGUs) in the locality. The activities for the boundary delineation of the JVA area is presented below as Table 54and relevant forest protection activities is presented below as Table 55.

Table 54. Boundary delineation and forest protection activities within the JVA area.

Activity/Component	Unit	Quantity	Cost of activity (PHP)	Total cost	Remarks
Boundary Delineation					
Fabrication of boundary monuments	Piece	45	300.00	13,500.00	Production of boundary monuments to be done 2 to 4 months.
Perimeter Survey and Installation of boundary monuments	Day	66	5,040	332,640.00	Perimeter survey and installation of boundary monument on the ground can be done within 3 months.
Total				**346,140.00**	

Table 55. Forest protection activities within the JVA and adjacent area.

Activity/Component	Unit	Quantity	Cost of activity per year (PHP)	Total cost	Remarks
Forest protection					
- Foot patrol	Piece	5	377,600.00	9,440,000.00	25 years PM (490,000.00/yr.)
- IEC	Piece	3	112,400.00	2,810,000.00	
Total				**12,250,000.00**	

16.3 Sources of Finance

LFPC will invest a minimum of P1,000,000,000.00 for the project. The estimated budget for the physical development and related activities is PHP 2,490,563,757.00 (including 10 % contingency expenses), and the administrative cost is 328,666,181.00.

The project's funding is sourced from LFPC's shareholders and once coconut fruits are harvested, the revenue generated therefrom will compensate other necessary operational cost. The summary of the activities and allocations for the purpose is presented below as Table 56.

Table 56. Summary of the activities and allocations

Activity/Component	Allocation (P)	Percent (%) allocation vis-à-vis the physical development budget
Nursery Operation/ Seedling Production	137,857,730.00	4.75
Plantation establishment	365.045,000.00	12.57
Protection and maintenance (PM)	1,748,650,000 .00	60.21
Boundary delineation	346,140.00	0.01
Forest protection	12,250,000.00	0.42
Equipment and supplies	84,893,000.00	3
Miscellaneous expense	555,081,068.00	19.11
Total	2,904,122,938.00	100

16.4 Returns

A one (1) hectare land can be planted with 294 coconut seedlings (*as the average number of seedlings for flat and sloping areas*) per hectare, and a single coconut can yield 100 fruits, then the expected average fruits per hectare is 12,671. At the time when these coconut will be harvested by LFPC, it is assumed that the farm gate price for one (1) coconut is P10.00 thus, the expected annual gross income per year per hectare is Php 126,710.

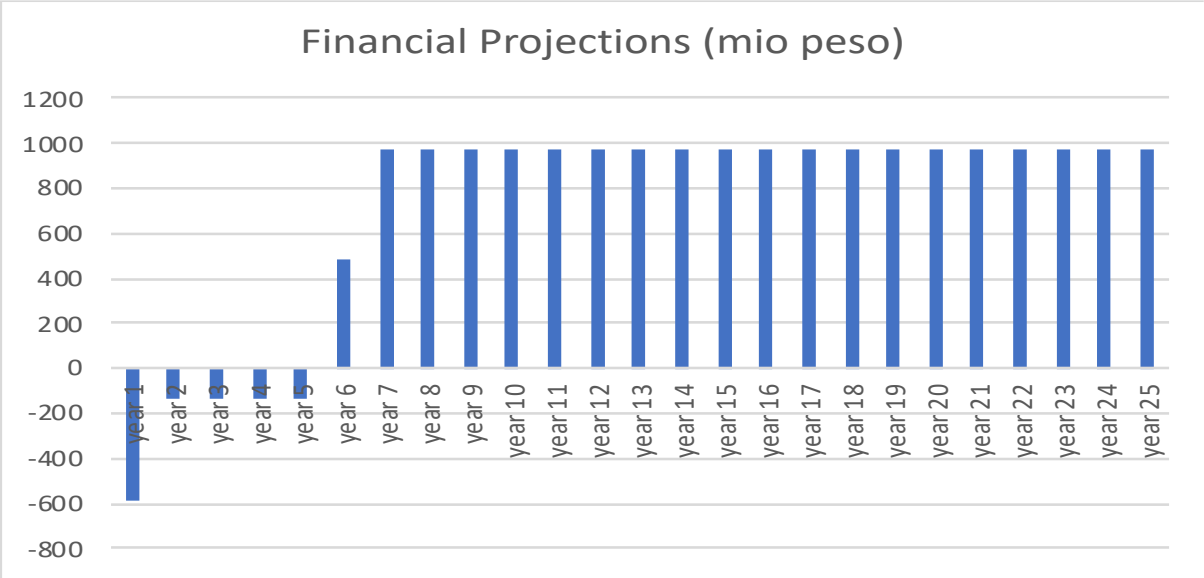
Generally, hybrid coconut will bear fruit four (4) years after planting, and those seedlings planted by LFPC in November 2018 upon approval of the JVA are expected to bear fruit in November 2022.

Wittingly, only the revenue derived from the coconut fruits, annual crops and biennial crops harvested from the JVA area that the government will have its annual share based on gross revenues which is 3% from perennial crops (e.g. coconut), 4% from biennial crops and 5% from annual crops. For biennial and annual crops, revenues from these crops cannot be ascertained with details, however, LFPC will faithfully comply with its obligation to provide the necessary government share based on the actual harvest/gross revenues thereon. Should LFPC not comply with the payment of

government share, its non-compliance therefore shall be a sufficient basis of the DENR to impose applicable penalty against the former.

16.5 Financial analysis

Table 57. Financial analysis (mio peso or million peso)



Internal Rate of Return before sales, general overheads and administration = 32%

16.6 Sensitivity Analysis

Table 58. Sensitivity analysis

Coconut Price	Gross IRR
5	24%
6.75	29%
8.5	32%
10.25	36%
12	39%

Harvest per tree	Gross IRR
50	22%
75	28%
100	32%
125	36%
150	40%

17. Cost/Benefit

17.1 Community Cost Benefit

17.1.1 Community costs

The potential downsides to economic development in Rizal:

- Presence of outsiders which may affect the tribal cultural traditions
- Added traffic with pertinent risks
- Field work can be strenuous and injuries may be incurred

The proponent is very mindful of these potential downsides and remedies them as much as possible; as an example the company drivers have been well trained and not a single traffic accident has occurred in the project's first four years.

17.1.2 Community Benefits

The social benefits are numerous, and not limited to:

- Increased standard of living; poverty reduction
  - ✓ United Nations' Sustainable Development Goal #1 (SDG1)

- A greater community, the world food chain, benefits as more produce is grown and submitted to the global food and beverage sector (SDG2)

- Improved health standards as the project has helped the community get access to health care and insurance (SDG3)

- Better nutrition has already lifted local students' cognitive levels, as reported by their teachers (SDG4)

- Employment opportunities for young educated community members and women generally who would previously have left Rizal to work in urban areas or abroad (SDG5 and SDG8)

- Community has improved access to clean water and better sanitation (SDG6)

- Good employment opportunities reduce illegal activities such as logging, charcoal making and exotic wildlife trade (SDG16)

18. Environmental Cost Benefit

18.1 Environmental Costs

- There may be a loss of habitat for some of the local fauna at the direct planting areas
- Transportation and use of machinery increases the consumption of diesel even if the proponent attempts to use renewable sources when possible
- Land preparation requires that previous vegetation is cleared to make room for the coconut trees; this vegetation can be loosely termed shrubs. The carbon storage capacity of shrubs is estimated at 4 MT Carbon per hectare per year (scientific paper published in India)

18.2 Environmental Benefits

- The highly productive cover crop re-establishes the carbon capture and storage at estimated 4MT / ha /yr.
- The coconut trees capture and store 350 kg of CO_2 per year[1]. At Lionheart's planting density that is more than four times the capture and storage capacity of a tropical rainforest.
- The AFDP area of 3,000 hectares will therefore offset the CO_2 emissions of 50MW coal fired power. (SDG13)
- The soil is regenerated by the combination of the microbes, fungi and cover crop employed in the proponent's farming principles (Korean Natural Farming)

[1] *46% of photosynthesis goes to coconut inflorescence (source). 4 liters of sap harvested per tree daily equals 600 grams of sugar, $C_6H_{12}O_6$, with a carbon content of 240 grams. The other 54% is therefore captured and stored as biomass, in soil, or in fronds which are recycled back to the soil as compost. That's just over 1 kg CO_2 captured and stored per day – higher if coconuts are harvested and husks and shells are recycled back to the soil*

19. Annexes

19.1 Maps

- 19.1.1 General location with technical descriptions (survey data)
- 19.1.1 Different Thematic Maps (Topographic Map, Slope Map, Land Use Cover Map)
- 19.1.3 Map Showing Rivers/Creeks

19.2 20 % Tree inventory

- 19.2.1 Area sampled of tree inventory
- 19.2.2 Inventory Report
- 19.2.3 Panoramic View photographs and Geo-Tagged photographs of Timber Inventory, survey of Inland water and demarcation of 20 meters area at both sides from river bank within the Upland Agroforestry Project

19.3 Biodiversity Assessment of Center for Conservation Innovation (CCI)

19.4 Organizational Chart

19.5 Summary of plans and schedules indicating all activities and physical targets for the 25-year duration of the JVA

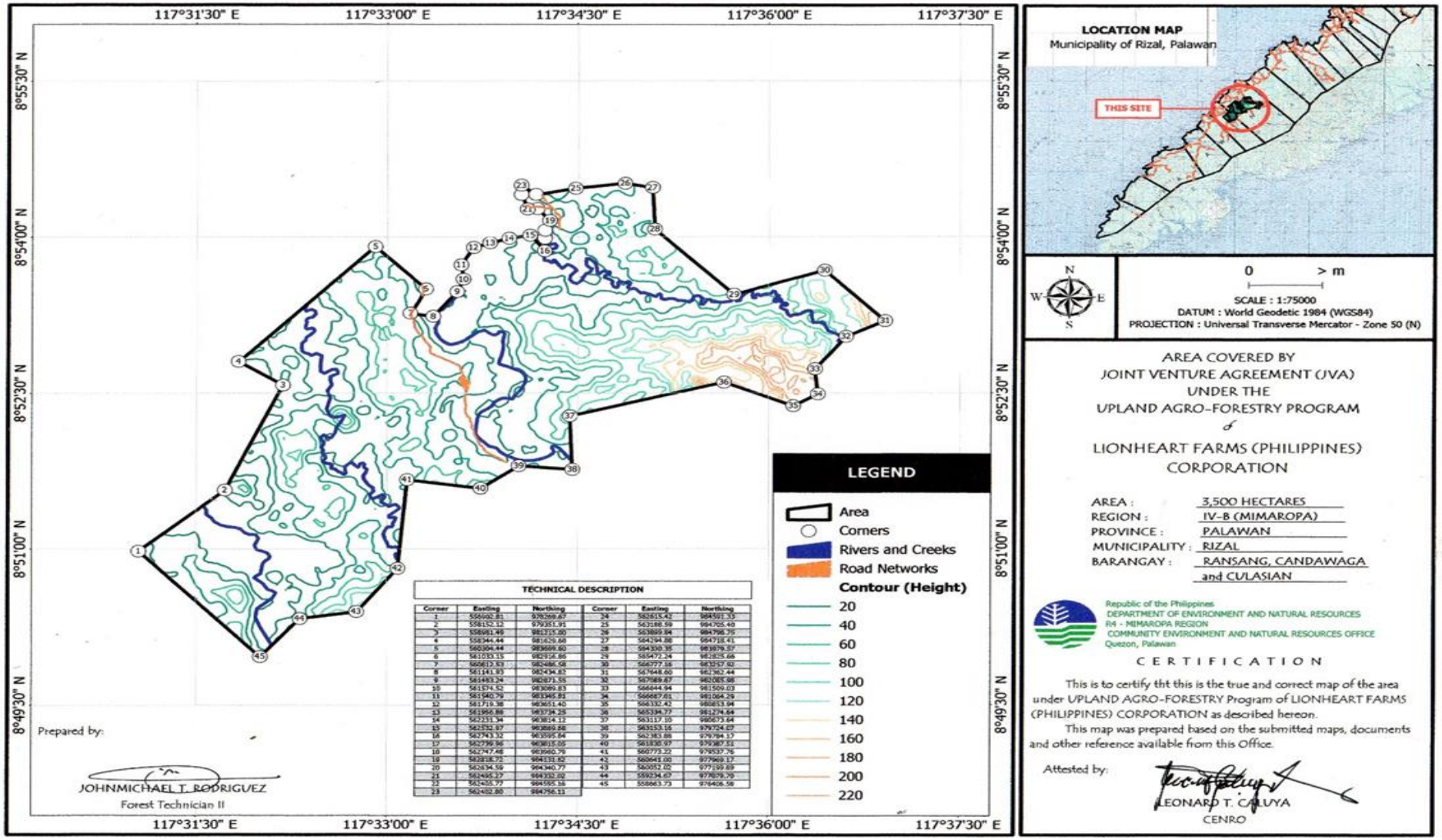


Figure 1. Map showing the general location with technical descriptions or survey data of approved Upland Agro-Forestry area of Lionheart Farms (Philippines) Corporation

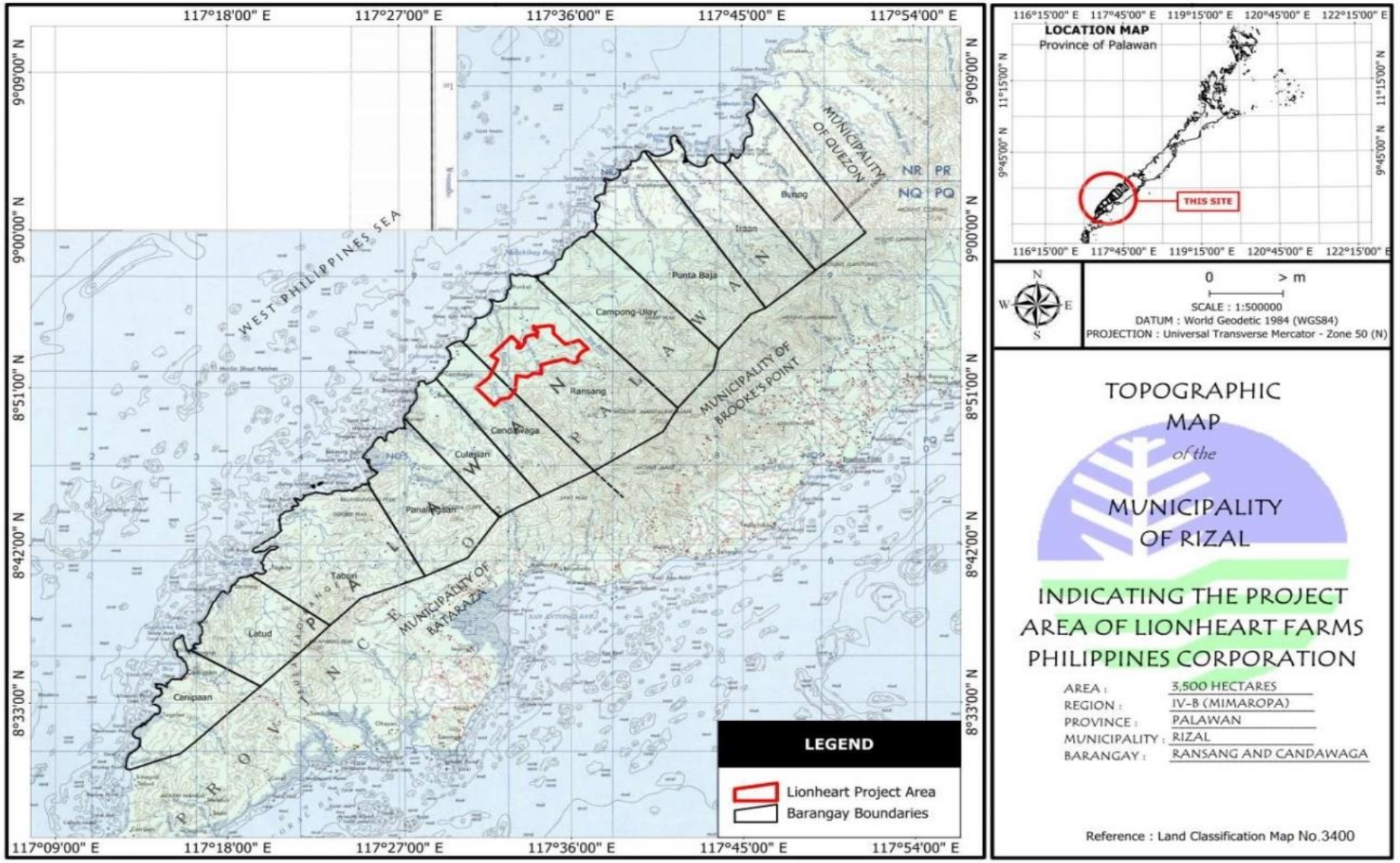


Figure 2. Topographic map of Municipality of Rizal indicating the area of the Lionheart Farms (Philippines) Corporation

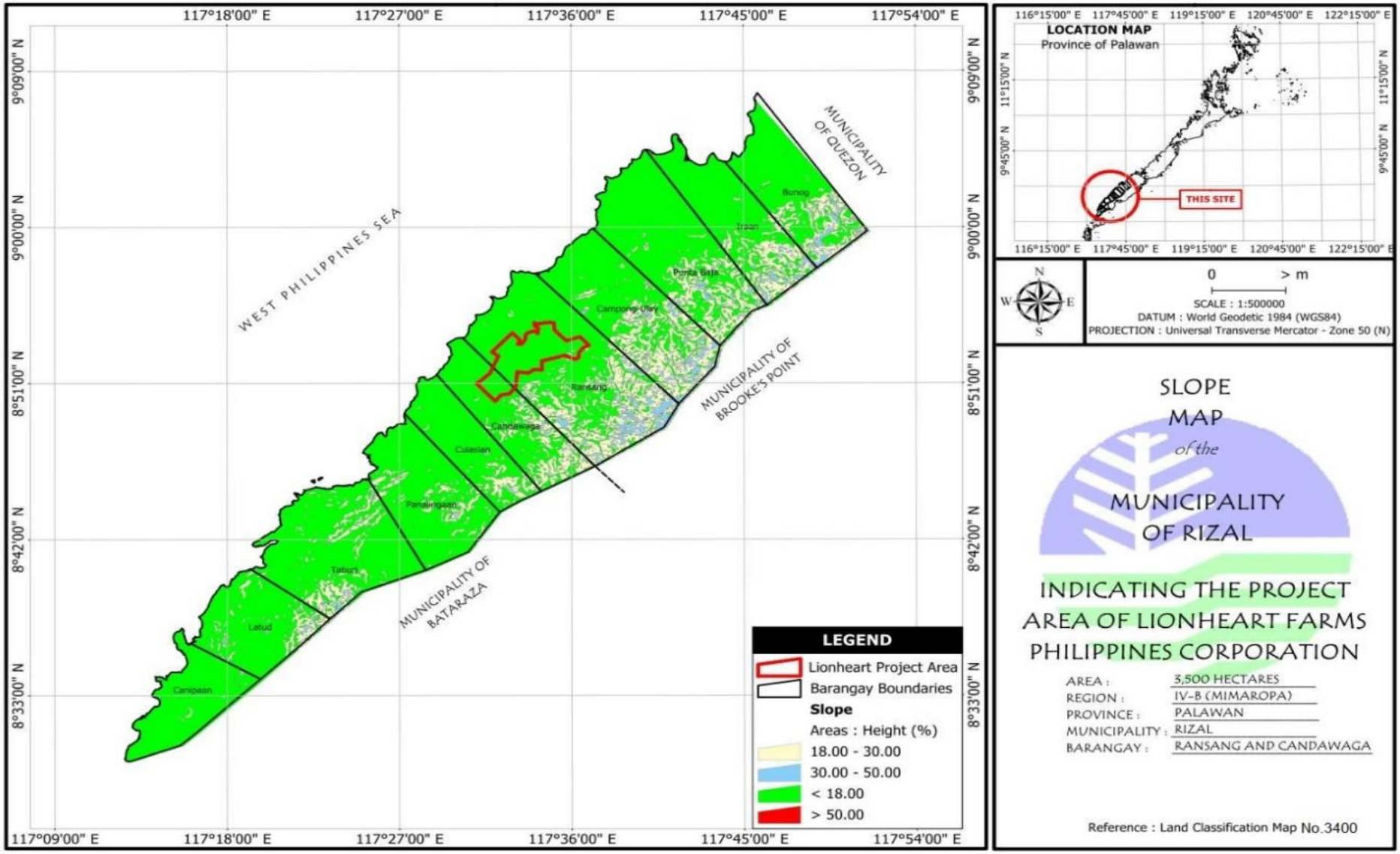
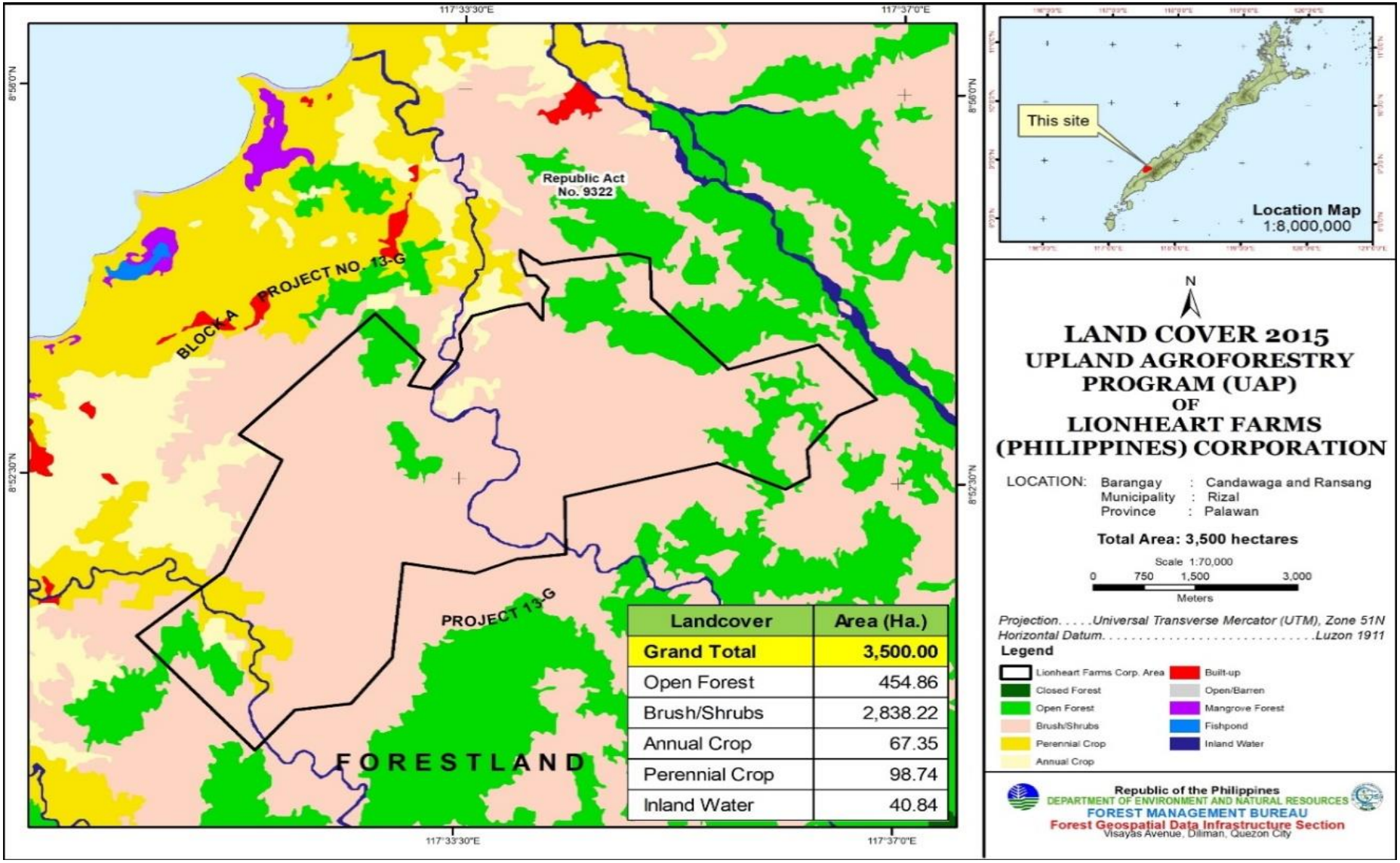


Figure 3. Slope map showing the area of responsibility of Municipality of Rizal and approved area of Lionheart Farms (Philippines) Corporation



Landcover	Area (Ha.)
Grand Total	**3,500.00**
Open Forest	454.86
Brush/Shrubs	2,838.22
Annual Crop	67.35
Perennial Crop	98.74
Inland Water	40.84

Figure 4. Showing the Land cover and approved area of Lionheart Farms (Philippines) Corporation (LFPC)

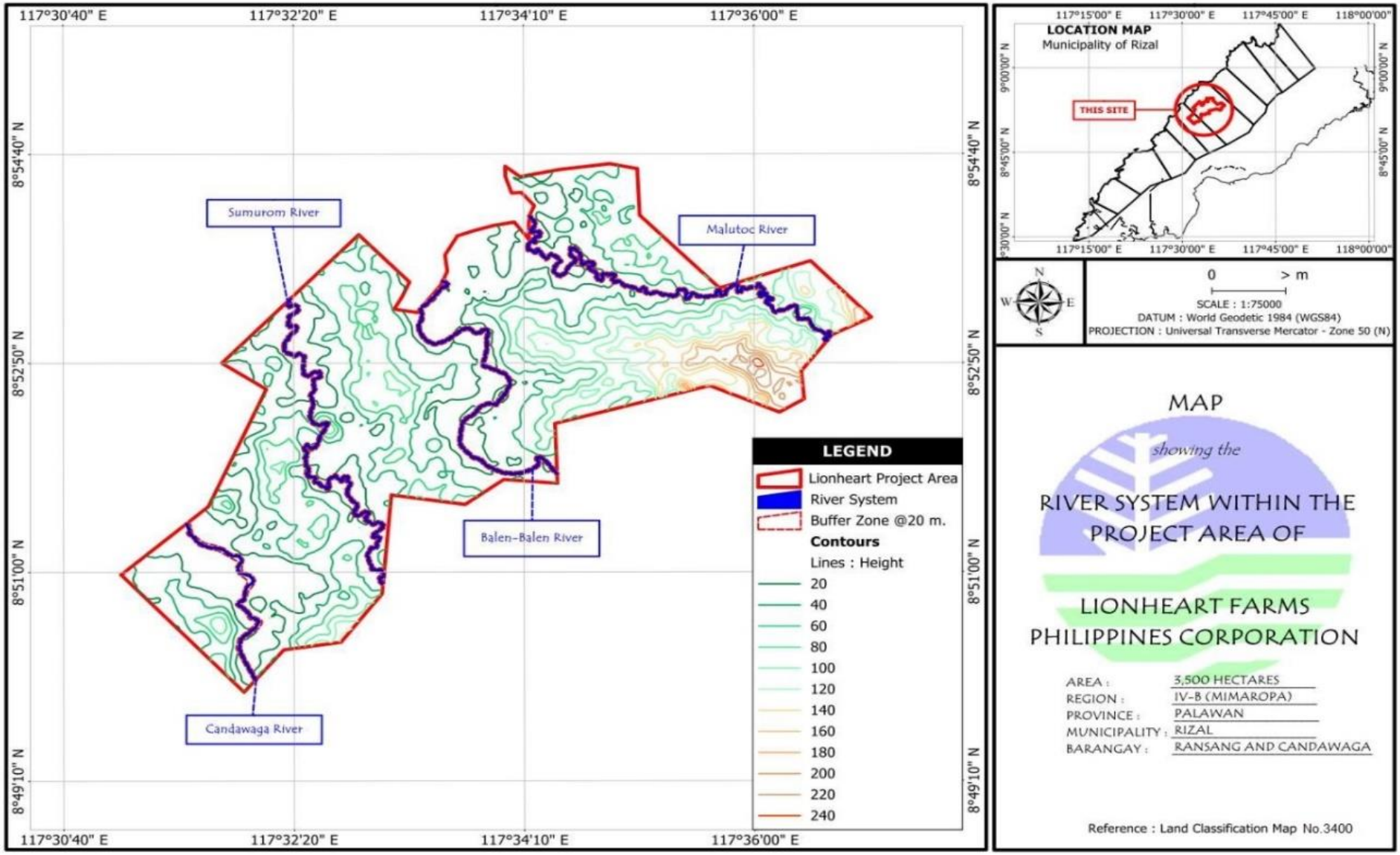
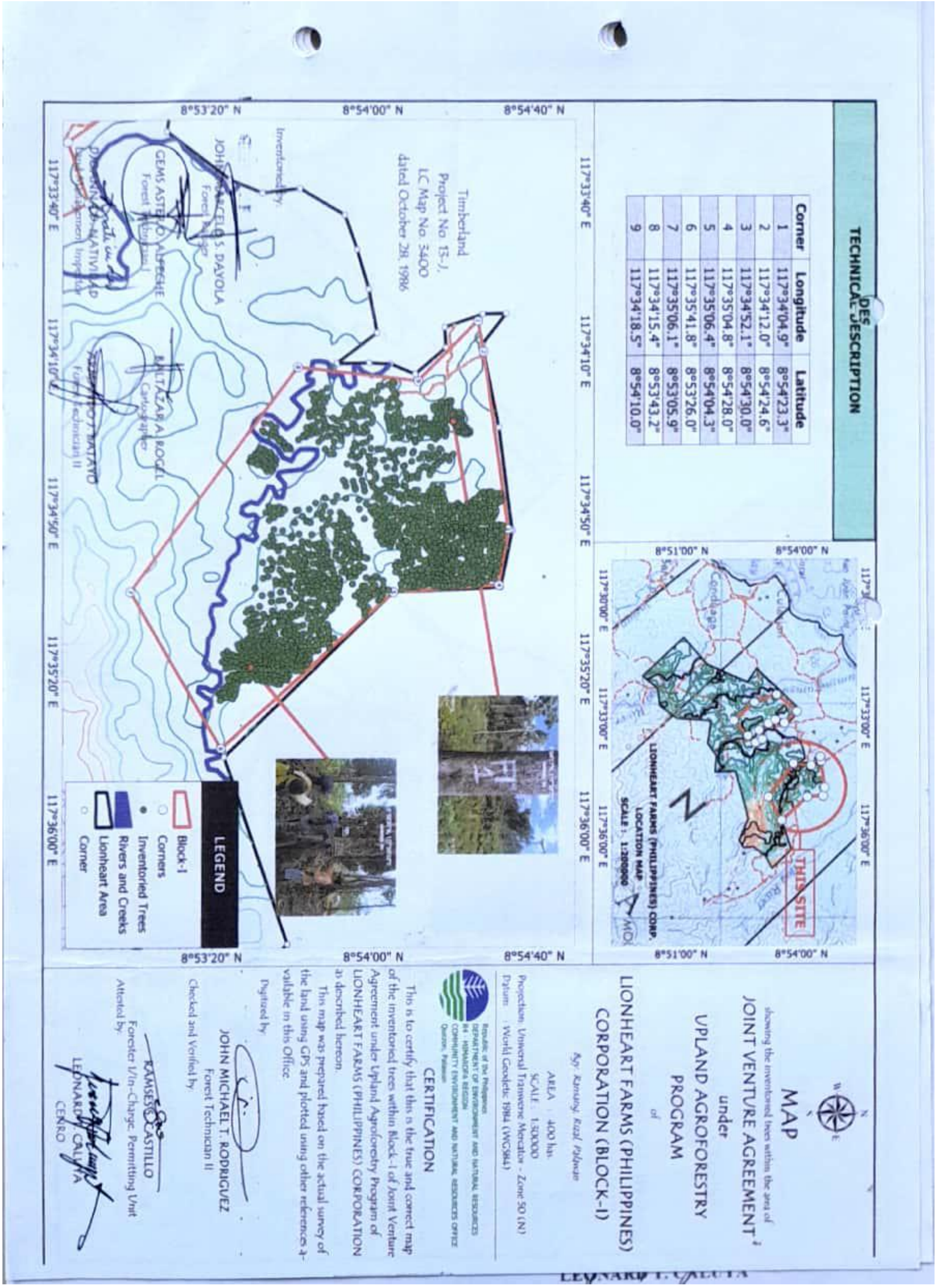
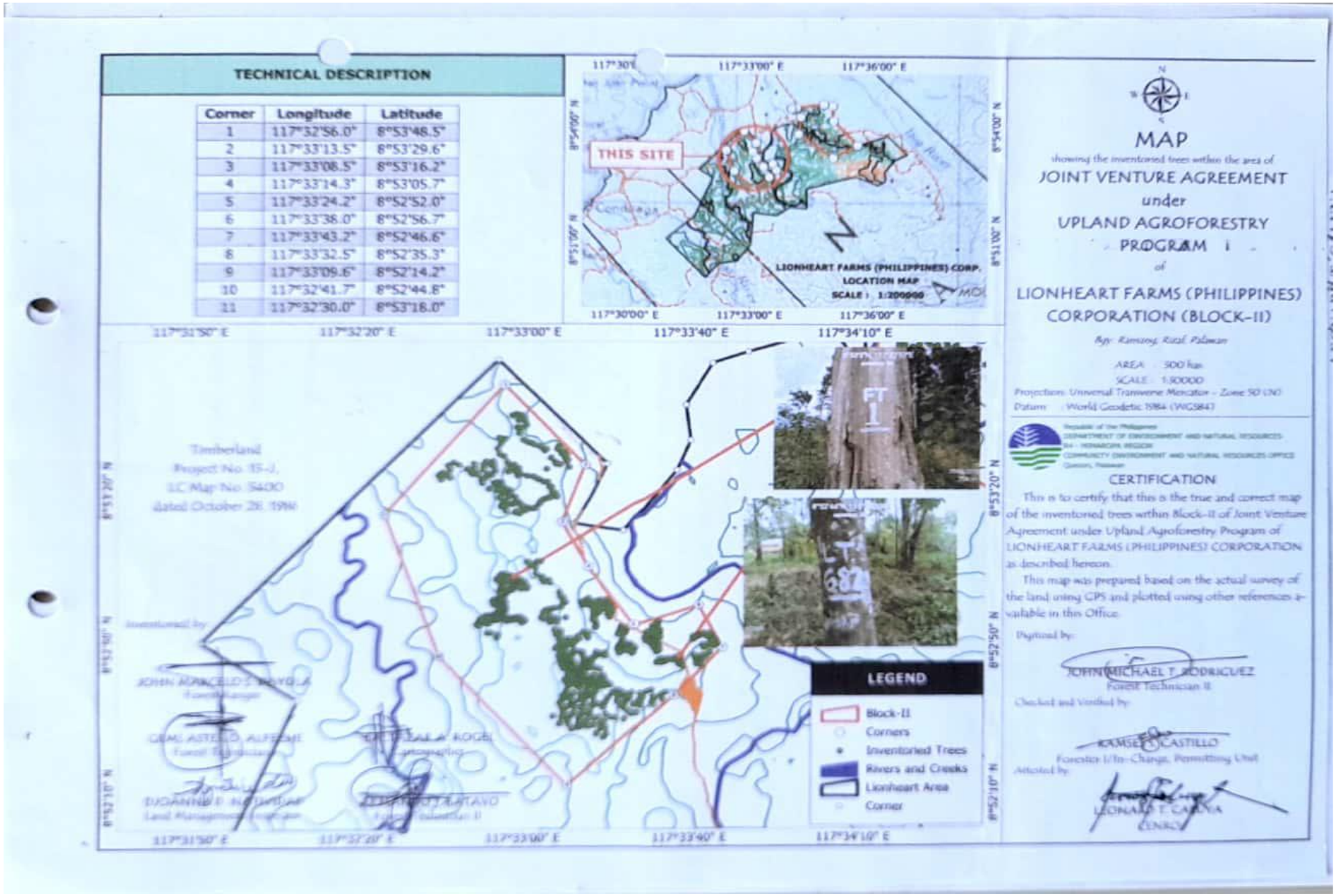


Figure 5. Map showing the 4 rivers inside the approved area of Lionheart Farms (Phillipines) Corporation (LFPC

ANNEX A

20 % Tree inventory


MAP
showing the inventoried trees within the area of
JOINT VENTURE AGREEMENT
under
UPLAND AGROFORESTRY
PROGRAM
of
LIONHEART FARMS (PHILIPPINES)
CORPORATION (BLOCK-I)
AREA : 400 has.
SCALE : 1:50000
Projection: Universal Transverse Mercator - Zone 50 (N)
Datum : World Geodetic 1984 (WGS84)
CERTIFICATION
This is to certify that this is the true and correct map of the inventoried trees within Block-1 of Joint Venture Agreement under Upland Agroforestry Program of LIONHEART FARMS (PHILIPPINES) CORPORATION as described hereon.
This map was prepared based on the actual survey of the land using GPS and plotted using other references available in this Office.
Prepared by
JOHN MICHAEL T. RODRIGUEZ
Forest Technician II
Checked and Verified by
RAMSES CASTILLO
Forester I/In-Charge, Permitting Unit
Attested by
LEONARDO CALUYA
CENRO
TECHNICAL DESCRIPTION
Corner | Longitude | Latitude
1 | 117°34'04.9" | 8°54'23.3"
2 | 117°34'12.0" | 8°54'24.6"
3 | 117°34'52.1" | 8°54'30.0"
4 | 117°35'04.8" | 8°54'28.0"
5 | 117°35'06.4" | 8°54'04.3"
6 | 117°35'41.8" | 8°53'26.0"
7 | 117°35'06.1" | 8°53'05.9"
8 | 117°34'15.4" | 8°53'43.2"
9 | 117°34'18.5" | 8°54'10.0"
Timberland
Project No. 13-J,
LC Map No. 3400
dated October 28, 1986
LIONHEART FARMS (PHILIPPINES) CORP.
LOCATION MAP
THIS SITE
LEGEND
Block-1
Corners
Inventoried Trees
Rivers and Creeks
Lionheart Area
Corner
8°53'20" N
8°54'00" N
8°54'40" N
117°33'40" E
117°34'10" E
117°34'50" E
117°35'20" E
117°36'00" E


TECHNICAL DESCRIPTION
Corner | Longitude | Latitude
1 | 117°32'56.0" | 8°53'48.5"
2 | 117°33'13.5" | 8°53'29.6"
3 | 117°33'08.5" | 8°53'16.2"
4 | 117°33'14.3" | 8°53'05.7"
5 | 117°33'24.2" | 8°52'52.0"
6 | 117°33'38.0" | 8°52'56.7"
7 | 117°33'43.2" | 8°52'46.6"
8 | 117°33'32.5" | 8°52'35.3"
9 | 117°33'09.6" | 8°52'14.2"
10 | 117°32'41.7" | 8°52'44.8"
11 | 117°32'30.0" | 8°53'18.0"
THIS SITE
LIONHEART FARMS (PHILIPPINES) CORP.
LOCATION MAP
SCALE : 1:200000
MAP
showing the inventoried trees within the area of
JOINT VENTURE AGREEMENT
under
UPLAND AGROFORESTRY
PROGRAM
of
LIONHEART FARMS (PHILIPPINES)
CORPORATION (BLOCK-II)
AREA : 500 has
SCALE : 1:10000
Projection: Universal Transverse Mercator - Zone 50 UNO
Datum : World Geodetic 1984 (WGS84)
CERTIFICATION
This is to certify that this is the true and correct map of the inventoried trees within Block-II of Joint Venture Agreement under Upland Agroforestry Program of LIONHEART FARMS (PHILIPPINES) CORPORATION as described hereon.
This map was prepared based on the actual survey of the land using GPS and plotted using other references available in this Office.
Plotted by:
JOHN MICHAEL T. RODRIGUEZ
Forest Technician II
Checked and Verified by:
ROMSEY CASTILLO
Forester I/In-Charge, Permitting Unit
Attested by:
LEONARD T. CARLOS
CENRO
Timberland
Project No. 15-J,
LC Map No. 5400
dated October 28, 1994
LEGEND
Block-II
Corners
Inventoried Trees
Rivers and Creeks
Lionheart Area
Corner

Republic of the Philippines
Department of Environment and Natural Resources
MIMAROPA Region
Community Environment and Natural Resources Office

November 11, 2019

MEMORANDUM

FOR : The Regional Executive Director
DENR MIMAROPA Region
1515 L&S Bldg., Roxas Blvd., Ermita, Manila

THRU : The OIC- Provincial Environment
And Natural Resources Officer
Sta. Monica, Puerto Princesa City

FROM : The Community Environment
And Natural Resources Officer
Quezon, Palawan

SUBJECT : **REPORT ON THE CONDUCT OF INVENTORY AT 20% INTENSITY OF NATURALLY GROWN TREES AND SURVEY OF INLAND WATERS WITHIN THE UPLAND AGRO-FORESTRY PROJECT COVERED BY JOINT VENTURE AGREEMENT (JVA) OF LIONHEART FARMS PHILIPPINES CORPORATION (LFPC) LOCATED AT BGYS. RANSANG AND CANDAWAGA, RIZAL, PALAWAN.**

Respectfully forwarded is the report dated October 25, 2019 together with pertinent documents regarding the above cited subject hereof.

In compliance to the instruction of the Executive Committee of the Forest Management Bureau (FMB) and as agreed upon the deliberation of the Comprehensive Agro-Forestry Development Plan of the Joint Venture Agreement (JVA) under the Upland Agro-Forestry Program of Lionheart Farms Philippines Corporation (LFPC), this Office issued CENRO Special Order No. 21 dated August 2, 2019, to create a team who will conduct inventory of naturally grown trees at 20% intensity and survey of inland waters, demarcating 20-meter buffer zone to be planted with indigenous species within the said project area.

Relative hereto, respectfully forwarded are the pertinent documents of the report to wit:

1. Memorandum Report of the team who conducted the inventory and survey;
2. Tally Sheet and Stand and Stock Table of inventoried naturally grown trees (Block I&II);
3. Geo-Tagged and Panoramic view photos of inventoried naturally grown trees (Block I&II);
4. Geo-Tagged Photos of the 20-meter area, both sides, river bank demarcation to be planted with indigenous forest trees for protection purposes;
5. UTM/GIS Map of the area & Tree Charting of inventoried trees (Block I&II);
6. UTM/GIS Map of the 20 meter, both sides inland water, demarcation;
7. Photocopy of CENRO Special Order No. 21 dated August 2, 2019;
8. Photocopy of Letter from the Director of Forest Management Bureau (FMB) Nonito M. Tamayo, *CESO IV* and the highlights of the deliberation of the Comprehensive Agroforestry Development Plan for the Joint Venture Agreement under the Upland Agroforestry Program of Lionheart Farms Philippines Corporation (LFPC).

For his information and record.

LEONARD J. CALUYA

Corner Narassid St., Bgy. Alfonso XIII, Quezon, Palawan
Email: cenroquezonpal@gmail.com

Republic of the Philippines
Department of Environment and Natural Resources
MIMAROPA Region
Community Environment and Natural Resources Office

October 25, 2019

MEMORANDUM

DENR-CENRO QUEZON, PALAWAN
RECEIVED
SERIAL NO. 2019-3296
DATE: 10.29.19
SIGNATURE

FOR : THE COMMUNITY ENVIRONMENT AND NATURAL RESOURCES OFFICER QUEZON, PALAWAN

THRU : THE IN-CHARGE, RPS

FROM :

Ramses S. Castillo	-	Forester I
Armando J. Batayo	-	Forest Technician II
John Michael T. Rodriguez	-	Forest Technician II
Baltazar A. Roger	-	Cartographer I
Djoanna D. Natividad	-	LMI I
Gems Aster O. Alfeche	-	Forest Technician I
John Marcelo S. Dayola	-	Forest Ranger

SUBJECT : **REPORT ON THE CONDUCT OF INVENTORY AT 20% INTENSITY OF NATURALLY GROWN TREES AND SURVEY OF INLAND WATERS WITHIN THE UPLAND AGRO-FORESTRY PROJECT COVERED BY JOINT VENTURE AGREEMENT (JVA) OF LIONHEART FARMS PHILIPPINES CORPORATION (LFPC) LOCATED AT BGYS. RANSANG AND CANDAWAGA, RIZAL, PALAWAN.**

Respectfully submitted is the report with re: to the abovementioned subject. In compliance with CENRO Special Order No. 021 dated August 2, 2019, to the instruction of the Executive Committee of the Forest Management Bureau (FMB) upon deliberation of the Comprehensive Agroforestry Development Plan for the Joint Venture Agreement under the Upland Agroforestry Program of Lionheart Farms Philippines Corporation (LFPC). Please be informed that we the undersigned personnel performed Timber Inventory of naturally grown trees at 20% intensity and survey of inland waters.

We, the assigned CENRO, Quezon, Palawan personnel divided into two teams in order to posthaste our field activity. Team I composed of For.I Castillo, F.R. Dayola & LMI Natividad, proceeded to Block I located at Sitio Malutok, Bgy. Ransang, Rizal, Palawan and Team II together with F.T.II Batayo, F.T.I Alfeche & Cartographerl Rogel departed for Block II located at Sitio Balen-balen, Bgy. Ransang, Rizal, Palawan, jointly in coordination with LFPC representatives led by Mr. Alwin Nemiada.

As per conducted inventory, Block I has 1,716 naturally grown trees of different species with a volume of 1,731.84 cubic meters and Block II has 682 naturally grown indigenous species trees containing a volume of 956.62 cubic meters. Overall (Block I & II), has a total number of **2,398** inventoried native trees of distinctive species at a total aggregate volume of **2,688.46** cubic meters within the 3,500 hectares Joint Venture Agreement under the Upland Agroforestry Program of Lionheart Farms Philippines Corporation (LFPC). Furthermore, four inland waters were validated within the JVA, which are Malutok River, Balen-Balen River, Sumurom River and Candawaga River, of which we demarcated the 20-meter Buffer Zone area to be planted with indigenous forest trees for forest protection purposes.

Corner Narassid St., Bgy. Alfonso XIII, Quezon, Palawan
Email: cenroquezonpal@gmail.com

Republic of the Philippines
Department of Environment and Natural Resources
MIMAROPA Region
Community Environment and Natural Resources Office

Relative thereto, attached are the pertinent documents to wit:

1. Tally Sheet and Stand and Stock Table of inventoried naturally grown trees (Block I&II);
2. Geo-Tagged and Panoramic view photos of inventoried naturally grown trees (Block I&II);
3. Geo-Tagged Photos of the 20-meter area, both sides, river bank demarcation to be planted with indigenous forest trees for protection purposes;
4. UTM/GIS Map of the area & Tree Charting of inventoried trees (Block I&II);
5. UTM/GIS Map of the 20 meter, both sides inland water, demarcation;
6. Photocopy of CENRO Special Order No. 21 dated August 2, 2019;
7. Photocopy of Letter from the Director of Forest Management Bureau (FMB) Nonito M. Tamayo, *CESO IV* and the highlights of the deliberation of the Comprehensive Agroforestry Development Plan for the Joint Venture Agreement under the Upland Agroforestry Program of Lionheart Farms Philippines Corporation (LFPC).

For information and further instruction.

JOHN MARCELO S. DAYOLA

GEMIS ASTER O. ALFECHE

DJOANNA D. NATIVIDAD

BALTAZAR A. ROGEL

JOHN MICHAEL T. RODRIGUEZ

ARMANDO J. BATAYO

RAMSES S. CASTILLO
Forester I

Corner Narassid St., Bgy. Alfonso XIII, Quezon, Palawan
Email: cenroquezonpal@gmail.com

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)**
Location of the Area: **SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK I										
Tree No.	Species	*Scientific Name*	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
1	Matipas	*Miscellaneous species*	30	8	0.35	563143	984392		/	Code 1
2	Apitong	*D. grandiflorous*	90	10	3.95	563153	984393		/	Code 1
3	Kalasa	*Miscellaneous species*	46	8	0.83	563153	984400		/	Code 1
4	Antipolo	*Artocarpus blancio*	96	8	3.59	563160	984407		/	Code 1
5	Mararing	*Miscellaneous species*	60	6	1.05	563171	984411		/	Code 1
6	Matipas	*Miscellaneous species*	20	6	0.12	563201	984428		/	Code 1
7	Gisok	*S. guiso*	20	4	0.08	563192	984420		/	Code 1
8	Latangan	*Miscellaneous species*	30	6	0.26	563220	984427		/	Code 1
9	Bolong Eta	*D. pilosanthera*	18	3	0.05	563224	984440		/	Code 1
10	Apitong	*D. grandiflorous*	78	10	2.97	563214	984434		/	Code 1
11	Antipolo	*Artocarpus blancio*	22	5	0.12	563237	984467		/	Code 1
12	Lampong Gubat	*Miscellaneous species*	20	3	0.06	563225	984459		/	Code 1
13	Sahing	*Canarium asperum*	46	8	0.83	563236	984482		/	Code 1
14	Apitong	*D. grandiflorous*	50	12	1.46	563228	984494		/	Code 1
15	Antipolo	*Artocarpus blancio*	46	8	0.83	563233	984499		/	Code 1
16	Batino	*Alstonia macrophylla*	22	6	0.14	563225	984507		/	Code 1
17	Antipolo	*Artocarpus blancio*	35	2	0.12	563212	984506		/	Code 1
18	Durian	*Durio zibethinus*	50	10	1.22	563212	984493		/	Code 1
19	Antipolo	*Artocarpus blancio*	30	4	0.18	563204	984481		/	Code 1
20	Amugis	*Koordersiodension pinnatum*	50	10	1.22	563192	984486		/	Code 1
21	Amugis	*Koordersiodension pinnatum*	46	4	0.41	563199	984473		/	Code 1
22	Durian	*Durio zibethinus*	50	10	1.22	563214	984478		/	Code 1
23	Amugis	*Koordersiodension pinnatum*	40	10	0.78	563208	984460		/	Code 1
24	Mountain Agoho	*Gymnostama rumphiana*	32	2	0.10	563189	984465		/	Code 1
25	Nato	*Palaquium luzoniense*	32	4	0.20	563178	984466		/	Code 1
26	Magsumbiling	*Miscellaneous species*	36	4	0.25	563172	984458		/	Code 1
27	Amugis	*Koordersiodension pinnatum*	40	8	0.62	563193	984442		/	Code 1
28	Antipolo	*Artocarpus blancio*	40	8	0.62	563183	984441		/	Code 1
29	Kalasa	*Miscellaneous species*	36	6	0.38	563181	984450		/	Code 1
30	Amugis	*Koordersiodension pinnatum*	24	6	0.17	563170	984447		/	Code 1
31	Amugis	*Koordersiodension pinnatum*	22	8	0.19	563161	984448		/	Code 1
32	Amugis	*Koordersiodension pinnatum*	20	8	0.16	563167	984431		/	Code 1
33	Magsumbiling	*Miscellaneous species*	30	6	0.26	563176	984425		/	Code 1
34	Antipolo	*Artocarpus blancio*	60	8	1.40	563153	984425		/	Code 1
35	Amugis	*Koordersiodension pinnatum*	22	4	0.09	563144	984447		/	Code 1
36	Manggis	*Koompassia excelsia*	45	10	0.99	563134	984447		/	Code 1
37	Karamputi	*Miscellaneous species*	20	4	0.08	563137	984430		/	Code 1
38	Bansalangin	*Mimusops elengi*	24	10	0.28	563139	984404		/	Code 1
39	Bansalangin	*Mimusops elengi*	20	10	0.19	563126	984406		/	Code 1
40	Antipolo	*Artocarpus blancio*	30	5	0.22	563126	984416		/	Code 1
41	Kalasa	*Miscellaneous species*	30	6	0.26	563121	984437		/	Code 1
42	Antipolo	*Artocarpus blancio*	50	6	0.73	563111	984450		/	Code 1
43	Antipolo	*Artocarpus blancio*	38	3	0.21	563108	984441		/	Code 1
44	Magsaradan	*Miscellaneous species*	16	3	0.04	563110	984430		/	Code 1
45	Antipolo	*Artocarpus blancio*	70	8	1.91	563115	984417		/	Code 1
46	Latangan	*Miscellaneous species*	22	5	0.12	563116	984407		/	Code 1
47	Baslayan	*Miscellaneous species*	22	8	0.19	563127	984387		/	Code 1
48	Marangan	*Miscellaneous species*	18	4	0.06	563104	984396		/	Code 1
49	Manggis	*Koompassia excelsia*	16	4	0.05	563104	984407		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)**
Location of the Area: **SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN**
Title No.: **N/A**
Area Inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK I										
Tree No.	Species	*Scientific Name*	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
50	Latangan	*Miscellaneous species*	16	4	0.05	563092	984450		/	Code 1
51	Kandong	*Miscellaneous species*	80	12	3.74	563095	984399		/	Code 1
52	Magsumbiling	*Miscellaneous species*	20	6	0.12	563090	984412		/	Code 1
53	Latangan	*Miscellaneous species*	20	4	0.08	563088	984423		/	Code 1
54	Durian	*Durio zibethinus*	100	12	5.85	563084	984436		/	Code 1
55	Latangan	*Miscellaneous species*	20	5	0.10	563077	984393		/	Code 1
56	Amugis	*Koordersiodension pinnatum*	40	10	0.78	563073	984377		/	Code 1
57	Repetek	*Kokoona orchracea*	28	6	0.23	563097	984363		/	Code 1
58	Antipolo	*Artocarpus blancio*	50	10	1.22	563113	984370		/	Code 1
59	Durian	*Durio zibethinus*	30	10	0.44	563097	984378		/	Code 1
60	Malatab	*Miscellaneous species*	34	4	0.23	563135	984359		/	Code 1
61	Marangan	*Miscellaneous species*	16	4	0.05	563122	984349		/	Code 1
62	Antipolo	*Artocarpus blancio*	28	5	0.19	563101	984350		/	Code 1
63	Malakugon	*Miscellaneous species*	18	4	0.06	563072	984357		/	Code 1
64	Baslac	*Canarium*	15	4	0.04	563057	984366		/	Code 1
65	Dita	*A. scholaris*	40	6	0.47	563040	984367		/	Code 1
66	Mararing	*Miscellaneous species*	20	3	0.06	563017	984375		/	Code 1
67	Baslac	*Canarium*	16	3	0.04	563002	984379		/	Code 1
68	Apitong	*D. grandiflorous*	80	18	5.61	563003	984360		/	Code 1
69	Latangan	*Miscellaneous species*	15	4	0.04	563013	984348		/	Code 1
70	Baslac	*Canarium*	24	3	0.08	563017	984341		/	Code 1
71	Amugis	*Koordersiodension pinnatum*	34	6	0.34	563036	984340		/	Code 1
72	Potat	*Aralia javanica*	16	3	0.04	563050	984342		/	Code 1
73	Mirato	*Miscellaneous species*	20	4	0.08	563075	984338		/	Code 1
74	Kamagong	*D. philippensis*	16	3	0.04	563097	984331		/	Code 1
75	Apitong	*D. grandiflorous*	80	14	4.37	563129	984325		/	Code 1
76	Ipil	*Intsia bijuga*	18	2	0.03	563140	984329		/	Code 1
77	Antipolo	*Artocarpus blancio*	20	5	0.10	563153	984332		/	Code 1
78	Latangan	*Miscellaneous species*	20	2	0.04	563158	984315		/	Code 1
79	Apitong	*D. grandiflorous*	60	8	1.40	563154	984302		/	Code 1
80	Kamagong	*D. philippensis*	24	8	0.22	563128	984295		/	Code 1
81	Amugis	*Koordersiodension pinnatum*	16	4	0.05	563121	984307		/	Code 1
82	Apitong	*D. grandiflorous*	40	4	0.31	563095	984306		/	Code 1
83	Apitong	*D. grandiflorous*	38	3	0.21	563077	984306		/	Code 1
84	Kalasa	*Miscellaneous species*	20	5	0.10	563062	984299		/	Code 1
85	Nato	*Palaquium luzoniense*	38	5	0.35	563040	984304		/	Code 1
86	Kandong	*Miscellaneous species*	56	8	1.22	563032	984313		/	Code 1
87	Amugis	*Koordersiodension pinnatum*	18	5	0.08	563018	984318		/	Code 1
88	Potat	*Aralia javanica*	18	2	0.03	563009	984310		/	Code 1
89	Dita	*A. scholaris*	20	4	0.08	563039	984288		/	Code 1
90	Antipolo	*Artocarpus blancio*	52	6	0.79	563040	984269		/	Code 1
91	Balingasai	*Bucharania arborescens*	20	4	0.08	563044	984255		/	Code 1
92	Antipolo	*Artocarpus blancio*	28	5	0.19	563067	984262		/	Code 1
93	Maraparay	*Miscellaneous species*	24	8	0.22	563089	984285		/	Code 1
94	Baslayan	*Miscellaneous species*	36	6	0.38	563125	984272		/	Code 1
95	Magsumbiling	*Miscellaneous species*	30	6	0.26	563157	984251		/	Code 1
96	Antipolo	*Artocarpus blancio*	74	8	2.14	563167	984263		/	Code 1
97	Antipolo	*Artocarpus blancio*	50	8	0.97	563174	984289		/	Code 1
98	Dita	*A. scholaris*	30	4	0.18	563185	984320		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)**
Location of the Area: **SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK I										
Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
99	Damak	*Miscellaneous species*	18	2	0.03	563198	984328		/	Code 1
100	Kalasa	*Miscellaneous species*	40	8	0.62	563194	984345		/	Code 1
101	Baslac	*Canarium*	16	2	0.02	563225	984328		/	Code 1
102	Kandis	*Garciana binucao*	16	4	0.05	563237	984341		/	Code 1
103	Apitong	*D. grandiflorous*	70	8	1.91	563249	984337		/	Code 1
104	Aripa	*Miscellaneous species*	48	8	0.90	563236	984312		/	Code 1
105	Maraparay	*Miscellaneous species*	16	5	0.06	563220	984305		/	Code 1
106	Durian	*Durio zibethinus*	16	5	0.06	563204	984298		/	Code 1
107	Latangan	*Miscellaneous species*	16	4	0.05	563196	984281		/	Code 1
108	Kandong	*Miscellaneous species*	34	4	0.23	563215	984274		/	Code 1
109	Kandong	*Miscellaneous species*	28	6	0.23	563234	984281		/	Code 1
110	Kamagong	*D. philippensis*	36	6	0.38	563253	984286		/	Code 1
111	Batino	*Alstonia macrophylla*	24	3	0.08	563270	984270		/	Code 1
112	Bolong Eta	*D. pilosanthera*	22	3	0.07	563259	984256		/	Code 1
113	Batino	*Alstonia macrophylla*	24	6	0.17	563234	984252		/	Code 1
114	Sahing	*Canarium asperum*	20	3	0.06	563190	984250		/	Code 1
115	Sahing	*Canarium asperum*	20	3	0.06	563178	984232		/	Code 1
116	Batino	*Alstonia macrophylla*	30	6	0.26	563164	984223		/	Code 1
117	Kalumpit	*Terminalia microcarpa*	20	5	0.10	563160	984209		/	Code 1
118	Batino	*Alstonia macrophylla*	26	6	0.20	563200	984208		/	Code 1
119	Takip Asin	*Macaranga grandifolia*	22	3	0.07	563230	984222		/	Code 1
120	Talisay	*Terminalia catappa*	30	6	0.26	563164	984193		/	Code 1
121	Nato Puti	*P. macrantha*	30	10	0.44	563121	984195		/	Code 1
122	Bolong Eta	*D. pilosanthera*	16	4	0.05	563123	984155		/	Code 1
123	Latangan	*Miscellaneous species*	28	6	0.23	563158	984171		/	Code 1
124	Batino	*Alstonia macrophylla*	30	8	0.35	563196	984161		/	Code 1
125	Manahur	*Miscellaneous species*	46	8	0.83	563261	984164		/	Code 1
126	Sahing	*Canarium asperum*	30	4	0.18	563208	984122		/	Code 1
127	Sahing	*Canarium asperum*	24	4	0.11	563216	984136		/	Code 1
128	Kalumpit	*Terminalia microcarpa*	28	8	0.31	563232	984179		/	Code 1
129	Kamagong	*D. philippensis*	24	6	0.17	563273	984128		/	Code 1
130	Latangan	*Miscellaneous species*	24	3	0.08	563293	984132		/	Code 1
131	Batino	*Alstonia macrophylla*	50	14	1.71	563250	984091		/	Code 1
132	Kamagong	*D. philippensis*	28	6	0.23	563220	984079		/	Code 1
133	Sahing	*Canarium asperum*	42	12	1.03	563190	984087		/	Code 1
134	Manahur	*Miscellaneous species*	56	5	0.76	563151	984120		/	Code 1
135	Batino	*Alstonia macrophylla*	40	6	0.47	563131	984096		/	Code 1
136	Batino	*Alstonia macrophylla*	38	3	0.21	563145	984063		/	Code 1
137	Batino	*Alstonia macrophylla*	32	5	0.25	563117	984030		/	Code 1
138	Batino	*Alstonia macrophylla*	36	5	0.32	563113	984008		/	Code 1
139	Sahing	*Canarium asperum*	60	12	2.11	563155	984002		/	Code 1
140	Manahur	*Miscellaneous species*	34	4	0.23	563165	984028		/	Code 1
141	Tarimpusuan	*Miscellaneous species*	36	10	0.63	563208	984010		/	Code 1
142	Kamagong	*D. philippensis*	30	8	0.35	563220	984038		/	Code 1
143	Kamagong	*D. philippensis*	34	8	0.45	563252	984036		/	Code 1
144	Baslayan	*Miscellaneous species*	36	8	0.51	563262	984016		/	Code 1
145	Aripa	*Miscellaneous species*	34	6	0.34	563186	983986		/	Code 1
146	Alauna	*Miscellaneous species*	24	8	0.22	563145	983979		/	Code 1
147	Dugoan	*Myristica philippinensis*	36	10	0.63	563121	983973		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)**
Location of the Area: **SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK I										
Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
148	Batino	*Alstonia macrophylla*	38	8	0.56	563097	983992		/	Code 1
149	Baslac	*Canarium*	34	8	0.45	563044	984010		/	Code 1
150	Batino	*Alstonia macrophylla*	34	5	0.28	563081	984018		/	Code 1
151	Manahur	*Miscellaneous species*	28	6	0.23	563028	984029		/	Code 1
152	Nato Puti	*P. macrantha*	32	8	0.40	563018	984014		/	Code 1
153	Baris	*Miscellaneous species*	34	5	0.28	562985	983994		/	Code 1
154	Latangan	*Miscellaneous species*	34	6	0.34	562961	984004		/	Code 1
155	Apitong	*D. grandiflorous*	44	12	1.13	562951	983992		/	Code 1
156	Kamagong	*D. philippensis*	34	10	0.56	563264	983981		/	Code 1
157	Panglumboyen	*Eugenia*	32	4	0.20	563208	983957		/	Code 1
158	Manahur	*Miscellaneous species*	30	4	0.18	563177	983951		/	Code 1
159	Manahur	*Miscellaneous species*	28	4	0.15	563139	983945		/	Code 1
160	Batino	*Alstonia macrophylla*	20	3	0.06	563109	983941		/	Code 1
161	Paho	*Mangifera Longipes*	18	5	0.08	563052	983941		/	Code 1
162	Manahur	*Miscellaneous species*	32	6	0.30	563050	983965		/	Code 1
163	Batino	*Alstonia macrophylla*	25	5	0.15	562987	983966		/	Code 1
164	Aripa	*Miscellaneous species*	35	6	0.36	563010	983943		/	Code 1
165	Batino	*Alstonia macrophylla*	30	4	0.18	562997	983896		/	Code 1
166	Batino	*Alstonia macrophylla*	28	5	0.19	562989	983876		/	Code 1
167	Aripa	*Miscellaneous species*	38	10	0.70	563026	983856		/	Code 1
168	Tarimpusuan	*Miscellaneous species*	45	10	0.99	562937	983870		/	Code 1
169	Manahur	*Miscellaneous species*	45	10	0.99	562902	983903		/	Code 1
170	Apitong	*D. grandiflorous*	48	14	1.57	562900	983882		/	Code 1
171	Talisay Gubat	*Terminali foetidissima*	40	10	0.78	562892	983947		/	Code 1
172	Batino	*Alstonia macrophylla*	15	4	0.04	562925	983976		/	Code 1
173	Dugoan	*Myristica philippinensis*	20	4	0.08	562882	983988		/	Code 1
174	Apitong	*D. grandiflorous*	32	8	0.40	562870	983976		/	Code 1
175	Baris	*Miscellaneous species*	64	10	2.00	562937	983837		/	Code 1
176	Kamagong	*D. philippensis*	38	10	0.70	562971	983784		/	Code 1
177	Malakugon	*Miscellaneous species*	48	8	0.90	562957	983742		/	Code 1
178	Batino	*Alstonia macrophylla*	26	3	0.10	562999	983736		/	Code 1
179	Talisay	*Terminalia catappa*	34	10	0.56	563005	983784		/	Code 1
180	Aripa	*Miscellaneous species*	28	10	0.38	563016	983803		/	Code 1
181	Nato	*Palaquium luzoniense*	45	14	1.38	562975	983821		/	Code 1
182	Batino	*Alstonia macrophylla*	40	4	0.31	563003	983821		/	Code 1
183	Sahing	*Canarium asperum*	38	3	0.21	563042	983807		/	Code 1
184	Sahing	*Canarium asperum*	22	4	0.09	563060	983768		/	Code 1
185	Baris	*Miscellaneous species*	32	5	0.25	563072	983709		/	Code 1
186	Salasa	*Miscellaneous species*	26	4	0.13	563068	983654		/	Code 1
187	Kandong	*Miscellaneous species*	28	6	0.23	563092	983650		/	Code 1
188	Nato Pula	*Sterculia rubuginosa*	70	12	2.87	563036	983685		/	Code 1
189	Baris	*Miscellaneous species*	24	6	0.17	562993	983699		/	Code 1
190	Lampong Gubat	*Miscellaneous species*	24	5	0.14	563050	983695		/	Code 1
191	Batino	*Alstonia macrophylla*	42	6	0.52	563102	983678		/	Code 1
192	Manahur	*Miscellaneous species*	24	5	0.14	563124	983634		/	Code 1
193	Kamagong	*D. philippensis*	28	3	0.11	563138	983601		/	Code 1
194	Baris	*Miscellaneous species*	22	6	0.14	563197	983593		/	Code 1
195	Latangan	*Miscellaneous species*	22	6	0.14	563179	983636		/	Code 1
196	Banglas	*Miscellaneous species*	26	8	0.26	563120	983670		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)
Location of the Area: SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN
Title No.: N/A
Area inventoried: 3, 500 hectares
Date of Inventory: August 14 - 23, 2019
Lot No.: N/A

BLOCK I										
Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
197	Manahur	Miscellaneous species	34	5	0.28	563157	983701		/	Code 1
198	Martab	Miscellaneous species	38	6	0.42	563108	983723		/	Code 1
199	Kamagong	D. philippensis	20	6	0.12	563108	983750		/	Code 1
200	Batino	Alstonia macrophylla	24	6	0.17	563106	983784		/	Code 1
201	Palomaria	Vidalia novesii	28	5	0.19	563082	983803		/	Code 1
202	Batino	Alstonia macrophylla	20	6	0.12	563098	983829		/	Code 1
203	Nato	Palaquium luzoniense	60	12	2.11	563119	983839		/	Code 1
204	Batino	Alstonia macrophylla	40	14	1.09	563157	983833		/	Code 1
205	Nato	Palaquium luzoniense	60	12	2.11	563163	983800		/	Code 1
206	Batino	Alstonia macrophylla	40	14	1.09	563183	983776		/	Code 1
207	Damak	Miscellaneous species	26	3	0.10	563210	983802		/	Code 1
208	Palomaria	Vidalia novesii	26	5	0.16	563228	983778		/	Code 1
209	Manahur	Miscellaneous species	20	6	0.12	563224	983739		/	Code 1
210	Sahing	Canarium asperum	26	4	0.13	563179	983725		/	Code 1
211	Kamagong	D. philippensis	15	3	0.03	563201	983697		/	Code 1
212	Latangan	Miscellaneous species	18	3	0.05	563207	983676		/	Code 1
213	Sahing	Canarium asperum	20	5	0.10	563228	983668		/	Code 1
214	Nato	Palaquium luzoniense	25	6	0.18	563240	983615		/	Code 1
215	Latangan	Miscellaneous species	18	3	0.05	563229	983591		/	Code 1
216	Sahing	Canarium asperum	20	5	0.10	563187	983566		/	Code 1
217	Manahur	Miscellaneous species	28	4	0.15	563120	983569		/	Code 1
218	Apitong	D. grandiflorous	30	6	0.26	563276	983625		/	Code 1
219	Gisok	S. guiso	26	3	0.10	563286	983578		/	Code 1
220	Antipolo	Artocarpus blancio	20	6	0.12	563328	983572		/	Code 1
221	Manahur	Miscellaneous species	46	6	0.62	563373	983574		/	Code 1
222	Amugis	Koordersiodension pinnatum	28	6	0.23	563373	983546		/	Code 1
223	Rambutan	Nephelium lappaceum	16	2	0.02	563338	983515		/	Code 1
224	Antipolo	Artocarpus blancio	20	4	0.08	563244	983550		/	Code 1
225	Amugis	Koordersiodension pinnatum	24	5	0.14	563248	983528		/	Code 1
226	Manahur	Miscellaneous species	46	6	0.62	563264	983493		/	Code 1
227	Amugis	Koordersiodension pinnatum	28	6	0.23	563288	983469		/	Code 1
228	Rambutan	Nephelium lappaceum	16	2	0.02	563227	983454		/	Code 1
229	Antipolo	Artocarpus blancio	20	4	0.08	563215	983483		/	Code 1
230	Amugis	Koordersiodension pinnatum	24	5	0.14	563193	983501		/	Code 1
231	Gisok	S. guiso	20	2	0.04	563197	983524		/	Code 1
232	Dugoan	Myristica philippinensis	24	4	0.11	563173	983524		/	Code 1
233	Gisok	S. guiso	16	2	0.02	563165	983515		/	Code 1
234	Apitong	D. grandiflorous	100	16	7.80	563142	983509		/	Code 1
235	Amugis	Koordersiodension pinnatum	34	5	0.28	563126	983503		/	Code 1
236	Antipolo	Artocarpus blancio	38	4	0.28	563148	983461		/	Code 1
237	Kalasa	Miscellaneous species	22	4	0.09	563173	983424		/	Code 1
238	Amugis	Koordersiodension pinnatum	24	6	0.17	563189	983444		/	Code 1
239	Latangan	Miscellaneous species	20	5	0.10	563217	983424		/	Code 1
240	Ipil	Intsia bijuga	18	5	0.08	563241	983367		/	Code 1
241	Apitong	D. grandiflorous	60	12	2.11	563253	983383		/	Code 1
242	Apitong	D. grandiflorous	74	10	2.67	563203	983397		/	Code 1
243	Batino	Alstonia macrophylla	40	6	0.47	563187	983387		/	Code 1
244	Salasa	Miscellaneous species	26	4	0.13	563253	983361		/	Code 1
245	Kandong	Miscellaneous species	28	6	0.23	563275	983332		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)**
Location of the Area: **SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK I										
Tree No.	Species	*Scientific Name*	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
246	Nato Pula	*Sterculia rubuginosa*	70	12	2.87	563237	983418		/	Code 1
247	Baris	*Miscellaneous species*	24	6	0.17	563227	983387		/	Code 1
248	Lampong Gubat	*Miscellaneous species*	24	5	0.14	563076	983461		/	Code 1
249	Batino	*Alstonia macrophylla*	42	6	0.52	563082	983491		/	Code 1
250	Manahur	*Miscellaneous species*	24	5	0.14	563064	983505		/	Code 1
251	Kamagong	*D. philippensis*	28	3	0.11	563039	983491		/	Code 1
252	Baris	*Miscellaneous species*	22	6	0.14	563049	983463		/	Code 1
253	Alupag	*Euphoria didyma Blanco*	24	8	0.22	563049	983445		/	Code 1
254	Sahing	*Canarium asperum*	18	4	0.06	563084	983404		/	Code 1
255	Sahing	*Canarium asperum*	26	4	0.13	563114	983408		/	Code 1
256	Kandong	*Miscellaneous species*	28	6	0.23	563106	983436		/	Code 1
257	Kamagong	*D. philippensis*	36	6	0.38	563078	983420		/	Code 1
258	Batino	*Alstonia macrophylla*	24	3	0.08	563015	983443		/	Code 1
259	Bolong Eta	*D. pilosanthera*	22	3	0.07	563001	983455		/	Code 1
260	Batino	*Alstonia macrophylla*	24	6	0.17	562989	983498		/	Code 1
261	Sahing	*Canarium asperum*	20	3	0.06	563013	983514		/	Code 1
262	Sahing	*Canarium asperum*	20	3	0.06	562979	983532		/	Code 1
263	Batino	*Alstonia macrophylla*	30	6	0.26	562914	983528		/	Code 1
264	Kalumpit	*Terminalia microcarpa*	20	5	0.10	562944	983493		/	Code 1
265	Batino	*Alstonia macrophylla*	26	6	0.20	562960	983469		/	Code 1
266	Batino	*Alstonia macrophylla*	50	6	0.73	562952	983436		/	Code 1
267	Apitong	*D. grandiflorous*	70	12	2.87	562958	983424		/	Code 1
268	Batino	*Alstonia macrophylla*	28	3	0.11	563001	983436		/	Code 1
269	Sahing	*Canarium asperum*	24	3	0.08	562977	983453		/	Code 1
270	Sahing	*Canarium asperum*	24	3	0.08	563338	983278		/	Code 1
271	Aripa	*Miscellaneous species*	38	12	0.84	563323	983268		/	Code 1
272	Asang Asang	*Miscellaneous species*	58	6	0.98	563316	983256		/	Code 1
273	Durian	*Durio zibethinus*	60	8	1.40	563315	983232		/	Code 1
274	Antipolo	*Artocarpus blancio*	34	8	0.45	563338	983246		/	Code 1
275	Dita	*A. scholaris*	70	10	2.39	563291	983231		/	Code 1
276	Dita	*A. scholaris*	80	14	4.37	563268	983208		/	Code 1
277	Magsumbiling	*Miscellaneous species*	20	4	0.08	563226	983179		/	Code 1
278	Kandong	*Miscellaneous species*	30	3	0.13	563219	983176		/	Code 1
279	Martab	*Miscellaneous species*	46	5	0.52	563215	983151		/	Code 1
280	Kandong	*Miscellaneous species*	34	10	0.56	563244	983143		/	Code 1
281	Kandong	*Miscellaneous species*	20	4	0.08	563257	983179		/	Code 1
282	Damak	*Miscellaneous species*	40	3	0.23	563286	983201		/	Code 1
283	Baris	*Miscellaneous species*	38	8	0.56	563225	983101		/	Code 1
284	Apitong	*D. grandiflorous*	50	10	1.22	563212	983088		/	Code 1
285	Manahur	*Miscellaneous species*	36	4	0.25	563160	983101		/	Code 1
286	Purdakan	*Miscellaneous species*	16	5	0.06	563165	983143		/	Code 1
287	Kandong	*Miscellaneous species*	48	10	1.12	563188	983181		/	Code 1
288	Baris	*Miscellaneous species*	60	6	1.05	563340	983097		/	Code 1
289	Apitong	*D. grandiflorous*	22	6	0.14	563361	983125		/	Code 1
290	Batino	*Alstonia macrophylla*	56	12	1.83	563360	983140		/	Code 1
291	Batino	*Alstonia macrophylla*	20	4	0.08	563377	983150		/	Code 1
292	Tarimpusuan	*Miscellaneous species*	34	4	0.23	563399	983162		/	Code 1
293	Tarimpusuan	*Miscellaneous species*	36	5	0.32	563414	983182		/	Code 1
294	Tarimpusuan	*Miscellaneous species*	34	5	0.28	563447	983176		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)**
Location of the Area: **SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK I										
Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
295	Kamagong	*D. philippensis*	38	10	0.70	563461	983145		/	Code 1
296	Paho	*Mangifera Longipes*	28	4	0.15	563481	983159		/	Code 1
297	Kalasa	*Miscellaneous species*	34	10	0.56	563491	983151		/	Code 1
298	Antipolo	*Artocarpus blancio*	34	10	0.56	563493	983118		/	Code 1
299	Antipolo	*Artocarpus blancio*	34	10	0.56	563468	983108		/	Code 1
300	Repetek	*Kokoona orchracea*	50	6	0.73	563403	983142		/	Code 1
301	Amugis	*Koordersiodension pinnatum*	22	4	0.09	563424	983151		/	Code 1
302	Apitong	*D. grandiflorous*	70	8	1.91	563434	983141		/	Code 1
303	Aripa	*Miscellaneous species*	18	6	0.09	563434	983120		/	Code 1
304	Panglumboyen	*Eugenia*	18	9	0.14	563465	983101		/	Code 1
305	Batino	*Alstonia macrophylla*	42	6	0.52	563445	983081		/	Code 1
306	Manahur	*Miscellaneous species*	36	8	0.51	563443	983066		/	Code 1
307	Kamagong	*D. philippensis*	38	10	0.70	563412	983088		/	Code 1
308	Kandong	*Miscellaneous species*	52	12	1.58	563417	983105		/	Code 1
309	Aripa	*Miscellaneous species*	46	10	1.03	563392	983089		/	Code 1
310	Dita	*A. scholaris*	54	12	1.71	563365	983092		/	Code 1
311	Kamagong	*D. philippensis*	20	8	0.16	563384	983075		/	Code 1
312	Martab	*Miscellaneous species*	24	4	0.11	563413	983041		/	Code 1
313	Tipolo	*Artocarpus incisa*	56	14	2.14	563433	983029		/	Code 1
314	Manggis	*Koompassia excelsia*	48	6	0.67	563448	983057		/	Code 1
315	Durian	*Durio zibethinus*	75	16	4.39	563371	983038		/	Code 1
316	Aripa	*Miscellaneous species*	60	10	1.75	563368	983057		/	Code 1
317	Tipolo	*Artocarpus incisa*	34	8	0.45	563348	983065		/	Code 1
318	Durian	*Durio zibethinus*	15	4	0.04	563334	983074		/	Code 1
319	Asang Asang	*Miscellaneous species*	42	10	0.86	563396	983009		/	Code 1
320	Aripa	*Miscellaneous species*	52	10	1.32	563424	983001		/	Code 1
321	Kalasa	*Miscellaneous species*	24	6	0.17	563421	983012		/	Code 1
322	Durian	*Durio zibethinus*	20	6	0.12	563420	983017		/	Code 1
323	Alauna	*Miscellaneous species*	26	4	0.13	563738	983201		/	Code 1
324	Kandis	*Garciana binucao*	18	4	0.06	563754	983236		/	Code 1
325	Alauna	*Miscellaneous species*	18	7	0.11	563760	983240		/	Code 1
326	Alauna	*Miscellaneous species*	20	2	0.04	563785	983217		/	Code 1
327	Kubi	*A. nitida*	20	4	0.08	563789	983193		/	Code 1
328	Badak	*Artocarpus chempedeo*	15	4	0.04	563780	983132		/	Code 1
329	Rambutan	*Nephelium lappaceum*	15	4	0.04	563831	983134		/	Code 1
330	Badak	*Artocarpus chempedeo*	20	4	0.08	563778	983110		/	Code 1
331	Badak	*Artocarpus chempedeo*	15	4	0.04	563734	983130		/	Code 1
332	Badak	*Artocarpus chempedeo*	15	4	0.04	563744	983167		/	Code 1
333	Paho	*Mangifera Longipes*	32	10	0.50	563766	983169		/	Code 1
334	Kubi	*A. nitida*	42	10	0.86	563813	983165		/	Code 1
335	Alauna	*Miscellaneous species*	34	6	0.34	563894	983166		/	Code 1
336	Ipil	*Intsia bijuga*	46	6	0.62	563938	983148		/	Code 1
337	Alauna	*Miscellaneous species*	40	10	0.78	563970	983156		/	Code 1
338	Malakugon	*Miscellaneous species*	28	10	0.38	563970	983162		/	Code 1
339	Asang Asang	*Miscellaneous species*	40	6	0.47	563989	983105		/	Code 1
340	Malakugon	*Miscellaneous species*	40	6	0.47	564011	983130		/	Code 1
341	Malakugon	*Miscellaneous species*	40	8	0.62	564013	983170		/	Code 1
342	Apitong	*D. grandiflorous*	48	10	1.12	564013	983197		/	Code 1
343	Asang Asang	*Miscellaneous species*	40	8	0.62	564100	983139		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)
Location of the Area: SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN
Title No.: N/A
Area Inventoried: 3, 500 hectares
Date of Inventory: August 14 - 23, 2019
Lot No.: N/A

BLOCK I										
Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
344	Asang Asang	*Miscellaneous species*	40	8	0.62	564175	983116		/	Code 1
345	Baslayan	*Miscellaneous species*	32	6	0.30	564302	983037		/	Code 1
346	Apitong	*D. grandiflorous*	28	8	0.31	564235	983092		/	Code 1
347	Dita	*A. scholaris*	30	10	0.44	564223	983128		/	Code 1
348	Dita	*A. scholaris*	30	10	0.44	564160	983151		/	Code 1
349	Takip Asin	*Macaranga grandifolia*	30	7	0.31	564124	983088		/	Code 1
350	Molave	*Vitex parviflora*	18	2	0.03	564429	983069		/	Code 1
351	Antipolo	*Artocarpus blancio*	25	6	0.18	564354	983085		/	Code 1
352	Kandong	*Miscellaneous species*	18	5	0.08	564346	983144		/	Code 1
353	Tawa	*Miscellaneous species*	22	8	0.19	564397	983148		/	Code 1
354	Maraparay	*Miscellaneous species*	20	3	0.06	564472	983262		/	Code 1
355	Kubi	*A. nitida*	20	4	0.08	564472	983223		/	Code 1
356	Antipolo	*Artocarpus blancio*	24	3	0.08	564460	983156		/	Code 1
357	Lampong Gubat	*Miscellaneous species*	20	5	0.10	564389	983199		/	Code 1
358	Labning	*Miscellaneous species*	23	3	0.08	564421	983274		/	Code 1
359	Antipolo	*Artocarpus blancio*	38	10	0.70	564385	983230		/	Code 1
360	Kubi	*A. nitida*	30	5	0.22	564330	983211		/	Code 1
361	Repetek	*Kokoona orchracea*	40	3	0.23	564274	983179		/	Code 1
362	Kalasa	*Miscellaneous species*	30	5	0.22	564254	983222		/	Code 1
363	Antipolo	*Artocarpus blancio*	38	10	0.70	564175	983206		/	Code 1
364	Alauna	*Miscellaneous species*	34	6	0.34	564140	983254		/	Code 1
365	Alauna	*Miscellaneous species*	32	6	0.30	564096	983214		/	Code 1
366	Manahur	*Miscellaneous species*	20	5	0.10	564041	983194		/	Code 1
367	Antipolo	*Artocarpus blancio*	36	10	0.63	564009	983226		/	Code 1
368	Alauna	*Miscellaneous species*	24	6	0.17	563902	983226		/	Code 1
369	Alauna	*Miscellaneous species*	30	6	0.26	563938	983289		/	Code 1
370	Alauna	*Miscellaneous species*	28	6	0.23	563953	983285		/	Code 1
371	Antipolo	*Artocarpus blancio*	24	6	0.17	564033	983269		/	Code 1
372	Antipolo	*Artocarpus blancio*	20	6	0.12	564088	983324		/	Code 1
373	Antipolo	*Artocarpus blancio*	28	8	0.31	564151	983301		/	Code 1
374	Apitong	*D. grandiflorous*	32	12	0.60	564270	983269		/	Code 1
375	Magbuya	*Miscellaneous species*	48	5	0.56	564326	983273		/	Code 1
376	Antipolo	*Artocarpus blancio*	22	10	0.24	564373	983309		/	Code 1
377	Antipolo	*Artocarpus blancio*	22	8	0.19	564361	983305		/	Code 1
378	Antipolo	*Artocarpus blancio*	24	8	0.22	564183	983336		/	Code 1
379	Apitong	*D. grandiflorous*	58	16	2.62	564072	983316		/	Code 1
380	Durian	*Durio zibethinus*	50	14	1.71	564037	983344		/	Code 1
381	Alauna	*Miscellaneous species*	32	10	0.50	563977	983356		/	Code 1
382	Kalasa	*Miscellaneous species*	22	6	0.14	563926	983336		/	Code 1
383	Manggis	*Koompassia excelsia*	34	10	0.56	563847	983308		/	Code 1
384	Aripa	*Miscellaneous species*	52	12	1.58	563763	983316		/	Code 1
385	Kalasa	*Miscellaneous species*	22	6	0.14	563759	983332		/	Code 1
386	Potat	*Aralia javanica*	22	8	0.19	563803	983359		/	Code 1
387	Antipolo	*Artocarpus blancio*	40	12	0.94	563839	983387		/	Code 1
388	Kalasa	*Miscellaneous species*	56	12	1.83	563846	983414		/	Code 1
389	Apitong	*D. grandiflorous*	40	10	0.78	563985	983395		/	Code 1
390	Repetek	*Kokoona orchracea*	44	8	0.75	563890	983497		/	Code 1
391	Ipil	*Intsia bijuga*	34	8	0.45	563787	983461		/	Code 1
392	Kalasa	*Miscellaneous species*	30	8	0.35	563755	983406		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)**
Location of the Area: **SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK I

Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
393	Kalasa	*Miscellaneous species*	38	10	0.70	563712	983449		/	Code 1
394	Kamagong	*D. philippensis*	15	6	0.07	563771	983497		/	Code 1
395	Antipolo	*Artocarpus blancio*	34	8	0.45	563731	983512		/	Code 1
396	Asang Asang	*Miscellaneous species*	20	5	0.10	563676	983516		/	Code 1
397	Rambutan	*Nephelium lappaceum*	16	3	0.04	563660	983595		/	Code 1
398	Rambutan	*Nephelium lappaceum*	15	4	0.04	563704	983575		/	Code 1
399	Rambutan	*Nephelium lappaceum*	28	4	0.15	563771	983497		/	Code 1
400	Rambutan	*Nephelium lappaceum*	15	3	0.03	563819	983497		/	Code 1
401	Rambutan	*Nephelium lappaceum*	15	3	0.03	563775	983552		/	Code 1
402	Rambutan	*Nephelium lappaceum*	18	5	0.08	563822	983544		/	Code 1
403	Batino	*Alstonia macrophylla*	38	6	0.42	563858	983528		/	Code 1
404	Asang Asang	*Miscellaneous species*	75	8	2.19	563930	983422		/	Code 1
405	Antipolo	*Artocarpus blancio*	26	8	0.26	563933	983501		/	Code 1
406	Antipolo	*Artocarpus blancio*	15	4	0.04	563866	983576		/	Code 1
407	Antipolo	*Artocarpus blancio*	32	8	0.40	563775	983619		/	Code 1
408	Antipolo	*Artocarpus blancio*	30	8	0.35	563680	983658		/	Code 1
409	Antipolo	*Artocarpus blancio*	18	6	0.09	563597	983658		/	Code 1
410	Antipolo	*Artocarpus blancio*	38	6	0.42	563565	983650		/	Code 1
411	Bansalangin	*Mimusops elengi*	30	10	0.44	563553	983638		/	Code 1
412	Antipolo	*Artocarpus blancio*	28	6	0.23	563561	983706		/	Code 1
413	Asang Asang	*Miscellaneous species*	30	10	0.44	563595	983716		/	Code 1
414	Antipolo	*Artocarpus blancio*	38	8	0.56	563616	983722		/	Code 1
415	Antipolo	*Artocarpus blancio*	34	3	0.17	563690	983745		/	Code 1
416	Asang Asang	*Miscellaneous species*	28	4	0.15	563630	983785		/	Code 1
417	Asang Asang	*Miscellaneous species*	32	3	0.15	563594	983779		/	Code 1
418	Kalasa	*Miscellaneous species*	26	6	0.20	563555	983767		/	Code 1
419	Kubi	*A. nitida*	22	6	0.14	563505	983751		/	Code 1
420	Kalasa	*Miscellaneous species*	42	10	0.86	563480	983757		/	Code 1
421	Latangan	*Miscellaneous species*	22	6	0.14	563456	983733		/	Code 1
422	Aripa	*Miscellaneous species*	20	6	0.12	563458	983710		/	Code 1
423	Asang Asang	*Miscellaneous species*	50	5	0.61	563440	983664		/	Code 1
424	Magsumbiling	*Miscellaneous species*	16	4	0.05	563399	983727		/	Code 1
425	Nato	*Palaquium luzoniense*	24	6	0.17	563385	983749		/	Code 1
426	Kalasa	*Miscellaneous species*	20	6	0.12	563375	983698		/	Code 1
427	Aripa	*Miscellaneous species*	44	12	1.13	563351	983774		/	Code 1
428	Antipolo	*Artocarpus blancio*	34	10	0.56	563333	983827		/	Code 1
429	Kalasa	*Miscellaneous species*	20	8	0.16	563258	983823		/	Code 1
430	Repetek	*Kokoona orchracea*	50	12	1.46	563290	983796		/	Code 1
431	Asang Asang	*Miscellaneous species*	120	14	9.83	563298	983768		/	Code 1
432	Kalasa	*Miscellaneous species*	32	10	0.50	563383	983688		/	Code 1
433	Apitong	*D. grandiflorous*	50	12	1.46	563335	983704		/	Code 1
434	Apitong	*D. grandiflorous*	65	12	2.47	563315	983727		/	Code 1
435	Durian	*Durio zibethinus*	20	4	0.08	563296	983717		/	Code 1
436	Antipolo	*Artocarpus blancio*	52	8	1.05	563391	983814		/	Code 1
437	Amugis	*Koordersiodension pinnatum*	60	6	1.05	563440	983818		/	Code 1
438	Tarimpusuan	*Miscellaneous species*	54	8	1.14	563486	983826		/	Code 1
439	Amugis	*Koordersiodension pinnatum*	20	4	0.08	563573	983832		/	Code 1
440	Antipolo	*Artocarpus blancio*	38	8	0.56	563596	983840		/	Code 1
441	Manggis	*Koompassia excelsia*	62	16	3.00	563618	983863		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)**
Location of the Area: **SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK I										
Tree No.	Species	*Scientific Name*	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
442	Antipolo	*Artocarpus blancio*	20	6	0.12	563545	983859		/	Code 1
443	Antipolo	*Artocarpus blancio*	30	8	0.35	563509	983855		/	Code 1
444	Antipolo	*Artocarpus blancio*	66	14	2.97	563440	983841		/	Code 1
445	Antipolo	*Artocarpus blancio*	44	8	0.75	563416	983853		/	Code 1
446	Antipolo	*Artocarpus blancio*	44	6	0.57	563337	983875		/	Code 1
447	Batino	*Alstonia macrophylla*	36	4	0.25	563337	983900		/	Code 1
448	Apitong	*D. grandiflorous*	64	10	2.00	563353	983947		/	Code 1
449	Dugoan	*Myristica philippinensis*	36	4	0.25	563382	983979		/	Code 1
450	Damak	*Miscellaneous species*	22	4	0.09	563396	983957		/	Code 1
451	Sahing	*Canarium asperum*	20	4	0.08	563414	983912		/	Code 1
452	Apitong	*D. grandiflorous*	50	10	1.22	563466	983936		/	Code 1
453	Batino	*Alstonia macrophylla*	42	4	0.34	563537	983987		/	Code 1
454	Batino	*Alstonia macrophylla*	15	4	0.04	563543	983961		/	Code 1
455	Tarimpusuan	*Miscellaneous species*	30	5	0.22	563555	983922		/	Code 1
456	Talisay	*Terminalia catappa*	44	10	0.94	563596	983938		/	Code 1
457	Aripa	*Miscellaneous species*	46	10	1.03	563616	983914		/	Code 1
458	Karamputi	*Miscellaneous species*	58	6	0.98	563620	983907		/	Code 1
459	Karamputi	*Miscellaneous species*	46	10	1.03	563638	983881		/	Code 1
460	Apitong	*D. grandiflorous*	46	14	1.44	563654	983867		/	Code 1
461	Mountain Agoho	*Gymnostama rumphiana*	15	5	0.05	563670	983853		/	Code 1
462	Damak	*Miscellaneous species*	24	4	0.11	563731	983859		/	Code 1
463	Magsumbiling	*Miscellaneous species*	22	10	0.24	563765	983828		/	Code 1
464	Apitong	*D. grandiflorous*	20	10	0.19	563741	983826		/	Code 1
465	Labning	*Miscellaneous species*	20	4	0.08	563717	983797		/	Code 1
466	Karamputi	*Miscellaneous species*	22	4	0.09	563820	983783		/	Code 1
467	Damak	*Miscellaneous species*	26	2	0.07	563755	983749		/	Code 1
468	Apitong	*D. grandiflorous*	46	12	1.24	563782	983844		/	Code 1
469	Apitong	*D. grandiflorous*	44	12	1.13	563747	983928		/	Code 1
470	Apitong	*D. grandiflorous*	50	14	1.71	563679	983922		/	Code 1
471	Batino	*Alstonia macrophylla*	40	10	0.78	563666	983891		/	Code 1
472	Nato	*Palaquium luzoniense*	48	12	1.35	563683	983881		/	Code 1
473	Batino	*Alstonia macrophylla*	38	8	0.56	563705	983913		/	Code 1
474	Talisay	*Terminalia catappa*	60	10	1.75	563778	983858		/	Code 1
475	Apitong	*D. grandiflorous*	80	14	4.37	563721	983916		/	Code 1
476	Labning	*Miscellaneous species*	36	2	0.13	563673	984021		/	Code 1
477	Mountain Agoho	*Gymnostama rumphiana*	15	4	0.04	563640	983983		/	Code 1
478	Mountain Agoho	*Gymnostama rumphiana*	16	4	0.05	563636	983962		/	Code 1
479	Latangan	*Miscellaneous species*	15	4	0.04	563594	983958		/	Code 1
480	Kandis	*Garciana binucao*	20	3	0.06	563588	984003		/	Code 1
481	Kandong	*Miscellaneous species*	15	3	0.03	563560	983991		/	Code 1
482	Batino	*Alstonia macrophylla*	15	4	0.04	563537	983991		/	Code 1
483	Antipolo	*Artocarpus blancio*	22	4	0.09	563475	983989		/	Code 1
484	Kandis	*Garciana binucao*	15	3	0.03	563432	984001		/	Code 1
485	Malakugon	*Miscellaneous species*	15	3	0.03	563404	983989		/	Code 1
486	Ipil	*Intsia bijuga*	20	3	0.06	563361	984000		/	Code 1
487	Batino	*Alstonia macrophylla*	40	6	0.47	563347	984016		/	Code 1
488	Antipolo	*Artocarpus blancio*	56	6	0.92	563345	984052		/	Code 1
489	Manahur	*Miscellaneous species*	50	5	0.61	563370	984044		/	Code 1
490	Antipolo	*Artocarpus blancio*	34	8	0.45	563354	984120		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)**
Location of the Area: **SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK I

Tree No.	Species	*Scientific Name*	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
491	Sahing	*Canarium asperum*	22	4	0.09	563366	984113		/	Code 1
492	Batino	*Alstonia macrophylla*	36	3	0.19	563424	984107		/	Code 1
493	Antipolo	*Artocarpus blancio*	48	8	0.90	563454	984060		/	Code 1
494	Talisay	*Terminalia catappa*	40	10	0.78	563459	984050		/	Code 1
495	Sahing	*Canarium asperum*	20	3	0.06	563513	984070		/	Code 1
496	Antipolo	*Artocarpus blancio*	20	3	0.06	563531	984109		/	Code 1
497	Antipolo	*Artocarpus blancio*	30	6	0.26	563548	984083		/	Code 1
498	Batino	*Alstonia macrophylla*	34	3	0.17	563594	984052		/	Code 1
499	Batino	*Alstonia macrophylla*	30	8	0.35	563596	984066		/	Code 1
500	Batino	*Alstonia macrophylla*	20	4	0.08	563681	984099		/	Code 1
501	Antipolo	*Artocarpus blancio*	26	5	0.16	563675	984036		/	Code 1
502	Antipolo	*Artocarpus blancio*	15	4	0.04	563651	984023		/	Code 1
503	Kubi	*A. nitida*	22	3	0.07	563638	984084		/	Code 1
504	Dugoan	*Myristica philippinensis*	30	6	0.26	563649	984068		/	Code 1
505	Amugis	*Koordersiodension pinnatum*	50	10	1.22	563693	984052		/	Code 1
506	Asang Asang	*Miscellaneous species*	56	4	0.61	563747	983999		/	Code 1
507	Amugis	*Koordersiodension pinnatum*	28	6	0.23	563731	983962		/	Code 1
508	Amugis	*Koordersiodension pinnatum*	60	10	1.75	563755	983956		/	Code 1
509	Baris	*Miscellaneous species*	18	3	0.05	563780	983966		/	Code 1
510	Apitong	*D. grandiflorous*	64	14	2.79	563806	983904		/	Code 1
511	Amugis	*Koordersiodension pinnatum*	22	4	0.09	563808	983913		/	Code 1
512	Batino	*Alstonia macrophylla*	20	3	0.06	563786	983932		/	Code 1
513	Apitong	*D. grandiflorous*	80	16	4.99	563838	983938		/	Code 1
514	Aripa	*Miscellaneous species*	26	5	0.16	563844	983919		/	Code 1
515	Antipolo	*Artocarpus blancio*	26	6	0.20	563887	983940		/	Code 1
516	Sahing	*Canarium asperum*	22	6	0.14	563875	983954		/	Code 1
517	Talisay	*Terminalia catappa*	68	14	3.16	563861	983893		/	Code 1
518	Apitong	*D. grandiflorous*	66	16	3.40	563842	983868		/	Code 1
519	Apitong	*D. grandiflorous*	46	12	1.24	563806	983862		/	Code 1
520	Amugis	*Koordersiodension pinnatum*	64	10	2.00	563766	983895		/	Code 1
521	Kandis	*Garciana binucao*	26	5	0.16	563757	983879		/	Code 1
522	Amugis	*Koordersiodension pinnatum*	48	10	1.12	563869	983860		/	Code 1
523	Antipolo	*Artocarpus blancio*	48	6	0.67	563854	983862		/	Code 1
524	Kandong	*Miscellaneous species*	60	12	2.11	563883	983889		/	Code 1
525	Bacauan Gubat	*Carallia integerrima*	20	6	0.12	563905	983917		/	Code 1
526	Kalasa	*Miscellaneous species*	20	6	0.12	563935	983907		/	Code 1
527	Kandong	*Miscellaneous species*	20	8	0.16	563945	983921		/	Code 1
528	Apitong	*D. grandiflorous*	52	14	1.85	563921	983938		/	Code 1
529	Antipolo	*Artocarpus blancio*	24	6	0.17	563958	983942		/	Code 1
530	Damak	*Miscellaneous species*	30	3	0.13	563944	983968		/	Code 1
531	Damak	*Miscellaneous species*	36	4	0.25	563907	983966		/	Code 1
532	Tarimpusuan	*Miscellaneous species*	30	6	0.26	563885	983991		/	Code 1
533	Apitong	*D. grandiflorous*	60	16	2.81	563861	983984		/	Code 1
534	kandong	*Miscellaneous species*	60	12	2.11	563836	983978		/	Code 1
535	Batino	*Alstonia macrophylla*	54	6	0.85	563780	984019		/	Code 1
536	Batino	*Alstonia macrophylla*	66	14	2.97	563800	984009		/	Code 1
537	Maraparay	*Miscellaneous species*	56	12	1.83	563786	984052		/	Code 1
538	Palawan Tree	*Daemonorops*	24	6	0.17	563762	984050		/	Code 1
539	Talisay	*Terminalia catappa*	54	10	1.42	563746	984080		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)**
Location of the Area: **SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK I

Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
540	Amugis	*Koordersiodension pinnatum*	52	10	1.32	563754	984101		/	Code 1
541	Malamanga	*Litsea*	35	12	0.72	563782	984119		/	Code 1
542	Asang Asang	*Miscellaneous species*	45	14	1.38	563742	984147		/	Code 1
543	Dita	*A. scholaris*	30	12	0.53	563693	984127		/	Code 1
544	Dugoan	*Myristica philippinensis*	23	6	0.15	563681	984154		/	Code 1
545	Alupag	*Euphoria didyma Blanco*	30	8	0.35	563655	984133		/	Code 1
546	Talisay Gubat	*Terminali foetidissima*	30	12	0.53	563624	984127		/	Code 1
547	Alupag	*Euphoria didyma Blanco*	23	10	0.26	563624	984148		/	Code 1
548	Alupag	*Euphoria didyma Blanco*	48	12	1.35	563541	984109		/	Code 1
549	Antipolo	*Artocarpus blancio*	38	14	0.99	563521	984140		/	Code 1
550	Repetek	*Kokoona orchracea*	70	14	3.34	563540	984150		/	Code 1
551	Apitong	*D. grandiflorous*	56	12	1.83	563511	984152		/	Code 1
552	Baris	*Miscellaneous species*	40	10	0.78	563481	984162		/	Code 1
553	Alupag	*Euphoria didyma Blanco*	20	10	0.19	563461	984185		/	Code 1
554	Kamagong	*D. philippensis*	20	6	0.12	563477	984221		/	Code 1
555	Dita	*A. scholaris*	36	8	0.51	563461	984209		/	Code 1
556	Batino	*Alstonia macrophylla*	24	12	0.34	563453	984260		/	Code 1
557	Batino	*Alstonia macrophylla*	25	8	0.24	563396	984235		/	Code 1
558	Dita	*A. scholaris*	36	8	0.51	563366	984288		/	Code 1
559	Paho	*Mangifera Longipes*	38	12	0.84	563408	984225		/	Code 1
560	Latangan	*Miscellaneous species*	40	14	1.09	563325	984236		/	Code 1
561	Manahur	*Miscellaneous species*	20	14	0.27	563368	984284		/	Code 1
562	Talisay Gubat	*Terminali foetidissima*	30	12	0.53	563427	984298		/	Code 1
563	Alupag	*Euphoria didyma Blanco*	48	12	1.35	563374	984390		/	Code 1
564	Antipolo	*Artocarpus blancio*	38	15	1.06	563447	984282		/	Code 1
565	Repetek	*Kokoona orchracea*	70	18	4.30	563417	984313		/	Code 1
566	Apitong	*D. grandiflorous*	56	12	1.83	563396	984329		/	Code 1
567	Baris	*Miscellaneous species*	40	10	0.78	563417	984364		/	Code 1
568	Alupag	*Euphoria didyma Blanco*	20	10	0.19	563390	984347		/	Code 1
569	Kamagong	*D. philippensis*	20	6	0.12	563338	984303		/	Code 1
570	Dita	*A. scholaris*	36	8	0.51	563380	984252		/	Code 1
571	Batino	*Alstonia macrophylla*	24	12	0.34	563400	984268		/	Code 1
572	Batino	*Alstonia macrophylla*	25	12	0.37	563372	984211		/	Code 1
573	Dita	*A. scholaris*	28	7	0.27	563372	984181		/	Code 1
574	Dita	*A. scholaris*	20	6	0.12	563406	984160		/	Code 1
575	Talisay Gubat	*Terminali foetidissima*	60	18	3.16	563489	984248		/	Code 1
576	Talisay	*Terminalia catappa*	100	20	9.75	563519	984231		/	Code 1
577	Maraparay	*Miscellaneous species*	45	15	1.48	563631	984227		/	Code 1
578	Apitong	*D. grandiflorous*	62	18	3.37	563588	984254		/	Code 1
579	Latangan	*Miscellaneous species*	35	7	0.42	563667	984205		/	Code 1
580	Sahing	*Canarium asperum*	20	3	0.06	563667	984202		/	Code 1
581	Antipolo	*Artocarpus blancio*	20	3	0.06	563665	984182		/	Code 1
582	Apitong	*D. grandiflorous*	20	3	0.06	563687	984178		/	Code 1
583	Batino	*Alstonia macrophylla*	34	3	0.17	563720	984194		/	Code 1
584	Antipolo	*Artocarpus blancio*	26	5	0.16	563748	984166		/	Code 1
585	Antipolo	*Artocarpus blancio*	26	5	0.16	563772	984184		/	Code 1
586	Antipolo	*Artocarpus blancio*	26	5	0.16	563780	984153		/	Code 1
587	Dita	*A. scholaris*	40	15	1.17	563812	984135		/	Code 1
588	Kubi	*A. nitida*	22	3	0.07	563804	984155		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)**
Location of the Area: **SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK I										
Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
589	Dugoan	*Myristica philippinensis*	30	6	0.26	563758	984225		/	Code 1
590	Durian	*Durio zibethinus*	40	25	1.95	563724	984223		/	Code 1
591	Amugis	*Koordersiodension pinnatum*	50	10	1.22	563695	984235		/	Code 1
592	Asang Asang	*Miscellaneous species*	56	4	0.61	563685	984241		/	Code 1
593	Amugis	*Koordersiodension pinnatum*	28	6	0.23	563645	984243		/	Code 1
594	Durian	*Durio zibethinus*	110	20	11.80	563635	984251		/	Code 1
595	Salasa	*Miscellaneous species*	40	10	0.78	563623	984260		/	Code 1
596	Tarimpusuan	*Miscellaneous species*	30	6	0.26	563613	984292		/	Code 1
597	Apitong	*D. grandiflorous*	60	16	2.81	563625	984286		/	Code 1
598	Salasa	*Miscellaneous species*	40	10	0.78	563643	984280		/	Code 1
599	Kandong	*Miscellaneous species*	60	12	2.11	563661	984292		/	Code 1
600	Talisay	*Terminalia catappa*	50	20	2.44	563683	984282		/	Code 1
601	Nato	*Palaquium luzoniense*	100	20	9.75	563679	984257		/	Code 1
602	Batino	*Alstonia macrophylla*	54	6	0.85	563707	984268		/	Code 1
603	Dita	*A. scholaris*	66	14	2.97	563706	984286		/	Code 1
604	Salasa	*Miscellaneous species*	50	15	1.83	563701	984308		/	Code 1
605	Maraparay	*Miscellaneous species*	56	12	1.83	563677	984314		/	Code 1
606	Repetek	*Kokoona orchracea*	24	6	0.17	563645	984321		/	Code 1
607	Antipolo	*Artocarpus blancio*	45	15	1.48	563598	984315		/	Code 1
608	Nato	*Palaquium luzoniense*	95	15	6.60	563683	984329		/	Code 1
609	Kamagong	*D. philippensis*	40	20	1.56	563702	984331		/	Code 1
610	Talisay	*Terminalia catappa*	85	20	7.04	563742	984272		/	Code 1
611	Talisay Gubat	*Terminali foetidissima*	54	10	1.42	563792	984237		/	Code 1
612	Talisay	*Terminalia catappa*	105	20	10.75	563812	984196		/	Code 1
613	Apitong	*D. grandiflorous*	80	20	6.24	563873	984155		/	Code 1
614	Batino	*Alstonia macrophylla*	32	3	0.15	563833	984129		/	Code 1
615	Tarimpusuan	*Miscellaneous species*	32	3	0.15	563867	984088		/	Code 1
616	Talisay	*Terminalia catappa*	90	15	5.92	563820	984068		/	Code 1
617	Kamagong	*D. philippensis*	40	15	1.17	563834	984043		/	Code 1
618	Baris	*Miscellaneous species*	20	3	0.06	563851	984029		/	Code 1
619	Asang Asang	*Miscellaneous species*	18	3	0.05	563885	984015		/	Code 1
620	Antipolo	*Artocarpus blancio*	40	15	1.17	563907	984009		/	Code 1
621	Apitong	*D. grandiflorous*	40	10	0.78	563948	983982		/	Code 1
622	Baris	*Miscellaneous species*	26	4	0.13	563974	983978		/	Code 1
623	Dita	*A. scholaris*	60	15	2.63	563992	983966		/	Code 1
624	Badak	*Artocarpus chempedeo*	15	4	0.04	563994	983941		/	Code 1
625	Badak	*Artocarpus chempedeo*	15	3	0.03	563994	983923		/	Code 1
626	Dita	*A. scholaris*	55	20	2.95	563996	983907		/	Code 1
627	Batino	*Alstonia macrophylla*	15	4	0.04	563972	983893		/	Code 1
628	Badak	*Artocarpus chempedeo*	15	4	0.04	563937	983870		/	Code 1
629	Badak	*Artocarpus chempedeo*	18	3	0.05	563927	983866		/	Code 1
630	Dita	*A. scholaris*	18	3	0.05	564014	983958		/	Code 1
631	Badak	*Artocarpus chempedeo*	18	3	0.05	564008	984017		/	Code 1
632	Asang Asang	*Miscellaneous species*	16	3	0.04	563964	984037		/	Code 1
633	Antipolo	*Artocarpus blancio*	40	5	0.39	563905	984070		/	Code 1
634	Apitong	*D. grandiflorous*	50	15	1.83	563919	984076		/	Code 1
635	Dita	*A. scholaris*	45	15	1.48	563931	984027		/	Code 1
636	Baslac	*Canarium*	24	4	0.11	563948	984029		/	Code 1
637	Baris	*Miscellaneous species*	30	3	0.13	563925	984098			Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)**
Location of the Area: **SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK I										
Tree No.	Species	*Scientific Name*	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
638	Antipolo	*Artocarpus blancio*	50	15	1.83	563877	984141		/	Code 1
639	Apitong	*D. grandiflorous*	80	25	7.80	563847	984119		/	Code 1
640	Nato	*Palaquium luzoniense*	60	18	3.16	563879	984115		/	Code 1
641	Ipil	*Intsia bijuga*	20	4	0.08	563822	984096		/	Code 1
642	Apitong	*D. grandiflorous*	60	15	2.63	563786	984086		/	Code 1
643	Talisay	*Terminalia catappa*	40	3	0.23	563816	984172		/	Code 1
644	Repetek	*Kokoona orchracea*	60	20	3.51	563835	984180		/	Code 1
645	Purdakan	*Miscellaneous species*	40	4	0.31	563845	984231		/	Code 1
646	Purdakan	*Miscellaneous species*	28	3	0.11	563835	984233		/	Code 1
647	Sahing	*Canarium asperum*	42	5	0.43	563825	984241		/	Code 1
648	Talisay	*Terminalia catappa*	50	20	2.44	563800	984286		/	Code 1
649	Apitong	*D. grandiflorous*	32	12	0.60	563780	984288		/	Code 1
650	Baris	*Miscellaneous species*	22	5	0.12	563772	984306		/	Code 1
651	Tarimpusuan	*Miscellaneous species*	32	4	0.20	563736	984326		/	Code 1
652	Apitong	*D. grandiflorous*	40	14	1.09	563742	984337		/	Code 1
653	Batino	*Alstonia macrophylla*	44	6	0.57	563734	984373		/	Code 1
654	Talisay	*Terminalia catappa*	50	20	2.44	563766	984371		/	Code 1
655	Apitong	*D. grandiflorous*	52	10	1.32	563815	984345		/	Code 1
656	Apitong	*D. grandiflorous*	38	10	0.70	563867	984308		/	Code 1
657	Talisay	*Terminalia catappa*	50	25	3.05	563891	984277		/	Code 1
658	Talisay	*Terminalia catappa*	50	20	2.44	563906	984241		/	Code 1
659	Asang Asang	*Miscellaneous species*	44	8	0.75	563865	984259		/	Code 1
660	Apitong	*D. grandiflorous*	26	10	0.33	563835	984288		/	Code 1
661	Talisay	*Terminalia catappa*	50	25	3.05	563803	984310		/	Code 1
662	Apitong	*D. grandiflorous*	42	10	0.86	563776	984337		/	Code 1
663	Apitong	*D. grandiflorous*	80	25	7.80	563823	984337		/	Code 1
664	Talisay	*Terminalia catappa*	100	25	12.19	563865	984334		/	Code 1
665	Bolong Eta	*D. pilosanthera*	38	14	0.99	563988	984241		/	Code 1
666	Apitong	*D. grandiflorous*	32	12	0.60	563928	984200		/	Code 1
667	Durian	*Durio zibethinus*	42	10	0.86	563897	984196		/	Code 1
668	Apitong	*D. grandiflorous*	52	14	1.85	563924	984141		/	Code 1
669	Nato	*Palaquium luzoniense*	95	15	6.60	563877	984202		/	Code 1
670	Kamagong	*D. philippensis*	40	20	1.56	563944	984212		/	Code 1
671	Talisay	*Terminalia catappa*	85	20	7.04	563905	984186		/	Code 1
672	Apitong	*D. grandiflorous*	32	8	0.40	563932	984151		/	Code 1
673	Talisay	*Terminalia catappa*	105	20	10.75	563956	984121		/	Code 1
674	Apitong	*D. grandiflorous*	80	20	6.24	563980	984060		/	Code 1
675	Apitong	*D. grandiflorous*	46	10	1.03	563994	984088		/	Code 1
676	Apitong	*D. grandiflorous*	38	10	0.70	563972	984070		/	Code 1
677	Baris	*Miscellaneous species*	32	5	0.25	564022	984029		/	Code 1
678	Talisay	*Terminalia catappa*	50	20	2.44	564057	984055		/	Code 1
679	Nato	*Palaquium luzoniense*	100	20	9.75	564079	984051		/	Code 1
680	Damak	*Miscellaneous species*	74	12	3.20	564121	984008		/	Code 1
681	Tipolo	*Artocarpus incisa*	38	12	0.84	564146	983992		/	Code 1
682	Salasa	*Miscellaneous species*	50	15	1.83	564138	984059		/	Code 1
683	Durian	*Durio zibethinus*	55	10	1.47	564121	984059		/	Code 1
684	Aripa	*Miscellaneous species*	48	16	1.80	564128	984029		/	Code 1
685	Tipolo	*Artocarpus incisa*	30	10	0.44	564146	984029		/	Code 1
686	Apitong	*D. grandiflorous*	52	10	1.32	564101	984094		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)
Location of the Area: SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN
Title No.: N/A
Area inventoried: 3, 500 hectares
Date of Inventory: August 14 - 23, 2019
Lot No.: N/A

BLOCK I										
Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
687	Amugis	Koordersiodension pinnatum	26	5	0.16	564126	984082		/	Code 1
688	Apitong	D. grandiflorous	60	12	2.11	564126	984106		/	Code 1
689	Apitong	D. grandiflorous	34	10	0.56	564109	984102		/	Code 1
690	Apitong	D. grandiflorous	48	10	1.12	564079	984096		/	Code 1
691	Amugis	Koordersiodension pinnatum	20	5	0.10	564065	984074		/	Code 1
692	Apitong	D. grandiflorous	76	12	3.38	564089	984061		/	Code 1
693	Lampong Gubat	Miscellaneous species	42	12	1.03	564018	984076		/	Code 1
694	Apitong	D. grandiflorous	44	10	0.94	564020	984090		/	Code 1
695	Lampong Gubat	Miscellaneous species	42	12	1.03	564049	984090		/	Code 1
696	Manahur	Miscellaneous species	34	4	0.23	564045	984118		/	Code 1
697	Apitong	D. grandiflorous	52	10	1.32	563942	984139		/	Code 1
698	Bansalangin	Mimusops elengi	48	12	1.35	563970	984184		/	Code 1
699	Talisay Gubat	Terminali foetidissima	58	12	1.97	563984	984169		/	Code 1
700	Aripa	Miscellaneous species	28	10	0.38	563994	984139		/	Code 1
701	Apitong	D. grandiflorous	44	12	1.13	564025	984149		/	Code 1
702	Antipolo	Artocarpus blancio	28	8	0.31	564045	984149		/	Code 1
703	Bitanghol	Calophyllum blancio	22	8	0.19	564077	984151		/	Code 1
704	Baris	Miscellaneous species	38	3	0.21	564083	984114		/	Code 1
705	Aripa	Miscellaneous species	15	4	0.04	564067	984122		/	Code 1
706	Tarimpusuan	Miscellaneous species	40	5	0.39	563976	984131		/	Code 1
707	Mountain Agoho	Gymnostama rumphiana	56	10	1.53	563980	984184		/	Code 1
708	Manahur	Miscellaneous species	28	4	0.15	564002	984198		/	Code 1
709	Mountain Agoho	Gymnostama rumphiana	56	10	1.53	564023	984210		/	Code 1
710	Bacauan Gubat	Carallia integerrima	50	5	0.61	564029	984224		/	Code 1
711	Damak	Miscellaneous species	20	4	0.08	564021	984243		/	Code 1
712	Apitong	D. grandiflorous	48	12	1.35	563976	984267		/	Code 1
713	Manahur	Miscellaneous species	30	3	0.13	563958	984249		/	Code 1
714	Banglas	Miscellaneous species	18	5	0.08	563984	984224		/	Code 1
715	Durian	Durio zibethinus	40	25	1.95	563974	984224		/	Code 1
716	Damak	Miscellaneous species	30	4	0.18	563950	984271		/	Code 1
717	Tipolo	Artocarpus incisa	20	8	0.16	563932	984286		/	Code 1
718	Manahur	Miscellaneous species	20	5	0.10	563908	984320		/	Code 1
719	Durian	Durio zibethinus	110	20	11.80	563875	984349		/	Code 1
720	Kalasa	Miscellaneous species	45	15	1.48	563859	984359		/	Code 1
721	Manahur	Miscellaneous species	18	4	0.06	563835	984375		/	Code 1
722	Repetek	Kokoona orchracea	40	12	0.94	563847	984393		/	Code 1
723	Banglas	Miscellaneous species	26	5	0.16	563815	984392		/	Code 1
724	Repetek	Kokoona orchracea	42	15	1.29	563776	984375		/	Code 1
725	Repetek	Kokoona orchracea	60	20	3.51	563732	984392		/	Code 1
726	Tarimpusuan	Miscellaneous species	58	5	0.82	563770	984400		/	Code 1
727	Baris	Miscellaneous species	50	14	1.71	563760	984402		/	Code 1
728	Kalumpit	Terminalia microcarpa	16	3	0.04	563714	984424		/	Code 1
729	Talisay	Terminalia catappa	50	20	2.44	563730	984438		/	Code 1
730	Batino	Alstonia macrophylla	15	6	0.07	563742	984440		/	Code 1
731	Apitong	D. grandiflorous	36	10	0.63	563772	984430		/	Code 1
732	Talisay	Terminalia catappa	50	25	3.05	563813	984446		/	Code 1
733	Putian	Eugenia	18	4	0.06	563803	984451		/	Code 1
734	Apitong	D. grandiflorous	80	25	7.80	563744	984449		/	Code 1
735	Talisay	Terminalia catappa	100	25	12.19	563746	984479		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)**
Location of the Area: **SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK I										
Tree No.	Species	*Scientific Name*	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
736	Apitong	*D. grandiflorous*	48	14	1.57	563736	984481		/	Code 1
737	Palomaria	*Vidalia navesii*	28	6	0.23	563720	984489		/	Code 1
738	Damak	*Miscellaneous species*	18	4	0.06	563736	984506		/	Code 1
739	Banglas	*Miscellaneous species*	15	3	0.03	563771	984516		/	Code 1
740	Tipolo	*Artocarpus incisa*	24	10	0.28	563734	984520		/	Code 1
741	Akle	*Serialbizia acle*	30	8	0.35	563704	984520		/	Code 1
742	Potat	*Aralia javanica*	36	10	0.63	563690	984534		/	Code 1
743	Banglas	*Miscellaneous species*	18	4	0.06	563718	984544		/	Code 1
744	Baris	*Miscellaneous species*	15	4	0.04	563708	984544		/	Code 1
745	Asang Asang	*Miscellaneous species*	40	10	0.78	563657	984573		/	Code 1
746	Talisay	*Terminalia catappa*	70	20	4.78	563682	984548		/	Code 1
747	Asang Asang	*Miscellaneous species*	60	5	0.88	563740	984552		/	Code 1
748	Malabayabas	*Tristania decorticata*	68	6	1.35	563793	984518		/	Code 1
749	Lampong Gubat	*Miscellaneous species*	15	4	0.04	563803	984485		/	Code 1
750	Baris	*Miscellaneous species*	15	4	0.04	563777	984471		/	Code 1
751	Bacauan Gubat	*Carallia integerrima*	20	5	0.10	563829	984461		/	Code 1
752	Bacauan Gubat	*Carallia integerrima*	20	8	0.16	563833	984479		/	Code 1
753	Dugoan	*Myristica philippinensis*	16	8	0.10	563849	984522		/	Code 1
754	Kamagong	*D. philippensis*	40	20	1.56	563807	984530		/	Code 1
755	Baslayan	*Miscellaneous species*	15	4	0.04	563785	984552		/	Code 1
756	Manahur	*Miscellaneous species*	70	10	2.39	563728	984575		/	Code 1
757	Batino	*Alstonia macrophylla*	22	4	0.09	563790	984586		/	Code 1
758	Antipolo	*Artocarpus blancio*	40	5	0.39	563808	984561		/	Code 1
759	Apitong	*D. grandiflorous*	50	15	1.83	563769	984570		/	Code 1
760	Dita	*A. scholaris*	45	15	1.48	563753	984604		/	Code 1
761	Sahing	*Canarium asperum*	26	4	0.13	563785	984618		/	Code 1
762	Latangan	*Miscellaneous species*	20	4	0.08	563807	984616		/	Code 1
763	Antipolo	*Artocarpus blancio*	50	15	1.83	563820	984632		/	Code 1
764	Apitong	*D. grandiflorous*	80	25	7.80	563804	984631		/	Code 1
765	Nato	*Palaquium luzoniense*	60	18	3.16	563764	984629		/	Code 1
766	Sahing	*Canarium asperum*	15	4	0.04	563741	984614		/	Code 1
767	Apitong	*D. grandiflorous*	60	15	2.63	563711	984625		/	Code 1
768	Tarimpusuan	*Miscellaneous species*	68	6	1.35	563714	984608		/	Code 1
769	Repetek	*Kokoona orchracea*	60	20	3.51	563710	984593		/	Code 1
770	Batino	*Alstonia macrophylla*	15	4	0.04	563683	984615		/	Code 1
771	Batino	*Alstonia macrophylla*	18	5	0.08	563681	984635		/	Code 1
772	Batino	*Alstonia macrophylla*	18	5	0.08	563672	984611		/	Code 1
773	Talisay	*Terminalia catappa*	50	20	2.44	563650	984618		/	Code 1
774	Aripa	*Miscellaneous species*	40	15	1.17	563637	984601		/	Code 1
775	Batino	*Alstonia macrophylla*	20	5	0.10	563634	984639		/	Code 1
776	Talisay	*Terminalia catappa*	50	25	3.05	563694	984643		/	Code 1
777	Manahur	*Miscellaneous species*	18	3	0.05	563674	984657		/	Code 1
778	Apitong	*D. grandiflorous*	80	25	7.80	563697	984657		/	Code 1
779	Talisay	*Terminalia catappa*	100	25	12.19	563731	984643		/	Code 1
780	Damak	*Miscellaneous species*	45	5	0.49	563749	984649		/	Code 1
781	Dugoan	*Myristica philippinensis*	20	4	0.08	563767	984650		/	Code 1
782	Putian	*Eugenia*	15	3	0.03	563802	984651		/	Code 1
783	Batino	*Alstonia macrophylla*	48	8	0.90	563800	984674		/	Code 1
784	Antipolo	*Artocarpus blancio*	40	10	0.78	563810	984670		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)**
Location of the Area: **SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK I										
Tree No.	Species	*Scientific Name*	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
785	Ipil	*Intsia bijuga*	15	4	0.04	563820	984656		/	Code 1
786	Repetek	*Kokoona orchracea*	40	15	1.17	563827	984652		/	Code 1
787	Nato	*Palaquium luzoniense*	50	12	1.46	563833	984634		/	Code 1
788	Batino	*Alstonia macrophylla*	40	4	0.31	563842	984604		/	Code 1
789	Nato	*Palaquium luzoniense*	50	20	2.44	563842	984591		/	Code 1
790	Talisay	*Terminalia catappa*	16	4	0.05	563847	984561		/	Code 1
791	Talisay	*Terminalia catappa*	100	25	12.19	563847	984549		/	Code 1
792	Batino	*Alstonia macrophylla*	15	6	0.07	563860	984540		/	Code 1
793	Kamagong	*D. philippensis*	22	8	0.19	563913	984536		/	Code 1
794	Malabayabas	*Tristania decorticata*	28	8	0.31	563882	984518		/	Code 1
795	Aripa	*Miscellaneous species*	38	4	0.28	563872	984496		/	Code 1
796	Aripa	*Miscellaneous species*	62	12	2.25	563876	984470		/	Code 1
797	Sahing	*Canarium asperum*	20	4	0.08	563881	984457		/	Code 1
798	Kamagong	*D. philippensis*	20	8	0.16	563883	984441		/	Code 1
799	Banglas	*Miscellaneous species*	20	4	0.08	563856	984425		/	Code 1
800	Talisay	*Terminalia catappa*	55	20	2.95	563853	984409		/	Code 1
801	Asang Asang	*Miscellaneous species*	40	10	0.78	563873	984395		/	Code 1
802	Batino	*Alstonia macrophylla*	28	4	0.15	563886	984387		/	Code 1
803	Banglas	*Miscellaneous species*	28	8	0.31	563895	984375		/	Code 1
804	Dugoan	*Myristica philippinensis*	30	5	0.22	563923	984367		/	Code 1
805	Latangan	*Miscellaneous species*	26	4	0.13	563906	984354		/	Code 1
806	Talisay	*Terminalia catappa*	100	20	9.75	563914	984345		/	Code 1
807	Banglas	*Miscellaneous species*	30	8	0.35	563930	984341		/	Code 1
808	Talisay	*Terminalia catappa*	100	20	9.75	563960	984340		/	Code 1
809	Kamagong	*D. philippensis*	26	10	0.33	563947	984359		/	Code 1
810	Sahing	*Canarium asperum*	30	4	0.18	563944	984385		/	Code 1
811	Manahur	*Miscellaneous species*	70	16	3.82	563922	984387		/	Code 1
812	Labning	*Miscellaneous species*	24	6	0.17	563910	984420		/	Code 1
813	Labning	*Miscellaneous species*	22	6	0.14	563898	984422		/	Code 1
814	Tarimpusuan	*Miscellaneous species*	34	6	0.34	563874	984412		/	Code 1
815	Banglas	*Miscellaneous species*	26	8	0.26	563904	984440		/	Code 1
816	Batino	*Alstonia macrophylla*	42	4	0.34	563946	984453		/	Code 1
817	Batino	*Alstonia macrophylla*	38	8	0.56	563916	984447		/	Code 1
818	Talisay	*Terminalia catappa*	50	12	1.46	563917	984462		/	Code 1
819	Batino	*Alstonia macrophylla*	20	6	0.12	563915	984482		/	Code 1
820	Amugis	*Koordersiodension pinnatum*	22	6	0.14	563890	984486		/	Code 1
821	Talisay	*Terminalia catappa*	68	4	0.90	563911	984502		/	Code 1
822	Kamagong	*D. philippensis*	40	20	1.56	563923	984518		/	Code 1
823	Talisay	*Terminalia catappa*	85	20	7.04	563896	984562		/	Code 1
824	Malakugon	*Miscellaneous species*	15	3	0.03	563911	984560		/	Code 1
825	Talisay	*Terminalia catappa*	105	20	10.75	563876	984525		/	Code 1
826	Apitong	*D. grandiflorous*	80	20	6.24	563892	984534		/	Code 1
827	Labning	*Miscellaneous species*	22	5	0.12	563961	984526		/	Code 1
828	Kamagong	*D. philippensis*	24	6	0.17	563944	984512		/	Code 1
829	Nato	*Palaquium luzoniense*	42	6	0.52	563944	984482		/	Code 1
830	Labning	*Miscellaneous species*	26	4	0.13	563934	984486		/	Code 1
831	Labning	*Miscellaneous species*	40	5	0.39	563930	984501		/	Code 1
832	Labning	*Miscellaneous species*	26	5	0.16	563949	984526		/	Code 1
833	Talisay	*Terminalia catappa*	100	25	12.19	563935	984553		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)**
Location of the Area: **SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK I

Tree No.	Species	*Scientific Name*	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
834	Batino	*Alstonia macrophylla*	15	6	0.07	563941	984560		/	Code 1
835	Kamagong	*D. philippensis*	22	8	0.19	563973	984542		/	Code 1
836	Malabayabas	*Tristania decorticata*	28	8	0.31	563956	984551		/	Code 1
837	Aripa	*Miscellaneous species*	38	4	0.28	563973	984514		/	Code 1
838	Aripa	*Miscellaneous species*	62	12	2.25	563968	984561		/	Code 1
839	Batino	*Alstonia macrophylla*	15	5	0.05	563930	984578		/	Code 1
840	Talisay	*Terminalia catappa*	50	20	2.44	563920	984576		/	Code 1
841	Batino	*Alstonia macrophylla*	15	5	0.05	563900	984592		/	Code 1
842	Batino	*Alstonia macrophylla*	15	5	0.05	563917	984599		/	Code 1
843	Talisay	*Terminalia catappa*	50	25	3.05	563946	984587		/	Code 1
844	Talisay	*Terminalia catappa*	50	20	2.44	563958	984592		/	Code 1
845	Kamagong	*D. philippensis*	30	8	0.35	563963	984607		/	Code 1
846	Labning	*Miscellaneous species*	36	3	0.19	563945	984620		/	Code 1
847	Kubi	*A. nitida*	24	6	0.17	563922	984631		/	Code 1
848	Repetek	*Kokoona orchracea*	40	15	1.17	563903	984629		/	Code 1
849	Nato	*Palaquium luzoniense*	48	10	1.12	563900	984646		/	Code 1
850	Banglas	*Miscellaneous species*	20	4	0.08	563907	984653		/	Code 1
851	Nato	*Palaquium luzoniense*	50	20	2.44	563882	984652		/	Code 1
852	Sahing	*Canarium asperum*	20	4	0.08	563856	984659		/	Code 1
853	Sahing	*Canarium asperum*	18	4	0.06	563847	984659		/	Code 1
854	Aripa	*Miscellaneous species*	28	10	0.38	563868	984663		/	Code 1
855	Apitong	*D. grandiflorous*	44	12	1.13	563780	984687		/	Code 1
856	Antipolo	*Artocarpus blancio*	28	8	0.31	563767	984690		/	Code 1
857	Aripa	*Miscellaneous species*	28	6	0.23	563739	984683		/	Code 1
858	Apitong	*D. grandiflorous*	100	16	7.80	563711	984700		/	Code 1
859	Apitong	*D. grandiflorous*	62	12	2.25	563711	984681		/	Code 1
860	Lampong Gubat	*Miscellaneous species*	36	5	0.32	563687	984704		/	Code 1
861	Apitong	*D. grandiflorous*	58	14	2.30	563684	984730		/	Code 1
862	Amugis	*Koordersiodension pinnatum*	22	6	0.14	563700	984720		/	Code 1
863	Talisay	*Terminalia catappa*	68	14	3.16	563658	984679		/	Code 1
864	Badak	*Artocarpus chempedeo*	15	3	0.03	563652	984717		/	Code 1
865	Dita	*A. scholaris*	55	20	2.95	563645	984718		/	Code 1
866	Batino	*Alstonia macrophylla*	15	4	0.04	563647	984689		/	Code 1
867	Badak	*Artocarpus chempedeo*	15	4	0.04	563634	984656		/	Code 1
868	Badak	*Artocarpus chempedeo*	18	3	0.05	563642	984642		/	Code 1
869	Dita	*A. scholaris*	18	3	0.05	563889	984684		/	Code 1
870	Badak	*Artocarpus chempedeo*	18	3	0.05	563871	984686		/	Code 1
871	Asang Asang	*Miscellaneous species*	16	3	0.04	563861	984705		/	Code 1
872	Antipolo	*Artocarpus blancio*	40	5	0.39	563869	984723		/	Code 1
873	Apitong	*D. grandiflorous*	50	15	1.83	563867	984733		/	Code 1
874	Dita	*A. scholaris*	45	15	1.48	563891	984733		/	Code 1
875	Baslac	*Canarium*	24	4	0.11	563923	984699		/	Code 1
876	Baris	*Miscellaneous species*	30	3	0.13	563942	984664		/	Code 1
877	Antipolo	*Artocarpus blancio*	50	15	1.83	563909	984713		/	Code 1
878	Apitong	*D. grandiflorous*	80	25	7.80	563903	984690		/	Code 1
879	Nato	*Palaquium luzoniense*	60	18	3.16	563938	984648		/	Code 1
880	Ipil	*Intsia bijuga*	20	4	0.08	563956	984694		/	Code 1
881	Apitong	*D. grandiflorous*	60	15	2.63	563946	984705		/	Code 1
882	Talisay	*Terminalia catappa*	40	3	0.23	563986	984707		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)**
Location of the Area: **SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK I

Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
883	Repetek	*Kokoona orchracea*	60	20	3.51	563966	984670		/	Code 1
884	Purdakan	*Miscellaneous species*	40	4	0.31	563968	984652		/	Code 1
885	Purdakan	*Miscellaneous species*	28	3	0.11	563980	984686		/	Code 1
886	Sahing	*Canarium asperum*	42	5	0.43	563994	984668		/	Code 1
887	Talisay	*Terminalia catappa*	50	20	2.44	563992	984633		/	Code 1
888	Apitong	*D. grandiflorous*	32	12	0.60	563998	984605		/	Code 1
889	Baris	*Miscellaneous species*	22	5	0.12	564047	984645		/	Code 1
890	Tarimpusuan	*Miscellaneous species*	32	4	0.20	564018	984672		/	Code 1
891	Apitong	*D. grandiflorous*	40	14	1.09	564008	984690		/	Code 1
892	Batino	*Alstonia macrophylla*	44	6	0.57	564087	984662		/	Code 1
893	Talisay	*Terminalia catappa*	50	20	2.44	564081	984690		/	Code 1
894	Apitong	*D. grandiflorous*	52	10	1.32	564031	984682		/	Code 1
895	Apitong	*D. grandiflorous*	38	10	0.70	564103	984654		/	Code 1
896	Talisay	*Terminalia catappa*	50	25	3.05	564107	984588		/	Code 1
897	Talisay	*Terminalia catappa*	50	20	2.44	564087	984613		/	Code 1
898	Asang Asang	*Miscellaneous species*	44	8	0.75	564030	984580		/	Code 1
899	Apitong	*D. grandiflorous*	26	10	0.33	564125	984660		/	Code 1
900	Talisay	*Terminalia catappa*	50	25	3.05	564156	984686		/	Code 1
901	Apitong	*D. grandiflorous*	42	10	0.86	564158	984607		/	Code 1
902	Apitong	*D. grandiflorous*	80	25	7.80	564144	984637		/	Code 1
903	Talisay	*Terminalia catappa*	100	25	12.19	564138	984623		/	Code 1
904	Bolong Eta	*D. pilosanthera*	38	14	0.99	564150	984651		/	Code 1
905	Apitong	*D. grandiflorous*	32	12	0.60	564184	984653		/	Code 1
906	Durian	*Durio zibethinus*	42	10	0.86	564206	984657		/	Code 1
907	Apitong	*D. grandiflorous*	52	14	1.85	564233	984659		/	Code 1
908	Nato	*Palaquium luzoniense*	95	15	6.60	564237	984676		/	Code 1
909	Kamagong	*D. philippensis*	40	20	1.56	564208	984672		/	Code 1
910	Talisay	*Terminalia catappa*	85	20	7.04	564196	984688		/	Code 1
911	Apitong	*D. grandiflorous*	32	8	0.40	564180	984696		/	Code 1
912	Talisay	*Terminalia catappa*	105	20	10.75	564142	984692		/	Code 1
913	Apitong	*D. grandiflorous*	80	20	6.24	564134	984708		/	Code 1
914	Apitong	*D. grandiflorous*	46	10	1.03	564093	984706		/	Code 1
915	Apitong	*D. grandiflorous*	38	10	0.70	564079	984708		/	Code 1
916	Baris	*Miscellaneous species*	32	5	0.25	564063	984715		/	Code 1
917	Talisay	*Terminalia catappa*	50	20	2.44	563988	984721		/	Code 1
918	Nato	*Palaquium luzoniense*	100	20	9.75	563992	984731		/	Code 1
919	Damak	*Miscellaneous species*	74	12	3.20	563948	984725		/	Code 1
920	Tipolo	*Artocarpus incisa*	38	12	0.84	563930	984729		/	Code 1
921	Salasa	*Miscellaneous species*	50	15	1.83	564012	984723		/	Code 1
922	Durian	*Durio zibethinus*	55	10	1.47	564027	984719		/	Code 1
923	Aripa	*Miscellaneous species*	48	16	1.80	564039	984711		/	Code 1
924	Tipolo	*Artocarpus incisa*	30	10	0.44	564198	984639		/	Code 1
925	Apitong	*D. grandiflorous*	52	10	1.32	564253	984623		/	Code 1
926	Amugis	*Koordersiodension pinnatum*	26	5	0.16	564226	984588		/	Code 1
927	Apitong	*D. grandiflorous*	60	12	2.11	564172	984562		/	Code 1
928	Apitong	*D. grandiflorous*	34	10	0.56	564198	984596		/	Code 1
929	Apitong	*D. grandiflorous*	48	10	1.12	564208	984596		/	Code 1
930	Amugis	*Koordersiodension pinnatum*	20	5	0.10	564174	984594		/	Code 1
931	Apitong	*D. grandiflorous*	76	12	3.38	564174	984570		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)**
Location of the Area: **SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK I										
Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
932	Lampong Gubat	*Miscellaneous species*	42	12	1.03	564152	984566		/	Code 1
933	Apitong	*D. grandiflorous*	44	10	0.94	564129	984568		/	Code 1
934	Lampong Gubat	*Miscellaneous species*	42	12	1.03	564075	984560		/	Code 1
935	Manahur	*Miscellaneous species*	34	4	0.23	564061	984578		/	Code 1
936	Apitong	*D. grandiflorous*	52	10	1.32	564138	984590		/	Code 1
937	Bansalangin	*Mimusops elengi*	48	12	1.35	564111	984566		/	Code 1
938	Talisay Gubat	*Terminali foetidissima*	58	12	1.97	564008	984534		/	Code 1
939	Aripa	*Miscellaneous species*	28	10	0.38	564050	984509		/	Code 1
940	Apitong	*D. grandiflorous*	44	12	1.13	564139	984533		/	Code 1
941	Antipolo	*Artocarpus blancio*	28	8	0.31	564184	984546		/	Code 1
942	Bitanghol	*Calophyllum blancio*	22	8	0.19	564216	984560		/	Code 1
943	Baris	*Miscellaneous species*	38	3	0.21	564243	984568		/	Code 1
944	Aripa	*Miscellaneous species*	15	4	0.04	564267	984582		/	Code 1
945	Tarimpusuan	*Miscellaneous species*	40	5	0.39	564259	984592		/	Code 1
946	Mountain Agoho	*Gymnostama rumphiana*	56	10	1.53	564279	984566		/	Code 1
947	Manahur	*Miscellaneous species*	28	4	0.15	564275	984533		/	Code 1
948	Mountain Agoho	*Gymnostama rumphiana*	56	10	1.53	564255	984531		/	Code 1
949	Bacauan Gubat	*Carallia integerrima*	50	5	0.61	564232	984535		/	Code 1
950	Damak	*Miscellaneous species*	20	4	0.08	564188	984529		/	Code 1
951	Apitong	*D. grandiflorous*	48	12	1.35	564148	984513		/	Code 1
952	Manahur	*Miscellaneous species*	30	3	0.13	564119	984525		/	Code 1
953	Banglas	*Miscellaneous species*	18	5	0.08	564107	984531		/	Code 1
954	Durian	*Durio zibethinus*	40	25	1.95	564067	984548		/	Code 1
955	Damak	*Miscellaneous species*	30	4	0.18	564051	984546		/	Code 1
956	Tipolo	*Artocarpus incisa*	20	8	0.16	564030	984550		/	Code 1
957	Manahur	*Miscellaneous species*	20	5	0.10	563992	984560		/	Code 1
958	Durian	*Durio zibethinus*	110	20	11.80	564024	984491		/	Code 1
959	Kalasa	*Miscellaneous species*	45	15	1.48	563998	984491		/	Code 1
960	Manahur	*Miscellaneous species*	18	4	0.06	563978	984456		/	Code 1
961	Repetek	*Kokoona orchracea*	40	12	0.94	564042	984473		/	Code 1
962	Banglas	*Miscellaneous species*	26	5	0.16	564081	984487		/	Code 1
963	Repetek	*Kokoona orchracea*	42	15	1.29	564077	984499		/	Code 1
964	Repetek	*Kokoona orchracea*	60	20	3.51	564123	984485		/	Code 1
965	Tarimpusuan	*Miscellaneous species*	58	5	0.82	564131	984476		/	Code 1
966	Baris	*Miscellaneous species*	50	14	1.71	564158	984495		/	Code 1
967	Kalumpit	*Terminalia microcarpa*	16	3	0.04	564170	984495		/	Code 1
968	Talisay	*Terminalia catappa*	50	20	2.44	564214	984489		/	Code 1
969	Batino	*Alstonia macrophylla*	15	6	0.07	564232	984480		/	Code 1
970	Apitong	*D. grandiflorous*	36	10	0.63	564261	984503		/	Code 1
971	Talisay	*Terminalia catappa*	50	25	3.05	564267	984468		/	Code 1
972	Putian	*Eugenia*	18	4	0.06	564275	984470		/	Code 1
973	Apitong	*D. grandiflorous*	80	25	7.80	564271	984454		/	Code 1
974	Talisay	*Terminalia catappa*	100	25	12.19	564269	984436		/	Code 1
975	Apitong	*D. grandiflorous*	48	14	1.57	564283	984421		/	Code 1
976	Palomaria	*Vidalia navesii*	28	6	0.23	564238	984425		/	Code 1
977	Damak	*Miscellaneous species*	18	4	0.06	564210	984446		/	Code 1
978	Banglas	*Miscellaneous species*	15	3	0.03	564251	984462		/	Code 1
979	Tipolo	*Artocarpus incisa*	24	10	0.28	564190	984448		/	Code 1
980	Akle	*Serialbizia acle*	30	8	0.35	564184	984444		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)**
Location of the Area: **SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK I										
Tree No.	Species	*Scientific Name*	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
981	Potat	*Aralia javanica*	36	10	0.63	564155	984462		/	Code 1
982	Banglas	*Miscellaneous species*	18	4	0.06	564137	984438		/	Code 1
983	Baris	*Miscellaneous species*	15	4	0.04	564131	984434		/	Code 1
984	Asang Asang	*Miscellaneous species*	40	10	0.78	564117	984409		/	Code 1
985	Talisay	*Terminalia catappa*	70	20	4.78	564060	984430		/	Code 1
986	Asang Asang	*Miscellaneous species*	60	5	0.88	564058	984450		/	Code 1
987	Malabayabas	*Tristania decorticata*	68	6	1.35	564048	984434		/	Code 1
988	Lampong Gubat	*Miscellaneous species*	15	4	0.04	564022	984426		/	Code 1
989	Baris	*Miscellaneous species*	15	4	0.04	563982	984424		/	Code 1
990	Bacauan Gubat	*Carallia integerrima*	20	5	0.10	563992	984403		/	Code 1
991	Bacauan Gubat	*Carallia integerrima*	20	8	0.16	564004	984371		/	Code 1
992	Dugoan	*Myristica philippinensis*	16	8	0.10	564079	984401		/	Code 1
993	Kamagong	*D. philippensis*	40	20	1.56	564073	984385		/	Code 1
994	Baslayan	*Miscellaneous species*	15	4	0.04	564145	984373		/	Code 1
995	Manahur	*Miscellaneous species*	70	10	2.39	564182	984391		/	Code 1
996	Batino	*Alstonia macrophylla*	22	4	0.09	564176	984411		/	Code 1
997	Antipolo	*Artocarpus blancio*	40	5	0.39	564234	984395		/	Code 1
998	Apitong	*D. grandiflorous*	50	15	1.83	564246	984393		/	Code 1
999	Dita	*A. scholaris*	45	15	1.48	564271	984385		/	Code 1
1000	Sahing	*Canarium asperum*	26	4	0.13	564283	984393		/	Code 1
1001	Latangan	*Miscellaneous species*	20	4	0.08	564291	984354		/	Code 1
1002	Antipolo	*Artocarpus blancio*	50	15	1.83	564283	984362		/	Code 1
1003	Apitong	*D. grandiflorous*	80	25	7.80	564226	984357		/	Code 1
1004	Nato	*Palaquium luzoniense*	60	18	3.16	564215	984372		/	Code 1
1005	Sahing	*Canarium asperum*	15	4	0.04	564207	984360		/	Code 1
1006	Apitong	*D. grandiflorous*	60	15	2.63	564181	984380		/	Code 1
1007	Tarimpusuan	*Miscellaneous species*	68	6	1.35	564166	984373		/	Code 1
1008	Repetek	*Kokoona orchracea*	60	20	3.51	564171	984357		/	Code 1
1009	Batino	*Alstonia macrophylla*	15	4	0.04	564137	984385		/	Code 1
1010	Batino	*Alstonia macrophylla*	18	5	0.08	564116	984354		/	Code 1
1011	Batino	*Alstonia macrophylla*	18	5	0.08	564087	984378		/	Code 1
1012	Talisay	*Terminalia catappa*	50	20	2.44	564113	984383		/	Code 1
1013	Aripa	*Miscellaneous species*	40	15	1.17	564083	984349		/	Code 1
1014	Batino	*Alstonia macrophylla*	20	5	0.10	564073	984362		/	Code 1
1015	Talisay	*Terminalia catappa*	50	25	3.05	564063	984365		/	Code 1
1016	Manahur	*Miscellaneous species*	18	3	0.05	564051	984382		/	Code 1
1017	Apitong	*D. grandiflorous*	80	25	7.80	564059	984393		/	Code 1
1018	Talisay	*Terminalia catappa*	100	25	12.19	564043	984398		/	Code 1
1019	Damak	*Miscellaneous species*	45	5	0.49	564033	984398		/	Code 1
1020	Dugoan	*Myristica philippinensis*	20	4	0.08	564024	984388		/	Code 1
1021	Putian	*Eugenia*	15	3	0.03	564025	984358		/	Code 1
1022	Batino	*Alstonia macrophylla*	48	8	0.90	564014	984354		/	Code 1
1023	Antipolo	*Artocarpus blancio*	40	10	0.78	563997	984341		/	Code 1
1024	Ipil	*Intsia bijuga*	15	4	0.04	563984	984309		/	Code 1
1025	Repetek	*Kokoona orchracea*	40	15	1.17	563980	984296		/	Code 1
1026	Nato	*Palaquium luzoniense*	50	12	1.46	564003	984292		/	Code 1
1027	Batino	*Alstonia macrophylla*	40	4	0.31	564008	984306		/	Code 1
1028	Nato	*Palaquium luzoniense*	50	20	2.44	564041	984327		/	Code 1
1029	Talisay	*Terminalia catappa*	16	4	0.05	564037	984315		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)**
Location of the Area: **SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK I										
Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
1030	Talisay	*Terminalia catappa*	100	25	12.19	564049	984298		/	Code 1
1031	Batino	*Alstonia macrophylla*	15	6	0.07	564066	984331		/	Code 1
1032	Kamagong	*D. philippensis*	22	8	0.19	564078	984322		/	Code 1
1033	Malabayabas	*Tristania decorticata*	28	8	0.31	564096	984322		/	Code 1
1034	Aripa	*Miscellaneous species*	38	4	0.28	564103	984333		/	Code 1
1035	Aripa	*Miscellaneous species*	62	12	2.25	564120	984321		/	Code 1
1036	Sahing	*Canarium asperum*	20	4	0.08	564123	984303		/	Code 1
1037	Kamagong	*D. philippensis*	20	8	0.16	564147	984333		/	Code 1
1038	Banglas	*Miscellaneous species*	20	4	0.08	564134	984340		/	Code 1
1039	Talisay	*Terminalia catappa*	55	20	2.95	564141	984353		/	Code 1
1040	Asang Asang	*Miscellaneous species*	40	10	0.78	564167	984332		/	Code 1
1041	Batino	*Alstonia macrophylla*	28	4	0.15	564180	984321		/	Code 1
1042	Banglas	*Miscellaneous species*	28	8	0.31	564203	984334		/	Code 1
1043	Dugoan	*Myristica philippinensis*	30	5	0.22	564190	984342		/	Code 1
1044	Latangan	*Miscellaneous species*	26	4	0.13	564212	984319		/	Code 1
1045	Talisay	*Terminalia catappa*	100	20	9.75	564222	984326		/	Code 1
1046	Banglas	*Miscellaneous species*	30	8	0.35	564235	984345		/	Code 1
1047	Talisay	*Terminalia catappa*	100	20	9.75	564244	984316		/	Code 1
1048	Kamagong	*D. philippensis*	26	10	0.33	564267	984334		/	Code 1
1049	Sahing	*Canarium asperum*	30	4	0.18	564288	984337		/	Code 1
1050	Manahur	*Miscellaneous species*	70	16	3.82	564292	984314		/	Code 1
1051	Labning	*Miscellaneous species*	24	6	0.17	564282	984310		/	Code 1
1052	Labning	*Miscellaneous species*	22	6	0.14	564246	984301		/	Code 1
1053	Tarimpusuan	*Miscellaneous species*	34	6	0.34	564231	984296		/	Code 1
1054	Banglas	*Miscellaneous species*	26	8	0.26	564192	984296		/	Code 1
1055	Batino	*Alstonia macrophylla*	42	4	0.34	564182	984290		/	Code 1
1056	Batino	*Alstonia macrophylla*	38	8	0.56	564165	984289		/	Code 1
1057	Talisay	*Terminalia catappa*	50	12	1.46	564167	984303		/	Code 1
1058	Batino	*Alstonia macrophylla*	20	6	0.12	564142	984269		/	Code 1
1059	Amugis	*Koordersiodension pinnatum*	22	6	0.14	564128	984285		/	Code 1
1060	Talisay	*Terminalia catappa*	68	4	0.90	564116	984272		/	Code 1
1061	Kamagong	*D. philippensis*	40	20	1.56	564106	984296		/	Code 1
1062	Talisay	*Terminalia catappa*	85	20	7.04	564090	984291		/	Code 1
1063	Malakugon	*Miscellaneous species*	15	3	0.03	564090	984265		/	Code 1
1064	Talisay	*Terminalia catappa*	105	20	10.75	564075	984262		/	Code 1
1065	Apitong	*D. grandiflorous*	80	20	6.24	564083	984281		/	Code 1
1066	Labning	*Miscellaneous species*	22	5	0.12	564059	984279		/	Code 1
1067	Kamagong	*D. philippensis*	24	6	0.17	564062	984307		/	Code 1
1068	Nato	*Palaquium luzoniense*	42	6	0.52	564058	984255		/	Code 1
1069	Labning	*Miscellaneous species*	26	4	0.13	564046	984262		/	Code 1
1070	Labning	*Miscellaneous species*	40	5	0.39	564022	984280		/	Code 1
1071	Labning	*Miscellaneous species*	26	5	0.16	564025	984268		/	Code 1
1072	Talisay	*Terminalia catappa*	100	25	12.19	564043	984227		/	Code 1
1073	Batino	*Alstonia macrophylla*	15	6	0.07	564097	984223		/	Code 1
1074	Kamagong	*D. philippensis*	22	8	0.19	564128	984235		/	Code 1
1075	Malabayabas	*Tristania decorticata*	28	8	0.31	564092	984238		/	Code 1
1076	Aripa	*Miscellaneous species*	38	4	0.28	564117	984243		/	Code 1
1077	Aripa	*Miscellaneous species*	62	12	2.25	564138	984244		/	Code 1
1078	Batino	*Alstonia macrophylla*	15	5	0.05	564152	984242		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)**
Location of the Area: **SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK I

Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
1079	Talisay	*Terminalia catappa*	50	20	2.44	564169	984254		/	Code 1
1080	Batino	*Alstonia macrophylla*	15	5	0.05	564180	984271		/	Code 1
1081	Batino	*Alstonia macrophylla*	15	5	0.05	564202	984272		/	Code 1
1082	Talisay	*Terminalia catappa*	50	25	3.05	564204	984252		/	Code 1
1083	Talisay	*Terminalia catappa*	50	20	2.44	564213	984246		/	Code 1
1084	Kamagong	*D. philippensis*	30	8	0.35	564228	984255		/	Code 1
1085	Labning	*Miscellaneous species*	36	3	0.19	564252	984260		/	Code 1
1086	Kubi	*A. nitida*	24	6	0.17	564239	984271		/	Code 1
1087	Repetek	*Kokoona orchracea*	40	15	1.17	564235	984280		/	Code 1
1088	Nato	*Palaquium luzoniense*	48	10	1.12	564262	984274		/	Code 1
1089	Banglas	*Miscellaneous species*	20	4	0.08	564278	984253		/	Code 1
1090	Nato	*Palaquium luzoniense*	50	20	2.44	564285	984260		/	Code 1
1091	Sahing	*Canarium asperum*	20	4	0.08	564282	984285		/	Code 1
1092	Sahing	*Canarium asperum*	18	4	0.06	564270	984223		/	Code 1
1093	Aripa	*Miscellaneous species*	28	10	0.38	564260	984215		/	Code 1
1094	Apitong	*D. grandiflorous*	44	12	1.13	564230	984209		/	Code 1
1095	Antipolo	*Artocarpus blancio*	28	8	0.31	564216	984221		/	Code 1
1096	Aripa	*Miscellaneous species*	28	6	0.23	564200	984182		/	Code 1
1097	Apitong	*D. grandiflorous*	100	16	7.80	564173	984192		/	Code 1
1098	Apitong	*D. grandiflorous*	62	12	2.25	564161	984197		/	Code 1
1099	Lampong Gubat	*Miscellaneous species*	36	5	0.32	564109	984197		/	Code 1
1100	Apitong	*D. grandiflorous*	58	14	2.30	564098	984162		/	Code 1
1101	Amugis	*Koordersiodension pinnatum*	22	6	0.14	564165	984152		/	Code 1
1102	Talisay	*Terminalia catappa*	68	14	3.16	564195	984160		/	Code 1
1103	Manggis	*Koompassia excelsia*	46	6	0.62	564212	984176		/	Code 1
1104	Durian	*Durio zibethinus*	60	12	2.11	564193	984215		/	Code 1
1105	Antipolo	*Artocarpus blancio*	30	4	0.18	564167	984221		/	Code 1
1106	Latangan	*Miscellaneous species*	30	4	0.18	564145	984191		/	Code 1
1107	Repetek	*Kokoona orchracea*	36	6	0.38	564175	984168		/	Code 1
1108	Amugis	*Koordersiodension pinnatum*	36	8	0.51	564216	984150		/	Code 1
1109	Antipolo	*Artocarpus blancio*	36	5	0.32	564250	984156		/	Code 1
1110	Amugis	*Koordersiodension pinnatum*	60	4	0.70	564250	984170		/	Code 1
1111	Dugoan	*Myristica philippinensis*	50	4	0.49	564278	984202		/	Code 1
1112	Nato Puti	*P. macrantha*	120	14	9.83	564284	984188		/	Code 1
1113	Dugoan	*Myristica philippinensis*	18	4	0.06	564294	984148		/	Code 1
1114	Kalasa	*Miscellaneous species*	40	6	0.47	564292	984117		/	Code 1
1115	Repetek	*Kokoona orchracea*	36	6	0.38	564288	984105		/	Code 1
1116	Antipolo	*Artocarpus blancio*	58	12	1.97	564264	984097		/	Code 1
1117	Kandis	*Garciana binucao*	50	4	0.49	564260	984129		/	Code 1
1118	Dugoan	*Myristica philippinensis*	18	4	0.06	564262	984158		/	Code 1
1119	Manggis	*Koompassia excelsia*	50	14	1.71	564244	984109		/	Code 1
1120	Durian	*Durio zibethinus*	50	16	1.95	564210	984137		/	Code 1
1121	Antipolo	*Artocarpus blancio*	40	6	0.47	564207	984107		/	Code 1
1122	Apitong	*D. grandiflorous*	60	16	2.81	564175	984109		/	Code 1
1123	Bansalangin	*Mimusops elengi*	32	4	0.20	564193	984070		/	Code 1
1124	Manggis	*Koompassia excelsia*	24	5	0.14	564228	984052		/	Code 1
1125	Apitong	*D. grandiflorous*	90	16	6.32	564228	984042		/	Code 1
1126	Sahing	*Canarium asperum*	18	3	0.05	564260	984050		/	Code 1
1127	Amugis	*Koordersiodension pinnatum*	34	8	0.45	564250	984076		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)**
Location of the Area: **SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK I										
Tree No.	Species	*Scientific Name*	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
1128	Ipil	*Intsia bijuga*	15	4	0.04	564274	984032		/	Code 1
1129	Bansalangin	*Mimusops elengi*	16	8	0.10	564195	984020		/	Code 1
1130	Antipolo	*Artocarpus blancio*	50	6	0.73	564191	983995		/	Code 1
1131	Antipolo	*Artocarpus blancio*	90	4	1.58	564298	984086		/	Code 1
1132	Dita	*A. scholaris*	110	12	7.08	564312	984038		/	Code 1
1133	Latangan	*Miscellaneous species*	40	6	0.47	564316	983948		/	Code 1
1134	Amugis	*Koordersiodension pinnatum*	34	5	0.28	564292	983912		/	Code 1
1135	Antipolo	*Artocarpus blancio*	38	4	0.28	564250	983910		/	Code 1
1136	Kalasa	*Miscellaneous species*	22	4	0.09	564316	983907		/	Code 1
1137	Amugis	*Koordersiodension pinnatum*	24	6	0.17	564343	983909		/	Code 1
1138	Latangan	*Miscellaneous species*	20	5	0.10	564320	983877		/	Code 1
1139	Ipil	*Intsia bijuga*	18	5	0.08	564282	983855		/	Code 1
1140	Apitong	*D. grandiflorous*	60	12	2.11	564227	983871		/	Code 1
1141	Apitong	*D. grandiflorous*	74	10	2.67	564219	983857		/	Code 1
1142	Batino	*Alstonia macrophylla*	40	6	0.47	564241	983836		/	Code 1
1143	Matipas	*Miscellaneous species*	24	5	0.14	564252	983830		/	Code 1
1144	Baslac	*Canarium*	20	5	0.10	564316	983789		/	Code 1
1145	Tarimpusuan	*Miscellaneous species*	50	10	1.22	564349	983822		/	Code 1
1146	Durian	*Durio zibethinus*	20	4	0.08	564349	983836		/	Code 1
1147	Bansalangin	*Mimusops elengi*	20	4	0.08	564332	983836		/	Code 1
1148	Repetek	*Kokoona orchracea*	36	5	0.32	564300	983834		/	Code 1
1149	Amugis	*Koordersiodension pinnatum*	30	6	0.26	564332	983871		/	Code 1
1150	Rambutan	*Nephelium lappaceum*	16	4	0.05	564345	983854		/	Code 1
1151	Manggis	*Koompassia excelsia*	70	12	2.87	564391	983879		/	Code 1
1152	Antipolo	*Artocarpus blancio*	30	6	0.26	564375	983891		/	Code 1
1153	Dugoan	*Myristica philippinensis*	20	5	0.10	564361	983899		/	Code 1
1154	Labning	*Miscellaneous species*	42	6	0.52	564369	983812		/	Code 1
1155	Batino	*Alstonia macrophylla*	24	4	0.11	564391	983791		/	Code 1
1156	Dugoan	*Myristica philippinensis*	20	4	0.08	564439	983795		/	Code 1
1157	Bolong Eta	*D. pilosanthera*	20	5	0.10	564439	983808		/	Code 1
1158	Latangan	*Miscellaneous species*	15	3	0.03	564454	983783		/	Code 1
1159	Amugis	*Koordersiodension pinnatum*	16	3	0.04	564488	983785		/	Code 1
1160	Amugis	*Koordersiodension pinnatum*	50	6	0.73	564468	983789		/	Code 1
1161	Kalasa	*Miscellaneous species*	22	4	0.09	564427	983771		/	Code 1
1162	Matipas	*Miscellaneous species*	22	3	0.07	564415	983751		/	Code 1
1163	Magbuya	*Miscellaneous species*	34	5	0.28	564383	983761		/	Code 1
1164	Apitong	*D. grandiflorous*	30	6	0.26	564365	983743		/	Code 1
1165	Gisok	*S. guiso*	26	3	0.10	564356	983718		/	Code 1
1166	Antipolo	*Artocarpus blancio*	20	6	0.12	564328	983745		/	Code 1
1167	Manahur	*Miscellaneous species*	46	6	0.62	564348	983767		/	Code 1
1168	Amugis	*Koordersiodension pinnatum*	28	6	0.23	564288	983769		/	Code 1
1169	Rambutan	*Nephelium lappaceum*	16	2	0.02	564286	983787		/	Code 1
1170	Antipolo	*Artocarpus blancio*	20	4	0.08	564229	983794		/	Code 1
1171	Amugis	*Koordersiodension pinnatum*	24	5	0.14	564160	983781		/	Code 1
1172	Gisok	*S. guiso*	20	2	0.04	564094	983802		/	Code 1
1173	Dugoan	*Myristica philippinensis*	24	4	0.11	564088	983784		/	Code 1
1174	Gisok	*S. guiso*	16	2	0.02	564142	983749		/	Code 1
1175	Apitong	*D. grandiflorous*	100	16	7.80	564185	983745		/	Code 1
1176	Amugis	*Koordersiodension pinnatum*	26	4	0.13	564221	983720		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)**
Location of the Area: **SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK I										
Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
1177	Potat	*Aralia javanica*	34	4	0.23	564274	983702		/	Code 1
1178	Damak	*Miscellaneous species*	18	4	0.06	564223	983678		/	Code 1
1179	Talisay	*Terminalia catappa*	80	14	4.37	564223	983688		/	Code 1
1180	Antipolo	*Artocarpus blancio*	24	5	0.14	564183	983688		/	Code 1
1181	Baslayan	*Miscellaneous species*	25	4	0.12	564195	983718		/	Code 1
1182	Apitong	*D. grandiflorous*	80	18	5.61	564189	983718		/	Code 1
1183	Apitong	*D. grandiflorous*	90	18	7.11	564158	983712		/	Code 1
1184	Kamagong	*D. philippensis*	24	4	0.11	564088	983733		/	Code 1
1185	Balingasai	*Bucharania arborescens*	24	5	0.14	564092	983745		/	Code 1
1186	Batino	*Alstonia macrophylla*	25	5	0.15	564061	983753		/	Code 1
1187	Latangan	*Miscellaneous species*	28	5	0.19	564049	983745		/	Code 1
1188	Balingasai	*Bucharania arborescens*	50	4	0.49	564041	983715		/	Code 1
1189	Batino	*Alstonia macrophylla*	26	5	0.16	564031	983749		/	Code 1
1190	Badak	*Artocarpus chempedeo*	25	10	0.30	563989	983737		/	Code 1
1191	Batino	*Alstonia macrophylla*	30	5	0.22	563956	983709		/	Code 1
1192	Sahing	*Canarium asperum*	20	5	0.10	564025	983694		/	Code 1
1193	Ipil	*Intsia bijuga*	15	6	0.07	563997	983670		/	Code 1
1194	Batino	*Alstonia macrophylla*	24	4	0.11	563952	983680		/	Code 1
1195	Manahur	*Miscellaneous species*	32	5	0.25	563936	983698		/	Code 1
1196	Kamagong	*D. philippensis*	15	4	0.04	563861	983690		/	Code 1
1197	Kalumpit	*Terminalia microcarpa*	18	5	0.08	563863	983668		/	Code 1
1198	Batino	*Alstonia macrophylla*	15	5	0.05	563898	983676		/	Code 1
1199	Talisay	*Terminalia catappa*	18	6	0.09	563946	983658		/	Code 1
1200	Kamagong	*D. philippensis*	15	5	0.05	563932	983623		/	Code 1
1201	Ipil	*Intsia bijuga*	15	4	0.04	563855	983615		/	Code 1
1202	Repetek	*Kokoona orchracea*	20	5	0.10	563881	983633		/	Code 1
1203	Manahur	*Miscellaneous species*	28	5	0.19	563871	983629		/	Code 1
1204	Sahing	*Canarium asperum*	40	10	0.78	563794	983634		/	Code 1
1205	Batino	*Alstonia macrophylla*	18	10	0.16	563823	983648		/	Code 1
1206	Batino	*Alstonia macrophylla*	22	2	0.05	563823	983672		/	Code 1
1207	Sahing	*Canarium asperum*	18	4	0.06	563821	983623		/	Code 1
1208	Alupag	*Euphoria didyma Blanco*	24	8	0.22	563910	983597		/	Code 1
1209	Sahing	*Canarium asperum*	18	4	0.06	563936	983597		/	Code 1
1210	Sahing	*Canarium asperum*	26	4	0.13	563966	983593		/	Code 1
1211	Batino	*Alstonia macrophylla*	28	6	0.23	563990	983586		/	Code 1
1212	Apitong	*D. grandiflorous*	48	4	0.45	563986	983639		/	Code 1
1213	Kamagong	*D. philippensis*	18	5	0.08	564007	983623		/	Code 1
1214	Latangan	*Miscellaneous species*	26	4	0.13	564015	983625		/	Code 1
1215	Nato	*Palaquium luzoniense*	36	8	0.51	564033	983643		/	Code 1
1216	Latangan	*Miscellaneous species*	26	4	0.13	564023	983662		/	Code 1
1217	Latangan	*Miscellaneous species*	34	6	0.34	564045	983670		/	Code 1
1218	Latangan	*Miscellaneous species*	24	4	0.11	564059	983670		/	Code 1
1219	Latangan	*Miscellaneous species*	22	4	0.09	564071	983690		/	Code 1
1220	Apitong	*D. grandiflorous*	70	16	3.82	564114	983688		/	Code 1
1221	Karamputi	*Miscellaneous species*	32	6	0.30	564086	983714		/	Code 1
1222	Latangan	*Miscellaneous species*	40	10	0.78	564079	983645		/	Code 1
1223	Badak	*Artocarpus chempedeo*	38	10	0.70	564130	983647		/	Code 1
1224	Palomaria	*Vidalia navesii*	20	4	0.08	564176	983649		/	Code 1
1225	Damak	*Miscellaneous species*	16	5	0.06	564193	983649		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)**
Location of the Area: **SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK I										
Tree No.	Species	*Scientific Name*	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
1226	Ipil	*Intsia bijuga*	15	4	0.04	564108	983617		/	Code 1
1227	Baris	*Miscellaneous species*	100	12	5.85	564045	983590		/	Code 1
1228	Latangan	*Miscellaneous species*	28	4	0.15	564075	983584		/	Code 1
1229	Kamagong	*D. philippensis*	18	5	0.08	564187	983629		/	Code 1
1230	Batino	*Alstonia macrophylla*	24	4	0.11	564249	983617		/	Code 1
1231	Batino	*Alstonia macrophylla*	28	5	0.19	564235	983608		/	Code 1
1232	Tarimpusuan	*Miscellaneous species*	34	5	0.28	564273	983614		/	Code 1
1233	Kalumpit	*Terminalia microcarpa*	28	8	0.31	564294	983612		/	Code 1
1234	Badak	*Artocarpus chempedeo*	30	12	0.53	564322	983606		/	Code 1
1235	Sahing	*Canarium asperum*	22	3	0.07	564374	983614		/	Code 1
1236	Sahing	*Canarium asperum*	20	3	0.06	564391	983584		/	Code 1
1237	Ipil	*Intsia bijuga*	80	6	1.87	564364	983590		/	Code 1
1238	Bangias	*Miscellaneous species*	20	5	0.10	564279	983576		/	Code 1
1239	Manahur	*Miscellaneous species*	26	10	0.33	564273	983580		/	Code 1
1240	Kamagong	*D. philippensis*	18	5	0.08	564231	983576		/	Code 1
1241	Manahur	*Miscellaneous species*	16	4	0.05	564199	983574		/	Code 1
1242	Sahing	*Canarium asperum*	25	5	0.15	564156	983529		/	Code 1
1243	Dita	*A. scholaris*	24	6	0.17	564140	983552		/	Code 1
1244	Dugoan	*Myristica philippinensis*	15	5	0.05	564120	983552		/	Code 1
1245	Manahur	*Miscellaneous species*	15	5	0.05	564170	983564		/	Code 1
1246	Talisay Gubat	*Terminali foetidissima*	45	14	1.38	564126	983505		/	Code 1
1247	Talisay Gubat	*Terminali foetidissima*	18	12	0.19	564045	983533		/	Code 1
1248	Aripa	*Miscellaneous species*	30	8	0.35	564059	983529		/	Code 1
1249	Kandong	*Miscellaneous species*	20	6	0.12	564021	983495		/	Code 1
1250	Malutog	*Miscellaneous species*	22	5	0.12	564002	983521		/	Code 1
1251	Batino	*Alstonia macrophylla*	30	6	0.26	563982	983501		/	Code 1
1252	Amugis	*Koordersiodension pinnatum*	50	12	1.46	563992	983472		/	Code 1
1253	Bolong Eta	*D. pilosanthera*	18	4	0.06	563998	983442		/	Code 1
1254	Amugis	*Koordersiodension pinnatum*	20	4	0.08	564018	983458		/	Code 1
1255	Ipil	*Intsia bijuga*	40	6	0.47	564053	983478		/	Code 1
1256	Sahing	*Canarium asperum*	25	6	0.18	564075	983472		/	Code 1
1257	Baris	*Miscellaneous species*	24	5	0.14	564069	983450		/	Code 1
1258	Batino	*Alstonia macrophylla*	28	6	0.23	564067	983421		/	Code 1
1259	Sahing	*Canarium asperum*	20	4	0.08	564069	983399		/	Code 1
1260	Baris	*Miscellaneous species*	18	5	0.08	564079	983424		/	Code 1
1261	Batino	*Alstonia macrophylla*	28	6	0.23	564130	983434		/	Code 1
1262	Sahing	*Canarium asperum*	20	4	0.08	564124	983466		/	Code 1
1263	Baris	*Miscellaneous species*	15	5	0.05	564099	983505		/	Code 1
1264	Kamagong	*D. philippensis*	20	5	0.10	564089	983527		/	Code 1
1265	Nato	*Palaquium luzoniense*	22	6	0.14	564126	983484		/	Code 1
1266	Kamagong	*D. philippensis*	18	5	0.08	564148	983476		/	Code 1
1267	Palomaria	*Vidalia navesii*	28	4	0.15	564146	983491		/	Code 1
1268	Sahing	*Canarium asperum*	22	3	0.07	564170	983495		/	Code 1
1269	Kamagong	*D. philippensis*	38	8	0.56	564196	983450		/	Code 1
1270	Sahing	*Canarium asperum*	22	4	0.09	564192	983433		/	Code 1
1271	Batino	*Alstonia macrophylla*	36	8	0.51	564123	983383		/	Code 1
1272	Talisay	*Terminalia catappa*	24	6	0.17	564123	983371		/	Code 1
1273	Sahing	*Canarium asperum*	22	2	0.05	564107	983368		/	Code 1
1274	Sahing	*Canarium asperum*	20	3	0.06	564095	983373		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)**
Location of the Area: **SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK I										
Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
1275	Batino	*Alstonia macrophylla*	20	3	0.06	564051	983367		/	Code 1
1276	Latangan	*Miscellaneous species*	24	6	0.17	564000	983407		/	Code 1
1277	Lampong Gubat	*Miscellaneous species*	29	5	0.20	564016	983354		/	Code 1
1278	Baris	*Miscellaneous species*	22	3	0.07	564018	983304		/	Code 1
1279	Kamagong	*D. philippensis*	18	6	0.09	564065	983269		/	Code 1
1280	Batino	*Alstonia macrophylla*	32	10	0.50	564083	983269		/	Code 1
1281	Sahing	*Canarium asperum*	30	4	0.18	564107	983293		/	Code 1
1282	Kamagong	*D. philippensis*	20	6	0.12	564135	983330		/	Code 1
1283	Nato	*Palaquium luzoniense*	18	6	0.09	564138	983354		/	Code 1
1284	Baris	*Miscellaneous species*	34	6	0.34	564172	983374		/	Code 1
1285	Latangan	*Miscellaneous species*	30	6	0.26	564174	983393		/	Code 1
1286	Manahur	*Miscellaneous species*	30	8	0.35	564204	983377		/	Code 1
1287	Talisay	*Terminalia catappa*	28	8	0.31	564210	983364		/	Code 1
1288	Tipolo	*Artocarpus incisa*	28	4	0.15	564216	983332		/	Code 1
1289	Nato	*Palaquium luzoniense*	48	10	1.12	564214	983287		/	Code 1
1290	Batino	*Alstonia macrophylla*	50	6	0.73	564216	983263		/	Code 1
1291	Apitong	*D. grandiflorous*	70	12	2.87	564238	983265		/	Code 1
1292	Batino	*Alstonia macrophylla*	28	3	0.11	564242	983244		/	Code 1
1293	Sahing	*Canarium asperum*	24	3	0.08	564200	983226		/	Code 1
1294	Sahing	*Canarium asperum*	24	3	0.08	564111	983228		/	Code 1
1295	Palawan Almaciga	*A. celebica*	40	10	0.78	564117	983208		/	Code 1
1296	Kandong	*Miscellaneous species*	38	8	0.56	564127	983159		/	Code 1
1297	Apitong	*D. grandiflorous*	52	16	2.11	564172	983147		/	Code 1
1298	Amugis	*Koordersiodension pinnatum*	50	10	1.22	564248	983177		/	Code 1
1299	Amugis	*Koordersiodension pinnatum*	46	4	0.41	564277	983222		/	Code 1
1300	Durian	*Durio zibethinus*	50	10	1.22	564281	983256		/	Code 1
1301	Amugis	*Koordersiodension pinnatum*	40	10	0.78	564265	983326		/	Code 1
1302	Mountain Agoho	*Gymnostama rumphiana*	32	2	0.10	564303	983328		/	Code 1
1303	Nato	*Palaquium luzoniense*	32	4	0.20	564299	983319		/	Code 1
1304	Magsumbiling	*Miscellaneous species*	36	4	0.25	564259	983358		/	Code 1
1305	Amugis	*Koordersiodension pinnatum*	40	8	0.62	564255	983387		/	Code 1
1306	Antipolo	*Artocarpus blancio*	40	8	0.62	564247	983391		/	Code 1
1307	Kalasa	*Miscellaneous species*	36	6	0.38	564241	983419		/	Code 1
1308	Amugis	*Koordersiodension pinnatum*	24	6	0.17	564261	983431		/	Code 1
1309	Amugis	*Koordersiodension pinnatum*	22	8	0.19	564221	983452		/	Code 1
1310	Batino	*Alstonia macrophylla*	34	5	0.28	564265	983482		/	Code 1
1311	Manahur	*Miscellaneous species*	28	6	0.23	564204	983476		/	Code 1
1312	Nato Puti	*P. macrantha*	32	8	0.40	564217	983503		/	Code 1
1313	Baris	*Miscellaneous species*	34	5	0.28	564239	983497		/	Code 1
1314	Latangan	*Miscellaneous species*	34	6	0.34	564227	983513		/	Code 1
1315	Apitong	*D. grandiflorous*	44	12	1.13	564241	983537		/	Code 1
1316	Kamagong	*D. philippensis*	34	10	0.56	564257	983533		/	Code 1
1317	Panglumboyen	*Eugenia*	32	4	0.20	564273	983543		/	Code 1
1318	Manahur	*Miscellaneous species*	30	4	0.18	564295	983531		/	Code 1
1319	Palawan Almaciga	*A. celebica*	40	10	0.78	564302	983500		/	Code 1
1320	Kandong	*Miscellaneous species*	38	8	0.56	564310	983498		/	Code 1
1321	Apitong	*D. grandiflorous*	52	16	2.11	564362	983529		/	Code 1
1322	Amugis	*Koordersiodension pinnatum*	50	10	1.22	564350	983519		/	Code 1
1323	Amugis	*Koordersiodension pinnatum*	46	4	0.41	564299	983452		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)**
Location of the Area: **SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK I										
Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
1324	Durian	*Durio zibethinus*	50	10	1.22	564249	983452		/	Code 1
1325	Manahur	*Miscellaneous species*	46	6	0.62	564265	983462		/	Code 1
1326	Amugis	*Koordersiodension pinnatum*	28	6	0.23	564285	983456		/	Code 1
1327	Rambutan	*Nephelium lappaceum*	16	2	0.02	564322	983460		/	Code 1
1328	Antipolo	*Artocarpus blancio*	20	4	0.08	564356	983472		/	Code 1
1329	Amugis	*Koordersiodension pinnatum*	24	5	0.14	564338	983437		/	Code 1
1330	Gisok	*S. guiso*	20	2	0.04	564342	983421		/	Code 1
1331	Dugoan	*Myristica philippinensis*	24	4	0.11	564322	983423		/	Code 1
1332	Apitong	*D. grandiflorous*	52	16	2.11	564291	983401		/	Code 1
1333	Apitong	*D. grandiflorous*	44	8	0.75	564311	983393		/	Code 1
1334	Apitong	*D. grandiflorous*	40	6	0.47	564319	983376		/	Code 1
1335	Apitong	*D. grandiflorous*	38	6	0.42	564334	983382		/	Code 1
1336	Apitong	*D. grandiflorous*	32	6	0.30	564334	983350		/	Code 1
1337	Apitong	*D. grandiflorous*	54	10	1.42	564366	983346		/	Code 1
1338	Kandong	*Miscellaneous species*	30	5	0.22	564404	983356		/	Code 1
1339	Tipolo	*Artocarpus incisa*	28	6	0.23	564398	983409		/	Code 1
1340	Apitong	*D. grandiflorous*	60	10	1.75	564404	983435		/	Code 1
1341	Talisay Gubat	*Terminali foetidissima*	50	12	1.46	564390	983476		/	Code 1
1342	Damak	*Miscellaneous species*	28	4	0.15	564366	983502		/	Code 1
1343	Apitong	*D. grandiflorous*	40	8	0.62	564382	983525		/	Code 1
1344	Latangan	*Miscellaneous species*	26	6	0.20	564378	983543		/	Code 1
1345	Asang Asang	*Miscellaneous species*	48	5	0.56	564298	983566		/	Code 1
1346	Batino	*Alstonia macrophylla*	28	5	0.19	564316	983572		/	Code 1
1347	Kandong	*Miscellaneous species*	30	5	0.22	564328	983592		/	Code 1
1348	Manahur	*Miscellaneous species*	32	3	0.15	564344	983576		/	Code 1
1349	Talisay Gubat	*Terminali foetidissima*	40	10	0.78	564354	983549		/	Code 1
1350	Asang Asang	*Miscellaneous species*	46	6	0.62	564395	983555		/	Code 1
1351	Manahur	*Miscellaneous species*	18	8	0.13	564407	983596		/	Code 1
1352	Manahur	*Miscellaneous species*	44	6	0.57	564443	983565		/	Code 1
1353	Batino	*Alstonia macrophylla*	48	10	1.12	564459	983549		/	Code 1
1354	Apitong	*D. grandiflorous*	42	10	0.86	564465	983535		/	Code 1
1355	Apitong	*D. grandiflorous*	42	10	0.86	564431	983545		/	Code 1
1356	Apitong	*D. grandiflorous*	48	12	1.35	564411	983563		/	Code 1
1357	Apitong	*D. grandiflorous*	48	10	1.12	564435	983470		/	Code 1
1358	Latangan	*Miscellaneous species*	42	5	0.43	564453	983488		/	Code 1
1359	Sahing	*Canarium asperum*	30	10	0.44	564465	983449		/	Code 1
1360	Kandong	*Miscellaneous species*	56	10	1.53	564461	983407		/	Code 1
1361	Aripa	*Miscellaneous species*	34	10	0.56	564479	983407		/	Code 1
1362	Damak	*Miscellaneous species*	34	3	0.17	564479	983352		/	Code 1
1363	Batino	*Alstonia macrophylla*	38	4	0.28	564453	983358		/	Code 1
1364	Amugis	*Koordersiodension pinnatum*	60	10	1.75	564423	983382		/	Code 1
1365	Apitong	*D. grandiflorous*	26	4	0.13	564439	983337		/	Code 1
1366	Apitong	*D. grandiflorous*	28	6	0.23	564473	983319		/	Code 1
1367	Gisok	*S. guiso*	35	6	0.36	564481	983303		/	Code 1
1368	Kalasa	*Miscellaneous species*	30	3	0.13	564493	983317		/	Code 1
1369	Kamagong	*D. philippensis*	30	12	0.53	564507	983286		/	Code 1
1370	Tarimpusuan	*Miscellaneous species*	30	4	0.18	564519	983266		/	Code 1
1371	Talisay Gubat	*Terminali foetidissima*	46	12	1.24	564521	983254		/	Code 1
1372	Talisay Gubat	*Terminali foetidissima*	50	10	1.22	564501	983242		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)**
Location of the Area: **SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK I										
Tree No.	Species	*Scientific Name*	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
1373	Batino	*Alstonia macrophylla*	25	5	0.15	564521	983207		/	Code 1
1374	Baris	*Miscellaneous species*	32	6	0.30	564533	983207		/	Code 1
1375	Batino	*Alstonia macrophylla*	40	6	0.47	564533	983225		/	Code 1
1376	Sahing	*Canarium asperum*	26	4	0.13	564507	983146		/	Code 1
1377	Kamagong	*D. philippensis*	30	12	0.53	564493	983185		/	Code 1
1378	Apitong	*D. grandiflorous*	70	14	3.34	564493	983170		/	Code 1
1379	Baris	*Miscellaneous species*	40	10	0.78	564507	983109		/	Code 1
1380	Dita	*A. scholaris*	48	10	1.12	564483	983095		/	Code 1
1381	Dita	*A. scholaris*	48	10	1.12	564481	983046		/	Code 1
1382	Kamagong	*D. philippensis*	38	10	0.70	564477	983026		/	Code 1
1383	Apitong	*D. grandiflorous*	52	12	1.58	564444	983014		/	Code 1
1384	Apitong	*D. grandiflorous*	60	14	2.46	564452	982992		/	Code 1
1385	Amugis	*Koordersiodension pinnatum*	18	6	0.09	564470	982979		/	Code 1
1386	Tarimpusuan	*Miscellaneous species*	32	4	0.20	564513	983018		/	Code 1
1387	Durian	*Durio zibethinus*	50	10	1.22	564523	982997		/	Code 1
1388	Amugis	*Koordersiodension pinnatum*	30	6	0.26	564539	982979		/	Code 1
1389	Batino	*Alstonia macrophylla*	35	5	0.30	564565	983004		/	Code 1
1390	Antipolo	*Artocarpus blancio*	40	10	0.78	564555	983022		/	Code 1
1391	Tarimpusuan	*Miscellaneous species*	28	4	0.15	564539	983046		/	Code 1
1392	Kubi	*A. nitida*	30	4	0.18	564616	983038		/	Code 1
1393	Tarimpusuan	*Miscellaneous species*	28	4	0.15	564543	983061		/	Code 1
1394	Rambutan	*Nephelium lappaceum*	25	6	0.18	564535	983077		/	Code 1
1395	Antipolo	*Artocarpus blancio*	18	9	0.14	564580	983056		/	Code 1
1396	Rambutan	*Nephelium lappaceum*	30	10	0.44	564592	983005		/	Code 1
1397	Molave	*Vitex parviflora*	15	4	0.04	564630	983010		/	Code 1
1398	Akle	*Serialbizia acle*	15	4	0.04	564652	982993		/	Code 1
1399	Batino	*Alstonia macrophylla*	32	8	0.40	564666	982981		/	Code 1
1400	Malalanti	*Miscellaneous species*	15	4	0.04	564677	982952		/	Code 1
1401	Kubi	*A. nitida*	15	5	0.05	564699	982965		/	Code 1
1402	Alauna	*Miscellaneous species*	24	4	0.11	564715	982934		/	Code 1
1403	Malakugon	*Miscellaneous species*	16	4	0.05	564693	982918		/	Code 1
1404	Kandong	*Miscellaneous species*	15	4	0.04	564717	982926		/	Code 1
1405	Antipolo	*Artocarpus blancio*	20	8	0.16	564737	982956		/	Code 1
1406	Molave	*Vitex parviflora*	46	5	0.52	564743	982944		/	Code 1
1407	Amugis	*Koordersiodension pinnatum*	16	4	0.05	564778	982922		/	Code 1
1408	Batino	*Alstonia macrophylla*	16	4	0.05	564773	982899		/	Code 1
1409	Rambutan	*Nephelium lappaceum*	16	6	0.07	564763	982881		/	Code 1
1410	Batino	*Alstonia macrophylla*	22	10	0.24	564796	982859		/	Code 1
1411	Rambutan	*Nephelium lappaceum*	20	10	0.19	564798	982836		/	Code 1
1412	Alauna	*Miscellaneous species*	22	5	0.12	564761	982855		/	Code 1
1413	Malalanti	*Miscellaneous species*	15	4	0.04	564739	982847		/	Code 1
1414	Alauna	*Miscellaneous species*	22	5	0.12	564759	982822		/	Code 1
1415	Kubi	*A. nitida*	16	4	0.05	564810	982812		/	Code 1
1416	Antipolo	*Artocarpus blancio*	30	8	0.35	564822	982832		/	Code 1
1417	Antipolo	*Artocarpus blancio*	32	8	0.40	564842	982844		/	Code 1
1418	Badak	*Artocarpus chempedeo*	18	4	0.06	564858	982838		/	Code 1
1419	Rambutan	*Nephelium lappaceum*	20	4	0.08	564852	982867		/	Code 1
1420	Antipolo	*Artocarpus blancio*	20	6	0.12	564810	982881		/	Code 1
1421	Antipolo	*Artocarpus blancio*	20	6	0.12	564842	982895		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)**
Location of the Area: **SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK I										
Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
1422	Batino	*Alstonia macrophylla*	32	10	0.50	564830	982928		/	Code 1
1423	Malakugon	*Miscellaneous species*	22	4	0.09	564782	982908		/	Code 1
1424	Amugis	*Koordersiodension pinnatum*	20	4	0.08	564812	982907		/	Code 1
1425	Tipolo	*Artocarpus incisa*	24	10	0.28	564913	982875		/	Code 1
1426	Rambutan	*Nephelium lappaceum*	15	5	0.05	564925	982854		/	Code 1
1427	Antipolo	*Artocarpus blancio*	18	4	0.06	564949	982865		/	Code 1
1428	Batino	*Alstonia macrophylla*	48	10	1.12	564931	982911		/	Code 1
1429	Antipolo	*Artocarpus blancio*	22	8	0.19	564966	982897		/	Code 1
1430	Antipolo	*Artocarpus blancio*	20	6	0.12	564901	982893		/	Code 1
1431	Purdakan	*Miscellaneous species*	24	5	0.14	564904	982879		/	Code 1
1432	Antipolo	*Artocarpus blancio*	24	6	0.17	564938	982859		/	Code 1
1433	Tawa	*Miscellaneous species*	22	10	0.24	564982	982855		/	Code 1
1434	Antipolo	*Artocarpus blancio*	55	3	0.44	564980	982843		/	Code 1
1435	Akle	*Serialbizia acle*	15	6	0.07	564996	982838		/	Code 1
1436	Asang Asang	*Miscellaneous species*	20	4	0.08	565003	982824		/	Code 1
1437	Akle	*Serialbizia acle*	15	6	0.07	565025	982803		/	Code 1
1438	Marangan	*Miscellaneous species*	44	6	0.57	565034	982792		/	Code 1
1439	Antipolo	*Artocarpus blancio*	15	5	0.05	565043	982798		/	Code 1
1440	Antipolo	*Artocarpus blancio*	15	5	0.05	565035	982814		/	Code 1
1441	Labning	*Miscellaneous species*	15	3	0.03	565028	982827		/	Code 1
1442	Takip Asin	*Macaranga grandifolia*	20	5	0.10	565059	982830		/	Code 1
1443	Aripa	*Miscellaneous species*	22	4	0.09	565059	982810		/	Code 1
1444	Kandong	*Miscellaneous species*	20	4	0.08	565071	982805		/	Code 1
1445	Aripa	*Miscellaneous species*	40	10	0.78	565078	982799		/	Code 1
1446	Kamagong	*D. philippensis*	18	6	0.09	565056	982842		/	Code 1
1447	Dita	*A. scholaris*	60	14	2.46	565057	982867		/	Code 1
1448	Salasa	*Miscellaneous species*	40	8	0.62	565029	982870		/	Code 1
1449	Antipolo	*Artocarpus blancio*	20	5	0.10	565013	982867		/	Code 1
1450	Salasa	*Miscellaneous species*	36	5	0.32	565003	982884		/	Code 1
1451	Antipolo	*Artocarpus blancio*	46	6	0.62	565068	982885		/	Code 1
1452	Antipolo	*Artocarpus blancio*	26	5	0.16	565045	982900		/	Code 1
1453	Kandis	*Garciana binucao*	105	10	5.37	565031	982902		/	Code 1
1454	Magsaradan	*Miscellaneous species*	30	5	0.22	565008	982907		/	Code 1
1455	Kubi	*A. nitida*	28	4	0.15	564995	982909		/	Code 1
1456	Malakugon	*Miscellaneous species*	18	5	0.08	564964	982916		/	Code 1
1457	Malakugon	*Miscellaneous species*	20	3	0.06	564926	982921		/	Code 1
1458	Durian	*Durio zibethinus*	48	10	1.12	564915	982910		/	Code 1
1459	Banglas	*Miscellaneous species*	20	3	0.06	564895	982930		/	Code 1
1460	Antipolo	*Artocarpus blancio*	20	6	0.12	564863	982940		/	Code 1
1461	Aripa	*Miscellaneous species*	40	10	0.78	564865	982932		/	Code 1
1462	Kalasa	*Miscellaneous species*	38	5	0.35	564856	982923		/	Code 1
1463	Alauna	*Miscellaneous species*	54	14	1.99	564832	982944		/	Code 1
1464	Kamagong	*D. philippensis*	22	8	0.19	564791	982940		/	Code 1
1465	Banglas	*Miscellaneous species*	22	10	0.24	564766	982955		/	Code 1
1466	Kalasa	*Miscellaneous species*	32	4	0.20	564797	982963		/	Code 1
1467	Rambutan	*Nephelium lappaceum*	20	4	0.08	564832	982963		/	Code 1
1468	Rambutan	*Nephelium lappaceum*	15	4	0.04	564854	982969		/	Code 1
1469	Durian	*Durio zibethinus*	48	10	1.12	564941	982951		/	Code 1
1470	Rambutan	*Nephelium lappaceum*	15	4	0.04	564918	982969		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)
Location of the Area: SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN
Title No.: N/A
Area inventoried: 3, 500 hectares
Date of Inventory: August 14 - 23, 2019
Lot No.: N/A

BLOCK I										
Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
1471	Kalasa	*Miscellaneous species*	36	6	0.38	564878	982984		/	Code 1
1472	Tarimpusuan	*Miscellaneous species*	30	4	0.18	564846	982988		/	Code 1
1473	Lampong Gubat	*Miscellaneous species*	28	8	0.31	564786	982982		/	Code 1
1474	Kalasa	*Miscellaneous species*	38	8	0.56	564749	982976		/	Code 1
1475	Kalasa	*Miscellaneous species*	38	8	0.56	564817	982987		/	Code 1
1476	Kubi	*A. nitida*	34	6	0.34	564875	983316		/	Code 1
1477	Damak	*Miscellaneous species*	65	10	2.06	564819	983324		/	Code 1
1478	Kalasa	*Miscellaneous species*	15	3	0.03	564842	983324		/	Code 1
1479	Apitong	*D. grandiflorous*	42	12	1.03	564863	983345		/	Code 1
1480	Kamagong	*D. philippensis*	16	6	0.07	564875	983354		/	Code 1
1481	Rambutan	*Nephelium lappaceum*	60	6	1.05	564833	983359		/	Code 1
1482	Kubi	*A. nitida*	32	6	0.30	564832	983348		/	Code 1
1483	Latangan	*Miscellaneous species*	30	6	0.26	564805	983341		/	Code 1
1484	Antipolo	*Artocarpus blancio*	40	12	0.94	564801	983359		/	Code 1
1485	Kubi	*A. nitida*	18	8	0.13	564838	983383		/	Code 1
1486	Alauna	*Miscellaneous species*	18	8	0.13	564827	983394		/	Code 1
1487	Antipolo	*Artocarpus blancio*	48	6	0.67	564802	983408		/	Code 1
1488	Bansalangin	*Mimusops elengi*	15	6	0.07	564791	983408		/	Code 1
1489	Amugis	*Koordersiodension pinnatum*	30	5	0.22	564792	983371		/	Code 1
1490	Rambutan	*Nephelium lappaceum*	15	4	0.04	564779	983347		/	Code 1
1491	Kalasa	*Miscellaneous species*	20	6	0.12	564792	983323		/	Code 1
1492	Latangan	*Miscellaneous species*	28	3	0.11	564752	983338		/	Code 1
1493	Malakugon	*Miscellaneous species*	20	4	0.08	564763	983349		/	Code 1
1494	Batino	*Alstonia macrophylla*	20	8	0.16	564765	983386		/	Code 1
1495	Amugis	*Koordersiodension pinnatum*	20	6	0.12	564735	983342		/	Code 1
1496	Aripa	*Miscellaneous species*	120	16	11.23	564731	983360		/	Code 1
1497	Amugis	*Koordersiodension pinnatum*	26	8	0.26	564745	983396		/	Code 1
1498	Rambutan	*Nephelium lappaceum*	20	6	0.12	564733	983399		/	Code 1
1499	Antipolo	*Artocarpus blancio*	26	8	0.26	564759	983411		/	Code 1
1500	Kalasa	*Miscellaneous species*	30	8	0.35	564739	983435		/	Code 1
1501	Bansalangin	*Mimusops elengi*	15	8	0.09	564735	983466		/	Code 1
1502	Apitong	*D. grandiflorous*	24	6	0.17	564727	983464		/	Code 1
1503	Dita	*A. scholaris*	60	12	2.11	564701	983445		/	Code 1
1504	Latangan	*Miscellaneous species*	20	6	0.12	564691	983494		/	Code 1
1505	Dita	*A. scholaris*	44	8	0.75	564689	983508		/	Code 1
1506	Latangan	*Miscellaneous species*	28	6	0.23	564715	983545		/	Code 1
1507	Malakugon	*Miscellaneous species*	20	6	0.12	564681	983543		/	Code 1
1508	Aripa	*Miscellaneous species*	30	10	0.44	564654	983553		/	Code 1
1509	Kalasa	*Miscellaneous species*	26	6	0.20	564650	983576		/	Code 1
1510	Bolong Eta	*D. pilosanthera*	18	4	0.06	564640	983529		/	Code 1
1511	Antipolo	*Artocarpus blancio*	22	8	0.19	564614	983539		/	Code 1
1512	Antipolo	*Artocarpus blancio*	20	6	0.12	564596	983541		/	Code 1
1513	Kalasa	*Miscellaneous species*	24	10	0.28	564569	983533		/	Code 1
1514	Tarimpusuan	*Miscellaneous species*	28	5	0.19	564555	983529		/	Code 1
1515	Tipolo	*Artocarpus incisa*	36	12	0.76	564495	983517		/	Code 1
1516	Aripa	*Miscellaneous species*	36	14	0.88	564523	983490		/	Code 1
1517	Rambutan	*Nephelium lappaceum*	20	4	0.08	564531	983480		/	Code 1
1518	Bolong Eta	*D. pilosanthera*	38	10	0.70	564561	983476		/	Code 1
1519	Antipolo	*Artocarpus blancio*	20	8	0.16	564587	983496		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)**
Location of the Area: **SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK I										
Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
1520	Antipolo	*Artocarpus blancio*	18	6	0.09	564591	983452		/	Code 1
1521	Kubi	*A. nitida*	15	3	0.03	564614	983472		/	Code 1
1522	Antipolo	*Artocarpus blancio*	22	4	0.09	564658	983488		/	Code 1
1523	Durian	*Durio zibethinus*	54	14	1.99	564660	983454		/	Code 1
1524	Tipolo	*Artocarpus incisa*	48	12	1.35	564626	983486		/	Code 1
1525	Durian	*Durio zibethinus*	54	14	1.99	564701	983403		/	Code 1
1526	Aripa	*Miscellaneous species*	34	6	0.34	564678	983395		/	Code 1
1527	Dita	*A. scholaris*	32	8	0.40	564654	983411		/	Code 1
1528	Antipolo	*Artocarpus blancio*	35	4	0.24	564610	983413		/	Code 1
1529	Apitong	*D. grandiflorous*	120	14	9.83	564618	983368		/	Code 1
1530	Kamagong	*D. philippensis*	32	5	0.25	564583	983415		/	Code 1
1531	Balingasai	*Bucharania arborescens*	20	4	0.08	564561	983419		/	Code 1
1532	Karamputi	*Miscellaneous species*	20	5	0.10	564539	983437		/	Code 1
1533	Aripa	*Miscellaneous species*	48	10	1.12	564494	983450		/	Code 1
1534	Baris	*Miscellaneous species*	50	8	0.97	564513	983397		/	Code 1
1535	Mountain Agoho	*Gymnostama rumphiana*	20	4	0.08	564559	983364		/	Code 1
1536	Baris	*Miscellaneous species*	20	6	0.12	564569	983334		/	Code 1
1537	Mountain Agoho	*Gymnostama rumphiana*	15	4	0.04	564561	983301		/	Code 1
1538	Mountain Agoho	*Gymnostama rumphiana*	22	4	0.09	564549	983267		/	Code 1
1539	Mountain Agoho	*Gymnostama rumphiana*	22	3	0.07	564563	983252		/	Code 1
1540	Mountain Agoho	*Gymnostama rumphiana*	30	6	0.26	564565	983238		/	Code 1
1541	Mountain Agoho	*Gymnostama rumphiana*	18	4	0.06	564571	983189		/	Code 1
1542	Mountain Agoho	*Gymnostama rumphiana*	20	3	0.06	564585	983151		/	Code 1
1543	Mountain Agoho	*Gymnostama rumphiana*	15	5	0.05	564613	983165		/	Code 1
1544	Mountain Agoho	*Gymnostama rumphiana*	15	4	0.04	564627	983173		/	Code 1
1545	Batino	*Alstonia macrophylla*	15	3	0.03	564627	983124		/	Code 1
1546	Mountain Agoho	*Gymnostama rumphiana*	20	5	0.10	564565	983134		/	Code 1
1547	Batino	*Alstonia macrophylla*	30	5	0.22	564553	983136		/	Code 1
1548	Apitong	*D. grandiflorous*	60	16	2.81	564587	983112		/	Code 1
1549	Mountain Agoho	*Gymnostama rumphiana*	15	4	0.04	564645	983120		/	Code 1
1550	Damak	*Miscellaneous species*	40	5	0.39	564664	983209		/	Code 1
1551	Manahur	*Miscellaneous species*	18	3	0.05	564702	983329		/	Code 1
1552	Baris	*Miscellaneous species*	46	10	1.03	564706	983350		/	Code 1
1553	Talisay	*Terminalia catappa*	34	10	0.56	564672	983368		/	Code 1
1554	Latangan	*Miscellaneous species*	20	4	0.08	564654	983346		/	Code 1
1555	Batino	*Alstonia macrophylla*	40	4	0.31	564662	983321		/	Code 1
1556	Batino	*Alstonia macrophylla*	20	3	0.06	564628	983346		/	Code 1
1557	Talisay	*Terminalia catappa*	54	12	1.71	564622	983321		/	Code 1
1558	Manahur	*Miscellaneous species*	56	8	1.22	564603	983303		/	Code 1
1559	Mountain Agoho	*Gymnostama rumphiana*	50	16	1.95	564589	983297		/	Code 1
1560	Palawan Tree	*Daemonorops*	18	5	0.08	564569	983265		/	Code 1
1561	Mountain Agoho	*Gymnostama rumphiana*	15	4	0.04	564611	983230		/	Code 1
1562	Batino	*Alstonia macrophylla*	32	3	0.15	564603	983248		/	Code 1
1563	Batino	*Alstonia macrophylla*	20	3	0.06	564623	983246		/	Code 1
1564	Mountain Agoho	*Gymnostama rumphiana*	15	3	0.03	564654	983250		/	Code 1
1565	Aripa	*Miscellaneous species*	28	5	0.19	564597	983275		/	Code 1
1566	Talisay Gubat	*Terminali foetidissima*	36	16	1.01	564628	983273		/	Code 1
1567	Mountain Agoho	*Gymnostama rumphiana*	26	10	0.33	564648	983298		/	Code 1
1568	Apitong	*D. grandiflorous*	110	16	9.44	564678	983293		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)
Location of the Area: SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN
Title No.: N/A
Area inventoried: 3, 500 hectares
Date of Inventory: August 14 - 23, 2019
Lot No.: N/A

BLOCK I										
Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
1569	Apitong	*D. grandiflorous*	56	12	1.83	564668	983281		/	Code 1
1570	Batino	*Alstonia macrophylla*	28	4	0.15	564700	983279		/	Code 1
1571	Batino	*Alstonia macrophylla*	36	3	0.19	564720	983307		/	Code 1
1572	Batino	*Alstonia macrophylla*	26	3	0.10	564741	983289		/	Code 1
1573	Talisay Gubat	*Terminali foetidissima*	60	10	1.75	564753	983282		/	Code 1
1574	Batino	*Alstonia macrophylla*	34	4	0.23	564785	983301		/	Code 1
1575	Tarimpusuan	*Miscellaneous species*	36	3	0.19	564787	983293		/	Code 1
1576	Mountain Agoho	*Gymnostama rumphiana*	15	3	0.03	564815	983286		/	Code 1
1577	Batino	*Alstonia macrophylla*	24	4	0.11	564827	983282		/	Code 1
1578	Latangan	*Miscellaneous species*	15	3	0.03	564862	983276		/	Code 1
1579	Mountain Agoho	*Gymnostama rumphiana*	16	3	0.04	564866	983282		/	Code 1
1580	Batino	*Alstonia macrophylla*	20	3	0.06	564908	983270		/	Code 1
1581	Batino	*Alstonia macrophylla*	26	3	0.10	564920	983254		/	Code 1
1582	Apitong	*D. grandiflorous*	62	14	2.62	564939	983256		/	Code 1
1583	Antipolo	*Artocarpus blancio*	22	8	0.19	564937	983241		/	Code 1
1584	Antipolo	*Artocarpus blancio*	22	6	0.14	564914	983242		/	Code 1
1585	Antipolo	*Artocarpus blancio*	26	8	0.26	564890	983244		/	Code 1
1586	Sahing	*Canarium asperum*	22	4	0.09	564837	983252		/	Code 1
1587	Apitong	*D. grandiflorous*	68	16	3.61	564799	983252		/	Code 1
1588	Apitong	*D. grandiflorous*	58	10	1.64	564761	983262		/	Code 1
1589	Batino	*Alstonia macrophylla*	32	3	0.15	564732	983258		/	Code 1
1590	Tarimpusuan	*Miscellaneous species*	50	5	0.61	564698	983238		/	Code 1
1591	Baris	*Miscellaneous species*	20	3	0.06	564696	983258		/	Code 1
1592	Asang Asang	*Miscellaneous species*	18	3	0.05	564712	983250		/	Code 1
1593	Baris	*Miscellaneous species*	26	4	0.13	564718	983221		/	Code 1
1594	Apitong	*D. grandiflorous*	38	8	0.56	564704	983197		/	Code 1
1595	Badak	*Artocarpus chempedeo*	15	4	0.04	564751	983223		/	Code 1
1596	Badak	*Artocarpus chempedeo*	15	3	0.03	564767	983215		/	Code 1
1597	Batino	*Alstonia macrophylla*	15	4	0.04	564777	983232		/	Code 1
1598	Badak	*Artocarpus chempedeo*	18	3	0.05	564815	983219		/	Code 1
1599	Badak	*Artocarpus chempedeo*	18	3	0.05	564829	983221		/	Code 1
1600	Batino	*Alstonia macrophylla*	18	3	0.05	564850	983219		/	Code 1
1601	Badak	*Artocarpus chempedeo*	18	3	0.05	564862	983229		/	Code 1
1602	Asang Asang	*Miscellaneous species*	16	3	0.04	564860	983250		/	Code 1
1603	Baris	*Miscellaneous species*	24	4	0.11	564874	983236		/	Code 1
1604	Baris	*Miscellaneous species*	30	3	0.13	564888	983221		/	Code 1
1605	Antipolo	*Artocarpus blancio*	20	3	0.06	564926	983215		/	Code 1
1606	Antipolo	*Artocarpus blancio*	16	3	0.04	564940	983215		/	Code 1
1607	Ipil	*Intsia bijuga*	20	4	0.08	564942	983199		/	Code 1
1608	Purdakan	*Miscellaneous species*	40	4	0.31	564967	983207		/	Code 1
1609	Purdakan	*Miscellaneous species*	28	3	0.11	564969	983193		/	Code 1
1610	Talisay	*Terminalia catappa*	40	3	0.23	564959	983168		/	Code 1
1611	Sahing	*Canarium asperum*	42	5	0.43	564938	983180		/	Code 1
1612	Kalasa	*Miscellaneous species*	46	10	1.03	564888	983185		/	Code 1
1613	Antipolo	*Artocarpus blancio*	38	8	0.56	564872	983195		/	Code 1
1614	Antipolo	*Artocarpus blancio*	48	10	1.12	564839	983187		/	Code 1
1615	Antipolo	*Artocarpus blancio*	44	6	0.57	564813	983185		/	Code 1
1616	Rambutan	*Nephelium lappaceum*	28	3	0.11	564785	983193		/	Code 1
1617	Batino	*Alstonia macrophylla*	16	3	0.04	564754	983173		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)**
Location of the Area: **SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK I										
Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
1618	Salasa	*Miscellaneous species*	22	3	0.07	564736	983177		/	Code 1
1619	Badak	*Artocarpus chempedeo*	40	3	0.23	564700	983165		/	Code 1
1620	Antipolo	*Artocarpus blancio*	38	6	0.42	564674	983165		/	Code 1
1621	Badak	*Artocarpus chempedeo*	40	3	0.23	564668	983148		/	Code 1
1622	Rambutan	*Nephelium lappaceum*	24	3	0.08	564686	983140		/	Code 1
1623	Rambutan	*Nephelium lappaceum*	20	3	0.06	564736	983152		/	Code 1
1624	Antipolo	*Artocarpus blancio*	20	5	0.10	564744	983134		/	Code 1
1625	Antipolo	*Artocarpus blancio*	20	6	0.12	564779	983158		/	Code 1
1626	Aripa	*Miscellaneous species*	28	4	0.15	564791	983146		/	Code 1
1627	Molave	*Vitex parviflora*	16	3	0.04	564819	983160		/	Code 1
1628	Badak	*Artocarpus chempedeo*	20	3	0.06	564833	983150		/	Code 1
1629	Antipolo	*Artocarpus blancio*	18	3	0.05	564864	983158		/	Code 1
1630	Bansalangin	*Mimusops elengi*	24	4	0.11	564918	983150		/	Code 1
1631	Badak	*Artocarpus chempedeo*	22	3	0.07	564904	983168		/	Code 1
1632	Amugis	*Koordersiodension pinnatum*	40	8	0.62	564892	983144		/	Code 1
1633	Latangan	*Miscellaneous species*	40	14	1.09	564938	983135		/	Code 1
1634	Talisay Gubat	*Terminali foetidissima*	30	12	0.53	564954	983133		/	Code 1
1635	Alupag	*Euphoria didyma Blanco*	23	10	0.26	564921	983124		/	Code 1
1636	Antipolo	*Artocarpus blancio*	38	15	1.06	564894	983131		/	Code 1
1637	Baris	*Miscellaneous species*	40	10	0.78	564875	983118		/	Code 1
1638	Bolong Eta	*D. pilosanthera*	21	4	0.09	564864	983130		/	Code 1
1639	Talisay Gubat	*Terminali foetidissima*	60	18	3.16	564825	983124		/	Code 1
1640	Alupag	*Euphoria didyma Blanco*	68	15	3.38	564803	983130		/	Code 1
1641	Batino	*Alstonia macrophylla*	38	8	0.56	564763	983126		/	Code 1
1642	Latangan	*Miscellaneous species*	30	6	0.26	564763	983113		/	Code 1
1643	Kalasa	*Miscellaneous species*	45	15	1.48	564694	983132		/	Code 1
1644	Amugis	*Koordersiodension pinnatum*	60	10	1.75	564685	983114		/	Code 1
1645	Baris	*Miscellaneous species*	18	3	0.05	564666	983109		/	Code 1
1646	Apitong	*D. grandiflorous*	64	14	2.79	564634	983104		/	Code 1
1647	Amugis	*Koordersiodension pinnatum*	22	4	0.09	564628	983085		/	Code 1
1648	Batino	*Alstonia macrophylla*	20	3	0.06	564642	983084		/	Code 1
1649	Apitong	*D. grandiflorous*	80	16	4.99	564674	983086		/	Code 1
1650	Aripa	*Miscellaneous species*	26	5	0.16	564678	983100		/	Code 1
1651	Antipolo	*Artocarpus blancio*	26	6	0.20	564695	983095		/	Code 1
1652	Talisay	*Terminalia catappa*	50	20	2.44	564720	983111		/	Code 1
1653	Aripa	*Miscellaneous species*	40	15	1.17	564732	983094		/	Code 1
1654	Antipolo	*Artocarpus blancio*	26	6	0.20	564749	983093		/	Code 1
1655	Talisay	*Terminalia catappa*	50	25	3.05	564774	983101		/	Code 1
1656	Sahing	*Canarium asperum*	22	6	0.14	564795	983119		/	Code 1
1657	Apitong	*D. grandiflorous*	80	25	7.80	564794	983108		/	Code 1
1658	Talisay	*Terminalia catappa*	100	25	12.19	564805	983107		/	Code 1
1659	Apitong	*D. grandiflorous*	66	16	3.40	564824	983103		/	Code 1
1660	Talisay	*Terminalia catappa*	68	14	3.16	564858	983098		/	Code 1
1661	Apitong	*D. grandiflorous*	46	12	1.24	564871	983106		/	Code 1
1662	Amugis	*Koordersiodension pinnatum*	64	10	2.00	564901	983108		/	Code 1
1663	Kandis	*Garciana binucao*	26	5	0.16	564931	983100		/	Code 1
1664	Sahing	*Canarium asperum*	25	8	0.24	564947	983104		/	Code 1
1665	Batino	*Alstonia macrophylla*	38	10	0.70	564946	983086		/	Code 1
1666	Batino	*Alstonia macrophylla*	43	10	0.90	564931	983067		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)**
Location of the Area: **SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK I

Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
1667	Talisay	*Terminalia catappa*	55	20	2.95	564915	983075		/	Code 1
1668	Nato	*Palaquium luzoniense*	34	10	0.56	564889	983075		/	Code 1
1669	Talisay	*Terminalia catappa*	70	20	4.78	564891	983056		/	Code 1
1670	Latangan	*Miscellaneous species*	23	8	0.21	564914	983045		/	Code 1
1671	Manahur	*Miscellaneous species*	28	10	0.38	564939	983052		/	Code 1
1672	Antipolo	*Artocarpus blancio*	30	12	0.53	564883	983037		/	Code 1
1673	Kamagong	*D. philippensis*	32	12	0.60	564866	983043		/	Code 1
1674	Antipolo	*Artocarpus blancio*	24	8	0.22	564852	983063		/	Code 1
1675	Sahing	*Canarium asperum*	42	14	1.20	564861	983073		/	Code 1
1676	Dita	*A. scholaris*	60	15	2.63	564820	983073		/	Code 1
1677	Kamagong	*D. philippensis*	40	20	1.56	564846	983050		/	Code 1
1678	Batino	*Alstonia macrophylla*	54	16	2.27	564829	983039		/	Code 1
1679	Talisay Gubat	*Terminali foetidissima*	20	10	0.19	564796	983055		/	Code 1
1680	Asang Asang	*Miscellaneous species*	20	10	0.19	564796	983070		/	Code 1
1681	Apitong	*D. grandiflorous*	45	12	1.18	564769	983070		/	Code 1
1682	Amugis	*Koordersiodension pinnatum*	48	10	1.12	564733	983068		/	Code 1
1683	Antipolo	*Artocarpus blancio*	48	6	0.67	564760	983054		/	Code 1
1684	Antipolo	*Artocarpus blancio*	40	10	0.78	564727	983046		/	Code 1
1685	Bacauan Gubat	*Carallia integerrima*	20	6	0.12	564686	983066		/	Code 1
1686	Kalasa	*Miscellaneous species*	20	6	0.12	564684	983047		/	Code 1
1687	Kandong	*Miscellaneous species*	70	10	2.39	564669	983056		/	Code 1
1688	Kandong	*Miscellaneous species*	20	8	0.16	564665	983034		/	Code 1
1689	Nato	*Palaquium luzoniense*	50	20	2.44	564679	983021		/	Code 1
1690	Apitong	*D. grandiflorous*	52	14	1.85	564704	983055		/	Code 1
1691	Antipolo	*Artocarpus blancio*	24	6	0.17	564713	983030		/	Code 1
1692	Damak	*Miscellaneous species*	30	3	0.13	564700	983004		/	Code 1
1693	Nato	*Palaquium luzoniense*	70	20	4.78	564667	983007		/	Code 1
1694	Apitong	*D. grandiflorous*	45	15	1.48	564689	982997		/	Code 1
1695	Damak	*Miscellaneous species*	36	4	0.25	564746	982997		/	Code 1
1696	Talisay	*Terminalia catappa*	110	20	11.80	564736	983030		/	Code 1
1697	Aripa	*Miscellaneous species*	40	15	1.17	564750	983016		/	Code 1
1698	Kalasa	*Miscellaneous species*	46	10	1.03	564791	983024		/	Code 1
1699	Talisay	*Terminalia catappa*	50	25	3.05	564773	983028		/	Code 1
1700	Antipolo	*Artocarpus blancio*	38	8	0.56	564785	983044		/	Code 1
1701	Apitong	*D. grandiflorous*	80	25	7.80	564804	983026		/	Code 1
1702	Talisay	*Terminalia catappa*	100	25	12.19	564804	983006		/	Code 1
1703	Damak	*Miscellaneous species*	45	5	0.49	564826	983017		/	Code 1
1704	Antipolo	*Artocarpus blancio*	38	8	0.56	564823	982999		/	Code 1
1705	Antipolo	*Artocarpus blancio*	48	10	1.12	564841	983028		/	Code 1
1706	Batino	*Alstonia macrophylla*	16	3	0.04	564862	983029		/	Code 1
1707	Antipolo	*Artocarpus blancio*	40	10	0.78	564884	983003		/	Code 1
1708	Rambutan	*Nephelium lappaceum*	28	3	0.11	564885	983019		/	Code 1
1709	Repetek	*Kokoona orchracea*	40	15	1.17	564897	983014		/	Code 1
1710	Badak	*Artocarpus chempedeo*	40	3	0.23	564904	982994		/	Code 1
1711	Rambutan	*Nephelium lappaceum*	24	3	0.08	564941	982994		/	Code 1
1712	Nato	*Palaquium luzoniense*	50	20	2.44	564925	983005		/	Code 1
1713	Rambutan	*Nephelium lappaceum*	20	3	0.06	564933	982984		/	Code 1
1714	Talisay	*Terminalia catappa*	100	25	12.19	564896	982975		/	Code 1
1715	Antipolo	*Artocarpus blancio*	20	5	0.10	564853	983000		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION (LFPC)**
Location of the Area: **SO. MALUTOK, BGY. RANSANG, RIZAL, PALAWAN**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK I										
Tree No.	Species	*Scientific Name*	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
1716	Apitong	*D. grandiflorous*	58	12	1.97	564848	983009		/	Code 1
1716	**TOTAL**				**1731.84**					

Prepared and Inventoried by:

JOHN MARCELO S. DAYOLA
Forest Ranger

GEMS ASTER D. ALFECHE
Forest Technician I

BALTAZAR A. ROGEL
Cartographer I

DJOANNA D. NATIVIDAD
LMI I

JOHN MICHAEL T. RODRIGUEZ
Forest Technician II

ARMANDO J. BATAYO
Forest Technician II

SUBSCRIBED AND SWORN to before me this 27th day [illegible] at CENRO Quezon, Palawan

RAMSES S. CASTILLO
For. I/Chief Util & Permitting

Stem Quality:
Code 1: *Straight, cyclindrical tree without visible defects or damage*
Code 2: *Tree with little defect or damage*
Code 3: *Tree with several defects or damage*

STAND & STOCK TABLE OF INVENTORIED TREES (BLOCK I) AT 20 % INTENSITY WITHIN THE AGRO-DEVELOPMENT PROJECT/JOINT VENTURE AGREEMENT OF LIONHEART FARMs PHILIPPINES CORPORATION LOCATED AT SITIO MALUTOK, BGY. RANSANG, RIZAL, PALAWAN.

SPECIES	DIAMETER CLASS																							
	20		30		40		50		60		70		80		90		100		110		120		TOTAL	
	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	Total No. of Trees	Total Vol. (cu.m.)
A. APITONG GROUP																								
Apitong	4	0.56	18	7.47	31	25.46	43	62.58	30	70.20	12	34.93	26	164.44	3	17.37	4	31.19	1	9.44	1	9.83	173	433.47
B. NATO SPECIES																								
Nato	3	0.40	4	1.15	4	1.89	13	23.64	6	16.84	1	4.78	-	-	-	-	6	49.04	-	-	-	-	37	97.74
Nato Pula	-	-	-	-	-	-	-	-	-	-	2	5.73	-	-	-	-	-	-	-	-	-	-	2	5.73
Nato Puti	3	1.24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	9.83	4	11.06
C. FURNITURE/CONSTRUCTION HARDWOOD																								
Alupag	6	1.35	1	0.35	-	-	2	2.70	-	-	1	3.38	-	-	-	-	-	-	-	-	-	-	10	7.78
Amugis	30	3.57	17	4.20	7	4.72	13	13.09	7	11.01	-	-	-	-	-	-	-	-	-	-	-	-	74	36.58
Antipolo	50	5.82	38	11.22	37	22.35	19	20.90	4	4.73	3	7.02	-	-	1	1.58	1	3.59	-	-	-	-	153	77.21
Balingasai	3	0.64	-	-	-	-	1	0.49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	1.13
Bansalangin	7	0.92	2	0.64	2	2.70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	4.25
Batino	62	5.49	42	9.20	36	17.35	10	11.19	1	1.83	1	2.97	-	-	-	-	-	-	-	-	-	-	152	48.03
Bitanghol	2	0.38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0.38
Kubi	11	1.04	5	1.19	1	0.86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	3.08
Mala Bayabas	-	-	4	1.22	-	-	-	-	-	-	2	2.70	-	-	-	-	-	-	-	-	-	-	6	3.93
Talisay	4	0.36	4	1.70	5	2.43	34	86.47	4	10.60	9	28.75	1	4.37	6	41.14	18	207.15	6	65.53	-	-	91	448.49
Talisay Gubat	2	0.38	3	1.58	3	2.57	5	6.72	5	12.01	-	-	-	-	-	-	-	-	-	-	-	-	18	23.26
D. PREMIUM SPECIES																								
Akle	3	0.18	2	0.70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	0.88
Bolong Eta	8	0.55	3	2.67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	3.22
Ipil	13	0.77	1	0.45	1	0.47	1	0.62	-	-	-	-	1	1.87	-	-	-	-	-	-	-	-	17	4.18
Kamagong	30	3.63	15	5.65	16	17.78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	61	27.07
Manggis	2	0.19	1	0.56	-	-	4	3.99	1	3.00	1	2.87	-	-	-	-	-	-	-	-	-	-	9	10.60
Molave	3	0.11	-	-	-	-	1	0.52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	0.63
E. LESSER USED SPECIES																								
Bacauan Gubat	6	0.74	-	-	-	-	2	1.22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	1.96
Duguan	14	1.28	4	0.97	2	0.88	1	0.49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	3.62
Durian	5	0.38	1	0.44	5	7.57	11	15.97	4	6.46	1	4.39	-	-	-	-	1	5.85	3	35.39	-	-	31	76.44
Putian	4	0.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	0.19
Takip Asin	2	0.17	1	0.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0.48
F. MISCELLANEOUS SPECIES																								
Alauna	8	1.02	7	2.10	1	0.78	1	1.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	5.89

STAND & STOCK TABLE OF INVENTORIED TREES (BLOCK I) AT 20 % INTENSITY WITHIN THE AGRO-DEVELOPMENT PROJECT/JOINT VENTURE AGREEMENT OF LIONHEART FARMs PHILIPPINES CORPORATION LOCATED AT SITIO MALUTOK, BGY. RANSANG, RIZAL, PALAWAN.

SPECIES	DIAMETER CLASS																							
	20		30		40		50		60		70		80		90		100		110		120		TOTAL	
	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	Total No. of Trees	Total Vol. (cu.m.)
Aripa	5	0.39	16	5.07	15	11.29	8	10.58	5	10.75	-	-	-	-	-	-	-	-	-	-	1	11.23	50	49.31
Asang Asang	8	0.58	3	0.74	10	7.20	4	3.17	5	3.96	-	-	1	2.19	-	-	-	-	-	-	1	9.83	32	27.68
Badak	21	1.01	2	0.83	4	1.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	3.24
Banglas	13	1.05	9	2.43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	3.49
Baris	20	1.82	12	2.61	7	4.10	4	5.42	2	3.05	-	-	-	-	-	-	1	5.85	-	-	-	-	46	22.85
Baslac	7	0.51	1	0.45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	0.96
Baslayan	3	0.28	4	1.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	1.58
Damak	9	0.65	8	1.10	4	1.13	3	1.48	3	8.46	-	-	-	-	-	-	-	-	-	-	-	-	27	12.82
Gisok	6	0.24	2	0.20	1	0.36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	0.80
Kalasa	14	1.77	10	2.97	10	5.27	6	7.33	1	1.83	-	-	-	-	-	-	-	-	-	-	-	-	41	19.18
Kalumbyagan	5	0.35	2	0.61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	0.96
Kandis	4	0.20	2	0.33	-	-	1	0.49	-	-	-	-	-	-	-	-	-	-	1	5.37	-	-	8	6.39
Kandong	8	0.74	9	2.28	2	1.13	2	2.70	5	9.07	1	2.39	1	3.74	-	-	-	-	-	-	-	-	28	22.05
Karamputi	3	0.27	1	0.30	1	1.03	-	-	1	0.98	-	-	-	-	-	-	-	-	-	-	-	-	6	2.58
Labning	9	1.04	4	0.59	6	1.80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	3.44
Lampong Gubat	6	0.52	2	0.51	6	4.76	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	5.79
Latangan	25	2.18	18	3.88	6	4.28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49	10.34
Magbuya	-	-	1	0.28	-	-	1	0.56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0.84
Magsaradan	1	0.04	1	0.22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0.26
Magsumbiling	4	0.48	2	0.53	2	0.51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	1.51
Mala Kugon	10	0.64	1	0.38	2	1.09	1	0.90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	3.01
Mala Lanti	2	0.09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0.09
Mala Mangga	-	-	-	-	1	0.72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0.72
Malatab	-	-	1	0.23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0.23
Malutog	1	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0.12
Manahur	15	1.46	21	4.59	3	1.32	7	4.90	2	1.99	4	12.42	-	-	-	-	-	-	-	-	-	-	52	26.68
Marangan	2	0.11	-	-	1	0.57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0.68
Maraparay	3	0.35	-	-	-	-	1	1.48	2	3.67	-	-	-	-	-	-	-	-	-	-	-	-	6	5.49
Mararing	1	0.06	-	-	-	-	-	-	1	1.05	-	-	-	-	-	-	-	-	-	-	-	-	2	1.11
Martab	1	0.11	-	-	1	0.42	1	0.52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	1.05
Matipas	3	0.33	1	0.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	0.68
Mirato	1	0.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0.08
Mountain Agoho	17	0.94	4	0.79	-	-	1	1.95	4	6.11	-	-	-	-	-	-	-	-	-	-	-	-	26	9.80

(35) (24)

STAND & STOCK TABLE OF INVENTORIED TREES (BLOCK I) AT 20 % INTENSITY WITHIN THE AGRO-DEVELOPMENT PROJECT/JOINT VENTURE AGREEMENT OF LIONHEART FARMs PHILIPPINES CORPORATION LOCATED AT SITIO MALUTOK, BGY. RANSANG, RIZAL, PALAWAN.

SPECIES	DIAMETER CLASS																							
	20		30		40		50		60		70		80		90		100		110		120		TOTAL	
	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	Total No. of Trees	Total Vol. (cu.m.)
Pahu	1	0.08	2	0.65	1	0.84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	1.58
Palawan Almaciga	-	-	-	-	2	1.56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1.56
Palawan Tree	2	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0.25
Palomaria	1	0.08	5	0.97	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	1.05
Pang Lumboyen	1	0.14	2	0.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0.54
Potat	3	0.26	1	0.23	2	1.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	1.75
Purdakan	2	0.20	3	0.34	3	0.94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	1.48
Rambutan	25	1.51	5	1.00	-	-	-	-	1	1.05	-	-	-	-	-	-	-	-	-	-	-	-	31	3.57
Repetek	2	0.27	1	0.23	14	12.36	2	2.19	6	21.06	2	7.64	-	-	-	-	-	-	-	-	-	-	27	43.75
Sahing	40	3.06	14	2.51	7	4.52	1	0.83	1	2.11	-	-	-	-	-	-	-	-	-	-	-	-	63	13.01
Salasa	1	0.07	2	0.26	4	2.50	3	5.48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	8.32
Tarimpusuan	-	-	17	3.81	5	1.92	4	3.95	2	1.64	2	2.70	-	-	-	-	-	-	-	-	-	-	30	14.02
Tawa	2	0.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0.42
Tipolo	5	1.15	5	1.71	3	2.45	1	1.35	1	2.14	-	-	-	-	-	-	-	-	-	-	-	-	15	8.80
G. PULPWOOD/MATCHWOOD SPECIES																								
Dita	5	0.46	6	2.25	6	3.91	6	8.17	7	17.43	2	5.36	1	4.37	-	-	-	-	1	7.08	-	-	34	49.01
																					TOTAL		**1,716**	**1,731.84**

Prepared and Inventoried by:

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Forest Ranger

GEMS ASTERIO. ALFECHE
Forest Technician I

BALTAZAR A. ROGEL
Cartographer I

DJOANNA D. NATIVIDAD
Land Management Inspector I

JOHN MICHAEL T. RODRIGUEZ
Forest Technician II

ARMANDO J. BATAYO
Forest Technician II

SUBSCRIBED AND SWORN to before me this ___ day of ___ at CENRO Quezon, Palawan

RAMSES S. CASTILLO
For I/Chief Util & Permitting

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION**
Location of the Area: **SO. BALEN-BALEN, BGY. RANSANG, RIZAL, PAL.**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK II									
Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location (GPS		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
1	Apitong	*D. grandiflorous*	90	10	3.95	560411	982101		/	Code 1
2	Nato	*Palaquium luzoniense*	32	4	0.20	560398	982097		/	Code 1
3	Maranggo	*Azadirachta excelsa*	18	4	0.06	560385	982112		/	Code 1
4	Repetek	*Kokoona orchracea*	28	6	0.23	560373	982106		/	Code 1
5	Maranggo	*Azadirachta excelsa*	16	4	0.05	560365	982113		/	Code 1
6	Potat	*Aralia javanica*	16	3	0.04	560355	982119		/	Code 1
7	Nato	*Palaquium luzoniense*	38	5	0.35	560334	982109		/	Code 1
8	Potat	*Aralia javanica*	18	2	0.03	560330	982122		/	Code 1
9	Balingasai	*Bucharania arborescens*	20	4	0.08	560322	982112		/	Code 1
10	Talisay	*Terminalia catappa*	30	6	0.26	560315	982102		/	Code 1
11	Talisay	*Terminalia catappa*	34	10	0.56	560295	982082		/	Code 1
12	Nato	*Palaquium luzoniense*	45	14	1.38	560313	982071		/	Code 1
13	Nato	*Palaquium luzoniense*	60	12	2.11	560316	982063		/	Code 1
14	Nato	*Palaquium luzoniense*	60	12	2.11	560336	982070		/	Code 1
15	Nato	*Palaquium luzoniense*	25	6	0.18	560347	982060		/	Code 1
16	Alupag	*Dimocarpus longan*	24	8	0.22	560351	982080		/	Code 1
17	Purdakan	*Miscellaneous Species*	16	5	0.06	560361	982071		/	Code 1
18	Repetek	*Kokoona orchracea*	50	6	0.73	560368	982087		/	Code 1
19	Paho	*Mangifera Longipes*	32	10	0.50	560378	982066		/	Code 1
20	Baslayan	*Miscellaneous Species*	32	6	0.30	560396	982065		/	Code 1
21	Repetek	*Kokoona orchracea*	40	3	0.23	560403	982076		/	Code 1
22	Manggis	*Koompassia excelsia*	34	10	0.56	560429	982079		/	Code 1
23	Potat	*Aralia javanica*	22	8	0.19	560419	982070		/	Code 1
24	Repetek	*Kokoona orchracea*	44	8	0.75	560430	982067		/	Code 1
25	Nato	*Palaquium luzoniense*	24	6	0.17	560445	982079		/	Code 1
26	Repetek	*Kokoona orchracea*	50	12	1.46	560460	982083		/	Code 1
27	Manggis	*Koompassia excelsia*	62	16	3.00	560475	982070		/	Code 1
28	Talisay	*Terminalia catappa*	44	10	0.94	560483	982062		/	Code 1
29	Karamputi	*Miscellaneous Species*	22	4	0.09	560489	982051		/	Code 1
30	Nato	*Palaquium luzoniense*	48	12	1.35	560491	982040		/	Code 1
31	Talisay	*Terminalia catappa*	60	10	1.75	560506	982028		/	Code 1
32	Kandong	*Miscellaneous Species*	15	3	0.03	560500	982016		/	Code 1
33	Talisay	*Terminalia catappa*	40	10	0.78	560464	982050		/	Code 1
34	Talisay	*Terminalia catappa*	68	14	3.16	560435	982050		/	Code 1
35	Kandong	*Miscellaneous Species*	60	12	2.11	560444	982041		/	Code 1
36	Kandong	*Miscellaneous Species*	20	8	0.16	560466	982030		/	Code 1
37	kandong	*Miscellaneous Species*	60	12	2.11	560478	982030		/	Code 1
38	Talisay	*Terminalia catappa*	54	10	1.42	560460	982015		/	Code 1
39	Asang Asang	*Miscellaneous Species*	45	14	1.38	560448	982026		/	Code 1
40	Alupag	*Dimocarpus longan*	30	8	0.35	560413	982044		/	Code 1
41	Alupag	*Dimocarpus longan*	23	10	0.26	560399	982051		/	Code 1
42	Alupag	*Dimocarpus longan*	48	12	1.35	560403	982034		/	Code 1
43	Repetek	*Kokoona orchracea*	70	14	3.34	560403	982027		/	Code 1
44	Alupag	*Dimocarpus longan*	20	10	0.19	560399	982013		/	Code 1
45	Paho	*Mangifera Longipes*	38	12	0.84	560399	982006		/	Code 1
46	Alupag	*Dimocarpus longan*	48	12	1.35	560369	982009		/	Code 1
47	Repetek	*Kokoona orchracea*	70	18	4.30	560376	981999		/	Code 1
48	Alupag	*Dimocarpus longan*	20	10	0.19	560362	981994		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION**
Location of the Area: **SO. BALEN-BALEN, BGY. RANSANG, RIZAL, PAL.**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK II									
Tree No.	Species	*Scientific Name*	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location (GPS		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
49	Dita	*A. scholaris*	28	7	0.27	560356	981979		/	Code 1
50	Dita	*A. scholaris*	20	6	0.12	560345	981995		/	Code 1
51	Talisay	*Terminalia catappa*	100	20	9.75	560333	982008		/	Code 1
52	Dita	*A. scholaris*	40	15	1.17	560343	982011		/	Code 1
53	Asang Asang	*Miscellaneous Species*	56	4	0.61	560325	982020		/	Code 1
54	Kandong	*Miscellaneous Species*	60	12	2.11	560323	982015		/	Code 1
55	Talisay	*Terminalia catappa*	50	20	2.44	560318	981996		/	Code 1
56	Nato	*Palaquium luzoniense*	100	20	9.75	560320	981989		/	Code 1
57	Dita	*A. scholaris*	66	14	2.97	560333	981980		/	Code 1
58	Repetek	*Kokoona orchracea*	24	6	0.17	560341	981977		/	Code 1
59	Nato	*Palaquium luzoniense*	95	15	6.60	560341	981963		/	Code 1
60	Talisay	*Terminalia catappa*	85	20	7.04	560345	981948		/	Code 1
61	Talisay	*Terminalia catappa*	105	20	10.75	560321	981979		/	Code 1
62	Talisay	*Terminalia catappa*	90	15	5.92	560312	981952		/	Code 1
63	Asang Asang	*Miscellaneous Species*	18	3	0.05	560325	981939		/	Code 1
64	Dita	*A. scholaris*	60	15	2.63	560326	981933		/	Code 1
65	Dita	*A. scholaris*	55	20	2.95	560345	981935		/	Code 1
66	Dita	*A. scholaris*	18	3	0.05	560355	981916		/	Code 1
67	Asang Asang	*Miscellaneous Species*	16	3	0.04	560336	981915		/	Code 1
68	Dita	*A. scholaris*	45	15	1.48	560326	981920		/	Code 1
69	Baslac	*Canarium*	24	4	0.11	560305	981920		/	Code 1
70	Nato	*Palaquium luzoniense*	60	18	3.16	560288	981917		/	Code 1
71	Talisay	*Terminalia catappa*	40	3	0.23	560281	981920		/	Code 1
72	Repetek	*Kokoona orchracea*	60	20	3.51	560274	981935		/	Code 1
73	Purdakan	*Miscellaneous Species*	40	4	0.31	560269	981931		/	Code 1
74	Purdakan	*Miscellaneous Species*	28	3	0.11	560274	981910		/	Code 1
75	Talisay	*Terminalia catappa*	50	20	2.44	560282	981901		/	Code 1
76	Talisay	*Terminalia catappa*	50	20	2.44	560298	981902		/	Code 1
77	Talisay	*Terminalia catappa*	50	25	3.05	560314	981896		/	Code 1
78	Talisay	*Terminalia catappa*	50	20	2.44	560320	981897		/	Code 1
79	Asang Asang	*Miscellaneous Species*	44	8	0.75	560343	981896		/	Code 1
80	Talisay	*Terminalia catappa*	50	25	3.05	560352	981903		/	Code 1
81	Talisay	*Terminalia catappa*	100	25	12.19	560310	981878		/	Code 1
82	Nato	*Palaquium luzoniense*	95	15	6.60	560325	981874		/	Code 1
83	Talisay	*Terminalia catappa*	85	20	7.04	560336	981873		/	Code 1
84	Talisay	*Terminalia catappa*	105	20	10.75	560344	981883		/	Code 1
85	Talisay	*Terminalia catappa*	50	20	2.44	560360	981879		/	Code 1
86	Nato	*Palaquium luzoniense*	100	20	9.75	560355	981862		/	Code 1
87	Bitanghol	*Calophyllum blancio*	22	8	0.19	560346	981855		/	Code 1
88	Tipolo	*Artocarpus incisa*	20	8	0.16	560338	981855		/	Code 1
89	Repetek	*Kokoona orchracea*	40	12	0.94	560319	981852		/	Code 1
90	Repetek	*Kokoona orchracea*	42	15	1.29	560311	981855		/	Code 1
91	Repetek	*Kokoona orchracea*	60	20	3.51	560318	981835		/	Code 1
92	Talisay	*Terminalia catappa*	50	20	2.44	560324	981836		/	Code 1
93	Talisay	*Terminalia catappa*	50	25	3.05	560344	981833		/	Code 1
94	Putian	*Eugenia*	18	4	0.06	560339	981823		/	Code 1
95	Talisay	*Terminalia catappa*	100	25	12.19	560333	981817		/	Code 1
96	Tipolo	*Artocarpus incisa*	24	10	0.28	560346	981815		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION**
Location of the Area: **SO. BALEN-BALEN, BGY. RANSANG, RIZAL, PAL.**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK II										
Tree No.	Species	*Scientific Name*	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location (GPS		Tree Category		Stem
						Northing	Easting	Planted	Natural	Quality
97	Akle	*Serialbizia acle*	30	8	0.35	560357	981823		/	Code 1
98	Potat	*Aralia javanica*	36	10	0.63	560370	981811		/	Code 1
99	Asang Asang	*Miscellaneous Species*	40	10	0.78	560374	981809		/	Code 1
100	Talisay	*Terminalia catappa*	70	20	4.78	560396	981802		/	Code 1
101	Asang Asang	*Miscellaneous Species*	60	5	0.88	560409	981808		/	Code 1
102	Baslayan	*Miscellaneous Species*	15	4	0.04	560410	981803		/	Code 1
103	Dita	*A. scholaris*	45	15	1.48	560431	981812		/	Code 1
104	Nato	*Palaquium luzoniense*	60	18	3.16	560442	981813		/	Code 1
105	Repetek	*Kokoona orchracea*	60	20	3.51	560451	981814		/	Code 1
106	Talisay	*Terminalia catappa*	50	20	2.44	560463	981812		/	Code 1
107	Talisay	*Terminalia catappa*	50	25	3.05	560472	981788		/	Code 1
108	Talisay	*Terminalia catappa*	100	25	12.19	560478	981798		/	Code 1
109	Putian	*Eugenia*	15	3	0.03	560488	981787		/	Code 1
110	Repetek	*Kokoona orchracea*	40	15	1.17	560481	981778		/	Code 1
111	Nato	*Palaquium luzoniense*	50	12	1.46	560466	981770		/	Code 1
112	Nato	*Palaquium luzoniense*	50	20	2.44	560448	981789		/	Code 1
113	Talisay	*Terminalia catappa*	16	4	0.05	560447	981796		/	Code 1
114	Talisay	*Terminalia catappa*	100	25	12.19	560433	981799		/	Code 1
115	Talisay	*Terminalia catappa*	55	20	2.95	560417	981796		/	Code 1
116	Asang Asang	*Miscellaneous Species*	40	10	0.78	560402	981789		/	Code 1
117	Talisay	*Terminalia catappa*	100	20	9.75	560364	981781		/	Code 1
118	Talisay	*Terminalia catappa*	100	20	9.75	560361	981786		/	Code 1
119	Talisay	*Terminalia catappa*	50	12	1.46	560336	981794		/	Code 1
120	Talisay	*Terminalia catappa*	68	4	0.90	560338	981801		/	Code 1
121	Talisay	*Terminalia catappa*	85	20	7.04	560322	981800		/	Code 1
122	Talisay	*Terminalia catappa*	105	20	10.75	560321	981810		/	Code 1
123	Nato	*Palaquium luzoniense*	42	6	0.52	560315	981815		/	Code 1
124	Talisay	*Terminalia catappa*	100	25	12.19	560288	981834		/	Code 1
125	Malabayabas	*Tristania decorticata*	28	8	0.31	560295	981830		/	Code 1
126	Talisay	*Terminalia catappa*	50	20	2.44	560302	981809		/	Code 1
127	Talisay	*Terminalia catappa*	50	25	3.05	560307	981794		/	Code 1
128	Talisay	*Terminalia catappa*	50	20	2.44	560291	981786		/	Code 1
129	Repetek	*Kokoona orchracea*	40	15	1.17	560288	981797		/	Code 1
130	Nato	*Palaquium luzoniense*	48	10	1.12	560266	981811		/	Code 1
131	Nato	*Palaquium luzoniense*	50	20	2.44	560261	981824		/	Code 1
132	Talisay	*Terminalia catappa*	68	14	3.16	560259	981816		/	Code 1
133	Dita	*A. scholaris*	55	20	2.95	560250	981824		/	Code 1
134	Dita	*A. scholaris*	18	3	0.05	560225	981824		/	Code 1
135	Asang Asang	*Miscellaneous Species*	16	3	0.04	560236	981809		/	Code 1
136	Dita	*A. scholaris*	45	15	1.48	560228	981803		/	Code 1
137	Baslac	*Canarium*	24	4	0.11	560240	981787		/	Code 1
138	Nato	*Palaquium luzoniense*	60	18	3.16	560262	981788		/	Code 1
139	Talisay	*Terminalia catappa*	40	3	0.23	560252	981789		/	Code 1
140	Repetek	*Kokoona orchracea*	60	20	3.51	560238	981801		/	Code 1
141	Purdakan	*Miscellaneous Species*	40	4	0.31	560246	981773		/	Code 1
142	Purdakan	*Miscellaneous Species*	28	3	0.11	560242	981760		/	Code 1
143	Talisay	*Terminalia catappa*	50	20	2.44	560221	981768		/	Code 1
144	Baris	*Miscellaneous Species*	22	5	0.12	560207	981779		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION**
Location of the Area: **SO. BALEN-BALEN, BGY. RANSANG, RIZAL, PAL.**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK II

Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location (GPS		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
145	Talisay	*Terminalia catappa*	50	20	2.44	560196	981797		/	Code 1
146	Talisay	*Terminalia catappa*	50	25	3.05	560198	981798		/	Code 1
147	Talisay	*Terminalia catappa*	50	20	2.44	560185	981792		/	Code 1
148	Asang Asang	*Miscellaneous Species*	44	8	0.75	560170	981760		/	Code 1
149	Talisay	*Terminalia catappa*	50	25	3.05	560164	981755		/	Code 1
150	Talisay	*Terminalia catappa*	100	25	12.19	560175	981747		/	Code 1
151	Nato	*Palaquium luzoniense*	95	15	6.60	560237	981697		/	Code 1
152	Talisay	*Terminalia catappa*	85	20	7.04	560263	981697		/	Code 1
153	Talisay	*Terminalia catappa*	105	20	10.75	560310	981683		/	Code 1
154	Baris	*Miscellaneous Species*	32	5	0.25	560300	981662		/	Code 1
155	Talisay	*Terminalia catappa*	50	20	2.44	560590	982212		/	Code 1
156	Nato	*Palaquium luzoniense*	100	20	9.75	560567	982212		/	Code 1
157	Tipolo	*Artocarpus incisa*	38	12	0.84	560505	982212		/	Code 1
158	Tipolo	*Artocarpus incisa*	30	10	0.44	560529	982185		/	Code 1
159	Bitanghol	*Calophyllum blancio*	22	8	0.19	560557	982169		/	Code 1
160	Baris	*Miscellaneous Species*	38	3	0.21	560559	982126		/	Code 1
161	Damak	*Miscellaneous Species*	20	4	0.08	560599	982102		/	Code 1
162	Damak	*Miscellaneous Species*	30	4	0.18	560599	982084		/	Code 1
163	Tipolo	*Artocarpus incisa*	20	8	0.16	560610	982065		/	Code 1
164	Repetek	*Kokoona orchracea*	40	12	0.94	560646	982077		/	Code 1
165	Repetek	*Kokoona orchracea*	42	15	1.29	560654	982059		/	Code 1
166	Repetek	*Kokoona orchracea*	60	20	3.51	560717	981990		/	Code 1
167	Baris	*Miscellaneous Species*	50	14	1.71	560723	981959		/	Code 1
168	Kalumpit	*Terminalia microcarpa*	16	3	0.04	560743	981953		/	Code 1
169	Talisay	*Terminalia catappa*	50	20	2.44	560743	981923		/	Code 1
170	Talisay	*Terminalia catappa*	50	25	3.05	560759	981917		/	Code 1
171	Putian	*Eugenia*	18	4	0.06	560728	981884		/	Code 1
172	Talisay	*Terminalia catappa*	100	25	12.19	560682	981876		/	Code 1
173	Palomaria	*Vidalia navesii*	28	6	0.23	560648	981866		/	Code 1
174	Damak	*Miscellaneous Species*	18	4	0.06	560644	981841		/	Code 1
175	Tipolo	*Artocarpus incisa*	24	10	0.28	560625	981864		/	Code 1
176	Akle	*Serialbizia acle*	30	8	0.35	560609	981846		/	Code 1
177	Potat	*Aralia javanica*	36	10	0.63	560595	981807		/	Code 1
178	Baris	*Miscellaneous Species*	15	4	0.04	560609	981795		/	Code 1
179	Asang Asang	*Miscellaneous Species*	40	10	0.78	560639	981797		/	Code 1
180	Talisay	*Terminalia catappa*	70	20	4.78	560652	981772		/	Code 1
181	Asang Asang	*Miscellaneous Species*	60	5	0.88	560676	981807		/	Code 1
182	Malabayabas	*Tristania decorticata*	68	6	1.35	560702	981795		/	Code 1
183	Baris	*Miscellaneous Species*	15	4	0.04	560759	981807		/	Code 1
184	Baslayan	*Miscellaneous Species*	15	4	0.04	560696	981772		/	Code 1
185	Dita	*A. scholaris*	45	15	1.48	560684	981717		/	Code 1
186	Nato	*Palaquium luzoniense*	60	18	3.16	560696	981683		/	Code 1
187	Sahing	*Canarium asperum*	15	4	0.04	560728	981707		/	Code 1
188	Tarimpusuan	*Miscellaneous Species*	68	6	1.35	560724	981672		/	Code 1
189	Repetek	*Kokoona orchracea*	60	20	3.51	560716	981644		/	Code 1
190	Talisay	*Terminalia catappa*	50	20	2.44	560781	981656		/	Code 1
191	Talisay	*Terminalia catappa*	50	25	3.05	560744	981634		/	Code 1
192	Talisay	*Terminalia catappa*	100	25	12.19	560712	981601		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION**
Location of the Area: **SO. BALEN-BALEN, BGY. RANSANG, RIZAL, PAL.**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK II										
Tree No.	Species	*Scientific Name*	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location (GPS		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
193	Damak	*Miscellaneous Species*	45	5	0.49	560690	981585		/	Code 1
194	Putian	*Eugenia*	15	3	0.03	560738	981595		/	Code 1
195	Repetek	*Kokoona orchracea*	40	15	1.17	560777	981615		/	Code 1
196	Nato	*Palaquium luzoniense*	50	12	1.46	560803	981607		/	Code 1
197	Nato	*Palaquium luzoniense*	50	20	2.44	560817	981630		/	Code 1
198	Talisay	*Terminalia catappa*	16	4	0.05	560843	981648		/	Code 1
199	Talisay	*Terminalia catappa*	100	25	12.19	560835	981670		/	Code 1
200	Malabayabas	*Tristania decorticata*	28	8	0.31	560872	981701		/	Code 1
201	Sahing	*Canarium asperum*	20	4	0.08	560894	981676		/	Code 1
202	Kamagong	*D. philippensis*	20	8	0.16	560908	981695		/	Code 1
203	Talisay	*Terminalia catappa*	55	20	2.95	560908	981660		/	Code 1
204	Asang Asang	*Miscellaneous Species*	40	10	0.78	560781	981546		/	Code 1
205	Banglas	*Miscellaneous Species*	28	8	0.31	560742	981532		/	Code 1
206	Talisay	*Terminalia catappa*	100	20	9.75	560751	981581		/	Code 1
207	Banglas	*Miscellaneous Species*	30	8	0.35	560740	981562		/	Code 1
208	Talisay	*Terminalia catappa*	100	20	9.75	560724	981554		/	Code 1
209	Kamagong	*D. philippensis*	26	10	0.33	560712	981529		/	Code 1
210	Sahing	*Canarium asperum*	30	4	0.18	560723	981501		/	Code 1
211	Labning	*Miscellaneous Species*	24	6	0.17	560750	981505		/	Code 1
212	Labning	*Miscellaneous Species*	22	6	0.14	560762	981494		/	Code 1
213	Tarimpusuan	*Miscellaneous Species*	34	6	0.34	560785	981505		/	Code 1
214	Banglas	*Miscellaneous Species*	26	8	0.26	560794	981510		/	Code 1
215	Talisay	*Terminalia catappa*	50	12	1.46	560805	981548		/	Code 1
216	Talisay	*Terminalia catappa*	68	4	0.90	560820	981570		/	Code 1
217	Kamagong	*D. philippensis*	40	20	1.56	560860	981560		/	Code 1
218	Talisay	*Terminalia catappa*	85	20	7.04	560860	981553		/	Code 1
219	Malakugon	*Miscellaneous Species*	15	3	0.03	560873	981556		/	Code 1
220	Talisay	*Terminalia catappa*	105	20	10.75	560877	981527		/	Code 1
221	Labning	*Miscellaneous Species*	22	5	0.12	560881	981505		/	Code 1
222	Kamagong	*D. philippensis*	24	6	0.17	560880	981495		/	Code 1
223	Nato	*Palaquium luzoniense*	42	6	0.52	560919	981492		/	Code 1
224	Labning	*Miscellaneous Species*	26	4	0.13	560919	981509		/	Code 1
225	Labning	*Miscellaneous Species*	40	5	0.39	560932	981492		/	Code 1
226	Labning	*Miscellaneous Species*	26	5	0.16	560954	981523		/	Code 1
227	Talisay	*Terminalia catappa*	100	25	12.19	560972	981549		/	Code 1
228	Kamagong	*D. philippensis*	22	8	0.19	560964	981560		/	Code 1
229	Malabayabas	*Tristania decorticata*	28	8	0.31	560988	981542		/	Code 1
230	Aripa	*Miscellaneous Species*	62	12	2.25	561002	981546		/	Code 1
231	Talisay	*Terminalia catappa*	50	20	2.44	561018	981531		/	Code 1
232	Talisay	*Terminalia catappa*	50	25	3.05	561018	981553		/	Code 1
233	Talisay	*Terminalia catappa*	50	20	2.44	561028	981534		/	Code 1
234	Kamagong	*D. philippensis*	30	8	0.35	560802	981483		/	Code 1
235	Labning	*Miscellaneous Species*	36	3	0.19	560816	981483		/	Code 1
236	Repetek	*Kokoona orchracea*	40	15	1.17	560817	981472		/	Code 1
237	Nato	*Palaquium luzoniense*	48	10	1.12	560786	981450		/	Code 1
238	Banglas	*Miscellaneous Species*	20	4	0.08	560778	981456		/	Code 1
239	Nato	*Palaquium luzoniense*	50	20	2.44	560751	981465		/	Code 1
240	Sahing	*Canarium asperum*	20	4	0.08	560734	981462		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION**
Location of the Area: **SO. BALEN-BALEN, BGY. RANSANG, RIZAL, PAL.**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK II										
Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location (GPS		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
241	Sahing	*Canarium asperum*	18	4	0.06	560729	981474		/	Code 1
242	Aripa	*Miscellaneous Species*	28	10	0.38	560746	981440		/	Code 1
243	Apitong	*D. grandiflorous*	44	12	1.13	560785	981437		/	Code 1
244	Aripa	*Miscellaneous Species*	28	6	0.23	560799	981444		/	Code 1
245	Apitong	*D. grandiflorous*	100	16	7.80	560816	981434		/	Code 1
246	Apitong	*D. grandiflorous*	62	12	2.25	560827	981425		/	Code 1
247	Apitong	*D. grandiflorous*	58	14	2.30	560848	981432		/	Code 1
248	Talisay	*Terminalia catappa*	68	14	3.16	560856	981441		/	Code 1
249	Manggis	*Koompassia excelsia*	46	6	0.62	560868	981461		/	Code 1
250	Repetek	*Kokoona orchracea*	36	6	0.38	560885	981466		/	Code 1
251	Dugoan	*Myristica philippinensis*	18	4	0.06	560884	981454		/	Code 1
252	Repetek	*Kokoona orchracea*	36	6	0.38	560894	981464		/	Code 1
253	Dugoan	*Myristica philippinensis*	18	4	0.06	560901	981454		/	Code 1
254	Manggis	*Koompassia excelsia*	50	14	1.71	560913	981448		/	Code 1
255	Apitong	*D. grandiflorous*	60	16	2.81	560933	981465		/	Code 1
256	Manggis	*Koompassia excelsia*	24	5	0.14	560936	981446		/	Code 1
257	Apitong	*D. grandiflorous*	90	16	6.32	560965	981443		/	Code 1
258	Sahing	*Canarium asperum*	18	3	0.05	560988	981436		/	Code 1
259	Bansalangin	*Mimusops elengi*	16	8	0.10	560883	981416		/	Code 1
260	Dita	*A. scholaris*	110	12	7.08	560806	981397		/	Code 1
261	Kalasa	*Miscellaneous Species*	22	4	0.09	560777	981410		/	Code 1
262	Ipil	*Intsia bijuga*	18	5	0.08	560776	981391		/	Code 1
263	Apitong	*D. grandiflorous*	60	12	2.11	560807	981380		/	Code 1
264	Apitong	*D. grandiflorous*	74	10	2.67	560838	981388		/	Code 1
265	Baslac	*Canarium*	20	5	0.10	560850	981396		/	Code 1
266	Tarimpusuan	*Miscellaneous Species*	50	10	1.22	560866	981388		/	Code 1
267	Bansalangin	*Mimusops elengi*	20	4	0.08	560872	981373		/	Code 1
268	Repetek	*Kokoona orchracea*	36	5	0.32	560890	981372		/	Code 1
269	Manggis	*Koompassia excelsia*	70	12	2.87	560908	981380		/	Code 1
270	Dugoan	*Myristica philippinensis*	20	5	0.10	560925	981366		/	Code 1
271	Labning	*Miscellaneous Species*	42	6	0.52	560955	981377		/	Code 1
272	Dugoan	*Myristica philippinensis*	20	4	0.08	560949	981389		/	Code 1
273	Bolong Eta	*D. pilosanthera*	20	5	0.10	560958	981373		/	Code 1
274	Kalasa	*Miscellaneous Species*	22	4	0.09	560989	981380		/	Code 1
275	Apitong	*D. grandiflorous*	30	6	0.26	561010	981391		/	Code 1
276	Gisok	*S. guiso*	26	3	0.10	561017	981376		/	Code 1
277	Gisok	*S. guiso*	20	2	0.04	561019	981356		/	Code 1
278	Dugoan	*Myristica philippinensis*	24	4	0.11	561012	981338		/	Code 1
279	Gisok	*S. guiso*	16	2	0.02	560979	981339		/	Code 1
280	Apitong	*D. grandiflorous*	100	16	7.80	560936	981339		/	Code 1
281	Potat	*Aralia javanica*	34	4	0.23	560920	981337		/	Code 1
282	Damak	*Miscellaneous Species*	18	4	0.06	560898	981333		/	Code 1
283	Talisay	*Terminalia catappa*	80	14	4.37	560878	981345		/	Code 1
284	Baslayan	*Miscellaneous Species*	25	4	0.12	560857	981331		/	Code 1
285	Apitong	*D. grandiflorous*	80	18	5.61	560840	981340		/	Code 1
286	Apitong	*D. grandiflorous*	90	18	7.11	560827	981355		/	Code 1
287	Kamagong	*D. philippensis*	24	4	0.11	560807	981334		/	Code 1
288	Balingasai	*Bucharania arborescens*	24	5	0.14	560791	981347		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION**
Location of the Area: **SO. BALEN-BALEN, BGY. RANSANG, RIZAL, PAL.**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK II										
Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location (GPS		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
289	Sahing	*Canarium asperum*	20	5	0.10	560768	981356		/	Code 1
290	Ipil	*Intsia bijuga*	15	6	0.07	560753	981356		/	Code 1
291	Kamagong	*D. philippensis*	15	4	0.04	560770	981333		/	Code 1
292	Kalumpit	*Terminalia microcarpa*	18	5	0.08	560778	981316		/	Code 1
293	Talisay	*Terminalia catappa*	18	6	0.09	560830	981316		/	Code 1
294	Kamagong	*D. philippensis*	15	5	0.05	560851	981300		/	Code 1
295	Ipil	*Intsia bijuga*	15	4	0.04	560905	981301		/	Code 1
296	Repetek	*Kokoona orchracea*	20	5	0.10	560943	981310		/	Code 1
297	Sahing	*Canarium asperum*	40	10	0.78	560981	981313		/	Code 1
298	Sahing	*Canarium asperum*	18	4	0.06	561004	981311		/	Code 1
299	Alupag	*Dimocarpus longan*	24	8	0.22	561030	981319		/	Code 1
300	Sahing	*Canarium asperum*	18	4	0.06	561055	981329		/	Code 1
301	Sahing	*Canarium asperum*	26	4	0.13	561057	981322		/	Code 1
302	Apitong	*D. grandiflorous*	48	4	0.45	560764	981277		/	Code 1
303	Kamagong	*D. philippensis*	18	5	0.08	560744	981247		/	Code 1
304	Latangan	*Miscellaneous Species*	26	4	0.13	560776	981243		/	Code 1
305	Nato	*Palaquium luzoniense*	36	8	0.51	560808	981259		/	Code 1
306	Latangan	*Miscellaneous Species*	26	4	0.13	560859	981251		/	Code 1
307	Latangan	*Miscellaneous Species*	34	6	0.34	560897	981271		/	Code 1
308	Latangan	*Miscellaneous Species*	24	4	0.11	560932	981257		/	Code 1
309	Latangan	*Miscellaneous Species*	22	4	0.09	560956	981269		/	Code 1
310	Apitong	*D. grandiflorous*	70	16	3.82	560942	981232		/	Code 1
311	Karamputi	*Miscellaneous Species*	32	6	0.30	560903	981242		/	Code 1
312	Latangan	*Miscellaneous Species*	40	10	0.78	560891	981232		/	Code 1
313	Palomaria	*Vidalia navesii*	20	4	0.08	560859	981212		/	Code 1
314	Damak	*Miscellaneous Species*	16	5	0.06	560816	981198		/	Code 1
315	Ipil	*Intsia bijuga*	15	4	0.04	560792	981226		/	Code 1
316	Baris	*Miscellaneous Species*	100	12	5.85	560727	981198		/	Code 1
317	Latangan	*Miscellaneous Species*	28	4	0.15	560746	981224		/	Code 1
318	Kamagong	*D. philippensis*	18	5	0.08	560721	981192		/	Code 1
319	Tarimpusuan	*Miscellaneous Species*	34	5	0.28	560735	981161		/	Code 1
320	Kalumpit	*Terminalia microcarpa*	28	8	0.31	560744	981125		/	Code 1
321	Sahing	*Canarium asperum*	22	3	0.07	560764	981161		/	Code 1
322	Sahing	*Canarium asperum*	20	3	0.06	560800	981194		/	Code 1
323	Ipil	*Intsia bijuga*	80	6	1.87	560806	981173		/	Code 1
324	Banglas	*Miscellaneous Species*	20	5	0.10	560816	981163		/	Code 1
325	Kamagong	*D. philippensis*	18	5	0.08	560857	981155		/	Code 1
326	Manahur	*Miscellaneous Species*	16	4	0.05	560887	981185		/	Code 1
327	Sahing	*Canarium asperum*	25	5	0.15	560934	981169		/	Code 1
328	Dita	*A. scholaris*	24	6	0.17	560954	981199		/	Code 1
329	Dugoan	*Myristica philippinensis*	15	5	0.05	560980	981183		/	Code 1
330	Manahur	*Miscellaneous Species*	15	5	0.05	561016	981187		/	Code 1
331	Aripa	*Miscellaneous Species*	30	8	0.35	561041	981224		/	Code 1
332	Kandong	*Miscellaneous Species*	20	6	0.12	561027	981197		/	Code 1
333	Bolong Eta	*D. pilosanthera*	18	4	0.06	561012	981157		/	Code 1
334	Ipil	*Intsia bijuga*	40	6	0.47	560925	981118		/	Code 1
335	Sahing	*Canarium asperum*	25	6	0.18	560911	981108		/	Code 1
336	Baris	*Miscellaneous Species*	24	5	0.14	560897	981128		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION**
Location of the Area: **SO. BALEN-BALEN, BGY. RANSANG, RIZAL, PAL.**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK II

Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location (GPS		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
337	Sahing	*Canarium asperum*	20	4	0.08	560863	981106		/	Code 1
338	Baris	*Miscellaneous Species*	18	5	0.08	560814	981116		/	Code 1
339	Sahing	*Canarium asperum*	20	4	0.08	560790	981098		/	Code 1
340	Baris	*Miscellaneous Species*	15	5	0.05	560766	981100		/	Code 1
341	Kamagong	*D. philippensis*	20	5	0.10	560735	981086		/	Code 1
342	Nato	*Palaquium luzoniense*	22	6	0.14	560677	981098		/	Code 1
343	Kamagong	*D. philippensis*	18	5	0.08	560721	981041		/	Code 1
344	Palomaria	*Vidalia navesii*	28	4	0.15	560780	981037		/	Code 1
345	Sahing	*Canarium asperum*	22	3	0.07	560772	981063		/	Code 1
346	Kamagong	*D. philippensis*	38	8	0.56	560800	981004		/	Code 1
347	Sahing	*Canarium asperum*	22	4	0.09	560842	981014		/	Code 1
348	Talisay	*Terminalia catappa*	24	6	0.17	560842	981029		/	Code 1
349	Sahing	*Canarium asperum*	22	2	0.05	560849	981078		/	Code 1
350	Sahing	*Canarium asperum*	20	3	0.06	560851	981053		/	Code 1
351	Latangan	*Miscellaneous Species*	24	6	0.17	560867	981023		/	Code 1
352	Baris	*Miscellaneous Species*	22	3	0.07	560909	981021		/	Code 1
353	Kamagong	*D. philippensis*	18	6	0.09	560899	981061		/	Code 1
354	Sahing	*Canarium asperum*	30	4	0.18	560948	981079		/	Code 1
355	Kamagong	*D. philippensis*	20	6	0.12	560947	981029		/	Code 1
356	Nato	*Palaquium luzoniense*	18	6	0.09	560966	980968		/	Code 1
357	Baris	*Miscellaneous Species*	34	6	0.34	561012	980943		/	Code 1
358	Latangan	*Miscellaneous Species*	30	6	0.26	561036	980969		/	Code 1
359	Manahur	*Miscellaneous Species*	30	8	0.35	560994	981006		/	Code 1
360	Talisay	*Terminalia catappa*	28	8	0.31	561030	981014		/	Code 1
361	Tipolo	*Artocarpus incisa*	28	4	0.15	560994	981045		/	Code 1
362	Nato	*Palaquium luzoniense*	48	10	1.12	561014	981057		/	Code 1
363	Apitong	*D. grandiflorous*	70	12	2.87	560974	981088		/	Code 1
364	Sahing	*Canarium asperum*	24	3	0.08	561030	981108		/	Code 1
365	Sahing	*Canarium asperum*	24	3	0.08	561059	981089		/	Code 1
366	Kandong	*Miscellaneous Species*	38	8	0.56	561089	981083		/	Code 1
367	Apitong	*D. grandiflorous*	52	16	2.11	561149	981074		/	Code 1
368	Nato	*Palaquium luzoniense*	32	4	0.20	561225	981117		/	Code 1
369	Kalasa	*Miscellaneous Species*	36	6	0.38	561197	981113		/	Code 1
370	Manahur	*Miscellaneous Species*	28	6	0.23	561179	981129		/	Code 1
371	Baris	*Miscellaneous Species*	34	5	0.28	561151	981151		/	Code 1
372	Latangan	*Miscellaneous Species*	34	6	0.34	561149	981168		/	Code 1
373	Apitong	*D. grandiflorous*	44	12	1.13	561127	981168		/	Code 1
374	Kamagong	*D. philippensis*	34	10	0.56	561104	981200		/	Code 1
375	Manahur	*Miscellaneous Species*	30	4	0.18	561161	981206		/	Code 1
376	Kandong	*Miscellaneous Species*	38	8	0.56	561213	981178		/	Code 1
377	Apitong	*D. grandiflorous*	52	16	2.11	561248	981172		/	Code 1
378	Manahur	*Miscellaneous Species*	46	6	0.62	561244	981206		/	Code 1
379	Amugis	*Koordersiodension pinnatum*	28	6	0.23	561321	981196		/	Code 1
380	Amugis	*Koordersiodension pinnatum*	24	5	0.14	561258	981229		/	Code 1
381	Gisok	*S. guiso*	20	2	0.04	561189	981223		/	Code 1
382	Dugoan	*Myristica philippinensis*	24	4	0.11	561165	981225		/	Code 1
383	Apitong	*D. grandiflorous*	52	16	2.11	561153	981229		/	Code 1
384	Apitong	*D. grandiflorous*	44	8	0.75	561119	981245		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: LIONHEART FARMs (PHILIPPINES) CORPORATION
Location of the Area: SO. BALEN-BALEN, BGY. RANSANG, RIZAL, PAL.
Title No.: N/A
Area inventoried: 3, 500 hectares
Date of Inventory: August 14 - 23, 2019
Lot No.: N/A

BLOCK II										
Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location (GPS		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
385	Apitong	*D. grandiflorous*	40	6	0.47	561117	981282		/	Code 1
386	Apitong	*D. grandiflorous*	38	6	0.42	561098	981280		/	Code 1
387	Apitong	*D. grandiflorous*	32	6	0.30	561088	981259		/	Code 1
388	Apitong	*D. grandiflorous*	54	10	1.42	561070	981261		/	Code 1
389	Kandong	*Miscellaneous Species*	30	5	0.22	561104	981245		/	Code 1
390	Tipolo	*Artocarpus incisa*	28	6	0.23	561147	981265		/	Code 1
391	Apitong	*D. grandiflorous*	60	10	1.75	561175	981239		/	Code 1
392	Damak	*Miscellaneous Species*	28	4	0.15	561201	981267		/	Code 1
393	Apitong	*D. grandiflorous*	40	8	0.62	561250	981261		/	Code 1
394	Latangan	*Miscellaneous Species*	26	6	0.20	561286	981277		/	Code 1
395	Asang Asang	*Miscellaneous Species*	48	5	0.56	561319	981289		/	Code 1
396	Kandong	*Miscellaneous Species*	30	5	0.22	561329	981237		/	Code 1
397	Manahur	*Miscellaneous Species*	32	3	0.15	561337	981234		/	Code 1
398	Asang Asang	*Miscellaneous Species*	46	6	0.62	561379	981253		/	Code 1
399	Manahur	*Miscellaneous Species*	18	8	0.13	561391	981218		/	Code 1
400	Manahur	*Miscellaneous Species*	44	6	0.57	561410	981271		/	Code 1
401	Batino	*Alstonia macrophylla*	48	10	1.12	560863	981920		/	Code 1
402	Apitong	*D. grandiflorous*	42	10	0.86	560871	981898		/	Code 1
403	Apitong	*D. grandiflorous*	42	10	0.86	560879	981911		/	Code 1
404	Apitong	*D. grandiflorous*	48	12	1.35	560879	981925		/	Code 1
405	Apitong	*D. grandiflorous*	48	10	1.12	560896	981931		/	Code 1
406	Latangan	*Miscellaneous Species*	42	5	0.43	560904	981900		/	Code 1
407	Sahing	*Canarium asperum*	30	10	0.44	560912	981928		/	Code 1
408	Kandong	*Miscellaneous Species*	56	10	1.53	560913	981948		/	Code 1
409	Aripa	*Miscellaneous Species*	34	10	0.56	560958	981926		/	Code 1
410	Damak	*Miscellaneous Species*	34	3	0.17	560926	981902		/	Code 1
411	Batino	*Alstonia macrophylla*	38	4	0.28	560936	981881		/	Code 1
412	Amugis	*Koordersiodension pinnatum*	60	10	1.75	560954	981880		/	Code 1
413	Apitong	*D. grandiflorous*	26	4	0.13	560982	981888		/	Code 1
414	Apitong	*D. grandiflorous*	28	6	0.23	560981	981906		/	Code 1
415	Gisok	*S. guiso*	35	6	0.36	561016	981892		/	Code 1
416	Kalasa	*Miscellaneous Species*	30	3	0.13	561015	981902		/	Code 1
417	Kamagong	*D. philippensis*	30	12	0.53	560996	981917		/	Code 1
418	Tarimpusuan	*Miscellaneous Species*	30	4	0.18	560991	981935		/	Code 1
419	Batino	*Alstonia macrophylla*	25	5	0.15	561014	981932		/	Code 1
420	Baris	*Miscellaneous Species*	32	6	0.30	561040	981920		/	Code 1
421	Batino	*Alstonia macrophylla*	40	6	0.47	561034	981934		/	Code 1
422	Sahing	*Canarium asperum*	26	4	0.13	561051	981913		/	Code 1
423	Kamagong	*D. philippensis*	30	12	0.53	561060	981896		/	Code 1
424	Apitong	*D. grandiflorous*	70	14	3.34	561050	981882		/	Code 1
425	Baris	*Miscellaneous Species*	40	10	0.78	561071	981873		/	Code 1
426	Dita	*A. scholaris*	48	10	1.12	561068	981850		/	Code 1
427	Dita	*A. scholaris*	48	10	1.12	561034	981867		/	Code 1
428	Kamagong	*D. philippensis*	38	10	0.70	561013	981872		/	Code 1
429	Apitong	*D. grandiflorous*	52	12	1.58	560998	981870		/	Code 1
430	Apitong	*D. grandiflorous*	60	14	2.46	561038	981831		/	Code 1
431	Amugis	*Koordersiodension pinnatum*	18	6	0.09	561054	981831		/	Code 1
432	Tarimpusuan	*Miscellaneous Species*	32	4	0.20	561055	981818		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION**
Location of the Area: **SO. BALEN-BALEN, BGY. RANSANG, RIZAL, PAL.**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK II

Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location (GPS		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
433	Amugis	*Koordersiodension pinnatum*	30	6	0.26	561052	981808		/	Code 1
434	Batino	*Alstonia macrophylla*	35	5	0.30	560980	981843		/	Code 1
435	Apitong	*D. grandiflorous*	58	12	1.97	560970	981846		/	Code 1
436	Kubi	*A. nitida*	30	4	0.18	560944	981843		/	Code 1
437	Tarimpusuan	*Miscellaneous Species*	28	4	0.15	560951	981826		/	Code 1
438	Akle	*Serialbizia acle*	15	4	0.04	560942	981810		/	Code 1
439	Batino	*Alstonia macrophylla*	32	8	0.40	560951	981804		/	Code 1
440	Kubi	*A. nitida*	15	5	0.05	560940	981789		/	Code 1
441	Malakugon	*Miscellaneous Species*	16	4	0.05	560958	981775		/	Code 1
442	Kandong	*Miscellaneous Species*	15	4	0.04	560964	981756		/	Code 1
443	Molave	Vitex parviflora	46	5	0.52	560963	981744		/	Code 1
444	Amugis	*Koordersiodension pinnatum*	16	4	0.05	560955	981733		/	Code 1
445	Batino	*Alstonia macrophylla*	16	4	0.05	561128	981741		/	Code 1
446	Batino	*Alstonia macrophylla*	22	10	0.24	561143	981734		/	Code 1
447	Kubi	*A. nitida*	16	4	0.05	561164	981715		/	Code 1
448	Batino	*Alstonia macrophylla*	32	10	0.50	561146	981712		/	Code 1
449	Malakugon	*Miscellaneous Species*	22	4	0.09	561122	981714		/	Code 1
450	Amugis	*Koordersiodension pinnatum*	20	4	0.08	561127	981700		/	Code 1
451	Tipolo	*Artocarpus incisa*	24	10	0.28	561157	981697		/	Code 1
452	Batino	*Alstonia macrophylla*	48	10	1.12	561146	981688		/	Code 1
453	Purdakan	*Miscellaneous Species*	24	5	0.14	561124	981684		/	Code 1
454	Akle	*Serialbizia acle*	15	6	0.07	561108	981686		/	Code 1
455	Asang Asang	*Miscellaneous Species*	20	4	0.08	561147	981639		/	Code 1
456	Akle	*Serialbizia acle*	15	6	0.07	561134	981636		/	Code 1
457	Maranggo	Azadirachta excelsa	44	6	0.57	561150	981629		/	Code 1
458	Labning	*Miscellaneous Species*	15	3	0.03	561184	981616		/	Code 1
459	Takip Asin	*Macaranga grandifolia*	20	5	0.10	561193	981618		/	Code 1
460	Aripa	*Miscellaneous Species*	22	4	0.09	561203	981606		/	Code 1
461	Kandong	*Miscellaneous Species*	20	4	0.08	561203	981594		/	Code 1
462	Aripa	*Miscellaneous Species*	40	10	0.78	561216	981589		/	Code 1
463	Kamagong	*D. philippensis*	18	6	0.09	561202	981569		/	Code 1
464	Dita	*A. scholaris*	60	14	2.46	561190	981572		/	Code 1
465	Salasan	*Crypteronia*	40	8	0.62	561183	981587		/	Code 1
466	Salasan	*Crypteronia*	36	5	0.32	561165	981596		/	Code 1
467	Kubi	*A. nitida*	28	4	0.15	561151	981610		/	Code 1
468	Malakugon	*Miscellaneous Species*	18	5	0.08	561135	981599		/	Code 1
469	Malakugon	*Miscellaneous Species*	20	3	0.06	561127	981611		/	Code 1
470	Banglas	*Miscellaneous Species*	20	3	0.06	561116	981605		/	Code 1
471	Antipolo	*Artocarpus blancio*	20	6	0.12	561116	981595		/	Code 1
472	Aripa	*Miscellaneous Species*	40	10	0.78	561107	981588		/	Code 1
473	Kalasa	*Miscellaneous Species*	38	5	0.35	561107	981577		/	Code 1
474	Kamagong	*D. philippensis*	22	8	0.19	561127	981574		/	Code 1
475	Banglas	*Miscellaneous Species*	22	10	0.24	561141	981572		/	Code 1
476	Kalasa	*Miscellaneous Species*	32	4	0.20	561155	981571		/	Code 1
477	Kalasa	*Miscellaneous Species*	36	6	0.38	561174	981566		/	Code 1
478	Tarimpusuan	*Miscellaneous Species*	30	4	0.18	561204	981550		/	Code 1
479	Kalasa	*Miscellaneous Species*	38	8	0.56	561118	981550		/	Code 1
480	Kalasa	*Miscellaneous Species*	38	8	0.56	559929	982802		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION**
Location of the Area: **SO. BALEN-BALEN, BGY. RANSANG, RIZAL, PAL.**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK II										
Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location (GPS		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
481	Kubi	*A. nitida*	34	6	0.34	559911	982831		/	Code 1
482	Damak	*Miscellaneous Species*	65	10	2.06	559934	982851		/	Code 1
483	Kalasa	*Miscellaneous Species*	15	3	0.03	559950	982835		/	Code 1
484	Apitong	*D. grandiflorous*	42	12	1.03	559976	982837		/	Code 1
485	Kamagong	*D. philippensis*	16	6	0.07	559988	982815		/	Code 1
486	Kubi	*A. nitida*	32	6	0.30	559988	982874		/	Code 1
487	Latangan	*Miscellaneous Species*	30	6	0.26	559976	982904		/	Code 1
488	Antipolo	*Artocarpus blancio*	40	12	0.94	560011	982928		/	Code 1
489	Kubi	*A. nitida*	18	8	0.13	560045	982908		/	Code 1
490	Antipolo	*Artocarpus blancio*	48	6	0.67	560099	982881		/	Code 1
491	Bansalangin	*Mimusops elengi*	15	6	0.07	560120	982859		/	Code 1
492	Amugis	*Koordersiodension pinnatum*	30	5	0.22	560134	982841		/	Code 1
493	Kalasa	*Miscellaneous Species*	20	6	0.12	560168	982839		/	Code 1
494	Latangan	*Miscellaneous Species*	28	3	0.11	560146	982885		/	Code 1
495	Malakugon	*Miscellaneous Species*	20	4	0.08	560146	982918		/	Code 1
496	Batino	*Alstonia macrophylla*	20	8	0.16	560207	982908		/	Code 1
497	Amugis	*Koordersiodension pinnatum*	20	6	0.12	560207	982877		/	Code 1
498	Aripa	*Miscellaneous Species*	120	16	11.23	560259	982906		/	Code 1
499	Amugis	*Koordersiodension pinnatum*	26	8	0.26	560223	982934		/	Code 1
500	Antipolo	*Artocarpus blancio*	26	8	0.26	560271	982936		/	Code 1
501	Kalasa	*Miscellaneous Species*	30	8	0.35	560279	982906		/	Code 1
502	Bansalangin	*Mimusops elengi*	15	8	0.09	560285	982867		/	Code 1
503	Apitong	*D. grandiflorous*	24	6	0.17	560265	982836		/	Code 1
504	Dita	*A. scholaris*	60	12	2.11	560235	982839		/	Code 1
505	Latangan	*Miscellaneous Species*	20	6	0.12	560219	982818		/	Code 1
506	Dita	*A. scholaris*	44	8	0.75	560196	982802		/	Code 1
507	Latangan	*Miscellaneous Species*	28	6	0.23	560202	982776		/	Code 1
508	Malakugon	*Miscellaneous Species*	20	6	0.12	560281	982775		/	Code 1
509	Aripa	*Miscellaneous Species*	30	10	0.44	560293	982782		/	Code 1
510	Kalasa	*Miscellaneous Species*	26	6	0.20	560326	982783		/	Code 1
511	Bolong Eta	*D. pilosanthera*	18	4	0.06	560324	982755		/	Code 1
512	Antipolo	*Artocarpus blancio*	22	8	0.19	560305	982741		/	Code 1
513	Antipolo	*Artocarpus blancio*	20	6	0.12	560245	982735		/	Code 1
514	Kalasa	*Miscellaneous Species*	24	10	0.28	560297	982723		/	Code 1
515	Tarimpusuan	*Miscellaneous Species*	28	5	0.19	560315	982672		/	Code 1
516	Tipolo	*Artocarpus incisa*	36	12	0.76	560340	982708		/	Code 1
517	Aripa	*Miscellaneous Species*	36	14	0.88	560356	982733		/	Code 1
518	Bolong Eta	*D. pilosanthera*	38	10	0.70	560384	982726		/	Code 1
519	Antipolo	*Artocarpus blancio*	20	8	0.16	560384	982698		/	Code 1
520	Antipolo	*Artocarpus blancio*	18	6	0.09	560372	982678		/	Code 1
521	Kubi	*A. nitida*	15	3	0.03	560354	982641		/	Code 1
522	Antipolo	*Artocarpus blancio*	22	4	0.09	560340	982645		/	Code 1
523	Tipolo	*Artocarpus incisa*	48	12	1.35	560325	982609		/	Code 1
524	Aripa	*Miscellaneous Species*	34	6	0.34	560337	982610		/	Code 1
525	Dita	*A. scholaris*	32	8	0.40	560362	982619		/	Code 1
526	Antipolo	*Artocarpus blancio*	35	4	0.24	560398	982627		/	Code 1
527	Apitong	*D. grandiflorous*	120	14	9.83	560420	982678		/	Code 1
528	Kamagong	*D. philippensis*	32	5	0.25	560426	982659		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION**
Location of the Area: **SO. BALEN-BALEN, BGY. RANSANG, RIZAL, PAL.**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK II

Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location (GPS		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
529	Karamputi	*Miscellaneous Species*	20	5	0.10	560418	982633		/	Code 1
530	Aripa	*Miscellaneous Species*	48	10	1.12	560449	982635		/	Code 1
531	Baris	*Miscellaneous Species*	50	8	0.97	560459	982627		/	Code 1
532	Baris	*Miscellaneous Species*	20	6	0.12	560467	982602		/	Code 1
533	Mountain Agoho	Gymnostama rumphiana	18	4	0.06	560477	982612		/	Code 1
534	Mountain Agoho	Gymnostama rumphiana	20	3	0.06	560507	982600		/	Code 1
535	Mountain Agoho	Gymnostama rumphiana	15	5	0.05	560487	982580		/	Code 1
536	Mountain Agoho	Gymnostama rumphiana	15	4	0.04	560449	982559		/	Code 1
537	Batino	*Alstonia macrophylla*	15	3	0.03	560418	982568		/	Code 1
538	Mountain Agoho	Gymnostama rumphiana	20	5	0.10	560356	982578		/	Code 1
539	Batino	*Alstonia macrophylla*	30	5	0.22	560534	982594		/	Code 1
540	Apitong	*D. grandiflorous*	60	16	2.81	560556	982600		/	Code 1
541	Mountain Agoho	Gymnostama rumphiana	15	4	0.04	560580	982630		/	Code 1
542	Damak	*Miscellaneous Species*	40	5	0.39	560586	982639		/	Code 1
543	Manahur	*Miscellaneous Species*	18	3	0.05	560606	982659		/	Code 1
544	Baris	*Miscellaneous Species*	46	10	1.03	560633	982669		/	Code 1
545	Talisay	*Terminalia catappa*	34	10	0.56	560651	982673		/	Code 1
546	Latangan	*Miscellaneous Species*	20	4	0.08	560697	982679		/	Code 1
547	Batino	*Alstonia macrophylla*	40	4	0.31	560687	982704		/	Code 1
548	Batino	*Alstonia macrophylla*	20	3	0.06	560665	982716		/	Code 1
549	Talisay	*Terminalia catappa*	54	12	1.71	560663	982748		/	Code 1
550	Manahur	*Miscellaneous Species*	56	8	1.22	560647	982750		/	Code 1
551	Mountain Agoho	Gymnostama rumphiana	50	16	1.95	560635	982785		/	Code 1
552	Mountain Agoho	Gymnostama rumphiana	15	4	0.04	560607	982787		/	Code 1
553	Batino	*Alstonia macrophylla*	32	3	0.15	560574	982806		/	Code 1
554	Batino	*Alstonia macrophylla*	20	3	0.06	560568	982806		/	Code 1
555	Mountain Agoho	Gymnostama rumphiana	15	3	0.03	560540	982824		/	Code 1
556	Aripa	*Miscellaneous Species*	28	5	0.19	560499	982830		/	Code 1
557	Mountain Agoho	Gymnostama rumphiana	26	10	0.33	560455	982844		/	Code 1
558	Apitong	*D. grandiflorous*	110	16	9.44	560437	982832		/	Code 1
559	Apitong	*D. grandiflorous*	56	12	1.83	560437	982855		/	Code 1
560	Batino	*Alstonia macrophylla*	28	4	0.15	560421	982863		/	Code 1
561	Batino	*Alstonia macrophylla*	36	3	0.19	560370	982859		/	Code 1
562	Batino	*Alstonia macrophylla*	26	3	0.10	560388	982887		/	Code 1
563	Batino	*Alstonia macrophylla*	34	4	0.23	560413	982910		/	Code 1
564	Tarimpusuan	*Miscellaneous Species*	36	3	0.19	560443	982885		/	Code 1
565	Mountain Agoho	Gymnostama rumphiana	15	3	0.03	560366	982928		/	Code 1
566	Batino	*Alstonia macrophylla*	24	4	0.11	560344	982971		/	Code 1
567	Latangan	*Miscellaneous Species*	15	3	0.03	560314	982987		/	Code 1
568	Mountain Agoho	Gymnostama rumphiana	16	3	0.04	560302	983026		/	Code 1
569	Batino	*Alstonia macrophylla*	20	3	0.06	560322	983064		/	Code 1
570	Batino	*Alstonia macrophylla*	26	3	0.10	560334	983089		/	Code 1
571	Apitong	*D. grandiflorous*	62	14	2.62	560312	983105		/	Code 1
572	Antipolo	*Artocarpus blancio*	22	8	0.19	560346	983097		/	Code 1
573	Antipolo	*Artocarpus blancio*	22	6	0.14	560397	983266		/	Code 1
574	Antipolo	*Artocarpus blancio*	26	8	0.26	560425	983278		/	Code 1
575	Sahing	*Canarium asperum*	22	4	0.09	560452	983270		/	Code 1
576	Apitong	*D. grandiflorous*	68	16	3.61	560462	983263		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent:	**LIONHEART FARMs (PHILIPPINES) CORPORATION**	Area inventoried:	**3, 500 hectares**
Location of the Area:	**SO. BALEN-BALEN, BGY. RANSANG, RIZAL, PAL.**	Date of Inventory:	**August 14 - 23, 2019**
Title No.:	**N/A**	Lot No.:	**N/A**

BLOCK II									
Tree No.	Species	*Scientific Name*	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location (GPS		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
577	Apitong	*D. grandiflorous*	58	10	1.64	560472	983237		/	Code 1
578	Batino	*Alstonia macrophylla*	32	3	0.15	560441	983233		/	Code 1
579	Tarimpusuan	*Miscellaneous Species*	50	5	0.61	560445	983139		/	Code 1
580	Baris	*Miscellaneous Species*	20	3	0.06	560431	983182		/	Code 1
581	Asang Asang	*Miscellaneous Species*	18	3	0.05	560460	983178		/	Code 1
582	Baris	*Miscellaneous Species*	26	4	0.13	560492	983200		/	Code 1
583	Apitong	*D. grandiflorous*	38	8	0.56	560472	983091		/	Code 1
584	Batino	*Alstonia macrophylla*	15	4	0.04	560500	983074		/	Code 1
585	Batino	*Alstonia macrophylla*	18	3	0.05	560524	983070		/	Code 1
586	Asang Asang	*Miscellaneous Species*	16	3	0.04	560544	983056		/	Code 1
587	Baris	*Miscellaneous Species*	24	4	0.11	560583	983042		/	Code 1
588	Baris	*Miscellaneous Species*	30	3	0.13	560613	983013		/	Code 1
589	Antipolo	*Artocarpus blancio*	20	3	0.06	560625	983023		/	Code 1
590	Antipolo	*Artocarpus blancio*	16	3	0.04	560657	982960		/	Code 1
591	Ipil	*Intsia bijuga*	20	4	0.08	560686	982929		/	Code 1
592	Purdakan	*Miscellaneous Species*	40	4	0.31	560692	982915		/	Code 1
593	Purdakan	*Miscellaneous Species*	28	3	0.11	560716	982911		/	Code 1
594	Talisay	*Terminalia catappa*	40	3	0.23	560762	982937		/	Code 1
595	Sahing	*Canarium asperum*	42	5	0.43	560752	982960		/	Code 1
596	Kalasa	*Miscellaneous Species*	46	10	1.03	560726	982992		/	Code 1
597	Antipolo	*Artocarpus blancio*	38	8	0.56	560700	983023		/	Code 1
598	Antipolo	*Artocarpus blancio*	48	10	1.12	560706	983041		/	Code 1
599	Antipolo	*Artocarpus blancio*	44	6	0.57	560746	983003		/	Code 1
600	Batino	*Alstonia macrophylla*	16	3	0.04	560760	982982		/	Code 1
601	Salasan	*Crypteronia*	22	3	0.07	560768	982944		/	Code 1
602	Antipolo	*Artocarpus blancio*	38	6	0.42	560777	982891		/	Code 1
603	Antipolo	*Artocarpus blancio*	20	5	0.10	560627	982879		/	Code 1
604	Antipolo	*Artocarpus blancio*	20	6	0.12	561363	981780		/	Code 1
605	Aripa	*Miscellaneous Species*	28	4	0.15	561356	981775		/	Code 1
606	Molave	*Vitex parviflora*	16	3	0.04	561354	981752		/	Code 1
607	Antipolo	*Artocarpus blancio*	18	3	0.05	561342	981757		/	Code 1
608	Bansalangin	*Mimusops elengi*	24	4	0.11	561324	981747		/	Code 1
609	Amugis	*Koordersiodension pinnatum*	40	8	0.62	561331	981729		/	Code 1
610	Latangan	*Miscellaneous Species*	40	14	1.09	561350	981728		/	Code 1
611	Antipolo	*Artocarpus blancio*	38	15	1.06	561367	981726		/	Code 1
612	Baris	*Miscellaneous Species*	40	10	0.78	561377	981714		/	Code 1
613	Bolong Eta	*D. pilosanthera*	21	4	0.09	561374	981701		/	Code 1
614	Batino	*Alstonia macrophylla*	38	8	0.56	561355	981704		/	Code 1
615	Latangan	*Miscellaneous Species*	30	6	0.26	561322	981719		/	Code 1
616	Kalasa	*Miscellaneous Species*	45	15	1.48	561285	981704		/	Code 1
617	Amugis	*Koordersiodension pinnatum*	60	10	1.75	561300	981699		/	Code 1
618	Baris	*Miscellaneous Species*	18	3	0.05	561325	981690		/	Code 1
619	Apitong	*D. grandiflorous*	64	14	2.79	561348	981683		/	Code 1
620	Amugis	*Koordersiodension pinnatum*	22	4	0.09	561361	981666		/	Code 1
621	Batino	*Alstonia macrophylla*	20	3	0.06	561376	981670		/	Code 1
622	Apitong	*D. grandiflorous*	80	16	4.99	561363	981617		/	Code 1
623	Aripa	*Miscellaneous Species*	26	5	0.16	561344	981626		/	Code 1
624	Antipolo	*Artocarpus blancio*	26	6	0.20	561333	981641		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION**
Location of the Area: **SO. BALEN-BALEN, BGY. RANSANG, RIZAL, PAL.**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK II									
Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location (GPS		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
625	Talisay	*Terminalia catappa*	50	20	2.44	561318	981643		/	Code 1
626	Aripa	*Miscellaneous Species*	40	15	1.17	561295	981659		/	Code 1
627	Antipolo	*Artocarpus blancio*	26	6	0.20	561283	981669		/	Code 1
628	Talisay	*Terminalia catappa*	50	25	3.05	561274	981660		/	Code 1
629	Sahing	*Canarium asperum*	22	6	0.14	561279	981641		/	Code 1
630	Apitong	*D. grandiflorous*	80	25	7.80	561297	981641		/	Code 1
631	Talisay	*Terminalia catappa*	100	25	12.19	561308	981627		/	Code 1
632	Apitong	*D. grandiflorous*	66	16	3.40	561323	981614		/	Code 1
633	Talisay	*Terminalia catappa*	68	14	3.16	561329	981608		/	Code 1
634	Apitong	*D. grandiflorous*	46	12	1.24	561331	981592		/	Code 1
635	Amugis	*Koordersiodension pinnatum*	64	10	2.00	561361	981595		/	Code 1
636	Sahing	*Canarium asperum*	25	8	0.24	561352	981576		/	Code 1
637	Batino	*Alstonia macrophylla*	38	10	0.70	561351	981562		/	Code 1
638	Batino	*Alstonia macrophylla*	43	10	0.90	561372	981577		/	Code 1
639	Talisay	*Terminalia catappa*	55	20	2.95	561592	981672		/	Code 1
640	Nato	*Palaquium luzoniense*	34	10	0.56	561592	981649		/	Code 1
641	Talisay	*Terminalia catappa*	70	20	4.78	561609	981663		/	Code 1
642	Latangan	*Miscellaneous Species*	23	8	0.21	561630	981685		/	Code 1
643	Manahur	*Miscellaneous Species*	28	10	0.38	561635	981678		/	Code 1
644	Antipolo	*Artocarpus blancio*	30	12	0.53	561659	981687		/	Code 1
645	Kamagong	*D. philippensis*	32	12	0.60	561668	981696		/	Code 1
646	Antipolo	*Artocarpus blancio*	24	8	0.22	561721	981684		/	Code 1
647	Sahing	*Canarium asperum*	42	14	1.20	561693	981671		/	Code 1
648	Dita	*A. scholaris*	60	15	2.63	561704	981694		/	Code 1
649	Kamagong	*D. philippensis*	40	20	1.56	561740	981650		/	Code 1
650	Batino	*Alstonia macrophylla*	54	16	2.27	561718	981635		/	Code 1
651	Asang Asang	*Miscellaneous Species*	20	10	0.19	561757	981619		/	Code 1
652	Apitong	*D. grandiflorous*	45	12	1.18	561734	981604		/	Code 1
653	Amugis	*Koordersiodension pinnatum*	48	10	1.12	561695	981614		/	Code 1
654	Antipolo	*Artocarpus blancio*	48	6	0.67	561661	981614		/	Code 1
655	Antipolo	*Artocarpus blancio*	40	10	0.78	561670	981592		/	Code 1
656	Kalasa	*Miscellaneous Species*	20	6	0.12	561707	981556		/	Code 1
657	Kandong	*Miscellaneous Species*	70	10	2.39	561673	981534		/	Code 1
658	Kandong	*Miscellaneous Species*	20	8	0.16	561649	981532		/	Code 1
659	Nato	*Palaquium luzoniense*	50	20	2.44	561656	981508		/	Code 1
660	Apitong	*D. grandiflorous*	52	14	1.85	561640	981483		/	Code 1
661	Antipolo	*Artocarpus blancio*	24	6	0.17	561614	981509		/	Code 1
662	Damak	*Miscellaneous Species*	30	3	0.13	561614	981525		/	Code 1
663	Nato	*Palaquium luzoniense*	70	20	4.78	561600	981536		/	Code 1
664	Apitong	*D. grandiflorous*	45	15	1.48	561619	981473		/	Code 1
665	Damak	*Miscellaneous Species*	36	4	0.25	561646	981468		/	Code 1
666	Talisay	*Terminalia catappa*	110	20	11.80	561403	981490		/	Code 1
667	Aripa	*Miscellaneous Species*	40	15	1.17	561351	981486		/	Code 1
668	Kalasa	*Miscellaneous Species*	46	10	1.03	561368	981503		/	Code 1
669	Talisay	*Terminalia catappa*	50	25	3.05	561379	981483		/	Code 1
670	Antipolo	*Artocarpus blancio*	38	8	0.56	561385	981512		/	Code 1
671	Apitong	*D. grandiflorous*	80	25	7.80	561408	981510		/	Code 1
672	Talisay	*Terminalia catappa*	100	25	12.19	561416	981498		/	Code 1

TREE INVENTORY TALLY SHEET
(Tree with DBH/DAB 15 cm and larger)

Name of Proponent: **LIONHEART FARMs (PHILIPPINES) CORPORATION**
Location of the Area: **SO. BALEN-BALEN, BGY. RANSANG, RIZAL, PAL.**
Title No.: **N/A**
Area inventoried: **3, 500 hectares**
Date of Inventory: **August 14 - 23, 2019**
Lot No.: **N/A**

BLOCK II										
Tree No.	Species	Scientific Name	DBH (cm)	Height (m)	Volume (cu.m)	Tree Location (GPS		Tree Category		Stem Quality
						Northing	Easting	Planted	Natural	
673	Damak	*Miscellaneous Species*	45	5	0.49	561432	981514		/	Code 1
674	Antipolo	*Artocarpus blancio*	38	8	0.56	561452	981502		/	Code 1
675	Antipolo	*Artocarpus blancio*	48	10	1.12	561492	981497		/	Code 1
676	Batino	*Alstonia macrophylla*	16	3	0.04	561475	981521		/	Code 1
677	Antipolo	*Artocarpus blancio*	40	10	0.78	561497	981480		/	Code 1
678	Repetek	*Kokoona orchracea*	40	15	1.17	561509	981468		/	Code 1
679	Nato	*Palaquium luzoniense*	50	20	2.44	561528	981457		/	Code 1
680	Talisay	*Terminalia catappa*	100	25	12.19	561510	981494		/	Code 1
681	Antipolo	*Artocarpus blancio*	20	5	0.10	561498	981514		/	Code 1
682	Tarimpusuan	*Miscellaneous Species*	28	4	0.15	561505	981530		/	Code 1
682	**TOTAL**				**956.62**					

Prepared and Inventoried by:

JOHN MARCELO S. DAYOLA
Forest Ranger

GEMS ASTERIO. ALFECHE
Forest Technician I

BALTAZAR A. ROGEL
Cartographer I

DJOANNA D. NATIVIDAD
LMI I

JOHN MICHAEL T. RODRIGUEZ
Forest Technician II

ARMANDO J. BATATO
Forest Technician II

SUBSCRIBED AND SWORN to before me this 29th day of August 2019 at CENRO Quezon, Palawan

RAMSES S. CASTILLO
For. I/Chief Util & Permitting

Stem Quality:
Code 1: *Straight, cyclindrical tree without visible defects or damage*
Code 2: *Tree with little defect or damage*
Code 3: *Tree with several defects or damage*

STAND & STOCK TABLE OF INVENTORIED TREES (BLOCK II) AT 20 % INTENSITY WITHIN THE AGRO-DEVELOPMENT PROJECT/JOINT VENTURE AGREEMENT OF LIONHEART FARMs PHILIPPINES CORPORATION LOCATED AT SITIO MALUTOR, BGY. RAWSANG, RIZAL, PALAWAN.

SPECIES	DIAMETER CLASS																						TOTAL	
	20		30		40		50		60		70		80		90		100		110		120			
	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	Total No. of Trees	Total Vol. (cu.m.)
A. APITONG GROUP																								
Apitong	1	0.17	4	0.92	10	7.85	12	18.00	12	27.33	6	19.70	4	26.20	3	17.37	1	15.60	1	9.44	1	9.83	56	152.41
B. NATO SPECIES																								
Nato	3	0.40	4	1.15	4	3.89	13	23.64	6	16.84	1	4.78	-	-	-	-	-	-	-	-	-	-	31	48.70
C. FURNITURE/CONSTRUCTION HARDWOOD																								
Alupag	5	1.10	1	0.35	2	2.70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	4.14
Amugis	6	0.57	4	0.98	1	0.62	1	1.12	3	5.51	-	-	-	-	-	-	-	-	-	-	-	-	15	8.80
Antipolo	16	1.95	5	1.45	10	6.47	4	3.59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	13.46
Balingasai	2	0.22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0.22
Bansalangin	5	0.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	0.44
Batino	13	0.99	10	2.15	8	3.72	3	4.52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	11.37
Bitanghol	2	0.38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0.38
Kubi	4	0.26	4	0.97	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	1.23
Mala Bayabas	-	-	3	0.92	-	-	-	-	1	1.35	-	-	-	-	-	-	-	-	-	-	-	-	4	2.27
Tallisay	4	0.36	4	1.70	5	2.43	34	86.47	4	10.60	9	28.75	1	4.37	6	41.14	18	207.15	6	65.53	-	-	91	448.49
D. PREMIUM SPECIES																								
Akle	3	0.18	2	0.70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	0.88
Bolong Eta	4	0.31	-	-	1	0.70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	1.01
Ipil	5	0.31	-	-	1	0.47	-	-	-	-	-	-	1	1.87	-	-	-	-	-	-	-	-	7	2.65
Kamagong	16	1.71	7	3.15	4	4.39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	9.24
Manggis	-	-	1	0.14	1	0.56	2	2.32	1	3.00	1	2.87	-	-	-	-	-	-	-	-	-	-	6	8.89
Molave	1	0.04	-	-	-	-	1	0.52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0.55
E. LESSER USED SPECIES																								
Duguan	7	0.58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	0.58
Putlan	4	0.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	0.19
Takip Asin	1	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0.10
F. MISCELLANEOUS SPECIES																								
Aripa	1	0.09	9	2.81	5	4.78	1	1.12	1	2.25	-	-	-	-	-	-	-	-	-	-	1	11.23	18	22.28
Asang Asang	7	0.48	6	4.63	3	2.56	-	-	3	2.37	-	-	-	-	-	-	-	-	-	-	-	-	19	10.04
Banglas	4	0.47	3	0.92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	1.39
Baris	11	0.89	6	1.43	3	1.77	3	3.71	-	-	-	-	-	-	-	-	1	5.85	-	-	-	-	24	13.65
Bastac	3	0.32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0.32
Baslayan	2	0.09	2	0.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	0.51
Damak	4	0.27	4	0.63	2	0.64	2	0.99	1	2.06	-	-	-	-	-	-	-	-	-	-	-	-	13	4.58
Gisok	3	0.10	2	0.46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	0.56
Kalasa	6	0.74	4	0.88	5	2.24	3	3.54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	7.40
Kalumpit	2	0.12	1	0.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0.42
Kandong	6	0.58	2	0.44	2	1.13	-	-	4	7.85	1	2.39	-	-	-	-	-	-	-	-	-	-	15	12.38
Karamputi	2	0.19	1	0.30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0.49
Labning	4	0.46	2	0.30	3	1.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	1.85
Latangan	7	0.81	11	2.42	3	2.30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	5.53
Mala Kugon	7	0.51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	0.51
Manahur	4	0.28	5	1.29	1	0.57	1	0.62	1	1.22	-	-	-	-	-	-	-	-	-	-	-	-	12	3.97
Maranggo	2	0.11	-	-	4	0.57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	0.68
Mountain Agoho	10	0.51	1	0.33	-	-	1	1.95	-	-	-	-	-	-	-	-	6	49.04	-	-	-	-	18	51.83

STAND & STOCK TABLE OF INVENTORIED TREES (BLOCK II) AT 20 % INTENSITY WITHIN THE AGRO-DEVELOPMENT PROJECT/JOINT VENTURE AGREEMENT OF LIONHEART FARMs PHILIPPINES CORPORATION LOCATED AT SITIO MALUTOK, BGY. RANSANG, RIZAL, PALAWAN.

SPECIES	DIAMETER CLASS																					
	20		30		40		50		60		70		80		90		100		110		120		TOTAL	
	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	No. of Trees	Vol. (cu.m.)	Total No. of Trees	Total Vol. (cu.m.)
Paho	-	-	1	0.50	1	0.84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1.34
Palomaria	1	0.08	2	0.38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0.46
Potat	3	0.26	1	0.23	2	1.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	1.75
Purdakan	2	0.20	3	0.34	3	0.94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	1.48
Repetek	2	0.27	1	0.23	14	12.36	2	2.19	6	21.06	7	7.64	-	-	-	-	-	-	-	-	-	-	32	43.75
Sahing	20	1.49	8	1.63	3	2.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	5.54
Salasa	1	0.07	-	-	1	0.94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1.01
Tipolo	5	1.15	3	0.82	2	1.60	1	1.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	4.93
Tarimpusuan	-	-	8	1.67	1	0.19	2	1.83	-	-	1	1.35	-	-	-	-	-	-	-	-	-	-	12	5.04
G. PULPWOOD/MATCHWOOD SPECIES																								
Dita	4	0.38	2	0.67	2	1.92	6	8.17	6	15.72	1	2.97	-	-	-	-	-	-	1	7.08	-	-	22	38.91
																					TOTAL		682	956.62

Prepared and Inventoried by:

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[redacted] J. BATAYO
Forest Technician II

SUBSCRIBED AND SWORN to before me this 27th day of [redacted] CENRO Quezon, Palawan

RAMSES A. CASTILLO
For: I/Chief Util & Permitting

This is to certify that the above Panoramic View photographs show the conducted Timber Inventory (Parcel 1) at 20% intensity within the Upland Agro-Forestry Project covered by Joint Venture Agreement (JVA) of Lionheart Farms Philippines Corporation (LFPC) located at Sitio Malutok, Bgy. Ransang, Rizal, Palawan.

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This is to certify that the above Geo-Tagged photographs show the conducted Timber Inventory (Parcel 1) at 20% intensity within the Upland Agro-Forestry Project covered by Joint Venture Agreement (JVA) of Lionheart Farms Philippines Corporation (LFPC) located at Sitio Malutok, Bgy. Ransang, Rizal, Palawan.

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This is to certify that the above Geo-Tagged photographs show the conducted Timber Inventory (Parcel 2) at 20% intensity within the Upland Agro-Forestry Project covered by Joint Venture Agreement (JVA) of Lionheart Farms Philippines Corporation (LFPC) located at Sitio Balen-Balen, Bgy. Ransang, Rizal, Palawan.

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Geo-Tagged photographs show the conducted survey of inland waters and demarcation of 20 meter area at both sides from river bank within the Upland Agro-Forestry Project covered by Joint Venture Agreement (JVA) of Lionheart Farms Philippines Corporation (LFPC) to be planted with indigenous forest trees for protection purposes, located at Bgys. Ransang and Candawaga, Rizal, Palawan.

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Annex B. Biodiversity Assessment of Center for Conservation Innovation (CCI)

Key Findings per Taxon

Trees

• A total of 52 species of trees were identified throughout Sitio Malutoc in Brgy. Ransang, Rizal, Palawan. Eight (8) of these are endemic to the Philippines. These includes Gisok-gisok (Hopea philippinensis), Malabayabas (Tristaniopsis decorticata), and Malasantol (Sandoricum vidalii).

• Nine (9) tree species are considered threatened under IUCN Red List (IUCN 2017-3). Examples are Gisok-gisok (Hopea philippinensis), which is classified as Critically Endangered (CR), and Apitong (Dipterocarpus grandiflorus), classified as Endangered (EN).

• The most dominant tree species recorded in the project site are: Antipolo (Artocarpus blancoi) and Katmon (Dillenia philippinensis) are classified as Vulnerable (VU) under IUCN. Other dominant species are Kamagong and Manggis.

Birds

• Fifty-seven (57) species of birds were recorded in the survey. Fourteen (14) species of birds are endemic to the Philippines. Of these, 11 birds occur only in the Palawan biogeographic region. These include two species of flycatchers, the Blue Paradise Flycatcher (Terpsiphone cyanescens) and the Palawan Blue Flycatcher (Cyornis lemprieri) and three species of bulbuls, the Ashy-fronted Bulbul (Pycnonotus cinereifrons) and the Palawan Bulbul (Alophoxius frater).

• A total of 38 bird species are resident while three species are migratory. Migratory species include the Arctic Warbler (Phylloscopus borealis), Eastern Cattle Egret (Bubulcus coromandus), and Purple Heron (Aldea purpurea).

• Five (5) species of birds are classified as Near Threatened (IUCN, 2017-3). These are the Blue-naped parrot (Tanygnathus luciocensis), Melodious babbler (Malacopteron palawanense), Palawan blue-flycatcher (Cyornis lemprieri), Palawan Scops-owl (Otus fuliginosus), and Palawan tit (Parus amabilis).

Mammals

• A total of five (5) species of mammals were identified during the survey, two of which are Palawan endemic. These are the Palawan Treeshrew (Tupaia palawanensis) and Palawan Spiny Rat (Maxomys panglima).

• The Palawan Treeshrew (T. palawanensis) is classified as Endangered (EN) under the DENR DAO 2004-5. It is also listed under Appendix II of CITES 2014.

Amphibians and Reptiles

• A total of 17 amphibians and reptiles were recorded during the survey conducted in Sitio Malutoc, Brgy. Ransang, Rizal, Palawan. Four (4) of which are notable being endemic to the Philippines. Of the four (4) endemic species, two (2) are found only in the islands of Palawan.

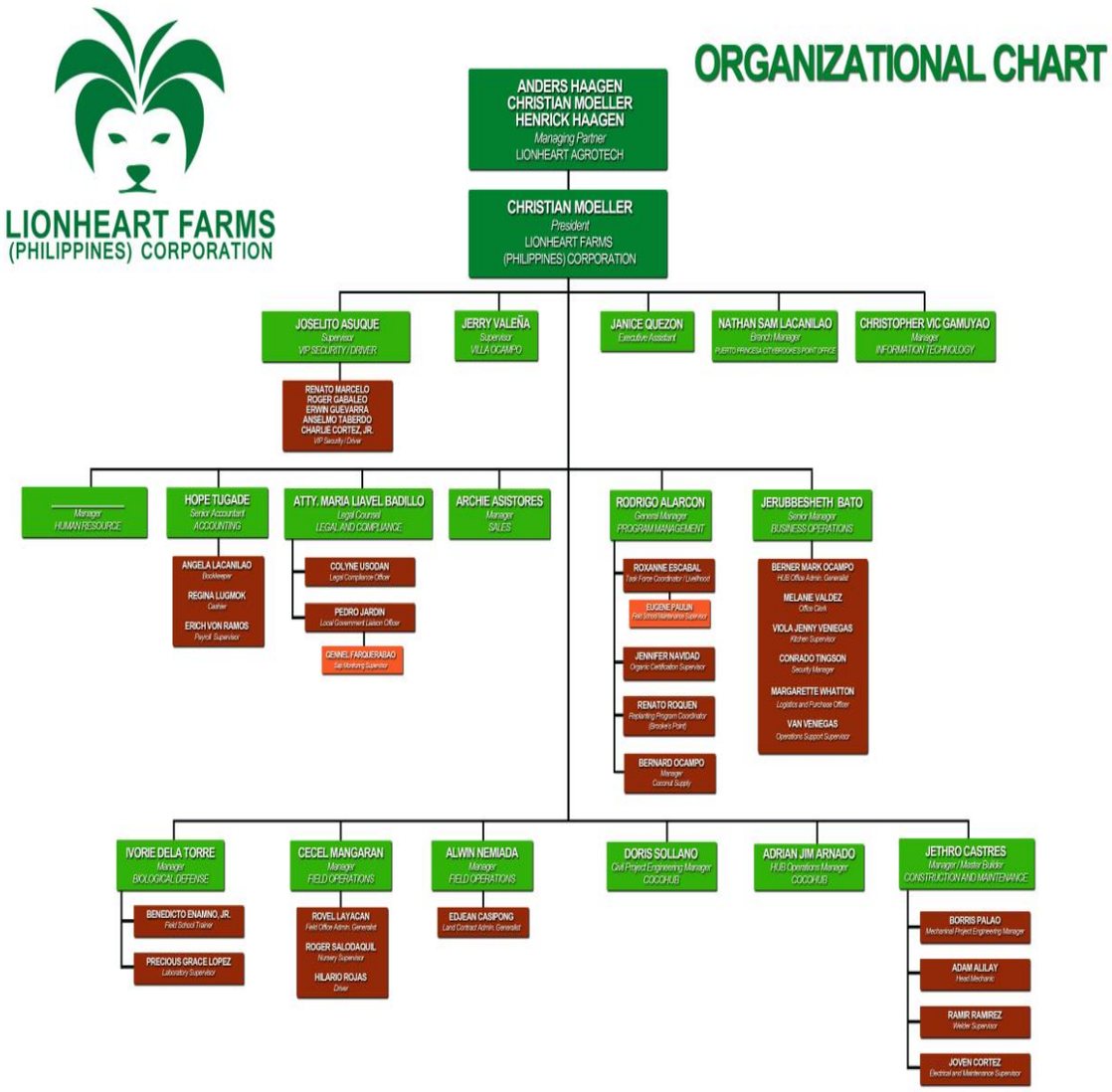
• The Palawan Horned Frog (Megophrys ligayae), which is endemic to the Balabac and Palawan islands was recorded. This species is classified as Endangered (EN) and is highly threatened by forest fragmentation, and unregulated disposal of herbicide and pesticide in riverine habitats (IUCN, 2017-3).

Soil Biodiversity

• A total of 33 insect Families falling under seven Orders were recorded during the survey. There were also two families of millipedes and centipedes, and arachnids. A single specimen of pseudoscorpion was also recorded.

• The main taxa of insects that was recorded are predators and detritivores. Abundance of detritivore taxa indicates that the soil in the area have high nutrient cycling capacity which in turn indicates high soil fertility.

• Sampling sites inside the forest area yield the most number of insect families despite the fragmentation, followed by the forest edge, agroforest, and riparian. The number of insect families recorded during the survey declined as the sampling area move to lower quality vegetation cover.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IVORIE DELA TORRE
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PRECIOUS GRACE LOPEZ
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FIELD OPERATIONS
ROVEL LAYACAN
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ROGER SALODAQUIL
Nursery Supervisor
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ADAM ALILAY
Head Mechanic
RAMIR RAMIREZ
Welder Supervisor
JOVEN CORTEZ
Electrical and Maintenance Supervisor

Figure 6

Figure 7. Summary of plans and schedules indicating all activities and physical Targets for the 25-year duration of the JVA

Activity/Particulars	Unit of Measure	Total target	2019	2020	2021	2022	2023
Nursery Operation/Seedling Production (including 10 % seedling replacement)							
-Coconut	Seedling	953,707	196,951	233,818	202,125	173,019	147,7
-Forest tree	Seedling	51,588	8,140	10,780	12,870	12,430	94
-Fruit bearing tree/agroforestry crop (SALT)	Seedling	1,100	220	330	220	330	8,25
-Forest tree for Enrichment Planting (EP)	Seedling	1,650	330	330	550	440	0
Plantation Establishment							
-Coconut w/in brush land	Hectare	2,838.22	600	700	600	500	438
-Coconut w/in annual crop (AC) land	Hectare	16.8375	2	5	5	5	
- Coconut w/in perennial crops (PC) land	Hectare	88.87	5	15	20	30	19
- Coconut w/in along inland	Hectare	5	2	3			
-Tree plantation w/in open forest (w/ANR)	Hectare	454.86	70	90	110	110	75
-Tree plantation w/in annual crops (AC) land	Hectare	16.8375	2	5	7	3	
-Tree plantation w/in perennial crops (PC) land	Hectare	4.937 5	2	3	2.5	2.5	
-Agroforestry plantation	Hectare						
Enrichment Planting							
-Along inland water	Hectare	15	3	3	5	4	
Maintenance and Protection							
-Coconut w/in brush land	Hectare	2,838.22	600	1,300	1,900	2,400	2,838
-Coconut w/in AC land	Hectare	16.8375	2	7	12	17	onwards
-Coconut w/in PC land	Hectare	88.87	5	20	40	70	89
-Coconut along inland water	Hectare	5	2	5	onwards	onwards	onwards
-Tree plantation w/in open forest (w/ANR)	Hectare	454.86	70	160	270	380	455
-Tree plantation w/in AC land	Hectare	16.8375	2	7	14	17	onwards
-Tree plantation w/in PC land	Hectare	4.937	2	5	Onwards	Onwards	onwards
-Agroforestry plantation (SALT)	Hectare	5			5	Onwards	onwards
-EP along inland water	Hectare	15	3	6	11	15	onwards
-Areas devoted to annual crops	Hectare	28.675			28.675	Onwards	onwards
-Areas devoted to perennial crops	Hectare	5			5	onwards	onwards