DENDROTONICS CORP

WHITE PAPER

Introduction

The Philippines is losing 12,853 hectares of forest cover per year[1]. Our conservation efforts do not appear to slow it down. Losing 12,853 hectares of forest cover per year means loss of biodiversity. Loss of biodiversity on a larger scale, leads to climate change catastrophes. Climate change impact is not a theoretical threat, it is tangible with a corresponding valuation in terms of economic losses brought about by the ever-increasing typhoons and droughts. According to the Climate Change and the Philippines Executive Brief 2018-01 "The country stands to lose 6% of its GDP annually by 2100 if it disregards climate change risks". This 6% has a 2020 equivalent of 22.6 billion US dollars or 1.13 trillion Philippine Pesos. Furthermore, "This same study found that if the Philippines invests 0.5% of its GDP by 2020 in climate change adaptation, it can avert losses of up to 4% of its GDP by 2100."

Zoonosis is another emergency attributed to biodiversity loss. Zoonosis is "an infection that has jumped from a non-human animal to humans. Zoonotic pathogens may be bacterial, viral or parasitic, or may involve unconventional agents and can spread to humans through direct contact or through food, water or the environment"[2]. Zoonosis includes diseases like HIV/AIDS, Dengue, Malaria, African Swine Fever, SARS and COVID-19. As of August 2021, the estimated loss in economic output due to COVID-19 is 3.94 trillion US Dollars or 197 trillion Philippine Pesos[3]. That is 523 times our national GDP. The rest of the zoonoses mentioned also exert considerable burden on the economy. Land use changes is the most common cause of zoonosis. This includes deforestation, illegal logging and kaingin. The fourth most common cause of zoonosis is Agricultural industry changes. This category includes rampant pesticide use and introduction of exotic species[4]. Following the discussion, zoonosis therefore is the cause of epidemics and pandemics, with pandemics having a larger, global scale.

The mathematics is simple, to prevent epidemics, pandemics and climate change, the causes need to be addressed. A conservative and regenerative approach to biodiversity has to be established with the utmost priority for native species. Now, if our conservation efforts are not slowing down our country's rate of deforestation, then we should intensify our propagation efforts. Propagation, as an intervention, is a step higher than conservation.

The development, therefore, of businesses centering around biodiversity restoration is not an option, it is an emergency. It is mandatory for survival.

The Bottom Line and the Higher Calling

Dendrotonics is a biodiversity restoration technology company. Biodiversity restoration means improving the local ecosystems. This involves reestablishing the native habitats of all life in a specified area. Everything starts with propagation and re-establishment of the Philippine native trees (**PNT**) as habitats. This consequently causes all other life forms to thrive, from the smallest of microbes, to animals, and most important of all, man.

The company was developed to address the unmet needs in climate change mitigation and biodiversity restoration. This includes sustainable development in terms of industry advancement, trickle down benefits like services and products creation, and livelihood generation.

Value Proposition

Dendrotonics leverages on the bottom lines to achieve the higher calling by using technology to makes the land profitable. Profitability ensures sustainable restoration efforts. These efforts focus on:

a. Developing the Philippine timber industry

   Wood is one of the most sustainable resources in the planet. Its value never depreciates and we can create an infinite amount for an unlimited demand. The Philippines has the potential to develop more than a 6.4B USD per year wood-based industry[5] using fast growing and highly valuable native timber species. Dendrotonics provides end to end services from sourcing to sales for this business line.

b. Developing our own Philippine Sakura Parks industry using native species

   Tree parks improve health and quality of life. Tourism can bring in yearly revenues of 6B USD[7] for the country. Dendrotonics provides the technology for developing our very own Sakura parks using native species. These parks can provide attractive blooms for the majority of the year.

c. Developing our own Agarwood production industry

   Conservative estimates computes profits for Agarwood production at 83M Php/hectare after 5 years. Agarwood is one of the most expensive raw materials with price ranges of 9,700.00 to 100,000.00 USD[8,9] per kilogram. Dendrotonics provides exclusive research-based technology for high-quality, high-volume agarwood production in the shortest amount of time. The company also provides end to end services from production to sales.

These business industries naturally interface with the following activities:

- Carbon offset projects
- Watershed rehabilitation
- Biodiversity education and curriculum engagement
- Agroforestry value chain and product development
- Forest protection and reforestation activities

Industry Potential

Philippine Timber Industry Potential

NEW ZEALAND[5]	**PHILIPPINES**
Top exporter of industrial wood	No formal timber industry
Land size 268,021 km²	Land size 300,000 km²
Shareholders include Chinese Government Manulife Sumitomo	Ongoing INREMP program
Produces Radiata Pine	We have White Lawaan
30-35 years to harvest	5-10 years to harvest
< 50 Php/board feet	80 Php/board feet
Earned 328B Php 2018	**Spent 24B Php on wood imports in 2020**[6]

Notes:
Our local species grow 3-6 times faster than New Zealand timber selection
Our local species sells higher than New Zealand timber selection
Potential earning for Philippine timber industry can be higher than 312B Php annually

Philippine Sakura Park Industry Potential

Japan[7]	**Philippines**
Main species: Cherry blossom	Main species: Multiple
Industry duration: 2 months/year	Industry duration: Up to 8 months/year
Market: Local and international	Market: Local and international
2018 Income: 6B USD	**We do not have a flower tourism industry**

Agarwood Production

a. Agarwood is a raw material used as incense by the Arab race, the Chinese, and Japanese. It is also made into perfume by perfumeries.
b. **One kilogram** of agarwood can have a buying range from 100 USD (**24,000 PHP**) to 100,000 USD (**4,800,000 PHP**)[8,9]

c. The black-market price of Agarwood in the Philippines is 200,000 PHP to 900,000 PHP per kilogram[10]
d. 134,976 kgs/year is the import volume of UAE for 2004-2006[11]. This value is expected to have increased. This value excludes the demand from the other 21 Arab countries, China, Japan and other Asian countries.

The Benefits

All activities mentioned utilize PNT species as its core. Development of these industries in the country will lead to increased forest cover of the right species. The other benefits also include:

- Increased GDP
- Climate change mitigation
- Epidemics and pandemics reduction
- Improved physical and mental health
- Trickle down benefits to the economy
- National recognition
- Influx of investors
- Wildlife restoration, yes, we consider plants, microbes, insects and animals as beneficiaries

Again, the development, therefore, of businesses centering around biodiversity restoration is not an option, it is an emergency. It is mandatory for survival.

Wonderful are your works, o Lord! – Psalm 92:5

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