INTERNATIONAL TROPICAL TIMBER ORGANIZATION

ITTO

PROJECT PROPOSAL

TITLE:	**PROMOTION OF SUSTAINABLE TEAKWOOD USE IN DOMESTIC MARKETS OF INDIA**
SERIAL NUMBER:	PD 933/23 **Rev.2** (M)
COMMITTEE:	ECONOMICS, STATISTICS AND MARKETS
SUBMITTED BY:	GOVERNMENT OF INDIA
ORIGINAL LANGUAGE:	ENGLISH

SUMMARY:

Recent years have brought to the fore a plethora of challenges in the wood sector such as climate change induced growth constraints, erosion of the gene pool, emergence of new pests and diseases, difficulties in maintaining legal supply chains and disruptions in the markets through the COVID -19 pandemic leading to wide fluctuations in international prices and demand. India is a net importer of wood and wood products, especially tropical hardwoods like teak. Imports of teak roundwood doubled from about half a million cum in 2009 to slightly more than a million cum in 2019 and India absorbs almost 90 percent of the teak produced worldwide. Hence, disruptions in the international markets would have serious impacts on the domestic markets and allied sectors of this important timber. To meet these emerging challenges and sustain the most important market of teak, the Government of India must focus on sustainable production as well as use of this valuable and highly priced wood. This strategic shift will not only stimulate the national economy but also align with the government's commitment to green growth and sustainable development by elevating the bio-based economy value in this emerging market segment.

Consequently, the project's development objective is centred on enhancing sustainable domestic wood consumption of teak in India. Though research and development has produced important results in recent years in all aspects of teak wood production and markets, there exist serious gaps in knowledge management and dissemination to the stakeholders, as well as professional networking among the stakeholders. The specific goal is to promote the sustainable use of teak wood and wood products within the country, by improving policies related to wood certification, building the capacity of stakeholders, and optimizing timber supply chains. This initiative aims to create a more resilient and self-sustaining wood industry in the country while contributing to broader environmental and economic sustainability goals.

EXECUTING AGENCIES:	KERALA FOREST RESEARCH INSTITUTE (KFRI) TEAKNET (International Teak Information Network)	
DURATION:	**24** MONTHS	
PROPOSED BUDGET AND OTHER FUNDING SOURCES	SOURCE	CONTRIBUTION IN USD
	ITTO	**296,000**
	KERALA FOREST RESEARCH INSTITUTE	**25,000**
	TOTAL	**321,000**

Acronyms and Abbreviations

FAO	: Food and Agricultural Organization of United Nations
ITTO	: International Tropical Timber Organization
IUFRO	: International Union of Forest Research Organization
TEAKNET	: International Teak Information Network
KFRI	: Kerala Forest Research Institute
MoEF & CC	: Ministry of Environment, Forest and Climate Change
ICFRE	: Indian Council of Forestry Research and Education
DST	: Department of Science and Technology
PSC	: Project Steering Committee
DSA	: Daily Subsistence Allowance
LOC	: Local Organizing Committee

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PART 1: Project Context

1.1 Origin

Despite India experiencing a consistent increase in forest and tree cover over the past two decades, the country still faces a deficiency in timber production. A significant portion of the growing demand for timber in the domestic market is met through imports, a trend that originated in the 1980s when roundwood production ranged from 10 to 15 million cum annually. The decline in production can be attributed to a heightened focus on forest conservation after the National Forest Policy of 1988. A FAO report indicates a declining Compounded Annual Growth Rate (CAGR) from 1991 to 2000 in India across various wood categories, with a steeper decline in the subsequent decade due to restrictions imposed on harvesting from forests. The annual wood demand for India in 2030 is projected to be 97.81 million cum round wood equivalent. Presently, India's annual roundwood production is approximately 47 million cum, with only 2 million cum sourced from state-owned forests and 45 million cum from trees outside forests. The gap in timber demand is filled by imports, facilitated by the Government of India's classification of wood under the Open General License (OGL) in 1996.

India primarily imports roundwood, with pine and teak intended for high-value wood furniture, and other timber species serving various purposes. From 2009 to 2019, import of wood products in India increased significantly and the wood industry is expected to experience substantial growth due to a burgeoning middle-class population, urbanization, and rising disposable incomes. Being one of the world's most populous country and a fast growing major world economy, its middle-class consumer market is booming. This inevitably gives an impetus to the domestic furniture and homeware sector. Along with a strong domestic market, India is a signatory to 42 trade agreements with various countries, making it a viable choice for both market access and exports.

Owing to its excellent properties, teak is traditionally the most preferred species in India. Imports of teak roundwood to India have doubled from about half a million cum in 2009 to slightly more than a million cum in 2019. India absorbs almost 90 percent of the teak produced worldwide and fluctuations in the Indian market could have wider ramifications. Incidentally, India also has the largest area under teak globally. The teak under natural forests in India is 5.9 million hectares and the country has another 1.7 million hectares under plantations. However, these teak growing regions produce only an insignificant volume of 50 000 cum of teak annually and this forms only 5 percent of the teak demand. Hence, strategies to promote sustainable teak wood use is of utmost importance not only for stimulating the national economy but also aligning with the government's commitment to green growth and sustainable development. Given the importance of teak in the Indian economy and to develop sustainable use of this important timber, TEAKNET along with various international organizations have been organizing various activities to promote the sustainable use of this important tropical timber.

Among the different activities promoting sustainable teak wood use in the domestic Indian market, the present project proposal will also follow up on the recommendations of the 4th World Teak Conference. The 4th World teak Conference observed that over the recent years, teak has attracted the attention of investors from both public and private sectors in the massive tree cultivation programmes. Involvement of farmers and small land holders in industrial wood supply from shorter rotations of 20-30 years is also increasingly becoming common in most of the teak growing countries. The rapid expansion of teak plantations, however, pose a risk of undermining the reputation of teak in global market place because of the wide variations in wood quality with the net effect of reducing the prices and therefore the financial viability of teak planting programmes. An integrated international market intelligence and pricing mechanism is also not available for the species. On the other hand, if properly managed, besides the economic benefits it would also offer opportunities to further the global environmental initiatives on Forest Land Restoration, carbon sequestration and livelihood enhancement of dependent communities. To achieve this, teak growers, at the community and government/ industrial levels, must ensure that these plantations are developed and managed scientifically and the wood they produce is of the highest possible quality, which will mean carefully choosing the right sites, good genetic stock, employing optimal rotation cycles and appropriate silvicultural techniques. The stakeholders in 4th World Teak Conference also pointed out that recently a plethora of new problems have emerged in the teak sector such as climate change induced growth constraints, erosion of the gene pool, emergence of new pests and diseases, legal supply chains and disruptions in the markets by way of COVID -19. Though research and development has been going on for years in all aspects of teak farming and markets, there exists serious gaps in the knowledge dissemination to the stakeholders and networking among the teak growing regions. In this context, the 5th World Teak Conference is proposed during 17 - 20 September 2025 at Kochi, Kerala,

India with the theme 'Sustainable Development of the Global Teak Sector - Adapting to Future Markets and Environments'. The conference would bring together different stakeholders on a single platform to deliberate, discuss and develop strategies for the sustainable development of the global teak sector and enable them to adapt to future markets and environments. India, being the largest market of teak timber in the world was selected to host the 5th version of the conference at the closing ceremony of the 4th World Teak Conference and would be organized by Kerala Forest Research Institute (KFRI), India and TEAKNET, India in collaboration with different National (MoEF & CC, ICFRE and DST) and international organizations (ITTO, IUFRO and FAO). The conference activities propose to dwell in detail on the current challenges of the teak sector, initiate programmes, develop networks and consolidate the information as deliverable outputs of the 5th World Teak Conference.

The Indian teak wood industry sector spanning both the formal and informal sectors is highly scattered and deals in wood processing and trading. According to the 68th round of the National Sample Survey Organization the Indian furniture industry alone employs 1.35 million people of which 97 percent is unskilled. Further, the domestic market of wooden products is characterized by:

- ✓ **There is limited awareness on timber legality and sustainable forest management by both wood industry and consumers.**
- ✓ **Fragmented and non-organized system of production and distribution of wooden products to meet the demand of local market. Hence, the technologies and designs of finished wood products especially from the informal sector doesn't match with the market needs. This leads to wood wastages and import of consumer preferred wood products.**
- ✓ **Though there is a preference of wooden products made of tropical hard wood, locally sourced timber is not produced in sufficient quantities to meet the demand. Hence, wood used for housing and furniture making relies mainly on overseas sourcing.**
- ✓ **Recently there has been a trend to use substituted materials, including plastic, aluminium and concrete that have a higher power consumption, environmental impact and carbon emission.**
- ✓ **Lack of designers and architectures who are dedicated to work in wood industry. Students of civil construction and architectural universities are not motivated to study and get readiness to work with wood industry. The scarcity of wood product/structure designers/architects plus the lack of branding expertise lowers the efficiency of India's teak wood industry development.**
- ✓ **With a fast-growing population of nearly 1.40 billion people, GDP growth of around 8.7% per year, a burgeoning middle-class population, urbanization, and rising disposable incomes in favour of higher value-added wood products, India's domestic teak market is expected to expand in the coming years.**

In this context, the present project aims to promote sustainable domestic use of teak wood and wood products in India by means of policy/legal framework improvement, stakeholder capacity building, developing networks of stakeholders and improving the efficiency of wood utilization.

1.2 Relevance

Teak is a species that was at the vanguard of globalization in the forestry sector over two centuries. The COVID - 19 pandemic related disruptions had undesired effects on the global teak sector by threatening their sustainability, disrupting trade, supply chains and the linked livelihood options. This is in addition to the existing problems such as climate change induced growth constraints, erosion of the gene pool and emergence of new pests and diseases. Though the entire teak sector has been in the doldrums during the pandemic period, the emerging new opportunities in a post COVID scenario should be harnessed for the betterment of the sector. Expansion of the teak plantations into new areas outside its natural habitats, enhancing conservation of the genetic base, improving efficiency of the legal and supply chains and assuring markets would boost confidence in the sector. Further, the teak sector could become more important in future due to the rapid growth in the demand for green products, especially wood for construction. Being the most important market of this important tropical hard wood, the promotion of sustainable teakwood use in domestic markets of India is of utmost importance.

Over the past decade, several activities were held across Asia - Pacific to address the issues relating to teak resource management and utilisation. Timber trade and SFM are the two key components of globalization and sustainable development of teak wood sector. However, knowledge of performance and behaviour of teak in planted forests/clonal trees and agroforestry systems is still inadequate in the context of sustainable tropical forest management (SFM). The project proposes to address the major challenges of 'new age eco-products' of teak that use innovative technologies for quicker production of quality timber, value addition to the products,

reduce wood wastage, develop guidelines for legal supply chains, facilitate wood certification and evolve strategies for adapting the sector to future markets and environments.

India, being one of the largest producers and a major importer of teak would greatly benefit from the project activities both from a technical point of view and in developing sustainable markets. As such, India has a very dynamic teak production and market sector with the following emerging scenarios.

- While the State Forest Departments have initiated afforestation programmes to bring about ecological transformation, there are also efforts from private sectors to invest on growing high-value timbers like teak in India.
- The increasing trade flows in quantity and value from teak producing countries towards India
- The price trends of teak timber continue to increase in India
- The increasing scarcity of naturally grown high-quality teak wood from Myanmar and India

The above situation represents a typical case of many other tropical countries in Asia, Africa and Central and South America, where extensive teak plantation programmes have been launched recently. Besides the producer countries, many non-governmental/private organizations of user countries in Europe especially the Netherlands, France and Finland have made considerable investments in teak plantation and research programmes in South and Central America as well as African countries. They are optimistic about the good economic returns. However, there have been few efforts to discuss the constraints and propose strategies for a wide array of issues such as conserving teak genetic resources, developing legal supply chains, sharing innovations in plantation management and exploring the potentials of these plantations in the global efforts on forest land restoration. **To meet these emerging challenges and sustain the most important market of teak, the Government of India must focus on sustainable production as well as use of this valuable and highly priced wood. This strategic shift will not only stimulate the national economy but also align with the government's commitment to green growth and sustainable development by elevating the bio-based economy value in this emerging market segment. Besides, the 5th World Teak Conference proposed as part of the project will provide an ideal platform to bring together different stakeholders on a single platform to deliberate, discuss and develop strategies for the sustainable development of the global teak sector and enable them to adapt to future markets and environments.**

1.2.1 Conformity with ITTO's objectives and priorities

Compliance with ITTA 2006 objectives

The project is consistent with the requirements of ITTA, 2006 objectives (e), (h), (k), (l) and (s) of Article 1

e) to promote the expansion and diversification of international trade from sustainable sources through improving the structure of international trade, taking into consideration both the long-term increase in consumption and continuity of supply, and prices which reflect the cost of sustainable forest management and which are remunerative and fair of the Members, and work toward improving market access. This is especially relevant for teak timber development through tropical plantations with the existing situation of producer member countries.

h) to improve market information in order to achieve greater transparency of the international timber market, by collecting, compiling and disseminating trade data on teak timber.

k) to improve marketing and distribution of teak timber and product exports from sustainably managed and legally harvested sources and which are legally traded including promoting consumer-awareness.

l) to strengthen the capacity of members for the collection, processing and dissemination of statistics on their trade in timber and information on the sustainable management of their tropical forests.

(s) to Identify and address relevant new and emerging issues in teak wood resources, log grading and price changes.

Likewise implementing various activities defined in project output 1 (Improved policies for promoting domestic uses of wood and wood products), including strengthening the national networks, legalizing and endorsing domestic wood from planted teak forests through national & international certification and learning lessons on smallholder teak plantations in selected countries investigated and introduced will contribute and consist with ITTA 2006 objective 1. Meanwhile, the proposed activities

listed under project output 2 (stakeholder capacity built to produce innovative teak wood and wood products needed by domestic markets) and output 3 (Information disseminated and networking developed through the 5th World Teak Conference), include providing advanced skills to design and develop wood products to meet domestic market demands, building capacity and understanding of stakeholders to comply with legality requirements, awareness-raising of urban consumers on domestic wood consumption, and strengthening partnerships and communication between teak producers and consumers will contribute to sustainable management of tropical timber-producing forests (ITTO objective 2).

Further, ITTO Strategic Action Plan (SAP) 2022-2026 aims to:

- **Highlight the ITTO's contribution to, among others, the SDGs; Recognize that COVID recovery may preoccupy the tropical forest sector for the SAP's duration;**
- **Serve as a transitional guideline document between 2022 and the launch of a process to renegotiate ITTO 2006; and**
- **Coincide with the extension of ITTA, 2006 to 2026.**

SAP 2022 – 2026 adopted at the ITTC-57 provides a new mission statement"[1] To facilitate discussion, consultation, international cooperation and policy development on the expansion and diversification of international trade in tropical timber from sustainably and legally harvested forests and on the sustainable management of tropical forests." In addition, SAP 2022-2026 identifies strategic priorities and cross-cutting issues follows:

Strategic priories:

- ✓ **Strategic Priority 1. Promote good governance and policy frameworks to enhance financing and investment in sustainable tropical forest management, legal and sustainable forest product supply chains and related trade.**

- ✓ **Strategic Priority 2. Increase the contribution of the tropical forest sector to national and local economies and resilient livelihoods, including through further processing and trade in tropical timber and other forest products and services.;**

- ✓ **Strategic Priority 3. Reduce tropical deforestation and forest degradation, enhance forest landscape restoration and the resilience of forest ecosystems to climate change, and conserve forest biodiversity and ecosystem services.; and**

- ✓ **Strategic Priority 4. Improve the quality, availability and timeliness of information on tropical forest product markets, supply chains and international trade, including challenges and opportunities related to market access, expansion and diversification.**

The project would also confirm to ITTO cross-cutting strategies:

- ✓ **Help build capacity in Member countries to advance the SAP 2022-2026;**
- ✓ **Enhance ITTO operational effectiveness;**
- ✓ **Promote integration of the tropical forest sector in COVID-19 recovery plans, measures and investments; and**
- ✓ **Promote gender equality and the empowerment of women**

[1] FIFTY-SEVENTH SESSION 29 November – 3 December 2021 Virtual Session

1.2.2 Relevance to the submitting country's policies

National forest policy of 1988 encourages trees outside forests for industrial needs and effective maintenance of ecological and environmental stability of the forest lands through conservation. Similarly, Agroforestry policy of 2014 encourages expansion of tree plantation in integrated manner to improve productivity, employment, income, and livelihoods of rural households, especially the small-holder farmers. Government of India has joined hands with agencies such as United States Agency for International Development (USAID) in a consortium led by Centre for International Forestry Research (CIFOR) and World Agroforestry (ICRAF) in expanding tree cover outside forests to enhance livelihoods and ecosystem services since 2022. **Various activities defined in project such as improving policies for promoting domestic uses of wood and wood products, strengthening national networks on teak, analysis on annual domestic teak wood production, legalizing and endorsing domestic wood from planted teak forests through certification, learning lessons on smallholder teak plantations in selected countries , stakeholder capacity building to promote innovative teak wood and wood products needed by domestic markets, awareness-raising of consumers on SFM and domestic wood consumption, and strengthening partnerships and communication between teak producers and consumers will contribute to the Govt. of India's policies on sustainable management and use of wood in the country. The planned 5th World Teak Conference would further provide a good platform for developing much more inter and intra sectoral linkages in supporting such programmes.**

Recent scheme of Government of India on doubling farm income can be achieved through short-rotation teak cultivation for high-quality timber in agroforestry settings. Timber production facilitates rural employment and livelihood specifically for loggers, transporters, artisans, and small-scale processing units. The 5th World Teak Conference planned as part of the project brings together multiple stakeholders in this supply chain to discuss and sort out the constraints in furthering this initiative by the Government of India.

The current policy of Govt. of India such as **Make in India** and **Aatma Nirbhar Bharat** (self-reliant India) encourages production of wood domestically and export of finished goods. India imports approximately 90,000 cum of teak wood per year from African and South American countries. At present, the price of teak products in the Indian domestic market is influenced by the availability of imported teak wood**. The project activities and the proposed 5th World Teak Conference with dedicated sessions and opportunities for B2B meetings will offer viable solutions for sustained use of teak timber in India.**

1.3 Target area

1.3.1 Geographic location

The project will be implemented in India. The project will be implemented by Kerala Forest Research Institute (KFRI) in association with TEAKNET. KFRI is located at Peechi, Thrissur, Kerala, India. TEAKNET operates from its headquarters at the Kerala Forest Research Institute (KFRI).

The 5th World Teak Conference proposed as part of the project is planned to be held at the 5-star Grand Hyatt Kochi Bolgatty at Kochi, Kerala, India. The venue is located on 26 acres of lush green land on the serene Bolgatty Island and is a waterfront urban resort overlooking the backwaters of Vembanad Lake in Kerala. The conference location has good connectivity via road, rail and flights. It is 32 kms from the Cochin International Airport. The conference venue has multi-functional meeting spaces equipped with the latest audio-visual equipment and broadband Wi-Fi access. The conference would be held in the Main Ball room of Grand Hyatt with a 750 sq m of meeting and event space and would have a seating capacity of 500-600 persons. The exhibition space for private companies and scientific poster presentations is planned in adjacent ballrooms measuring 750 sq m each. A board room with a seating capacity of 30 (round tables) will be kept aside for Business to Business (B2B) meetings and small group meetings. The selected venue also offers a spacious foyer for arranging food and refreshments for the participants. The main office for managing the conference and serving the needs of the participants will be located adjacent to the main hall.

1.3.2 Social, cultural, economic and environmental aspects

Social aspects

The project is relevant to almost all tropical teak producer countries and there are indications that commercial teak plantations can be designed for local benefits involving teak grower, processor and trading communities. The proposed project activities would be an ideal platform for the different stakeholders to interact and develop strategies to address sustainable teak production, use and expanding market opportunities.

Cultural aspects

In the older times, teak trees were found in abundance in moist deciduous forest tracts of Asia-Pacific. During the era of colonization, natural teak resources were greatly depleted due to overexploitation. However, teak planting activity in the public sector has been on the increase afterwards not only in Asian countries but also in other parts of the world. The importance of teak in family farming, forest conservation and management along with its prominent position in the global timber market and trade have resulted in the remarkable expansion of teak plantations in about 80 tropical countries throughout tropical Asia, Africa, Latin America and Oceania. The proposed project activities along with the teak conference would be an ideal platform for the stakeholders from different cultural settings to share ideas and explore future opportunities.

Economic aspects

The economic benefits cannot be quantified from the project although qualitatively it is expected to enhance the contributions to the tropical timber economy by way of promoting networking and showcasing the potential of teak in future markets and changing environments. **It would provide an opportunity to assess the teak resources and emerging market scenarios in different parts of the world, promote sustainable use of teak wood in India and facilitate business-to-business contacts.**

Environmental aspects

The project is envisaged in the backdrop of the UN decade of Eco-restoration and would bring forth strategies for integrating the expanding teak plantations and small holder teak sector in the global efforts. **The government is working to lower the environmental footprint of the country's growth and effectively mitigate and adapt to climate change (Bonn and Paris commitments). Key strategies and plans to stimulate green growth and sustainable use of its natural assets are also in place. Specific activities and WTC sessions will be devoted for promoting environmental aspects of teak plantations.**

1.4. Expected outcomes at project completion

The project is expected to produce the following outputs:

- ✓ **Final draft policies for promoting sustainable use of wood and wood products would be submitted to the MoEFF & CC. The policies will ease and fasten the processes to strengthen the domestic market and supply chains of wood and wood products.**
- ✓ **Teak wood industries and tree growers (large and smallholders) collaboration strengthened to fill domestic market demands for sustainable legalized wood products and their supply and value chains.**
- ✓ **Stakeholder capacity built to produce innovative wood and wood products needed by domestic markets.**
- ✓ **Raised awareness among consumers on the role of wood use and sustainable forest management resulting in enlarged and diversified domestic wood consumption.**
- ✓ **Demonstrated legal and sustainable wood supply chains that improve domestic market access to wood products**

- ✓ Addressing emerging scenarios with respect to climate change induced growth constraints, erosion of the gene pool, new pests and diseases and opportunities in a post COVID scenario.

- ✓ Identification of the lead institutes in relevant areas of research and training as well as networking to cater to the needs of the stakeholders

- ✓ Establishment of working relationships with necessary commitments among the participating stakeholders for developing focussed strategies for specific groups.

By achieving the specific objective of enhancing domestic consumption and promoting local markets of wood and wood products, the expected outcomes of the project will go beyond its overall goal of sustainable domestic wood consumption. It will support national bio-based economy policy, contribute to biodiversity conservation, maintain and expand eco-friendly green areas, and create job and income opportunities for small- and medium-sized enterprises. The information generated through one of the major activities of the project, the 5th World Teak Conference will be of immense use to the policy makers, traders and researchers.

PART 2: Project Rationale and Objectives

2.1 Rationale

A substantial portion of the increasing timber demand in the Indian domestic market is met through imports. Among the different imported timber species, teak occupies a premier position. Teak round wood imports to India have doubled from around half a million cubic meters in 2009 to slightly more than a million cubic meters in 2019. India absorbs nearly 90 percent of the teak produced globally, and fluctuations in the Indian market could have far-reaching consequences. Notably, India has the largest area under teak globally, with 5.9 million hectares under natural forests and an additional 1.7 million hectares under plantations. However, these teak-growing regions contribute only a negligible volume of 50,000 cubic meters annually, forming just 5 percent of the teak demand. Consequently, strategies to promote sustainable teak wood use are crucial, not only for stimulating the national economy but also in alignment with the government's commitment to green growth and sustainable development.

Teak has world-wide reputation as a high-quality tropical timber. Over the recent years, teak has attracted the attention of investors from both public and private sectors in the massive tree cultivation programmes. While the global teak plantations are estimated to exceed 5.4 million ha, 94% is located in tropical Asia. Involvement of farmers and small land holders in industrial wood supply from shorter rotations of 20-30 years is increasingly becoming common in most of the teak growing countries including India. The rapid expansion of teak plantations, however, poses a risk of undermining the reputation of teak in global market place because of wide variations in wood quality with the net effect of reducing the prices and therefore the financial viability of teak planting programmes. To avoid this, teak growers, at the community and government/ industrial levels, must ensure that the wood they produce is of the highest possible quality, which will mean carefully choosing the right sites, good genetic stock, employing optimal rotation cycles and appropriate silvicultural techniques. Although, teak is grown widely over the globe, precise information on its production or extent is lacking. Similar is the case with several other features of the teak wood resources. An integrated international market intelligence and pricing mechanism are also not available for the species. The traders depend many often on advertisements by private agencies on the availability of teak wood and the prices. Lack of knowledge about teak wood resources, availability of timber for sale and local prices across the local and international markets, leads to economic losses to the producers and traders. Though research and development has been going on for years in all aspects of teak farming and markets, there exists serious gaps in the knowledge dissemination to the stakeholders. Apart from this, recent years have also brought to the fore a plethora of problems in the teak sector such as climate change induced growth constraints, erosion of the gene pool, emergence of new pests and diseases and disruptions in the markets by way of COVID -19.

With a burgeoning population, India stands as one of the fastest-growing major world economy, fostering a booming middle-class consumer market. This trend propels growth in the domestic furniture and homeware sector. Additionally, India has entered into 42 trade agreements with various countries, positioning it as an attractive choice for both market access and exports. Given the pivotal role of teak in the Indian timber economy and the imperative to promote its sustainable use, TEAKNET, in collaboration with various international organizations, has been spearheading various activities aimed at fostering the sustainable utilization of this vital tropical timber. In this context, the project activities propose to promote sustainable domestic use of teak wood and wood products in India by means of policy/legal framework improvement, stakeholder capacity building, develop networks of stakeholders and improve the efficiency of wood utilization. Further, the 5th World Teak Conference proposed in India during 17-20 September 2025 as part of the project with the theme 'Sustainable Development of the Global Teak Sector - Adapting to Future Markets and Environments' proposes to bring together different stakeholders on a single platform to deliberate, discuss and develop strategies for the sustainable development of the global teak sector and enable them to adapt to future markets and environment.

2.1.1 Institutional set-up and organizational issues

The Kerala Forest Research Institute shares the country's mandate to work towards sustainable forest management including plantations and trees outside forests. Teak has been a priority species for the Institute and has produced considerable research outputs and organized several conferences, seminars and workshops on teak over the past five decades. The Institute has also produced several documents in the form of research reports, manuscripts and CDs on several aspects of this species. KFRI hosts the Teak Museum

at its Nilambur Sub Centre, a unique museum dedicated for a single species. The Institute is well equipped with experienced manpower and infrastructure. TEAKNET, the International Teak Information Network has its headquarters at KFRI. KFRI and TEAKNET have organized international teak events before, e.g., the international workshop on the Production and Marketing of Teakwood: Future Scenarios, 23-25 Nov. 2009. The detailed list of International events organized by these organizations is given in Annex 1.

This project is planned to be executed jointly by KFRI and TEAKNET in collaboration with National (MoEF & CC, ICFRE and DST) and International Organizations (ITTO, FAO and IUFRO) and designed in such a way that the outputs will be beneficial to all stakeholders especially the growers, traders, researchers and policy makers.

2.1.2 Stakeholder analysis

Before a formal stakeholder analysis is presented, certain descriptions are made here of the beneficiaries and the technical aspects involved.

Target beneficiaries

Target beneficiaries include teak growers, traders, researchers, international organizations and policy makers. The teak growers include both public sector and private growers.

A formal stakeholder analysis as per the ITTO specifications is depicted in the following.

Stakeholder group	Characteristics	Problems/ needs/ interests	Potential contribution	Participation in problem implementation
Primary stakeholders				
Wood producers	- Producing teak wood from state forest or private forest at small or large scale	- No premium price for their timber - Lack of options to export timber - Lack of ability to engage effectively in supply chain	Engage in supply chain	- Attend trainings, workshops, trade fairs etc. - Provide comments/ feedbacks on policies. - Share problems and challenges to be analysed and addressed
Wood processing and trading enterprises specializing in local markets and/or export	- Having wood manufacturing, wood working equipments and labour force; - Need to comply with certifications/ registrations for international export. - Need sustainable supply of legal and higher quality wood	- Facing difficulty in wood legality assurance - Lack of designing and marketing know-how leading to low efficiency of wood business - Lack of product advertisement of domestic market and trade promotion	- Share experience and challenges to be analyzed and addressed. - Communicate with plantation farmers/non-formalized and small wood processing and trading businesses to improve the efficiency of	- Attend trainings, workshops, trade fairs etc. - Provide comments/ feedbacks on policies. - Share experience with and encourage micro/non-formalized businesses to

	- **Wish to increase local consumption and local markets for wood and wood products**	- **Cannot afford high cost of wood certification** - **Lack of abilities to link with local and overseas partners**	**forestry and wood products.** - **Joining B2B meetings to promote trade ties and improve supply chains.**	**engage in Project implementation.**
Potential consumers with special attention on urban and young generations	- **Urban population of about 35% of the total population, and is expected to increase.** - **Young generation of urban consumers getting better-off and changing interior space decoration more frequently.** - **Consuming more and more modern-designed and build-in wooden furniture**	- **Consumers shifting to non-environment friendly and energy consuming interiors (glasses, aluminium, plastic, and imported wood etc. instead of traditional and domestic wooden interior).**	- **Provide feedbacks on draft policies though interviews/need surveys.** - - **Contribution to better utilization of eco-friendly construction materials planted in the country.**	- **Communication on the need of shifting to the use of planted wood to replace wood-substitute composite and imported wood.**
Secondary stakeholders				
Research institutions	Have research missions	Need financial support and facilities for effective research	Capable of generating new and useful information through data analysis	KFRI involved in project implementation
Policy makers	Part of the government bodies of different countries	Need information on new strategies and advanced management prospects, long term demand for teak wood	Responsible for making policies; have control on legal and financial aspects of growing and trading teak	Target beneficiaries of research output
State Forest Departments/ Corporations	Grow and sell teak in large scale, responsible for policy regarding teak cultivation	Need advice in cultivation practices, concerned about sustainable management of forests	Great impact on production and marketing	Benefited by better market intelligence
Private sector associations on wood and related activities	- **Having large spectrum of members** - **Maintaining good cooperation with local authorities** - **Wishing to have enabling environ for member companies to do business.**	- **Insufficient capacity to provide services and advices to members.** - **Inadequate capability to connect their members and maintain strong network**	- **To provide appropriate advisory services and update on policies, technologies available for timber industry development.** - **Experiences of mastering events**	- **Connectnmember companies with the project.** - **Lead training, seminars, technology transfer.** - **Interested to implement**

		- **Lacking of abilities and experience to access to and develop proposal on trade promotion at provincial level.** - **Lacking of experiences on linking business.** - **Lacking of resources to hold training on advanced technology and designing as well as legal requirements**	**on trade promotion and advertising wooden furniture.** - **Bridge links between wood enterprise and wood/plantation households.** - **Develop collaborative links with relevant authorities and related associations.**	**national certification**
Tertiary stakeholders				
International institutions like FAO, IUFRO and ITTO	- **Agencies actively involved in assessment of the status of forests and promotion of sustainable management of these forests.**	- **Need country wise information on teak wood resources and dependent communities**	- **Responsible of monitoring the status of forests, providing assistance to countries**	- **Technical support in the project implementation**
Universities, Research Institutes, vocational training centers etc	- **Lacking facilities to attract students to study wood product designing and marketing**	- **Lack of udated knowledge on domestic markets and sustainable wood use**	- **Assigning teachers and students to participate in project implementation** - **Having the modality of abundant numbers and database of project target** - **Enlarge enrolment**	- **Lead training, seminars, technology transfer.** - **Conduct value chains analysis of woods from plantations in demonstrating provinces** - **Nominating promising students to join training, contests on the best designs, and attend on-job training**
TEAKNET	- Involved in networking, information dissemination, opinion forming regarding all aspects of production and marketing of teak wood	- Lack financial support for networking activities	- Information dissemination	- Involved in project implementation

2.1.3 Problem analysis

Problem tree for key problem:

In India, despite having a long history of teak timber industry, there has been a lack of comprehensive studies assessing the performance and sustainable use of teak timber in the domestic market. There is also a lack of precise information regarding the actual volume of teak wood consumed by local industries and markets. This lack of information may be attributed to unreported data or data loss along the supply chain, making it difficult to analyze and determine the domestic usage of teak wood in India.

The Ministry of Environment, Forests and Climate Change has launched the Indian Forest and Wood Certification Scheme. This national forest certification scheme offers voluntary third-party certification in forest management, tree outside forest management certification, and chain of custody certification. However, there are no requirements in place to record the performance of certified timber and certified timber products consumed within the Indian domestic market. As a result, the level of domestic demand for certified timber products also remains uncertain.

The wood industry, particularly in certain segments like logging and wood processing, has been slow to adopt advanced technologies and automation. The high reliance on labour in this sector has limited the industry's ability to achieve productivity gains and reduce costs. The lack of investments in research and development, innovation, and technology upgradation has also hindered the sectors 'progress.

The labour-intensive nature of timber industry, requires a skilled work force to enhance productivity and reduce wastages. The sector requires a skilled workforce that possesses knowledge of modern logging practices, wood processing techniques, and machinery operation. The shortage of skilled workers has led to inefficiencies and low productivity levels.

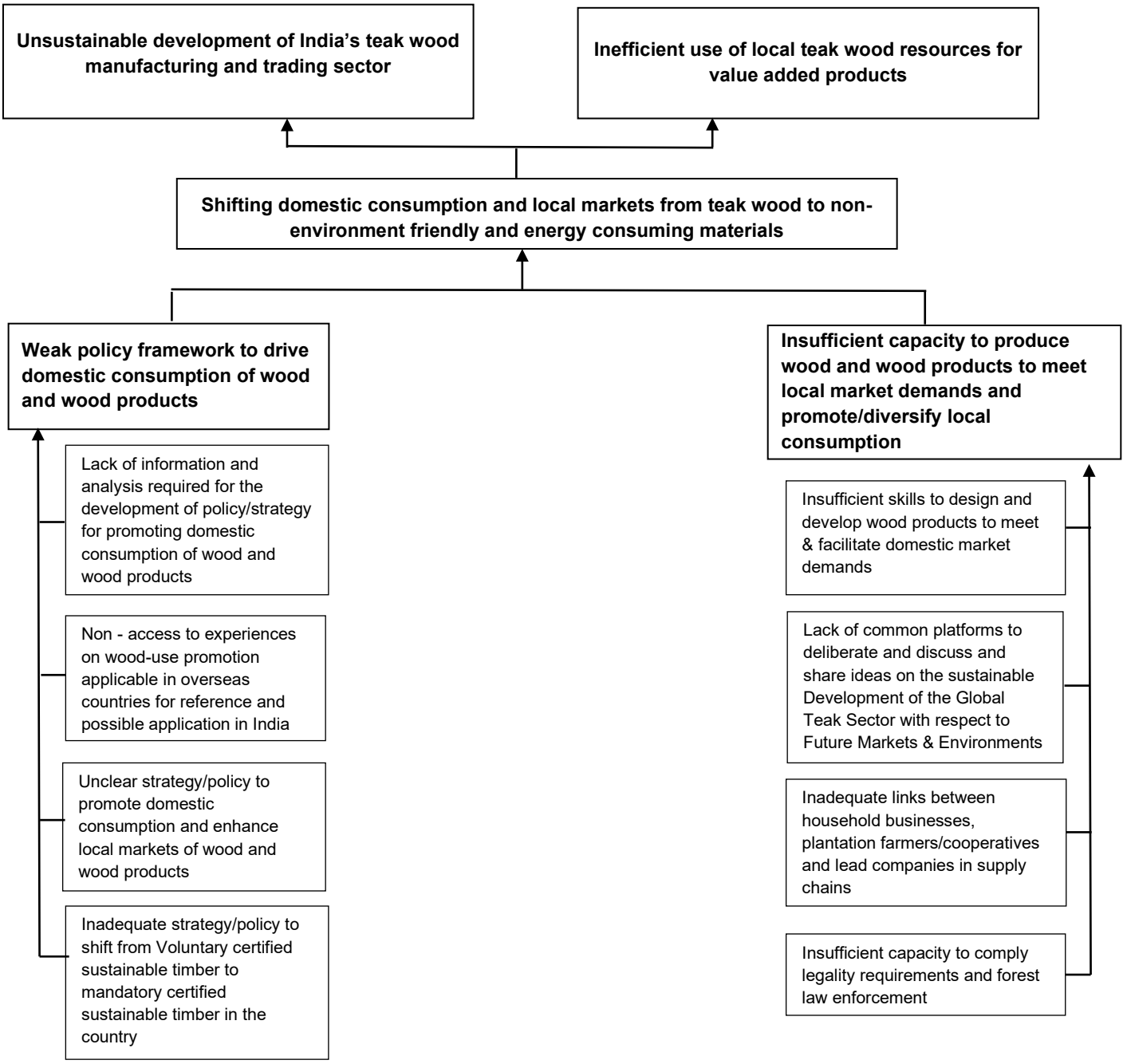
India absorbs almost 90 percent of the teak produced worldwide and fluctuations in the Indian market could have wider ramifications. Though India have the largest area under teak globally, these teak growing regions produce only 5 percent of the teak demand. The high price of this premier wood based products have been prompting consumers to shift to non- environment friendly and energy consuming materials such as glasses, aluminium, plastic etc. instead of traditional and domestic wooden products. Under such circumstances, the burgeoning demand of teak wood could be satisfied by promoting smallholder teak plantations and promoting sustainable wood use

The timber industries worldwide is facing increasing pressure to reduce its environmental impact and improve its Environmental, Social and Corporate Governance (ESG) performance. This is due to a number of factors, including the growing awareness of the climate crisis, the increasing demand for sustainable products, and the growing influence of ESG investors. The industry can meet this challenge by implementing sustainable forestry practices and by working with stakeholders to develop and implement ESG standards.

In the light of global concerns on deforestation, the European Union has recently adopted the EUDR for implementation in 2023. Under the EUDR, products from deforested areas beginning 2020 will be not be allowed into the EU. Finished teak wood products are of high demand in the European markets from historic times. The Indian timber industry has to gear up to meet the keys aspects of the requirement in the EUDR to continue to tap this important export market

Challenges in sustainable forest management, erratic and unpredictable price trends and the lack of a communication platform for inter-sectoral and intra-sectoral interactions among concerned stakeholders and supporting policy decision-making are key problems for the globally expanding teak sector. The below figure presents a problem tree that displays the logical sequence of the identified major challenges.

Problem tree

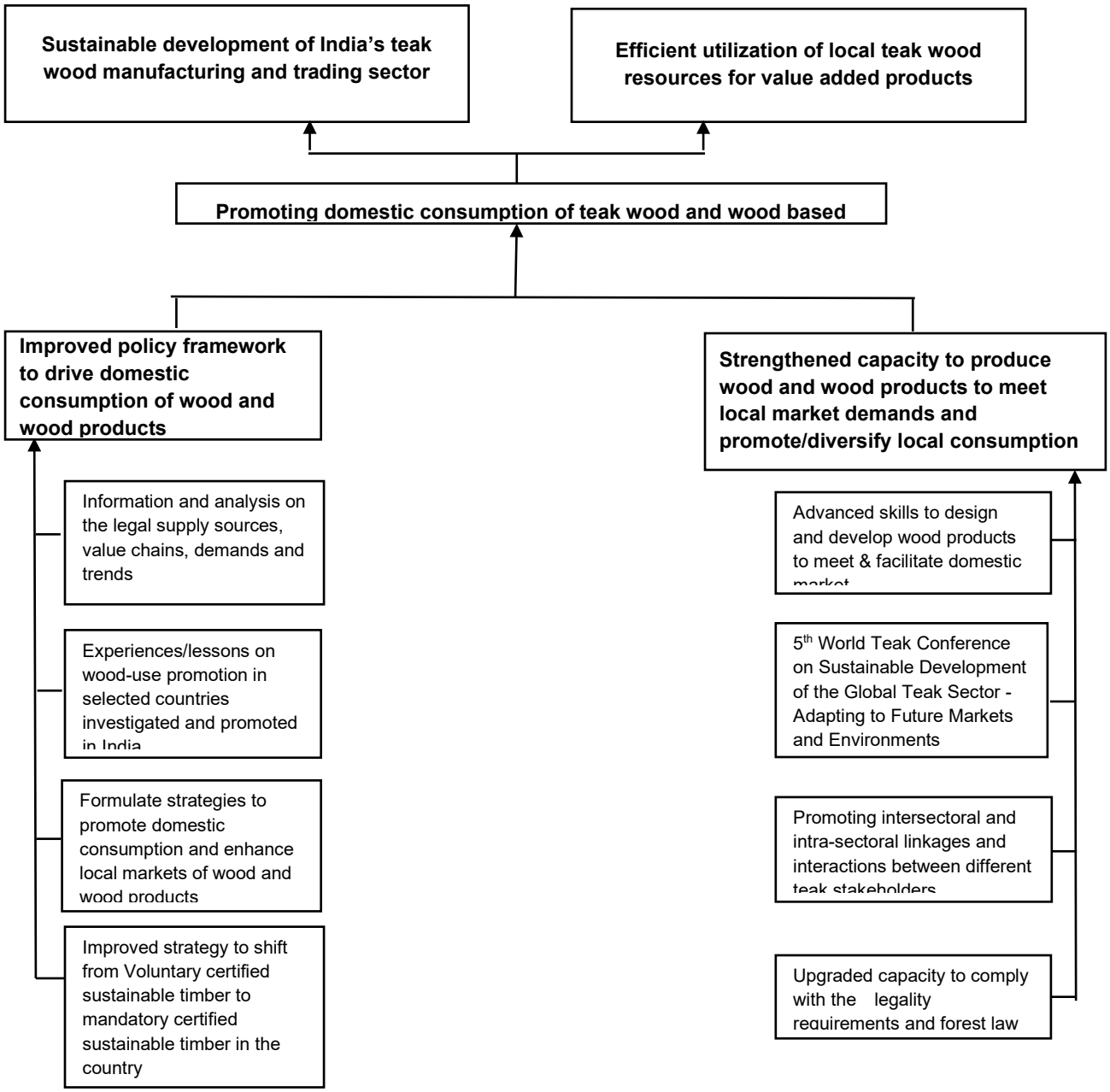


As indicated above, the domestic teakwood sector faces the twin problems of i) unsustainable development of manufacturing and trading sector and ii) inefficient use of local teak wood resources for value added products.

The Objective Tree below shows strategies/measures to improve the domestic consumption of wood and wood products and strengthen the capacity of stakeholders to produce wood and wood products to meet local market demands and promote local consumption. In addition, awareness-raising of consumers on the role of wood use and promoting domestic wood consumption via workshops and exhibitions and strengthening partnerships and communication between wood producers and wood consumers at all levels are expected. An international conference with representatives from government institutions, the private sector, universities, research institutes, international and non-governmental organizations is planned to share knowledge and experience and to exchange ideas on the multiple economic, social and environmental benefits that teak resources can provide. The deliberations would help sustainable development of the global Teak sector and enable them to adapt to future markets and environments.

The project interventions are designed to provide direct contribution to mitigate or alleviate the identified problems and reach the targeted objectives.

Objective tree for key problem:



2.1.4 Logical framework matrix

Strategy of intervention	Measurable indicators	Means of verification	Key assumptions
Development objective **To contribute to sustainable and efficient use of teak wood resources in India**	***3 years after project completion*:** - **Annual growth rate of domestic wood consumption increases at least by 2%** - **Enhancement in the share of locally produced wood and value-added processing** - **Facilitated legally produced wood and increase in number of certified teak wood products**	- **Statistics reports by Govt. of India** - **Surveys / interviews of the relevant wood industries and stakeholder groups;**	- **The policy support of the Government by considering wood industry as a key bio-economic unit and determination to promote India as a hub for wood manufacturing in tune with Make in India and Self Reliant India programmes**
Specific Objective **To enhance the resilience and sustainability of the teak wood sector and promote sustainable use of teak resources and wood products in India**	**By the end of the project:** - **Capacity to produce good quality planting materials and certified wood products to meet market demands & promote local consumption strengthened** - **Bring a wide spectrum of teak stakeholders on a single platform to deliberate, discuss and develop strategies to enable the sector to adapt to emerging and future markets/ environments.** - **Draft policy related to consumption of wood and wood products**	- **Reports** - **Interview / surveys results with local consumers, traders, processors and govt. officials** - **Number of trainees and participants attending project events**	- **Task force group established and motivated to work**
Ouput 1 **Improved strategies to promote the sustainable use of teak resources and wood products**	- **Current policy framework for promotion of local consumption of wood and wood products reviewed with recommendations for improvement;** - **Experience and good practice in promoting wood use from selected countries compiled and transferred to relevant agencies for reference and possible implementation** - **A policy document or other documents on promoting domestic wood certification and consumption of wood and wood products by the termination of project**	- **Reports/drafted documents**	- **The Government places the growth of the timber industry as one of the leading key economic sectors.** - **The Government is committed to make India a certified sustainable timber producer, with a robust value-added manufacturing of downstream product both domestically and internationally.**

	- Strengthen the network of teak planters and traders for the promotion of sustainable wood use		
Output 2 Stakeholder capacity built to produce innovative wood and wood products needed by domestic markets	- At least, 50 urban consumers and 50 rural consumers attended exhibitions/communication campaigns on using wood for housing construction and interior decoration - Atleast 25 youth trained in advanced techniques in developing good quality teak planting materials and wood designing enabling them to initiate start-ups in the teak wood sector - At least, 10 companies attending B2B meetings	- Questionnaires/ interviews Reactions/ acceptance of entrepreneurs - Reports/ drafted documents	- Willingness and effective participation of the stakeholders
Output 3 Information disseminated and networking developed through the 5th World Teak Conference	- Preconference activities like webinars and thematic papers - 400 participants from atleast 30 teak growing countries participating and deliberating on issues of broad topical interest - Atleast 10 business establishments participating and deliberating on their opportunities and challenges - Participation of international organizations and professionals across the globe ensured - Number of Inter-Sectoral partnerships due to the conference and related activities - Technology and Innovation Transfer during the conference	- Attendees by number, region and sectoral diversity for the conference - Exhibitions and presentations by diverse types of teak stakeholders - Documents / Thematic papers - Proceedings	Willingness and effective participation of the teak stakeholders from different sectors

2.2 Objectives

2.2.1 Development objectives and impact indicators

The Development objective of the project is to contribute to sustainable and efficient use of teak wood resources in India. The objective is in tune with the Govt. of India policies of growing "Sustainable forestry industry", "Make in India" and "Atmanirbhar Bharat" (Self-Reliant India)' initiatives. These initiatives have the potential to significantly impact the Indian timber sector, offering both opportunities and challenges.

- ✓ **Increased domestic production: "Make in India" and "Atmanirbhar Bharat" aims to boost domestic augmentation of resources, manufacturing and sustainable use of resources. This creates an opportunity for the small holder planters to augment the wood resource base and for the Indian timber industry to expand its production capacity, particularly in value-added segments of high priced timber like furniture, plywood, and handicrafts.**

- ✓ **Technological advancements: The initiatives encourage technology adoption and innovation. To make the timber industry self-reliant, there should be a focus on adopting advanced technologies for timber processing that includes modern sawmills, treatment plants, and efficient utilization of timber resources. This can lead to more efficient and sustainable use of timber resources, especially high value timber like teak in the country.**

- ✓ **Novel and sustainable wood use: Development of new wood-based products with novel applications to attract consumers and replace energy intensive and non-environment friendly materials**

- ✓ **Enhanced skills and employment: Make in India emphasizes skill development programs to ensure that the workforce is equipped with the necessary skills for the timber manufacturing processes.**

- ✓ **Export potential: A vibrant domestic timber industry can make India a competitive player in the global wood products market. Increased exports can bring in valuable foreign exchange and boost economic growth.**

- ✓ **Wood legality and certification: Ensuring the legality and sustainability of wood is crucial for both environmental and economic reasons and the project intends to facilitate the Govt. of India initiatives on legal wood production and certification schemes to promote responsible sourcing and trade of timber.**

The impact indicators are:

***3 years after project completion*:**

- **Enhanced annual growth rate of domestic wood consumption by at least by 2%**
- **Enhanced share of locally produced wood for value-added processing**
- **Facilitated legally produced teak wood and encouraged certified teak wood products**

2.2.2 Specific objectives and outcome indicators

The specific objective of the project is to enhance the resilience and sustainability of the teak wood sector and promote sustainable use of teak resources and wood products in India

The outcome would be measured using the following indicators

- **Capacity to produce good quality planting materials and certified wood products to meet market demands & promote local consumption strengthened**
- **5th World Teak Conference to bring a wide spectrum of teak stakeholders on a single platform to deliberate, discuss and develop strategies to enable the sector to adapt to emerging and future markets/ environments**
- **Facilitate legally produced teak wood and supply chains in the domestic market and export**
- **Policy document or other documents on promoting domestic wood certification and consumption of wood and wood products in India**

PART 3: Description of Project Interventions

3.1. Outputs and activities

3.1.1 Outputs

Output 1: **Improved strategies to promote the sustainable use of teak resources and wood products**

Output 2: Stakeholder capacity built to produce innovative wood and wood products needed by domestic markets

Output 3: Information disseminated and networking developed through the 5th World Teak Conference

3.1.2 Activities

Output 1	**Improved strategies to promote the sustainable use of teak resources and wood products**
Activity 1.1:	**Overview of policies on promoting domestic market of wood and wood products (desk studies and surveys of selected provinces and arrange workshops to collect feedbacks) to produce policy recommendations**
Activity 1.2	**Experience and good practice in promoting wood use from selected countries compiled and transferred to relevant agencies for reference and possible implementation**
Activity 1.3	**A policy document on promoting domestic wood certification and consumption of wood and wood products by the termination of project**
Activity 1.4	**Strengthen the network of teak planters and traders for the promotion of sustainable wood use**
Output 2	**Stakeholder capacity built to produce innovative wood and wood products needed by domestic markets**
Activity 2.1	**At least, 50 urban consumers and 50 rural consumers attended exhibitions/communication campaigns on using wood for housing construction and interior decoration**
Activity 2.2	**Atleast 25 youth trained in advanced techniques in developing good quality teak planting materials and wood designing enabling them to initiate start-ups in the teak wood sector**
Activity 2.3	**At least, 10 companies attending B2B meetings**
Output 3	**Information disseminated and networking developed through the 5th World Teak Conference**
Activity 3.1	Undertake the preconference activities like webinars and publicity
Activity 3.2	Develop a dedicated Conference Website and Information dissemination
Activity 3.3	Invite, screen and finalize abstracts for technical sessions.

Activity 3.4	Develop and finalize the programme schedule
Activity 3.5	Finalize the list of resource persons and participants
Activity 3.6	Arrange the venue and logistics
Activity 3.7	Conduct the World Teak Conference with thematic sessions, plenary sessions, round table meetings and side events
Activity 3.8	Develop, edit and finalize the 5th World Teak Conference proceedings

3.2 Implementation approaches and methods

To promote sustainable and efficient use of teak wood resources in India, the project will deal with the following stakeholder groups at both national and international levels:

- **Policymakers/administrative bodies**
- **Training and research institutions**
- **Producers/suppliers**
- **Consumers**

While dealing with these groups, gender inclusion will be practiced by giving priority to smallholders and all genders as the most targeted beneficiaries.

To facilitate stakeholder groups to work toward achieving the project objective, the following approaches/strategies will be applied:

- ***Participatory approach with intensive consultations to engage relevant parties*: In particular, consultations and in-depth interviews, either offline or online, will be held to review the current situation of domestic consumption and the policies currently applied so that the policy/institution, as well as capacity gaps could be properly investigated and discovered. In this way, the results of reviewing the Indian national policies and long-term strategies, and experiences available from selected countries in particular Vietnam, Thailand and Japan will be widely circulated for reference and feedback. Participatory approach is also very important for formulation of decree/decision on promoting domestic consumption. Whenever appropriate, the project will facilitate dialogues/debates between policymakers and private plantation firms/associations and interested plantation farmers to provide feedback and comments on project findings/recommendations and translate them into policies/policy tools. Short-term regional/international experts will be recruited to work with responsible government institutions, private sectors and smallholders to improve policies for promoting domestic uses of wood and wood products.**

- ***Integration of ongoing initiatives/processes toward sustainable development of India's wood industry*: India's timber industry is in a very dynamic stage and there are many ongoing initiatives/processes toward sustainable development of the sector. In this regard, the project will utilize every national and international events/forums on similar topics to inform project objectives and activities, and update project progress.**

- ***With the capacity building component, the project will play the role of a facilitator using existing platforms and networks of TEAKNET*: In particular, the project will facilitate cross visits of plantation farmers/ MSMEs to lead companies and vice versa, B2B matching meetings, producer/supplier and consumer dialogues etc. Efforts will also be made by the project to link universities/research institutions and member companies in training young designers and architects. Potential involvement of related associations and NGOs, including the private wood industry firms and govt./ private planters will be promoted.**

- ***Maximum use of mass media means and online platforms (webinar, Facebook, You tube) to raise awareness on sustainable domestic consumption of wood and wood products*: Exhibitions, demonstration and contests will be conducted to engage domestic wood and wood production-consumption.**

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- ***Gender, especially women will be given priority to joining project activities*: All the intended trainings, workshops, and B2B matchings will include women (40-50% of invitees/participants).**

- **5th World Teak conference: As part of the project, the 5th World Teak Conference would be organized to bring a wide spectrum of teak stakeholders on a common platform to discuss and deliberate the challenges and opportunities for the sustainable development of the teak sector. The conference platform with with thematic sessions, plenary sessions, round table meetings and side events would help develop strategies for the teak sector to emerging and future markets/ environments All previous teak conferences had attendances in excess of 350 from more than 30 countries. Participation in the previous WTCs included representatives from government organizations, teak growers, traders, plantation managers, private businesses, academic institutes, research organizations, international organizations, NGOs, and students. As such, this conference will offer a forum for stakeholder interactions, development of initiatives, and exchange of novel ideas on teak, a premium tropical hardwood that is extensively grown worldwide. Based on the previous WTCs, the 5th World Teak Conference is expected to host about 400 participants and the conference will have the following sessions / themes**

  - ✓ **Value addition, market and legal supply chains**
  - ✓ **Cost-benefit analysis on short rotation teak investments in different teak growing regions, with a specific emphasis on small-scale cultivators (The objective is to assist them in diversifying their production, managing financial and biological risks, and generating income).**
  - ✓ **Recent advances in teak genetics and stand management**
  - ✓ **Socio- economic aspects and management models for small holder teak plantations in Asia, Africa and Latin America**
  - ✓ **Environmental protection, biodiversity conservation and Forest Landscape Restoration**

3.3 Work plan

Project Elements	Responsible Party	Year 1				Year 2			
		1	2	3	4	1	2	3	4
Activity 1.1 Overview of policies on promoting domestic market of wood and wood products (desk studies and surveys of selected provinces and arrange workshops to collect feedbacks) to produce policy recommendations	TEAKNET								
Activity 1.2 Experience and good practice in promoting wood use from selected countries compiled and transferred to relevant agencies for reference and possible implementation	TEAKNET and KFRI								

Activity 1.3 A policy document on promoting domestic wood certification and consumption of wood and wood products by the termination of project	TEAKNET and KFRI								
Activity 1.4 Strengthen the network of teak planters and traders for the promotion of sustainable wood use	TEAKNET								
Activity 2.1 Target of 50 urban consumers and 50 rural consumers attended exhibitions/ communication campaigns on using wood for housing construction and interior decoration	TEAKNET								
Activity 2.2 Target of 25 youth trained in advanced techniques in developing good quality teak planting materials and wood designing enabling them to initiate start-ups in the teak wood sector	TEAKNET								
Activity 2.3 At least, 10 companies attending B2B meetings	TEAKNET								
Activity 3.1 Undertake the preconference activities like webinars and publicity	TEAKNET								
Activity 3.2 Develop a dedicated Conference Website and Information dissemination	TEAKNET								
Activity 3.3 Invite, screen and finalize abstracts for technical sessions.	TEAKNET and KFRI								
Activity 3.4 Develop and finalize the programme schedule	TEAKNET and KFRI								
Activity 3.5 Finalize the list of resource persons and participants	TEAKNET and KFRI								
Activity 3.6 Arrange the venue and logistics	TEAKNET and KFRI								
Activity 3.7 Conduct the World Teak Conference with thematic sessions, plenary sessions, round table meetings and side events	TEAKNET								
Activity 3.8 Develop, edit and finalize the 5th World Teak Conference proceedings	TEAKNET								

3.4. Budget
3.4.1. Master Budget

Outputs/ Activities	Description	Budget Component	Quantity		Units	Unit cost in USD	Total cost in USD	ITTO		KFRI	
			Year 1	Year 2				Year 1	Year 2	Year 1	Year 2
	Common Expenses of Project										
	ITTO Project Monitoring & Review	81	1	1	Times	10,000	20,000	10,000	10,000		
	Annual/Final Audit	65	1	1	Year	4,500	9,000	4,500	4,500		
	ITTO Programme Support	83	1		Times	31,179	31,179	31,179			
	ITTO Ex-post evaluation	82		1	Times	10,000	10,000		10,000		
	Capital Equipment (Computer/ Laptop)	41	1	2	Laptop	1,200	1,200	1,200			
	Office supplies	53	12	12	Months	250	6,000	3,000	3,000		
	Office space	54	1	1	Times	9,000	18,000			9,000	9,000
	Maintenance and repairing and printing, etc.	42	1	1	Time	1,000	2,000			1,000	1,000
Output 1: Improved strategies to promote the sustainable use of teak resources and wood products											
A1.1	*Overview of policies on promoting domestic market of wood and wood products (desk studies and surveys of selected provinces and arrange workshops to collect feedbacks) to produce policy recommendations*										
	Project Coordinator	11	1	1	Year	6,000	12,000	6,000	6,000		
A1.2	*Experience and good practice in promoting wood use from selected countries compiled and transferred to relevant agencies for reference and possible implementation*										
	National Consultant- Innovative wood and wood products	21	1	1	Times	3,000	3,000	3,000			
	Project Associate	11	12	12	Month	350	8,400	4,200	4,200		
	Consultations with universities and institutions	22	5	5	Prog. Days	100	1,000	500	500		
A1.3	*A policy document on promoting domestic wood certification and consumption of wood and wood products by the termination of project*										
	International Consultant - For preparing the wood use promotion policy document	14		3	Month	3,000	6,000	3,000	3,000		
A1.4	*Strengthen the network of teak planters and traders for the promotion of sustainable wood use*										
	Secretary	11	12	12	Month	700	16,800	8,400	8,400		
Output 2: Stakeholder capacity built to produce innovative wood and wood products needed by domestic markets											
A2.1	*Target of 50 urban consumers and 50 rural consumers attended exhibitions/ communication campaigns on using wood for housing construction and interior decoration*										
	Exhibitions/ communication campaigns/B2B Meetings	61	1	1	Exhibition	2,200	2,200		2,200		
	Local transport costs	32	2	2	Time	250	1000	500	500		
	Information, media, publications and other contingencies	64	1	1	Time	250	500	250	250		
A2.2	*Target of 25 youth trained in advanced techniques in developing good quality teak planting materials and wood designing enabling them to initiate start-ups in the teak wood sector*										
	Training Programme	61	1		Workshop	2,000	2,000	2,000			
	DSA National experts/ consultants	31	5		Per Day	50	250	250			
	Information, media, publications and other contingencies	34	1		Unit	250	500	250	250		

A2.3	*At least, 10 companies attending B2B meetings*										
	B2B Meeting	61		1	Meeting	1,000	1,000		1,000		
	Information, media, publications and other contingencies	64	1		Unit	250	500	250	250		
Output 3: Information disseminated and networking developed through the 5th World Teak Conference											
A3.1	*Undertake the preconference activities like webinars and publicity*										
	Resource Persons – for webinars in thematic areas of the Conference	22	3	2	Unit	250	1,250	750	500		
	Communication outreach (done by TEAKNET in collaboration with international organization)	61	1	1	Year	2,500	5,000			2,500	2,500
A3.2	*Develop a dedicated Conference Website and Information dissemination*										
	Web designing and maintenance	20	1	1	Year	1,000	2,000	1,000	1,000		
A3.3	*Invite, screen and finalize abstracts for technical sessions.*										
	International Experts - Responsible for screen and finalize abstracts for technical sessions	14		4	Month	1,000	3,000		3,000		
A3.4	*Develop and finalize the programme schedule*										
	Project Assistant	10	12		Month	310	3,720	3,720			
A3.5	*Finalize the list of resource persons and participants*										
	Project Assistant	10		12	Month	310	3,720		3,720		
A3.6	*Arrange the venue and logistics*										
	Organization of the 5th WTC (including venue, logistical, food, field trips, sponsored participants, etc.)	20		3	Conference Days	43,344	130,031	130,031			
A3.7	*Conduct the World Teak Conference with thematic sessions, plenary sessions, round table meetings and side events*										
	Invited Speakers and Resource Persons (13 Nos.). – Travel Cost	33		13	Person/ Travel	750	9,750		9,750		
	DSA for Invited persons (USD 100 x 5 days x 13persons)	31		13	Person/ Day	500	6,500		6,500		
	Local transport costs	32	2	2	Month	250	1000	500	500		
	Information, media, publications and other contingencies	64	1		Unit	250	500	250	250		
A3.8	*Develop, edit and finalize the 5th World Teak Conference proceedings*										
	Experts for Editorial Board (4 No's for 1 month) - For reviewing, editing and publishing the proceedings of the 5th World Teak Conference	22		1	Month	500	2,000		2,000		

3.4.2 Consolidated budget by component

Category		Description		Total	Year 1	Year 2
10	**Project Personal**					
	11	11.1	Project Coordinator	12,000	6,000	6,000
		11.2	Secretary	16,800	8,400	8,400
			Project Associate	8,400	4,200	4,200
			Project Assistant	7,440	3,720	3,720
	14	14.1	National Consultant – Innovative wood and wood products	3,000	3,000	
		14.2	International Consultant - For preparing the wood use promotion policy document	6,000	3,000	3,000
			International Experts - Responsible for screen and finalize abstracts for technical sessions	3,000		3,000
	19	**Sub total**		**56,640**	**28,320**	**28,320**
20	**Sub contracts**					
	21		Web designing and maintenance	2,000	1,000	1,000
	22		Consultations with universities and institutions	1,000	500	500
			Resource Persons – for webinars in thematic areas of the Conference	1,250	750	500
			Exhibitions/ communication campaigns/B2B Meetings	2,200		2,200
			Experts for Editorial Board (4 No's for 1 month) - For reviewing, editing and publishing the proceedings of the 5th World Teak Conference	2,000		2,000
			Organization of the 5th WTC (including venue, logistical, food, field trips, sponsored participants, etc.)	130,031	130,031	
30	**29**	**Sub total**		**138,481**	**132,281**	**6,200**
	Duty travel					
	31	31.1	DSA for Invited persons (USD 100 x 5 days x 13persons)	6,500		6,500
			DSA National experts/ consultants	250	250	
	32		Local transport costs	2000	1000	1000
	33		International travel costs-Invited Speakers and Resource Persons	9,750		9,750
40	**39**	**Sub total**		**18,500**	**1,250**	**17,250**
	Capital items					
	41		Computer equipment	1,200	1,200	
	42		Maintenance and repairing and printing, etc	2,000	1,000	1,000
50	**49**	**Sub total**		**3,200**	**2,200**	**1,000**
	Consumable items					
	53		Office supplies	6,000	3,000	3,000
	54		Office space	18,000	9,000	9,000
	59	**Sub total**		**24,000**	**12,000**	**12,000**
60	**Miscellaneous**					
	61		Training Programme	2,000	2,000	
			B2B Meeting	1,000		1,000
	64		Information, media, publications and other contingencies	2,000	1,000	1,000
	64		Communication outreach (done by TEAKNET in collaboration with international organization)	5,000	2,500	2,500
	65		Auditing expense	9,000	4,500	4,500
70	**69**	**Sub total**		**19,000**	**10,000**	**9,000**
80		**Total Project**		**259,821**	**186,051**	**73,770**

	Project monitoring and administration					
	81		ITTO monitoring & review	20,000	10,000	10,000
	82		ITTO ex-post evaluation	9,465		9,465
	83		ITTO program support costs	31,714	31,714	
100	**89**	**Subtotal**		**61,179**	**41,714**	**19,465**
		GRAND TOTAL		**321,000**	**227,765**	**93,235**

3.4.3 ITTO yearly budget

Category		Description		Total	Year 1	Year 2
10	**Project Personal**					
	11	11.1	Project Coordinator	12,000	6,000	6,000
		11.2	Secretary	16,800	8,400	8,400
			Project Associate	8,400	4,200	4,200
			Project Assistant	7,440	3,720	3,720
	14	14.1	National Consultant – Innovative wood and wood productsN	3,000	3,000	
		14.2	International Consultant - For preparing the wood use promotion policy document	6,000	3,000	3,000
			International Experts - Responsible for screen and finalize abstracts for technical sessions	3,000		3,000
	19	**Sub total**		**56,640**	**28,320**	**28,320**
20	**Sub contracts**					
	21		Web designing and maintenance	2,000	1,000	1,000
	22		Consultations with universities and institutions	1,000	500	500
			Resource Persons – for webinars in thematic areas of the Conference	1,250	750	500
			Exhibitions/ communication campaigns/B2B Meetings	2,200		2,200
			Experts for Editorial Board (4 No's for 1 month) - For reviewing, editing and publishing the proceedings of the 5th World Teak Conference	2,000		2,000
			Organization of the 5th WTC (including venue, logistical, food, field trips, sponsored participants, etc.)	130,031	130,031	
30	**29**	**Sub total**		**138,481**	**132,281**	**6,200**
	Duty travel					
	31	31.1	DSA for Invited persons (USD 100 x 5 days x 13persons)	6,500		6,500
			DSA National experts/ consultants	250	250	
	32		Local transport costs	2,000	1,000	1,000
	33		International travel costs-Invited Speakers and Resource Persons	9,750		9,750
40	**39**	**Sub total**		**18,500**	**1,250**	**17,250**
	Capital items					
	41		Computer equipment	1,200	1,200	
50	**49**	**Sub total**		**1,200**	**1,200**	
	Consumable items					
	53		Office supplies	6,000	3,000	3,000
	59	**Sub total**		**6,000**	**3,000**	**3,000**
60	**Miscellaneous**					
	61		Training Programme	2,000	2000	
			B2B Meeting	1,000		1,000
	64		Information, media, publications and other contingencies	2,000	1,000	1,000
	65		Auditing expense	9,000	4,500	4,500
	69	**Sub total**		**14,000**	**7,500**	**6,500**
70		**Total Project**		**234,821**	**173,551**	**61,270**

80	**Project monitoring and administration**					
	81		ITTO monitoring & review	20,000	10,000	10,000
	82		ITTO ex-post evaluation	9,465		9,465
	83		ITTO program support costs	31,714	31,714	
	89	**Subtotal**		**61,179**	**41,714**	**19,465**
100		**GRAND TOTAL**		**296,000**	**215,265**	**80,735**

3.4.4 Executing Agency budget by component (KFRI Yearly budget)

Category	Description	Total	Year 1	Year 2
40.	**Capital items**			
	42. Maintenance and repairing and printing, etc.	2,000	1,000	1,000
	49. Sub total	**2,000**	**1,000**	**1,000**
50.	**Consumable items**			
	54. Office space	18,000	9,000	9,000
	59. Sub total	**18,000**	**9,000**	**9,000**
60.	**Miscellaneous**			
	64. Communication outreach (done by TEAKNET in collaboration with international organization)	5,000	2,500	2,500
	69. Sub total	**5,000**	**2,500**	**2,500**
100.	**GRAND TOTAL**	**25,000**	**12,500**	**12,500**

3.5 Assumptions, risks, sustainability

3.5.1 Assumptions and risks

The world has recovered from the COVID-19 pandemic. However, sporadic and isolated Incidences of COVID-19 still exists throughout the world. If any such pandemic suddenly triggers again, most of the project activities related to office review of existing policies on the promotion of wood use and local market of wood and wood products as well as meetings and consultations will have to be done virtually using online tools. In such cases, on-site activities such as demonstrations/pilots, exhibitions, physical consultations and hands-on workshops will be conducted later when the situation is manageable.

The success of the activity depends on the continued and shared commitments to support national cooperation and promote the legality of the timber trade. That commitment will be reflected in several regional and national mechanisms, including the transition from voluntary to compulsory national certification and implementation of legal wood supply chains in the country.

Other assumptions to assure the project success are the commitments and motivations of relevant stakeholder groups to participate in the project implementation. KFRI and TEAKNET will work closely with the concerned Govt. departments, research and training institutions, teak planters, MSMEs, consumers as well as private companies to proceed smoothly with all intended activities.

No.	Risk	Mitigating measure
1.	COVID-19 or any other similar pandemic spreads	Online facilities will be used to proceed with activities related to policy improvement and capacity building while on-site and physical activities will be conducted in small groups or after the situation is under control. ITTO with the collaboration of Kasetsart University will take the lead on online communication and networking.

2.	**Lack of strong and continued commitments from responsible agencies**	**KFRI and TEAKNET will work closely with administrative bodies and wood industry associates to participate in project implementation. A senior official from MoEF & CC will be invited to the project steering committee.**
3	**Lack of incentive and motivation on part of different stakeholders to participate in project implementation.**	**The Project will catalyze/facilitate cross – sectoral meetings to discuss and initiate cooperation. Sources of funding will be explored.**

3.5.2 Sustainability

The future operation and maintenance will have the following essential components:

a) TEAKNET would follow up the recommendations in collaboration with relevant agencies, surveys and case studies

b) The follow up activities from time to time will be transferred to the stakeholders on a continued basis through TEAKNET and KFRI websites and online platforms.

PART 4: Implementation Arrangements

4.1 Organization structure and stakeholder involvement mechanisms

4.1.1 Executing agency and partners

The Executing Agency (EA) of the project is Kerala Forest Research Institute (KFRI) and TEAKNET. Established in 1975, KFRI has come a long way and secured a unique place among the leading forestry research organizations in tropical forestry. KFRI is a premier institute dedicated to forestry research and education. It possesses a wealth of expertise in the multiple disciplines of forestry including sustainable wood use. With advanced research facilities, experienced scientific faculty and collaborations with national and international organizations, the organization is well poised for the project execution. The partner organization TEAKNET is a specialized international network focused on teak and serves as a knowledge hub, connecting researchers, policymakers, and practitioners involved in teak-related activities. With an international perspective, TEAKNET can bring global best practices in sustainable wood use to the Indian context and enable stakeholders to adopt sustainable practices in wood utilization. TEAKNET is currently a technical partner in the ITTO-BMEL phase II teak project "Promoting Quality Timber Production in Smallholders and Community-based Teak and Other Valuable Species Plantations in the Tropics". Leveraging their expertise, KFRI and TEAKNET can provide valuable inputs for formulating policies that promote sustainable wood use in India.

Upon initiation of the project, the Project Steering Committee (PSC) will be established, the primary role of which is to oversee the implementation of the work plan, approve expenditures within the budget, review the activities that have been carried out, and review and propose changes in budgets and activities. The PSC monitors the overall strategic management of the planned activities and ensures that it proceeds in a timely, efficient and effective manner in accordance with its work plan and other aspects of the Activity document.

The PSC will comprise of representatives from the Executing Agencies, key national partner agencies (e.g. MoEF & CC, State Forest Department), ITTO and the donor country (Forest Agency of Japan, Japan). The Project Coordinator will act as Secretary of the PSC that will meet at the inception, during the mid-term, and at the end of the project.

The MoEF & CC along with the State Forest Departments are responsible for promoting forest plantation, community forests, private sector plantations and wood industry, and facilitate national policies and guidelines to implement national wood certification. ITTO in collaboration with other international organizations will lead communication outreach with the key stakeholders in the target countries. Partners such as national timber associations, and Japan Forestry Agency facilitate experience sharing, bridge links between wood enterprises and related associations and organize events on promotion of sustainable wood use.

Table 2: Roles of KFRI, TEAKNET, MoEF &CC, ITTO, Japan Forestry Agency and associations

Organization	Roles
KFRI	▪ Act as the executing agency of the project ▪ Form the project management team ▪ Implement the project activities and deliver the outputs
TEAKNET	▪ Act as the key collaborator of the project ▪ Facilitate researcher/s, experts to join project activities ▪ Participate in field studies and conduct trainings ▪ Prepare guidelines and documents relevant to the project ▪ Networking and information dissemination ▪ Organize and conduct the 5th WTC

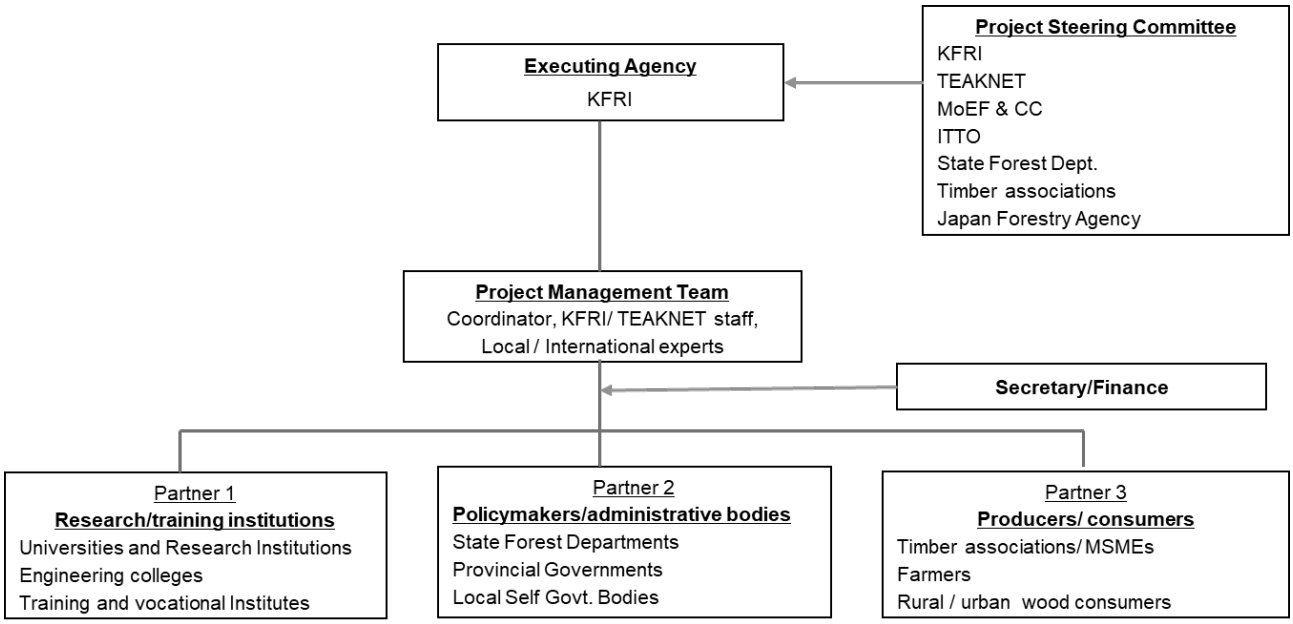
MoEF & CC	▪ **Responsible for forestry related activities/ policies in the country** ▪ **Promote forest plantation, community forests, private sector plantations and wood industry** ▪ **Promote national guidelines to implement wood certification and legal supply chains**
ITTO	▪ **Provide inputs to the implementation of the project** ▪ **Supervise, monitor and support the project implementation** ▪ **Facilitate the communication with the key stakeholders in the target countries**
State Forest Dept.	▪ **Responsible for forestry related activities/ policies in provinces and promote sustainable wood use** ▪ **Implement relevant national guidelines on wood certification and legal supply chains**
Timber associations	▪ **Act as the key collaborator of the project** ▪ **Provide experience, experts to join project activities, especially with the policy framework improvement** ▪ **Participate in field studies and trainings**
Japan Forestry Agency	▪ **Supervise and guide project implementation** ▪ **Contact JICA India to join the Project Steering Committee and attend important events of the project** ▪ **Provide support to compile and analyze the experience of selected countries in promoting wood and wood product consumption**

4.1.2 Project management team

The project management team (PMT) will consist of a project coordinator (PC), project secretary & finance (PS) and local/international consultants. Project planned activities will be executed with the assistance of partners as indicated in the previous section.

The curricula vitae of the professional to be appointed by the EA can be found in Annex 2 while their respective terms of reference are outlined in Annex 3. The project organizational structure is as depicted below.

Figure 1: Organizational Structure



4.1.3 Project Steering Committee (PSC)

PSC will be established to oversee project implementation, approve budget planning, monitor and evaluate the project progress against project logical matrix and give immediate instructions on necessary revisions and adjustments. Membership of PSC is:

- **Chairperson: Nominated senior official of MoEF & CC**
- **Deputy chairperson: Research Coordinator of KFRI**
- **Representative of ITTO;**
- **Representative of donor country;**
- **Representative of State Forest Department**
- **Representative of Timber Association**
- **Project Coordinator as the secretary of the PAC**
- **Representatives of wood product producers/consumers may be invited to join the PAC.**

4.1.4 Stakeholder involvement mechanisms

A stakeholder forum with regular online/offline consultations and dialogues will be established under the project to facilitate participants from local communities, R&D institutions, NGOs, private companies, plantation farmers, supplier/consumer sides and other groups interested in promoting sustainable consumption of wood and wood products to exchange views and ideas, develop propositions and make recommendations to the executing agency in view of improving the efficiency of project implementation. While the forum has no formal responsibility for the project execution, its advice and recommendations are invaluable inputs to the project and will be as much as possible incorporated in recommendations to policymakers.

4.2 Reporting, Review, Monitoring and Evaluation

Project Progress Reports

Quarterly progress reports of the project will be made available to ITTO. The reports will confirm to the standard format established in the *ITTO Manual for Project Formulation (1999).* These reports will contain information on project performance for each activity completed outputs. The following reports will be prepared and submitted to ITTO:

- **Inception Report**

  To be submitted after signing of Agreement between ITTO, Executing Agency and Government of India. The Inception report contains the confirmation of the availability of office space and facilities, registered banking account, key project personnel and any changes if any and first Yearly Plan of Operation.

- **Yearly Plan of Operation**

  To be submitted atleast 3 months in advance before the commencement of project activities for the subsequent year for endorsement by PAC, as appropriate and by ITTO. The first yearly plan of operations will be attached to the Inception Report. ITTO approves the yearly plan of operation based on endorsement of PSC.

- **Project Progress Reports**

  To be submitted bi-annually or as requested by ITTO. This report contains information on the execution and the progress of activities during the period covered for the report, achieved output and inputs applied.

- **Project Technical Reports**

  To be submitted in accordance with the schedule and at the end of project period. The Technical Report contains technical and scientific data and information, analyses and other project results. A technical report may be produced from one or a set of activities in one Output. The report may also contain present procedure and methodologies adopted, the data generated and the results achieved.

- **Financial Report**

  An audited financial report will be submitted to ITTO within three months after the end of the current fiscal year. A final audited report will be submitted within four months after the date of project completion. The project will appoint a public accountant to be submitted to ITTO for approval period to carry out project financial auditing

Project Completion Reports

The project completion report will be submitted to ITTO within 3 months of the completion of the project. The Executing Agency will undertake this responsibility in compliance with the Project Agreement and *ITTO Manual for Project Monitoring Review and Evaluation.*

Monitoring, Review and Steering Committee's Visit

Internal monitoring system will be led by the Project Coordinator within the Project Management Team to ensure timely and appropriate project implementation and reporting, as well as adaptive management. Internal monitoring would be applied on a monthly basis or where appropriate, including the following aspects:

- **Follow-up commitments resulting from the Agreement between ITTO and the Executing Agency;**
- **Progress and proper execution of work, using indicators planned for input items from input tables and budget tables and the Activities in the Work plan and the Yearly Plan of Operation;**
- **On-time delivery and quality of the Outputs, using indicators as presented in the Logical Framework Matrix in the Project document;**
- **Report on extent to which the Specific Objective has been achieved, using indicators as presented in the Logical Framework Matrix in the Project document:**

External monitoring will be undertaken by ITTO, in cooperation with the Forestry Agency of Japan, where desirable, to supervise the project implementation. The timing for external monitoring will determined between ITTO and the Executing Agency. The scope of the external monitoring includes:

- **To assess whether these Projects are proceeding according to the agreed work schedules, so that the necessary ITTO actions (eg. payments to the Executing Agency) may be taken;**
- **To propose and participate in any necessary reviews of the Projects as a result of these assessments; and**
- **To report to the Committees and the Council on the situation and completion prospects for the Project.**

4.3 Dissemination and mainstreaming of project learning

4.3.1 Dissemination of project results

The primary form of dissemination of project results will be through the project report which will be circulated to the major user agencies like Forest Departments after submission and approval of the ITTO. Publication of the World Teak Conference and allied activities through local newspapers, TEAKNET Bulletin, websites of international organizations like FAO/IUFRO/ITTO and social media accounts will be the next mode of information dissemination. All the important events and proceedings of the workshops will be published in the TEAKNET website (www.teaknet.org) which is accessible to all stakeholders internationally.

4.3.2 Mainstreaming project learning

India has become a globally important market for teak wood and wooden products. This Project will provide an opportunity for India to share lessons learnt at national and international levels. In particular, the project will analyse the current situation of domestic consumption of wood and wood products, provide recommendation on how to overcome constraints and step up toward sustainable consumption. The experience and lessons learnt with promotion of sustainable wood consumption in the context of Indias dynamic development are expected to be meaningful for other countries.

The World Teak Conference and related activities planned as part of the project would provide an excellent platform for deliberation, discussion, and solution-finding in the global teak sector. As a result, the project would help to achieve its goal of transforming the teak sector from a suboptimal to a dynamic and sustainable entity.

In the post COVID-19 era, the project assumes to grasp every innovative idea and solution to adapt to the "new normal" using online meeting tools, whenever appropriate. Short video/s will be produced to reflect/communicate project activities. Social media channels, including Facebook and Youtube, will be used as much as possible to accelerate project outreach and enable project outputs to reach the different stakeholders. In the course of the project implementation, off-line and online meetings will be held regularly to review and monitor project activities, update project progress as well as share lessons learnt.

Bibliographic Consultations

1. B. Krishnapillay.. 2000. Silviculture and management of teak plantations. Unasylva (Teak Issue) 2002/2 Vol 51: 20
2. Behaghel,I. 2000. Etat des plantations de teck (*Tectona grandis* L.f.) dans le monde, Deuxieme partie : La filiere du teck. In *Bois et Foréts des Tropiques (1999-2000) 263 (1)3-31 (Le teck en France-Teak in France)*
3. Bhat K. M and E.J. Maria Florence. 2003. Natural decay resistance of juvenile teak wood grown in high input plantation. Holzforschung 57(5):453-455.
4. Bhat K. M and Hwan Ok Ma. 2004. Teak growers unite. Tropical Forest Update -ITTO Newsletter 14 (1): 3-5. Yokohama, Japan.
5. Bhat K. M and Priya P. B. 2004. Influence of provenance variation on wood properties of teak from the Western Ghat region in India. IAWA Journal 25(3):273-282
6. Bhat K. M, Chacko, K. C and Balagopal M. 2001. Evaluation of high input management on growth and timber production in teak. KFRI Res. Report 200.
7. Bhat K. M, Nair K. K. N; Bhat K. V; Muralidharan E. M and Sharma J. K (eds). 2005. Quality Timber Products of Teak from Sustainable Forest Management. Kerala Forest Research Institute, India and International Tropical Timber Organisation, Japan, 670p.
8. Bhat K. M. 2000 Investigations into heartwood formation in intensively managed teak plantations. KFRI Research Report No. 181.
9. Bhat K. M. 2005. Wood and non-wood product chains of planted forests and the regional development in the tropics. International Forestry Review 7(5):105.
10. Bhat K. M. and Indira, E.P. 1997. Effects of faster growth on timber quality of teak. KFRI Res. Report 137, 61p.
11. Bhat K. M., Priya P. B and Rugmini, P. 2001. Characterisation of juvenile wood in teak. Wood Science and Technology 34: 517-532
12. Bhat K. M., Thulasidas P. K., Maria Florence E. J and Jayaraman K. 2005. Wood durability of home garden teak against brown and white rot fungi. TREES; Structure and Functions 19:654-660.
13. Bhat K. M., Thulasidas P.K., Maria Florence E. J. 2005. Timber quality of teak grown outside forests. International Forestry Review 7(5):121.

14. C.T.S. Nair and O. Souvannavong. 2000. Emerging research issues in the management of teak. Unasylva (Teak Issue) 2002/2 Vol 51: 20

15. Chand Basha, S., Mohanan, C. and Sankar, S. (eds) 1997. TEAK- Proceedings of Teak

16. D. Pandey and C. Brown. 2000. Teak: a global overview. Unasylva (Teak Issue) 2002/2 Vol 51: 20

17. G. Maldonado and D. Louppe., 2000. Challenges of teak in Cote d' Ivoire. Unasylva (Teak Issue) 2002/2 Vol 51: 20

18. H. Baillers, P.Y.Durand. 2000. Non-destructive techniques for wood quality assessment of plantation grown teak. In *Bois et Foréts des Tropiques (1999-2000) 263 (1)3-31 (Le teck en France- Teak in France)*_

19. India State of Forest Report. 2021. Forest Survey of India (Ministry of Environment Forest and Climate Change).

20. IUFRO XXI World Congress, 2000, Kuala Lumpur, Technical sessions IUFRO 5.06.02 (Timber quality from teak plantations). In FORSPA. 1999. Proceedings of Regional seminar on "site, technology and productivity of teak plantations in Southeast Asia, Bangkok

21. K. M. Bhat. 2000. Timber quality of teak from managed plantations of the tropics with reference to Indian plantations. In *Bois et Foréts des Tropiques (1999-2000) 263 (1)3-31 (Le teck en France-Teak in France)*_

22. K.H. Schmincke. 2000. Teak plantations in Costa Rica- Precious Woods' experience. Unasylva (Teak Issue) 2002/2 Vol 51: 20

23. Kollert, W. and Cherubini, L. 2012. Teak resources and market assessment 2010. FAO Planted Forests and Trees Working Paper FP/47/E, Rome

24. Kollert, Walter and Kleine, Michael. (2017)., The Global Teak Study Analysis, Evaluation and Future Potential of Teak Resources IUFRO World Series Volume 36. Vienna. 108 p.

25. Krishnankutty, C.N. 1997. Demand, supply and price of teak wood in Kerala. Ph. D. thesis, Calicut University, 206p.

26. M. Vernay. 2000. Le teck en France, pour quoi fair. In *Bois et Foréts des Tropiques (1999-2000) 263 (1)3-31 (Le teck en France- Teak in France)*_

27. Maldonado, G. Louppe. D. 2000 Plantations villageoises de teck en Cote d'Ivoire Le bois de teck. 2000 Troisieme partie. In *Bois et Foréts des Tropiques (1999-2000) 263 (1)3-31 (Le teck en France- Teak in France)*_

28. Mammen Chundamannil. 1996. Teak plantations in Nilambur; an economics review plantation in Kerala, KFRI Research Report 144.

29. Mittelman. 2000. Teak planting by smallholders in Nakhon Sawan, Thailand. Unasylva (Teak Issue) 2002/2 Vol 51: 20

30. Pramod Kante and Raman Nautiyal. 2021 India timber supply and demand 2010-2030. . The International Tropical Timber Organization, pp 64.

31. Sarojam N. 2003. World bibliography on teak.

32. Symposium, Trivandrum, Kerala, Kerala Forest Department & KFRI.

33. T. Enters. 2000. Teak, technology and productivity of teak plantations in Southeast Asia. Unasylva (Teak Issue) 2002/2 Vol 51: 20

34. Thulasidas P. K., and Bhat, K. M. 2007. Chemical extractive compounds determining the brown-rot decay resistance of teak wood. Holz. als Roh Werksteff. 65: 121-124.

35. Thulasidas P. K., Bhat K. M. and Okuyama T. 2006. Colour variation of home garden teak wood grown in wet and dry localities of Kerala, India. J. Tropical Forest Science 18(1): 51-54

Annexes

Annex 1: Profile of the Executing Agency

The Kerala Forest Research Institute

KFRI was established in 1975 as an autonomous institution under the umbrella of the Science, Technology and Environment Committee (STEC) of the State. KFRI has come a long way since its establishment and secured a unique place among the leading forestry research organizations in tropical forestry. On 24 February 2003, KFRI came under the Kerala State Council for Science, Technology and Environment, a registered society under Travancore-Cochin Literary, Scientific and Charitable Societies Registration Act 1955 along with other five autonomous R & D Centres in the State.

KFRI's vision is, as a Centre of Excellence in Tropical Forestry, to provide the scientific backbone for effective conservation of forest ecosystem and sustainable utilisation of natural resources for ensuring benefits to the society at large. The main objective of the Institute is to undertake research in all aspects of forestry, wildlife management and wood science and technology. Specifically, KFRI aims at

- Providing technical support to facilitate scientific management and utilisation of forests for social benefits,
- Contributing to our understanding of the natural processes and patterns in the functioning of the forest ecosystem and their interrelationships with the quality of the environment.
- Providing information and advice to wood-using industries and general public on forest related subjects

The physical facilities of KFRI are spread around three campuses with the headquarters at Peechi and a Subcentre at Nilambur and a Field Research Centre at Veluppadam. The Institute has well equipped laboratories to carry out modern research in tropical forestry to cater to the needs of various stakeholders.

Personnel

1. Scientists with Ph.D. 31 (Junior Scientist to Chief Scientist)
2. Administrative staff 51 (Office attendant, Office assistant to registrar)
3. Technical staff with B.Sc./M.Sc. 06 (Electrical and Engineering officers)
4. Project staff with B.Sc./M.Sc. 91 (Project Fellows and Project Assistants)

TEAKNET (International Teak Information Network)

Teak is being grown in plantations in more than 70 countries across the globe although its natural occurrence is limited to India, Laos Myanmar and Thailand. In order to promote the interactions and share wealth of information among the stakeholders of teak wood sector, the idea of forming a teak network was conceived in 1991 and established TEAKNET for the Asia Pacific Region in Myanmar in 1995. As decided in the Regional Teak Workshop in Kerala, India 2007, the Secretariat of TEAKNET has been relocated in Kerala Forest Research Institute (KFRI). Since its inception at KFRI in 2008, the TEAKNET Secretariat has expanded its network from the Asia-Pacific to the International Teak Information Network. TEAKNET Secretariat is committed to enhance the capacity of international stakeholders particularly teak growers, forest resource managers, processors, traders, researchers and policy makers in responding effectively to the changing social, economic and environmental needs. This will cater to the needs of international stakeholders through web-based dissemination of information and new research findings in addition to bi-monthly e-newsletters.

Overview of TEAKNET Events across the years

Listed below are some of the successful international conferences/ side events organized by TEAKNET in the past. TEAKNET was involved in conducting the world teak conferences since 2011 and the past four World Teak Conferences were held in Asia, Latin America and Africa; the first in Costa Rica (2011); followed by Bangkok (2013), Ecuador (2015) and Ghana (2022). More than 300 delegates from 36 countries attended these conferences, representing national and regional Government representatives, teak cultivators and traders, plantation managers, private enterprises, universities, research institutes, international organizations, non-governmental organizations and so on.

Sl. No.	Year	Title
1.	2003	International Conference on "*Quality timber products of teak from sustainable forest management*", 2-5 December 2003, KFRI, Peechi, India under the auspices of ITTO, Govt. of India & IUFRO.
2.	2007	Regional Workshop *Processing and marketing of teak wood products of planted forests,* Peechi, India 25-28 September 2007
3.	2009	International Workshop *Production and marketing of teak wood Future scenarios,* Peechi, India, 23-25 November 2009
4.	2011	First World Teak Conference: *Planted Teak Forests – a Globally Emerging Forest Resource* San José, Costa Rica, 31 Oct – 2 Nov 2011
5.	2011	International Training *Programme Innovations in the Management of Planted Teak Forests*, Kerala Forest Research Institute, Peechi, India, 31 August- 3 September 2011
6.	2013	Second World Teak Conference: *Sharing our Planet: Teak Model Development towards the Improvement of Mankind* 25-30 March 2013, Bangkok, Thailand
7.	2014	Project Formulation Workshop on *Sustainable Management and Genetic Conservation of Teak Resources,* 26-27 May 2014, Bangkok, Thailand
8.	2015	Third World Teak Conference: *Strengthening Global Teak Resources and Markets for Sustainable Development, 11-15 May 2015, Guayaquil, Ecuador*
9.	2016	TEAKNET Partner Event: *Global Significance of Teak- Present and Future* in Asia-Pacific Forestry Week, 22-26 February 2016, Pampanga, Philippines
10.	2017	TEAKNET Partner Event *Teak Resources for a Sustainable Future* in the IUFRO All Division 5 (Forest Products) Conference, 12-16 June 2017, Vancouver
11.	2018	TEAKNET Partner Event *Mainstreaming High Quality Timber Production from Planted Teak Forests and Efforts for Conservation of Teak Genetic Resources,* 23-27 October 2018, Beijing, China
12.	2019	TEAKNET Partner Event *Towards Sustainable Development of the Global Teak Sector in a Changing World* in the XXV IUFRO World Congress 29 September-05 October 2019, Curitiba, Brazil
13.	2022	TEAKNET Side Event New *Opportunities for Teak Sector in the Post-COVID Scenario* at World Forestry Congress at Seoul, Republic of Korea, 2-6 May 2022
14.	2022	4th World Teak Conference *Global Teak Market Challenges and Opportunities for Emerging Markets and Developing Economies* at Accra, Ghana, 5 to 8 September 2022
15.	2023	Global Teak Resource Assessment

Personnel

1. Scientists with Ph.D. 01
2. Administrative staff 01 (Coordinator PR & Communications)

ANNEX 2: ToRs of personnel, consultants and sub-contracts funded by ITTO

1. Project Coordinator

Qualification:

As the Project Coordinator, the Coordinator should be an expert with in-depth knowledge and experience in related fields. The Coordinator should have a doctoral qualification in agriculture/ forestry, and a minimum of 10 years of working experience in forestry and proven experience in implementation of donor funded projects and organizing international conferences.

Location: Kerala with domestic and international trips

Duration: 24 months, full-time

Minimum requirements	Functions, responsibilities
• Good knowledge of teak resources, processing and trading • Proven team worker with coordination skills at international, national and local levels • Fluency in spoken and written English	• Take overall responsibility of activity planning and implementation at regional level and day-to-day activity management and administration; • Coordinate project activities; • Monitor and evaluate the project execution, programme and budget implementation • Represent the project at any event/forum that invites project to participate • Guide and supervise project staffs and recruit experts to conduct their assignments • Prepare all reports described in Reporting Section and submit them to PSC and ITTO. • Facilitate transformational change through integration into broader regional or national development programs • Supervise the preparation of the technical report and/or activity documents and ensure distribution to relevant stakeholders, coordinate feedback and amendment of drafts, and circulate final versions • Ensure optimal flow of funds to activities and prepare financial reports, or special reports, to the executing agency and the donor • Participate in training events in your field of expertise

2. Project Secretary

Qualification:

The Secretary should have knowledge and experience in logistics and meeting arrangements. The Secretary should have a University Master's Degree, and a minimum of 5 years' experience of donor funded projects and assisting organize international conferences.

Location: Kerala with domestic and international trips

Duration: 24 months, full-time

Minimum requirements	Functions, responsibilities
• Good knowledge of teak resources, processing and trading • Good understanding of institutions. • Proven ability to work with teams of local people and other specialists. • Advanced MS Excel skills, analytical and numerical skills • Sharp time management skills	• Overall responsibility for project logistics. • Assist the Project Manager in day-to-day project administration. • Collaborate with Project Staff, consultants and contractors to ensure effective project implementation. • Assist the Project Manager in arranging meetings and workshops. • Overall support in conducting the 5th World Teak Conference • Gather information on the progress of project activities and report to the Project Manager. • Prepare budget balance sheets, invoices • Record accounts payable and accounts receivable • Prepare monthly, quarterly and annual financial reports • Reconcile bank statements • Participate in financial audits.

3. Consultant 1: Wood use promotion policy (international)

The Consultant#1 Wood use promotion policy (international) should be an expert with in-depth knowledge and experience in the related fields. The consultant should have postgraduate qualification or as equivalent in in forestry policy, wood industry, import/export and legality in Asia (India is an advantage). Experience of at least 10-year experiences in related field as policy maker or expert.

Location: International cities with field trips to pilot provinces of India

Duration: 6 man-months, expanding within 2 years of the project period

Position, qualification	Functions, responsibilities
▪ Good knowledge of domestic and international wood and wood product trade ▪ Experience in capacity building and the implementation of training events ▪ Fluency in spoken and written English ▪ Familiar with ITTO project management is an advantage	• Undertake a literature review, and compile relevant reports and information on policy and legality related to wood production and consumption • Study of policies/initiatives for the promotion of sustainable wood use • Formulate enabling policies and legal frameworks to support sustainable domestic wood and wood products used • Work with the Project Manager to organize trade promotion, exhibition and linking business • Organize and host wood business firms for B2B workshop • Assist in the capacity building program for researchers, scientists and local communities, as and when required

4. Consultant 2: Innovative wood and wood products (International or Domestic)

The Consultant#2 Innovative wood and wood products should be an expert with in-depth knowledge and experience in the related fields. The consultant should have postgraduate qualification or as equivalent in in architecture, wooden products design or wood technology. A minimum of 5 years of working experience in wood products and design.

Location: International cities with field trips to pilot provinces of India

Duration: 3 man-months, expanding within 1 year of the project period

Position, qualification	Functions, responsibilities
▪ Good understanding of wood manufacturing, knowledge of domestic wood use promoting policy is an advantage. ▪ Good knowledge of domestic and international wood and wood product trade ▪ Experience in capacity building and the implementation of training events ▪ Fluency in spoken and written English ▪ Familiar with ITTO project management is an advantage	• Designing and marketing teak-wood products • Work with the Project Manager to organize trade promotion, exhibition and linking business • Assist in the capacity building program for researchers, scientists and local communities, as and when required • Assist in other activities assigned by the Project Manager

Annex 3: Recommendations from Ex-Post Evaluation Reports, Executive Summaries and Resulting Modifications

Project Budget：I would like to reduce the budget slightly from 320,000USD to 296,000USD (-24,000USD).	Budget modified ITTO Component of USD 296,000 and KFRI Component of USD 25,000	P1
Activity1.2：I understand the usefulness of the Database to facilitate timber forensics. However, because of the Ex-post evaluation reports at the last ITTTC59, we're hesitate to support for the database at this moment. I would really appreciate it if you could remove Activity 1.2 in this proposal.	Activiti 1.2 Database to facilitate timber forensic is removed from the project activities	P21
Master Budget：Along with removing the Activity1.2, please reduce the cost 24,000 USD	Budget modified accordingly	P25
A theme on the WTC 5th "Cost-benefit analysis on short rotation teak investments in different teak growing regions": I would appreciate if you could elaborate for the detail on that, especially "short rotation teak investments".	Conventionally teak is grown in long rotations of 50 – 60 years. However, such long rotations doesn't provide an attractive investment option for small holders and private investors. The growth of teak plantations outside its natural habitats (India, Myanmar, Lao PDR and Thailand) is mainly fuelled by private planters. At present, approximately 80 countries have planted teak forests and all these countries focus on short rotation plantations of 15 – 20 year rotation period. Further, small-holder farmers in these countries also view short rotation teak plantations as a means to diversify farm production, support food security, generate income and reduce financial risk. In recent times, short rotations planted teak forests have also emerged as an important alternative source of natural long rotation teak. However, there exists a serious gap in the cost – benefit analysis of these short rotation plantations in different teak growing regions. The hindrances include limited access to good planting material, poor silvicultural management strategies, difficult market access, and policy disincentives. These impediments must be identified region wise and addressed to reduce costs and maximise the benefits, hence the thematic session.	P23
JICA Bangkok :Could you kindly tell me the reason why you want to invite JICA Bangkok ? (For your reference)	JICA Bangkok is changed to JICA, India	P31