

APEC Project Proposal

Project Title and Number:	EGILAT 02 2022A – Developing Integrated Timber Data to Enhance Legal Timber Trade of the APEC through Xylaria Networking		
Fund Source: ASF Sub-Fund on Connectivity			
APEC Forum:	Experts Group on Illegal Logging and Associated Trade (EGILAT)		
Proposing APEC Economy:	Indonesia		
Co-sponsoring Economies:	Thailand; People's Republic of China; New Zealand; United States of America; Chile		
Expected Start Date:	January 2023		
Project Completion Date: <i>See Chapter 7 Guidebook on APEC Projects</i>	December 2023		
Project Summary: <i>In 150 words -</i> <ul style="list-style-type: none"> • What is the issue that you will address or examine in your project? • Outline the key things your project will do, in terms of what, where, when and with whom. <i>(Summary must be no longer than the box provided. Cover Sheet must fit on one page)</i>	APEC is the premier Asia-Pacific economic forum to support sustainable economic growth and prosperity in the Asia-Pacific Region by facilitating a favourable and sustainable business environment, including in forestry. To support the legal timber trade, timber database integration of the APEC is important. There are 180 centers of wood collection (Xylaria) located in 60 economies globally. A collaboration among Xylaria in the Asia Pacific region will help strengthen wood identification systems hence improving the accuracy of documents in legal timber trading. Two main proposed activities are joint research and capacity building workshop in utilizing wood identification tools. The joint research will cover exploring and reviewing available wood identification tools and current practices; listing commercial timber names; investigating the potency of developing a standardized system; initiation in the enrichment of selected tools/methods in wood identification through Xylaria networking; and organizing Forum Group Discussion (FGD) for policy decision-makers to discuss the potential integration of the wood identification tool/s with the Timber Legality Assurance Systems (TLAS).		
Summary of Proposed Budget (USD):	APEC Funding	Self-funding	Total Project Value
	125,085	3,200	128,285
List all project outputs:	(1) Research Paper (2) Capacity Building (Bogor Workshop) (3) Project Summary Report		

Project Overseer Information and Declaration

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As Project Overseer and on behalf of the above said Organization, I declare that this submission was prepared in accordance with the **Guidebook on APEC Projects** and any ensuing project will comply with said Guidebook. Failure to do so may result in the BMC denying or revoking funding and/or project approval. I understand that any funds approved are granted on the basis of the information in the document's budget table, in the case of any inconsistencies within the document. By submitting this APEC Project Proposal to the APEC Secretariat, I agree that the APEC Secretariat will collect, use, disclose, and transmit the data contained in the APEC Project Proposal, which I have provided to the APEC Secretariat in accordance with Singapore's Personal Data Protection Act 2012 and the APEC Secretariat's data protection policy (<https://www.apec.org/PrivacyPolicy>). The APEC Secretariat will transfer any data provided on this form, which may contain personal data of Project Overseer(s), to APEC member economies overseas via the APEC Secretariat.

Ratih Damayanti, Ph.D. /27th December 2022

Name of Project Overseer / Date

Project Details

Project Objective:

- **State the overarching objective of the project in 100 words or less (refer to your Concept Note).**
- **Establish a Project Objective that is aligned with the planned Project Outcomes (Section B.5).**

(Please be concise. Provide the context in Section A: Project Relevance below.)

The project aims to increase the capacity building of industries, research scientists and the public sector from APEC economies and to promote networking of Xylaria (wood collection center) in the Asia-Pacific Region for enhancing the uses of wood identification system, study the potential of developing standardized wood identification system, and to discuss opportunities for the integration into the timber legality assurance systems and procedures of the APEC economies to support international legal timber trade.

SECTION A: Project Relevance

1. a) Issues: What problems does the project seek to address? Does it have sustained benefits for more than one economy in the APEC region?

The 21 APEC Economies account for 2.19 billion hectares of forest (more than 50% of forests cover). APEC Economies also engage in a significant amount of trade in forest products, representing approximately 80 per cent of the international trade in such products. It is recognized that many APEC Economies continue to face significant challenges from illegal logging and associated trade.

Globally, it is estimated by Interpol that 15–30% of the global timber trade is illegally harvested (Low et. al 2022). The mix of legally and illegally logged wood makes it challenging for Customs and Law Enforcement officers to assess the validity of the official documents linked to a particular shipment. Therefore, efficient and accurate identification tools are critical for species identification and origin assessment of the traded timbers. To this end, these tools must be embedded in law enforcement, especially in developing Economies that produce the majority of tropical timbers.

The biodiversity of flora is enormous. The integration of databases among Xylaria is important to support the legal timber trade. According to The International Association of Wood Anatomists/IAWA (<http://iawa-website.org/>) there are 180 Xylaria/wood collection center in the world (http://iawa-website.org/en/Wood_collection/Overview_of_Wood_Collection.shtml). However, until today, the integration of wood collections scattered in various Economies has been carried out only to a limited extent. The integrated data and information could be further extracted to support the legal timber trading in APEC.

The integration of data and information from around the world from existing wood collections will improve the utility and accessibility of this data for traders. The data and information of traded timber is formulated differently across Economies. A collaboration among APEC Economies will enhance the exchange of data and information of traded timber, and help facilitate mutual understanding of commercially traded timber between Economies.

There are many available wood identification method/tools, and each methods have each strength and weakness. In the proposed project, the research scientist from APEC economies and also wood identification experts from some international reputational institutions will be invited to review the methods/technologies they used in daily operation for wood identification and to explore the need in global wood identification. The joint research will produce recommendation of selected tools/methods that can be implemented voluntarily with criteria: cheap, handy, and accurate, and then initiate to enrich the selected tools with timber species collected from Asia Pacific Region (CONNECTIVY of Asia Pacific Region), where majority of timber trade in the world come from. The project will also build the capacity of APEC Economies and their relevant stakeholders (including industries Customs and Law enforcement officers) through a workshop in training of the implementation of wood identification technology.

b) Alignment to APEC: Describe specific APEC priorities, goals, strategies and/ or statements that the project supports, and explain how the project will contribute to their achievement.

The project contributes to the APEC's primary goal to support sustainable economic growth and prosperity in the Asia-Pacific Region. This project promotes the implementation of the Putrajaya Vision through Innovation and Digitalisation Economic Driver, and the Aotearoa Action Plan as well as the broad goals of the La Serena Road Map. In addition, emphasizing the legal trade of timber, the project contributes to the Thailand's 2022 stated priority of embracing the Bio-Circular-Green economy (BCG), promoting "balanced and sustainable growth", specifically for the Key Areas: Promote economic policies that contribute to addressing environmental challenges (Theme 1); Advance the implementation of the APEC Connectivity Blueprint (Theme 2); and Enhance cooperation on forestry and facilitate trade of legally harvested forest products (Theme 3).

The project also supports the APEC Ministerial Meeting Joint Statements from 2014, 2016, and 2017 all called for information sharing between Economies and other entities on best practices and resources for combatting illegal logging. The proposed project directly contributes by promoting the Xylaria networking in the Asia-Pacific Region as a reference for wood species identification and initial harmonization of commercial timber grouping and trade names for trading documents, exploring available wood identification technologies, exploring the approach to build a standardised wood identification tool, initiating the tool enrichment with timber collected from Asia Pacific regions, and exploring their potential integration into the timber legality assurance systems and/or associated measures of APEC Economies to facilitate international legal timber trade.

c) Alignment to Forum: How does the project align with your forum's work plan/ strategic plan?

This project aligns with the EGILAT's Vision and Mission Statements: EGILAT seeks to enhance the efforts of its member Economies to take concrete steps to combat illegal logging and associated trade and promote the trade in legally harvested forest products, including through capacity building activities in member Economies, according to the EGILAT's Terms of Reference. The project also supports several objectives set out in The EGILAT Multi-Year Strategic Plan 2018-2022, including: '*exchange information and increase knowledge on ... promoting the trade in legally harvested forest products*'; and '*encourage the active participation of industry and civil society to ... promote trade in legally harvested forest products*'.

The project is also implementing the Critical Success Factors of 2018-2022 EGILAT's Multi-Year Strategic Plan: Facilitating and strengthening law enforcement cooperation and information sharing related to combating illegal logging and associated trade, consistent with domestic law and following applicable international agreements.

It also as a critical supporting element for EGILAT's proposed two-year policy theme on "*Advancing the trade and distribution of legally harvested forest products: navigating to legal timber*", which was introduced to EGILAT at its February 2022 meeting in Thailand.

2. Eligibility and Fund Priorities: How does the project a) meet the eligibility criteria and b) support the funding priorities for the nominated Fund or Sub-fund?

(a) The project will support APEC's funding priority endorsed by Senior Officials at the Informal Senior Officials Meeting (ISOM): Economic and Trade Policies that Strengthen Recovery; Facilitating trade and investment; Promoting inclusive and sustainable growth, including for Recovery; mainly in ***Reconnecting the region; and Pursuing Innovation and a Digitally-Enabled Recovery***.

(b) Regarding connectivity, the project will also support the APEC Connectivity Blueprint 2015 - 2025 especially on the institutional connectivity where there is a significant gap in the ability of existing institutions to promote connectivity due to various regulatory constraints or lack of capacity through information/best practices sharing, capacity building and policy dialogues.

3. Capacity Building: How will the project build the capacity of APEC member economies. For ASF projects, please identify the APEC developing member economies that will benefit from this project. (Refer to capacity building goals, objectives and principles at Appendix K of the Guidebook.)

Currently, accurate wood identification can only be carried out by a small number of trained/experienced researchers and officers due to limited knowledge, technology, and capability among broader practitioners. The lack of expertise can also result in reduced accuracy and increased length of identification time. The existence of an easy, cheap and

accurate wood identification system and wood tracking databases would significantly and positively impact the legal timber verification process.

This project will build the capacity of APEC member Economies (industries, research scientist, and public sectors) to participate in the regional economy by helping them to identify and implement available and selected wood identification tools, which may include the research findings in reviewing methodologies, techniques, and learning the best practices in wood identification and exploring the needs in wood identification system, for facilitating legal timber trade. The project will particularly be useful for developing member Economies (both exporters and importers) whose public and private entities will be able to access low-cost tools and materials to facilitate legal timber trade.

SECTION B: Project Impact

4. **Outputs:** Using a numbered list in chronological sequence, identify and describe the key products or services that will happen during the implementation of your Project in support of the **Outcomes**. This may include workshops, reports, analysis and research work, recommendations, best practice guidelines, action plans, websites etc. Be brief but describe key parameters, like purpose, duration, location, expected scope and scale, timelines etc.

- 1) Research Paper
- 2) Workshop (Bogor-Workshop)
- 3) Project Summary Report

1. Research Paper

The Research Paper will be developed based on a combination of desktop research, a survey of Xylaria and other relevant institutions in the APEC economies, and an information-gathering meeting of qualified APEC economy stakeholders, including Experts. The Paper will provide an overview of current identification tools and practices used by Xylaria in different APEC Economies; an analysis of different methods including emerging technologies; best practice identification tools for APEC economies; and a summary of a list of commercial timber used. The Paper will also identify potential approaches to developing a standard method to timber identification in APEC Economies and the result of the effort in enriching selected /tools with timber collection in the Asia Pacific Region. Moreover, the Paper will present the recommendation in integrating the wood identifications system into Timber Legality Assurance System (TLAS). The research paper will be published on the APEC Website and contain approximately 20 pages and include an Executive Summary, the result in collected data on tools and practices from APEC Economies, a list number of commercial timber in Asia Pacific, various case studies illustrating advantages or disadvantages of different systems, a summary of identified best practices and a recommended standard system for timber identification in APEC, a summary of recommendation in integrating wood identifications system into TLAS, and a summary of key findings and conclusions.

The Research Paper will be a result of two online meetings in March and April 2023. The meeting in March will involve research scientists from the Asia Pacific Region and Experts. There also will be attended by 4 Experts (Experts A, B, C, and D), 2 moderators (Moderator X and Y), a consultant, and PO during the meeting, the Experts will listen to presentation of the research scientists from the Asia Pacific Region, giving comments and consideration on the two main topics: 1) Material Transfer Agreement mechanism for database enrichment of selected wood identification tool, and 2) Potential approaches to developing a standard method for timber identification in APEC economies.

The tentative agenda will be as follows:

Joint Research (Discussion) among research scientists of the APEC (March 2023):

Tentative Hours	Topics	Moderator/Speakers
Day 1		
09.00 – 09.15 am (15 minutes)	Introduction to the meeting (project) Introduction of participants and Experts	Moderator X
09.15 – 12.00 am (2 hours 45 minutes)	Presentation (@15 minutes): 1) The techniques/methods of wood identification that have developed/used 2) Number or list of traded timber 3) Opinion on the potential of developing Xylaria collaboration in the Asia Pacific region 4) The need in wood identification	Moderator X 1. Russia 2. People's Republic of China 3. Viet Nam 4. Thailand 5. Malaysia 6. Singapore 7. Republic of Korea 8. Japan 9. Chinese Taipei 10. Hong Kong, China 11. The Philippines
Day 2		
09.00 – 11.30 am (2 hours and 30 minutes)	Presentation (@15 minutes): 1) The techniques/methods of wood identification that have developed/used 2) Number or list of traded timber 3) Opinion on the potential of developing Xylaria collaboration in Asia Pacific region 4) The needs in wood identification	Moderator Y 12. Brunei Darussalam 13. Papua New Guinea 14. Indonesia 15. Australia 16. New Zealand 17. Canada 18. The United States 19. Mexico 20. Peru 21. Chile
11.30 – 12.30 am (1 hour)	Interactive Discussion: 1) Material Transfer Agreement mechanism for database enrichment of selected wood identification tool 2) Potential approaches to developing a standard method to timber identification in APEC economies	Moderator X and Y Experts A, B, C, D Consultant PO

Furthermore, after one month compilation of the discussion result, the contractor will send the summary to the invited Experts in April 2023. Then, the Experts will present the recommendation and discuss the summary on collected data on tools and practices from APEC economies, various case studies illustrating advantages or disadvantages of different systems, a summary of identified best practices and a recommended standard system for timber identification in APEC in an online Forum Group Discussion (FGD) involving related policy decision makers in May 2023. The FGD will discuss deeply the potential recommendation in integrating selected wood identification technology into TLAS. The tentative agenda is as follows:

Forum Group Discussion (FGD-1) between Experts and Related Policy Decision Makers of the APEC (May 2023):

Tentative Hours	Topics	Moderator/Speakers
09.00 – 09.10 am	Introduction to the meeting (project) Introduction of participants and Experts	Moderator X
19.10 – 11.00 am 09.10 – 09.30 09.30 - 09.50 09.50 – 10.10 10.10 – 10.30 10.30—11.00	Presentation (@ 20 minutes) 1) Wood identification tools and practices in APEC Economies 2) Advantages or disadvantages of different systems and a summary of identified best practices 3) List of traded timber in APEC 4) The importance of wood collection and mechanism on Xylaria collaboration in Asia Pacific region 5) The needs and recommendation on standardized system for timber identification in APEC and potential integration into Timber Legality Assurance System	Expert A Expert B Consultant Expert C Expert D
11.00 – 12.45 pm	Discussion Responses and opinions from the APEC Economies regarding the potential recommendation in integrating selected wood identification technology into TLAS (@ 5 minutes each)	Moderator Y 1. Russia 2. People’s Republic of China 3. Viet Nam 4. Thailand 5. Malaysia 6. Singapore 7. Republic of Korea 8. Japan 9. Chinese Taipei 10. Hong Kong, China 11. The Philippines 12. Brunei Darussalam 13. Papua New Guinea 14. Indonesia 15. Australia 16. New Zealand 17. Canada 18. The United States 19. Mexico 20. Peru 21. Chile
12.45 – 13.00 pm	Conclusion	Moderator X and Y

2) Bogor Workshop

The capability building Workshop in Bogor, Indonesia, will be held in September 2023 in a format of in person training for the delegates of APEC member from the Customs of economies; governments responsible for environment, forestry, industry, and trade, judicial, and other relevant authorities; wood-based industries (traders); academia and training colleges; and certification bodies. The Workshop will include 6 Experts (Expert A, D, E, F, G, and H) and DNA Trainer I who will give training in theoretical and practical in wood identification. It will be conducted in three days with the agenda as follows:

Tentative Hours	Topics	Moderator/Speakers
Day 1		
09.00 – 09.30 am	Introduction to the meeting Introduction of participants and Experts	Consultant
09.30 – 10.15 am	Theoretical 1) The importance of wood identification to support legal timber trade 2) Available methods/technologies/tools in wood identification	Expert A
10.15 – 11.00 am	Theoretical: DNA for wood identification	Expert E
11.00 – 11.45 am	Theoretical: Machine learning for wood identification	Expert D
11.15 – 12.00	Theoretical: Wood capacitance for wood identification	Expert F
12.00 - 01.00 pm	Break	
01.00 – 01.45 pm	Theoretical: NIR for wood identification	Expert G
01.45 – 4.00 pm	Theoretical and Practical: Anatomical structure (hardwood)	Expert A
Day 2		
09.00 – 12 pm	Theoretical and Practical (Continued): Anatomical structure (softwood)	Expert A
12.00 – 01.00 pm	Break	
01.00 – 01.30 pm	Practical: Computer vision	Expert D
01.30 – 04.00 pm	Practical: Wood Capacitance	PO and team
Day 3		
09.00 – 12 am	Site visit: 1. Bogor Botanical Garden (2 hours) 2. Xylarium Bogoriense (1 hour)	
12.00 – 01.00 pm	Break	
01.00 – 04.00 pm	Laboratories visit: 1. DNA Lab IPB University (2 hours practical) 2. Chemical Lab IPB University: Theoretical and practical-LC/MS for wood identification	Trainer I Expert H

3) Project Summary Report

The Project Summary Report will contain the key finding in the joint research activities and the result of capacity building workshop (Bogor Workshop). It will be approximately 40 pages or 50-70 pages including the Appendix containing the events agendas, speaker biographies, and the workshop materials. The report will be submitted in minimum in October 2023 and published minimum in December 2023). The Project Summary Report will be presented in five chapters (tentative):

- 1) Executive Summary
- 2) Introduction, Objectives and Project Relevance
- 3) Project Activities: Presentation of the details of project implementation covering
 - a) 1st joint research meeting (presentation and discussion of research scientists from the Asia Pacific Region and Experts)
 - b) 2nd joint research meeting (Forum Group Discussion on the possibility of integrating the identification system with other systems apart from TLAS; and other existing identification system that had been implemented globally)
 - c) Process of Material Transfer Agreement development
 - d) Process of database enrichment of selected wood identification tool
 - e) Capacity Building Workshop
- 4) Project Outputs and Outcomes
The summary of Research Paper on:
 - a) Collected data on tools and practices from APEC economies
 - b) Advantages or disadvantages of different systems and a summary of identified best practices
 - c) List of traded timber in APEC
 - d) Mechanism on Xylaria collaboration in Asia Pacific region
- 5) Conclusion and Recommendation
 - a) The needs and recommendation on standardized system for timber identification in APEC
 - b) Recommendation of potential integration into Timber Legality Assurance System

5. **Outcomes: Using a numbered list, describe the specific impacts, changes or benefits that the Project is expected to deliver, which directly support the Project Objective (above). These include changes in policy, processes, or behaviour in the participating institutions, or in APEC more broadly. Be sure that each Outcome can be measured and is a direct result of the project.**

Specific aspirational outcomes include:

- (a) Connectivity of the Asia Pacific timber: The network or collaboration of Xylaria in the Asia-Pacific Region is generated;
- (b) Selected tools/methods in wood identification for facilitating the legal timber trade are enriched with the timber collection from the Asia Pacific region;
- (c) Improved ability of the government officers (Customs, Law Enforcement) and/ or industries in wood identification (an evaluation survey will be circulated to participants after the main event (Workshop));
- (d) Increased resources and materials to guide APEC economies in integrating timber identification systems

6. **Beneficiaries: Who are the direct project participants and users of the Outputs? Describe their qualifications, level of expertise, roles/level of responsibility, gender, economies represented, government departments, APEC fora involvement, etc. Explain how they will use and benefit from the project. Who else will benefit from the project and how?**

The project beneficiaries are (a) Customs of Economies, (b) Governments, responsible for environment, forestry, industry, trade, judicial, Customs and other relevant authorities; (c) Wood-based industries (traders); (d) Academia and training colleges; Certification Bodies, (e) Non-Government Organization. The information and lessons learned will directly benefit and be shared with them, and they will be invited to the final presentation of findings/outcomes. Legal court and Custom will benefit from accurate and easy to used wood species identification, which is needed for legal evidence. It will also improve the accuracy of the legal document thus facilitating the legal timber trade.

Researchers will benefit from improved knowledge, increased capacity on research methodologies, baseline data, and better policy influence through publications and knowledge dissemination.

Training the government officers, management authorities (Customs, Law Enforcement agencies), industries, and scientists in the Asia Pacific region on wood identification will greatly benefit the forestry and wood-based industry of the Economies. The knowledge received from the workshop will greatly enhance the capabilities as well as promote forest law enforcement and government (FLEG) for sustainable management of forests and combating illegal timber trading in the region. The networking will strongly support the development of a timber/plant database which is very important for identification purposes. These projects will be beneficial to various sectors such as academe, wood-based industries, and other similar government institutions.

7. Dissemination: Describe plans to disseminate all output documents/reports and other results of the project, including:

- **Whether the document(s) and/or report(s) will be an APEC Publication**
- **The number, form and content of publications (Note: Electronic publication is preferred. APEC will not fund publications that are only presentation slides, or website maintenance)**
- **Channels of dissemination (identify any websites, including the APEC website, or social media)**
- **The target audience of each output document/report**
- **Any intention to sell outputs arising from this project**

(a) **The Research Paper** as the output of joint research will be published at the APEC Website then other researchers and academics could reach this information.

(b) **Channel dissemination** of the project activities (live tweet or other regarding the updated information of these activities or etc) through social media of the APEC (Twitter: @APEC; Instagram: APEC), Ministry of Environment and Forestry Republic of Indonesia (Twitter: @KementerianLHK; Instagram: Kementerian LHK), or BRIN (Twitter: @science_BRIN; Instagram: BRIN Indonesia). Therefore, the public (social media followers) will get information regarding our effort on tackling illegal timber trading.

(c) **The Project Summary Report** of this project will be published by APEC in the website. This report will summarize all of the activities and output of this project hence easing the project overseer to evaluate and as a responsibility of the project team to the APEC.

8. Gender: What steps will the project take to ensure the participation and engagement of both men and women in project activities? How do the project outcomes and the project objective benefit women? Please indicate the target percentages of female participants, and female speakers/experts, in the table below:

Targets (%)	
Female Participants	50
Female Speakers/ Experts (2 from 6 speakers/Experts)	30
Female Speaker/Expert for Capacity Building Workshop (Bogor Workshop)	50
Female organizing committee	70

Referring to the *Guide on Gender Criteria for APEC Project Proposals* in the Guidebook on APEC Projects, please tick the pillar or pillars that this project supports, in promoting women's economic empowerment:

5 Pillars

1. Access to Capital and Assets

2. Access to Markets	
3. Skills, Capacity Building, and Health	X
4. Leadership, Voice and Agency	X
5. Innovation and Technology	X

The Project Overseer is a woman, and majority the team involved since the concept note and project proposal development are woman. Even though during the proposal revision, we asked input from man colleagues from the other APEC economies, but the project implementation will highlight the role and leadership of women. PO is committed to collecting sex disaggregated data for all speakers and participants (not only those funded by APEC) at the project event. This data will be included when submitting a Completion Report to the Secretariat upon completion of the project, as well as providing guidance to future POs on their own gender parity targets.

SECTION C: Project Effectiveness

9. **Workplan: Produce a Workplan using the table below. Refer to the Outputs section and make sure you include:**
- **All outputs as Deliverables such as research work/survey, events, and project reports/publications** (*Indicate their submission dates. Ensure the same names for outputs are used*)
 - **Other Deliverables such as agenda, participant/speaker lists, evaluation activities, etc.**
 - **Procurement steps and contractor-related milestones**
 - **Engagement with other economies, organizations and/or working fora**
 - **One Monitoring Report per calendar year and a Completion Report two months after the Project Completion Date** (*1-2 pages. Answers can be adapted from the Concept Note*)
 - **Indicate if you intend to record any project event. Refer to the APEC Project Event Recording Policy at Annex N of the Guidebook.**

Time	Activities	Outputs/ Deliverables
January 2023	Procurement process to select and contract consultants/experts (Pending final approval) begin, initiate contractual action(s).	Signed contract
	Coordination meeting	Details workplan
February 2023	Preparation of the 1 st online meeting on joint research	Logistics for stakeholder engagement events (scientists)
	Developing Material Transfer Agreement (MTA) for digital data draft	MTA draft
March 2023	1st joint research meeting (presentation and discussion of research scientists from the Asia Pacific Region and Experts)	Information on methodologies, techniques, best practices in wood identification, and the needs in wood identification system The meeting will be recorded
	MTA processing for timber digital data	Agreement in the enrichment of the selected wood
	APEC Project Monitoring Report writing	APEC Project Monitoring Report draft

Time	Activities	Outputs/ Deliverables
April 2023	APEC Project Monitoring Report submission	APEC Project Monitoring Report submitted
	Compilation of the 1 st meeting and sending to the Experts for further discussion	Resume sent 1) Wood identification tools and practices in APEC economies 2) Advantages or disadvantages of different systems and a summary of identified best practices 3) List of traded timber in APEC 4) The importance of wood collection and mechanism on Xylaria collaboration in Asia Pacific region 5) The needs and recommendation on standardized system for timber identification in APEC and potential integration into Timber Legality Assurance System
	Preparation of the 2 nd Forum Group Discussion (joint research)	Logistics for stakeholder engagement events; public sector (decision maker), Experts, and Scientist from Asia Pacific region Nomination form will be circulated in 4 weeks before the workshop
May 2023	2nd joint research meeting (Forum Group Discussion: discussing the possibility of integrating the identification system with other systems apart from TLAS; and other existing identification system that had been implemented globally; Experts will present)	Recommendation on the selected global wood identification system and the proposed mechanism in integration The meeting will be recorded
June 2023	Starting database enrichment of selected wood identification tool	Enriched database of selected wood identification
July 2023	Preparation of the capacity building workshop	Logistics for stakeholder engagement events; Identified and confirmed speakers, identified venue, draft agenda, capacity building, workshop/FGD recommendations; trained government officers and industries General Information Circular (GIC) including agenda, speaker list, venue and logistic details as well as nomination form will be circulated in 8 weeks before the workshop.
August 2023	Preparation of the Research Paper	Research Paper draft
September 2023	Bogor Workshop Training for government officers (Customs, Law Enforcement officers) and industries in wood identification	Manual book of wood identification
October 2023	Issue Post-Workshop Participant Evaluation Survey	Post-Workshop Participant Evaluation Survey compiled
	Project summary report writing and submission	Project summary report submitted
November 2023	Finalization of project summary report and submission to the Secretariat for review and	Project summary report finalized

Time	Activities	Outputs/ Deliverables
	approval for publication, and forum endorsement	
December 2023	Compile final materials/ analysis, produce final reports/documents/final billing, close contract(s).	Final materials delivery, Close contract
	Publication of Research Paper and Project Summary Report	Research Paper and Project Summary Report published
February 2024	Present final outcome documents and findings to EGILAT meeting (and other relevant APEC fora) Submit the APEC Project Completion Report and supporting documents to the APEC Secretariat	APEC Project Completion Report submitted
6 to 12 months after project completion	Participate in the Long-Term Evaluation of APEC Projects survey conducted by the APEC Secretariat	

10. Risks: What risks could impact project implementation and how will they be managed?

No.	Risks	How Will It Be Managed?
1.	Delay in fund release or the number of approved funds is less than what was proposed.	The plan to conduct the FGD and workshop physically will be changed to an online FGD and workshop to save funds.
2.	Delay in the project schedule.	Meticulous planning and intensive communication with experts and stakeholders to make sure the project will be carried out according to the timeline.
3.	Conflicting schedules and sudden cancellation.	Early and frequent communication related to the FGD and workshop schedule with the experts and stakeholder participants to ensure their availability. Prepare a backup for experts and stakeholder participants in anticipation that one or more experts and stakeholder participants need to cancel at a late date.
4.	Xylaria data access issues.	Give reassurance to the Xylaria authorities by : a) Providing information on what kind of data will be accessed. b) Supplying detailed information on the method of accessing the Xylaria data, security standards used, and any processing that will be applied to the obtained data. c) Delivering a statement that the data received will not be given to an unauthorized party or another party without the consent of Xylaria management.
5.	Unresponsive stakeholders.	Provide enough comprehensive information for the stakeholders (APEC economies) to ensure their cooperation, i.e., this project overview and its benefit to the APEC economies.

No.	Risks	How Will It Be Managed?
6.	The integrated database is unable to give valuable information to enhance the legal timber trade.	Discussion with experts and other relevant stakeholders on what kind of data will be extracted from the Xylaria databases and will be shown in an integrated Xylaria database that can support the legal timber trade.

11. Monitoring and Evaluation: The project's success will be measured by the extent to which it has delivered all its planned Outcomes, in support of the Project Objective. Please use the matrix table below to indicate your project evaluation plans by specifying *what will be measured, which indicators will be used, what the target goals are, and how they will be evaluated and reported.*

****Examples have been given in the fields below for your easy reference. Please amend according to your project requirements. % of speakers/participants, if mentioned, should be consistent with Section B.8.**

	Evaluation Focus	Indicators	Target Goals	Evaluation Method	Reporting Method
Outputs	1. Research Paper	1. Number of pages	20	Certification by PO (submitted to scientific journal)	Completion Report/APEC Website
		2. Number of Economies consulted (involved in discussion)	22	Certification by PO	Completion Report
		3. Number of Xylaria consulted (as part of Economies presentation in discussion or communication by email)	15	Certification by PO	Completion Report
		4. Number of aspects compiled: <ul style="list-style-type: none"> - Collected data on tools and practices from APEC economies on wood identification - Advantages or disadvantages of different wood identification systems and a summary of identified best practices - List of traded timber in APEC - Mechanism on Xylaria collaboration in Asia Pacific region - The needs and recommendation on standardized system for timber identification in APEC 	6	Certification by PO	Completion Report

	Evaluation Focus	Indicators	Target Goals	Evaluation Method	Reporting Method
		- Recommendation of potential integration into Timber Legality Assurance System			
	2. Capacity Building Workshop	1. No. of participants (excl. speakers/experts)	45	Event Attendance List (2 from each Economies)	Completion Report
		2. % of participating men/women (excl. speakers/experts)	50/50	Event Attendance List	
		3. No. of speakers/experts engaged	4	Event Attendance List	
		4. % of speakers/experts (men/women)	50%	Event Attendance List	
		5. No. of attending economies	21	Event Attendance List	
		6. No. of travel eligible economies	11	Event Attendance List	
	3. Project Summary Report	1. Number of pages	50-70	Certification by PO	APEC Website
		2. Number of chapters	5	Certification by PO	APEC Website
		3. Number of recommendations	2	Certification by PO	APEC Website
Outcomes	1. Connectivity of the Asia Pacific timber: The network of Xylaria in the Asia-Pacific Region is generated	Collaboration among Xylaria in the Asia-Pacific Region (Number of MTA are secured from the co-sponsoring economies during the project implementation)	3	Material Transfer Agreement on Digital Data Established	Completion Reports
	2. Selected tools/methods in wood identification for facilitating the legal timber trade are enriched with the timber collection from Asia Pacific region	Number of identified tools or practices available (anatomical structure, computer vision, DART-TOFMS/LC-MS, DNA, Isotope, wood capacitance)	At least 2 from 6 available technologies	Research Paper	Completion Report
	3. Improved ability of the government officers (Customs, Law Enforcement) and/ or industries in wood identification (an evaluation survey will be circulated to participants)	% of participants substantial knowledge increased	80	Certification by PO	Completion Report

	Evaluation Focus	Indicators	Target Goals	Evaluation Method	Reporting Method
	after the main event (Workshop)				
	4. Increased resources and materials to guide APEC economies in integrating timber identification systems	Research Paper and Project Summary Report	2	Certification by PO	Completion Report

12. Linkages: Describe the involvement of other APEC fora, and other relevant organizations. Include:

- **Engagement:** How are you engaging other relevant groups within and outside APEC?
- **Previous work:** How does this project build on, and avoid duplication of, previous or ongoing APEC initiatives, or those of other organizations working in this area?
- **APEC's comparative advantage:** Why is APEC the best sources of funds for this project?

Throughout the process, the project will coordinate to analyze, compile, and disseminate existing tools and resources by engaging SME WG and SCCP WG, and will also build on work undertaken by the International Association of Wood Anatomists (IAWA), International Union of Forest Research Organizations (IUFRO), World Forest ID (WFID), GlobalTimber Forum (GTF), the International Tropical Timber Organization (ITTO), and World Customs Organization (WCO).

SECTION D: Project Sustainability

13. Sustainability: Describe how the project will continue to have impact after the APEC Funding is finished.

- **How will the Beneficiaries be supported to carry forward the results and lessons from the project?**
- **After the project completion, what are the possible next steps to build on its Outputs and Outcomes? How will you try to ensure these future actions will take place? How will next steps be tracked?**
- **How will progress on the Outcomes (Question 5) be measured?**

The workshop will open new connection between scientist and practitioners in Asia Pacific region. The new connection will allow anytime assistance in implementing the technology in wood identification in field. The four outcomes can be measured as follows:

- Connectivity of the Asia Pacific timber:** The tools/technology of selected wood identification system will be maintained by BRIN, and will be continue developed the enrichment process.
- Tools/methods in wood identification for facilitating the legal timber trade are available to be implemented in the field:** Customs and industries are easily applying wood identification tool at the field.
- Improved ability of the government officers (Customs, Law Enforcement) and/ or industries in wood identification:** The trained person could teach the others at least in their office/institution.
- Recommendation in integrating wood identifications system into Timber Legality Assurance System:** Government considering the procedures in integrating wood identifications system into Timber Legality Assurance System.

14. Project Overseers: Who will manage the project? Note that the scope of the duty includes managing of contractors and specialists. Include brief profile(s) of the PO(s) and any other main point(s) of contact responsible for this project.

The project overseers are researchers/experts in wood identification at National Research and Innovation Agency of Indonesia and curator of Xylarium Bogoriense under the coordination of Ratih Damayanti, PhD. Ratih is the Xylarium Bogoriense Curator at the Ministry of Environment Forestry and Scientist at National Research and Innovation Agency (BRIN), the Republic of Indonesia. The anatomy and quality of lignocellulose materials and Non-Destructive Testing (NDT) are her scientific interests. Ratih got her PhD in Wood Science from the University of Melbourne, Australia, and Bachelor and Master Degrees from IPB University. More than 100 domestic and international publications and 20 Patents and Copyrights have been produced during her career from 2007 to present.

She gives training, testing, and serves as an expert witness on Wood Identification (ISO 17025: 2017), and she also becomes an Advisory Council for verification institution of Indonesian Timber Legality Assurance System (TLAS). Another dedication is since 2019, she is the National Focal Point Representative of ASEAN Working Group on Forest Products Development, and since 2020, she became the member of IAWA (International Association of Wood Anatomist) Council. She got some awards from some institution^s:

- a) The 1st Winner of JAAI (JSPS Alumni Association of Indonesia) Innovation Award (2022)
- b) 113 Indonesia Innovations from Business Innovation Center (2021)
- c) Himpenindo Award: Outstanding Young Researchers in Life Sciences (2021)
- d) One of the six female inventors, and published in TEMPO Magazine in a special report titled "The Eureka Moment of Female Inventors" (2019)
- e) Top Ten Most Inspiring Civil Servants (2019) from Ministry of State Apparatus Empowerment and Bureaucratic Reform, Indonesia

Before, during and after the project implementation, the Directorate of the Forest Products Processing and Marketing, the Directorate-General of Sustainable Forest Management, The Ministry of Environment and Forestry, and The Republic of Indonesia as the National Focal Points of the APEC EGILAT Indonesia, will involve in coordinating the project.

As stipulated in the Minister of Environment and Forestry Decree 15/2021, article 281, the Directorate of Forest Products Processing and Marketing is aiming for formulating and implementing policies for forest products processing, grant permits for forest products utilization, forest products raw material control, forest products certification, marketing, and forest products export and import.

SECTION E: Project Efficiency

Budget: Complete the Itemized Budget and Budget Notes for the project in the template below. The Budget should include calculation assumptions (e.g., unit costs) and Self-funding contributions. Please consult the *Guidebook on APEC Projects* for eligible expenses.

APEC Project Itemized Budget* Please consult the eligible expenses in the *Guidebook on APEC Projects

All Figures in USD	# of Units	Unit Rate	APEC Funding	Self-funding	Notes
Direct Labour					
Speaker's honorarium (government officials ineligible)					
Speakers/Expert A and Expert D	3 project events	800	4,800		a) Joint research meeting

All Figures in USD	# of Units	Unit Rate	APEC Funding	Self-funding	Notes
					b) FGD c) Bogor Workshop
Speakers/Expert B and Expert C	2 project events	800	3,200		a) Joint research meeting b) FGD
Speakers/Expert E, F, G and H	1 project event	600	2,400		Bogor Workshop
Trainer I	1 project event	500	500		Bogor Workshop
Moderator X and Y	2 project events	500	2,000		a) Joint research meeting b) FGD
Contractor (Research and Workshop)	1 Contractor		27,200		See Details in Budget Note 1
Travel Expenses (Speaker, Experts, Researchers)					
Speakers					
Bogor Workshop: Per diem (incl. accommodation and "75% additional payment")	2 Experts	220	2,090		Experts A and D; 4.75 days per diem days (arrival day + 3-day workshop + 75% Additional Payment)
Bogor Workshop: Airfare	2 Experts	4,000	8,000		
Contractor (Research)					
Bogor Workshop (incl. accommodation and "75% additional payment")	1 person	220	825		3.75 days per diem days (arrival day + 2-day workshop + 75% Additional Payment)
Bogor Workshop: Airfare	1 person round trip travel	300	300		
Travel for Participants (from travel-eligible economies only)					
Bogor Workshop: Per diem (incl. accommodations and "75% additional payment")	22 participants x 4.75 days	220	22,990		UN DSA rate for Bogor City, Indonesia of \$220/day; 3 days project event

All Figures in USD	# of Units	Unit Rate	APEC Funding	Self-funding	Notes
Bogor Workshop: Airfare (<i>restricted economy class</i>)	22 participants		40,000		2 persons from each of the APEC travel-eligible economies of Chile; China; Indonesia; Malaysia; Mexico; Papua New Guinea; Peru; Philippines; Russia; Thailand and Viet Nam'
Other items					
Coordination meeting	100 packages	10		1,000	PO, consultant, and contractor
Specialist equipment	42 kits	67	2,800		Wood samples; lenses; cutters; etc., will be distributed to the participant to be used further in each Economy; 2 participants from 21 Economies
Photocopying	24	20	480		Workshop materials
Communications (telephone, fax, mail, courier)	1 package	2,000		2,000	
Hosting offline meeting for Bogor Workshop			7,500		Rental fee of the conference room, audio/visual equipment, for 2 days
Hosting online meetings (zoom license)	1-year license	200		200	USD 199.90/year license
Total:			125,085	3,200	

Budget Note 1: Direct Labour – Provide information for APEC-funded positions, including a list of general duties, total hours per contracted tasks and who will be contracted, if known. (It is not acceptable to contract staff from your own organization or government employees.)

- 1) **Honorarium** – please refer to the Honorarium Payment Schedule at Appendix M of the Guidebook when proposing an honorarium rate for each Speaker/Expert:

Please use one row for each Speaker/Expert you propose APEC to fund*:

No.	Indicate Role: Speaker? Moderator? Panelist?	Total Time Spent at the Project Event (in hours)	Proposed Honorarium Rate	Additional Information (if any)
1.	Speakers/Experts A	9 hours (Joint research meeting) 7 hours (FGD) 14 hours (Bogor Workshop)	800 x 3	a. Joint research meeting b. FGD c. Bogor Workshop
2.	Speakers/Experts B	9 hours (Joint research meeting) 7 hours (FGD)	800 x 2	a. Joint research meeting b. FGD
3.	Speakers/Experts C	9 hours (Joint research meeting) 7 hours (FGD)	800 x 2	a. Joint research meeting b. FGD
4.	Speakers/Experts D	9 hours (Joint research meeting) 7 hours (FGD) 14 hours (Bogor Workshop)	800 x 3	a. Joint research meeting b. FGD c. Bogor Workshop
5.	Speakers/Experts E	14 hours	600	Bogor Workshop
6.	Speakers/Experts F	14 hours	600	Bogor Workshop
7.	Speakers/Experts G	14 hours	600	Bogor Workshop
8.	Speakers/Experts H	4 hours	600	Bogor Workshop
9.	Trainer I	4 hours	500	Bogor Workshop
10.	Moderator X	9 hours (Joint research meeting) 7 hours (FGD)	500 x 2	Joint Research Meeting and FGD 1
11.	Moderator Y	9 hours (Joint research meeting) 7 hours (FGD)	500 x 2	Joint Research Meeting and FGD 1

*The roles/details of speakers/experts may be restructured according to final project requirements.

- 2) **Contractors to be funded by APEC (Short-Term Clerical Staff, Event Logistics Provider, Consultant and Researcher) – Please use one table per Direct Labor item and list all relevant tasks to be performed by the Contractor(s). Please provide the number of work hours for each task.**

The project will hire the support of 1 Consultant who focus on the research activity and 1 Contractor who work in conducting the project events.

Contractor (Research)

No.	Specific Tasks	No. of Hours	Hourly Rate	Total Rate
1.	Coordination and validation of the work plan	10	40	400
2.	Short-term clerical and administrative work (10 months, 20 days, 1 hour/day)	200	20	4,000

No.	Specific Tasks	No. of Hours	Hourly Rate	Total Rate
3.	<p>Prepare the substance of the 1st joint research meeting (presentation and discussion of research scientists from the Asia Pacific Region and Experts)</p>			
	a. Identify Experts and Moderators; consultation meeting with PO and Contractor, Experts and Moderators in reaching the joint research target	10	40	400
	b. Develop a questionnaire, conduct a survey, and create a template of presentation for joint research to research scientists	20	80	1,600
4.	<p>Material Transfer Agreement</p>			
	<p>a. Drafting Material Transfer Agreement (MTA 7-10 pages, MoU 5-7 pages)</p> <p>b. Communication with Experts</p>	10	80	800
	<p>Process the MTA:</p> <p>a. Communicating with Experts and research scientists from co-sponsoring economies and other Economies</p> <p>b. Modify the MTA and MoU according to the domestic law.</p> <p>c. Monitor the MTA and MoU signing</p> <p>d. Coordinating the timber data collection</p>	30	80	2,400
5.	<p>Prepare the substance of 2nd joint research meeting (Forum Group Discussion on the possibility of integrating the identification system with other systems apart from TLAS; and other existing identification systems that had been implemented globally)</p>			
	a. Develop a compilation of the 1st meeting and sending to the Experts for further discussion	10	80	800
	b. Prepare a presentation on the List of traded timber in APEC	10	80	800
6.	<p>Process of database enrichment of selected wood identification tool</p>			
	<p>Hire technician (6 months, 20 days, 1 hour/day)</p> <p>The technician will work intensively to collect and compile the timber database from Economies and log the data into selected tool or tools according to the FGD 2 recommendation.</p> <p>The technician(s) to be engaged as part of the research process of the MTA shall be sourced and remunerated by the main contracted entity under the Contractor (Research) contract of \$20,000. That entity shall be responsible for identifying and subcontracting the technician(s) under their contract, and the Secretariat shall pay the full contract sum</p>	120	50	6,000

No.	Specific Tasks	No. of Hours	Hourly Rate	Total Rate
	of \$20,000 to that entity only, based on agreed milestones to be specified in the contract.			
7.	Drafting the Research Report (minimum 20 pages)	15	80	1,200
8.	Drafting the Project Summary Report (50-70 pages)	20	80	1,600
Total		455		20,000

Contractor (Workshop: Conducting Online meetings for Joint Research and FGD, and In-Person Workshop)

No.	Specific Tasks	No. of Hours	Hourly Rate	Total Rate
1.	Coordination and validation of the work plan specifically in holding two online meetings (Joint Research and FGD) and Bogor workshops with PO, Experts, and Research Consultant	10	40	400
2.	Short-term clerical and administrative work in preparation for 1 st joint research meeting; FGD, and Bogor Workshop (8 months, 20 days, 1 hour/day)	160	20	3,200
3.	Preparation of the 1 st joint research meeting: -Coordination with the Consultant -Communicate and make invitations with the Identified Experts, Moderators, and research scientists from Economies -Event logistic preparation	10	40	400
4.	Conducting the 1 st joint research meeting	15	40	600
5.	Preparation of the 2 nd joint research meeting (Forum Group Discussion): -Coordination with the Consultant -Communicate and make invitations with the Experts, Moderators, and Policy Makers from Economies -Event logistic preparation	10	40	400
6.	Conducting the 2 nd joint research meeting (Forum Group Discussion)	15	40	600
7.	Preparation of Bogor Workshop: -Coordination with the Consultant -Communicate and make invitations with the Experts and Participants -Event logistic preparation	25	40	1,000
8.	Conduct the Bogor Workshop	15	40	600
Total		260		7,200

Budget Note 2: Waivers – Provide details of any requests for waivers from the normal APEC financial rules, with justifications in the 'Notes' column of the budget table, or below if the waiver requires a detailed explanation.

None.