



INTERNATIONAL TROPICAL TIMBER ORGANIZATION

ITTO PROJECT DOCUMENT

Title	Enhancing Conservation and Sustainable Management of Teak Forests and Legal and Sustainable Wood Supply Chains in the Greater Mekong Sub-region
Serial Number	PP-A/54-331
<u>Summary</u>	<p>Teak (<i>Tectona grandis</i>) with its outstanding physical and aesthetic qualities is recognized as one of the most important and valuable hardwoods in the world. It has been used for many centuries for a range of products in furniture manufacturing and housing construction as well as its cultural services. Natural teak forests covering an area of about 29 million hectares occur in central and southern India, Lao PDR, Myanmar and Thailand. However, natural teak forest area has reduced substantially in all native teak growing countries mainly due to over exploitation, agriculture expansion, and shifting cultivation. In particular, old-growth high-quality teak stands have declined significantly for many years and there is a high risk of losing their high diversity of genetic traits and wood characteristics. The Activity is aimed at assisting governments, local communities and smallholders to enhance natural teak forest management, production and marketing to facilitate the establishment of legal and sustainable wood supply chains while improving national economy and local communities' livelihood in the Greater Mekong Sub-region. The Activity provides an opportunity for the recipient countries to build-up sustainable forest management capacities and to further pursue their strategic objectives and policies on the sustainable development of teak forest resources, which are of particular livelihood improvement and ecological significance in all countries of the Greater Mekong Sub-region.</p>
Executing and collaborating agencies	<p><u>Executing agency</u> ITTO-Secretariat</p> <p><u>Collaborating agencies:</u> Cambodia: Forestry Administration/Institute of Forest and Wildlife Research and Development Lao PDR: Forestry Department/National Agriculture and Forestry Research Institute , Myanmar: Forestry Department/Forest Research Institute/Myanmar Timber Enterprise Thailand: Royal Forestry Department/Forest Industry Organization Vietnam: Administration of Forestry/Vietnamese Academy of Forest Sciences,</p>
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List of Abbreviations and Acronyms

AAC	Annual Allowable Cut
ADB	Asian Development Bank
APFORGEN	Asia-Pacific Forest Genetic Resources Program
ASC	Activity Steering Committee
ASEAN	Association of Southeast Asian Nations
BMEL	German Federal Ministry of Food and Agriculture
BWP	Biennial Work Programme
CBD	Convention on Biological Diversity
CEP	Core Environment Program of the ADB
DFID	Department for International Development
EFI	European Forest Institute
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FLEGT	Forest Law Enforcement, Governance and Trade
FSC	Forest Stewardship Council
GERES	Group for the Environment, Renewable Energy and Solidarity
GIZ	German Agency for International Cooperation
GMS	Greater Mekong Sub-region
ha	hectare (10,000 sqm)
IRR	Internal Rate of Return
ITTA	International Tropical Timber Agreement
ITTO	International Tropical Timber Organization
IUFRO	International Union of Forest Research Organizations
JICA	Japan International Cooperation Agency
MAFF	Ministry of Agriculture, Forestry and Fisheries (Cambodia)
MRC	Mekong River Commission
MRRP	Myanmar Reforestation and Rehabilitation Program
MSS	Myanmar Selection System
MMSS	Modified Myanmar Selection System
NAC	National Activity Coordinator
NAMA	Nationally Appropriate Mitigation Action
NBCA	National Biodiversity Conservation Area (Lao PDR)
NWFP	Non-wood forest products
NDC	Nationally Determined Contributions under the UNFCCC
RAM	Regional Activity Manager
RECOFTC	The Center for People and Forests (former name: Regional Community Forestry Training Center for Asia and the Pacific)
RFD	Royal Forest Department (Thailand)
RTG	Royal Thai Government
RWE	Round wood equivalents
SFM	Sustainable Forest Management
UNFCCC	United Nations Framework Convention on Climate Change
USD	United States Dollar
VPA	Voluntary Partnership Agreement

Map of Activity Area



Figure 1: Map of Activity area in the Grater Mekong Sub-region

1 Activity Context

1.1 Origin

The Activity is an outcome of several international events, publications and project missions organized and implemented by ITTO, IUFRO, FAO and TEAKNET in the past 10 years. Given the importance of teak (*Tectona grandis*) for forest conservation and management in about 70 tropical countries and its prominent position in the global timber market and its potential to contributing to national economic growth and local livelihoods, these organizations have been actively involved in research and development work of natural and planted teak forests. ITTO has been supporting teak related projects with a focus on genetic resources conservation, seed production and sustainable management of natural and planted teak forests in Africa, Asia and Latin America since the 1990s. In 2016, an ITTO diagnostic mission was carried out in Myanmar to assess and evaluate in retrospect the outcome of previous ITTO-supported teak projects in Myanmar¹.

The main lessons from the ex-post evaluation of the ITTO teak project in Myanmar include the following:

- Technical-oriented projects are straightforward approaches towards advancing forestry and forest research. To this end, the project is a good example how successful good planning and dedicated implementation can be.
- However, combining focused, technical aspects with soft social or policy-related aspects without equipping the latter with indicators leads to isolated project results. The social and community related components should have been supported with the same enthusiasm and intensity as the technical ones. This is also related and caused by the weak institutional anchorage.

The project was administered by a strong PSC (project steering committee), consisting of key policy planning and extension officials under the leadership of Director General of the Forest Department. To this end, the necessary forestry knowledge and capacity was present. However, to equip the project with a stronger responsibility – which it had due to the anticipated effects for communities and for sustainable resource management – the close cooperation with policy makers, administrators and land managers could have resulted in even higher project impact on the forestry sector.

Guided by these evaluation results and with funding support from ITTO and FAO, a team of 12 IUFRO scientists and other teak experts from 11 countries analyzed and compiled globally available state-of-the-art scientific and empirical knowledge on teak, and in 2017 published the results in “*The Global Teak Study - Analysis, Evaluation and Future Potential of Teak Resources*”². In addition to addressing key issues related to genetic resources conservation, sustainable management, economics, production, markets and trade, the report provides policy recommendations and guidance for future work in promoting sustainable management of natural and planted teak forests in the tropics. The main policy recommendations of “*The Global Teak Study*” include:

- Strengthen International Collaboration and Regional Networks on Forest Genetic Resources

¹ Ex-post Evaluation Report. Ex-situ and in-situ conservation of teak (*Tectona Grandis* L.F.) to support sustainable forest management (PD 270/04 Rev.2 (F), Sep. 2016).

² Kollert, W., Kleine, M. (eds.), 2017. *The Global Teak Study. Analysis, Evaluation and Future Potential of Teak Resources*. IUFRO World Series Volume 36, Vienna. <https://www.iufro.org/publications/series/world-series/>

- Monitor Genetic Improvement Programs and International Trade in Clones
- Improve the Management of Natural Teak Forests Towards Sustainability
- Support High-Quality Timber Production in Planted Forests
- Support Small-Scale Teak Production Systems for Smallholder Farmers
- Further Investigate the Impact of Silvicultural Management on Teak Wood Quality
- Improve the International Marketability of Teak
- Provide Impartial and Unbiased Cost-Benefit Analyses for Potential Investors

At the meeting of the FAO Regional Forestry Commission Asia-Pacific held in Colombo in Oct 2017, IUFRO and TEAKNET disseminated the results of the *Global Teak Study* and organized a partner event on the significance of teak conservation and sustainable management in productive landscapes. Discussions between ITTO and IUFRO on further collaboration on the basis of the recommendations of the Global Teak Study continued during the 53rd International Timber Council Meeting in Lima, Peru in November 2017 and the Global Landscapes Forum in Bonn, Germany, in December 2017. At ITTC 53, the Council approved ITTO's 2018-19 Biennial Work Program (BWP) which included an activity entitled "Enhancing Teak Management" which proposed a comprehensive global activity to improve the management and marketing of both natural and planted teak in all three tropical regions. Also at ITTC 53, the government of Germany pledged funds to implement the first stage of this activity in the Greater Mekong Sub-region. The current document has been developed at the request of the Government of Germany to provide further details to those contained in the 2018-19 BWP on how the Activity will be carried out in the participating countries.

1.2 Relevance

1.2.1 Conformity with ITTO's objectives and priorities and support to the SDGs and the UNSPF

Compliance with the International Tropical Timber Agreement, 2006

The Activity conforms with the objectives of the International Tropical Timber Agreement, 2006 (ITTA, 2006) to promote the expansion and diversification of international trade in tropical timber from sustainably managed and legally harvested forests and to promote the sustainable management of tropical timber producing forests. It relates in particular to the following items of Article 1 of the ITTA 2006:

- Providing an effective framework for consultation, international cooperation and policy development with regard to all relevant aspects of the world timber economy (item a);
- Contributing to sustainable development and to poverty alleviation (item c);
- Promoting and supporting research and development with a view to improving forest management and efficiency of wood utilization and the competitiveness of wood products relative to other materials, as well as increasing the capacity to conserve and enhance other forest values in timber producing tropical forests (item f);
- Encouraging members to support and develop tropical timber reforestation, as well as rehabilitation and restoration of degraded forest land, with due regard for the interests of local communities dependent on forest resources (item j);
- Encouraging information sharing for a better understanding of voluntary mechanisms such as, forest certification, to promote sustainable management of tropical forests, and assisting members with their efforts in this area (item o).

Compliance with ITTO Strategic Action Plan 2013- 2018

The proposal complies with the strategic priorities 1, 2, 3, 4, 5 and 6 set out in the current ITTO Strategic Action Plan 2013-2018, the validity of which has been extended for one year through 2019, in conformity with the new ITTO Biennial Work Programme 2018-2019³:

Strategic Priority 1. Promote good governance and enabling policy frameworks for strengthening sustainable forest management (SFM) and related trade and enhancing SFM financing and investment.

Strategic Priority 2. Increase the contribution of tropical forests to national and local economies, including through international trade.

Strategic Priority 3. Enhance the conservation and sustainable use of biodiversity in tropical timber producing forests.

Strategic Priority 4. Reduce tropical deforestation and forest degradation and enhance the provision of environmental services.

Strategic Priority 5. Improve the quality and availability of information on tropical forests, forest product markets and trade.

Strategic Priority 6. Build and develop human resource capacity to implement SFM and increase trade in forest goods and services from sustainably managed forests.

Compliance with ITTO's policy guidance

The Activity supports the implementation of the ITTO Voluntary Guidelines for the Sustainable Management of Natural Tropical Forests (2015) and the ITTO Criteria and Indicators for the Sustainable Management of Natural Tropical Forests (2016). In addition the Activity supports the reporting framework of the ITTO Market Information Service (MIS) that regularly reports data and information on global teak markets.

Support to the achievement of the Sustainable Development Goals (SDGs) and United Nations Strategic Plan for Forest 2017-2030 (UNSPF)

The Activity contributes to the achievement of SDGs, especially SDG 1 (No Poverty), SDG 13 (Climate Action), and SDG 15 (Life on land) .

The Activity will help conserve the teak genetic variations ensuring high quality of teak stands hence improving quality and prices of teak products from legal and sustainable supply sources. Local communities and smallholders' livelihoods will be strengthened with more incomes generated from teak forests and their multiplier-effects on productive economic activities. Increased restoration of degraded tropical forests in the Mekong sub-region through teak, a high value species, in the tropics will be contributing to the global effort of mitigating climate change. Concerted efforts to promote legal and sustainable teak supply chains will be facilitating the economic, environmental and social benefits of sustainable teak forests management

Furthermore, the proposed Activity is also in consistent with some of the six global goals of the UNSPF 2017-2030, namely:

- Global Forest Goal 1- Reverse the loss of forest cover worldwide through SFM, including protection, restoration, afforestation and reforestation, and increase efforts to prevent forest degradation and contribute to the global effort of addressing climate change.

³ see DECISION 4(LIII) of the 53rd Session of the ITTC in Lima, Peru, 27 Nov to 2 Dec 2017.

- Global Forest Goal 2 - Enhance forest-based economic, social and environmental benefits, including by improving the livelihoods of forest dependent people.
- Global Forest Goal 5 - Promote governance frameworks to implement SFM, including through the UN Forest Instrument, and enhance the contribution of forests to the 2030 Agenda.

1.2.2 Relevance to regional and the participating countries' policies

The Activity supports the regional and the participating countries' policies and strategies on forest resource management and the endeavors to advance the legality and sustainable wood supply chains in the Greater Mekong Sub-region (GMS).

Forest resource management

All countries in the GMS have adopted policies that support a paradigm shift from forest resource exploitation towards sustainable forest management that balances the social, economic and environmental aspects of forestry. Moreover, all countries except Myanmar, implement a temporary logging moratorium in natural commercial forests to conserve the remaining areas. The Activity is in line with this trend and provides an opportunity for the recipient countries to build-up SFM capacities. The Activity further supports the pursuance of the countries' strategic objectives and policies on the conservation and sustainable development of forest resources, which are of particular economic and ecological significance in all countries of the GMS.

The legality of wood supply

The long and complex supply chains for roundwood products in the GMS raise some challenges with respect to verifying the origin or legality of the raw material as such products are often made with wood from different sources and processing often takes place in an intermediary country before export to the final marketplace.

In view of the regulations put in place by industrialized countries to curb imports of timber of unknown origin onto their markets (e.g. the Lacey Act, USA; the EU-FLEGT Timber Regulation; the Japanese Clean Wood Act, the Australian Illegal Logging Prohibition Act), importers are requested to demonstrate either the legality of their supplies through forest management and chain-of-custody certification or due diligence by actively protecting themselves against the risk of trading in illegal wood.

As a consequence, all countries of the GMS are in various stages of introducing and implementing forest management and chain of custody certification schemes to facilitate and advance the legality of wood supply. Engaging further in the process of developing a timber legality program will serve as a formal commitment to address weaknesses in the current timber flow system, help address improvements in forest law enforcement and governance, create enabling conditions for forest investments and pave the way towards marketing legal timber.

ASEAN (Association of South-East Asian Nations)

The Activity contributes to the implementation of the ASEAN Cooperation in Food, Agriculture and Forestry that has been launched by the ASEAN Ministerial Meeting on Agriculture and Forestry (AMAF) in order to develop and implement regional cooperation activities to enhance the international competitiveness of ASEAN's food, agriculture and forestry products. The ASEAN cooperation program specifically developed five strategic thrusts for the forestry sector, all of which are relevant and in line with the objectives of the Activity:

1. Sustainable forest management;
2. Strengthening ASEAN cooperation and joint approaches in addressing international and regional forestry issues;
3. Promotion of intra- and extra-ASEAN trade in forest products and private sector participation;
4. Increasing productivity and efficient utilization of forest products;
5. Capacity building and human resources development.

The Activity contributes to the implementation of the mission statement of the **Mekong River Commission (MRC)**⁴ to *promote and coordinate sustainable management and development of water and related resources for the countries' mutual benefit and the people's well-being*. The MRC explicitly acknowledges the significance of forest resources to prevent soil erosion, flash floods, and a decline in the provision of ecological goods and services.

Thailand

Thailand has the second largest area of natural teak forests (after Myanmar) at an estimated 8.7 million ha, all of which are located in protected areas. A complete ban on logging in natural forests was introduced in 1989, which may have contributed to the recovery of natural teak forests that have been intensely harvested in northern Thailand since the end of the nineteenth century. The logging ban is still in force and its reversal is unlikely because it has strong political support. In its aftermath, the focus of the policy shifted towards an emphasis on forest protection and conservation, setting aside wood production targets. However, forest clearing and encroaching still persist and illegal timber cutting occurs regularly. Today, ca. 25 percent of the total land area is still covered by forests, mainly located in remote and inaccessible areas or in national parks, where protection measures are more strictly enforced.

The Thai natural teak forests display a high genetic diversity and form the genetic resource base for the production of teak germplasm (seedlings and clones) that is globally used in many tropical countries for plantation establishment, often without knowledge of its provenance or origin. Thailand has a history of more than 100 years of establishing and managing teak plantations, which have expanded today to an estimated 140,000 ha.

The Royal Forest Department (RFD) was instrumental in developing a National Forest Policy that was adopted in 1985 in an attempt to consolidate sectoral policy in the country and to place forestry within the context of overall national development. The Policy urged all stakeholders in government and society to collaborate with the RFD in maintaining a forest resource base, which can support the needs of society, including reforestation and afforestation that were seen as important strategies to supply future wood demand in the country. However, the Policy was not successful in addressing the root causes of deforestation, the growing imbalance in the demand and supply of industrial wood and woodfuels, illegal operation in forest harvesting, and the livelihoods of people who were living in and around forest areas, often without proper permit or tenure rights. Today, wood demand in the country is mainly met through imports from neighboring countries.

In this context the expansion of forest plantations was an important strategic goal of the Royal Forest Department (RFD) resulting in the promulgation of the Commercial Forest Plantation Act (1992) to

⁴ Cambodia, Lao PDR, Thailand, and Vietnam are members of the MRC, Myanmar has the status of a dialogue partner.

support and encourage private sector investment and to develop tree improvement research programs to obtain better tree characteristics and growth, in particular for teak and pine.

Cambodia

Natural teak forests do not occur in Cambodia, but the establishment of planted forests has been promoted by the Ministry of Agriculture, Forestry and Fisheries (MAFF) in open forest areas, degraded mountainous areas and watersheds that are strongly affected by soil erosion (Agricultural Sector Strategic Development Plan 2014-2018). Since 1985, an area of ca. 145,000 hectares of forest plantations has been established, of which more than half was planted by private companies. Species used in forest plantations include pine, eucalyptus, acacia, teak and other fast growing species designated for timber, woodfuel and veneer production. Teak plantations have been established on a very limited scale comprising only ca. 2,700 ha on national level, 80% of which have been planted by a private investor in an Economic Land Concession.

The Forestry Law (2003), the Protected Area Law (2008), the National Forest Programme 2010-2029 including the recent drafts of the Environment and Natural Resources Code (2017) and the National Production Forestry Strategy (2018), aim at protecting tropical forests, promoting sustainable forest resources management, combating deforestation and forest degradation and enhancing the development of production forests. The 2006 Sub-decree on *Timber and Non-timber Forest Products Allowed for Export and Import* promotes the export of high quality, value-added and competitive forest products.

There are indications that valuable roundwood is harvested illegally in Cambodia and shipped to large manufacturing centres in neighbouring countries of the region. Engaging in the process of developing a timber legality program will serve as a formal commitment by Cambodia to address the weaknesses in the current timber flow system, help address improvements in forest law enforcement and governance, create enabling conditions for forest investments and pave the way towards marketing legal timber. The intention to implement the EU-FLEGT Programme in Cambodia has been explicitly mentioned in the report *Cambodia's Intended Nationally Determined Contribution* (Royal Government of Cambodia, no year), with the aim to improving forest governance and promote international trade in verified legal timber.

Lao PDR

Teak is a priority native species in Lao PDR. In the 1970s the country had about 70,000 ha natural teak forests, of which, in 2010, about 1,500 ha are left. They are mainly located in Provincial Protected Areas in Xaignabouri Province in north-western Laos and are exempted from logging. In addition teak has been established by private companies and rural communities in plantations and agroforestry production systems on an estimated 36,000 ha that are mainly located in northern provinces (Luang Prabang, Bokeo). The establishment and sustainable management of community-based teak plantations is explicitly promoted by the Department of Forestry.

The Forestry Strategy 2020, the Forestry Law (amended in 2007) and the 8th Five-Year National Socio-economic Development Plan (2016–2020) are the major documents aimed at guiding the Lao forestry sector towards multiple objectives with poverty reduction at the forefront. Based on this forest governance framework and taking into consideration the lessons of international cooperation in the forestry sector, the Government is involved in a continuing process of reforming its forest sector and improving the implementation of forestry programs and projects. Major goals in this process are to:

1. develop the legislative, regulatory and institutional framework;

2. build capacity at all levels for forest management;
3. apply these skills and resources in bringing forests under scientifically planned and socially accountable management;
4. introduce market oriented log sales and wood industry reforms;
5. increase the participation of villagers in land-use planning and resource management including conservation and commercial production;
6. strengthen the wood supply base by promotion of tree planting tailored to local social and environmental conditions;
7. increase transparency and openness of natural resource policy and disseminate information on results and outcomes more broadly, such as changes in forest cover, forestry revenues, harvest levels, plantation establishment and management actions;
8. promote sustainable rural development and growth of agricultural production through extension of methods appropriate to local social and environmental conditions;
9. strengthen the capacity to control illegal activities including logging, hunting and wildlife/NTFP trade.

Lao PDR places a high priority on the conservation and sustainable use of its remaining natural forests with the objective, among others, to protect its numerous hydroelectric dams that help consolidate Laos' status as the "battery" of South-East Asia. By 2020 there will be more than 90 hydropower plants in Laos with a combined installed capacity of almost 14,000 MW. Laos plans to finance, among other things, its social development programs, such as poverty reduction in rural communities, from revenues obtained from the export of hydropower to its neighbours, notably, Thailand and Vietnam.

Recently the Government of Lao PDR has embarked on an initiative to promote good governance in the forestry sector and legal timber trade, in line with the objectives of the Lao EU-FLEGT process. A major break-through in this respect was the adoption of the Prime Minister's Order No 15 dated 13 May 2016 on *Enhancing Strictness on the Management and Inspection of Timber Exploitation, Timber Movement and Timber Business*. The Order stipulates that all ministries, relevant agencies and local authorities at all levels are to increase attention and accountability on taking actions, rights and responsibilities according to existing laws and regulations. It prohibits the export of unprocessed roundwood from natural forests and bars the transit of illegal timbers and forestry products from overseas to transit through Lao territory to third countries. In support of this legislation the Department of Forestry has established a stakeholder consultation process to develop a Timber Legality Assurance System (TLAS) in compliance with international standards that is expected to be completed by the end of 2018.

Myanmar

Myanmar is a teak heavyweight, playing a significant role in the global teak trade. It has the largest area of natural teak forests (almost 50 percent of 29 million ha globally) and is the number one producer of teak logs in the world. Natural teak forests are traditionally managed under the Myanmar Selection System (MSS) and the Modified Myanmar Selection System (MMSS). These regulations are considered outdated and need to be adjusted to cope with modern requirements. After India and Indonesia, the country has the third-largest planted teak area in the world (about 390,000 ha). Currently, the teak plantations are still young and produce only low-dimension logs from thinnings.

In recent years substantial new policy regulations have been imposed to support the conservation and sustainable management of teak forests. In April 2014, Myanmar has introduced a log export ban to promote local processing, which triggered a rapid increase in the global demand for high-quality logs.

In 2016 the Myanmar Reforestation and Rehabilitation Programme (MRRP, 2017 to 2026) has stipulated a 10-year logging ban in the natural forests of the Bago Yomas mountain range (“the home of teak”) that is accompanied by a comprehensive program of reforestation and enrichment planting to regenerate the forest and rehabilitate its growing stock. The objective of the MRRP is to increase the forest cover by 5% within 10 years, planting mainly teak and pyinkado (burmese ironwood, *Xylia xylocarpa*). In the rest of the country, the level of the Annual Allowable Cut (AAC) was lowered by 50% to make up for the widespread illegal logging along the border areas with China, India and Thailand. For security reasons, the control of these illegal activities is said to be beyond the capacity of the Forestry Department. As a result of these new regulations the supply of logs to the national and international markets has declined considerably.

The Myanmar Forest Policy 1995 formalizes the commitment and intent of the Government in ensuring sustainable development of the forest resource both for environmental and economic purposes. It identified six priority areas, all of which will be covered by the Activity:

1. Protection of soil, water, wildlife, biodiversity and environment;
2. Sustainability of forest resources to ensure a perpetual supply of benefits from forests;
3. Basic needs of the people for fuel, shelter, food and recreation;
4. Efficient use, in a socially and environmentally friendly manner, of the full economic potential of forest resources;
5. Participation of people in the conservation and use of forests;
6. Public awareness of the vital role of forests in the well-being and socio-economic development of the nation.

In addition, a number of laws, regulations and guidelines provide backing for sound forest management in the country and contribute to implementing the policy, among them the Forest Law (1992), Forest Rules (1995), the National Environmental Policy (1994), Protection of Wildlife and Wild Plants and Conservation of Natural Areas Law (1994), Community Forestry Instructions (1995), National Forestry Action Plan (1995), Myanmar Agenda 21 (1997), Criteria and Indicators for Sustainable Forest Management (1999), Format and Guidelines for District Forest Management Plans (1996), National Code of Practice for Forest Harvesting, National Sustainable Development Strategy (NSDS), the National Biodiversity Strategy and Action Plan (2012), the Environmental Conservation Law (2012), and finally the National Forest Master Plan 2001-2030 (NFMP).

The NFMP relates to the long-term adaptation of sustainable forestry development and foresees the forestry situation in the next 30 years from 2001. It outlines a wide range of forest activities including among others wildlife and nature conservation in order to achieve the objectives of sustainable harvesting of valuable teak and other hardwood species, protection of forests against degradation, environmental conservation, earning more foreign exchange by exporting more value-added products, and enforce effective legislation against illegal extraction of forest products. In 2017, a total of 12,600 cubic metre illegally harvested teak logs were confiscated.

Vietnam

Teak was introduced in Vietnam by the French at the turn of the century - largely in parks and along road sides. Southern regions were more suitable and small-scale plantings were made from 1952; these suffered losses from war and land trespass. Post-war efforts have established some 2,000 ha of teak plantations, of which 5% is now older than 30 years. Most plantations have been established in the Taungya System as a mixture with food crops (rice, maize, green bean, soya), for which a silvicultural management system has been developed that allows for the production of high-value timber.

The forestry sector has focused on tree breeding and development of propagation technologies by cuttings and tissue culture, mainly for pine, eucalypts and acacia, which will greatly increase the productivity and effectiveness of forest plantations. Teak improvement programs to produce high-performance clones are under development. Thus, the Activity conforms with the current forestry strategy of conserving natural forests (logging ban) and promoting forest plantations. It would enhance species diversification in planted forests and support the market demand of the highly developed timber industry. However, the existing ca. 2,700 ha planted teak forests are of poor quality and unknown genetic origin. Further developing the teak sector will require the use of good-quality planting material. So far, the marketing of Vietnam-Teak is not well developed due to the small size of the planting area and the young age of the trees, however the processing of teak imported from other countries is expanding in Vietnam's timber industry.

Vietnam is the only country in the Greater Mekong Sub-region that reported an increase in forest area, mainly due to large-scale national reforestation efforts, the restructuring and renovation of state forest enterprises, the implementation of a number of government programmes for sustainable forest development, and the legal allocation of forestry land to rural communities and households coupled with incentive systems for reforestation under the 1993 Land Law.

Vietnam explicitly recognizes the importance of sustainable forest management and has developed a number of programmatic initiatives aimed at protecting and increasing both the quantity and quality of forests throughout the country. The economic reforms initiated in Vietnam in 1986 with the goal of creating a "socialist-oriented market economy" (doi-moi) triggered the passing of new forest and land laws and initiated the devolution of forest use and management rights to non-state actors. Over subsequent years, the area of forest land allocated to rural households has expanded from almost zero to 3.51 million ha, accounting for 26 percent of the total forest area.

The Vietnam Forest Development Strategy 2006-2020 (VFDS) outlines the country's targets for the sustainable management of production forests of around 8 million hectares. The Strategy seeks to further promote socialization of the forest sector, encouraging non-state actor tenure and resource access. In this context, community forestry is a promising development of particular importance, especially in ethnic minority areas.

Several national reforestation programs have been implemented including The Greening of Bare Land Program (Project 327, 1993-1998), the Five Million Hectare Reforestation Program (1998-2010), the Forestry Extension Program, the National Action Plan for Biodiversity (1995, 2007), the National Action Plan to Combat Desertification, 2006-2010 and the on-going Payments for Ecosystem Services (PES) Programme. Smallholder plantings established under these programs are reported to have made a huge positive contribution to rural poor and ethnic minorities, transforming many denuded and barren hills in northern and central Vietnam into productive forest land.

The envisaged growth in forestry production and the increase in exports of sustainably produced timber is planned to reach 4 - 5% per year. In this context the importance of planted forests of highly productive species, such as teak, eucalyptus, and acacia, is of increasing significance for the sector's development, as harvesting in natural forests has been almost completely banned, with the exception of

limited harvesting by local households, through the Government’s Logging Ban-Decision No 2242⁵. It emphasizes the strong commitment to sustainable forest management for the remaining period of the VFDS and confirms the need for the strengthening and upscaling of SFM capacities of all concerned stakeholders.

1.3 Target area

1.3.1 Geographic location

The participating countries Cambodia, Lao PDR, Myanmar, Thailand, and Vietnam are located in the GMS that is home to more than 300 million people⁶. It is a very dynamic and fast-changing region that has made significant socio-economic progress from 1990 resulting in significant impacts on natural and forest resources.

Many outputs of the Activity are on regional level that will also benefit other teak growing countries outside the GMS. The geographic locations of the pilot areas (see Output 2) have been selected after consultations with the collaborating agencies during the fact-finding mission.

Pre-identified pilot sites in each of the participating countries include the following:

Cambodia: Ty Chumreal Lumhe Kamsan community forest, in Kratie Province, Cham Bok Commune, Prek Prosop District. The commune comprises 2 villages and 541 households. It has concluded a Community Forestry Agreement with the Forestry Administration in December 2012 and has an approved management plan since Sept 2015. The commune has established forest plantations on 122 ha, of which 20 ha are teak. The plantations are on good soils, located ca. 2 km within the Mekong river and have a protective function for watershed management. RECOFTC-Cambodia has had long experience working with this community.

Lao PDR: Ban Kok Gnew Commune, Luang Prabang District. The commune comprises 56 households who have established ca. 90 ha of teak plantations that received FSC certification in 2012. Since then, the community has sold 180 m3 certified timber to Chinese operators. WWF-Laos has been working for years with rural communities on teak management, particularly in Luang Prabang Province and would be able to continue this cooperation under the ITTO-Activity.

Myanmar: The District Forest Office at Toungoo (ca. 120 km south of Nay Pyi Taw) supports ca. 45 community user groups in forest establishment and natural teak management. Toungoo District and the Bago Yomas mountain range are considered the “home of teak”. The Myanmar Timber Enterprise (MTE) operates a training center about 18 km from Toungoo township that could be used for purposes of the Activity.

Thailand: The Khunmae kummae community-based teak plantation is about 30 km from Rongkwang District, Phrae Province (ca. 250 km east of Chiang Mai). The size of the plantation is ca. 4,200 ha (ca. 20,000 Rai). The Forest Industry Organization (FIO) operates a Teak Technology Transfer and Product

⁵ Decision No. 2242/QD-TTG issued on 11/12/2014, Strengthening the Management of Exploitation of Timber of Natural Forest for the Period 2014 – 2020.

⁶ Including Yunnan Province and Guangxi Zhuang Autonomous Region of China.

Development Center, including a sawmill, in Rongkwang District, that could be used as training center for activity purposes. In addition FIO operates a teak furniture factory in Bang Phó (west of Bangkok) with chain-of-custody certification.

Vietnam: In Thanh Hóa Province (ca. 150 km south-west of Hanoi) a teak plantation was established in 1997-1998 under the government-funded Re-green Barren Hills Program at the Sim Forest Protection Management Board. The plantation has an area of ca. 100 ha in Nhu Xuan and Nhu Thanh districts. The Sim Forest Protection Management Board has still around 150-200 ha that are available for teak planting.

1.3.2 Social, cultural, economic and environmental aspects

ITTO's reference framework

Social, cultural, economic and environmental aspects are important dimensions in ITTO activities, particularly in the areas of forest management and reforestation, and forest industry. They have always been fundamental to the achievement of development outcomes in those activities as they are in line with one of ITTO's overriding objectives of contributing to sustainable development.

ITTO's Guidelines for Environmental and Social Risks and Impacts Assessment in ITTO Projects (ESIA, revised draft, 2016) further strengthen this commitment by providing a tool for systematic mainstreaming of environmental and social sustainability in its field activities. Moreover, ITTO has recognized that gender equality is crucial to fulfilling its mission and mandate, and has in response elaborated the Proposed ITTO Policy Guidelines on Gender Equality and Empowering Women (GEEW, 2017).

Social, cultural and gender aspects

Rapid population growth is a common characteristic of all GMS countries. With a population of 180 million in 1990, this figure had risen to more than 300 million people by 2015. Myanmar, Thailand and Vietnam host 91 percent of the total population of the GMS with Vietnam being the largest at 93 million.

All GMS countries are gradually and increasingly involving rural communities in SFM. The shift towards community involvement in forest resource management is supported by improved understanding that achieving SFM is not possible, if governments do not actively engage and work with a wider set of stakeholders. Development of participatory forestry schemes, local forest management initiatives and land allocation have helped to decrease deforestation, forest degradation and in some cases have helped in forest regeneration.

Successful examples of participatory forest management can be seen in most countries in the Greater Mekong Sub-region. There are clear indications that commercial teak plantations provide financial benefits to smallholder farmers, timber processors and small and medium-scale enterprises trading teak timber. Teak is also grown by smallholders in mixed farming systems that enable farmers to diversify production, reduce farm risk, contribute to food security, and raise income for smallholder families.

Many farmers plant teak for family savings and as a cultural heritage. The management of teak plantings is a shared responsibility between men and women. Women are primarily responsible for the management of agricultural crops in agroforestry production systems and fuelwood collection, while

men are responsible for timber tree management and sales. Teak agroforestry systems can provide 40% of household income, 25% of which from agricultural production, 12% from teak, and 3% from other tree products.

While demand for teak timber is high and prices attractive in Mekong countries, many farmers need assistance to adopt teak cultivation due to their limited capital, limited technical capacity, and limited market knowledge.

Economic aspects

The area of natural teak forests in India, Lao PDR, Myanmar and Thailand combined was estimated at 29 million ha in 2010, almost half of them growing in Myanmar (13.5 million ha). Since the 1980s, supplies of teak wood from natural forests have started to dwindle. Nevertheless, teak is one of the few emerging valuable hardwood species that has been grown increasingly in planted forests in Cambodia, Lao PDR, Myanmar, Thailand, Vietnam and about 70 tropical countries throughout Asia, Africa, Latin America and Oceania. In the report State of the World's Forest Genetic Resources (FAO 2014) teak has been identified by more than 20 countries as being a national priority species. The reporting countries cite economic value (including value of timber, pulp, food, wood energy, and NWFP) as one of the main reasons for nominating the species as a priority for conservation and management.

Teak is a preferred species in many smallholder and community forests in the five Mekong countries where teak is managed in forest plantations or agroforestry production schemes (e.g. the Taungya System) intercropped with rice or other agricultural crops. Investments in teak plantations growing under suitable site conditions with genetically superior planting material and good management practices yield attractive and robust financial returns of more than 15% IRR. This can even be enhanced through cost-reducing management interventions such as intercropping with food crops by farming communities which reduces maintenance costs.

In all five participating countries rural populations depend on planted teak forests for their livelihoods. They gain employment and income from forestry, particularly in remote, undeveloped areas where forestry is the only economically viable land use option. The multiplier effect on employment at secondary (wood processing) and tertiary (service sector) levels was found to be considerable, e.g. in Vietnam, especially when a significant portion of the wealth of such value-added activity remains in the local economy and among the forest-dependent workforce. Under these conditions, planted teak forests directly contribute to socio-economic development, poverty alleviation and social stability.

One increasingly important consideration influencing trade in plantation teak involves environmental certification and legality issues. Governments, buyers and retailers, mainly in western countries have embraced the principles of certification. The timber markets of North America and Europe have responded legislatively through the Lacey Act (USA) and the European Union Timber Regulations (EUTR). In the future, public and private teak producers and processors will increasingly pursue voluntary certification schemes (forest management and chain-of-custody certification) to meet environmental, social and economic standards of responsible forest management and gain better access to high-price

In recent years, the global annual trade of teak roundwood was more than 1 million cubic meters on average; the imports were valued at almost USD 500 million per year, which is about 3 per cent of the value of the global timber trade (USD 15.5 billion). Myanmar and its major trading partners, India, Thailand and China, traditionally play a significant role in the global teak trade. Myanmar's natural forests produce about a quarter of the globally reported teak log supply, including good-quality teak,

that sells at comparatively high prices. India imports about 74% of the total teak trade volume, followed by Thailand (16% of the total) and China (10% per cent of the total). Teak imports to Thailand have declined considerably lately, while China and India have increased their import volumes.

Teak price indices have been developed from publicly available long-term time series published in ITTO's Tropical Timber Market Reports since 1998. 'Burmese teak' has set international standards for quality and price, however, from 1st April 2014, Myanmar implemented a log export ban that has remarkably reduced the availability of mature teak to global markets. It triggered a rapid increase in the demand for high-quality logs, coupled with a sharp rise in teak prices from about USD 750/m³ on average at the end of 2013 to almost USD 2,000/m³ on average in January 2014. In the July 1995 issue of the National Geographic magazine it was reported that some teak trees from natural forests can be worth USD 20,000.

In many countries teak wood forms the primary material for furniture production, in particular in Thailand and Indonesia, with Myanmar and Vietnam following suit. In 2010 the Indonesian teak furniture industry exported products valued at USD 135 billion which constitutes over 1% of the global furniture trade.

Environmental aspects

There have been considerable changes in the forest area of the Greater Mekong Subregion (GMS) in the past 25 years. Cambodia, Lao PDR and Myanmar experienced one of the highest deforestation rates in Southeast Asia, while Thailand and Vietnam experienced forest gain due to the large-scale establishment of planted forests. Agricultural expansion with rubber and oil-palm plantations for local and foreign investors, infrastructure development, particularly hydropower dams and road construction, illegal and unsustainable logging, mining operations and forest fires during the dry period are the most dominant drivers of forest loss.

Long-term forest exploitation in the GMS countries has directed governments to reconsider their forest management plans, policies and legislations. There have been signs of positive trends in the last decade, including increased efforts towards SFM, forest conservation, and afforestation and reforestation programs. As a result of SFM policies and initiatives, the forest area under protected areas increased by around 70 percent from 1990 to 2015. Likewise, an increase was observed in forest area designated for conservation of biodiversity and similarly, forest area certified under the Forest Stewardship Council (FSC) certification scheme increased significantly. In all countries, new regulations and policies related to logging, timber exports, protected areas, and green products have resulted in an increasing trend towards managing forests sustainably.

The GMS countries depend largely on climate-sensitive sectors including rainfed and irrigation agriculture, water resources, forestry and fisheries, and are highly vulnerable to the impacts of climate change, in particular from floods, droughts, windstorms, and saltwater intrusion. Rural households, especially women and other vulnerable groups, struggle to cope with the impacts of climate change. Increased weather variability and extreme weather events are expected to reduce agricultural yields, lessen the availability of fresh water, and further degrade biodiversity and ecosystem services. Major GMS investments in energy and transport, particularly in the Mekong delta and along coastal areas are exposed to sea level rise.

Improved planning, management and appropriate investments in climate change adaptation and mitigation are recognized as effective means to safeguard the livelihoods of rural communities and the

economic development of the GMS. All 5 recipient countries have submitted reports on Intended Nationally Determined Contributions (NDCs) under the United Nations Framework Convention on Climate Change (UNFCCC) with the aim to improving forest governance and sustainable forest management and promote international trade in verified legal timber.

The Core Environment Program (CEP) of the GMS, supported by the ADB and other donors, recognizes the significance of forests to mitigate climate change through carbon sequestration and harnesses climate finance and the application of low-carbon technology for development planning and biodiversity conservation. The CEP focuses its activities among others on building the capacity of local stakeholders to monitor forest resources (REDD+ readiness) and testing methods for monitoring greenhouse gas reductions under Nationally Appropriate Mitigation Actions (NAMAs).

1.4 Expected outcomes at the completion of the Activity

At the completion of the Activity (2021), the following outcomes are expected:

- Enhanced capacities of governments, local communities and small holders in planning, conservation and management of teak forest resources
- Improved quality and management of teak genetic resources
- Demonstrated legal and sustainable teak supply chains which improve market access of teak products
- Enhanced dialogue, information and knowledge exchange among participating countries on sustainable teak forest management, production and sustainable supply chain management, as well as sharing experiences with wider audiences globally through participation in different events/fora.

2 Activity Rationale and Objective

2.1 Rationale

2.1.1 Institutional set-up and organizational issues

Partners for the implementation of the Activity will be the ITTO-Secretariat as executing agency and the respective national forestry administrations and affiliated research and commercial institutions that will be responsible for the implementation of the Activity on national level. ITTO has been supporting teak related projects with a focus on genetic resources conservation, seed production and sustainable management of natural and planted teak forests in Africa, Asia and Latin America. In 2016 an ITTO diagnostic mission was carried out in Myanmar to assess and evaluate in retrospect the outcome of previous ITTO-supported teak projects in Myanmar. ITTO is capable for implementing the Activity that is fully aligned with the political and economic priorities of its member countries in the region.

The forestry administrations in each recipient country⁷ have the capacity, manpower and infrastructure in place to implement the Activity. They place a high strategic emphasis towards achieving sustainable forest management, implementing reforestation programs with financially viable tree species to combat deforestation and forest degradation, and supporting the legality of timber harvesting and trade.

They will be supported through close cooperation with national education, research and training organizations and affiliated commercial institutions⁸ for research and training purposes. These institutions will be part of the Activity's institutional arrangements through their participation as contractors in individual work packages and participation of their staff in training activities.

Other potential collaborating partners are IUFRO, the Asia-Pacific Forest Genetic Resources Program (APFORGEN) and TEAKNET. APFORGEN is the only network in Asia and the Pacific that specifically focuses on the conservation and sustainable use of the genetic diversity of trees. It collaborates with FAO to implement the Global Plan of Action for Forest Genetic Resources in the Asia-Pacific region. TEAKNET is an international teak information network that is hosted by the Kerala Forest Research Institute in Thrissur, India. TEAKNET has collaborated with FAO, IUFRO and ITTO for many years in maintaining an informative website on teak (www.teaknet.org), producing and disseminating outreach material for the global teak sector, implementing training programs and co-organizing the three World Teak Conferences in Costa Rica (2011), Thailand (2013) and Ecuador (2015) that were attended by over 1,000 representatives of the major teak growing countries in Africa, Asia and Latin America.

RECOFTC and WWF are both non-governmental organizations that have been involved in forest resource management in the Mekong countries for many years. They have good knowledge of the local situation in the respective countries, possess skills to support local communities in forest conservation and management, and are reliable partners in planning and implementing capacity building events.

⁷ Forestry Administration of Cambodia, Department of Forestry Lao PDR, Forest Department of Myanmar, Thai Royal Forest Department, Vietnam Administration of Forestry.

⁸ Institute of Forest and Wildlife Research and Development (Cambodia), National Agriculture and Forestry Research Institute (Lao PDR), Forest Research Institute/Myanmar Timber Enterprise (Myanmar), Forest Industry Organization (Thailand), Vietnamese Academy of Forest Sciences (Vietnam); RECOFTC.

GIZ-Bangkok has a wide knowledge of and competence in the forestry sector of the participating countries and will be invited to support in the implementation of the Activity through its participation in the Activity Steering Committee meetings, field visits, and review of the the Activity's reports.

The participation of smallholders and local communities will be ensured by the usage of existing collaborative management mechanisms, in which local communities share roles and responsibilities for the conservation and sustainable management of natural and planted teak forests. The benefits of increased local participation include incorporation of local and traditional knowledge into forest management, effective and efficient forest monitoring and law enforcement due to their proximity to forests and, raising awareness of the importance of balancing community livelihood commitments with the sustainable management of forest resources.

2.1.2 Stakeholder analysis

The target beneficiaries include forestry administrations and policy makers, rural forest owners/users, and local communities, teak growers in the public and private sector, teak traders, research, academic and training institutions, and international organizations, many of which have been consulted during the process of the development of the Activity. The national forestry administrations have given consent to work under the Activity and will be invited to serve in the Activity Steering Committee to supervise the implementation of the Activity.

A stakeholder analysis as per ITTO specifications is depicted in Table 1 below. A list of key stakeholders in the five participating countries is provided in Annex 5.3.

Table 1: Stakeholder analysis

Stakeholder group	Characteristics	Problems, needs, interests	Potentials	Involvement in the Activity
Primary stakeholders				
Rural forest owners/users, and local communities/ small holders	Establish and manage teak trees in plantations and agroforestry, livelihoods depend on forests as a source of income.	Lack of formal titles, insufficient economic alternatives, lack of capacity for forest planning, base for livelihood threatened, interested in resource use and resulting financial benefits to support local livelihoods	Local knowledge, nearness to forest resource, contribution to forest production	Target beneficiaries, benefit from livelihood improvements, contract farmers in outgrower schemes, involvement in forest surveillance, law enforcement and conservation efforts
Teak producers/ growers	Public and private sector. Establish and manage teak trees in plantations and agroforestry. Derive income from teak management	Need advice in planting and management practices. Lack access to good-quality germplasm, affected by government policies, interested in quick income	Nearness to forest resource, contribution to forest production.	Target beneficiaries for capacity building, training measures, information, Benefit from improved management
Teak processing companies and teak traders	Private companies that add value to teak round wood. Derive income from wood processing and	Need market information on supply, demand, prices, benefit from timber legality	Facilitate and improve marketing of teak wood products, support trade of legal and sustainable products	Target beneficiaries for improved processing, marketing and trading of teak wood products; users of market

	local/international trade.			information
Secondary stakeholder				
Stakeholder group	Characteristics	Problems, needs, interests	Potentials	Involvement in the Activity
Forest research, academic and commercial institutions	Have education and research missions, conduct research, teaching and training on sustainable resource use	Interested in resource data and market information on teak, Need financial support and facilities to conduct meaningful research, teaching and training	Competence in research, studies and surveys. Develop innovative best-management practices and research results, provide assistance to the national forestry sector backed by research results	Partner in implementing the Activity, training, research and development
International programs (APFORGEN)	Agencies for special technical subjects compiling data, assessing teak genetic resource conditions, supporting timber trade	Interested in resource data on teak, need financial support and facilities to conduct meaningful research	Competence in research and technical studies. Develop innovative best-management practices teak management including conservation of genetic resources, provide assistance to the forestry sector backed by research results	Partner in implementing the Activity, training, research and development
TEAKNET	International network for the dissemination of information on all aspects of production and marketing of teak wood	Lack financial support for networking activities	Well connected with stakeholders, provide data and information on teak to the international forestry sector, co-organizing World Teak Conference	Partner in implementing the Activity
NGOs	Active involvement in rural development activities, conservation, and community forests	Lack financial support	Good knowledge of local situation, possess skills to support local communities in forest management and conservation	Partner in implementing the Activity
Tertiary stakeholder				
Stakeholder group	Characteristics	Problems, needs, interests	Potentials	Involvement in the Activity
ITTO	Intergovernmental organization promoting conservation and sustainable use of tropical timber and timber products.	Facilitates its member countries to achieve sustainable forest management and ensuring that the traded timber and timber products come from legal and sustainable sources, upscaling the Activity's outputs/oucomes, including maintenance and develop further the established	Expertise on sustainable tropical forest management, experiences in managing forestry projects in different regions, Ex-Post evaluation and recommendations on how to sustain the activities	Executing agency Member of ASC

		demonstration plots		
Development partners (e.g. GIZ, JICA)	Agencies for special technical subjects, active involvement in rural development, conservation, sustainable management and community forestry	Interested in supporting sustainable forestry development	Knowledge of and competence in the forestry sector, develop innovative best-management practices and provide assistance to the national forestry sector	Provide advises and extended networking

2.1.3 Problem analysis

Natural and planted teak forests in Mekong countries are under threat from unsustainable management practices (core problem). Natural teak forests, in particular old-growth high-quality stands, have declined significantly for many years and there is a high risk of losing their high diversity of genetic traits and wood characteristics. Likewise, the sustained production of teak logs from natural forests is decreasing. The causes for this situation vary between countries, but based on the results of previous work and expert consultations, a number of common direct and underlying causes have been identified. They include (a) overexploitation of existing stands, (b) deforestation and forest degradation, (c) illegal forest activities, (d) conversion of forest area to other land uses, (e) lack of forest management according to best-practice standards, including destructive logging techniques, (f) limited technical and managerial capacity of forestry institutions, (g) limited data and information on the resource conditions of teak forests and markets, and (h) a lack of access to financing and improved technology. In particular, there is the need to promote in-situ and ex-situ conservation of teak genetic resources in order to address the genetic erosion of natural teak resources which has been resulted from severe loss of natural teak forests and the negative effects of selective logging (focusing on straight trees).

Planted teak forests are mainly established from a limited number of seed sources or clones, often from unknown origin, and dispose of a narrow genetic diversity. They are increasingly exposed to risks triggered by diseases and pests, climate change impacts and extreme weather events.

Nevertheless, teak is one of the few emerging valuable hardwood species that has been grown increasingly in planted forests in Cambodia, Lao PDR, Myanmar, Thailand, and Vietnam on an estimated 600,000 ha. For these countries planted teak forests represent a good opportunity to produce quality timber and are a major asset for their forestry economies attracting large investments from the private sector. Planted teak forests are known to exhibit a wide range of origin-related variation in growth performance, stand quality and wood characteristics. Tree improvement programs continue to be developed in all five participating countries aiming at improving growth rates and timber quality. Most of them, however, are established with seeds of uncertain origin and quality and more recently with clones of a very narrow genetic base being produced mainly in Costa Rica, Indonesia, Malaysia, and Thailand.

The Activity provides a regional approach that will contribute to preserve the still existing native teak forests before they decline further, and to widen the genetic resource base of planted teak forests, thus contributing to enhance the sustainable management of teak resources. Local teak growers and smallholders will be facilitated to increase their capacity in managing, processing and marketing their products within the context of legal and sustainable wood supply chains which in turn will improve their family incomes.

2.1.4 Logical framework matrix

The following Table 2 presents the logical framework matrix of the Activity.

Table 2: Logical framework matrix

Strategy of intervention	Measurable indicators	Means of verification	Key assumptions
<p>Objective To demonstrate legal and sustainable teak supply chains with the engagement of local communities, smallholders and government actors in the Greater Mekong Sub-region</p>	<p>1) By the end of the Activity, the capacity and capability of local communities, smallholders, and government actors in the participating countries have been enhanced to plan and implement the conservation and sustainable management of natural teak forests on more than 30,000 ha through</p> <p>2) Programs/action plans for demonstration plots maintenance and development, as well as capacity building events have been submitted forestry authorities and budgeted</p> <p>3) More accurate and reliable data and information on regional teak forest resources and markets access are available and have been shared among the participating countries by the end of the Activity</p> <p>4) By the end of the Activity, policy reforms for improved legal and sustainable supply chains for teak wood and wood products have been submitted to and considered by the governments</p>	<p>1) Activity reports, study reports and minutes of meetings.</p> <p>2) Management plans, maps and databases</p> <p>3) Teak market reports</p> <p>4) Policy briefs and workshop recommendations</p>	<p>– National governments support Activity development and stimulate stakeholders to participate in the activities.</p> <p>– Forestry administrations will provide and/or recruit qualified staff for implementation, contribute data, information and maps on teak resources, support the creation of pilot areas, incl. the consultation of local communities, and facilitate the implementation of multi-stakeholder workshops.</p>
<p>Output 1: The conservation of teak genetic resources, sustainable management and use of natural teak forests and market accesses of teak from legal sources have been shown</p>	<p>1) Demonstration plots have been established to showcase sustainable forest management and the benefits of using improved genetic materials</p> <p>2) At least 15 existing seed production areas in natural teak forests have been documented and mapped</p> <p>3) Recommendations on (a) in-situ and ex-situ conservation of teak genetic resources and (b) regional quality standards for teak planting material have been developed and considered by the national forestry administrations for policy improvement</p> <p>4) Opportunities for improved teak market accesses have been elaborated and considered by the national forestry administration for policy improvement</p>	<p>1) Digitized location maps.</p> <p>2) Management guidelines and training reports.</p> <p>3) Activity report on quality standards for teak planting material.</p> <p>4) Policy reports for teak</p>	<p>– Vested interests do not prohibit legal harvest and trade from controlled sources. Training can be tailored to the needs and a critical mass of stakeholders can be trained. Adequate funds are available to finance equipment for forest law enforcement and surveillance</p>
<p>Output 2: Community-based and smallholders teak forest management and agroforestry systems have been strengthened with improved legal and sustainable supply chains</p>	<p>1) By the end of the Activity, households in rural communities have benefitted through employment or higher income generated by the improved conservation of teak genetic resources and the establishment of sustainable supply chains in teak plantations or agroforestry systems. 2) At least 30 community members in each participating country have been trained in (1) seed production/nursery techniques, (2) silvicultural practices/improved stand management, (3) minimizing harvesting loss, efficient transport and processing, and (4) supply chains and marketing by the end of the Activity</p>	<p>1) Activity reports and management plans of pilot areas</p> <p>2) Activity reports on teak-based forest user groups</p> <p>3) Study report analysing value chains for teak products</p> <p>4) Surveys in local communities on law enforcement activities</p>	<p>– Forestry administrations support the establishment of pilot areas. Stakeholders, particularly local communities and forestry nurseries, have adequate opportunities to participate. Stakeholders are open to adopting new technologies and send staff for training.</p>

	<p>2) At least 5 teak-based forest user groups are established or strengthened with improved teak agroforestry systems in Myanmar by the end of the Activity</p> <p>3) At least three studies for a value-chain-analysis for teak products has been implemented and are available on the Internet by the end of the Activity.</p> <p>4) By the end of the Activity sustainable supply chains of legal sources of teak wood have been established in 3 pilot areas including their maintenance plans and development</p>		
Strategy of intervention	Measurable indicators	Means of verification	Key assumptions
<p>Output 3: Regional and international collaboration, information sharing and knowledge management, networking, policy development and outreach on the sustainable management of teak forests, including sustainable use of teak genetic resources have been strengthened</p>	<p>1) By the end of the activity at least 10 technical reports and/or studies have been uploaded on the Internet and are publicly available.</p> <p>2) Two regional workshops in the beginning and at the end of the Activity have been implemented to support information management among the participating countries.</p> <p>3) Problem and challenges for sustainable teak forest development in the Greater Mekong Sub-region has been shared in the 4th World Teak Conference 2020 in Ghana and well understood by the participants including</p>	<p>1) Teak-website</p> <p>2) List of participants of the regional teak workshops</p> <p>3) List of participants of the World Teak Conference</p>	<ul style="list-style-type: none"> – Qualified staff from the participating countries participate in joint research activities. – Outreach and promotional materials are actively used by teak stakeholders.

2.2 Objective

To demonstrate legal and sustainable teak supply chains with the engagement of local communities, smallholders and government actors in the Greater Mekong Sub-region

The Activity conforms with ITTO's, ASEAN's and the Mekong River Commission (MRC)'s policy objectives and priorities and contributes towards the achievement of the Sustainable Development Goals (SDGs), especially SDG15 and the Global Forest Goals of the United Nations Strategic Plan for Forests 2017-2030 (UNSPF). The Activity also supports the participating countries' policies and strategies on sustainable forest management and sustainable wood supply from legal sources in line with their Nationally Determined Contributions (NDCs).

3 Description of Interventions

3.1 Outputs and activities

3.1.1 Outputs

The following outputs will contribute to meet the objective of the Activity:

Output 1: The conservation of teak genetic resources, sustainable management and use of natural teak forests and market accesses of teak from legal sources have been improved

Output 2: Community-based and smallholders teak forest management and agroforestry systems have been strengthened with improved legal and sustainable supply chains

Output 3: Regional and international collaboration, information sharing and knowledge management, networking, policy development and outreach on the sustainable management of teak forests, including sustainable use of teak genetic resources have been strengthened

3.1.2 Activities

The following activities for each output will contribute to meet the objective of the Activity:

Output 1: The conservation of teak genetic resources, sustainable management and use of natural teak forests and market accesses of teak from legal sources have been improved

Activities:

1.1 Establish demonstration plots for sustainable teak forest management systems and pilot silvicultural systems including coppicing as a regeneration method and teak agroforestry practices (e.g. bamboo management in natural teak forests) in on-farm teak growing for livelihoods of local communities and smallholders (Myanmar, Thailand).

1.2 Review and analyze opportunities for improved market accesses of teak wood and teak products from legal and sustainable sources in the five participating countries.

1.3 Conserve teak genetic variation through improved management of existing seed production areas, seed orchards, and provenance/progeny trials (, Lao PDR, Myanmar, Thailand).

Output 2: Community-based and smallholders teak forest management and agroforestry systems have been strengthened with improved legal and sustainable supply chains

Activities:

- 2.1 Support local communities and smallholders through establishment of demonstration plots and field training on the following subjects: (1) seed production/nursery techniques, (2) silvicultural practices and improved stand management, and (3) minimizing harvesting loss, efficient transport and processing of teak roundwood, and (4) supply chains and marketing (Cambodia, Lao PDR, Myanmar, Thailand, Vietnam).
- 2.2 Carry out a teak value chain analysis of smallholders to increase their access to markets by improved primary processing as well as capital and market information (Myanmar, Thailand, and Vietnam).
- 2.3 Facilitate the establishment of teak-based forest user groups for the sustainable use of teak forest resources and agroforestry (Myanmar).
- 2.4 Review and elaborate policy options to empower local communities and smallholders in planted teak and teak management, and agroforestry systems to support sustainable livelihood programs (Myanmar, Thailand).

Output 3: Regional and international collaboration, information sharing and knowledge management, networking, policy development and outreach on the sustainable management of teak forests, including sustainable use of teak genetic resources have been strengthened

Activities:

- 3.1 Produce and disseminate outreach and training material on the conservation and sustainable management of teak forests and legal and sustainable supply chains in collaboration with research institutions, NGOs, and development partners to support regional forest policy development (regional scope).
- 3.2 Plan and organize two regional teak workshops to facilitate policy dialogue, information sharing and knowledge management, stakeholder consultations and help expand regional cooperation on sustainable management of teak forests and legal and sustainable supply chains (regional scope).
- 3.3 Support and facilitate teak networking in the Mekong Sub-region through ITTO's member countries and partner such as TEAKNET and other regional cooperation frameworks to promote the conservation and sustainable management of teak forest resources, including exchange of genetic resources and legal and sustainable supply chains to facilitate transformational change through integration into national development programs for development of sustainable teak-based forest sector (regional scope).
- 3.4 Support sharing lessons of the Greater Mekong Sub- region in promoting sustainable teak forest management and legal and sustainable supply chains at the 4th World Teak Conference (2019 or 2020) in Ghana for improved global teak collaboration.

3.2 Implementation approaches and methods

The strategy comprises interventions at regional, national, and community levels. It promotes policy adjustments at regional and national level, building up trained human resources, implementing joined research programs, and generating and sharing new information and knowledge. It builds upon common interests of the teak producing countries in the GMS as expressed in the regional and national forest policy frameworks. The strategy builds on ITTO's comparative advantage in providing support to forestry issues that require strong interface with the public and private sectors and proven record of accomplishment in policy work and capacity building.

The Activity makes full use of the existing experience and knowledge on teak resources through South-South cooperation within Mekong countries. The strategy also aims at harnessing synergies with other organizations working in the same field such as IUFRO, APFORGEN, and TEAKNET.

The Activity will work collaboratively with all primary and secondary stakeholders of the recipient countries. Applying a participatory approach will help interested groups to participate in the development of a regional consensus-based vision for the sustainable management and use of natural and planted teak forests. Addressing these issues on a regional level the Activity will also contribute to a common understanding of the need to deal with certification of sustainability of forest management, and the verification of timber legality.

Cooperation among the recipient countries will be facilitated through the established teak networking (Output 3 of the Activity) that enables consultations and deliberations on organizational and technical subject matters. Two regional teak workshops at the beginning and the end of the Activity will facilitate stakeholder consultations and help expand cooperation for strengthening sustainable forest management, share best management practices, innovative approaches and new technologies with research organizations, multilateral and bilateral development partners and NGOs.

The capacity building program will be based on a rapid, participatory training needs assessment that will be implemented in close cooperation with forestry authorities, academic and research institutions, NGOs and interested development partners.

The establishment of seed production areas for genetic conservation, the development of management models for smallholder value chains in teak plantations and agroforestry, and the introduction of a low-cost, voluntary certification scheme will encourage teak growers, forest communities and smallholder farmers to plan and emulate the sustainable management and utilization of teak resources. Cooperation with smallholder farmers will increase livelihood opportunities for local residents and reduce pressures on the unsustainable use of forests.

A participatory monitoring and evaluation system will be established by the Executing Agency to monitor progress in the implementation of the Activity.

The Activity is in principle gender neutral as participation to activities is equally open to women and men. Records will be kept on the gender aspect to monitor participation in Activity events and training activities. Specific action will be taken to promote the participation of women, as they represent a significant share of the workforce in research, tree planting, seeds collection and nursery operations.

3.3 Work plan

The work plan for year 1 to 3 is compiled in Table 3.

Table 3: Work plan

Outputs and Activities	Responsible party	Year 1				Year 2				Year 3				
		Quarter				Quarter				Quarter				
		1	2	3	4	1	2	3	4	1	2	3	4	
Output 1: The conservation of teak genetic resources, sustainable management and use of natural teak forests and market accesses of teak from legal sources have been improved														
1.1 Establish demonstration plots for sustainable teak forest management systems and pilot silvicultural system including coppicing as a regeneration method and teak agroforestry practices (e.g. bamboo management in natural teak forests) in on-farm teak growing for livelihoods of local communities and smallholders (Myanmar, Thailand)	Reg. Act. Manager Nat. coordinators Consultant 3 Forestry Admin.													
1.2 Review and analyze opportunities for improved market accesses of teak wood and teak products from legal and sustainable sources in the five participating countries	Reg. Act. Manager Nat. coordinators Consultant 4 Forestry Admin													
1.3 Conserve teak genetic variation through improved management of existing seed production areas, seed orchards, and provenance/progeny trials (, Lao PDR, Myanmar, Thailand)	Reg. Act. Manager Nat. coordinators Consultant 1 and 2.													

Table 3 continued

Outputs and Activities	Responsible party	Year 1				Year 2				Year 3				
		Quarter				Quarter				Quarter				
		1	2	3	4	1	2	3	4	1	2	3	4	
Output 2: Community-based and smallholders teak forest management and agroforestry systems have been strengthened with improved legal and sustainable supply chains														
2.1 Support local communities and smallholders through establishment of demonstration plots and field training on the following subjects: (1) seed production/nursery techniques, (2) silvicultural practices and improved stand management, and (3) minimizing harvesting loss, efficient transport and processing of teak roundwood, and (4) supply chains and marketing (Cambodia, Lao PDR, Myanmar, Thailand, Vietnam)	Forestry admin., Reg. Act. Manager Nat. coordinators Consultant 5 and 6													
2.2 Carry out a teak value chain analysis of smallholders to increase their access to markets by improved primary processing as well as capital and market information (Myanmar, Thailand, Vietnam)	Forestry admin., Reg. Act. Manager Nat. coordinators Consultant 7													
2.3 Establish teak-based forest user groups for the sustainable use of teak forest resources and agroforestry (Myanmar)	Forestry admin., Reg. Act. Manager Nat. coordinator													
2.4. Review and elaborate policy options to empower local communities and smallholders in planted teak and teak management, and agroforestry systems to support sustainable livelihood programs (Myanmar, Thailand)	Forestry admin., Reg. Act. Manager Nat. coordinators Consultant 8													

Outputs and Activities	Responsible party	Year 1				Year 2				Year 3			
		Quarter				Quarter				Quarter			
		1	2	3	4	1	2	3	4	1	2	3	4
Output 3: Regional and international collaboration, information sharing and knowledge management, networking, policy development and outreach on the sustainable management of teak forests, including sustainable use of teak genetic resources have been strengthened													
3.1 Produce and disseminate outreach and training material on the conservation and sustainable management of teak forests and legal and sustainable supply chains in collaboration with research institutions, NGOs, and development partners to support regional forest policy development (regional scope)	Reg. Act. Manager Nat. coordinators Consultant 9												
3.2 Plan and organize two regional teak workshops to facilitate policy dialogue, information sharing and knowledge management, stakeholder consultations and help expand regional cooperation on sustainable management of teak forests and legal and sustainable supply chains (regional scope)	Reg. Act. Manager Nat. Coordinators ITTO												
3.3 Support and facilitate teak networking in the Mekong Sub-region through ITTO's member countries and partners such as TEAKNET and other regional cooperation frameworks to promote the conservation and sustainable management of teak forest resources, including exchange of genetic resources and legal and sustainable supply chains to facilitate transformational change through integration into national development programs for development of sustainable teak-based forest sector (regional scope)	Reg. Act. Manager Nat. Coordinators ITTO												
3.4 Support sharing lessons of the Grater Mekong Sub- region in promoting sustainable teak forest management and legal and sustainable supply chains at the 4th World Teak Conference (2019 or 2020) in Ghana for improved global teak collaboration	Reg. Act. Manager Nat. Coordinators ITTO; TEAKNET												
Reporting and monitoring													
Submission of inception report (before start of Activity)	Reg. Act. Manager Nat. Coordinators ITTO												
Submission of Yearly Plan of Operation for the first year (before start of Activity)	Reg. Act. Manager Nat. Coordinators ITTO												
Submission of progress report (each 6 months) with training, workshop, technical report	Reg. Act. Manager Nat. Coordinators ITTO												
Submission of Yearly Plan of Operation for the second and third year (before start of Activity for the second year and third year)	Reg. Act. Manager Nat. Coordinators ITTO												
Submission of financial report (each 6 month) and audited financial report (every twelve months)	Reg. Act. Manager Nat. Coordinators ITTO												

Outputs and Activities	Responsible party	Year 1				Year 2				Year 3			
		Quarter				Quarter				Quarter			
		1	2	3	4	1	2	3	4	1	2	3	4
Submission of Activity Completion Report	Reg. Act. Manager Nat. Coordinators ITTO												
Technical and Steering Committee Meetings (back-to-back) and monitoring	Reg. Act. Manager Nat. Coordinators ITTO												

3.4 Budget

The total budget of the Activity amounts to EUR 1,000,000 that is equivalent to USD 1,236,250 (exchange rate in April 2018 EUR/USD 1: 1.236250), of which 100% is a non-refundable ODA grant aid from the BMEL, Germany. The allocation of the total budget to activity years has been compiled in Table 4 :

Table 4: Allocation of total budget to activity years

	2019	2020	2021	Total
USD	429,276	379,711	427,263	1,236,250
%	35	31	34	100

The ODA grant aid covers the following budget lines:

Activity personnel and consultants:

- Regional Activity Manager (Thailand), for up to 36 months
- Activity Secretary (Thailand), for up to 36 months
- Finance staff (Thailand), for up to 36 months
- Consultant 1 Teak Genetic Resources, for up to 2 months
- Consultant 2 Quality Planting Material, for up to 3 months
- Consultant 3 Management System for Teak, for up to 2 months
- Consultant 4 Legality, for up to 2 months
- Consultant 5 Field Training Silviculture, for up to 3 months
- Consultant 6 Field Training Operations, for up to 3 months
- Consultant 7 Value Chain Analysis, for up to 2 months
- Consultant 8 Forestry Policy, for up to 2 months
- Consultant 9 Information Management, for up to 15 months

Management and coordination items:

- Operating costs for national offices (electricity, communication, consumables)
- Activity support costs (ITTO)
- Monitoring and review (ITTO)
- Final report editing (ITTO)

Reimbursable items:

- 3 ASC meetings (venue, travel, accommodation)
- 2 regional teak workshops

- World Teak Conference 2019 (travel, accommodation)
- Travel costs of Regional Activity Manager and staff
- International travel of consultants
- National travel of consultants
- Operating costs of vehicles (rent)
- Costs of equipment for national offices
- Costs of 12 training events (venue, stationary, catering, lodging)
- Small-scale forestry tools for communities
- Literature, publications, webpage, outreach activities and materials
- Demonstration plots
- Contingency

The tentative allocation of the ODA grant aid budget from BMEL by calendar year (36 activity months in total) and by executing and collaborating agencies has been compiled in Table 5. In addition, the estimated costs by outputs and activities are shown in Table 6.

Table 5: Tentative allocation of the total budget in USD by calendar year and by executing and collaborating agencies
(PM=person-month)

Budget line/item		Data input			By year			Total	By executing and collaborating agencies					
		# of units	Unit	USD/Unit	2019	2020	2021		ITTO	Thailand	Cambodia	Lao PDR	Vietnam	Myanmar
A	Personnel & Consultants													
A01	Regional Activity Manager (RAM) THA	36	PM	3,000	36,000	36,000	36,000	108,000		108,000				
A02	Acitivity Secretary	36	PM	750	9,000	9,000	9,000	27,000		27,000				
A03	Finance Staff	36	PM	600	7,200	7,200	7,200	21,600		21,600				
A04	Cons. 1 Teak Genetic Res.	2	PM	6,000	6,000	6,000	0	12,000						12,000
A05	Cons. 2 Quality Plant. Material	3	PM	6,000	6,000	6,000	6,000	18,000		18,000				
A06	Cons. 3 Mgmt. System for Teak	2	PM	6,000	6,000	6,000	0	12,000		12,000				
A07	Cons. 4 Legality	2	PM	6,000		6,000	6,000	12,000						12,000
A08	Cons. 5 Field Train. Silvic.	3	PM	5,000	5,000	5,000	5,000	15,000		15,000				
A09	Cons. 6 Field Train. Harv.	3	PM	5,000	5,000	5,000	5,000	15,000		15,000				
A10	Cons. 7 Value Chain Analysis	2	PM	6,000	0	12,000	0	12,000					12,000	
A11	Cons. 8 Forestry Policy	2	PM	6,000			12,000	12,000		12,000				
A12	Cons. 9 Information Mgmt. & supporting staff	5	PM	5,000	8,333	8,333	8,333	25,000		25,000				
A	Sub-total Personnel & Consultants				88,533	106,533	94,533	289,600	0	253,600	0	0	12,000	24,000
B	Lump sum items													
B01	Operating costs for project offices (electr., commun.,consumables.)	36	months	500	6,000	6,000	6,000	18,000		7,200	2,700	2,700	2,700	2,700
B02	Final report editing	1	lump	15,000	0	0	15,000	15,000		15,000				
B	Sub-total lump sum items				6,000	6,000	21,000	33,000	0	22,200	2,700	2,700	2,700	2,700

C	Budget line/item	Data input			By year			Total	By executing and collaborating agencies						
		# of units	Unit	USD/Unit	2019	2020	2021		ITTO	Thailand	Cambodia	Lao PDR	Vietnam	Myanmar	
C10	Conferences, meetings, workshops														
C11	PSC-meetings (3) (venue, trav., accom.)	3	meetings	12,000	12,000	12,000	12,000	36,000		36,000					
C12	Regional teak workshops (2) (venue, trav., accom.)	2	meetings	50,000	50,000		50,000	100,000		100,000					
C13	World Teak Conference (venue, trav., accom.)	1	meetings	52,000	52,000			52,000	52,000						
C20	Staff travel (flights, transp., lodging, food)														
C21	International travel of RAM & staff	20	travels	1,600	10,000	10,000	12,000	32,000		19,200	3,200	3,200	3,200	3,200	
C30	Consult. travel (flights, transp., lodging, food)														
C31	International travel consultants	12	trips	2,500	10,000	10,000	10,000	30,000		18,750			3,750	7,500	
C32	National travel consultants	12	trips	1,500	6,000	6,000	6,000	18,000		3,600	3,600	3,600	3,600	3,600	
C40	Other items														
C41	Operating costs of vehicles (rent)	3	years	5,000	5,000	5,000	5,000	15,000		3,000	3,000	3,000	3,000	3,000	
C42	Costs of equipment for project offices	5	offices	2,000	5,000	2,500	2,500	10,000		4,000	1,500	1,500	1,500	1,500	
C43	Training costs (12 training events) (venue, stationary, catering, lodging)	12	events	25,000	100,000	100,000	100,000	300,000		100,000	25,000	25,000	50,000	100,000	
C44	Small-scale forestry tools for communities	5	sets	1,500	3,750	3,750	0	7,500		1,500	1,500	1,500	1,500	1,500	
C45	Support farmer group establishment	1	lump p.a.	3,000		3,000		3,000							3,000
C46	Literature, publications, webpage	10	lump p.a.	5,000	15,000	15,000	20,000	50,000		45,000					5,000
C47	Demonstration plots, nurseries, etc	19	plots	3,000		28,500	28,500	57,000		15,000	9,000	9,000	9,000	15,000	
C48	Contingency (exchange rate fluctuation etc.)	1	lump p.a.	11,900		11,900		11,900	11,900						
C	Sub-total reimbursable items				268,750	207,650	246,000	722,400	63,900	346,050	46,800	46,800	75,550	143,300	
Sub-total direct project costs (A+B+C+D)															
					373,283	330,183	371,533	1,075,000	93,900	621,850	49,500	49,500	90,250	170,000	
D	ITTO Monitoring and Review														
D01	Monitoring and Review	3	years	10,000	10,000	10,000	10,000	30,000	30,000						
D	Sub-total ITTO Monitoring and Review				10,000	10,000	10,000	30,000	30,000						
E	ITTO Project Administration (programme support)														
E01	ITTO Programme Support (@ITTO standard rate)	1	15%	161,250	55,993	49,528	55,730	161,250	161,250						
E	Sub-total ITTO Project Administration				55,993	49,528	55,730	161,250	161,250						
Grand Total (A+B+C+D+E)															
					429,276	379,711	427,263	1,236,250	255,150	621,850	49,500	49,500	90,250	170,000	

Table 6: Estimated costs by activity output and activities

No.	Project output/activity	Inputs	Project partners	BMEL fund	
				USD	%
1	Output 1: The conservation of teak genetic resource and sustainable management and use of natural teak forests and market accesses of teak from legal sources have been improved			272,400	22
1.1	Establish demonstration plots for sustainable teak forest management systems and pilot silvicultural system including coppicing as a regeneration method and teak agroforestry practices (e.g. bamboo management in natural teak forests) in on-farm teak growing for livelihoods of local communities and smallholders (Myanmar, Thailand).	RAM + consultant 3 + 4 plots + 1 Conslt + 4 trainings + staff + travel	For. admin., nat. coord.	156,250	
1.2	Review and analyze opportunities for improved market accesses of teak wood and teak products from legal and sustainable sources in the five participating countries	RAM + consultant 4 + staff + travel	For. admin., nat. coord.	28,650	
1.3	Conserve teak genetic variation through improved management of existing seed production areas, seed orchards, and provenance/progeny trials (, Lao PDR, Myanmar, Thailand)	RAM + consultant 1 and 2 + 3 plots + staff + travel	For. admin., nat. coord.	87,500	
2	Output 2: Community-based and smallholders teak forest management and agroforestry systems have been strengthened through improved legal and sustainable supply chains			380,300	31
2.1	Support local communities and smallholders through establishment of demonstration plots and field training on the following subjects: (1) seed production/nursery techniques, (2) silvicultural practices and improved stand management, and (3) minimizing harvesting loss, efficient transport and processing of teak roundwood, and (4) supply chains and marketing (Cambodia, Lao PDR, Myanmar, Thailand, Vietnam)	RAM + consultant 5 and 6 + 6 plots + 2 Conslt + 8 trainings + small scale tools + staff + travel	For. admin., nat. coord.	290,150	
2.2	Carry out a teak value chain analysis of smallholders to increase their access to markets by improved primary processing as well as capital and market information (Myanmar, Thailand, Vietnam)	RAM + consultants 7 + staff + travel	For. admin., nat. coord.	35,850	

2.3	Establish teak-based forest user groups for the sustainable use of teak forest resources and agroforestry (Myanmar)	RAM + staff + travel	For. admin., nat. coord.	19,650	
2.4	Review and elaborate policy options to empower local communities and smallholders in planted teak and teak management, and agroforestry systems to support sustainable livelihood programs (Myanmar, Thailand)	RAM + consultant 8 + staff + travel	For. admin., nat. coord.	34,650	
3	Output 3:Regional and international collaboration, information sharing and knowledge management, networking, policy development and outreach on the sustainable management of teak forests, including use of teak genetic resources have been strengthened			236,400	19
3.1	Produce and disseminate outreach and training material on the conservation and sustainable management of teak forests and legal and sustainable supply chains in collaboration with research institutions, NGOs, and development partners to support regional forest policy development (regional scope)	RAM + consultant 9 + staff + travel	For. admin., nat. coord.	25,050	
3.2	Plan and organize two regional teak workshops to facilitate policy dialogue, information sharing and knowledge management, stakeholder consultations and help expand regional cooperation on sustainable management of teak forests and legal and sustainable supply chains (regional scope)	RAM and staff + additional 2 supporting staff + cost 100000 + travel	For. admin., nat. coord.	123,250	
3.3	Support and facilitate teak networking in the Mekong Sub-region in the context of TEAKNET and other regional cooperation frameworks to promote the conservation and sustainable management of teak forest resources, including exchange of genetic resources and legal and sustainable supply chains to facilitate transformational change through integration into national development programs for development of sustainable teak-based forest sector (regional scope)	RAM and staff + additional 1 supporting staff	For. admin., nat. coord.	18,050	
3.4	Support sharing lessons of the Greater Mekong Sub- region in promoting sustainable teak forest management and legal and sustainable supply chains at the 4th World Teak Conference (2019 or 2020) in Ghana for improved global teak	RAM and staff + additional 1 supporting staff + sponsorship 70000	For. admin., nat. coord.	70,050	

	collaboration				
4	ITTO management, monitoring and review			191,250	15
4.1	Activity support costs (ITTO)	Executing agency	EA	161,250	
4.2	Monitoring and review (ITTO)	Executing agency	EA	30,000	
5	Miscellaneous			155,900	13
5.1	Final report editing	RAM + EA	NAC	15,000	
5.2	3 ASC-meetings (venue, trav., accom.)	RAM	NAC	36,000	
5.3	Office operating costs + equip + vehicles (rent)	RAM	NAC	43,000	
5.4	Literature, publications, webpage, outreach activities & materials	RAM	NAC	50,000	
5.5	Contingency	EA		11,900	
	Grand Total			1,236,250	100

3.5 Assumptions, risks and sustainability

3.5.1 Assumptions and risks

The success of the Activity depends on the continued shared commitment and political will of the recipient countries and its stakeholders to support regional cooperation, improve the conservation and sustainable management of natural and planted teak forests and promote the legality of timber trade. That commitment and political will is reflected in several regional and national mechanisms, including the ASEAN cooperation program on agriculture and forestry, the mission statement of the Mekong River Commission, and the national forest policy frameworks of the recipient countries. Moreover, the participating countries are committed to and have ratified a number of international agreements and conventions related to environmental sustainability and sustainable forest management including the Post-2015 Development Agenda, the Aichi Biodiversity Targets, and the United Nations Millennium Development Goals. Those mechanisms are conducive to the conservation and sustainable management of teak forest resources and considerably lessen the risk of weakening the political commitment and will.

In addition, the achievement of the Activity's objective, outputs and activities depend on the following assumptions and risk mitigation measures related to them (table 7):

Table 7: Assumptions and risk mitigation measures

Assumption	Risk	Rating of risk	Mitigation measures
National and local governments in target countries stimulate stakeholders to participate actively in the Activity	National and local governments lack access to stakeholders	low	Stakeholder groups will be involved early on in activities reinforcing capacity building and financial benefits from sustainable forest management.
Forestry administrations will provide and/or recruit qualified staff for implementation, contribute data, information and maps on teak resources, support the establishment of pilot areas, including the consultation of local communities, and facilitate the implementation of multi-stakeholder workshops.	a) Limited capacity or reluctance/slowness by forestry institutions to actively participate in implementation measures b) Selected pilot areas do not have the capacity to sustain the foreseen forestry activities c) Reluctance by communities and stakeholders to endorse and participate in the activities	moderate	Government ownership and buy-in is a key implementation principle that will be propagated by the executing agency to ensure that the national institutions allocate sufficient staff and resources. Rapid forestry appraisals facilitate a careful, participatory selection of the pilot areas to ensure its availability and suitability. Strong community outreach and consideration of socio-cultural aspects will ensure that the rights of stakeholders are preserved and duties defined, specifically through demonstrative events that will contribute to mitigating the risk and overcoming skepticism.
Stakeholders are open to adopting new technologies and send staff for training	Stakeholders are reluctant to participate in training program	low	Training can be tailored to the needs and training incentives ensure a critical mass of trainees
Vested interests do not prohibit legal harvest and trade from controlled sources	Illegal forestry activities are common and cannot be overcome	moderate	Careful, participatory selection of the pilot areas to ensure their availability and suitability.
Qualified staff from the recipient countries participate in joint research activities	Researchers are reluctant to participate in joint research activities	Low	Incentives will be created (e.g. travel, publications) that will promote researchers' participation
Outreach and promotional materials are actively used by teak stakeholders.	Lack of interest by stakeholders	low	Outreach and promotional materials will be designed and developed according to the needs of the stakeholders

3.5.2 Sustainability

The sustainability of the Activity will be achieved through the following measures:

Social sustainability: The Activity's approach is based on the active participation of rural populations through the promotion of local know-how and technical workshops. The dialogue on the collaborative management of natural resources will ensure exchanges between the populations, thus increasing the social sustainability of the actions.

Environmental sustainability: The Activity aims at increasing the environmental sustainability of forest resources and the environmental capital of people's livelihoods by strengthening the resilience of the teak ecosystems to threats and crises by droughts and the harmful effects of climate change.

Technical sustainability: Technical publications on Activity outputs will capture the methodology of the activities and serve as a reference for upscaling and future interventions in other countries. The training material of the capacity building events can be integrated into the curricula of academic institutions and forestry schools. The targeted selection of pilot areas will enable the concerned stakeholders to further pursue the lessons learned after the completion of the Activity. The training of trainers and service providers, who will be engaged in capacity building events, will be able to continue to train and provide services in other contexts and other countries;

Political and institutional sustainability: The Activity's sustainability will rely on the integration of the outputs into the existing national forest management strategies, policies and programmes. The capacity building component will enable local partners' institutions to sustain their technical and managerial skill in conservation and sustainable management of teak forest resources within ongoing forest management activities at local and national level.

The Activity fits into the national forest policies and programmes of the recipient countries and contributes to achieving access to adequate information, capacity building and sustainable forest resources management. The Activity contributes to the implementation of the *Global Plan of Action for the Conservation, Sustainable Use and Development of Forest Genetic Resources* (FAO 2013) and will particularly strengthen the conservation and sustainable management of natural and planted teak forests in the Greater Mekong Sub-region, including pilot activities on community-based forest management.

Financial and economic sustainability: Financial sustainability will be promoted through marketing support for sustainably produced teak, particularly targeted for smallholders and rural communities. The Activity will introduce best-management practices, which will contribute to the economic development of the target beneficiaries. It will support long-term income-generating activities, which will strengthen the economic viability of the local population.

4 Implementation Arrangements

4.1 Organization structure and stakeholder involvement mechanisms

4.1.1 Executing agency and partners

The ITTO-Secretariat will act as Executing Agency with overall responsibility for Activity No 4 of the ITTO Biennial Work Program (BWP) for the years 2018-2019. ITTO has received an endorsement for the implementation of the Activity by the national forestry agencies of all participating countries. The ITTO-Secretariat will provide guidance and policy support in cooperation with the Activity Steering Committee, recruit the Regional Activity Manager (RAM), and conduct monitoring and review of the activities. ITTO will provide advisory services and technical expertise to the Activity Management Team (AMT) in managing the Activity and the consultants in the implementation of activities on the ground. ITTO will also dedicate its professional staff to work together with the RAM in preparing and writing the Activity's reports. ITTO will also work in coordination with TEAKNET, IUFRO, FAO and the host country in organizing the 4th World Teak Conference.

The national partner agencies for the implementation of the Activity are the forestry administrations of each recipient country supported by national research and affiliated commercial institutions. Each country will appoint a National Activity Coordinator (NAC) in cooperation with the Executing Agency (5 persons).

Partners in implementing the Activity, in particular for the planning and implementation of research and development projects, capacity building events and activities related to forest certification and the legality of wood supply, will be APFORGEN and TEAKNET, both of which are international research and development networks, non-governmental organizations such as RECOFTC and WWF-Laos and development partners such as GIZ-Bangkok, EFI, DFID, JICA and GERES.

4.1.2 Activity management team

The Activity management team consists of the Regional Activity Manager (RAM), and five National Activity Coordinators to execute and coordinate activities in the recipient countries. The following organigram explains the organizational structure and the interactions between the executing agency, activity steering committee, and the activity management team.

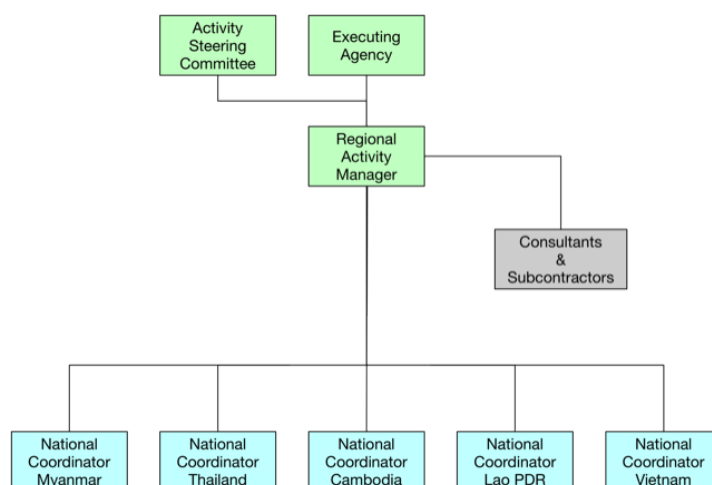


Figure 2: Organizational structure of the activity management team

The Regional Activity Manager (RAM) will support the executing agency in overall implementation of the Activity and organize the meetings of the Activity Steering Committee. He/she will be responsible for submitting to the Executing Agency the inception report, the progress reports, and the completion report. The RAM will also compile and endorse the financial reports received by the national activity coordinators and submit consolidated financial reports to the Executing Agency. Format and schedules of reporting will be decided upon consultation with the BMEL.

The activity management team will develop and adjust the annual national work plans, draft Terms of Reference for consultants and contractors, identify and recruit personnel, consultants and external supporters, supervise and control the quality of their work, and facilitate the implementation of activities.

External supporters are international and national academic and research organizations, commercial forest nurseries, forestry training institutes and representatives which will be recruited through consultancy or service contracts. APFORGEN, the Kasetsart University and the Forest Research Institute Yezin will mainly cover Output 1. RECOFTC-Cambodia, the WWF-Laos, the Forest Industry Organization (FIO) Thailand, the Forest Research Institute Yezin and the Sim Forest Protection Management Board, Vietnam will organize and implement training events for smallholder forest management in teak plantations or agroforestry systems and teak roundwood processing, transport and marketing and conduct a value-chain analysis (Output 2). TEAKNET will be subcontracted to plan and organize two regional workshops, produce and disseminate outreach and training material, upgrade their webpage to communicate and disseminate findings and lessons learnt, and co-organize the World Teak Conference 2019 (Output 3).

Specific work packages may be subcontracted to selected other partners of the Activity, such as national universities, academic and research institutions, and training institutes to support the implementation of training events. The Terms of Reference for staff and consultants are provided in Annex 5.1 in a summary form based on which the detailed TOR are developed during the inception phase. Table 7 gives an overview of the consultants who will have to be recruited to perform services for the technical fields of each particular activity.

Table 8: Consultants to be recruited for the technical tasks (indicative)

Technical field	Scope	Ref. to Activity framework	Duration of assignment	Institution/Agency (Indicative)
Consultant 1: Conservation of teak genetic resources	Regional	Activity 1.3	2 months	APFORGEN
Consultant 2: Production of good-quality planting material	Regional	Activity 1.3	3 months	APFORGEN/ KASETSART
Consultant 3: New management system for natural teak forests	Regional	Activity 1.1	2 months	KASETSART, FRI Yezin,
Consultant 4: Legality, certification, sustainable supply chains, log tracking	National	Activity 1.2	2 months	RECOFTC or national institutions
Consultant 5: Field training in seed production, nursery management, silvicultural practices, stand management	National	Activity 2.1	3 months	RECOFTC, WWF, FIO, FRI Yezin, VAFS, Sim For. Prot. Mgmt Board
Consultant 6: Minimize harvesting loss, efficient transport and processing of teak roundwood	Regional	Activity 2.1	3 months	FIO, VAFS or national institutions
Consultant 7: Value chain analysis	Regional	Activity 2.2	2 months	KASETSART university, FRI Yezin, GIZ Bangkok
Consultant 8: Forestry policy	Regional	Activity 2.4		KASETSART

				university/RECOFTC
Consultant 9 + staff: Information management, outreach, World Teak Conference	Regional	Activity 3.1	1.5 months	TEAKNET
Total			35 months	

4.1.3 Activity steering committee

Upon recruitment of the Regional Activity Manager an Activity Steering Committee (ASC) will be established, the primary role of which is to oversee the implementation of the Activity, approve expenditures within the budget, review the activities that have been carried out, and review and propose changes in budgets and activities. The Activity Steering Committee monitors the overall strategic management of the Activity 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 ASC will comprise of representatives from the Executing Agency and the national partner agencies and the donor country (Germany). The RAM will act as Secretary of the ASC that will meet at the inception, during the mid-term, and at the end of the Activity.

In addition, a Technical Committee will be established to support the work of the Activity Steering Committee through a periodic review of the implementation of all activities geared to the achievement of the Activity's objective. The Technical Committee will be made up of technical team members of the national partner agencies and will meet twice a year in conjunction with Activity Steering Committee meetings or major events of the Activity such as regional workshops.

4.1.4 Stakeholder involvement mechanisms

In addition to the ASC, the Activity Management Team will collaborate with relevant stakeholders at regional, national and local levels through participatory processes and active dissemination of information on planned and implemented activities through outreach materials, and ITTO website. Stakeholder involvement mechanisms include established procedures that encourage the active participation of interested stakeholders and ensure access to all non-confidential information on the activities and outputs.

Each national forestry administration in the recipient countries will invite its teak development stakeholders in the training events and coordination meetings.

4.2 Reporting, review, monitoring and evaluation

a) Inception report

During the first quarter of the implementation of the Activity, the Regional Activity Manager will prepare an inception report for the first meeting of the ASC and the donor agency.

b) Technical reports

Consultants providing technical support services will provide mission reports and/or workshop reports according to ITTO guidelines, containing the main results, conclusions and recommendations for future actions. During Activity implementation, interim results of technical studies and outputs supported directly by the Activity will be reported and presented to Technical Committee meeting and Activity Steering Committee meeting to ensure the effective follow-up and evaluation of the achievements of intended outputs of the Activity. Technical reports will be submitted to the Regional Activity Manager who will forward the reports to the ITTO-Secretariat.

c) Progress reports

Progress reports are submitted in accordance with the “ITTO Manual for Project Monitoring, Review and Evaluation” and BMEL standard reporting also. The National Activity Coordinators of each recipient country will monitor the progress of the Activity and report to the Regional Activity Manager in a regular basis. The progress reports will be made available by the Regional Activity Manager to the ITTO-Secretariat

d) Completion Report

Upon conclusion of the Activity the Completion Report based on the standard format of ITTO and BMEL will be finalized within 3 months of the completion of the Activity and submitted to all recipient countries, and the ITTO-Secretariat. The Terminal Report will assess in a concise manner the extent to which the scheduled activities have been carried out, the outputs produced, the progress towards achievement of the outcomes and impact, and it will present recommendations for any future follow-up action arising from the Activity.

e) Monitoring visits

Monitoring visits by ITTO representatives may be fixed by the ITTO-Secretariat in consultation with the Regional Activity Manager. They should be planned to coincide with the date of the ASC meetings.

4.2.1 Dissemination of results

The Activity Management Team will disseminate results and lessons learnt through two regional workshops at the beginning and the end of the Activity. The first regional workshop will focus on the planning and implementation of research and development activities, while the second regional workshop will focus on the results and findings of the Activity and the ensuing policy recommendations. The participation of the representatives of the participating countries to and lessons learned from the World Teak Conference 2020 in Ghana will also be disseminated.

In addition, TEAKNET will regularly publish results and findings on their websites and in the TEAKNET Bulletin that is produced three times a year by the TEAKNET Secretariat and is accessible on the internet (www.teaknet.org). On national level the National Activity Coordinators will publish newspaper articles in the local press and printed copies of key output documents are distributed to potential beneficiaries.

4.2.2 Mainstreaming lessons learnt

The outputs of the Activity and lessons learnt will have implications on the global teak sector and will provide the basis for upscaling and replicating the findings in other teak growing countries. The lessons learnt will be disseminated to all ITTO members through outreach mechanisms such as regular reporting at Council/Committee sessions, the two regional teak workshops, and the World Teak Conference 2019 in Ghana. These activities will constitute high-level visibility events, in which decision makers can publicly make or renew commitments to the objectives pursued by the Activity and initiate changes in forest policy and legislation or the adoption of best management practices. In addition ITTO will publish targeted articles in the journal *Tropical Forest Update* during and after the completion of the Activity and issue a policy brief as an output of the second regional workshop.

5 Annex

5.1 Terms of reference of key personnel and consultants to be funded by the Activity

Position, qualification	Person-months, functions, responsibilities
<p style="text-align: center;">Regional Activity Manager (RAM)</p>	<p style="text-align: center;">36 months, full-time</p>
<ul style="list-style-type: none"> • Post graduate degree (MSc) in forestry or natural resources management • A minimum of 10 years working experience in natural resources management and proven experience in managing donor projects and budgets • Knowledge of institutional structures and proven leadership in team work • Proven team worker with coordination skills at international, national and local levels • Good knowledge of the environmental, political and social context of the Greater Mekong Sub-region • Fluency in spoken and written English 	<ul style="list-style-type: none"> • Take overall responsibility of activity planning and implementation at regional level and day-to-day activity management and administration; • Organize the activity inception phase, facilitate the set-up of the Activity Steering Committee and the Activity Management Team, organize and coordinate all logistic and organizational arrangements needed for successful activity take-off and implementation; • Facilitate the establishment and development of the national and international contacts needed for the successful implementation of the activity; • Closely coordinate implementation with ITTO, ASC, national activity coordinators and with other organizations (government, NGOs, local community networks) • Participate in ASC meetings and present activity outcomes, results and findings to the ASC members • Act as Secretary of the ASC, organize its meetings, compile and circulate documents and minutes • Hire and supervise all consultants and subcontractors needed for activity implementation and capacity building measures in cooperation with national activity coordinators • Coordinate, supervise and monitor the progress of technical and administrative activities, incl. consult. services • Assist in the organization of workshops, training events, and consultation processes • Provide guidance and supervision to staff, volunteers, experts and consultants and promote and foster a culture of knowledge generation, management, and sharing within the activity management team and other stakeholders • Support the regional and national policy dialogue on the conservation and sustainable management of teak forest resources to facilitate transformational change through integration into broader regional or national development programs • Supervise the preparation of 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 • Undertake national and international travel, as and when required • Develop and maintain good relations with the media and communication partners and ensure a smooth implementation of all communication work • Participate in training events in your field of expertise

Position, qualification	Person-months, functions, responsibilities
<p>Consultant 1: Legality, conservation of teak genetic resources (international)</p>	<p>2 months</p>
<ul style="list-style-type: none"> • Post-graduate degree (MSc.) in forestry, biology or plant genetics • A minimum of 5 years working experience in forest genetics or forest sciences; good knowledge of GIS, remote sensing and information technology is an advantage • Good understanding of natural forest management and genetic resources issues • Member of APFORGEN • Proven ability to work in teams with other experts • Good knowledge of the environmental, political and social context of the Greater Mekong Sub-region • Fluency in spoken and written English 	<ul style="list-style-type: none"> • Review and evaluate the measures undertaken to conserve teak genetic resources in Lao PDR, Myanmar and Thailand • Assess the need to establish new or expand existing seed production areas, seed orchards and/or international provenance/progeny trials to enhance the conservation of teak genetic resources in terms of quantity and quality • Document and digitize all measures for the conservation of teak genetic resources in a user-friendly, IT-supported databank • Compile all results and findings, incl. recommendations for follow-up actions, in a technical activity report in the English language to be submitted to the Regional Activity Manager. • Carry out all activities need in close cooperation with scientists in Lao PDR, Myanmar and Thailand. • Assist in the capacity building program for researchers, scientists and local communities, as and when required • Assist in other activities assigned by the Regional Activity Manager

<p>Consultant 2: Production of good-quality planting material (international)</p>	<p>3 months</p>
<ul style="list-style-type: none"> • Post-graduate degree (MSc) in forestry, biology or plant genetics • A minimum of 5 years working experience in forest genetics or forest sciences; • Good understanding of nursery management, tree improvement and forest management • Experience in capacity building and the implementation of training events • Member of APFORGEN • Proven ability to work in teams with other experts • Good knowledge of the environmental, political and social context of the Greater Mekong Sub-region • Fluency in spoken and written English 	<ul style="list-style-type: none"> • Develop quality standards for teak planting material on regional level according to existing schemes for the control of reproductive material (e.g. the OECD scheme on forest reproductive material) • Support the production of good-quality planting material and disseminate products to the participating countries upon request • Develop and implement a capacity building program for teak improvement and the mass propagation of quality forest reproductive material including public and private nurseries. • Compile all results and findings, incl. recommendations for follow-up actions, in a technical activity report in the English language to be submitted to the Regional Activity Manager. • Carry out all activities in close cooperation with scientists and researchers from participating countries • Assist in the capacity building program for researchers, scientists and local communities, as and when required • Assist in other activities assigned by the Regional Activity Manager

Position, qualification	Person-months, functions, responsibilities
Consultant 3: New management system for natural teak forests (international)	2 months
<ul style="list-style-type: none"> • Post-graduate degree (MSc) in forestry, silviculture or sustainable forest management • A minimum of 5 years working experience and good understanding of tropical forest silviculture, forest management or forest operations • Proven ability to work in teams with other experts • Good knowledge of the environmental, political and social context of the Greater Mekong Sub-region • Fluency in spoken and written English 	<ul style="list-style-type: none"> • Undertake a review of literature, reports and guidelines related to the Myanmar Selection System (MSS) and Modified Myanmar Selection System (MMSS) • Analyze, assess and evaluate opportunities and constraints to modify the current management system • Formulate in cooperation with scientists from Myanmar and Thailand a new management system for natural teak forests in the Mekong region that meet modern silvicultural and environmental standards. • Compile all results and findings, incl. recommendations for follow-up actions, in a technical activity report in the English language to be submitted to the Regional Activity Manager.

Consultant 4: Legality, certification, sustainable supply chains, log tracking (national)	2 months
<ul style="list-style-type: none"> • Post-graduate degree (MSc or PhD), forest industries, wood technology • A minimum of 5 years working experience and good understanding of tropical forest management, forest management and chain-of-custody certification, log tracking systems • Proven ability to work in teams with other experts • Good knowledge of the environmental, political and social context of the Greater Mekong Sub-region • Fluency in spoken and written English 	<ul style="list-style-type: none"> • Support in suitable pilot projects in Cambodia, Lao PDR, Myanmar, Thailand or Vietnam the process towards the implementation of a low-cost, voluntary certification scheme; • Support the establishment of a chain-of-custody of controlled legal sources according to e.g. the FSC Controlled Wood Standard or the PEFC Controlled Sources Standard, if applicable. • Establish a pragmatic log tracking system in these pilot projects, if applicable. • Assist in the capacity building program for researchers, scientists and local communities, as and when required • Compile all results and findings, incl. recommendations for follow-up actions, in a technical report in the English language to be submitted to the Regional Activity Manager.

Position, qualification	Person-months, functions, responsibilities
Consultant 5: Field training in silvicultural practices (national)	2.5 months
<ul style="list-style-type: none"> • University degree in forestry, forest management or related field • A minimum of 5 years working experience and good understanding of tropical forest silviculture and management, • Experience in planning, organizing and implementing training events for local communities • Proven ability to work in teams with other experts and to communicate with local communities • Good knowledge of the environmental, political and social context of the Greater Mekong Sub-region • Fluency in spoken and written English 	<ul style="list-style-type: none"> • Prepare a program for a five-days group training event, incl. classroom presentations/discussions and field demonstrations, that is tailored to the needs of rural communities and has the objective to improve silvicultural practices and forest management • Include in the training program the following subjects: seed production and nursery techniques, silvicultural practices and improved stand management. • Implement the training program once every year during the activity period (in total three times). • Compile all results and findings of each training event, incl. recommendations for follow-up actions, in a technical activity report in the English language to be submitted to the Regional Activity Manager.

Consultant 6: Field training in wood harvesting, transport and processing (national)	2.5 months
<ul style="list-style-type: none"> • University degree in forestry, forest management or wood technology • A minimum of 5 years working experience and good understanding of tropical forest silviculture and management, forest operations, wood harvesting, transport and technology • Experience in planning, organizing and implementing training events for local communities • Proven ability to work in teams with other experts and to communicate with local communities • Good knowledge of the environmental, political and social context of the Greater Mekong Sub-region • Fluency in spoken and written English 	<ul style="list-style-type: none"> • Prepare a program for a five-days group training, including classroom presentations/discussions and field demonstrations, that is tailored to the needs of rural communities and has the objective to improve efficiency, product quality and productivity • Include in the training program the following subjects: minimizing harvesting loss, efficient transport and processing of teak roundwood, equipment maintenance, waste disposal and storage of forest products, • Implement the training program once every year during the activity period (in total three times). • Compile all results and findings of each training event, incl. recommendations for follow-up actions, in a technical activity report in the English language to be submitted to the Regional Activity Manager.

Position, qualification	Person-months, functions, responsibilities
Consultant 7: Value chain analysis (international)	2 months
<ul style="list-style-type: none"> • Post-graduate degree (MSc or PhD) in forest or natural resources economics, wood processing business, finance, or closely related field. • A minimum of 10 years' progressive experience in forest economics, forest management, forest products or wood processing; • Strong understanding of forest industries and business, including understanding of financing options and private sector investment opportunities; • Good analytical and computation skills • Proven ability to work in teams with other experts • Good knowledge of the environmental, political and social context of the Greater Mekong Sub-region • Fluency in spoken and written English 	<ul style="list-style-type: none"> • Undertake a literature review and organize and participate in data collection on the teak timber market in Myanmar, Thailand and Vietnam, with particular reference on key products produced and marketed by local communities • Conduct an exemplary market chain analysis of key teak products produced and sold by local communities in order to understand the strengths, weaknesses, opportunities and threats of the local market taking into account harvesting, post-harvest processing, production and/or value addition, transport and logistics and storage facilities and trade. • Develop a prioritized set of recommendations for interventions to strengthen the market position of rural communities, and enhance their competitiveness. • Compile all results and findings, incl. recommendations for follow-up actions, in a technical activity report in the English language to be submitted to the Regional Activity Manager.

Consultant 8: Forestry policy (Regional)	2 months
<ul style="list-style-type: none"> • Post-graduate degree (MSc or PhD) in forestry/environmental policy • A minimum of 10 years' progressive experience in global environmental issues/forest policy • Strong understanding of the global teak sector including forest management, forest industries and the timber market • Good knowledge of the environmental/forestry, political and social context of the Greater Mekong Sub-region • Fluency in spoken and written English 	<ul style="list-style-type: none"> • Undertake a literature review, and compile relevant reports and information from the outputs of the activities • Assist in producing policy briefs summarizing outcomes of the Activity in the English language in consultation with the Regional Activity Manager. • Formulate enabling policies and legal frameworks to support the establishment of community or small holders based teak forest management and agroforestry programs • Involve in policy dialogues/workshops organized by the Activity

Consultant 9: Information management (international)	5 months
<ul style="list-style-type: none"> • Post-graduate degree (MSc) in forestry, knowledge management, event organization, or information technology • A minimum of 10 years' progressive experience in information management, outreach, event organization forestry research and training at international level • Strong understanding of the global teak sector including forest management, forest industries and the timber market • Experience in managing information networks and webpages for the dissemination of information 	<ul style="list-style-type: none"> • Produce outreach and training material on the conservation and sustainable management of natural and planted teak forests in collaboration with national activity coordinators, research institutions, NGOs, and development partners • Support the dissemination of the outreach and training material through a user-friendly, easily accessible webpage to support regional forest policy development for the sustainable management of teak forests • Support the planning and organization of the World Teak Conference 2019 in Ghana including the

<ul style="list-style-type: none">• Proven ability to work in teams with other experts• Fluency in spoken and written English	participation of representatives from ITTO member states
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5.2 List of key stakeholders in the five participating countries

Thailand	
Name	Major function in the context of the Activity
Royal Forest Department (RFD), National Park, Wildlife and Plant Conservation Department (DNP)	<ul style="list-style-type: none"> • Recruitment of Regional Activity Manager • Teak conservation and teak improvement programs (in-situ & ex-situ), • Re-identification of existing clone archives and clonal seed orchards • Promote the use of improved genetic material from teak improvement programs • Support capacity building to address the needs on research, information sharing, training, workshops, technical conference, field visits • Promote cooperation and networking with other national and international organizations • Contribute to the establishment of a voluntary certification scheme for smallholder teak plantations
Forest Industry Organization (FIO)	<ul style="list-style-type: none"> • Support research efforts and capacity building for forest products harvesting, transport, minimizing harvesting losses, efficient wood processing using small-size timber. • Support the analysis of teak wood value chain and marketing to enhance legality and added value of exported teak products. • Support the establishment of research and demonstration plots to showcase suitable forest management and the benefits of using improved genetic materials
Kasetsart University, King Mongkut's University of Technology, North Bangkok, Chiangmai University	<ul style="list-style-type: none"> • Contribute and support research efforts and capacity building for silviculture, forest management, forest products harvesting, transport, minimizing harvesting losses, and efficient wood processing
Private plantation owners, Thai Timber Association, The Sawmills Association, Thai Plantation Farmers Cooperatives	<ul style="list-style-type: none"> • Contribute and support teak improvement programs (in-situ & ex-situ), • Contribute and support research efforts and capacity building for silviculture, forest management, forest products harvesting, transport, minimizing harvesting losses, and efficient wood processing

Myanmar	
Name	Major function in the context of the Activity
Forestry Department	<ul style="list-style-type: none"> • recruit National Activity Coordinator • review and re-assess existing seed production areas and establish new seed production areas • review and re-assess existing clonal seed orchards and establish new clonal seed orchards • organize and support access to good quality planting material • promote the use of improved genetic material from teak improvement programs • contribute to the development of guidelines for the national and international transport of quality planting materials • support capacity building on seed collection, storage and use of planting material, • promote cooperation and networking with other national and international organizations • contribute to the establishment of a voluntary certification scheme • review and adjust the Myanmar Selection System (MSS) to support the natural regeneration of teak forests • support forest law enforcement, good governance and trade for teak timber under the FLEGT VPA process and improve the traceability and transparency of the chain of custody.
Myanmar Timber Enterprise (MTE), Myanmar Forest Products Merchant Federation, Myanmar Arts and Crafts Association, Wood based products and furniture Association	<ul style="list-style-type: none"> • Support research efforts and capacity building for forest products harvesting, transport, minimizing harvesting losses, efficient wood processing using small-size timber. • Support the analysis of teak wood value chain and marketing to enhance legality and added value of exported teak products.
Forest Research Institute (FRI), Yezin	<ul style="list-style-type: none"> • Contribute and support research efforts and capacity building for silviculture, forest management, forest products harvesting, transport, minimizing harvesting losses, and efficient wood processing • Contribute to the development of guidelines for the national and international transport of quality planting material
Private plantation owners (e.g. Royal Tree Services), Sin Ma furniture factory, Shwe Tha Pyay furniture factory	<ul style="list-style-type: none"> • Contribute and support research efforts and capacity building for silviculture, forest management, forest products harvesting, transport, minimizing harvesting losses, and efficient wood processing
Non-governmental organizations (e.g. FREDA, MFA, ECCDI)	<ul style="list-style-type: none"> • Contribute to and support work in forest conservation and management

Cambodia	
Name	Major function in the context of the Activity
Forestry Administration	<ul style="list-style-type: none"> • Recruitment of National Activity Coordinator • Promote the use of improved genetic material from teak improvement programs • Support the import and use of improved teak planting material • Support capacity building to address the needs on research, information sharing, training, workshops, technical conference, field visits • Promote cooperation and networking with other national and international organizations • Contribute to the establishment of a voluntary certification scheme for smallholder teak plantations
Institute of Forest and Wildlife Research and Development, Royal University of Agriculture	<ul style="list-style-type: none"> • Contribute and support research efforts and capacity building for silviculture, forest management, forest products harvesting, transport, minimizing harvesting losses, and efficient wood processing • Support the establishment of research and demonstration plots to showcase suitable forest management and the benefits of using improved genetic materials • Support the analysis of teak wood value chain and marketing to enhance legality and added value of exported teak products
Private plantation owners (e.g. Grandis Timber)	<ul style="list-style-type: none"> • Support the establishment of research and demonstration plots to showcase suitable forest management and the benefits of using improved genetic materials • Contribute to the establishment of a voluntary certification scheme for smallholder teak plantations • Develop and operate teak nurseries for seed production; • Contribute and support research efforts and capacity building for silviculture, forest management, forest products harvesting, transport, minimizing harvesting losses, and efficient wood processing

Lao PDR	
Name	Major function in the context of the Activity
Forestry Department	<ul style="list-style-type: none"> • Recruit National Activity Coordinator • Promote the import and use of improved planting material from teak improvement programs • Support capacity building to address research needs on genetic conservation, tree improvement programs, silviculture and management of teak plantations, • Support the establishment of research and demonstration plots to showcase suitable forest management and the benefits of using improved genetic materials • Promote cooperation and networking with other national and international organizations • Contribute to the establishment of a voluntary certification scheme for smallholder teak plantations
National Agriculture and Forestry Research Institute (NAFRI), National University of Laos (NUoL)	<ul style="list-style-type: none"> • Contribute and support research efforts and capacity building for silviculture, forest management, forest products harvesting, transport, minimizing harvesting losses, and efficient wood processing • Support the establishment of research and demonstration plots to showcase suitable forest management and the benefits of using improved genetic materials • Support the analysis of teak wood value chain and marketing to enhance legality and added value of exported teak products
WWF Laos Private plantation owners	<ul style="list-style-type: none"> • Contribute and support research efforts and capacity building for silviculture, forest management, forest products harvesting, transport, minimizing harvesting losses, and efficient wood processing • Support the establishment of research and demonstration plots to showcase best-practice forest management and the benefits of using improved genetic materials • Contribute to the establishment of a voluntary certification scheme for smallholder teak plantations • Develop and operate teak nurseries for seed production;

Vietnam	
Name	Major function in the context of the Activity
Administration of Forestry Department of Agriculture and Rural Development of Son La Province (DARD Son La)	<ul style="list-style-type: none"> • recruit National Activity Coordinator • establish links across the supply chain between teak wood processors in Viet Nam and teak growers in the Mekong region • establish links with smallholders who manage teak plantation in Son La province for collaboration in research on tree improvement and plantation management • support sustainable forest management for existing teak plantations and CoC certification for the companies who produce and export teak wood products • promote the use of improved genetic material from teak improvement programs • organize and support access to good quality planting material, incl. through import from other countries • promote cooperation and networking with other national and international organizations • contribute to the establishment of a voluntary forest management certification scheme • support forest law enforcement, good governance and trade for teak timber under the FLEGT VPA process and improve the traceability and transparency of the chain of custody.
Vietnam Forestry Cooperation (VINAFOR)	<ul style="list-style-type: none"> • selection and maintenance of mother trees and seed production areas in existing plantations in Southeast and Central Highlands • support research efforts and capacity building for forest products harvesting, transport, minimizing harvesting losses, efficient wood processing using small-size timber. • Support the analysis of teak wood value chain and marketing to enhance legality and added value of exported teak products.
Vietnamese Academy of Forest Sciences (VAFS)	<ul style="list-style-type: none"> • Contribute to and support in-situ and ex-situ conservation measures (e.g. selection of mother trees, identification of plus trees and seed production areas, progeny tests, clonal tests, establishment of seed orchards). • Contribute and support research efforts and capacity building for nursery operations, silviculture, site classification, forest management, forest products harvesting, transport, minimizing harvesting losses, and efficient wood processing • Conduct research about using teak timber for furniture making for domestic and export market, particularly using small dimension logs from plantations.

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