ITTO Project

[PP-A/53-323H]

Project Report

on

Sustainable Wood Use in Selected Countries of Southeast Asia Region

This report is authored by
Dr Promode Kant
Formerly of the Indian Forest Service
Director, Institute of Green Economy, Gurgaon
Member, Core Advisory Group on Environment, Climate Change and Human Rights, National Human Rights Commission, New Delhi, India
International Consultant to the ITTO

November 7, 2023

Acknowledgement

The author would like to thank institutions and experts who gave their precious time to provide the insights presented in this report and would, in particular, like to thank ITTO Secretariat for guiding the research that went into the preparation of this document and for critiquing it on several occasions and giving suggestions. Indeed, without the constant help from the Secretariat the production of this document would not have been possible. Sincere thanks are also due to Ms. Akiko Tabata and her staff of the Japan Forest Agency and the SWU project coordinators: Prof. Yongyut Trisurat of Thailand, Dr Rina Kristanti of Indonesia, and Mr Ngo Sy Hoai of Vietnam for their extensive reviews and invaluable suggestions.

ABBREVIATIONS

APEC	Asia Pacific Economic Cooperation
BECCS	Bioenergy with Carbon dioxide Capture and Storage
BCG	Bio-Circular-Green Economy
CBAM	Carbon Border Adjustment Mechanism
CDR	Carbon dioxide Reduction
CITES	Convention on International Trade in Endangered Species
DACCS	Direct Air Carbon dioxide Capture and Storage
DG	Director General
EU	European Union
FIA	Forestry industry organizations
FIO	Forest Industry Organization
FLEGT	Forest Law Enforcement, Governance and Trade
FSC	Forest Stewardship Council
G7	The Group of Seven
GPP	Green Procurement Policy
INTERPOL	International Criminal Police Organization
IPCC	Intergovernmental Panel on Climate Change
ITMO	Internationally Traded Mitigation Outcome
ITTO	International Tropical Timber Organization
MoE	Ministry of Energy & Mineral Resources
MoEF	Ministry of Environment and Forestry
MoI	Ministry of Industries
MoPWPH	Ministry of Public Works and Public Housing
MoT	Ministry of Trade
NPPPA	National Public Procurement Policy Agency
PHL	Pengelolaan Hutan Lestari
RFD	Royal Forest Department
SDoC	Supplier’s Declaration of Conformity
SFM	Sustainable forest management
SME	Small and Medium Enterprises
SVK	Sertifikat Legalitas Kayu

SVLK	Sistem Verifikasi Legalitas Kayu
SWU	Sustainable Wood Use
TLAS	Timber Legality Assurance System
VIFOREST	Vietnam Timber and Forest Products Association
VNTLAS	Vietnam Timber Legality Assurance System
VPA	Voluntary Partnership Agreement

Contents

Executive Summary

Sustainable Wood Use (SWU), a globally significant economic activity and an important climate change mitigation tool, has the potential to create huge demand for more forests and trees, and for sustainably managing those already in existence. A growing forest and a sustainably managed forest is a net sink for atmospheric carbon dioxide and, when they are sustainably harvested for timber, the stored carbon is further locked away from the atmosphere in harvested wood products. Even when wood is consumed as biofuel it replaces fossil fuel use thus contributing to mitigation. The Intergovernmental Panel on Climate Change estimates that long term sustainable forest management yielding sustained supplies of wood biomass along with other forest ecosystem goods and services will generate uninterrupted climate change mitigation benefits of magnitude.

A sustained supply of wood can be maintained economically over a long period only if there is a sustained demand for wood and the market pays well for it. A major concern in the sustainable use of wood across the world is the scale of illegal logging and theft of timber. The International Tropical Timber Organization has been supporting projects in the three countries of Indonesia, Thailand and Vietnam aimed at strengthening the domestic wood and wood product markets using legal and sustainably produced wood by bringing appropriate changes in their national strategies and policy environments, educate consumers on the advantages of using wood products over substitute products, enrich assortment of wood products in the domestic markets, and strengthen sustainable wood value chains to enhance their social, economic and environmental benefits from production to consumption.

The objectives of this specific study was to analyze common elements and specific challenges in the promotion of sustainable wood use by cross-cutting review of existing state policies and regulations and the prevailing practices in forest trade and industry and recommend suitable policy changes, initiatives and bring a set of best practices to the notice of public authorities with a view to promote sustainable wood use in these countries.

The limited domestic consumption of wood products in these countries is largely because of the failure to recognize the changing consumer preferences, fewer choices, and widespread penetration of substitute products often at very low prices. Indonesia intends setting up a

national council for the promotion of sustainable and resilient domestic market for wood products and evolving a national strategy to rapidly enlarge the assortment of wood products in its domestic markets. Use of wood in buildings can be speeded up in these three countries if popular concerns regarding vulnerability to fires, limited vertical expansion, short life span, and consequential high insurance premiums, can be addressed. Technological collaboration with developed countries with long experience in this field under the technology framework mandated under Article 10.4 of the Paris Climate Agreement and financing by the Green Climate Fund can facilitate this process.

Long post harvest storage of carbon in buildings can also help attract finance under Article 6 of the Paris Climate Agreement with developed countries extending technological and financial help for large scale housing for poor in developing countries in exchange for Internationally Transferred Mitigation Outcomes (ITMO) which can help them achieve their own NDC targets.

Purchase decisions of the large public sector usually have a huge impact on the market. Indonesia has a sound Green Public Procurement Policy in place using the tools of eco-labeling, timber legality verification, energy efficiency, and green technology verification etc. Voluntary Partnership Agreement under the EU's FLEGT Regulation of 2005 is operational in Indonesia and Vietnam and at an early stage of development in Thailand. A timber legality verification system (TLVS) forms the basis of this agreement and is mandated for all timber based businesses throughout the value chain.

Indonesia has sought to make its TLVS less burdensome for small and medium enterprises, and for smallholders dealing exclusively with low-risk timber from privately-owned forests and verified plantations besides timber obtained from state-owned companies, by introducing the provision of self-declaration of conformity with the regulations. While this is a compromise with potential for misuse it serves the very important purpose of making the legality verification politically acceptable and is worthy of consideration in the other two countries as long as it is confined to special circumstances and kept under constant watch.

Wood village is an innovative experiment in the promotion of small scale wood based industries across rural Vietnam. These wood villages help keep watch over the timber supplies, lower transportation costs, ease access to special skills and also enable loan outreach by Banks.

Institutional and individual capacities in the forest departments of all the three countries in detecting illegal timber in the vicinity of the source of timber are of good order but deteriorates rapidly as the distance from source and time from felling increases. The use of forensic evidence in forest crime detection needs to be built up in all the three countries. The CITES Secretariat can be very useful in capacity building in this aspect and the ITTO, under their already existing agreement with the CITES Secretariat, should be able to facilitate this highly specialized capacity building at an early date.

The European Union has very recently decided to initiate Carbon Border Adjustment Mechanism on the imports of specified goods which would necessitate compensation for embedded greenhouse gases in such imports through equivalent carbon credits or ITMOs though in the first phase the importers would only need to report the embedded greenhouse gases. While there have been justified opposition to the implementation of mechanism one likely positive effect would be in creating a growing market for carbon credits or ITMOs from sustainable forest management, restoration of forests, and sustainable harvesting in the exporting countries that will, in turn, create conditions favourable to sustainable wood use.

ITTO Project

Sustainable Wood Use in Selected Countries of Southeast Asia Region

[PP-A/53-323H]

Introduction

Sustainable wood use (SWU), or the use of sustainably produced wood in activities that are net environment positive, is increasingly being recognized as an important climate change mitigation tool in sectors like construction, furniture, paper, packaging, as biomaterial for clothing and biochemicals and as renewable energy by replacing, or reducing the use of, fossil energy intensive products like steel, aluminium and cement among others. During their growth phase forests absorb carbon dioxide and, when they are sustainably harvested for timber, the stored carbon is further locked away from the atmosphere till the lifetime of the building and furniture in which the timber is utilized. When done at scale this is a very significant contribution to the mitigation of climate change. After the lifetime of the building and furniture the wood can also be recycled and reused.

The Intergovernmental Panel on Climate Change (IPCC) estimates[1] that in the long term a sustainable forest management approach that produces a sustained yield of wood biomass along with other forest ecosystem goods and services while maintaining or increasing forest carbon stocks will generate the largest sustained climate change mitigation benefits. Since a sustained yield of wood can be maintained economically over a long period only if there is a sustained demand for wood it would be justified to state that a sustainable wood use organized at global scale has a critical role to play in optimizing mitigation benefits from the forests spread across the world.

Sustainable wood use is also very important for reaching Paris climate targets. The IPCC modeling studies have arrived at the conclusion that carbon dioxide reduction (CDR) strategies – which include carbon sequestration and storage in forests and long lived timber

[1] IPCC AR4 Working Group 3 Chapter 9 Executive Summary
https://www.ipcc.ch/site/assets/uploads/2018/02/ar4-wg3-chapter9-1.pdf

products, bioenergy with carbon dioxide capture and storage (BECCS), and perhaps more refined direct air carbon dioxide capture and storage (DACCS) technologies that may be invented in future - will play a central role in reaching the net zero state by 2050 which is essential to achieving the Paris climate goals. Figure 1 below prepared by the Integrated Climate Change Team of the Institute for Global Environmental Strategies on the basis of net zero pathway in the IPCC Special Report of 2018 on the Global Warming of 1.5^{0}C presents it with clarity.

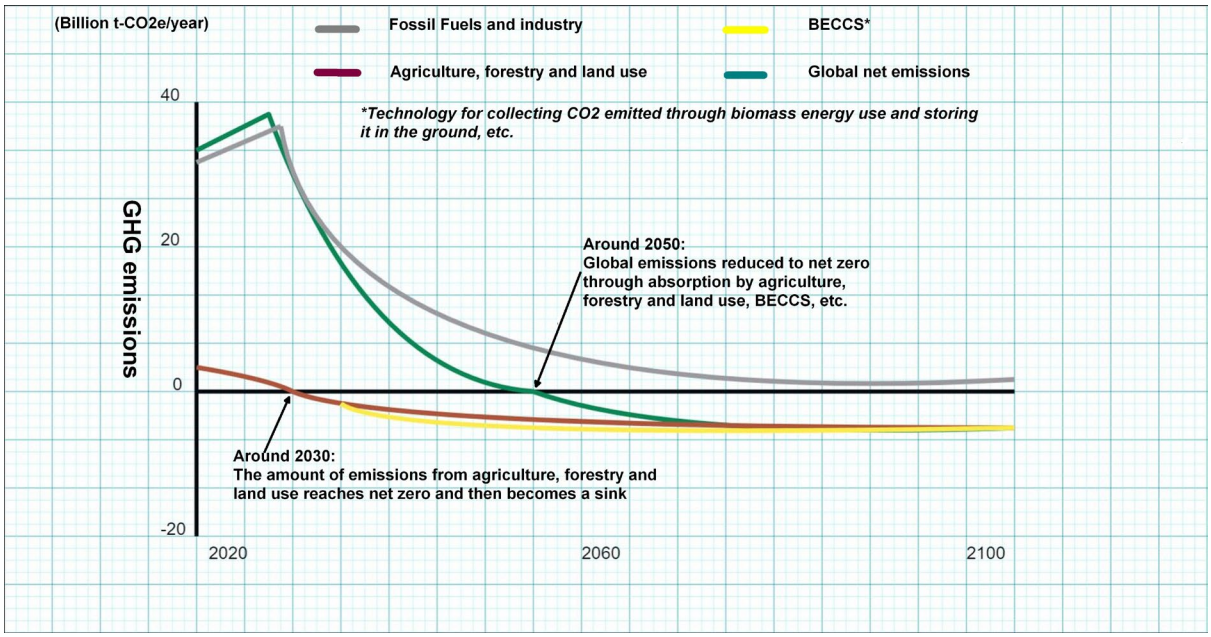

Fig 1: IPCC scenario on how global GHG emissions should be reduced in order to limit the temperature increase to 1.5°C (Adapted from IPCC Special Report of 2018 on the Global Warming of 1.50C)

Sustainable wood use has, therefore, a high potential of contributing to the achievement of decarbonation and circular economy, a fact that is increasingly being recognized by national and global policy makers. At the XV World Forestry Congress held in Seoul in May 2022 the Ministerial Forum on Sustainable Wood declared that they “are convinced that mobilising the full potential of sustainable wood will enable us to build more carbon-neutral and resilient economies and progress towards more sustainable societies”. The Ministers, however, cautioned that this increased use of wood can not be at the cost of compromising the multiple ecological and economic roles of forests including for climate, biodiversity and ecosystem services. They outlined four areas for action for scaling-up sustainable wood-based pathways, namely, enhancing awareness of their potential, promoting policy dialogues on discovering and creating synergies, promoting technical exchange and sharing of experiences, and driving innovations. The Ministers also called on the countries to significantly increase the use of sustainable wood-based solutions within their Nationally

Determined Contributions. The FAO also was of the opinion that the “sustainable wood based solutions can be up-scaled to contribute more to building carbon neutral and resilient economies.”

Similar position has also been taken by the G7 countries consistently for more than two decades now. The G7 Hiroshima Leaders’ Communique of May 2023 reiterated their commitment “to conserving forests and other terrestrial ecosystems and accelerating their restoration, supporting sustainable value and supply chains as well as promoting sustainable forest management and use of wood”. The Communique issued earlier in April 2023 by their Climate, Energy and Environment Ministers was more elaborate regarding the sustainable use of wood. They committed themselves to promoting “wood use including by combating illegal logging to achieve net-zero, resilient, circular and nature positive economies” and promised to work with relevant international organizations towards this objective. They also recognized the need for a range of solutions from more traditional methods to innovative modern technologies particularly the “importance of improved use of sustainable low-carbon materials including wood and end use equipment by using a whole lifecycle buildings approach in design and considering the circularity in the renovation and construction of buildings, as well as decarbonizing the production of conventional materials”, decarbonisation of heating and cooling systems, and the use and revitalization of abandoned buildings.

As a leading member of the G7 Japan has been promoting use of wood in buildings, particularly rural and urban dwellings, increased use of woody biomass for generating bioenergy, and enhanced competitiveness of wood industries of all sizes. There has been a successful national campaign, called “Kizukai”, for the dissemination of the significance of wood use to general public since 2005 as a part of which the Government of Japan (GOJ) introduced the “Act on Promotion of Wood Use in Public Buildings” in 2010. The Act was revised in 2021 to expand the scope to include private sector. As a result of these efforts, the volume of the domestic wood use in Japan almost doubled from 17 million m^3 in 2002 to about 34 million m^3 in 2021[2].

In May 2017 Japan had initiated steps to ensure that the wood used in Japan is procured from legal and sustainable sources, whether domestic or imported, by laying emphasis on the legality issues in wood use and trade by way of promulgation of the Act on Promotion

[2] Press release of 30 Sept 2022 by FA Japan. https://www.rinya.maff.go.jp/j/press/kikaku/220930.html

of Use and Distribution of Legally-Harvested Wood and Wood Products, in short, the Clean Wood Act. The Act places complete responsibility of ensuring legality and sustainability on the wood related businesses at all stages starting from wood harvesting to transportation, storage, conversion, and all stages of manufacture of the final wood product till just before the final retail sale. However, the law will be implementable only when these business entities are truly enabled to ensure legality and sustainability at reasonable costs both in terms of money and time. This would be possible only when effective enabling systems are developed using appropriate technologies and all countries from where wood is sourced and the entire value chain in which wood is processed and stored and final products are manufactured and traded for ultimate consumption in Japan are persuaded to adopt them.

Illegal logging and large scale theft of timber

A major concern in the sustainable use of wood across the world is the scale of illegal logging and theft of timber from the developing countries, particularly the Least Developed Countries with poor forest protection and management infrastructure. The INTERPOL in its brief report titled “Forestry crime: targeting the most lucrative of environmental crimes” published in December 2020 [3] has estimated that illegal timber industry globally is worth almost US$ 152 billion a year and attracts some of the world’s biggest organized crime groups. It not only causes serious ecological and environmental damages but also funds conflicts with criminal gangs fighting each other for control of this illegal trade. Besides, this trade is also the cause of massive corruption, tax evasion, fraud and money laundering with the criminals often resorting to the hacking of government websites in order to obtain permits for feigning legality of the source of timber.

The international community has been aware of the seriousness of the situation and there have been continuous attempts to address this problem at the international level. The “Non-Legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests” of the Rio Conference of 1992, also called the Forest Principles, was the first global consensus on forests. The United Nations Forum on Forests (UNFF) that evolved from these Forest Principles has repeatedly emphasized the need for addressing illegal logging worldwide but with only limited success. The UN Strategic Plan for Forests 2017-2030 has now sought to

[3] https://www.interpol.int/en/News-and-Events/News/2020/Forestry-crime-targeting-the-most-lucrative-of-environmental-crimes

achieve this objective through a planned approach. The measures suggested include promotion of wood use in buildings, particularly rural and urban dwellings, increased use of woody biomass for materials and of modern forms of bioenergy, enhanced competitiveness of wood industries of all sizes.

Scope and objectives of the Sustainable Wood Use projects

The International Tropical Timber Organization (ITTO) is an intergovernmental organization promoting the sustainable management and conservation of tropical forests and the expansion and diversification of international trade in tropical timber from sustainably managed and legally harvested forests. These three SWU projects, undertaken with financial support from the Government of Japan, are being carried out in furtherance of the broad aims and objectives of the ITTO in three southeast Asian countries of Vietnam, Thailand and Indonesia. The scope of the projects encompasses bringing appropriate changes in national strategy and policy environments of these countries for enhancing the production capacity of tropical timber and timber products, educate consumers on the advantages of using wood products over substitute products made of steel, aluminium and plastic, enrich assortment of wood products in the domestic markets, and strengthen sustainable wood value chains to enhance their social, economic and environmental benefits from production to consumption.

The objectives of this specific study is to

i. analyze common elements and specific challenges in the promotion of sustainable wood use by cross-cutting review of existing state policies and regulations and the prevailing practices in forest trade and industry in three selected Southeast Asian countries of Viet Nam, Thailand and Indonesia.
ii. prepare a Policy Brief with specific recommendations on policies and initiative for public authorities, on best practices to the wood based industries, and on wood cosumption in preference over plastic and metal replacements to the larger society, with a view to promote sustainable wood use in these countries.

Context of work

Over the past few years the countries in the Asia Pacific regions have been taking several steps singly and collectively to address the environmental challenges facing them including

climate change mitigation and adaptation, air and water pollution, persistent organic pollution, degrading forest ecosystems, biodiversity losses and loss of soil and its nutrients among others In 2022 the Asia Pacific Economic Cooperation (APEC) adopted the Bangkok Goals on Bio-Circular-Green (BCG) Economy[4] to create value, reduce waste, advance resource efficiency, and promote sustainable business models. Under this the APEC member countries resolved to strengthen efforts to combat illegal logging and associated trade, stop the degradation of forest ecosystems, and promote trade and consumption in sustainably managed and legally harvested forest products.

The term illegal logging has many connotations but the definition proposed by Brack et al (2002)[5] is more widely acceptable who state that illegal logging takes place "when timber is harvested, transported, bought or sold in violation of national laws. The harvesting procedure itself may be illegal, including corrupt means to gain access to forests, extraction without permission or from a protected area, cutting of protected species or extraction of timber in access of agreed limits. Illegalities may also occur during transport including illegal processing and export, misdeclaration to customs, and avoidance of taxes and other charges".

On the demand side, many developed countries have taken a number of useful measures including review of their public procurement policies, improved detection of imports of illegally produced wood and wood products at the Customs, development of effective methods for timber tracking for verification of legal compliance, and labelling and certification of the origin of forest products. On the supply side also they have supported reforms in related policies, laws and industry regulations and improvements in enforcement of these reforms in countries that produce and export forest products through capacity building. These steps have included development of more effective methods for tracking illegal extractions in forests; building the capacity of government agencies charged with forest management and protection, and technical assistance to governments for causing the needed reforms in policies, laws and regulations incentivizing and persuading the wood based industry to comply with national forest laws.

[4] https://www.apec.org/meeting-papers/leaders-declarations/2022/2022-leaders-declaration/bangkok-goals-on-bio-circular-green-(bcg)-economy
[5] Brack et al (2002), Controlling the international trade in illegally logged timber and wood products, published by the Royal Institute of International Affairs, UK

A. INDONESIA

The title of this ITTO project in Indonesia is “Development of sustainable domestic market for wood products” with a total budget of US$ 285,691 of which the ITTO Grant is US$ 261,811, the balance being the contribution in kind by the Government of Indonesia. The project proposal was developed by the Directorate General of Sustainable Forest Management, Ministry of Environment and Forestry, Government of Indonesia, as the Executing Agency after wide consultations with stakeholders within the government and outside. A stakeholder consultation meeting was organized by the Executing Agency on 17 March 2022 in Jakarta in which top officials of the Ministry of Environment and Forests and other important stakeholders took part. The meeting noted “sluggish development of domestic consumption of wood products” and identified the main cause as the failure of the local industry to recognize the changing taste and preferences of the consumers. This in itself is at least partly caused by the lack of access to latest information on the consumption of wood products, widespread penetration of substitute products made of steel and plastics etc as consumers are mostly not aware of the many advantages of using wood products, limited assortment of domestic products in most of the markets, and the failure to strategise development of new wood products by the industry.

Specific objective of the project in Indonesia

The specific objective of the project is to promote a strong and resilient domestic consumption of wood products under the overall developmental objective of increasing contribution of the wood industry to national economy through strengthened growth of the industry. The specific objective is expected to be achieved through the execution of nine activities leading to the delivery of two major outputs, namely, (i) increased capacity of the domestic market to satisfy consumers’ need for wood products, and (ii) enhanced institutional arrangement for steadily rising domestic consumption of wood products. It is expected that five of these activities noted below

i. preliminary study on consumption of wood products in the three provinces of Java
ii. examination of the salient features of the wood substitute products currently in wide use
iii. enrichment of the assortment of wood products sold in the domestic market
iv. development of a national strategy for wood product development
v. educating the consumers on the many advantages of using wood products

would lead to the first major output of significantly enhanced capacity of the domestic market to satisfy consumers' need for wood products. And the following four activities, namely,

i. establishment of a national council for promotion of sustainable and resilient domestic market for wood products,
ii. policy interventions on the use of wooden materials in the construction sector,
iii. incentives for investment in collective facilities for wood processing, and
iv. exchange of information and experience in the development of domestic consumption of wood products with the assistance of ITTO and other international organizations

would enable the evolution of appropriate institutional arrangements necessary for the continued increase in domestic consumption of wood products in the years ahead.

A rather tough indicator of an increase by 3% in the contribution of forest industry to national GDP at the end of three years after the completion of the project has been proposed as a marker of the successful achievement of the overall developmental objectives of the project. A key assumption for this to happen is full-scale policy and implementation support by the Government of Indonesia acting through the Ministry of Environment and Forestry and of Finance Trade and Industry besides the full involvement of various Forestry Industry Associations across the country.

Work on the project is in progress. The project duration is 18 months to be implemented over the provinces of East Java, Central Java and West Java with additional focus on Banten, the westernmost province of Java.

Project execution in Indonesia

The task of execution of the project has been assigned to the Directorate General of Sustainable Forest Management (DG SFM), Ministry of Environment and Forestry of the Government of Indonesia, because the central objective of the project is to ultimately lead to a situation in which all forests of the country are managed in a sustainable manner. It is the DG SFM who is required to engage with all associated government, business, and non-government organizations for promoting strong and resilient domestic consumption of wood products in the country. It is directly responsible for formulating and implementing of policies

related to management of forests, extraction of timber, and their processing, marketing, and distribution.

The DG SFM collaborates with Provincial Forestry Agencies in the formulation of technical policies and plans and supervision in the field of forest inventory, forest exploitation, rehabilitation and protection at the provincial level. Downstream it collaborates with the Ministry of Industry (MoI) in wood processing and with the Ministry of Trade (MoT) in the promotion of national and international trade in wood and wood products. Further it works with the Ministry of Public Works and Public Housing (MoPWPH) on framing policies related to the use of wood in construction of houses and other buildings and with National Public Procurement Policy Agency (NPPPA) on the procurement of wood products under public procurements. In relation to the use of wood in woodcrafts that are almost entirely in the category of micro, small and medium enterprises the DG SFM coordinates with the Ministry of Cooperatives & Small and Medium Enterprises of the Government of Indonesia. And outside the government the DG SFM partners with the entire range of Forestry Industry Associations functioning as industry forums for consultation, facilitation and advocacy.

One of the most important area of domestic wood consumption is the building sector where the extensive use of wood provides safer housing in this earthquake prone region. However, unlike cement and steel buildings there is very little standardization yet for wood as construction material in Indonesia. The problem is compounded because of very large variety of woods available in a tropical wood market, each with its own strength, density and other critical characteristics. The task of standardization is now being undertaken by the MoI in collaboration with the MoPWPH. Once the task is completed and adequate public awareness is built around the wood standards in building constructions a sharp increase in the consumption of wood for this purpose can be expected.

Another important task taken up by the MoI is innovative wood product development that can at least partially replace the use of plastics, cement and aluminium in both households as also commercially. All these materials are very high energy intensive to produce. Further, these are produced in large sized units often located far away from the places of consumption thus consuming even more energy to bring to the site. They thus leave huge carbon footprints in the process. Wood, on the other hand, takes away carbon dioxide from the atmosphere and, when used in long-life products, enables long term storage of carbon

dioxide away from the atmosphere. It is also often produced locally and thereby contributes to the local land based economy.

Using the existing government policies for the project

A number of existing government policies are of high importance in the implementation of this project, chief among which is the *Indonesian Government Regulation*[6] *no. 23 of 2021 about Forestry Management* covering all types of forests including the state and private forests, customary forests, conservation forests, convertible production forests, and nature reserve forests. This Regulation specifically covers the utilisation of these forests, timber and non-timber forest products sourced from them, and the grant of business permits and licenses related to these products.

Another important law, commonly known as the Omnibus Law[7] for its vast reach, is the *Law of the Republic of Indonesia No. 11 of 2020 on Job Creation* that aims at streamlining regulations and simplifying the licensing process to improve the ease of doing business in Indonesia and thereby attracting investments into the country and creating jobs. The law formalizes the existing economic zones and enables the creation of new ones, deepens the existing incentives in the Free Trade Zones and provides new incentives, simplifies the land acquisition processes, and eases licensing procedures. Business activities are classed in three categories based on the risks involved and socially and economically desirable businesses carrying more risks are provided greater governmental support. A business identity number is assigned for low-risk businesses, standard certification for medium-risk businesses and a business license for high-risk businesses. The law simplifies environmental assessment requirements and integrates environmental permits and business licenses.

Regulation[8] *Number 8 of 2021 of the Indonesian Ministry of Environment and Forestry concerning Forest Administration, Preparation of Forest Management Plans, and Forest Utilisation in Protected Forests and Production Forests* is yet another relevant law that has a great bearing on the implementation of this project. This regulation relates to the

[6] https://www.fao.org/faolex/results/details/fr/c/LEX-FAOC209694
[7] https://www.fao.org/faolex/results/details/fr/c/LEX-FAOC206548/#:~:text=Indon%C3%A9sie%20(Niveau%20national)-,Law%20of%20the%20Republic%20of%20Indonesia%20No.,of%20doing%20business%20in%20Indonesia.
[8] https://www.fao.org/faolex/results/details/en/c/LEX-FAOC218150/

administrative sanctions concerning processing of forest products and forest utilisation, integrated business licensing system, wood certification, marking of forest products to notify sustainability, and disposal of forest wastes. It seeks strengthening of community participation, sets criteria for the utilisation of protected forests and business activities allowed in protected forests, and provides procedures for initiation, extension or restriction of business permits for forest utilisation. Further matters covered by this Regulation include the legality of forest products and issuance of the certificate of legality, monitoring of the import of forest products, capacity building for private forest owners, and penalties for excessive exploitation of forests.

The above Regulation also contains guidelines for conflict resolution for forestry business licence holders in production forests dealing with timber and other forest products. The Regulation maps potential social and economic conflicts, provides the criteria to assess potential conflicts and the socially and legally acceptable means to settle them, maps the boundaries of indigenous communities' territories and their customary rights, and defines the community forests and community forest management in practical terms applicable in the field. The information required to support conflict resolution consists of type, number, location, and potential conflicts in the concession area. This data is essential to formulate conflict resolution efforts in a systematic and measurable manner in order to provide effective and optimal results.

Regulation[9] of the Ministry of Trade No. 23 of 2023 on Export Policies and Regulations regulates the export of tree logs and other wood products by forestry industries by way of setting technical specifications that need to be satisfied for permitting export. In also specifies tariffs and fees according to the tree species involved in trade. Export of forestry industry products is allowed to be exported only after technical inspection.

Green Public Procurement Policy[10] of Indonesia has the objective of ensuring that all public procurements of goods in the country are as environmentally friendly as possible. In the case of wood product it seeks to ensure that the wood used is legal in origin, has been harvested from sources that are sustainably managed, and processed in manufacturing units that use ethical means of production. In Indonesia public sector is one of the largest procurer of most goods and, therefore, its purchase decisions have a huge impact on the

[9] https://jdih.kemendag.go.id/pdf/Regulasi/2023/Permendag%2023%20Tahun%202023%20(1).pdf
[10] https://www.switch-asia.eu/site/assets/files/3400/indonesia_country_report.pdf

market. The MoEF is the lead ministry responsible for the implementation of GPP and works with the ministries of Public Works and Public Housing, Energy and Mineral Resources, Commerce, Industry, and Tourism for its effective implementation. There is a Technical Team with representatives of the above named ministeries along with those of Technology Application & Assessment Agency and the National Public Procurement Agency which develops criteria for deciding on what constitutes environmentally friendly goods and services across sectors and prepares a list of 'reference products' with well defined environment related characteristics which helps in making comparisons for selecting goods for procurement. This is in accordance with the directions given in the *MoEF Regulation No. 5 of 2019* under which the MoEF grants Ecolabel, timber legality verification certificate and Green Technology verification certificate to a product while the Ministry of Energy & Mineral Resources (MoE) grants Energy Effeciency certificate and the Ministry of Industry provides the certificate of having met the Green Industry standards.

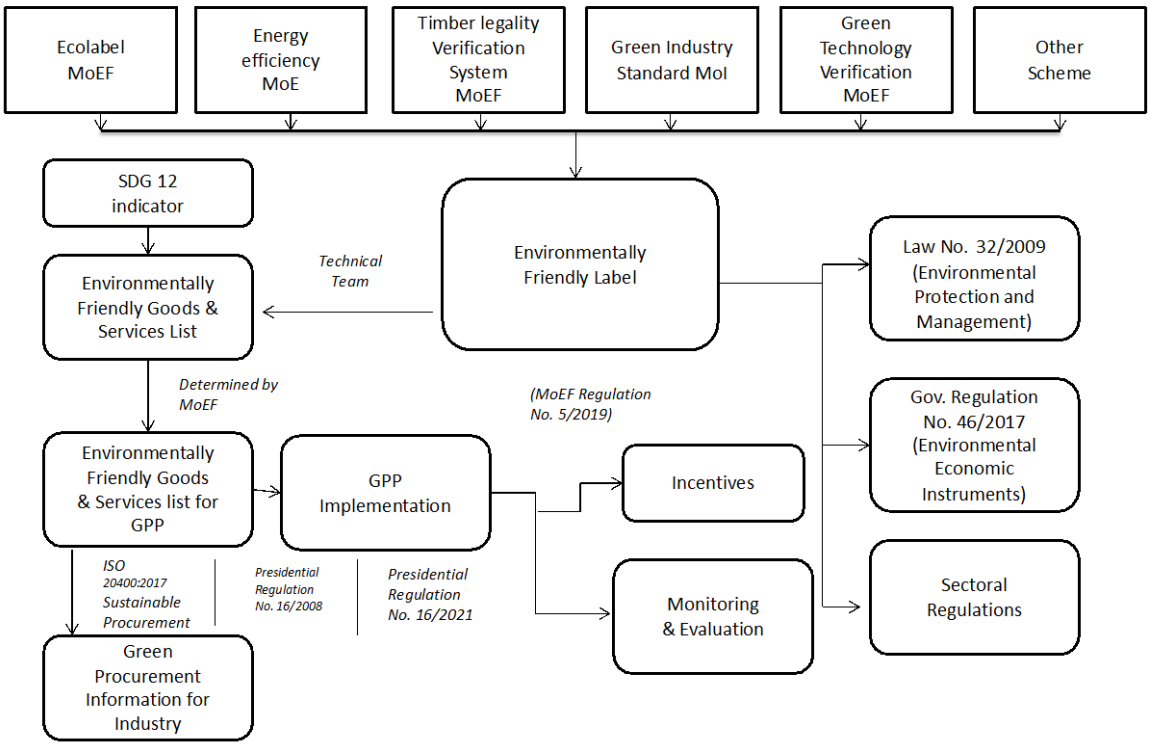

Fig 2: Implementation scheme for the grant of Environmentally Friendly Label under the Green Procurement Policy of Indonesia[11]

[11] Sourced from Indonesia Country Report: Current Status of Green Public Procurement (GPP) Implementation https://www.switch-asia.eu/site/assets/files/3400/indonesia_country_report.pdf

Timber legality verification in Indonesia

In 2013 EU and Indonesia entered into a Voluntary Partnership Agreement (VPA) under the EU's Forest Law Enforcement, Governance and Trade (FLEGT) Regulation of 2005. A timber legality verification system, called *Sistem Verifikasi Legalitas Kayu* (SVLK)[12], renamed by MoEF Regulation No. 8 of 2021 into *Sistem Verifikasi Legalitas Kelestarian,* forms the basis of FLEGT-VPA between the EU and Indonesia and is mandated for all timber based businesses throughout the value chain. Compliance under SVLK is verified through certificates issued by appropriate authorities to these businesses based on criteria developed specifically for each type of business.

Each of these businesses have compliance obligations as provided in the relevant regulations the fulfilment of which is certified by appropriate authorities and is subject to audit by an independent agency as prescribed in the Regulation No. 8 of 2021 of the MoEF. For example, if the forest owner or owner of rights in forests is found to fulfil the stipulated conditions of sustainable forest management he becomes eligible for the grant of Sustainable Forest Management Certificate or *Sertifikat Pengelolaan Hutan Lestari* (S-PHL) and also a Timber Legality Certificate or *Sertifikat Legalitas Kelestarian* (S-LK) if he has produced timber from that forest. A company owning a timber concession is granted *Sertifikat Pengelolaan Hutan Lestari* after examining the social and environmental impacts of their management practices on the Concession. The wood industry has to obtain only a Timber Legality Certificate.

BOX 1: Timber Legality Assurance System in Indonesia

The Indonesian Timber Legality Assurance System (TLAS) has been set up to ensure the legality of timber and timber products produced in Indonesia for export to the global markets. It has been established under the MoEF Regulation P.38/Menhut-II/2009 titled "Standards and Guidelines on the Assessment of Performance of Sustainable Forest Management and the Verification of Timber Legality in the State and Privately-owned Forests". The TLAS aims at controlling illegal logging and trade to improve the image of country's timber products globally. This system sets legality standards, lays down verification procedures, keeps a watch over the supply chain, and awards certificates. It also has a semi-autonomous monitoring mechanism.

Sourced from FSC (2019) - Centralized National Risk Assessment for Indonesia

As explained above the timber-based industries, timber depots, traders including exporters, and privately owned forests, whether owned by households or cooperatives or communities

[12] Sourced from FSC (2019) - Centralized National Risk Assessment for Indonesia

or concessions, must conform to the relevant legality standard before the grant of certificates. There is also a limited provision for Supplier's Declaration of Conformity (SDoC) – a kind of self-declaration about the supplier, products and recipient of the products – which can be used to enter legal supply chains under certain conditions. This procedure is available only to small and medium enterprises and to smallholders dealing exclusively with low-risk timber from privately-owned forests and SVLK-certified plantations besides timber obtained from state-owned companies. Companies holding concessions over state owned natural or plantation forests are required to meet sustainability standards within three years of the grant of concession. Public summaries of all audits and surveillance visits are available on the website of the Ministry of Environment and Forestry as well as the individual websites of the Conformity Assessment Bodies.

B. THAILAND

Recent pandemic has severely affected all aspects of the economy of Thailand and the forest based industry has been particularly affected due to the measures taken to prevent the spread of the disease with thousands of workers laid off across the country. This has led to disruptions in supply chains and reduced sales of timber and timber products in the international markets. The value of bedroom furniture made of wood exported to Japan from Thailand declined from 161 million Yen in 2018, to 45 million Yen in 2020 and 38 million Yen in 2021. Exports to EU27 from Thailand have also been similarly affected.

During these troubled days the domestic consumption of wood products acted as a stabilizer for this part of the country's economy and ensured that the larger part of the manpower engaged in productive employment in the forestry sector could continue to work even if on lowered wages in some cases. It is hoped that promoting the domestic market of wood and wood product will drive the sustainability of the wood industry in Thailand and this project seeks to enhance sustainable domestic wood consumption in Thailand and reduce the country's economic dependency on the export markets.

The decline in forest cover in Thailand has largely been arrested and it now stands at 32% (against the national target of 40%) of which 25% is proposed to be kept strictly for conservation purposes and the remaining 7% is available for sustainable production of wood and other forest products. Recent changes in the Forest Act 2019 permits landowners in private land and allotted public land to harvest tree species that were not allowed to be felled

earlier and transport the logs produced after marking with their own private seal registered with the Forest Department. However, this is a work in progress and there are still differing interpretations of regulations and enforcement across the country is not carried out to the same standards. Criteria and indicators for certification of wood from community forests and smallholder plantations have been developed by the Royal Forest Department with the help of the ITTO but not yet officially adopted.

The country also has large areas of both rubberwood and eucalyptus plantations with the rubberwood having become the main raw material for furniture production, while eucalyptus forms the backbone of Thailand's domestic pulp and paper manufacture. Construction sector uses mostly imported hardwoods. The Forestry Development Strategy (2017 – 2036) predicts an annual wood demand of 47 million tons which will have to be met by either new forest plantations of 1.4 million ha by 2036 or by enhancing imports.

BOX 2: Rubberwood in domestic wood market

Rubber was first planted late in the nineteenth century in the Trang province in southern Thailand for its latex. Today it is planted in 69 of the total of 77 province in Thailand covering about 4 million ha owned mostly by smallholders. It gives attractive returns through not only latex but also rubberwood which, after treatment, is an attractive wood for furniture most of which finds market in China. Logging residues are used both for smoking rubber sheets and for making wood pellets for energy production. One ha of rubber stand at 25 years of age has an average biomass of about 171 tons per ha which amounts to about 314 million tons for the country as a whole a quarter of which would be the harvest residues usable for energy production. In recent period Thailand has taken several policy initiatives for making rubber and rubber products a more attractive proposition for small farmers that include

i. Developing a web-based system to determine legally suitable area for plantation
ii. Raising good planting stock to increase latex production
iii. Intercropping to gain short- and medium-term benefits,
iv. Encourage large scale coperative plantations to reduce costs and enhance market leverage
v. Guaranteed minimum price decided annually
vi. Promoting wood certification for fetching best prices for rubber wood products
vii. Developing a wood certification manual for rubber plantation owners

Thailand is a major exporter of rubber products and rubberwood with China alone being the destination of nearly two third of its production. An estimated 18-30% of rubber products are consumed domestically. Now that China is bringing large areas under rubber plantations the export driven demand is likely to go down in the coming years and it would be necessary to encourage domestic consumption to ensure price stability.

Project objectives in Thailand

The development objective of the project is enhancing sustainable domestic wood consumption in Thailand and the specific objective aims at developing policy instruments for promoting domestic use of wood and wood products by

i. easing the impediments in the supply chains of wood and wood products,
ii. building the capacities of all stakeholders involved in the production of these products and their marketing processes,

iii. building the capacity to produce new and innovative wood products that meet the changing demands of younger consumers,
iv. raising awareness of the consumers about the many environmental and other benefits of using wood and wood products in preference over its substitutes like plastics and metals,
v. establishing legal and sustainable wood supply chains in Nan and Trang Provinces that improve domestic market access to wood products as pilots.

The achievement of these objectives will in turn support the national policy of enlarging bio-based economy, expand eco-friendly green areas across the country thereby contributing to biodiversity conservation, and create new job and income opportunities for small and medium size enterprises.

Executing Agency in Thailand

The Kasetsart University, in collaboration with the Royal Forest Department (RFD), is the executing agency of this project. It will be completed in 24 months at the total cost of US$ 34500 of which US$ 320,000 shall be provided by the ITTO and the remaining US$ 25000 shall be met by the Kasetsart University by way of salary of its teaching and other staff working on the project.

It may, however, be stated upfront here that this emphasis on domestic consumption does not mean ignoring exports. Thailand has for many decades been a major supplier of furniture and other wood-based products to European, USA and Asian markets and has ambitions to become a regional manufacturing hub for wood-based products. Access to international markets requires that all timber, local or imported, be legal and sustainably produced. Thailand has already begun entering in Voluntary Partnership Agreements (VPAs) under the EU Forest Law Enforcement Governance and Trade (FLEGT) under which a timber legality assurance system is being developed for ensuring that all wood products use legal and sustainably produced wood, whether sourced domestically or imported, conforming to the national laws of the country of origin of the wood. Thailand also has a voluntary certification scheme helping to establish the legal origin of wood. But its costs are still quite high as a result of which only a few big companies and Forest Industry Organizations (FIOs) can afford the certification scheme.

No harvesting in natural forests

Logging in natural forests was prohibited in Thailand since 1989[13] but the export of logs and sawnwood from natural forests continued to be allowed till the year 2006. Since that year logs and sawnwood only from rubberwood, eucalyptus and acacia are allowed to be exported. Exceptions are export of teak logs by the Forest Industry Organization of the Government of Thailand and pine logs upto limited quantities decided annually by the Royal Forest Department. Recent amendments of the Thailand Forest Code also restrict the harvest and trade of all products of certain notified protected species. Several species listed in CITES are thus notified for full protection including Agarwood (*Gyrinops* spp., *Aquilaria* spp.) and Siamese Rosewood (*Dalbergia* spp.) listed in Appendix II and Brown pine (*Podocarpus neriifolius*) listed in Appendix III of the CITES.

Thailand has taken many steps to ensure its territory is not used for illegal timber passing through for export elsewhere. Import of logs and sawnwood into Tak and Kanchanaburi provinces neighbouring Myanmar is not permitted in order to reduce the risk of illegal teak coming from that country. Re-export of imported logs and sawnwood from Thailand requires approval on case-by-case basis by the Royal Forest Department in which process the source and legality of the imported wood, and chain of custody after entering Thailand are verified.

BOX 3: CITES in timber trade

Timber is one of the most traded commodities that Convention on International Trade in Endangered Species (CITES) regulates even though trees entered the CITES regime more than a decade after the treaty came into force in 1973. CITES regulates the international trade of close to 800 tree species contributing to the long-term conservation and sustainable use of the world's forest resources through its species-specific focus. CITES Secretariat cooperates closely with the ITTO Secretariat on matters related to tropical timber species threatened by international trade and sustainable management of tropical timber producing forests.

CITES provides graded protection to species in accordance with their endangered status by listing them in three Appendices with trade for commerce being altogether banned for highly endangered species listed in Appendix 1. Shipments of a CITES-listed species require export and import permits which are subject to checking at the Customs.

Identification of species is often a difficult task. The CITES Secretariat has developed a web based CITES Repository on Timber Identification https://cites.org/eng/timber/timber-ID-repository that contains manuals, databases, mobile apps, multimedia and infographics and a host of other useful resources.

[13] https://www.forest-trends.org/wp-content/uploads/2022/01/Thailand-Timber-Legality-Risk-Dashboard-IDAT-Risk.pdf

Thailand requires harvesting permits issued by the Royal Forestry Department for all timber species located in National Forest Reserves. On all other public lands also harvesting permits are required for restricted species listed in Category A (general restrictions) and Category B (heavy restrictions). The first category presently includes 160 species including teak (*Tectona grandis*), rosewood (*Dalbergia cochinchinsis, Dalbergia cultrata, Dalbergia oliveri and Dalbergia parviflora*), padauk[14] (*Peterocapus macrocapus*), and ironwood (*Xylia xylocarpa*) etc. The second category includes 13 rarely found species including benzoin (*Styrax benzoides*) and mansonia (*Mansonia gagei*) which are not allowed to be felled except by special permission granted by the Minister of Agriculture. These restrictions apply even after public lands are allotted for utilization by farmers or companies. On other private lands, however, all restrictions to harvest, transport, and trade, any trees have been removed by an amendment to Section 7 of the Forest Act B.E 2484 of Thailand carried out in 2019. In addition a number of tree species have been notified as plantation species not normally found in the forests of Thailand on which no restrictions apply. These are:

Acacia (*Acacia auriculiformis, Acacia mangium*)
Australia Pine Tree, or Whistling Pine Tree (*Casuarina equisetifolia*)
Black Palm (*Borassus flabellifer*)
Burmese Grape (*Baccaurea ramiflora*)
Eucalyptus (*Eucalyptus* spp.)
Leuceana (*Leuceana leucocephala*)
Plum Mango (*Bouea macrophylla*)
Rain Tree (*Samanea saman*)
Red Palm or Coconut Palm (*Cocos nucifera*)
Rubberwood (*Hevea brasiliensis*)
Savukku Maram (*Casuarina junghuhniana*)
Sentang (*Azadirachta excelsa*)
Tamarind (*Tamarindus indica*)

[14] https://www.forest-trends.org/wp-content/uploads/2022/01/Thailand-Timber-Legality-Risk-Dashboard-IDAT-Risk.pdf

BOX 4: CITES listed species of the Lower Mekong Region

The Lower Mekong Region is globally one of the most important hotspots of biodiversity and is home to more than 100 CITES listed species that are adversely affected by international trade including rosewood and agarwood that have almost vanished from large parts of their original habitat. Imroved compliance with CITES trade processes now play a key role in reducing illegal forest trade in this region. The UN-REDD Lower Mekong Initiative is helping strengthen institutional capacities in the countries of the region to comply with CITES trade processes, including the Legal Acquisition Findings (LAF), Non-Detriment Findings (NDF) and CITES e-permits. LAF is verification of legal origins and Thailand is working to finalize LAF guidance for tree species and has included CITES permit issuance and verification processes in its Timber Legality Assurance System. Viet Nam has also made some progress in defining legality and setting mechanisms for verification. NDF refers to scientific review and analysis of current resource base and capacity for commercial harvest and exports of CITES listed species in the countries and is in progress for *Dalbergia cochinchinensis and Dalbergia oliveri* in Lao PDR. Once verification of legal origin is done, and the export is assessed to be non-detrimental to species survival, the issuance of CITES e-permits is encouraged in this region not only for time efficiency but also for enhancing traceability of trade in CITES-listed species.

Souce: Isabel Camarena and Akiko Inoguchi, "Protect and Verify: Legally Trading Cites-Listed Trees Species", UN-REDD website

Timber legality issues in Thailand[15]

Thailand is currently developing a timber legality assurance system under the Forest Law Enforcement Governance and Trade (FLEGT) Voluntary Partnership Agreement (VPA) with the European Union (EU) which is also expected to include an import control system. Several rounds of negotiations have already taken place but the expected system of control is not operational. As of now the only document required for import of timber into Thailand is the Certificate of Origin issued by the exporting country the reliability of which lies exclusively on the logging control and documentation regimes existing in the exporting countries. There is no assurance of the legality of timber, or of its sustainable harvesting, except where the country of export issues the Certificate of Origin only after satisfying itself about the legality and the sustainable sourcing of the timber being exported. And where the timber is re-exported from an intermediary country of transit as is often the case with landlocked countries the Certificate of Origin received in Thailand may lack credibility even more.

Thailand, however, has a fairly reliable internal system of controls which suggests that there may not be any significant quantities of illegal or unsustainably harvested timber from within the country entering domestic or international trade. There are no natural forest concessions in Thailand, the source of problem in many other developing countries, since harvesting in

[15] FSC (2019), Centralized National Risk Assessment for Thailand, FSC-CNRA-TH V1-0 EN

natural forests was banned way back in 1989. The main source of timber is, therefore, only from imports or tree plantations spread across the country. A large extent of timber comes from rubber and eucalyptus plantations wood from both of which is easily distinguishable.

Problems in determining[16] legality do, however, arise because of the country's rapidly evolving tenure system when there is lack of clarity regarding the right to harvest already standing trees of Categories A and B before public lands are allotted for agriculture and allied activities to farmers. There may also be instances of illegal land documents and of issues arising out of violation of conditions of grant of land by the beneficiary farmers. Confusions also sometimes arise out of difficulties in correctly identifying species during transport as also after the wood has been processed into final products for trade. This is particularly the case with species listed in CITES appendices and with teak.

The Executing Agency, Kasetsart University, has reported a very recent development that may have encouraging effect in the coming years on sustainable forest management and raising of new forestry plantations in Thailand. Under its Green Deal the European Union has decided to initiate Carbon Border Adjustment Mechanism[17] (CBAM) on the imports of cement, iron and steel, aluminium, fertilisers, electricity and hydrogen into its custom jurisdiction from October 1, 2023. This means that the greenhouse gas emissions (both direct and indirect) embedded in these imported products would need to be compensated either through equivalent carbon credits or Internationally Traded Mitigation Outcomes (ITMOs) though in the first phase the importers would only need to report the embedded GHG. This will thus create a growing market for generating carbon credits or ITMOs from sustainable forest management, restoration of forests, and sustainable harvesting in the exporting countries and create conditions favourable to Sustainable Wood Use.

C. VIETNAM

Like most of the Southeast Asian economies Vietnam has remain focused on its export led growth over the last three decades and its wood industry, in tandem with the country's overall approach, has proved to be an outstanding achiever in selling its products in the overseas markets. Domestic consumption of wood and wood products, however, has not kept pace the destabilizing effects of which became apparent when the exports collapsed

[16] FSC (2019), Centralized National Risk Assessment for Thailand, FSC-CNRA-TH V1-0 EN
[17] https://taxation-customs.ec.europa.eu/carbon-border-adjustment-mechanism_en

during the Covid pandemic. The Vietnam policy makers realize the critical necessity of a healthy and growing domestic market for wood products for sustaining the large number of farmers engaged in forestry and plantation activities and hundreds of thousand workers in downstream industries. The keen interest of the Vietnamese Government in this project seeking to boost the domestic consumption of wood products in the country is an expression of this felt need.

Project objective in Vietnam

The overall objective of the project is enhancing sustainable domestic wood consumption in Vietnam and the specific objective is to promote local markets of wood and wood products in Vietnam through improvement in policy and regulatory frameworks that affect wood product industry as well as production of innovative wood products that meet both the imagination and the utilitarian needs of the consumers particularly the younger people who have different tastes.

Towards this end the project would work towards

i. addressing the long pending concerns of the trade in the supply chains of wood and wood products,
ii. capacity building in manufacture of innovative wood products and their marketing,
iii. raising consumer awareness about environmental benefits of using wood and wood products in preference over plastics and metals

The Government of Vietnam has decided to assign the responsibility of executing this task to the Vietnam Timber and Forest Products Association (VIFOREST). The project duration is 24 months and the total cost of execution shall be US$ 361100 of which the ITTO shall provide US$ 339500. The Executing Agency shall contribute a total of US$ 21600 by way of salary of their staff engaged in the project activities. Two main outputs expected of this project are “Improved policy framework to drive domestic consumption of wood and wood products” (Output 1) and “Strengthened capacity to produce wood and wood products to meet local market demands and promote local consumption” (Output 2).

A number of workshops have been held by the Executing Agency VIFOREST with active participation of Ministries of Finance, Rural Development and Industry and Trade aimed at

understanding the local market's advantages and challenges and finding solutions to the challenges. Among the many topics discussed so far include

i. Land for industrial zones for households to expand production
ii. Business registration and formalization
iii. Participation in domestic furniture fairs
iv. Business to business linking to create and stabilize high value chains
v. Encouraging use of wood from sustainably managed forests
vi. Facilitating loans from state and private banks

The possibilities of creating policies that lead to increased use of locally produced wood both for domestic use and exports are proposed to be discussed in the workshops proposed later this year. One option that is being discussed is tax refund for companies that use domestic timber in producing wood furniture for export. The main problem in this is tracing the source of wood after the furniture has been produced. This act of reliable tracing that can be done effectively without involving high costs is still evading a good solution.

Most of the productive plantations in Vietnam by private farmers are being managed on short rotation for pulpwood and small timber and there is a near complete reliance on imported timber for housing and furniture. This project aims at initiating policies that would help shift from exclusively short rotation plantations to a forested landscape that also produces sufficient quantities of longer rotation timber and for this purpose a dialogue has been initiated between farmer cooperatives and leading manufacturers of wood products used in housing and furniture.

An innovative activity under the project is attracting young architects and interior designers in the field of designing and developing wood products using tropical hardwoods. This is being done by organizing contests for this purpose by the College of Wood Industry and Interior Design. This is as yet in early stages but good results are expected going by the past experiences of design making in this institute.

Wood based bio-energy is another area that is being prospected for expansion under the project. Local experts have been contracted to investigate the nature and extent of bioenergy use in various commercial activities including the industrial use of wood pellet for co-firing at power plants and for drying agro-products before packaging and marketing.

A national conference on co-firing with fossil and wood pellet has been organized at the Ninh Binh Thermal Power Plant. A Wood Pellet Sub-Association with 38 member companies including some of the leading Vietnamese wood pellet producers and traders has been formed which is expected to ensure the legality and quality of wood pellets consumed within and also exported from Vietnam.

The drying of tea leaves is a major activity in the tea production areas of Vietnam and in the past few months the Project has begun working with tea producers to promote the use of biomass gasifiers using wood chips and residues for drying tea replacing the traditional use of firewood. The use of gasifiers leads to faster paced drying, higher efficiency resulting in the saving of about one third of biomass, lowered labour costs, and avoiding smoke.

BOX 5: Wood villages in Vietnam

A major policy initiative of the Vietnamese Ministry of Agriculture and Rural Development is the development of Wood Villages with several households in the village devoted to production and supply of wood furniture catering to the Vietnamese preferences for design, utility and pricing for promoting consumption within the country. Project has been facilitating links between farmers growing acacia and eucalyptus trees with the plywood and pellet producers to enhance value addition by farmers themselves before the product reaches the factories. Wood villages are encouraged to take part in trade fairs and are schooled to advertise their products using Youtube and Facebook as medium.

Another project activity is providing both online and offline exposure to trade fairs for the Wood Villages where they are introduced to new and efficient technologies and machineries for manufacturing wood product and also guidance in procuring them. The Wood Village households are also provided assistance in advertising their products on Youtube and Facebook and helping them link with online sale platforms.

Yet another innovative approach adopted under this project by the Executing Agency VIFOREST is to encourage manufacture of wood products made of hinaki cypress wood from the temperate forests of Japan combined with the tropical acacia wood of Vietnam using the specific characteristics of both timbers to their best advantage. This is being done particularly for wood products used in house construction through the promotion of partnership between Japanese wood and wood product processing and trading companies with their Vietnamese counterparts.

Developing an online database

This database will provide information on every aspect of the wood industry from the possible sources of wood in plantations of various species across Vietnam, actual harvesting in the preceding years as well as the planned harvesting over the coming decade, imports and export of logs into and out of the country, information on the trading and manufacturing units of all sizes, business to business transactions, wood and wood product prices, and everything else connected with wood production, manufacture and trade.

Wood legality and sustainable source requirements

Vietnam entered into Voluntary Partnership Agreement under FLEGT with the European Union in 2018 and by 2020 Vietnam had developed its Timber Legality Assurance System (VN-TLAS) to verify that its timber exports are legal and the system became operational with effect from 31st October 2021. Training workshops have been held in several provinces, and many more are planned, to inform the members of Wood Villages of Bac Ninh and Bac Giang provinces about the necessity of certificates of legality and sustainable sourcing for the wood used in the manufacture of wood products not only for export but also for domestic use. Capacity building workshops for log importers across the ports are also being planned for enhancing their ability to apply due diligence processes to avoid the import of illegal and unsustainably produced timber. The importers are also being made aware of the high risk species and high risk countries of origin of the imported wood. The CITES authorities of Vietnam have also been roped in the conduct of workshop on guidance in submitting application forms for importing CITES listed species.

Recommended policies and measures

The problem of trade in illegal and unsustainably harvested wood and wood product continues in spite of several international efforts to contain it not only in the developing tropics but also in the vast continent sized forest lands of Siberia because the economic incentives that encourage it are many and the local attempts to control the forest crimes at source too feeble. The reform of domestic laws and regulations dealing with forest crimes and related activities, and the capability of implementing them, is an essential prerequisite for it to succeed. So far the efforts made in that direction have not always had the required wider support of political institutions, and the lay public, in most affected countries. Control over illegal and unsustainable harvesting of timber will not be effective if it is seen to be motivated solely by the desire to increase the export of wood and wood products.

The important lessons learned during the planning and implementation processes of the Japan supported ITTO projects on Sustainable Wood Use in Indonesia, Thailand, and Vietnam are many and generally very relevant to address similar concerns in developing countries that are major export hubs of wood and wood products. These can be broadly categorized as:

1. **Demand side management** in importing countries is of critical importance in pushing reforms in the countries exporting timber and timber products. Governments across the world should, therefore, be persuaded to take lead in ensuring only legal timber coming from sustainably managed forests and plantations, and products made therefrom, alone are allowed to be brought into their countries. This would need effective and quick detection of imports of illegally produced timber and timber products at the Customs by using technology and means that do not cause undue distress to genuine exporters of legal and sustainably produced goods. Insistence on eco-labelling, tracking of timber to the source, and certification may have to be insisted upon but that should be done only after enabling the exporting countries by way of transfer of technology, financing, and capacity building. Care should be taken to ensure that these restrictions are never used unfairly in violation of the spirit of WTO regulations.

2. **Supply side management** in sourcing of legal and sustainably produced timber and timber products requires major exporting countries to have large and stable domestic markets for such legal and sustainably produced goods a part of which may seek foreign

markets. Setting up exclusively export oriented production units as islands of legality and sustainability, though useful in specific situations, is unlikely to lead to the desired results in an otherwise uncaring domestic market. In Indonesia the sluggish development of domestic consumption of timber products is considered to be due to the failure of industry to recognize the changing taste and preferences of consumers, limited availability of choices, and widespread penetration of substitute products of steel and plastic. It would require an expanding domestic market for wood and its products that fulfils the changing needs and tastes of the consumers while also insisting on legal and sustainable sourcing of wood. Situation in Thailand and Vietnam is not much different and a sustained efforts by industry bodies, suitably backed by the governments, would be needed to change the situation.

3. **Evolving a national strategy**: Indonesia has decided to address this situation by evolving a national strategy for wood product development with the establishment of a national council for the promotion of sustainable and resilient domestic market for wood products. This would facilitate focused and sustained action to enrich the assortment of wood products sold in the domestic market in the country. Thailand and Vietnam would also benefit from the development of a national strategy of wood product development though they may not need a separate national council for the purpose owing to the small size of their markets. Implementation in these countries could be achieved satisfactorily by the respective forestry agencies working with the apex bodies of wood industry organizations in their countries under a clearly laid out Memorandum of Understanding.

4. **Wood use in construction**: Construction of buildings for both commercial and residential purposes has an enormous potential for increasing the consumption of wood. This also enhances safety in earthquake prone regions of Indonesia and, to a smaller extent, in Vietnam and Thailand and all the three countries are currently working on appropriate policy interventions to utilize this potential in the construction sector. For this to succeed, however, a few real and perceived drawbacks of proneness to fires, limited vertical expansion, and relatively shorter life span would need to be addressed by research institutions dealing with building construction and with wood products. This would also help address the reluctance of the banks to give loans for construction and of the insurer to provide insurance for wooden buildings,

5. **Reducing proneness to fires** in wooden buildings to acceptable levels at par with other buildings would require both technological solutions and upgrading of municipal fire safety measures as has been done in Finland and Japan, for instance. Faster improvements in this aspect can be brought in through technological collaboration with such countries as provided in the technology framework under Article 10.4 of the Paris Climate Agreement. This can further be tied to multilateral finance by the Green Climate Fund. The Ministries in charge of Climate Change negotiations in all the three countries of Indonesia, Thailand and Vietnam would need to work on this and it would help if the concerned ministry of the Government of Japan also collaborates from the beginning.

6. **Setting standards**: A very important aspect of promotion of wood use in buildings is setting standards, including those for weathering and pretreatment of timber logs before processing, since woods of hundreds of species of widely varying strength and durability are available in the tropical markets. This would address the strength and durability concerns of wooden buildings and also facilitate their insurance at reasonable premiums. The Indonesian Ministry of Industry is working on this standardization in collaboration with the Ministry of Public Works and Public Housing. It would be very useful if ITTO could facilitate similar standardization in Thailand and Vietnam, too, and also hasten this process by involving well known academic and other institutions that have long experience in such standardizations across the world.

7. **Using voluntary cooperation under Article 6.2 Paris Agreement for low cost wood based housing for homeless in developing countries**: Since the use of wood in buildings entails long post harvest storage of carbon away from the atmosphere it has significant climate change mitigation value. This can possibly be a good area for voluntary cooperation under Article 6.2 of the Paris Climate Agreement under which a developed country like Japan and Finland with advanced wood use technologies, and much experience in wooden building construction, could technologically and financially help in the construction of large scale housing for poorer sections of people in a developing country in exchange for Internationally Transferred Mitigation Outcomes (ITMOs) which can be used to achieve the NDC targets of the developed partner country. However, as of now this is only a likely option since the rules and procedures for the implementation of this provision are yet to be fully developed and accepted by the Member countries.

BOX 6: Paris Agreement Article 6 co-operation mechanism for SWU

Sustainable wood use (SWU) replacing the use of fossil energy intensive cement, steel, aluminium and plastics has the potential of beng a significant climate change mitigation tool and offers opportunities for voluntary cooperation between forest rich developing countries with economically rich developed countries. Article 6 of the Paris Agreement establishes three approaches for countries to voluntarily cooperate in achieving their Nationally Determined Contributions (NDCs). Article 6.2 enables bilateral cooperation for achieving NDC targets between two countries using a mitigation tool (such as SWU) in which finances could come from the richer country in return of which it can use the Internationally Transferred Mitigation Outcomes (ITMOs) generated through the mitigation achieved for achieving its own NDC targets. Article 6.4, on the other hand, offers a multilateral mechanism under which a company in one country can reduce emissions in that country and have those reductions credited as ITMOs so that it can sell them to another company in another country that can use them for complying with its own emission reduction obligations or to help it meet net-zero. Article 6.8 offers a non-market approach to cooperation between countries in which one country could help the other achieve mitigation or adaptation or both by way of capacity building or technology transfer etc. Sustainable wood use can be promoted through all these three approaches.

8. **Article 6.4 Mechanism of Paris Agreement for Net Zero target**: The climate change mitigation value inherent in long term carbon storage in wooden buildings will also be similarly utilizable under the Article 6.4 of the Paris Agreement once the rules and procedures under this provision are fully developed. Under this mechanism a company working in a jurisdiction will be able to cause measurable climate change mitigation by way of long term storage of large quantities of harvested wood in wooden housing and have those reductions credited as ITMOs that can then be sold for profit to other companies, or countries, for meeting their own GHG emission reduction or NDC targets. This opens opportunities for huge private investments in wooden housing, and other real estate with enhanced wood use, which has the potential of not only solving the prevailing housing shortages in most underdeveloped countries but also help them achieve Net Zero status as targeted in their NDCs.

9. **Support to smallholder plantation owners for value addition**: Since a very large number of tree growers in Indonesia are smallholders who need first stage value addition for their timber close to their plantations, the Indonesian Ministry of Environment and Forests is contemplating incentives for investment in collective facilities for wood processing across the country. This would help reduce timber growers' expenditure on log transport, increase his access to wood waste for household energy use, and save his time that he can use more productively. This is a work in progress and when these planned incentives take shape in Indonesia their outcomes will also be of much use for Thailand and Vietnam where, too, most tree growers are smallholders and need similar support from the state.

10. **Green public procurement policies**: Public sector being the largest procurer of furniture and other goods made of wood in Indonesia its purchase decisions have a huge impact on the market. It is for this reason that countries may be encouraged to enact green public procurement laws and policies requiring all timber products purchased by their own governments and other public funded organizations to come exclusively from legal and sustainably produced timber. Indonesia already has its Green Public Procurement Policy in place for ensuring that all public procurements of goods in the country have the least negative impact on the environment. Similar requirement and systems need to be developed in Thailand and Vietnam, too.

11. **Effective and easy-to-operate regulations**: Some of the existing regulations in Indonesia are said to be proving useful in enabling steady progress towards the aims and objectives of this project on sustainable wood use and may prove very useful for Thailand and Vietnam also if adopted with suitable changes appropriate to their countries. One such regulation is Indonesian Law No. 11 of 2020 that aims at streamlining regulations and simplifying the licensing process to improve the ease of doing business in Indonesia and thereby attracting investments into the country and creating jobs. The law enables the authorities create new economic zones, provide new incentives in existing zones, simplify land acquisition processes, and provide enhanced governmental support for socially and economically desirable businesses carrying higher risks. The Law also simplifies environmental assessment requirements and integrates environmental permits and business licenses. Yet another one is the Regulation Number 8 of 2021 of the Indonesian Ministry of Environment and Forestry related to wood certification, notification of legality and sustainability, and disposal of forest wastes. It ensures community participation, sets criteria for business activities allowed in protected forests, and provides easy procedures for application, extension or restriction of business permits for forest utilisation and penalties for excessive exploitation of forests. This broad framework of policies and legislations adequately empower Indonesian authorities to move rapidly in the desired directions as decided by the government of the day. It would be advantageous if a comprehensive review of these policy and legal instruments is undertaken by Thailand and Vietnam and adapted suitably for their countries.

12. **Timber Legality Assurance System**: The Voluntary Partnership Agreement (VPA) under the EU's Forest Law Enforcement, Governance and Trade (FLEGT) Regulation of 2005 is operational in Indonesia and Vietnam and in early stages of adoption in Thailand.

A timber legality verification system forms the basis of this VPA and is mandated for all timber based businesses throughout the value chain. Compliance under this system is verified through certificates issued by appropriate authorities to these businesses based on criteria developed specifically for each type of business and is subject to audit by an independent auditor. The Indonesian Timber Legality Assurance System sets legality standards, lays down verification procedures, keeps a watch over the supply chain, and awards certificates. In Vietnam also a Timber Legality Assurance System has been developed and put into operation. Thailand, needing to develop its own indigenous timber legality assurance systems, would benefit greatly by adopting appropriate parts of the Indonesian and Vietnamese systems after due refinement.

13. **Supplier's Declaration of Conformity**: An important part of the Indonesia's SVLK is the Supplier's Declaration of Conformity (SDoC) – a kind of self-declaration about the supplier, products and recipient of the products used to enter legal supply chains under certain conditions. This procedure is available only to small and medium enterprises and to smallholders dealing exclusively with low-risk timber from privately-owned forests and certified plantations besides timber obtained from state-owned companies. This is prone to be seen as a dilution of the legality standards for the grant of certificates but is considered an unavoidable compromise that does not have the potential of causing extensive damage to the legality verification system as long as it is confined to special circumstances and kept under constant watch. Thailand and Vietnam also may find such limited compromises necessary in the early stages of setting up of legality verifiction systems in their countries.

14. **Wood villages**: Setting up wood villages has been an innovative experience in the promotion of small scale wood based industries generating large scale gainful employment across rural areas in Vietnam. Wood villages enable ease in organizing raw material supplies, lowered costs in transport of both inputs and outputs, easy availability of particular types of skills, and ease and lowered costs in capacity building. Banks also find it easier to provide loans to units located in these wood villages. Another big advantage is that this also allows regulatory staff of forestry agencies to keep more effective watch on the use of illegal timber in manufacture of final products. Thailand and Indonesia may also benefit from creating such wood villages across their rural hinterland.

15. **Forest Data Base**: Vietnam is developing an online data base on every aspect of wood industry in the country including information on tree plantations of all species, amount of wood extracted in the past and projected to be available in the coming years, data related to import of timber into Vietnam, information on wood processing units of all sizes and descriptions, wood products manufactured and skilled and unskilled workers employed, wood villages, domestic sales and exports and all other information relevant to wood industry. Similar data bases can also be usefully established in a major forestry academic or training institution each in Indonesia and Thailand. Easy access to all round high quality liable data will help create and stabilize balance in demand and supply situations at each stage of the value chains in the wood markets of these countries.

16. **Capacity building**: Institutional and individual capacities in the forest departments of all the three countries in detecting illegal timber in the vicinity of the source of timber are of good order but deteriorates rapidly as the distance from the source and time from felling increases. This is because the use of forensic evidence in forest crime detection is very limited and needs to be built up in all the three countries. The experience of CITES can be very useful in capacity building in this aspect. The ITTO may facilitate this highly specialized capacity building at an early date with financial assistance from USA, EU and Japan all of whom lay high emphasis on controlling the entry of illegal and unsustainably harvested forest products in their jurisdictions and whose overseas development assistance programs have inbuilt provisions for capacity building in this field.

17. **Awareness campaigns**: Prolonged and imaginative publicity campaign, specifically directed towards school going children and young people, should be carried out emphasizing the need for using only legal and sustainably harvested timber for making consumer goods. Once the younger people begin asking for ecolabel and timber legality certificate when their parents make purchase decisions it would have a salutary effect on the development of environment friendly domestic markets in these countries.

Conclusions

The three ITTO projects, financed by Japan, and operational in the three countries of Indonesia, Thailand and Vietnam, that are the subject matter of this report aim at promoting sustainable wood use by expanding and strengthening the domestic wood and wood product markets using legal and sustainably produced wood in target countries for contribution to the global climate mitigation and enhancing the resilience of their economies.

The slow increase in domestic consumption of timber products in these countries is largely because of the failure of industry to recognize the changing taste and preferences of consumers, limited availability of choices, and widespread penetration of substitute products of steel and plastic. Indonesia intends addressing this situation by the establishment of a national council for the promotion of sustainable and resilient domestic market for wood products and evolving a national strategy for sustained action to rapidly enlarge the assortment of wood products sold in its domestic market. The construction of wooden buildings has great potential in these three countries if their vulnerability to fires, limited vertical expansion, and relatively shorter life span can be addressed. Addressing the durability concerns of wooden buildings will also facilitate their insurance at reasonable premiums and willingness of banks to provide loans for their construction. Technological collaboration with countries like Finland and Japan with long experience in this field under the technology framework mandated under Article 10.4 of the Paris Climate Agreement and financing by the Green Climate Fund may facilitate this process.

The use of wood in buildings with long post harvest storage of carbon away from the atmosphere has significant climate change mitigation value and can, therefore, attract both bilateral and multilateral finance under Article 6 of the Paris Climate Agreement under which developed countries can technologically and financially help in the construction of large scale housing for poorer sections of people in developing countries like Indonesia, Thailand and Vietnam in exchange for Internationally Transferred Mitigation Outcomes (ITMOs) which can then be used to achieve their own mandatory NDC targets. This also opens opportunities for huge private investments in wooden housing, and other real estate with enhanced wood use, in these three countries of Indonesia, Thailand and Vietnam which can not only minimize their housing problems but also help them achieve Net Zero Emission status mandated in their NDCs.

Public sector being the single largest procurer of furniture and other goods made of wood in most countries its purchase decisions have a huge impact on the market. Indonesia has a sound Green Public Procurement Policy in place for ensuring that all public procurements of goods in the country have the least negative impact on the environment. Similar requirement and systems may prove very useful in Thailand and Vietnam, too. Voluntary Partnership Agreement under the EU's FLEGT Regulation of 2005 is operational in Indonesia and in early stages of adoption in Thailand and Vietnam. A timber legality verification system forms the basis of this agreement and is mandated for all timber based businesses throughout the value chain. An important part of this system is the self-declaration of conformity with the regulations used to enter legal supply chains which is available only to small and medium enterprises and to smallholders dealing exclusively with low-risk timber from privately-owned forests and verified plantations besides timber obtained from state-owned companies. This is indeed a compromise but it does not have the potential of causing extensive damage to the legality verification system as long as it is confined to special circumstances and kept under constant watch.

Wood village is an innovative experiment in the promotion of small scale wood based industries generating large scale gainful employment across rural areas in Vietnam. These wood villages enable keeping watch over raw material supplies ensuring they come from sustainable harvests while also lowering costs of transport of both inputs and outputs, and facilitating easy availability of particular types of skills. Banks also find it easier to provide loans to units located in these wood villages.

Institutional and individual capacities in the forest departments of all the three countries in detecting illegal timber in the vicinity of the source of timber are of good order but deteriorates rapidly as the distance from source and time from felling increases. The use of forensic evidence in forest crime detection needs to be built up in all the three countries. The CITES Secretariat can be very useful in capacity building in this aspect and the ITTO, under their already existing agreement with the CITES Secretariat, should be able to facilitate this highly specialized capacity building at an early date.