

**WEBINAR PROCEEDINGS IN  
CONJUNCTION WITH THE  
INTERNATIONAL DAY OF  
FORESTS 2022**

---

# **FORESTS AND SUSTAINABLE PRODUCTION AND CONSUMPTION**

**21<sup>ST</sup> APRIL 2022 (THURSDAY)**

---

**HOSTED BY:**



**FORESTRY DEPARTMENT,  
MINISTRY OF PRIMARY RESOURCES  
AND TOURISM**

---

# Table of Contents

<b>BACKGROUND &amp; OBJECTIVES</b>	<b>3-4</b>
<b>WELCOMING REMARKS</b>	<b>5-6</b>
<b>MS. NORALINDA HAJI IBRAHIM</b> (Director of Forestry Department, Brunei Darussalam)	
<b>KEYNOTE ADDRESS</b>	
<b>MS. TUTIATY WAHAB</b> (Permanent Secretary at Ministry of Primary Resources and Tourism, Brunei Darussalam)	<b>7-10</b>
<b>PRESENTATION BY SPEAKERS (summary):</b>	
1. <b>MR. RENI HAJI YAHYA</b> (Acting Deputy Director of Forestry Department, Brunei Darussalam) <i>The Sustainable Forest Management in Brunei Darussalam</i>	<b>11</b>
2. <b>DR. MOHD ZAMRI BIN MAT AMIN</b> (Director at Malaysian Timber Industry Board) <i>Developing and Strengthening The Skills in Timber Industry</i>	<b>12</b>
3. <b>MR. HAJI RAHMAN CHUCHU</b> (CEO of Masrimba Sdn. Bhd.) <i>Sustainable Timber Industry in Brunei: Private Sector Perspective</i>	<b>13-14</b>
4. <b>MR. CHAN HOCK LAY</b> (CEO of TS Wood Sdn. Bhd) <i>Opportunities and Challenges: Development of Small Medium Wood-Based Industry in Brunei Darussalam</i>	<b>15</b>
5. <b>MR. SUPUN NIGAMUNI</b> (Head, Control Union Malaysia Management Team) <i>Promoting and Adapting Forest Certification as a Way Forward For Sustainable Production and Consumption of Forest in Brunei Darussalam</i>	<b>16</b>
6. <b>DR. ELIZABETH PHILIP</b> (Head, <i>Forests – Carbon Asset for Sustainable Economy in Facing Climate Change</i>	<b>17</b>
<b>CONCLUDING REMARKS</b>	<b>18-19</b>
<b>APPENDIXES</b>	
APPENDIX 1: WEBINAR PROGRAMME	<b>20-21</b>
APPENDIX 2: WEBINAR POWERPOINT SLIDES (RENI HAJI YAHYA)	<b>22-29</b>
APPENDIX 3: WEBINAR POWERPOINT SLIDES (DR. MOHD ZAMRI BIN MAT AMIN)	<b>30-44</b>
APPENDIX 4: WEBINAR POWERPOINT SLIDES (HAJI RAHMAN CHUCHU)	<b>45-55</b>
APPENDIX 5: WEBINAR POWERPOINT SLIDES (CHAN HOCK LAY)	<b>56-62</b>
APPENDIX 6: WEBINAR POWERPOINT SLIDES (SUPUN NIGAMUNI)	<b>63-79</b>
APPENDIX 7: WEBINAR POWERPOINT SLIDES (DR. ELIZABETH PHILIP)	<b>80-87</b>

---

## BACKGROUND

Forests are essential to life on Earth. They provide a broad range of goods and forest ecosystem services such as watershed services, clean air, carbon storage, habitats for all living organisms, scenic landscapes and many others. Forests also provide a wide range of necessities for our livelihood, among others, timber products, food for our sustenance and essential medicines. In relation to this, about 60% of the world's forests – approximately 2.4 billion hectares – are primarily and partially used for the production of wood and non-wood products and this consumption and production of forest products have continued to increase with the demand from population growth as well as with the advancement in the technology and machinery used particularly in the timber industry.

Over the decades, forest overexploitation and infrastructure development are driving rapid deforestation and forest degradation across the ASEAN region, and the problem is further exacerbated by climate change and extreme weather events. These challenges have put pressure on the timber resources and disrupt timber industries overall. Brunei Darussalam is no exception. Interests and expectations of different stakeholders demanding different goods and services from the forest ecosystem have created conflicts among the stakeholders hence put challenges in the forest management and use. This calls for concerted actions by the governments through policy intervention and cooperation of all relevant stakeholders to ensure that the forests are conserved, sustainably managed and provide just and equal environment, social and economic benefits for all beneficiaries to meet the needs of current and future generations.

Therefore, to discuss further on the fundamental ways in which forests can contribute to a sustainable timber industries, and their role as key enablers in a transition towards more sustainable consumption and production, The Forestry Department, Ministry of Primary Resources and Tourism in conjunction with the International Day of Forests 2022 will host a webinar with the theme “Forests and Sustainable Production and Consumption”.

---

## OBJECTIVES

The main objective of this Webinar is to bring together governments, private sectors and leading practitioners from non-government organizations to build a shared narrative and goals for all forests to a better future based on sustainable production and consumption of forests.

Other objectives of the webinar are as follows:

- To share knowledge and information on sustainable timber industries and green economies;
- To learn and disseminate tools and experience on current work and programmes related to timber industries;
- To jointly identify and discuss related issues, challenges and potential solutions including forest certification for sustainable timber resources; and
- To explore potential areas of collaborations, joint programmes and way forward.

---

## WELCOMING REMARKS

### NORALINDA HAJI IBRAHIM

*Director of Forestry, Forestry Department, Ministry of Primary Resources and Tourism*



Bismillah Hir Rahmanir Rahim,

Distinguished Keynote Speaker, Speakers, Participants, Ladies and Gentlemen

Assalamu'alaikum Warahmatullahi Wabarakatuh, Ramadan Al-Mubarak and a very Good Morning to all of you.

1. It is our pleasure to welcome you all in this virtual webinar in conjunction with the celebration of the International Day of Forests 2022.
2. We are honored to welcome our Key Speaker, Yang Mulia Dayang Hajah Tutiatty Binti Haji Abdul Wahab, the Permanent Secretary of the Ministry of Primary Resources and Tourism, Brunei Darussalam. Thank you so much for gracing this webinar.
3. We are also privileged to welcome our resource speakers, from the Control Union Certification Body, the Malaysian Timber Industry Board, the Forest Research Institute of Malaysia, and of course our local speakers from the Forestry Department, Syarikat Pembalakan Masrimba, and TS Wood Sdn Bhd. We thank you for your support to this webinar.
4. And to all the participants, both our local and regional guests, this webinar is for all of you. Thank you for your interests and support in participating in this webinar. We hope that this event would further our understanding with the sustainable management of our precious forest resources.

### Ladies and Gentlemen

5. The International Day of Forests is celebrated every 21<sup>st</sup> of March. It was proclaimed by the United Nations General Assembly in 2012. Basically, the International Day of Forests intends to raise awareness of the importance of all types of forests. Countries are encouraged to



---

undertake local, national, and international efforts to organize activities on forests and trees, such as this webinar.

6. Every year, the Collaborative Partnership on Forests – composed of several inter-agency partnerships of 15 international forests organizations and institutions, decides on the annual IDF theme. And for 2022, our International Day of Forests and this webinar’s theme, is “Forests and Sustainable Production and Consumption”.
7. The theme highlighted sustainable forest management and the use of forest resources as this plays a crucial role in our economic growth and thereby alleviates poverty and support the achievement of our Sustainable development Goals. Likewise, the theme also emphasizes sustainable consumption of forest resources to ensure the needs of the future generations.

#### **Ladies and Gentlemen**

8. This webinar supports the objectives of the International Day of Forests as we gather various stakeholders who value our forests and forest resources.
9. Specifically, this webinar intends to share information and knowledge on sustainable forest management and the development of green economies. We will be delighted to learn sustainable and efficient timber processing practices that would lead us forest product certifications.
10. The webinar would also identify potential areas and opportunities for further collaborations and partnerships on sustainable forest management and timber industry processes.
11. And in general, we would like to learn and appreciate the best practices based on actual learnings and experiences of our resource speakers and participants.

#### **Ladies and Gentlemen**

12. As part of welcoming you, I also encourage everyone to take advantage of this webinar to collaborate and learn from each other. Our speakers are experts on their assigned subject matters and I am sure that their presentations would be interesting and would promote our understanding in sustainable forest management.
13. As I conclude my welcoming remarks, I would like to express again my sincere appreciation to all our guests, coordinators, and the committee members who made this webinar a reality. Let us all have a fruitful webinar.

---

## KEYNOTE ADDRESS

### TUTIATY WAHAB

*Permanent Secretary at Ministry of Primary Resources and Tourism*



Bismillah Hir Rahman Nir Rahim.

Distinguished Guests, Speakers, Participants, Ladies and Gentlemen.

Assalamualaikum warahmatullahi wabarakatuh

Salam Sejahtera and a very good morning to all of you.

1. On behalf of the Ministry of Primary Resources and Tourism, I am pleased to welcome you all in this webinar in conjunction with the celebration of the International Day of Forests 2022, with the theme “Forests and Sustainable Production and Consumption”.

2. It is of great honor to be in this webinar as your keynote speaker. I hope that I can raise the excitement in you and encourage everyone towards the attainment of this webinar’s objectives as we strengthen our country’s forestry sector towards sustainability.

3. As I review the participants of this webinar, I am delighted to see the positive responses from private sectors, government institutions, as well as international partners be part of this webinar. I believe that this webinar would be a very good venue for information exchange, discussions of best practices, presentation of expert’s views, and will provide current updates in the field of forestry with relation to sustainable production and consumption of the forest.

Ladies and Gentlemen,

4. The theme for this year’s International Day of Forests is very timely as we face the challenge of economic sustainability while maintaining the integrity of our forest resources. We understand that the regional and global economies are currently gearing up to restore the economic losses that we experienced during the pandemic. Thus, it is very significant for us to be reminded of being sustainable as we move forward to the new normal.

---

5. The theme is also related to the Ministry's strategic planning of increasing the output of the primary resources sectors, such as the forestry sector in increasing its contribution to the country's GDP growth and economic diversification.

6. The theme is also aligned with the third goal of Wawasan Brunei 2035 – “a dynamic and sustainable economy” as we pursue for the economic growth of the country.

7. Forests offer a vast array of products that many of us use on a daily basis. We understand that forests have great economic potentials and can significantly contribute in our economic diversification initiatives, through the production of timber and non-timber forest products including non-extractive activities such as ecological tourism.

8. However, on environmental perspective, Forests are critical habitats for biodiversity and are essential for life on earth. It provides a wide range of ecosystem services including supporting climate regulation, food production, water supply and air purification, important to human well-being and survival, and provide opportunities for recreation, education, and cultural enrichment.

9. Hence, Sustainable Forest Management (SFM) is our key for a healthy forests and healthy societies. It is important for us in the government sector, to put in place the proper control and monitoring tools to avoid over exploitation and identify the balance between efficient utilization and environmental conservation to meet the needs of our current and future generations.

Ladies and Gentlemen,

10. Unsustainable production and consumption is a common thread that runs through the three planetary crises: the climate crisis, the biodiversity and nature crisis, and the pollution and waste crisis. Relentless extraction of resources from the Earth will give a devastating impact on the natural world, propelling climate change, destroying nature, and raising pollution levels.

11. To address this, the Agenda 2030 for Sustainable Development, which has been adopted by all United Nations Member States in 2015, has included a Goal (SDG 12) specifically on “Responsible Consumption and Production”. The Goal consists of several targets and indicators ranging from tracking policies and compliance with international standards; raising awareness and education; to measuring material use, recycling, waste management and clean energy.

12. Another SDG Goal which is also relevant to today's webinar theme is SDG 15: “Life on Land”. This Goal emphasizes the importance to protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.



---

13. Actions toward achieving the targets for each of these Goals are important and become part of the solution in addressing the declining trend of the world's forest areas.

14. As we understand, it has been reported on the 2020 Global Forest Resources Assessment (FRA) that the world's forest area continues to decrease, despite our understanding on the importance of forests and how dependable we are on them. The world has lost over 178 million hectares of forest since 1990 and for the year 2010 to 2020, there was a net loss of about 4.7 million ha per year.

15. However, it was also highlighted in the same report that Asia has the highest net gain of forest area in 2010-2020 of about 1.2 million hectares per year. This positive development can be attributed to the increase in protected areas, afforestation initiatives, the natural expansion of forests and most importantly, improvement of the forest management practices in the region.

Ladies and Gentlemen,

16. At national level, Brunei Darussalam still manage to maintain a high forest cover of about 72% of its total land area, which is attributed to our strong conservation and protection efforts to our forests as well as our planting initiatives.

17. We understand that forest is an important element that can directly contribute to the country's initiative on economic diversification and GDP growth. Hence, the Ministry of Primary Resources and Tourism through Forestry Department is committed in the implementation of Sustainable Forest Management (SFM) to ensure continuous resources for timber industry of the country and for the benefits of our future generations.

18. In view of our limited production forest area, striving to support the national economic diversification through incremental increase in GDP contribution is a major challenge in the forestry sector. There is a need to revisit our logging and sawmilling industries and encourage companies to increase their production efficiencies and promote timber product diversification. As such, there is a need to upgrade our processes and investments in the use of advanced machineries and technologies. Likewise, the development of our human resources and the employment of skilled workers should be of parallel initiatives.

19. Meanwhile, the Government shall ensure the continuous supply of timber for the country, through the establishment of tree plantations and enrichment planting of logged-over forests.

Ladies and Gentlemen,

20. Planting trees has always been a popular initiative across the globe. Apart from supporting the forestry industry, it is also an important component in carbon sequestration and mitigating climate change.

---

21. At national level, the Government has launched Brunei Darussalam's National Climate Change Policy (BNCCP) in 2020 where the Ministry of Primary Resources and Tourism became a lead agency for Strategy 2: Forest Cover. This strategy seeks to increase Brunei Darussalam's carbon sink through afforestation and reforestation programme with a target of planting 500,000 new trees by 2035.

22. As a good practice, any action that lead to removal of trees or forest clearance whether it is due to logging industry, construction of infrastructures such as road and housing, or to make space for agriculture, and other purposes, must be followed by planting trees to replace the trees that have been cut.

23. Under the Green Protocol which was launched last year in supporting the implementation of BNCCP, any developmental projects that involves site clearing must follow the "Remove 1: Plant 1" guideline where for each removal of tree must be replanted with one new tree.

24. The Ministry of Primary Resources and Tourism through Forestry Department continuously engaged other government agencies, private sectors and non-governmental organizations (NGOs) in conducting tree planting programme every year. With our collaborative effort, a total of 53,598 trees have been planted since the launching of the BNCCP.

25. Thus, through the implementation of this policy it will help in maintaining the large national forest cover that we have currently which can be evidenced through satellite image.

26. Last but not least, as part of further strengthening our biodiversity management, I am glad to share our ongoing coordination with the Attorney General's Chambers in finalizing the proposed Biodiversity Order. Once considered, the Order will facilitate the implementation of biodiversity conservation and management in the country. The proposed Order emphasizes on the importance of biodiversity conservation, bio-prospecting as well as access and benefit sharing that will help Brunei Darussalam to sustainably manage its biological resources.

Ladies and Gentlemen,

27. To conclude my keynote address, I wish everyone a successful and fruitful webinar. I hope that the new normal of having webinar instead of physical and face to face interaction will not hinder us from sharing knowledges, experiences, best practices, and learning from each other.

28. With the kalimah 'Bismillah Hir Rahman Nir Rahim' and peace and blessings be upon our Prophet Muhammad Sallallahualaihi Wassalam, I am pleased to officially open the webinar in conjunction with International Day of Forest 2022 on "Forests and Sustainable Production and Consumption".

Thank you. Wabillahit Taufiq Walhidayah, Wassalamualaikum Warahmatulahi Wabarakatuh.

---

## PRESENTATION BY SPEAKERS

# 1. THE SUSTAINABLE FOREST MANAGEMENT IN BRUNEI DARUSSALAM (summary)

## MR. RENI HAJI YAHYA

*Acting Deputy Director of Forestry Department, Ministry of Primary Resources and Tourism*

Mr. Reni Haji Yahya has presented on the insights into Brunei Darussalam's current implementation of Sustainable Forest Management. Mr. Reni explained on the various productive changes in the Brunei Sustainable Forest Management where it is based on 3 pillars, namely: Social, Economic and Environment (Biodiversity Conservation) and this is evident from the statement in our National Forest Policy 1989 - "The Government of Brunei Darussalam, commits itself to conserve, develop and manage its forest resources for the promotion and upliftment of the quality of life; the promotion on social, economic and political well-being of the people and for bringing about environmental amenity and ecological equilibrium over time continuum".

Mr. Reni then further described on the functional classification of forest reserves in Brunei Darussalam whereby 41% of forests are protected under forest reserves and Brunei Darussalam is targetting to increase this to 55%. Sustainable Forest Management is important in Brunei Darussalam as it is in accordance to Brunei Philosophy: Malay Islamic Monarchy, it is important in achieving Brunei Vision 2035, to attain the UN Sustainable Development Goal Agenda 2030 and the Net Zero Carbon by 2050 under the Paris Agreement 2016. Mr. Reni has also underlined on the importance of implementing the existing Forest Act, other relevant national legislations and the importance of Sub-Regional, Regional and International Involvement to ensure that our forests are managed sustainably. Mr. Reni further detailed on the logging scenario in Brunei Darussalam via the Brunei Selection Felling System (BSFS) and the important roles of the forest rangers as law enforcements as well as the important regional collaborative effort and coordination in land-use decision making to ensure that local extractions of timber and developmental projects are being conducted sustainably.

He concluded that Sustainable Forest Management is vital In supporting economic, environment and social well-being of people in which new investment on technology for timber industry and improvement of forest governance are imperative to ensure Brunei maintains its image as the 'Green Jewel'.

*(see Appendix 2 for speaker's slides presentation)*

---

## 2. DEVELOPING AND STRENGTHENING SKILLS IN FOREST AND TIMBER INDUSTRY (summary)

### DR. MOHD NOR ZAMRI BIN MAT AMIN

*Director of Malaysian Timber industry Board*

Dr. Zamri has presented on the potential of forest and timber industry sector in providing a huge range of economic and social benefits. With its contribution to global sustainability, the forest and timber industry play a significant role in the economy and communities. Not only that, the sector provides jobs, generates trade, income and investment. It also provides environmental benefits, such as climate regulation, recreational activities and maintaining biodiversity of native fauna and flora. However, the pressure on forests are increasing over the longer term due to population growth, social, economic and environmental development and land use constraints at global and national levels. Global trends are driving changes that call for a more skilled and diverse workforce to meet the opportunities and challenges associated with sustainable development. Therefore, developing and strengthening the skills is crucial to achieving sustainable development goals particularly in forest and timber industry. This further emphasize on the need to analyze the skills training for long-term sustainability and production.

To stay ahead of industry's needs and demands, industry requires a workforce prepared for efficiency, flexibility and equipped with both high order and broad-based skills across decision making, technical, communication areas etc. The priorities for skills development of workforce are as follows:

- Strategic skills.
- Operations and management skills.
- Technical skills.
- Digital skills.
- Research and development skills.

However, there are issues and challenges face in human capital development such as perception factors, shortage of skilled workers in specific area, mismatch skills, technological competence, qualification:wages imbalance, productivity, foreign workers dominance and training culture. He then concluded on the importance of strengthening human capital development for the future development of forest and timber industry sector and the need for greater capacity building efforts in order to produce more skilled workforce and professionals.

*(see Appendix 3 for speaker's slides presentation)*

---

### 3. SUSTAINABLE TIMBER INDUSTRY IN BRUNEI DARUSSALAM : PRIVATE SECTOR PERSPECTIVE (summary)

#### MR. ABDUL RAHMAN CHUCHU

*Chief Executive Officer of Pembalakan Masrimba Sdn. Bhd.*

Mr. Rahman started his presentation with a background on the Brunei Darussalam's Forest areas. He explained that Brunei Darussalam has a total land area of approximately 5,765 sq/km in which despite the limited size of forest areas, Brunei Darussalam has the highest percentage of forest cover amongst the ASEAN member countries. He further iterates that due to the government prudent conservation policy, the country is able to manage the forest resources sustainably and able to provide its importance function as Protection, Conservation, Production, Recreation and Resource Areas from its unique biodiversity. He then proceeded with describing on the types of forests in Brunei Darussalam and history of logging activities in the different forest types, namely Mangrove Forests, Mixed Dipterocarp Forests and Peat Swamp Forests.

The earlier logging activities were carried out in the Peat Swamp Forest areas using *kuda-kuda* harvesting system which was very labour intensive and it is already paved away. However, logging activities in Peat Swamp Forests was closed in 2017 due to the new Forest Policy implemented in order to preserve Brunei Darussalam's pristine peat swamp forests and its biodiversity. As technology in machineries are available, logging activities are now concentrated in the Mixed Dipterocarp Forests. Mr. Rahman then explained that currently there are 16 operating sawmill in the country – 3 in Temburong District, 5 in Tutong District and 8 in Kuala Belait District, whereby in order to sustain the development of timber industries in the country, the government has initiated rationalization policy to all sawmilling companies to improve and make the industries more productive.

He then raised on the challenges faced in the timber industries whereby the current allocated Inter-Riverine Zone (IRZ) logging areas will be exhausted in 10 years' time hence there might be a need in opening other primary forests area for logging such as Anduki Forest, Ladan Hills and Labi Hills Forests. However, this is dependent on the availability allowable cut size timbers of the residual stands after logging. He also mentioned on the need for the Forestry Department to ensure that timber supplementation via plantation is adequate to supply for future logging activities as plantations can take at least 60 years to reach maturity and this may call for a need to research on fast-growing species that can accommodate future timber needs. Thus, this calls for more investigation and data analysis. He also raised on the concern of the low availability of local youths in the timber industry for the private sectors as the harsh and high-risk working conditions of the industry hindered youths from entering the timber industry.

---

He then concluded that there is a need on continuous efforts to further develop the downstream forest industries. It is very challenging, as new timber industries are now more competitive and depend on the available resources to make it sustainable. Venturing into new areas of activities, need further study in evaluation. However, the main thrust is to ensure that there is a need to balance between environment and economic considerations.

*(see Appendix 4 for speaker's slides presentation)*



---

## 4. OPPORTUNITIES AND CHALLENGES OF SMALL AND MEDIUM WOOD-BASED INDUSTRIES IN BRUNEI DARUSSALAM (summary)

### MR. CHAN HOCK LAY

*Managing Director of TS Wood Sdn. Bhd.*

Mr. Chan started his presentation with forest status analogy between Brunei and Finland whereby with the same percentage cover between the two countries, Brunei has the potential to generate around BND\$280 million revenue from added value forest resources. He then explained on the opportunities that can be generated from developing small and medium-based industries mainly in Meranti Home Cabinet Manufacturing since Meranti is a niche in the market for its unique stability, durability and looks. He then emphasized on the opportunities for Brunei Darussalam to tap into the huge global cabinet market opportunity mainly for premium tropical sawn timber, to make incentives to potential investors to attract them, and the personal income tax free is golden for attracting high skilled personnel due to the competitive take home pay.

However, with opportunities, comes with challenges. There are challenges that are faced in trying to develop small and medium wood-based in Brunei such as the high capital entry for wood-based intensive machineries and its building complex, whereby to build one, we will need to do the following:

- Concreting industrial floor;
- Construction of workshop;
- Worker's housing facilities;
- Loading bay;
- Offices etc

There are also challenges on terms of personnel high level of skills requirement for suitable machines to produce a high-end product specification, low level of industrial support services in terms of mechanical and electrical services, application of automated machinery to save labor has 2-3 times higher costs than the base machine itself and the growing global trend of the need on Forest Certification of products for Sustainable Forest Management Systems.

He then concluded that Brunei Darussalam is equipped with the needed raw materials to meet the high global demand and the subsequent huge earning potential. With well-established designs and marketing as well as well-managed human resources with high skill levels, this is an area of opportunity that needs to be further researched.

*(see Appendix 5 for speaker's slides presentation)*

---

## 5. PROMOTING AND ADAPTING FOREST CERTIFICATION AS A WAY FORWARD FOR SUSTAINABLE PRODUCTION AND CONSUMPTION OF FOREST IN BRUNEI DARUSSALAM (summary)

### MR. SUPUN NIGAMUNI

*General Manager, Control Union Certification Body*

Mr. Supun has explained that Forest Certification can be a voluntary or obligatory process in which an independent third party (“certifier”) will assess the quality of forest management and production against a set of requirements. For instance, Forest Stewardship Council (FSC) sets the standards for responsible management of natural and plantation forestry and hence the certification helps to verify that forest managers are in compliance with these standards.

He then described on the different global leaders in Forest Product Certification as third-party assurance against ESG performance for all industry related assurance ranging from timber, non-timber, packaging, biomass, tourism, carbon and other ecosystem services. The need for forest certification emerged due to the rapid tropical deforestation in the 1980s and 1990s. Thus, forest certification allows consumers to be aware of the origins and processes of the products they buy.

He then explained on CE/UKCA-Marking in products in which by affixing these to a product, a manufacturer declares that the product meets all the legal requirements for CE marking and thus can be sold throughout the European Economic Area (EEA). CE Marking indicates that the product has been assessed by the manufacturer to meet EU safety, health and environmental protection requirements based on the applicable harmonized technical specification. There has been increasing trends and opportunities in Forest Certification and Brunei Darussalam has the potential in entering this trend in order to enhance the country’s timber industry market.

*(see Appendix 6 for speaker’s slides presentation)*

---

## 6. FORESTS – CARBON ASSET FOR SUSTAINABLE ECONOMY IN FACING CLIMATE CHANGE (summary)

### DR. ELIZABETH PHILIP

*Head of Climate Change and Forestry Program, Forest Research Institute Malaysia (FRIM)*

Dr. Elizabeth presented on the current climate emergency faced globally that calls for a scale-up in mitigation and adaptation actions to meet the Paris Agreement goal that whereby forests plays a key role in ensuring its success. This is reflected by the mentioning of forests in countries Nationally Determined Contributions (NDCs), where 124 countries mentioned on the role of forest as mitigation and 114 countries mentioned forest under their adaptation plan.

Forests provide important environmental services such as carbon sinks, habitat for biodiversity conservation, resilience against disasters and sustaining livelihood of people. Forests can offer 30% of our global climate change solution but only 3% of green finance is spent on it as part of the Nature-Based Solutions (NBs). Dr. Elizabeth further explained on the different actions to be taken under different forests condition – intact forest, fragmented forest and degraded forest by safeguarding, maintaining and restoring them. She then detailed on the cost effectiveness from mitigation activities such as reduced deforestation and degradation, Improved Forest Management (IMF) and agroforestry and via afforestation and reforestation efforts.

Dr. Elizabeth further iterates on the potential of Brunei Darussalam to monetize the existing ecosystem services offered from Brunei's functional forests category mainly from conservation forest, protection forests and national parks via carbon pricing mechanism. Carbon pricing can be done either via imposing carbon tax or through voluntary carbon market. Dr. Elizabeth then concluded by suggesting that Brunei Darussalam should look into carbon pricing as a new economic mechanism in order to stimulate the development of new, greener, more efficient and low-carbon technologies as well as to meet Brunei Darussalam's Nationally Determined Contributions (NDCs).

*(see Appendix 7 for speaker's slides presentation)*

---

## CLOSING REMARKS

### MR. JOFFRE BIN HAJI ALI AHMAD

*Assistant Director of Forestry Department, Ministry of Primary Resources and Tourism*

Assalamualaikum Warahmatullahi Wabarakatuh

1. First of all, let us give our thanks to almighty God, who has allowed us to reach the end of this important one-day webinar on the occasion of the International Day of Forest today. My deepest gratitude goes to all who attended the webinar and helped to make it such a successful event.

Respected speakers and webinar participants,

2. I wish to take this opportunity to underline the Permanent Secretary, Puan Hajah Tutiatty binti Haji Abdul Wahab statement in her keynote address this morning – that it is significant for us to be reminded of being sustainable as we move forward to the new normal and in our effort to restore our economic losses from the pandemic. Therefore, the Sustainable Forest Management concept is important to put in place the proper control and monitoring tools to avoid over exploitation and identify the balance between efficient utilization and environmental conservation to meet the needs of our current and future generations, which is in line with the country's commitment towards the Sustainable Development Goal 15: to protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

3. In this closing session, please allow me to recap the fruitful discussions we had with our speakers today. We have heard from the distinguished speakers about the current implementation of sustainable forest management by the Forestry Department and the perspective from a private sector, the importance of developing and strengthening the skills in timber industry, opportunities and challenges in development of small medium wood based industries in Brunei Darussalam, adoption of forest certification, and the importance of sustainable forest management in Brunei Darussalam in facing climate change.

4. Firstly, the Forestry Department of Brunei Darussalam has been implementing sustainable forestry management practices ever since the advent of semi-mechanized logging in the Mixed Dipterocarp Forests and Peat swamp forests, in which relevant forest policies, rationalization policy and law enforcement are ensured to be in place and complied by all 16 sawmills and timber harvesting operators that are currently operating in the country. At the same time, all timber harvesting operations and its consumption are optimized and has been adapted to accommodate the allowable timber production under the sustainable forest management policy in order to control and coordinate the timber harvesting and forest rehabilitation activities. This allows the country to provide its

---

important function as Protection, Conservation, Production, Recreation and Resource Areas for its unique biodiversity.

5. Secondly, our speaker has highlighted on the possibility of Brunei Darussalam venturing into global market demands in tropical timber that can worth up to billions of US Dollars via the small and medium wood-based industries development given that Brunei has good supply of tropical saw timber. However, the high capital needed to bring in machineries and skilled technical workers is a great challenge that must be tackled first in Brunei Darussalam. The increasing pressure on forests over the longer term due to the increasing population further reiterates the importance of a more skilled and diverse workforce to meet the opportunities and challenges associated with sustainable development. Amongst the prioritized skills development needed includes: Strategic skills, operations and management skills, technical skills, digital skills and finally research and development skills.

Respected conference participants,

6. With the trending world demand for certified timber products, Brunei Darussalam is no exception from this pressure. Brunei Darussalam has been looking into forest certification for our products as Brunei Darussalam recognizes its importance in its necessity to give public reassurance that timber products originating from our forests are managed in a responsible and sustainable way. This is also to ensure the long-term viability of our forests and their economic potential are achieved and to reduce any negative social and environmental threats from any unsustainable consumptions. This is particularly imperative as unsustainable consumptions may further threaten our changing climate since forests are important carbon sinks that can hugely contribute to limiting global warming to well below 2° C. For developing countries like Brunei, development and conservation are fine balance that needs to maintained. This means that a paradigm shift in our policies, actions and finance are needed in order to make a transformational move towards a low carbon pathway.

7. To end, with the increasingly challenging and competitive timber industries, continuous effort is needed to ensure the sustainability of available resources whilst ensuring that a balance between environment and economic considerations is achieved for the prosperity and harmony of our society as well as to achieve our Wawasan 2035. This can only be achieved if all relevant stakeholders, forestry related institutions both locally and internationally, and enforcement agencies work together as a Whole of Nation and Whole of Society approach.

Thank you very much for your kind attention.

Wabillahi Taufiq Walhidayah, Wassalamualaikum Warahmatullahi Wabarakatuh.

## APPENDIX 1: WEBINAR PROGRAMME

WEBINAR PROGRAMME	
8.00 – 8.35 AM	Zoom Check-In
8.35 AM	Recital of Surah Al-Fatihah and Doa Selamat
	Welcoming Remarks <b>Noralinda Haji Ibrahim</b> Director of Forestry, Ministry of Primary Resources and Tourism
	Keynote Address <b>Tutiatty Abdul Wahab</b> Permanent Secretary, Ministry of Primary Resources and Tourism
8.55 AM	Introduction by Moderator
9.00 AM	<b>(1) The Sustainable Forest Management In Brunei Darussalam</b> Mr. Reni Haji Yahya Acting Deputy Director of Forestry Ministry of Primary Resources and Tourism
9.15 AM	<b>(2) Developing and Strengthening the Skills In Forest and Timber Industry</b> Dr. Mohd Nor Zamri Mat Amin Director of Industry Development Malaysian Timber Industry Board (MTIB)
9.30 AM	Break – ‘Tree Planting’ video
9.40 AM	<b>(3) Sustainable Timber Industry in Brunei - Private Sector Perspective</b> Mr. Haji Abd. Rahman Haji Chuchu Chief Executive Officer, Syarikat Pembalakan Masrimba Sdn Bhd



9.55 AM	<b>(4) Opportunities and Challenges: Development of Small and Medium Wood-based Industry in Brunei Darussalam</b> Mr. Chan Hock Lay General Manager of TS Wood Sdn. Bhd.
10.10 AM	<b>(5) Promoting and Adapting Forest Certification as a Way Forward for Sustainable Production and Consumption of Forest in Brunei Darussalam</b> Mr. Supun Nigamuni General Manager Control Union – Certification Body .
10.25 AM	<b>(6) Forests - Carbon Asset For Sustainable Economy In Facing Climate Change</b> Dr. Elizabeth Philip Head of Climate Change and Forestry Program Forest Research Institute of Malaysia
10.40 AM	Question and Answer Session
10.55 AM	Closing Remarks <b>Yang Mulia Joffree bin Haji Ali Ahmad</b> Assistant Director of Forestry, Ministry of Primary Resources and Tourism
11.00 AM	End of Webinar



Forestry Department  
Ministry of Primary  
Resources & Tourism



International Day of Forests




INTERNATIONAL DAY OF FORESTS 2022

**Webinar in Conjunction with International Day of Forests 2022**

# Sustainable Forest Management in Brunei Darussalam

**MR RENI HAJI YAHYA**  
Acting Deputy Director of Forestry Department  
Ministry of Primary Resources and Tourism


21 April 2022



Forestry Department  
Ministry of Primary  
Resources & Tourism




International Day of Forests



INTERNATIONAL DAY OF FORESTS 2022

**Webinar in Conjunction with International Day of Forests 2022**

1. Brief History of Brunei Forest Management
2. Objectives of Forest Management
3. Forest Resources of Brunei Darussalam
4. The Importance of Sustainable Forest Management in Brunei Darussalam
5. Legal Framework
6. National Policies And Initiatives
7. Logging Scenario In Brunei Darussalam
8. Law Enforcement
9. Coordinating With Other Land Uses
10. Conclusion



*Photo : Shorea parvifolia (Dipterocarpaceae)  
with Watu Awok, by K.M Wong*

## Brief History of Forest Management (1)

- Forestry Department was officially formed and established in March, 1933. This was followed with the enactment of the Forest Act in 1934, Chapter 46, of the Laws of Brunei.
- In the early years of operations, the Forestry Department was more concentrated on monitoring forestry produce from Mixed Dipterocarp Forest (MDF), Peat Swamp Forest (PSF) and Mangrove Forest to ensure collection of revenues.
- Shelterwood Compartment System was implemented in Anduki Forest Reserve from 1930s to late 1950s with the aim of maintaining pure stands of Kapur Paya.



The first Forestry Headquarters in Kuala Belait



Flowers of Kapur Paya (*Dryobalanops rappa*)

## Brief History of Forest Management (2)

- In the mid 1950's, the advent of systematic and semi-mechanized logging in the MDF and PSF gave rise to the need and the impetus to formulate, develop and implement proper procedures in natural forests management in order to control and coordinate the timber harvesting and forest rehabilitation activities.
- In 1970s, enrichment planting was implemented on understocked logged-over forests.



Early logging practice in Andulau Forest Reserve

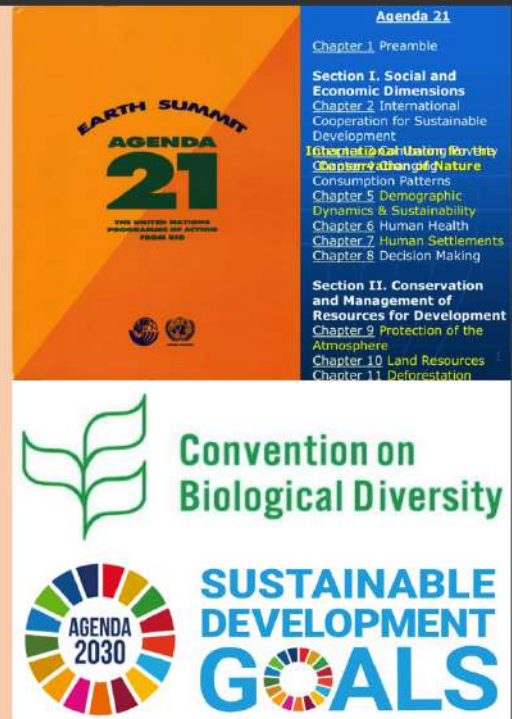


Photo: Silvicultural Project in one of logged-over area, Labi Hills FR.



# BRUNEI & SFM

- Earth Summit 1992 Rio de Janeiro, Brazil
- **Agenda 21: Sustainable Development**
- **Convention on Biological Diversity**
- Sustainable Forestry Management was implemented after 1992
- In 2015, Agenda 21 became known as **Agenda 2030**

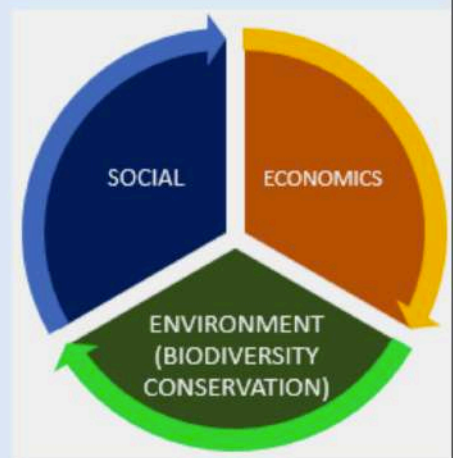


## OBJECTIVES OF FOREST MANAGEMENT

- **THREE PILLARS OF SUSTAINABLE DEVELOPMENT** as the basis on forest management objectives for Brunei Darussalam.

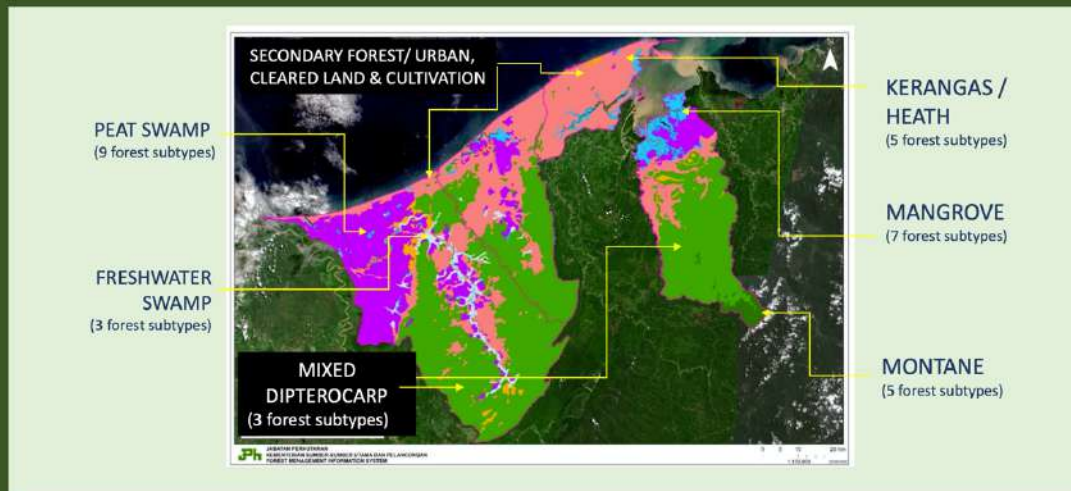
- **What is Sustainable Forest Management (SFM) ?**

*A dynamic and evolving concept that aims to maintain and enhance the economic, social and environmental values of all types of forests, for the benefit of present and future generations.* [the UN General Assembly Resolution. A/RES/62/98]



- *The Government of Brunei Darussalam, commits itself to conserve, develop and manage its forest resources for the promotion and upliftment of the quality of life; the promotion on social, economic and political well-being of the people and for bringing about environmental amenity and ecological equilibrium over time continuum. [National Forest Policy 1989]*

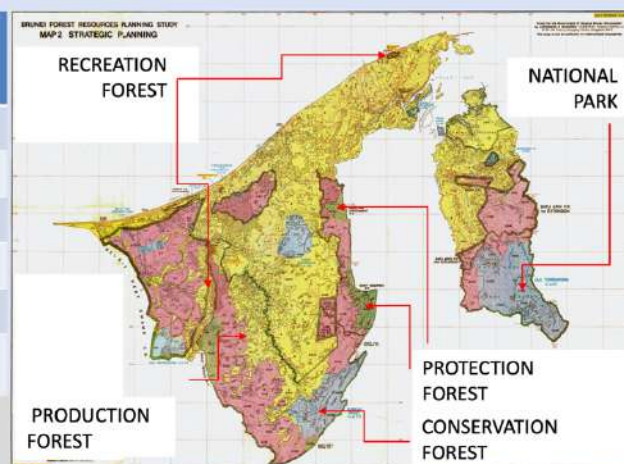
## FOREST RESOURCES: FOREST TYPES OF BRUNEI DARUSSALAM



## FOREST RESOURCES: FUNCTIONAL CLASSIFICATION OF FOREST RESERVES

FOREST CLASSIFICATION	GAZETTED AREA (hectares)	PROPOSED AREA (hectares)	TOTAL AREA (hectares)	PERCENTAGE OF TOTAL LAND AREA
PROTECTION FOREST	18,562	0	18,562	3.22
CONSERVATION FOREST	28,562	3,173	31,735	5.50
NATIONAL PARK	46,210	2,644	48,854	8.47
RECREATION FOREST	4,211	80,624	84,835	14.71
PRODUCTION FOREST	138,026	234	138,260	23.98
<b>TOTAL</b>	<b>235,571</b>	<b>86,675</b>	<b>322,246</b>	<b>55.89</b>

**TOTAL LAND AREA:  
576,532 HECTARES**





# THE IMPORTANCE OF SFM IN BRUNEI DARUSSALAM



WAWASAN BRUNEI 2035



## THE POLITICAL WILL

- SFM according to Brunei Philosophy: Malay Islamic Monarchy
- SFM for Brunei Vision 2035
- Attainment to UN Sustainable Development Goal Agenda 2030
- Direction towards NET ZERO CARBON by 2050: PARIS AGREEMENT 2016

## LEGAL FRAMEWORK

The Forest Act, Laws of Brunei Chapter 46  
(1934 - revised several times; last revised in 2019)

### Other relevant Legislation

- Wildlife Protection Act
- Land Code and Land Acquisition Act
- Antiquities and Treasure Trove Act
- Town and Country Planning Act
- Wild Fauna and Flora Order 2007
- Fishery Act
- Biodiversity Order – in pipeline final stage of drafting

### Sub Regional, Regional and International Involvement, for examples;-

- ASEAN Forestry Meetings
- APEC SOM EGILAT Meeting
- Heart of Borneo Initiative
- Convention on Biological Diversity
- Convention on International Trade in Endangered Species of Wild Fauna and Flora
- United Nations Forum on Forests
- United Nations Framework Convention on Climate Change



# NATIONAL POLICIES AND INITIATIVES TO SUPPORT SFM

**BRUNEI NATIONAL FORESTRY POLICY 1989**

**REDUCED CUT POLICY 1990 - REDUCING ANNUAL LOGGING QUOTA TO 100,000 CU.M**

**IN SUPPORT FOR HOB INITIATIVE – FORESTRY DEPARTMENT COMPLETELY STOPPED LOGGING IN PEAT SWAMP FORESTS IN 2017**

**BRUNEI DARUSSALAM NATIONAL CLIMATE CHANGE POLICY AND GREEN PROTOCOL**

**FORESTRY DEVELOPMENT POLICIES**

## LOGGING SCENARIO IN BRUNEI DARUSSALAM



### BRUNEI SELECTION FELLING SYSTEM (BSFS)

Amongst others, these are some of the matters to be considered in the system:

- 1) Logging Quota Limits
- 2) Protected Areas During Logging
- 3) Tree Cutting Limits And Directional Felling Of Trees
- 4) Protected Trees Or Vegetation
- 5) Log Transportation Limits



# LAW ENFORCEMENT

- Forest Rangers conduct routine patrols and inspections in the forest logging concessions,
- They also conduct regular aerial surveillance along Brunei border and remote forest areas, as well as making patrols in water/river stretches and on land.
- Law enforcement is jointly carried out with various law enforcement agencies
- Participation in special task force and committees;
  - SALIMBADA Task Force
  - NATIONAL COORDINATION PATROL COMMITTEE
  - LAW ENFORCEMENT COMMITTEE



Source: Google map



Source: Youtube (CGTN)

## COORDINATING WITH OTHER LAND USES - EXAMPLES

### • WATER SUPPLY AND CONTROL

Binutan Dam and Ulu Tutong Golden Jubilee Dam which are located in the Ladan Hills area in Tutong District.

### • CONSTRUCTION OF BRUNEI-TEMBURONG BRIDGE

**Jambatan Sultan Haji Omar Ali Saifuddien** - the longest bridge in Southeast Asia. Designed and built using the latest technology which takes into account the importance of conserving the natural forest ecosystem.



# CONCLUSION



Photo :Alan Bunga crown shyness (A Cobb)

1. Vital role in supporting economic activities and promoting the wellbeing of the people and biodiversity conservation.
2. Targeting 55% of land area to be gazetted as Forest Reserve.
3. Brunei Darussalam forest as 'Green Jewel' of the country.
4. Encourage new investment on technology for the growth of timber industry
5. Improve forest governance through Whole of Nation Approach (WONA).

# Thank You

Pagon Summit

## CONTACT INFORMATION:

Mr Reni Haji Yahya

Senior Forestry Officer (currently Acting Deputy Director of Forestry)

Forestry Department, Ministry of Primary Resources and Tourism

Telephone No.: +6732381697 (Office)

E-mail address: [reni.yahya@forestry.gov.bn](mailto:reni.yahya@forestry.gov.bn); [reniyahya@gmail.com](mailto:reniyahya@gmail.com)

APPENDIX 3: WEBINAR POWERPOINT SLIDES (DR. MOHD NOR ZAMRI MAT AMIN)

## WEBINAR FORESTS AND SUSTAINABLE PRODUCTION AND CONSUMPTION



Ministry Of Plantation Industries  
& Commodities, Malaysia



MTIB  
Malaysian Timber Industry Board

| *Developing and Strengthening Skills in Forest and Timber Industry*

| *21<sup>st</sup> April 2022*

| *Dr. Mohd Nor Zamri Bin Mat Amin*



### *Presentation outline*

- ❖ *Introduction*
- ❖ *Forest and timber industry*
- ❖ *Skills Development and Strengthening*
- ❖ *Issues and Challenges*
- ❖ *Way Forward*





## Forest and Timber Industry



### Facts

- Tropical forest
- Tropical Timber species
- Sustainable Management
- Resource Based Industry
- Export Orientation
- International Trade

## Tree @ Plants ~ Natural Resources from Allah



الَّذِي جَعَلَ لَكُمُ الْأَرْضَ مَهْدًا وَسَلَكَ لَكُمْ فِيهَا سُبُلًا وَأَنْزَلَ مِنَ السَّمَاءِ مَاءً فَأَخْرَجْنَا بِهِ أَزْوَاجًا مِّنْ نَّبَاتٍ شَتَّى

20-Surah Taha 53

[It is He] who has made for you the earth as a bed [spread out] and inserted therein for you roadways and sent down from the sky, rain and produced thereby categories of various plants.

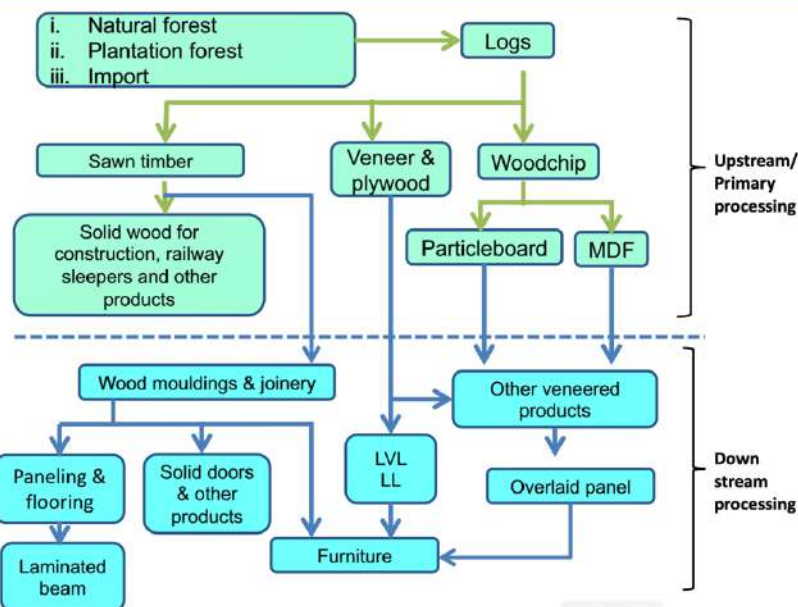


## Forest and Timber Industry Value Chain

### Integrated Timber Operations



## Forest Resources

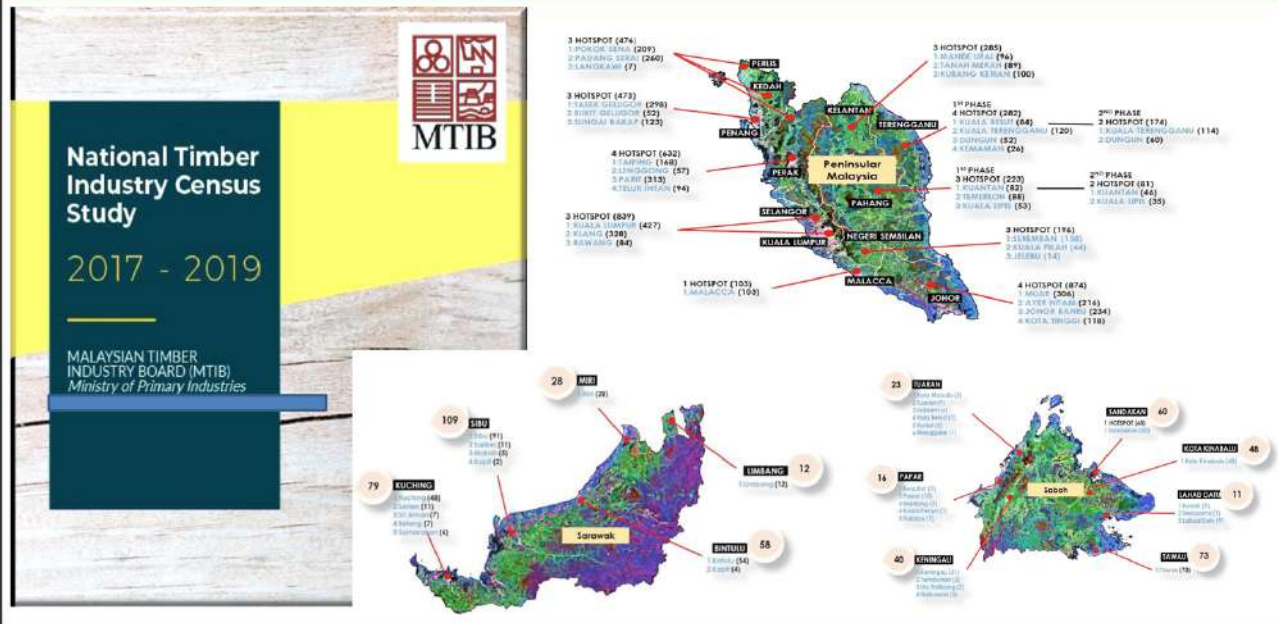


- *Resource based industry in Malaysia*
- *The industry has contributed to the nation's economic growth*
- *Export oriented and foreign exchange earnings.*
- *The industry providing employment more than 150,000 people.*





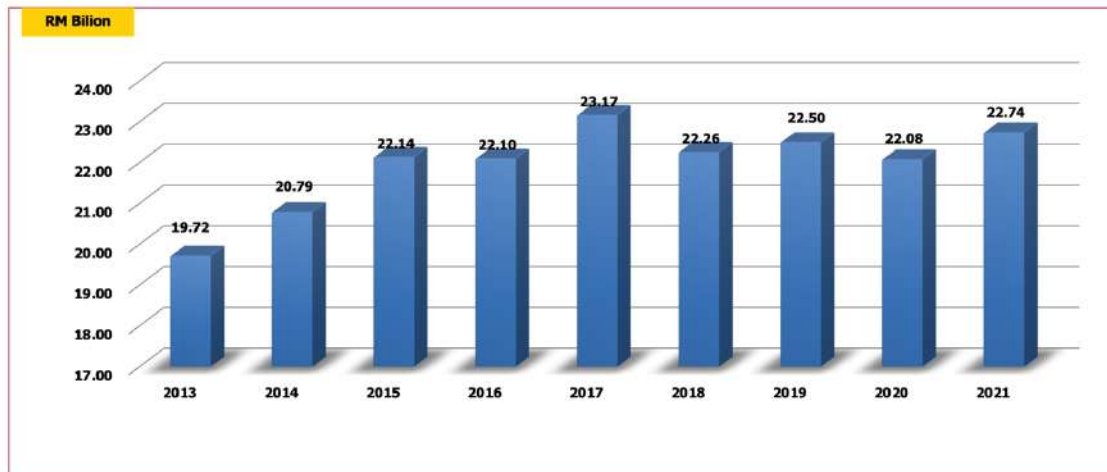
## Distribution of Timber Industry in Malaysia



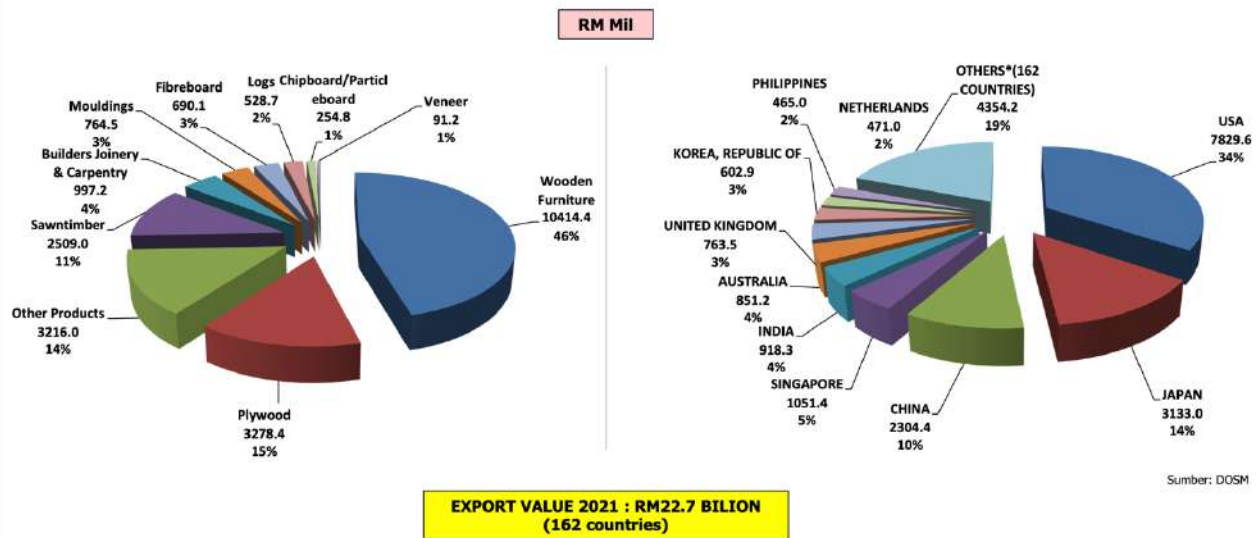
## Type of Mills in Malaysia



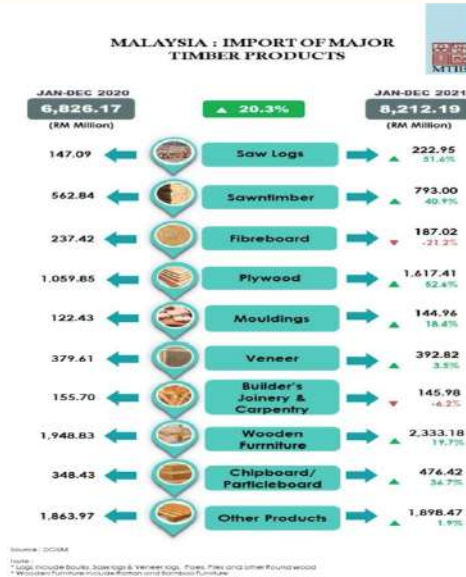
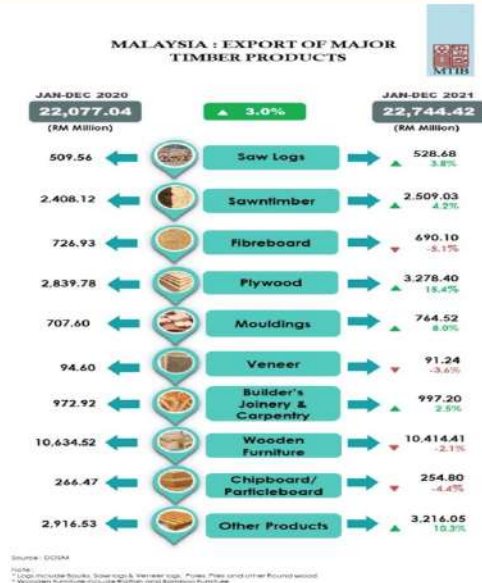
## Malaysia : Export of Timber and Timber Products (2013-2021)



## Malaysia : Export of Timber and Timber Products (2021)

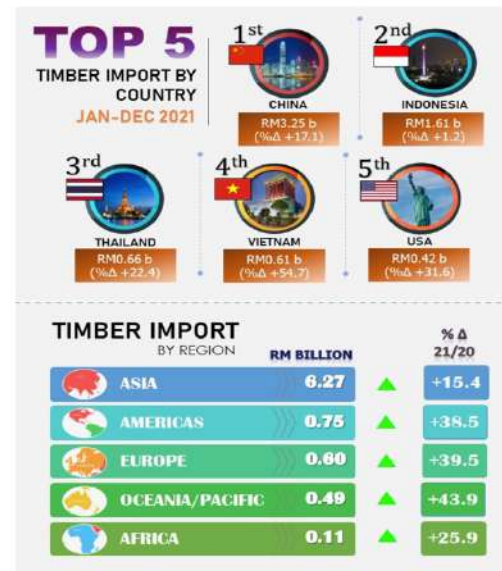


## Malaysia : Export Performance (2021)



Page 11 of 31

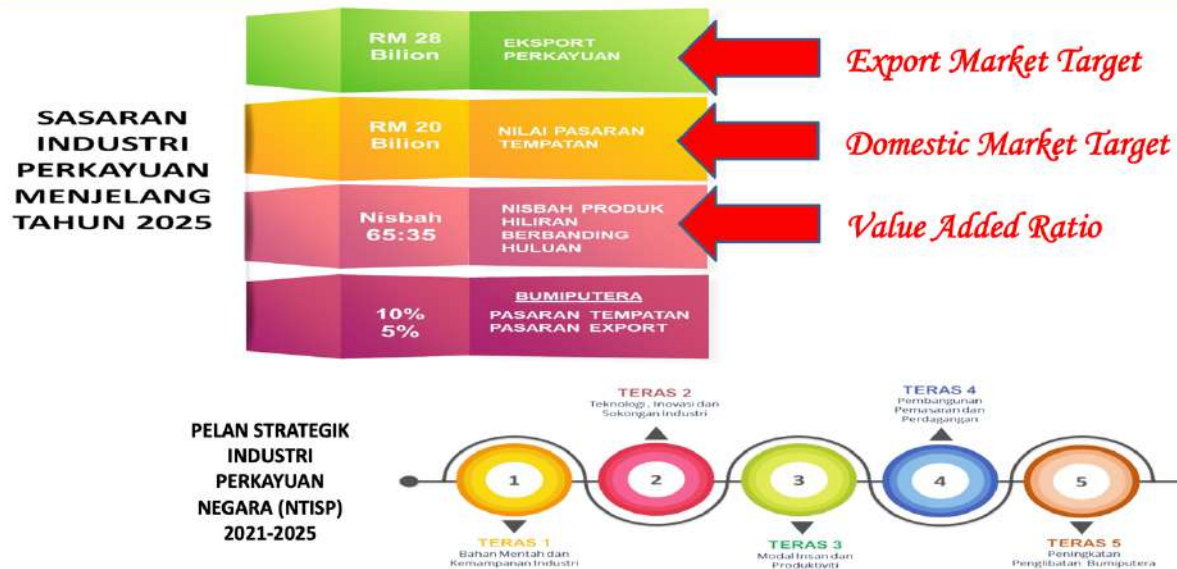
## Malaysia : Export Performance (2021)



Page 12 of 31



## National Timber Industry Strategic Plan (2021-2025)



## Skills Development and Strengthening



## Human Capital and Skills



*Human capital development refers to the process of acquiring and increasing the number of person who have **skills, education and experience***



## Skills Development and Strengthening

- The forest and timber industry sector provide a huge range of **economic and social benefits**.
- With its contribution to **global sustainability**, the forest and timber industry play a significant role in the economy and communities.
- The sector provides **jobs, generates trade, income and investment**. It also provides **environmental benefits**, such as climate regulation, recreational activities and maintaining biodiversity of native fauna and flora.
- Global trends are driving changes that call for a **more skilled and diverse workforce** to meet the opportunities and challenges associated with sustainable development.

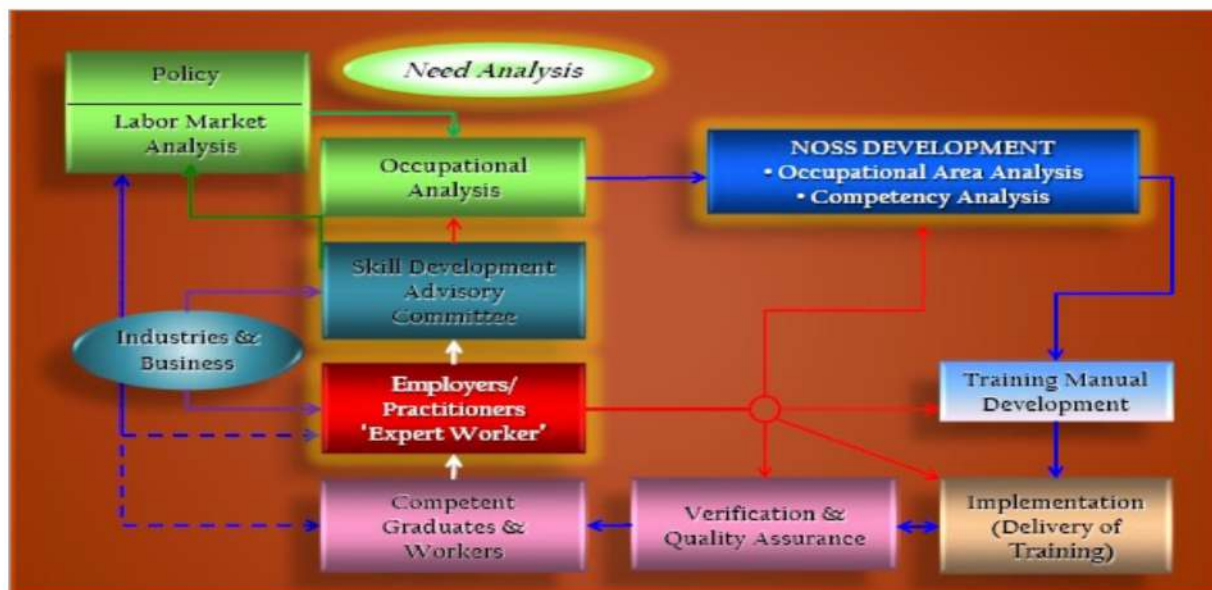
## Skills Development and Strengthening

- *Developing and strengthening the skills is crucial to achieving sustainable development goals particularly in forest and timber industry.*
- *There is a need to **analyze the skills training** for long-term sustainability and production.*
- *To stay ahead of industry's needs and demands, **industry requires a workforce prepared for efficiency, flexibility and equipped with both high order and broad-based skills***
- *The priorities for skills development of workforce are as follows:*



Page 17 of 31

## Skills Analysis



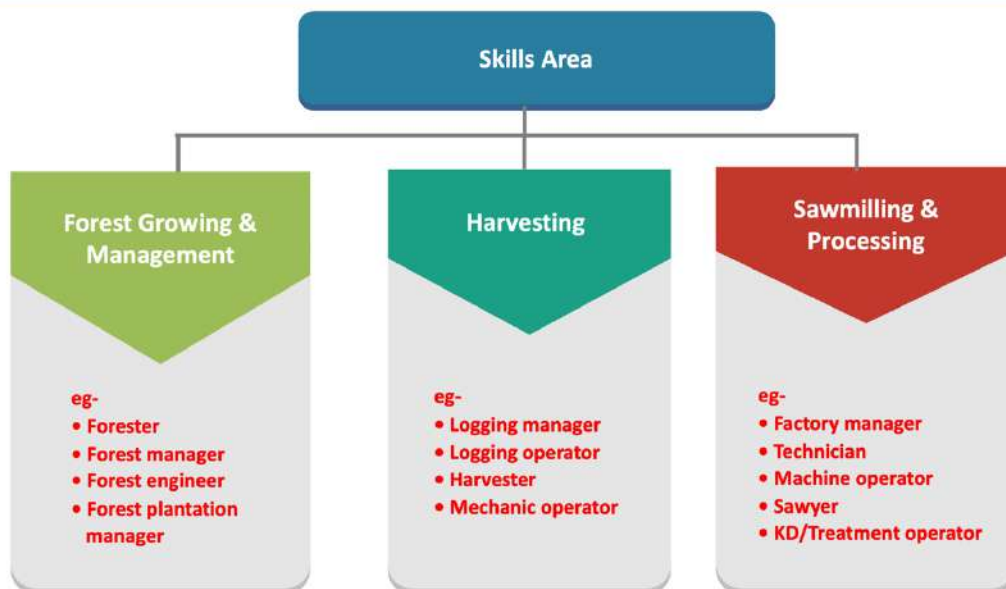


## Skills Plan



Page 19 of 31

## Skills Area



Page 20 of 31

## *Skills Development In Forestry*



- *Forestry*
- *Forest plantation*
- *Wildlife*
- *Tree Improvement and Genetic Resources*
- *Botany*
- *Environment*

## *Skills Development In Forestry*



- *Tree felling*
- *Logging operations*
- *Harvesting*
- *Forest engineering*



## Skills Development in Timber Industry



**WISDEC**  
WOOD INDUSTRY SKILLS DEVELOPMENT CENTRE

SKILLS TRAINING & CAREER PATHWAY In The Timber Industry					
Target Groups/Level	Programme	Diploma/Certificate	Duration	Skills Acquisition	
<b>TIMBER INDUSTRY</b>	Managerial • Managers • Graduates	Management/Technical Short Courses	Certificate of Attendance	1-6 days	Specific Skills
		Entrepreneurship Development Programme (Furniture)	Certificate of Professional Entrepreneurship Development (Furniture)	3 months	Professional
	Middle Management • Supervisors • Technicians	Diploma Programme	Diploma In Furniture Making / Wood Technology	2 years	Semi Professional
		Management/Technical Short Courses	Certificate of Attendance	1-6 days	Specific Skills
	Operational • Line-Leaders • Operators	Certificate Programme Level 2	Certificate in Furniture Making / Wood Technology (Level 2)	3 months	Highly Multi-skilled
		Technical Short Courses	Certificate of Attendance	1-6 days	Specific Skills
<b>SCHOOL LEAVER</b>	Youths	Wood-Based Industry Apprenticeship Scheme (Furniture)	Malaysia Skills Certificate (MLVK) Apprenticeship Certificate (PSMA)	16 months	Multi-skilled
		Competency-based Training (CBT) - Furniture Making	Malaysia Skills Certificate (MLVK) Competency Certificate (MTIB)	12 months	Multi-skilled
		Certificate Programme Level 1	Certificate In Furniture Making / Wood Technology (Level 1)	3 months	Skills

**LEMBAGA PERINDUSTRIAN KAYU MALAYSIA  
MALAYSIAN TIMBER INDUSTRY BOARD**

**WISDEC Kuala Lumpur**  
Lot 102, Jalan 9, Kompleks Industri DKA Lumpur,  
43000 Kuala Lumpur. Tel: 03-2622 2222. Fax: 03-2622 2222  
Email: info@wisdec.gov.my Website: www.wisdec.gov.my

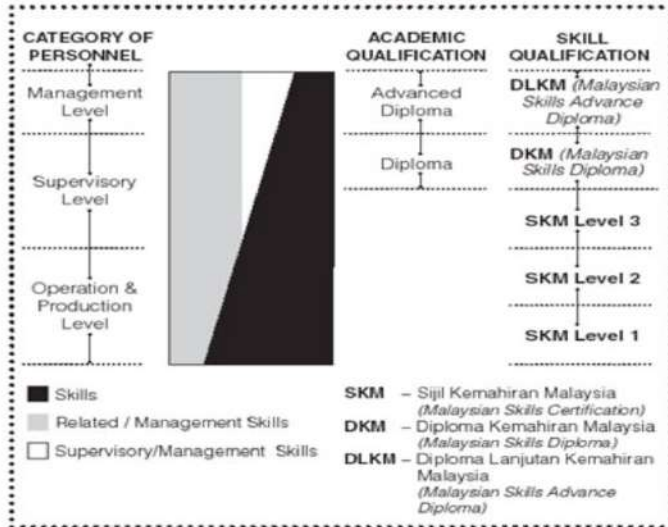
**WISDEC Seremban**  
Lot 102, Jalan 9, Kompleks Industri DKA Seremban,  
70300 Seremban. Tel: 06-7661 1111. Fax: 06-7661 1111  
Email: info@wisdec.gov.my Website: www.wisdec.gov.my

## Training For Industry and Youths



## Level of Skills and Competency Training

Table 6.2 Categories of Personnel with Relevance to the Levels of SKM Qualifications



## Training for Industry



Raw materials/  
Resources



Sawmilling/  
Moulding/  
Grading



Kiln drying/  
Preservation



Timber  
utilizations



Production  
management



Design



Machining  
technology



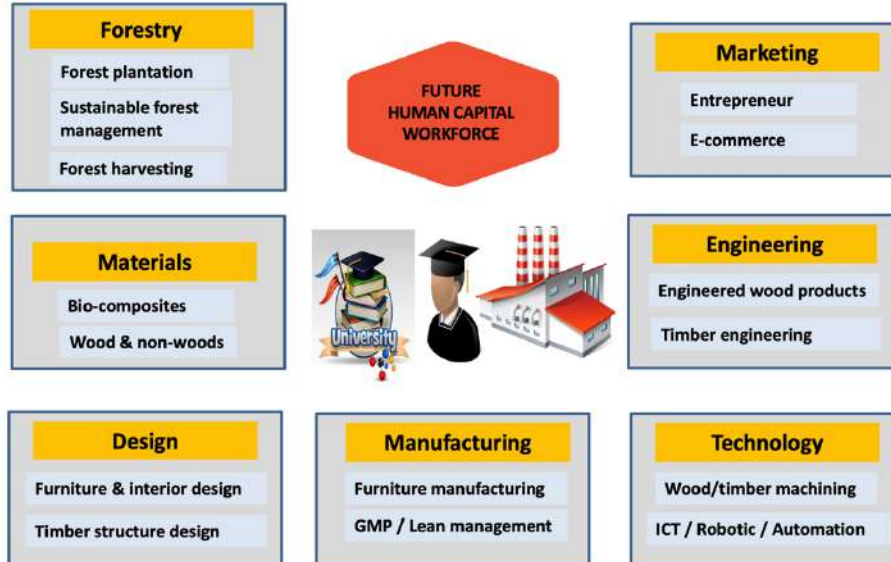
Finishing

Primary processing

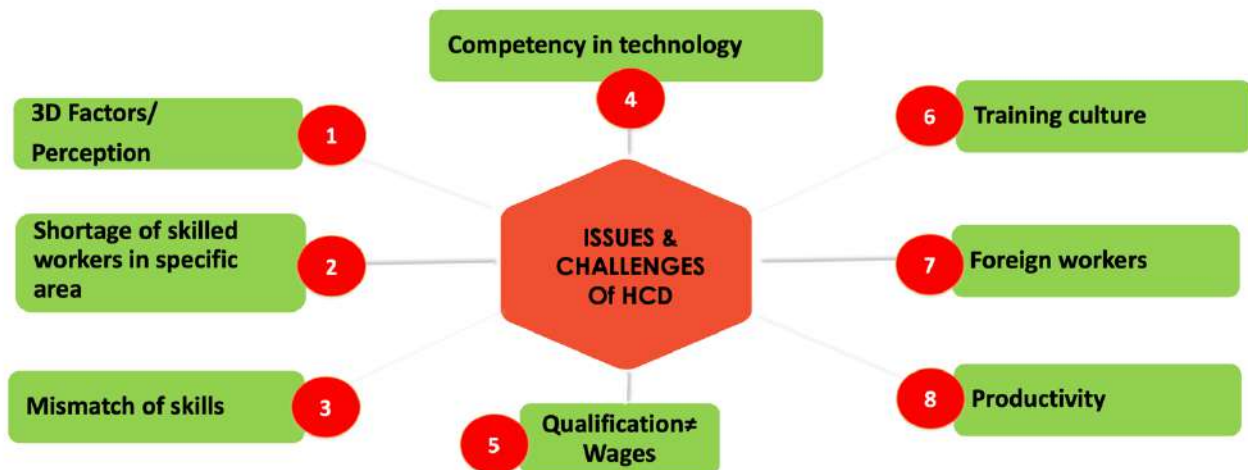
Secondary/Tertiary  
processing

## New Set of Skills

### FOCUS AREAS



## Issues and Challenges








## Way Forward



### Way forward

- 1 Focus on specific skills
- 2 Intensify training for staff, industry, youth, school leaver
- 3 Collaboration between government, industry and training institutions
- 4 Recognize qualification & competency
- 5 Conducive environment
- 6 Training culture & lifelong learning

## Conclusion

- 1  *Human capital development is vital for the future development of forest and timber industry sector, in order to compete in the global market*
- 2  *Greater capacity building efforts need to be undertaken in order to produce more skilled workforce and professionals*
- 3  *Therefore, the requirements for the development of human capital and skills must be strengthen*

## APPENDIX 4: WEBINAR POWERPOINT SLIDES (MR. ABDUL RAHMAN CHUCHU)

# SUSTAINABLE TIMBER INDUSTRY IN BRUNEI DARUSSALAM PRIVATE SECTOR PERSPECTIVE



ABDUL RAHMAN CHUCHU

CEO PEMBALAKAN  
MASRIMBA SDN BHD



## CONTENT

1. Introduction
2. Early Development of Forest Industry
3. Sustaining Log Production
4. Strategic Forest Resource Planning Study
5. Opportunity
6. Challenges
7. Conclusion

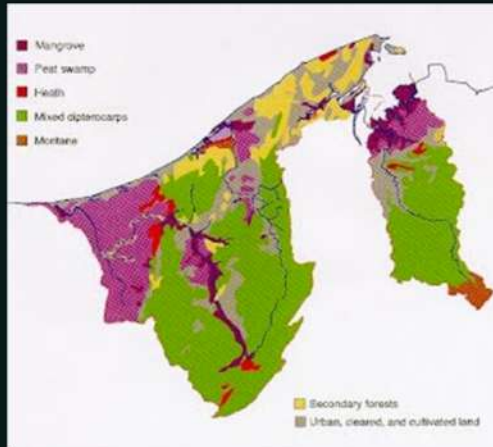


2022

SUSTAINABLE TIMBER INDUSTRY IN BRUNEI  
DARUSSALAM PRIVATE SECTOR PERSPECTIVE

2

## Introduction



Brunei Darussalam forest types

2022

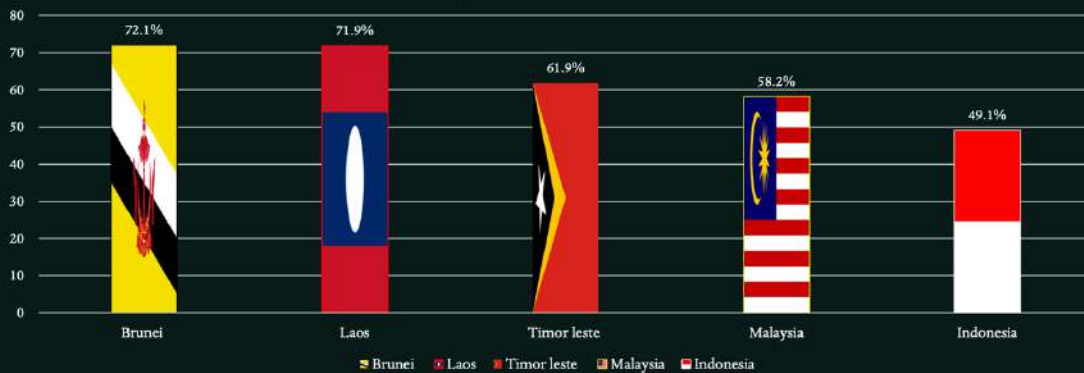
SUSTAINABLE TIMBER INDUSTRY IN BRUNEI  
DARUSSALAM PRIVATE SECTOR PERSPECTIVE

3

## Comparative Percentage Forest Cover In ASEAN

5 countries with the highest forest area in ASEAN, 2020. Percentage of the country's area .

by The world bank



2022

SUSTAINABLE TIMBER INDUSTRY IN BRUNEI  
DARUSSALAM PRIVATE SECTOR PERSPECTIVE

4

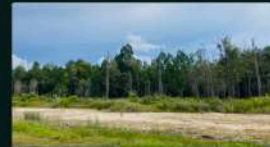
## Forest Types



Mangrove



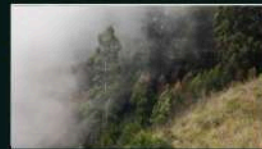
Peat swamp



Heath (Kerangas)



Mixed dipterocarp



Montane

2022

SUSTAINABLE TIMBER INDUSTRY IN BRUNEI  
DARUSSALAM PRIVATE SECTOR PERSPECTIVE

5

## Forest Types By Area

Item	Forest type	Sq km	%
1	Mangrove	112	2.0
2	Peat swamp	1,080	19.5
3	Heath (kerangas)	48	0.9
4	Mixed dipterocarp	3,054	55.3
5	Montane	52	0.9
	Sub-total	4,346	78.6
6	Secondary	1,181	21.4
	Total	5,527	100

2022

SUSTAINABLE TIMBER INDUSTRY IN BRUNEI  
DARUSSALAM PRIVATE SECTOR PERSPECTIVE

6





Mangrove forest

Early Development Of Forest Industry



Peat swamp forest

Early Development Of Forest Industry



## Early Development Of Forest Industry



Kuda-kuda system



Locomotif transporting logs



Floating raft of logs

2022

SUSTAINABLE TIMBER INDUSTRY IN BRUNEI  
DARUSSALAM PRIVATE SECTOR PERSPECTIVE

9

## National Forest Policy



2022

SUSTAINABLE TIMBER INDUSTRY IN BRUNEI  
DARUSSALAM PRIVATE SECTOR PERSPECTIVE

10

## Mixed Dipterocarp Forest.



2022

SUSTAINABLE TIMBER INDUSTRY IN BRUNEI  
DARUSSALAM PRIVATE SECTOR PERSPECTIVE

11

## Typical Sawmill Operation



2022

SUSTAINABLE TIMBER INDUSTRY IN BRUNEI  
DARUSSALAM PRIVATE SECTOR PERSPECTIVE

12

## Timber Stocks Availability In Mixed Dipterocarp Forest (MDF) and Peat Swamp Forest (PSF)

	Reduced	
	Commercial Areas (hectares)	Obligatory species volume (1,000 m3)
MDF		
Unit 1(RME)	63,182	3,003
Unit 2(RME)	36,290	2,600
Other	15,768	858
MDF Totals	115,240	6,461
PSF		
Unit 3(RME)	40,574	4,762
Other	8,780	1,035
PSF totals	49,364	5,797
Totals	164,594	12,258

2022

SUSTAINABLE TIMBER INDUSTRY IN BRUNEI  
DARUSSALAM PRIVATE SECTOR PERSPECTIVE

13

## Timber Stocks Availability In Inter Riverine Zone (IRZ)

Basic Timber Groups	Volume (m3)	
	per ha	Totals
Obligator species		
Dipterocarps	56.7	462,900
Non-dipterocarps	7.3	59,600
Obligator species totals	64.0	522,500
Non-obligator species	4.2	34,290
Grand totals	68.2	556,790

2022

SUSTAINABLE TIMBER INDUSTRY IN BRUNEI  
DARUSSALAM PRIVATE SECTOR PERSPECTIVE

14

## Opportunities

Example of timber downstream products



Moulding



Pulp & paper



plywood



Furniture industry

2022

SUSTAINABLE TIMBER INDUSTRY IN BRUNEI  
DARUSSALAM PRIVATE SECTOR PERSPECTIVE

15

## Challenges : Road To The Future



Log yard in the forest area

2022

SUSTAINABLE TIMBER INDUSTRY IN BRUNEI  
DARUSSALAM PRIVATE SECTOR PERSPECTIVE

16



## Challenges



Typical residual stand after logging

2022

SUSTAINABLE TIMBER INDUSTRY IN BRUNEI  
DARUSSALAM PRIVATE SECTOR PERSPECTIVE

17

## Challenges



Santai-Wong –  
king of the forest

2022

SUSTAINABLE TIMBER INDUSTRY IN BRUNEI  
DARUSSALAM PRIVATE SECTOR PERSPECTIVE

18



## Challenges

### Logging and sawmill operation activities



Worker at bandsaw



Chainsaw operator



Tree feller



Logging camp site

2022

SUSTAINABLE TIMBER INDUSTRY IN BRUNEI  
DARUSSALAM PRIVATE SECTOR PERSPECTIVE

19



## Challenges



Hardwood forest plantation



Fast growing forest plantation

2022

SUSTAINABLE TIMBER INDUSTRY IN BRUNEI  
DARUSSALAM PRIVATE SECTOR PERSPECTIVE

20

## Conclusion

### New product opportunities

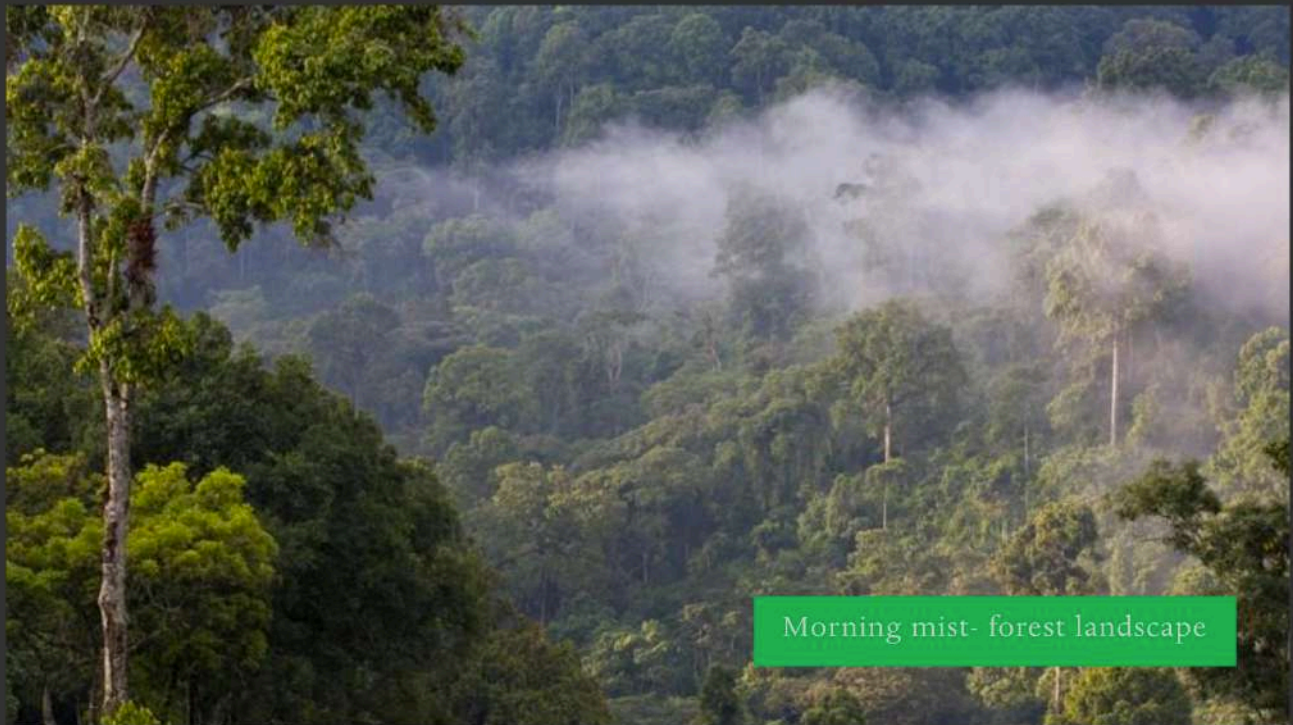
- Handcraft
- Furniture
- Cabinet
- Downstream products



2022

SUSTAINABLE TIMBER INDUSTRY IN BRUNEI  
DARUSSALAM PRIVATE SECTOR PERSPECTIVE

21



Morning mist- forest landscape

## APPENDIX 5: WEBINAR POWERPOINT SLIDES (MR. CHAN HOCK LAY)



# Opportunities & Challenges of Small & Medium Based Industries in Brunei Darussalam

**Chan Hock Lay**

Managing Director, TS Wood Sdn Bhd

21 April 2022



## Forest Status Analogy: Finland and Brunei Darussalam

	FINLAND	BRUNEI DARUSSALAM
Climate	predominantly subarctic	tropical
Land area	338,440 km <sup>2</sup>	5,765 km <sup>2</sup>
Forest area	About 75% (200,000 km <sup>2</sup> / 20,000,000 Ha)	About 75% (4,323 km <sup>2</sup> / 432,375 Ha)
Forest sector value	B\$13 Billion	

2-3 fold tree growth potential due to tropical climate

→ About 2.16% of Finland's forest area  
(432,375 ÷ 20,000,000)

→ About B\$280 million potential value  
(2.16% x B\$13 billion)



## Opportunity: Meranti Home Cabinet Manufacturing

### Raw Material Supply

#### Raw material requirements:

- Meranti sawntimber
- Veneer
- Plywood

#### Procurement:

- locally
- Neighborhood state

### Demand

Global cabinet market is worth ~ USD327 billion



## Opportunity: Meranti Home Cabinet Manufacturing

### Product Grades according to rank

1. Solid wood
2. Solid wood veneer / plywood
3. Veneer / mdf
4. Veneer / chipboard



The more solid wood,  
the higher the premium

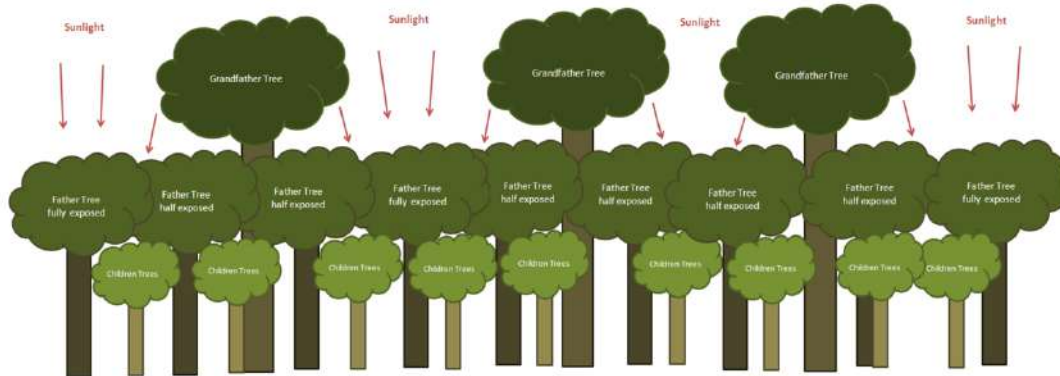




## Opportunity: Meranti Home Cabinet Manufacturing

### Why Brunei Darussalam Meranti?

Use grandfather and father trees for its unique stability, durability, and looks.



## Opportunity: Meranti Home Cabinet Manufacturing

### Challenges / Requirements:

Sufficient raw materials



Efficient machinery



Human resources



## Volume-price of raw materials Cooperation or invest?



stability and availability of  
raw materials, specially that  
of veneer timber



### Cooperate or invest

Niche market: Meranti Veneer is preferred  
since it has the wood feel compared to  
computer printed paper melamine finish



## Volume-price of raw materials Cooperation or invest?



Veneer Slicing Machine

## Volume-price of raw materials

### Cooperation or invest?

---

#### Plywood, MDF, or Chipboard

Easily available but in large quantities. Manufacturers may not accommodate small to medium industries



#### Skilled Operators and Personnel

- Machine specific
- Technical capabilities and experience

## Opportunities in Brunei Darussalam

---

- ✓ Huge global cabinet market
- ✓ Premium tropical sawn timber with long term sustainable managed forest practices
- ✓ Ready support from MPRT
- ✓ Pioneer industry tax holiday as incentives to investors
- ✓ Personal income tax free attracts highly skilled personnel
- ✓ And many others



## Challenges

- High capital entry to wood based machinery at building complex
- Building industrial complex
  - Concreting industrial floor
  - Construction of workshop
  - Workers housing facilities
  - Loading bay
  - Offices, etc.



## Challenges

- Personnel high level of skill requirement

**Right machine + worker with right skills = right product**
- Low level of industrial support services
  - Mechanical and electrical
  - Alternative: set-up inhouse services but at a higher cost
- International trend towards Certified Sustainable Forest Management Systems
- Application of automated machinery





## Conclusion

---

- High demand and earning potential
- Brunei Darussalam is equipped with the raw materials needed
- Design and marketing for repeat orders
- Well managed human resources with high skill levels



**POTENTIAL**

## Promoting and Adapting Forest Certification as a Way Forward for Sustainable Production and Consumption of Forest in Brunei Darussalam



### Company profile

Established in Rotterdam

1920



Family owned  
non listed company.  
Long term vision -  
Thinking in generations.



80 Countries



5000 People



## Global Leader in Forest Product Certification



**EUTR**



- Traceability Verification
- 3<sup>rd</sup> party assurance against ESG performance
- One-stop-shop for all forest industry related assurance from timber, non timber, packaging, biomass, tourism, carbon and other ecosystem services

### Certification and Labels

- CERTIFICATION is an activity to determine that a products, processes meets relevant standards and fulfils relevant requirements
- LABELS are marks placed on product packaging that can help consumers and institutional purchasers quickly and easily identify those products that meet specific performance criteria and are therefore deemed “preferable”
- Can be a single-attribute or multi-attribute
- Although largely invisible in our daily lives, are a crucial component to making things safer and better in the world around us. By achieving this, it contributes to improving people’s quality of life every day.



## Evolution of forest certification

- Emerged because of rapid tropical deforestation in 1980s and 1990s
- 17 million hectares were cleared in 1990, at a rate of more than an acre per second
- Suggested ITTO to implement a labeling program for sustainably produced tropical timber
- Little progress on implement the Tropical Forest Action Plan
- In 1992 - **Earth Summit**, held in **Rio de Janeiro** – made international agreements and legislation about deforestation and forest degradation
- From Rio concept of Sustainable Forest Management was developed
- The non-legally binding Forest Principles and an agenda (Agenda 21) set action programmes for sustainable development were established



Consumers are increasingly aware of, and concerned by, the origins of the products they buy and the processes that go into making them.



## How consumers feel about forestry and forest-based bioeconomy ?

- Forests are beneficial for the climate, as a place of biodiversity and to experience nature and recreation in the forest.
- Mixed forests and diversity of stands are preferred and perceived as being “more natural”.
- Clear cuts, the use of exotic tree species and the application of chemicals for productivity or pest measurement, receive little acceptance
- Timber industry result in land grabs, loss of livelihoods and social conflict and violates labor rights
- Wood and wood-based products have a positive image. Yet the positive impact on climate change mitigation, is questioned.
- Sustainable wood sourcing (country and legal origin) is an important piece of product information. Yet consumers assign similar or even more importance to product quality and prices and little is known about the actual purchasing decisions of consumers.

## Produce forest products sustainably and at a minimum meet legal requirements

Voluntary



Mandatory

**EUTR**



## What Is Forest Certification?

- A voluntary / (obligatory) process
- Independent third party ("certifier") assesses the quality of forest management and production
- Against a set of requirements ("standards")
- Predetermined by public/ private certification organization

### Forest Certification



## Why Forestry Certification Is Needed?

- 1) **Economic benefits - improves productivity**
- 2) **Streamlining of forest operations due to improvements in efficiency and greater control of production processes**
- 3) **Market Access**
- 4) **Environmental advantages: improved forest conservation outcomes**
- 5) **Boost the public image of companies**
- 6) **Uplift social welfare**
- 7) **Improvements in the working conditions and safety and health of forest workers**
- 8) **Provide confirmation that a product fulfils legal requirements**

# What makes Forest certification credible?

- Conforms and exceeds legal and regulatory requirements
- If it promotes sustainability by being environmentally appropriate, socially beneficial and economically viable
- Publicly available certification audit summaries.
- Multi-stakeholder involvement in a standards development process.
- Complaints and appeals process.
- Third-party certification audits performed by accredited certification bodies such as **Control Union**.



## FSC Principles for Forest Stewardship

Ten Rules for Responsible Forest Management



FSC-certified forests are managed with consideration for people, wildlife and the environment. They are independently audited to ensure they meet FSC's Principles and Criteria for Forest Management.

- 1 Compliance with Laws Principle
- 2 Workers' Rights and Employment Conditions Principle
- 3 Indigenous Peoples' Rights Principle
- 4 Community Relations Principle
- 5 Benefits from the Forest Principle
- 6 Environmental Values and Impacts Principle
- 7 Management Planning Principle
- 8 Monitoring and Assessment Principle
- 9 High Conservation Values Principle
- 10 Implementation of Management Activities



## FSC Certification is...

...a balanced approach in order to define sustainability

### Forest Management (FM) certification

Required for forest managers (or owners). It sets the standards for responsible management of natural and plantation forestry. Certification verifies the forest managers' compliance with these standards.



The mark of responsible forestry



### Chain of Custody (CoC) certification

Required for companies selling FSC certified materials along the supply chain. It tracks the FSC products from forest to shelf.



## Ecosystem Services

30 FM Certificate Holders with verified ecosystem services impacts in 12 Countries



Biodiversity



Carbon



Water



Soil



Recreation

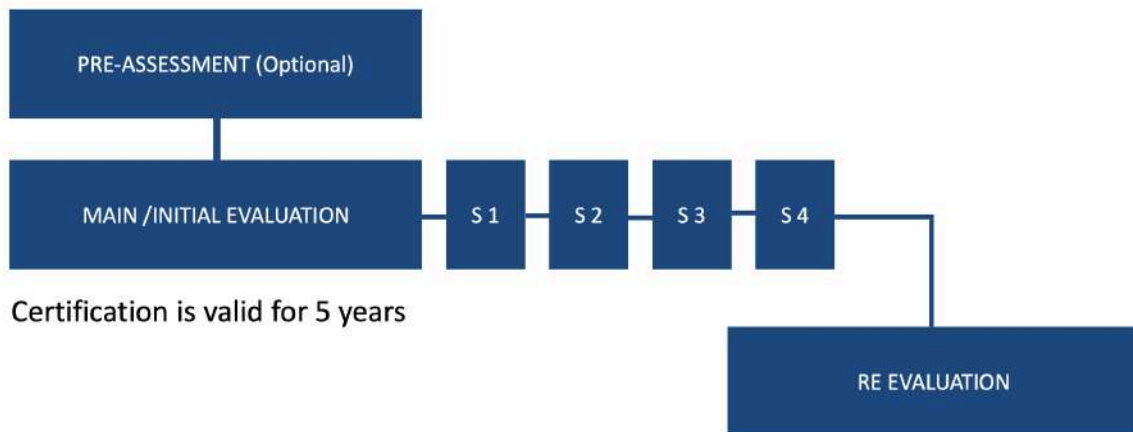
## PEFC

Program for the Endorsement of Forest Certification Schemes



- More than **330 million hectares of forest area** are managed in compliance with PEFC's internationally accepted Sustainability Benchmarks
- **Two-thirds of all certified forests** globally are certified to PEFC.
- Currently more than **20,000 companies and organizations** have achieved **PEFC Chain of Custody certification**.
- **One-third of all Chains of Custody** globally have been awarded by PEFC.
- **55 national members** and **48 endorsed national certification systems** have joined forces under the PEFC umbrella to collaboratively promote sustainable forest management.
- PEFC certification is a standard of choice for public timber procurement policies in e.g. the United Kingdom, Germany, and Japan, in addition to numerous private timber procurement policies.

## CERTIFICATION: THE PROCESS



### CUC Office + Lead Auditor

1. Audit plan
2. Audit preparation
3. Stakeholder notification

### Lead Auditor/Auditors

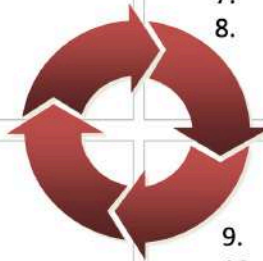
4. Audit Planning
5. Preassessment (Large FME, HCVF)
6. Stakeholder consultation
7. Field evaluation
8. Prepare evaluation report

13. Peer review
14. Final report
15. Certification decision
16. Certificate issuing
17. Pub Sum of report on FSC database

### Lead Auditor + CUC Office

9. Final draft of the report
10. Send to FM Certifier
11. Redraft report if necessary
12. Administrative handling (NC's in CU Database)

### CUC Office



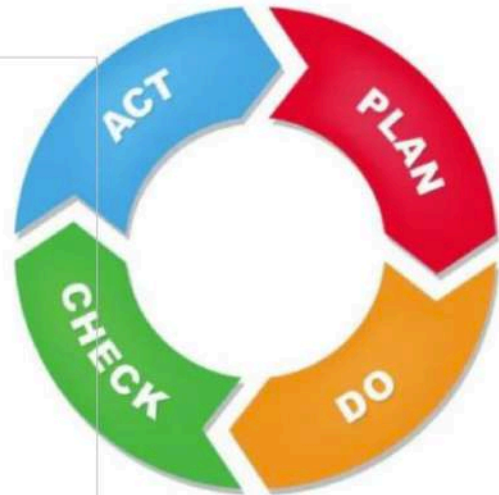
## FMU-level analysis

### At each FMU, the auditors:

**Sites** – visit a sufficient variety and number of sites so as to make direct, factual observations to verify compliance with all the relevant indicators

**Documents and records** - Identify and assess management documentation and a sufficient variety and number of records to verify indicator compliance at that FMU

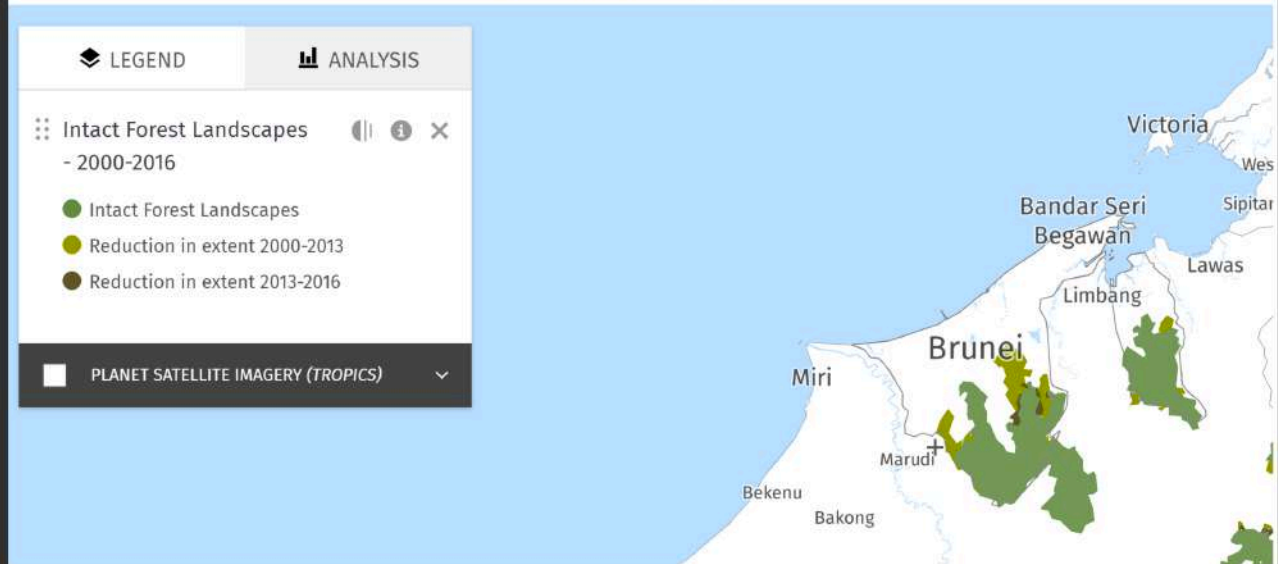
**Stakeholder consultation** – Interview a sufficient variety and # of people affected by or involved in the forest management at the sampled FMU to make observations as to compliance with the standard.



### IF PEFC is the largest scheme in area certified then why FSC is the largest in trade ???

- FSC has drawn up 10 principles and the accompanying criteria which are to be used worldwide.
- PEFC makes use of principles and criteria from international agreements between governments, which differ per region. Different social criteria exist in the various processes.
- FSC Controlled wood is more preferred in eliminating controversial wood
- PEFC uses national accreditation bodies and does not have system specific requirements for accreditation bodies in place.
- Both take occupational health and safety and ILO core conventions to account in COC
- FSC is more of a quality mark for consumers, more acknowledged by lobby groups.
- The surcharge paid for FSC is higher than that for PEFC, however the gap is quickly diminishing
- However PEFC is gaining quick ground with aggressive expansion focusing on local strategy and focus on public procurement
- Cutoff date 1994 Nov for FSC Vs 2010 Dec for PEFC
- FSC has stricter requirements on association with FSC Policy of Association, Conditions on Intact Forest Landscapes

## IFL context for Brunei



## EU Timber Regulations (EUTR)

### Due Diligence System (DDS)

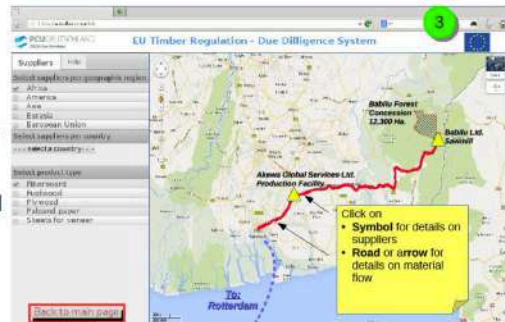
1. Information
2. Risk assessment
3. Risk mitigation





## Need for greater transparency; Source from verified supply chains

- CU as Verification Body: Through our web-tool 'WoodTrack' ([www.woodtrack.eu](http://www.woodtrack.eu)) clients can upload the specific trade documents from their transactions, which can be translated and verified on legality by our CU staff.
- CU as Monitoring Organization (MO): As a EU recognised MO, CU liaises between the importing companies, and the local authorities. CU delivers the framework and guidance to companies to set up a Due Diligence System (DDS) accompanied by periodic checks.
- CU as Certification Body: CU has developed its own Timber Legality Verification (TLV) standard. This standard complies with all the requirements of the EUTR similar to FSC or PEFC, including periodic audits.



Company Blue Roots Sdn Bhd  
Timber legality risk assessment  
[Douala, Cameroon/ supply chain]

## Changes to be expected EU Proposal for a regulation on deforestation-free products



Brussels, 17.11.2021  
COM(2021) 706 final  
2021/0366 (COD)

- The commission and the EU Parliament needs to agree to the proposal (Or make changes before it can be adopted by both parties)
- If the proposal is adopted without change, businesses will have to comply with all requirements as from 12 months from the entry in to force of the regulation

Proposal for a  
**REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL**  
on the making available on the Union market as well as export from the Union of certain commodities and products associated with deforestation and forest degradation and repealing Regulation (EU) No 995/2010



Wood



Beef



Palm oil



Soy



Coffee



Cocoa



Derived products  
e.g. leather,  
chocolate or  
furniture

## CE / UKCA -Marking

- By affixing the CE marking to a product, a manufacturer declares that the product meets all the legal requirements for CE marking and can be sold throughout the EEA. This also applies to products made in other countries that are sold in the EEA.
- In practical terms, the CE marking of a construction product indicates that, it has been assessed (tested) based on the applicable harmonized technical specification (harmonised standards and European Assessment Documents).
- The UKCA (UK Conformity Assessed) Marking is a UK product marking used for certain goods being placed on the market in Great Britain (England, Wales and Scotland). It has been introduced to replace the current CE Marking.



## Trends & Opportunities

- Brand Endorsements;

Fashion companies: Marks & Spencer, Victoria's Secret, Gucci Group, Tiffany's & Co., Hugo Boss, Ferragamo and the H&M Group, Indetex Group, Louis Vuitton,

Retail: IKEA, Carrefour, Morrisons, Tesco (EUTR), COSTO

Food: Tetrapack, KFC, McDonald's Sources Certified Wood Fiber for Front End Packaging. Tea – Akbar and Dilmah

- Demand for certified wood fiber (Rayon, Viscose)
- Emergence in renewable energy. Certified Wood Pallet demand from Japan, Korea, Europe, US
- Opportunities to prove a carbon conscious industry through Biomass Carbon Sequestration assessments
- Olympics going green in sourcing certified timber
- LEED green building giving marks for FSC and PEFC certified timber
- Non timber forest product (NTFP) certification
- PEFC endorsed FM – Malaysia, Indonesia, China, Japan, India, Thailand, Vietnam, Myanmar
- Ecosystem services







## Demand for Sustainable Natural Rubber



### Sourcing Rubber

Rubber is used in footballs, condoms, gloves. When it is harvested, it has impacts on the environment.



## Woody Biomass Certification

## Japan Policy shift

ENVIRONMENT JULY 3, 2020 / 11:05 AM / UPDATED 4 MONTHS AGO

### Japan to accelerate closure of old coal power plants

By Reuters Staff

APAC OCTOBER 23, 2020 / 2:51 PM / UPDATED 24 DAYS AGO

TOKYO (Reuters) - Japan will inefficient coal power plants b said on Friday.

### Japan set to target zero emissions by 2050 in policy shift

By Aaron Sheldrick, Yuka Obayashi

4 MIN READ



TOKYO (Reuters) - Prime Minister Yoshihide Suga is set to bind Japan to a target for carbon neutrality by 2050, a shift in stance that will bring the country in line with the European Union and more than 60 other nations in efforts to combat climate change.



### Fukushima Daiichi nuclear disaster

March 11, 2011

The Fukushima Daiichi nuclear disaster was due to a 2011 nuclear accident at the Fukushima Daiichi Nuclear Power Plant in Okuma, Fukushima

ated by the 2011 Tōhoku earthquake  
[Wikipedia](#)

[uma, Fukushima, Japan](#)

1, 2011

cer death attributed to [radiation](#)  
overnment panel.

Level 7 (major accident)

## Global leader in Biomass and Biofuels Certification



UER - Upstream Emission  
Reduction verification



RSB - Roundtable on  
Sustainable Biomaterials



ZBSvs - Biomass Biofuel  
Sustainability voluntary scheme



GGL - Green Gold Label



ENplus - Whole chain  
certification for wood pellets



ISCC - Certified Biomass and  
Bioenergy



REDCert - Biomass for Energy



SBP - Sustainable Biomass  
Program



## Net Zero? Carbon Credits?

Name of the mechanism	Credits issued (MtCO <sub>2</sub> e)	Registered activities	Average price (USD)
American Carbon Registry	7.30	15	5.36
Climate Action Reserve	4.61	33	2.34
Gold Standard	34.35	59	5.27
Verified Carbon Standard	140.37	127	1.62
Clean Development Mechanism	74.00	15	2.02

Source: State and Trends of Carbon Pricing 2021; The World Bank

## Ways for forest industry

- Improved forest management
- Community Forestry
- Conservation
- REDD+
- Avoided ecosystem conversion/(un)planned degradation
- Fire Management



## Demand for nature based - sustainable tourism



EarthCheck



Green Globe Standard



Green Key



Green Key Global



GSTC - Global Sustainable Tourism Council

feel good. stay green. [bookdifferent.com](https://bookdifferent.com) 



**Sustainable destination Vail, Colorado (USA)** Experience the ultimate in mountain resort luxury and ski your lungs out in a premier international destination!

**Sustainable destination #Khoadi-//Hóas Conservancy, Namibia** Dramatic desert scenery, safari wildlife, harsh landscapes and outstanding unique culture, this is Namibia.

- Stakeholder Inclusivity
- Transparency
- Integration sustainability in to your corporate strategy

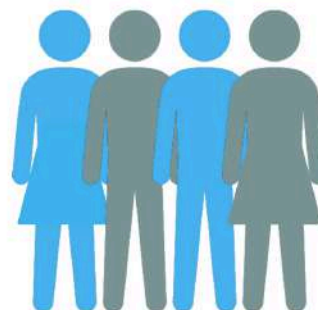


**Is the only way to survive  
and thrive!**

# Thank You

“Supply and value chain solutions built  
by individuals who care”

Further information, please contact  
Supun Nigamuni; [snigamuni@controlunion.com](mailto:snigamuni@controlunion.com)



## Forests – Carbon Asset for Sustainable Economy in Facing Climate Change

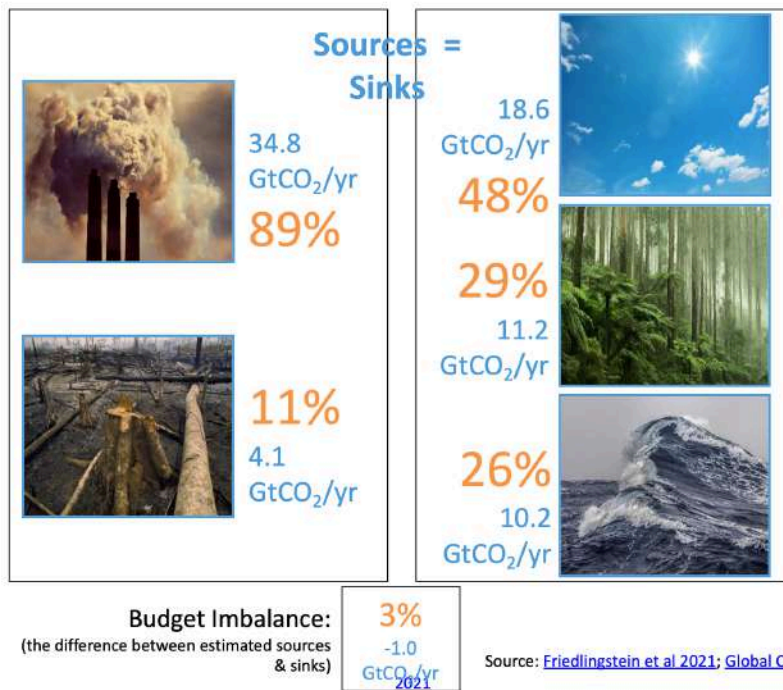


### Content

- Forest, Climate Change and Paris Agreement
- Potential mitigation from forest
- Adaptation measures for forest
- Brunei's opportunities

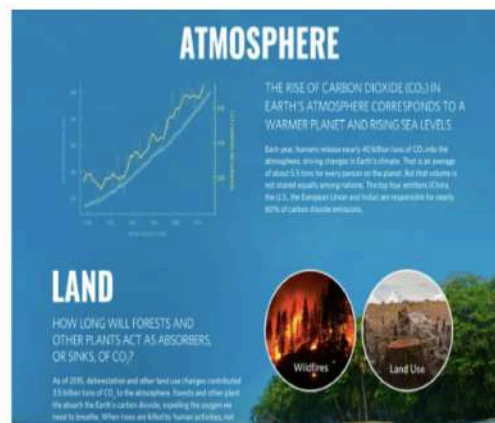


## Fate of anthropogenic CO<sub>2</sub> emissions (2011–2020)



## Climate Emergency

- Scaling up mitigation and adaptation actions to meet Paris Agreement goal.
- Incentives for change





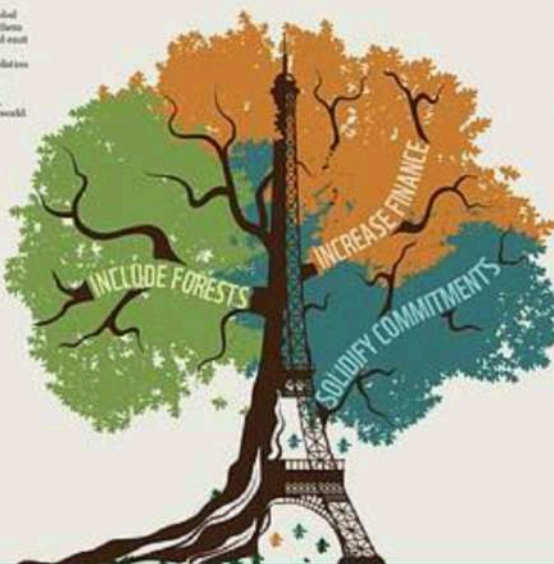
## Recalling Paris Agreement

### FORESTS: KEY TO A SUCCESSFUL PARIS AGREEMENT

Forests are a key part of the global carbon cycle. The trees within them absorb carbon as they grow and emit it as they age or are cut down. Deforestation and forest degradation are the largest sources of CO<sub>2</sub> emissions after the combined emissions from all cars, trucks, trains, planes and ships in the world.

If current trends continue over the next 25 years, 13 of the world's most ecologically important forest landscapes will be lost.

We will not be able to close the emissions gap or address climate change if we do not include forests in the Paris agreement. Agricultural practices also need to be included, as most of the world's deforestation is caused by expanding agriculture.



Adequate and predictable finance for reducing emissions from deforestation and degradation in developing countries (REDD+) is needed in the agreement if we want to achieve the broader mitigation and sustainable development goals.

Money is needed for a variety of approaches, such as properly managing protected areas, increasing enforcement to prevent illegal logging and strengthening forest governance.

Funding for all forest conservation initiatives, including REDD+, must be allocated and used in a way that safeguards the rights of indigenous people and local communities to their land and way of life.

The public sector plays a leading role in reducing deforestation and degradation. But this sector cannot solve the issue alone, especially at the pace that is needed.

Companies in the private sector must also play a role by bringing their "deforestation-free" commitments – most which are about improving the way they produce and source food and commodities – to life in a fair and effective manner.

Forest conservation strategies created and implemented by national governments via REDD+ can lay the foundation for the private sector to meet its commitments.

## Forest and NDC

- 145 countries mention Land Use, Land Use Change and Forestry (LULUCF)
- 124 countries specifically mentioned forest as mitigation
- 114 mention forests under their adaptation



## Forests provide important environmental services and irreplaceable economic opportunities

30% of Global Climate Change Solution

### Sinks of carbon dioxide

The world's forests absorb and store carbon in both above and below ground biomass



### Habitat diversity

Forests are primarily biodiversity and protected areas have increased since 1990

Forest within protected areas 651 million ha 2015

### Providers of environmental services

Forests supply, recreation, spiritual activities have increased since 1990



### Sustaining livelihood and economic opportunities

Forests supply the world's population with wood and non-wood forest products. In low-income countries woodfuel is still the most important wood product



Source: FAO

## Forest mitigation Potential

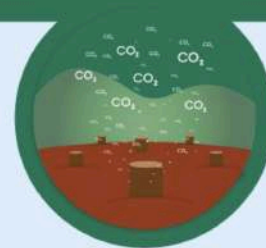
Forests act as carbon sinks, absorbing CO<sub>2</sub> from the atmosphere and storing carbon in their biomass and soils



Forests cover 30.6 percent of global land area and about 13.5 billion trees are growing in drylands outside forests worldwide

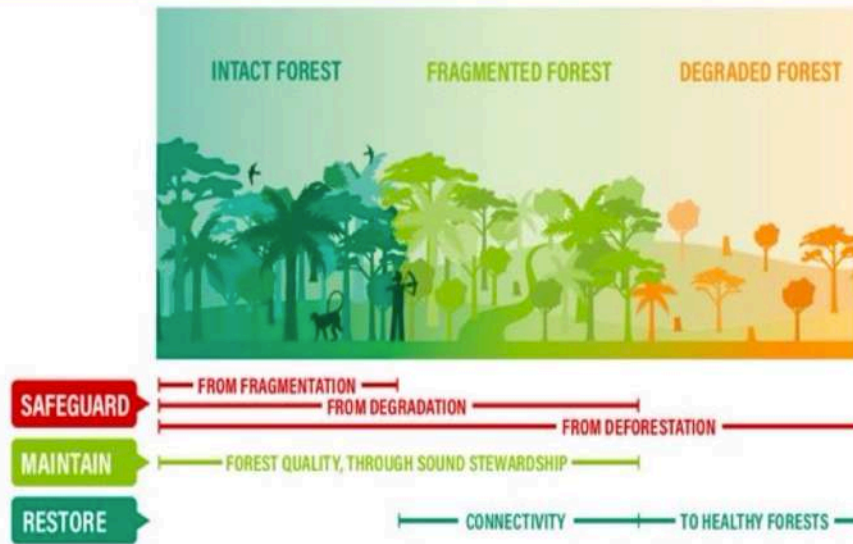


The net loss of 3.3 million hectares of forests per year is a major source of CO<sub>2</sub> emissions



Forests are vital for sustainable agriculture and food security  
Deforestation free supply chain  
Low carbon supply chain

# Actions

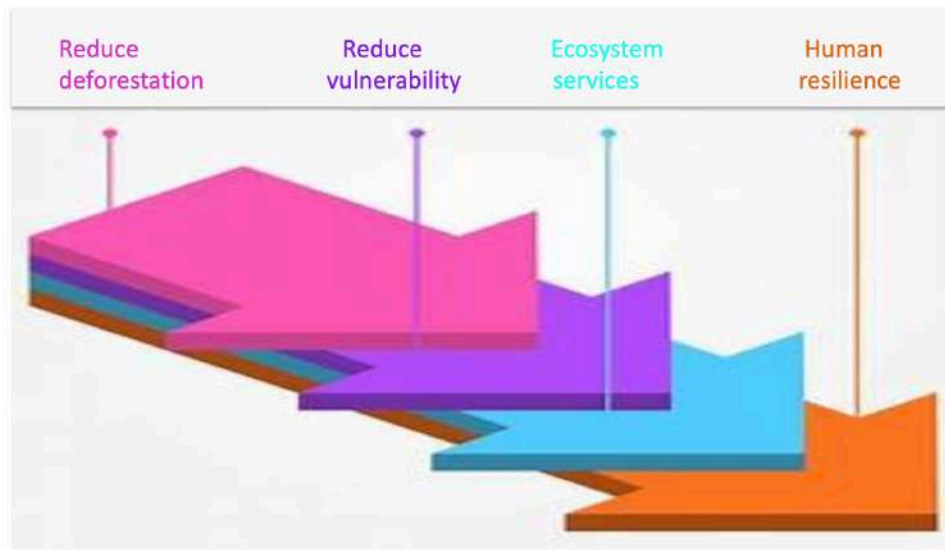


# Cost

Activities	Mitigation Potential	Cost Effectiveness
Reduce deforestation and degradation	0.4-5.8 Gt CO <sub>2</sub> /yr	Low cost USD20 t CO <sub>2</sub>
Improved Forest Management (IMF) and agroforestry	IMF : 0.4-2.1 GtCO <sub>2</sub> /yr AF: 0.1- 5.7 GtCO <sub>2</sub> /yr	AF : Low cost USD10-20t CO <sub>2</sub>
Afforestation Restoration	A: 4.9 GtCO <sub>2</sub> yr R: 2.43GtCO <sub>2</sub> /yr of natural forest	Medium cost USD 10-100 t CO <sub>2</sub> R : USD 200 t CO <sub>2</sub>

Source: WWF, 2020

## Adaptation



## Brunei's NC

- 0.026% of global emissions
- 72% forest cover
- Over 80% emissions from energy sector.
- NDC:
  - GHG emissions to increase from 10.1 MtCO<sub>2</sub> in 2018 to 29.5MtCO<sub>2</sub>e in 2030.
  - Reduce GHG emissions by 20% in 2030
  - Carbon disclosure and carbon pricing



## Brunei's Forest Cover

	Undisturbed	Disturbed
	000'ha	
Conservation Forest	31.364	
Protection Forest	18.070	0.477
National Park	48.854	
Recreational forest	4.445	
Production forest	218.650	
Total	321.703	0.477

Source: NC2, Brunei

## Carbon Pricing

- an **economic signal** to reduce their CO<sub>2</sub> and other GHG.
- stimulate the development of new, greener, more efficient, low-carbon technologies.

*'One of the important policies ...Paris Agreement goal'*

*World Bank President, 2017*



---

A photograph of a dense, green forest landscape. In the foreground, there are many tall, thin trees with lush green foliage. In the background, a large, prominent tree stands out against a hazy, misty sky. The overall scene is serene and natural.

Thank you