REPUBLIC OF THE UNION OF MYANMAR

NATIONAL EXPORT STRATEGY

FORESTRY PRODUCTS

SECTOR STRATEGY 2015-2019

Myanmar Ministry of Commerce

International Trade Centre

The National Export Strategy (NES) of Myanmar is an official document of the Government of the Republic of the Union of Myanmar.

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ACRONYMS

ASEAN	Association of South-East Asian Nations
DoA	Department of Agriculture
CVT	Center for Vocational Training
EU	European Union
FD	Forest Department
FDI	Foreign Direct Investment
FLEGT	Forest Law Enforcement, Governance and Trade
GDP	Gross Domestic Product
HS	Harmonized System
ITC	International Trade Centre
MFCC	Myanmar Forest Certification Committee
MNPED	Ministry of National Planning and Economic Development
MoAI	Ministry of Agriculture and Irrigation
MoC	Ministry of Commerce
MOECAF	Ministry of Environmental Conservation and Forestry
MoFR	Ministry of Finance and Revenue
MoI	Ministry of Industry
MoLESS	Ministry of Labour, Employment and Social Security
MoST	Ministry of Science and Technology
MPCS	Myanmar Pest Control Service
MSS	Myanmar Selection System
MTDC	Myanmar Trade Development Committee
MTE	Myanma Timber Enterprise
MTMA	Myanmar Timber Merchants' Association
NES	National Export Strategy
NGO	Non-Governmental Organization
PoA	Plan of Action
R&D	Research & Development
TSI	Trade Support Institution
TSN	Trade Support Network
UMFCCI	Union of Myanmar Federation of Chambers of Commerce and Industry
VPA	Voluntary Partnership Agreement

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EXECUTIVE SUMMARY

The forestry products sector is a major contributor to jobs and exports in Myanmar, while also displaying significant potential for diversification and value addition by making improvements across the sector's export value chain. The forestry products sector is significant to rural communities (from planters to users of resources) and forms the basis for energy sources. The sector's 1% contribution to the national gross domestic product (GDP) understates the importance of its socioeconomic contribution, which represents 47.9% of total land, including 3.1% of primary forest. The country's forestry resources represent a significant source of energy supply for rural communities – firewood and charcoal accounting for approximately 70% of total fuel consumption in 2010[1] – and include one of the world's leading forests of teak.

CURRENT CONTEXT

The forestry products sector provides goods and services for domestic consumption as well as export markets and constituted around 1% of national GDP annually over the last decade. It is a promising source of growth and could become a strong export sector, as confirmed by its significant competitive advantage. Log harvesting and exporting by the private sector have been banned since 1993, although the private sector is now permitted to work in cooperation with the Myanma Timber Enterprise (MTE) for exporting value added, semi-processed wood products.

There are currently around 100 wood-based industries in Myanmar. According to the Myanmar Timber Merchants' Association (MTMA), the wood products industry is composed of 258 sawmills, nine plywood & veneer mills, 1,497 recutting mills and 1,588 small production units. In addition, under the state-owned MTE, the industries for the manufacture of value added wood products include five furniture factories, five plywood factories, two moulding factories and one flooring & moulding factory.

1. Htun, K. (2009). Myanmar forestry outlook study. Asia-Pacific Forestry Sector Outlook Study II Working Paper Series, Working Paper No. APFSOS II/WP/2009/07. Bangkok; FAO.

Very little transformation occurs in Myanmar and higher value added wood-based products such as finger joint panels, mouldings, furniture, plywood and veneer remain largely underdeveloped, accounting for only a minor share of the sector's exports.

The production techniques applied in the forestry products sector generally present a low level of sophistication and technology, with dragging of logs done mainly by elephants. In addition, most of Myanmar's wood-based businesses are operating as low-tech industries such as sawmills. The sector also suffers from inadequate electricity supply, lows level of foreign direct investment (FDI) and a general lack of adequate investment in capital and technology. This is in part connected to the uncertainty of acquiring an adequate and steady flow of raw materials. Private investment is also significantly affected by difficulties in accessing finance – resulting in businesses self-financing their activities with limited investment capacity – and limited access to insurance services.

Moreover, Myanmar's forestry certification system is not recognized internationally. Initiatives related to the adoption of a recognized certification system are presently being discussed in order to allow domestic products to penetrate international markets; in particular the Voluntary Partnership Agreement (VPA) for the European Union (EU) Forest Law Enforcement, Governance and Trade (FLEGT).

EXPORT PERFORMANCE

The broader sector of 'wood and articles of wood' (Harmonized System (HS) 44) is Myanmar's second largest export heading after mineral fuels, oils and distillation products, accounting for 12% of the country's

exports in 2012 with an exported value of US$1.2 billion.[2] Internationally, Myanmar remains a minor player, ranking 26 in world exports with a 1% market share, despite an annual increase of 7% in world market share and an annual growth rate for exports of 13% in value between 2008 and 2012.

Myanmar's exported forestry products consist mainly of tropical hardwood logs (accounting for 44% of Myanmar's wood exports) and non-coniferous logs (42%). Myanmar's share in world exports of tropical hardwood logs reached 35% in 2012 (US$0.5 billion in value), with a strong growth in value of 9% yearly between 2008 and 2012. Myanmar is also the world's largest exporter of non-coniferous logs, with a reported value of US$493 million worth exported in 2012, accounting for 12.8% of the world market. The country has outperformed the global annual growth of exports in value for this product with 19% growth over the period 2008-2012, compared with global export growth of 4%.

Myanmar also exports sawn or chipped wood, wood charcoal, plywood and veneered panels, shaped wood and veneer sheets, but these products remain largely underdeveloped, altogether representing an exported value of US$154 million in 2012. Other wood products with more value addition, such as furniture (exported value of US$8 million), pulp of wood (US$2 million) and paper (US$0.6 million), are still at an embryonic stage. Myanmar remains one of the only countries in the world to permit hardwood logs to be exported (with value addition taking place elsewhere). However, this situation is expected to change with a ban on the export of logs from 1 April 2014.

The forestry products sector is characterized by very low levels of product diversification, with export destinations remaining extremely concentrated. The main destinations for forestry products, and logs more particularly, are India and China. These two countries accounted for 58% and 26% respectively of the wood products exported by Myanmar in 2012.

The main issue faced by Myanmar's forestry products sector in the international market is its inability to comply with the standards and certification requirements of developed markets. Sustainable forest management certification and legality licensing are demanded worldwide.

2. Discrepancies in bilateral trade statistics for forest products have recently attracted attention as potential indicators of illegal trade practices, such as intentional underreporting or smuggling. When looking at the trade statistics of Myanmar's exports, it is important to note significant differences in data between international sources and national statistics. This report uses the 'mirror' trade statistics from ITC based on Comtrade data. Official data collected from MTMA, MTE or MNPED differ significantly from these figures.

OPTIONS FOR FUTURE DEVELOPMENT

In order to realize the export potential and increase the export competitiveness of the Myanmar forestry products sector, the following vision has been adopted:

> "Growth through sustainable innovation in harmony with a responsible forestry industry."

To achieve this vision, the strategy will reduce binding constraints on trade competitiveness and capitalize on strategic options identified for the Myanmar forestry products sector. The strategic orientations for the next five years aim at developing key markets in the short and medium terms for Myanmar forestry product exporters, and facilitating structural changes in the value chain to increase its efficiency and value generation.

The sector strategy vision will be achieved through the implementation of the Plan of Action (PoA) for the sector. This PoA revolves around four strategic objectives, each spelling out specific sets of activities intended to address both challenges and opportunities facing the forestry products sector in Myanmar:

- Improve the business environment
- Improve the reliability, pricing and quality of upstream supplies
- Improve the skills and capacity of the industry
- Safeguard the interests of rural communities and the sustainability of timber resources
- Promote non-timber products
- Improve international market share in value added products and (investment and trade) promotion of Myanmar forestry products
- Strengthen trade support institutions (TSIs) in the forestry products sector.

Strategic objectives for the forestry products sector

1. Streamline administrative rules and procedures and assure reliable upstream supplies
2. Improve the skills and capacity of the industry
3. Increase the sector's sustainability
4. Improve Myanmar's international market share in value added products, and promote trade and investment in Myanmar forestry products

ROAD MAP FOR SECTOR EXPORT DEVELOPMENT

The short-term market development of the forestry products sector will focus on selected products in such target destinations as the EU, the United States of America and the Middle East. In order to increase exports to these markets, Myanmar should adopt forest certification schemes – and more particularly the VPA and FLEGT for the European market – which are internationally recognized and overcome design and quality weaknesses. Another key target of the sector export development strategy, as defined by sector exporters, is to increase exports to the Republic of South Korea, Japan and other non-traditional Asian markets, which present vast opportunities for growth in value. More generally, Myanmar should look at reducing the sector's dependency on China by enforcing the log ban, drastically reducing semi-processed (sawn) wood products and seeking alternative markets.

In the medium term, the strategy will enable exporters to expand their export reach through the supply of new products to selected target markets, as well as the intensification of exports to traditional markets in South-East Asia. To achieve efficiency gains in the forestry products sector, the key structural changes to the value chain will include the following:

- Build technical skills to target higher value added and by-products market segments
- Develop a new product line of wood residues for alternative energy production
- Reduce the level of illegal logging practices, which are threatening the sustainability and image of the sector
- Promote stronger institutions to support the sector.

IMPLEMENTATION MANAGEMENT

The achievement of these ambitious targets will require continuous and coordinated efforts from all relevant private and public stakeholders as well as support from key financial and technical partners, and donors and investors. Several institutions are designated to play a leading role in the implementation of the sector PoA and bear the overall responsibility for successful execution of the strategy. They will be assisted by a range of support institutions that are active in the forestry products sector. Each institution mandated to support the export development of the sector is clearly identified in the strategy PoA. Moreover, the Myanmar Trade Development Committee (MTDC) and its Executive Secretariat will play a coordinating and monitoring role in the implementation of the forestry products strategy in the overall framework of the NES. In particular, the MTDC is tasked with coordinating the implementation of activities in order to optimize the allocation of both resources and efforts across the wide spectrum of stakeholders.

Box 1: Methodological note

The approach used by ITC in the strategy design process relies on a number of analytical elements such as value chain analysis, trade support network (TSN) analysis, problem tree, and strategic options selection, all of which form major building blocks of this sector export strategy document.

Value chain analysis: A comprehensive analysis of the sector's value chain is an integral part of the strategy development process. This analysis results in the identification of all players, processes and linkages within the sector. The process served as the basis for analysing the current performance of the value chain and for deliberating on options for the future development of the sector.

TSN analysis: The TSN comprises the support services available to the primary value chain players discussed above. It is comprised of policy institutions, trade support organizations, business services providers and civil society. An analysis of the quality of service delivery and constraints affecting the constituent TSIs is an important input to highlight gaps in service delivery relative to specific sector needs. A second analysis of TSIs assessed their *level of influence* (i.e. their ability to influence public policy and other development drivers in the country and therefore make things happen or change) and their *level of capacity* to respond to the sector's needs.

Problem tree analysis: The problem tree analysis used is based on the principles of root causes analysis. The problem tree provides a deeper understanding of *what* is causing the sector's constraints and *where* solution-seeking activities should be directed. As a critical step in the analytical phase of the sector's performance, the problem tree guides the design of realistic activities in the strategy's PoA.

Strategic orientations: The strategic options for the development of the sector are reflected in the future value chain, which is the result of consultations, surveys and analysis conducted as part of the sector strategy design process. The future perspective has two components:

- A market-related component involving identification of key markets in the short term and medium-to-long term for Myanmar exporters
- Structural changes to the value chain that result in either strengthening of linkages or introduction of new linkages.

Realistic and measurable PoA: The definition of recommendations and strategic directions for the development of the sector is essential to guide its development but is not enough. It is important to clearly define the actions to be implemented to stimulate growth. The development of a detailed action plan, defining which activities need to be undertaken by sector stakeholders, is necessary to the effective implementation of the strategy. An action plan, developed with the support of ITC, includes performance indicators to ensure effective monitoring and evaluation of the strategy's implementation.

INTRODUCTION

The analysis and strategy presented in this document for forestry products form an integral part of the NES of Myanmar. Apart from its significant contributions to income for rural communities, forestry products have also been the source of energy for rural communities cut off from electricity. The level of value addition to forestry resources in Myanmar remains woefully low and has resulted in rapid deforestation. The export development of the sector has mainly been oriented towards export to India and China for consumption or re-export. A few limited products are now reaching new target markets in the Arab region and the EU, in higher-priced segments of the market. The sector's future export development is currently limited owing to a variety of challenges ranging from provision of inputs to the ownership structure of production facilities.

This document presents the expectations of the private and public sectors for the improvement of the forestry products sector in Myanmar. Without concerted efforts to address critical issues and identified market development opportunities, the sector's potential will remain untapped instead of leveraging its important potential and capacity. The PoA of the strategy proposes realistic and achievable activities that will contribute to making forestry products a leading export sector, creating Myanmar products of quality and variety to meet growing global needs.

HISTORICAL OVERVIEW

The evolution of Myanmar's forestry products industry has been marked by Government centralization followed by the implementation of market-oriented economic policies that were put in place to further develop the sector. Compared with other countries in the Association of South-East Asian Nations (ASEAN) region, Myanmar's forestry products sector is still in its infancy, but it has significant growth prospects for the future.

Large-scale commercial logging developed in Myanmar during colonial British rule, starting in the mid-1800s. In response to the threat of deforesting teak forests, the British administration introduced a commercial forest management system in 1856. The forest management system then transformed into the Burma Selection System (now Myanmar Selection System (MSS)) designed to maintain a high yield of quality timber and enhance the natural regeneration of commercially valuable trees. After independence in 1948, foreign timber companies in Myanmar were nationalized and their timber business terminated.

The socialist era in Myanmar (1962–1988) considerably changed forest management with the adoption of growth-oriented targets without reference to local circumstances, and with expected increases in annual export earnings. Since the set targets were not based on the actual productivity of the forests as calculated under MSS, the forests were logged unsustainably. This included ignoring the 30-year felling cycle for extracting timber and replacing it with greatly shortened time horizons. During this period, all non-teak hardwood timber businesses were again nationalized and production from local private timber companies came to a halt.

In the 1970s, at the end of the socialist governance system, timber quickly became a principal source of fiscal revenue. The State Timber Board, the precursor of MTE, became the only state agency authorized to extract and market timber. The State Timber Board (and now the MTE) thus directly challenged the institutional authority of the Forest Department (FD), forcing foresters to permit overcutting to meet the Government's need for foreign exchange.[3] It is at this time that systematic teak plantation development commenced.

After the Myanmar Government began to adopt a market-oriented economic system in 1988, major changes again swept through the forestry products sector and private wood-based industries consequently started to grow after 1990. The increased involvement of private companies in

3. Woods, K. and Canby, K. (2011). *Baseline Study 4, Myanmar: Overview of Forest Law Enforcement, Governance and Trade*. Kuala Lumpur; European Union Forest Law Enforcement, Governance and Trade Action Plan in Asia.

the forestry products sector in the 1990s, together with major changes in regional politics and economics, subsequently transformed the forestry industry in Myanmar, helping the sector to develop further.

Since 1993, log harvesting and exporting by the private sector are banned, and the private sector is only permitted to export value added wood products in contract with MTE. MTE, the commercial arm of the Ministry of Environmental Conservation and Forestry (MoECAF), controls log harvesting and exports and carries out timber harvesting, milling, processing and marketing of timber products. The company is responsible for exporting teak and non-teak hardwoods in the form of logs or rough-sawn timber. The Myanmar Forest Products and Timber Merchants' Association (now MTMA) was established in 1993 with the aim of developing wood-based industries.

RECENT DEVELOPMENTS

Since the mid-2000s the Government has increasingly encouraged the domestic business community to engage in various resource extraction sectors. Private companies in Myanmar, together with foreign investors and in collaboration with MTMA and MTE, started to get more involved in timber trade.

With respect to economic sanctions, it appears that the targeted sanctions implemented by the EU on teak wood had only a modest effect on the sector since there were several easy ways to get around this problem. Exports transited through Malaysia or Singapore, where country of origin was changed to show that country before shipping on to Europe,[4] or exports were sent to neighbouring countries like China and India.

From 2011, MoECAF replaced the Ministry of Forestry, and it is now the institution responsible for forest management and environmental policies and protection. The main departments under MoECAF are the FD and MTE[5] (see figure 17).

Despite some attempts in the past to ban the export of logs, a further attempt has been made to ban the export of timber logs from 1 April 2014. The forestry products sector will be strongly impacted by this decision as the vast majority of the country's exports consist of logs. The ban is expected to promote sustainability of the forestry products sector and to stimulate high quality manufactured wood products. It also intends to encourage buyers of exported logs to invest in production facilities inside Myanmar. A major problem remains the interpretation of what constitutes sufficiently transformed production of wood products.

Looking at the international environment, and further to the lifting of economic sanctions by the United States and the EU, international institutions and governments seem to be more positive about engaging in the country's resource extraction industries, including forestry products and agriculture.[6]

4. Andréasson, G. (2008). *Evaluating the Effects of Economic Sanctions against Burma*. Sweden; Lund University.

5. Woods, K. and Canby, K. (2011). *Baseline Study 4, Myanmar: Overview of Forest Law Enforcement, Governance and Trade*. Kuala Lumpur; European Union Forest Law Enforcement, Governance and Trade Action Plan in Asia.

6. *Ibid*.

WHERE ARE WE NOW

CURRENT CONTEXT

Myanmar is endowed with one of the largest forest areas in the region. According to MoECAF, 48% (or 31,773,000 ha), of the country is still covered with forests, including 3.1% of primary forest. The country has one of the world's leading forests of teak. The forestry products sector provides goods and services for domestic consumption as well as export markets, and constituted around 1% of national GDP annually over the last decade.

PRODUCTION STRUCTURE

Looking at the production structure of the sector, it is important to highlight the fact that log harvesting and exporting by the private sector have been banned since 1993. However, the private sector is now allowed to work in cooperation with MTE for exporting value added, semi-processed wood products.

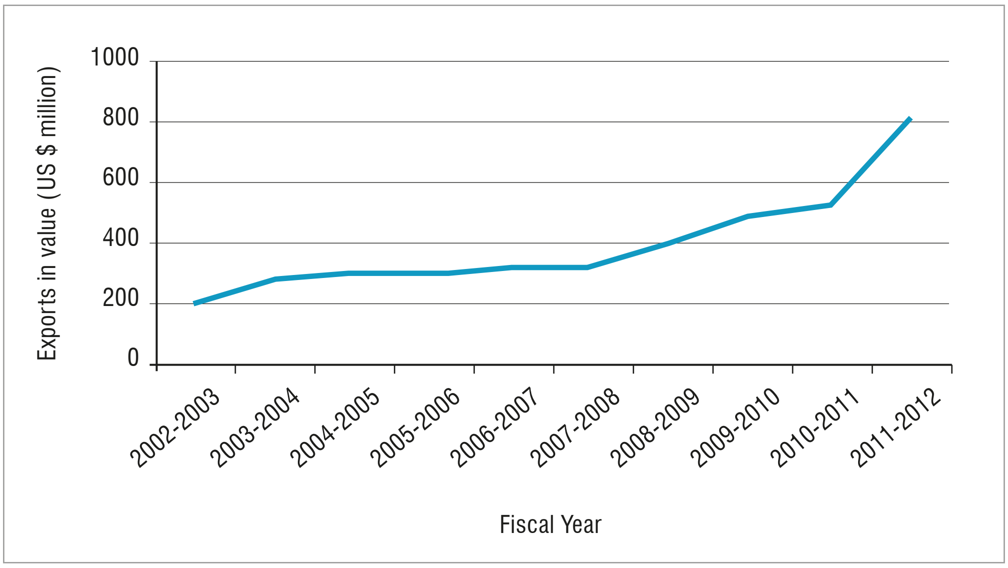
With the aim of developing wood-based industries and facilitating wood procurement for the private sector from Government, MTMA was established in 1993 to encourage production of value added wood products. Under the motivation of the Association, 383 individuals and 1,034 privately owned companies – involved in production, manufacturing and marketing activities – were registered as members in 2012. There are around 100 wood-based industries in Myanmar. According to MTMA, the wood products industry is composed of 258 sawmills, nine plywood & veneer mills, 1,497 recutting mills and 1,588 small production units.[7]

In addition, under the state-owned MTE, the wood-based industries for the manufacture of value added wood products include five furniture factories, five plywood factories, two moulding factories and one flooring and moulding factory. While MTE is wholly state-owned, it usually contracts companies to log concessions, transport and export on its behalf. The company must then share an agreed percentage of their profits from the exported timber with MTE – which acts as the income-earning logging arm of MoECAF – as well as pay for the logging concession granted to them. Since April 2014 and the ban on log exports, the private sector will be allowed – in cooperation with the MTE Wood-Based Industry Department – to export value added, semi-processed wood products only.

As illustrated in figure 1, yearly earnings of MTE have increased constantly over the past 10 years, indicating that the state-owned company has succeeded in achieving a significant increase through the years for its exports and local market revenues. Earnings from wood products exports have been multiplied by four over the last decade, exceeding US$ 800 million for the fiscal year 2011-2012.

7. Myanmar Timber Merchants Association (2012). *Guide Book for Timber Trade in Myanmar.*

Figure 1: *Yearly earnings from wood products exports of MTE, 2002-2012*



Source: Myanma Timber Enterprise (2012).

TECHNOLOGY AND CAPITAL USAGE

Pre-harvesting, harvesting and post-harvesting technologies in the forestry products sector are still low compared with other developing countries such as Malaysia or Viet Nam, causing higher wastage and lower value added production. The production techniques used present a low level of sophistication and technology, with the dragging of logs done mainly by elephants. Elephants carry out the majority of logging because they do the least damage to the forest and they offer minimum extraction costs. Also, the poor road infrastructure often does not allow vehicular access. MTE owns around 3,000 of the logging elephants, while another 2,000 are privately owned. In addition, most of Myanmar's wood-based businesses are operating as low-tech industries such as sawmills. The sector also suffers from inadequate electricity supply.

Underdevelopment of wood-based industries is largely due to the low level of FDI in the sector and inadequate investment in capital and technology. This is in part connected to the uncertainty of acquiring an adequate and steady flow of raw materials. Entrepreneurs are reluctant to inject huge investments in high-tech, capital-intensive industries, but keen to establish low-tech, labour-intensive industries such as sawmills, and to produce and export hardwood lumber (Htun, 2009). Private investment is also significantly affected by difficulties accessing finance, resulting in businesses self-financing their activities with limited investment capacity.

NATIONAL QUALITY INFRASTRUCTURE

One of the major issues faced by the sector lies in the fact that Myanmar does not have any internationally recognized certification standard, affecting local businesses willing to export wood products to high value markets in the United States, Europe and Japan. Local businesses are required to present documents verifying legality or certifying sustainability that cannot yet be delivered in Myanmar.

In order to tackle this issue, MoECAF has established the Myanmar Forest Certification Committee (MFCC) with the aim of developing national certification based on international certification. It acts as the national governing body to monitor future timber certification processes and activities in Myanmar. Since its establishment in 1998, it has been creating links with other timber certification bodies in the region on a bilateral basis, such as the Malaysian Timber Certification Committee and the Indonesian Eco-labelling Institute. However, independent third party monitoring and audit systems would likely be needed to augment existing systems in order to meet international standards.

Initiatives related to the adoption of a recognized certification system in order to allow domestic products to penetrate international markets are presently being discussed, in particular the VPA for EU FLEGT (see the section on sector development initiatives).

PRODUCTION

Myanmar has long remained one of the world's only countries with no prohibitions of any kind on log exports. The country provides coveted teak and other hardwood logs to the region and beyond. Currently, teak logs and hardwood logs are the main export item among wood and wood products. Very little transformation occurs in Myanmar and higher value added wood-based products such as finger joint panels, mouldings, furniture, plywood and veneer remain largely underdeveloped, accounting for only a minor share of the sector's exports. The situation is, however, expected to change with the 2014 ban on log exports.

The forestry products sector provides goods and services for domestic consumption as well as export markets. It is to be noted that very little information can be found about the domestic demand for these products, making it difficult to analyse the situation in depth. Nevertheless, as rural people – accounting for 75% of population – use wood for energy, we can state that fuelwood demand is likely far higher than official supplies. According to MTMA, Myanmar produces 1.4 million tons of teak and hardwood annually, including 0.6 million tons for local use. The 0.8 million tons remaining are exported, earning approximately US$400 million, or US$500 per ton, with teak being almost exclusively exported to foreign markets.

SOCIOECONOMIC CONTRIBUTIONS

Forest resources play a dominant role in improving the socioeconomic life of the people of the nation. The country is the world's prime supplier of natural teak (*Tectona grandis*), which is one of the pillars of the state economy.

Forests are, especially for poor people, major sources to generate basic needs and income. In Myanmar, inadequate electric power supply and limited provision of household fuel gas lead to continued use of fuelwood and charcoal (approximately 70% of the population's fuel consumption consisted of firewood and charcoal in 2010, while crude oil and natural gas accounted for 8% and 6%, respectively).[8]

Another important contribution of the forestry products sector is employment creation. Forest-related work, ranging from collecting fuelwood to producing logs (either legally or illegally), reduces unemployment or underemployment of rural families. In urban areas, sawmills, wood processing and other value added wood manufacturing, such as furniture making, absorb some of the labour force.[9]

Forestry resources are one of the most critical suppliers for the livelihood of the people and the national economy: 50%–60% of the population depends on forestry for their basic needs, and around 500,000 people are estimated to be directly employed in the industry.[10] In terms of wages, the country is lagging behind its regional neighbours with an average monthly wage of US$100 in Myanmar compared with US$500 in Malaysia, for example. The low levels of productivity of the sector are not reported by stakeholders to offset the low wages, so production in Myanmar remains uncompetitive.

In rural areas, where wood is the main source of energy with 88% of households depending on it for cooking and heating water,[11] the resource is particularly important. Wood energy is also used in cottage industries and large agro-industries in rural areas.

PRODUCT MAP FOR THE SECTOR

Most forestry products fall under the 'wood and articles of wood, wood charcoal' category (HS 44) with 'wood in the rough' (logs) being by far the main subsector for Myanmar's exports, as it represents 86% of wood products exports, excluding wood furniture. Other products under this category include sawn wood, charcoal, plywood, veneered panels and sheets, and shaped wood. The forestry products map is presented in figure 2.

The furniture category (HS94) is also of importance for domestic production as it offers promising prospects for export development: namely for teak, rattan and bamboo furniture. Other forestry products categories include pulp of wood (HS 47), and paper and paperboard, articles of pulp, paper and board (HS 48). Rattan and bamboo as well as other non-timber forest products also represent promising opportunities for the country.

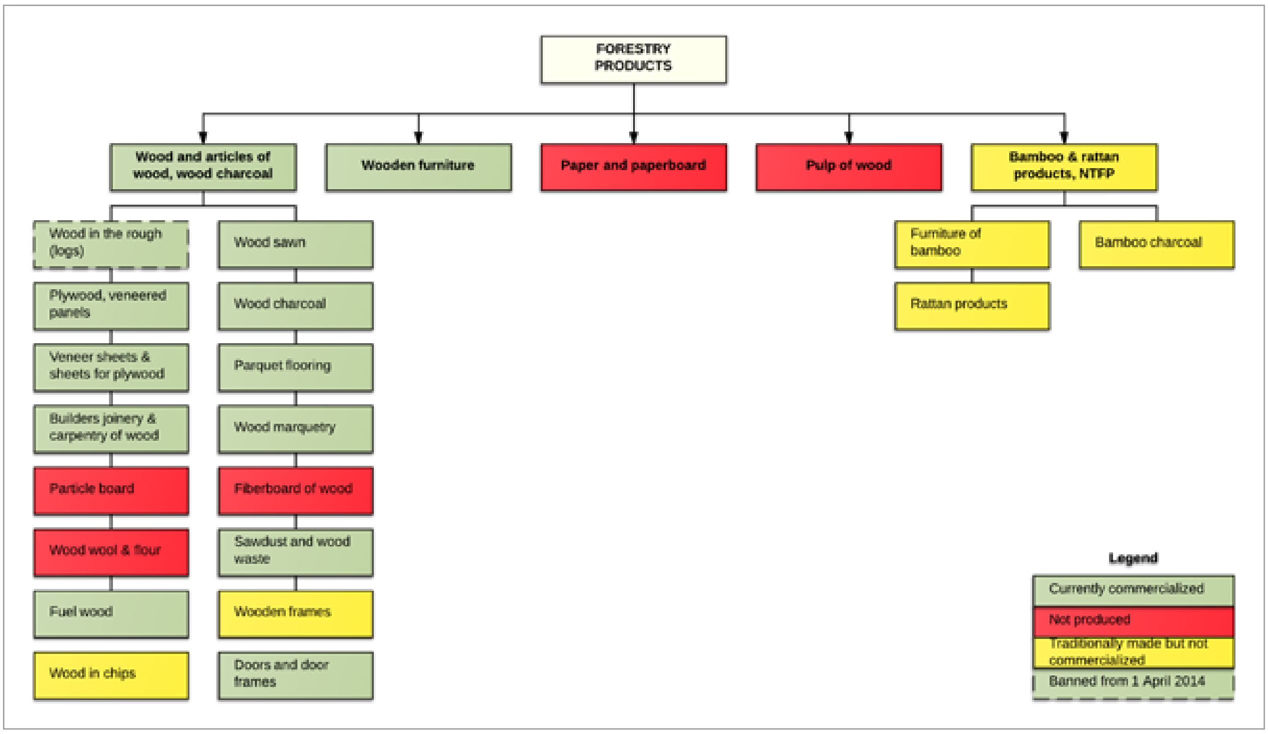
8. Htun, K. (2009). Myanmar forestry outlook study. Asia-Pacific Forestry Sector Outlook Study II Working Paper Series, Working Paper No. APFSOS II/WP/2009/07. Bangkok; FAO.

9. *Ibid*.

10. *Ibid*.

11. Mercy Corps (2011). *Myanmar Energy Poverty Survey*.

Figure 2: *Forestry products map*



VALUE CHAIN OPERATIONS

PRE-PRODUCTION AND INPUT SOURCING

The first step of the value chain is pre-production. In this stage land is prepared and rotations planned based on the MSS. Each year all trees of a merchantable girth are selected and girdled or marked. It is at this stage that the necessary financial and agricultural inputs are acquired by producers. The key actors at this stage are suppliers and the producers who commission their services. A number of service providers, including financial institutions, agronomists, land workers, equipment and machinery operators, and input providers, are essential at this stage. The FD is a key actor at this stage as it is responsible for the conservation and management of the forest.

HARVESTING

Selected and girdled or marked trees are then cut under the auspices of MTE and its Extraction Department, which is solely responsible for the harvesting of timber in Myanmar. MTE usually contracts private entities to log concessions on its behalf. Harvesting is done according to the FD national code of forest harvesting and other rules and regulations such as the Forest Law.

The transportation of felled trees is carried out by elephants in Myanmar, with around 5,000 animals used for this purpose. Elephants present several advantages according to MTE, in that they do the least damage to the forest and offer minimum extraction costs, and can overcome inadequate road infrastructure. In addition to elephants, the main inputs at this stage include machinery and tools, labour and trucks.

TRANSPORTATION OF LOGS

Logs are then transported from stump to depots and from depots either to sawmills or to factories for transformation. MTE also takes care of the transportation of logs and uses different modes of transport, the most commonly used being log rafting. This mode is environmentally friendly and implies limited costs. Others modes include transportation by Z-craft and by rail. Every movement or conversion of a log is recorded at both delivery point and acceptance point.

SAWMILLING OF TEAK AND HARDWOODS

MTE is also involved in wood processing together with the private sector under the Joint Production Scheme. Production activities are run by private companies in cooperation with MTE. MTE supplies private entities with raw logs, with the private entities free to perform production under their own arrangements. MTE also owns the main production inputs at this stage, which include machinery and the labour force. Sawmills produce various commodities such as flitches, planks, boards, decks, squares, post, baulks, etc. These semi-finished products are either exported or sold to wood-based factories.

LOCAL MARKETING AND DISTRIBUTION

Logs and sawn timber of teak and hardwood are then sold either to local market actors, including factories, or for exports. It is to be noted that MTE is the sole institution authorized to export logs from Myanmar. Export commodities are mainly teak round logs and hardwood logs, as well as teak and hardwood conversion, and other wood-based products to a lesser extent. For logs and sawn timber, different sales systems are used, including:

- Open tender sale, mainly for higher grade quality of teak logs
- Direct sales for inferior quality teak and hardwood logs
- Industrial raw supply sale for domestic industries.

MANUFACTURING

Myanmar supplies its teak and hardwood logs mainly to overseas industries in China, India and other regional countries, with local industries playing a minor role in the value chain. Of these local wood-based manufacturers, furniture factories, veneer factories and moulding factories are the most developed. In cooperation with the MTE Wood-Based Industry Department, the private sector is allowed to export value added, semi-processed wood products only.

Transformation of raw wood in Myanmar is costly because it relies heavily on imports for most inputs required, including machinery and equipment, among others. Electricity is provided through generators, which vastly increases production costs. The tax system in the country is generally perceived to discourage the export of finished products because there is a 10% tax on all items exported by the private sector.[12] Skilled workers are also required at this stage. As an initial move, MTE is inviting foreign investment in downstream activities in wood-based industries and giving support to local private investors.

12. Htun, K. (2009). Myanmar forestry outlook study. Asia-Pacific Forestry Sector Outlook Study II Working Paper Series, Working Paper No. APFSOS II/WP/2009/07. Bangkok; FAO.

Finished and semi-finished products include teak & hardwood plywood, hardwood veneer, furniture, doors and windows, and floorings and mouldings.

DISTRIBUTION TO MARKET

The final products end up either in the local retail market or in export markets. The vast majority of Myanmar exports, however, consist of teak and hardwood logs to be transformed in export markets. MTE is responsible for domestic distribution and supply. Some private sector entities also supply domestic clients.

Buyers and traders buy logs and other wood-based products and sell them to consumers / exporters. Various service providers such as wholesale commissioners, retailers, agents / distributors, and storage / transportation providers are relied upon at this stage. Brokers also play an important role, as they put together sourcing needs from all over the world.

Since Myanmar completely stopped exporting timber logs on 1 April 2014 to conserve its forests, and instead intends to export only high quality manufactured wood products, it aims to encourage investment in production facilities in Myanmar as well as reduce the extraction target of teak and other hardwoods significantly, starting from 2013. From this date, the private sector is only sector exporting finished products.

CURRENT VALUE CHAINS

Timber products are estimated to represent around 98% of the forestry products sector's total output. Rattan and non-timber products are estimated to represent around 2% of the forestry products sector's total output.

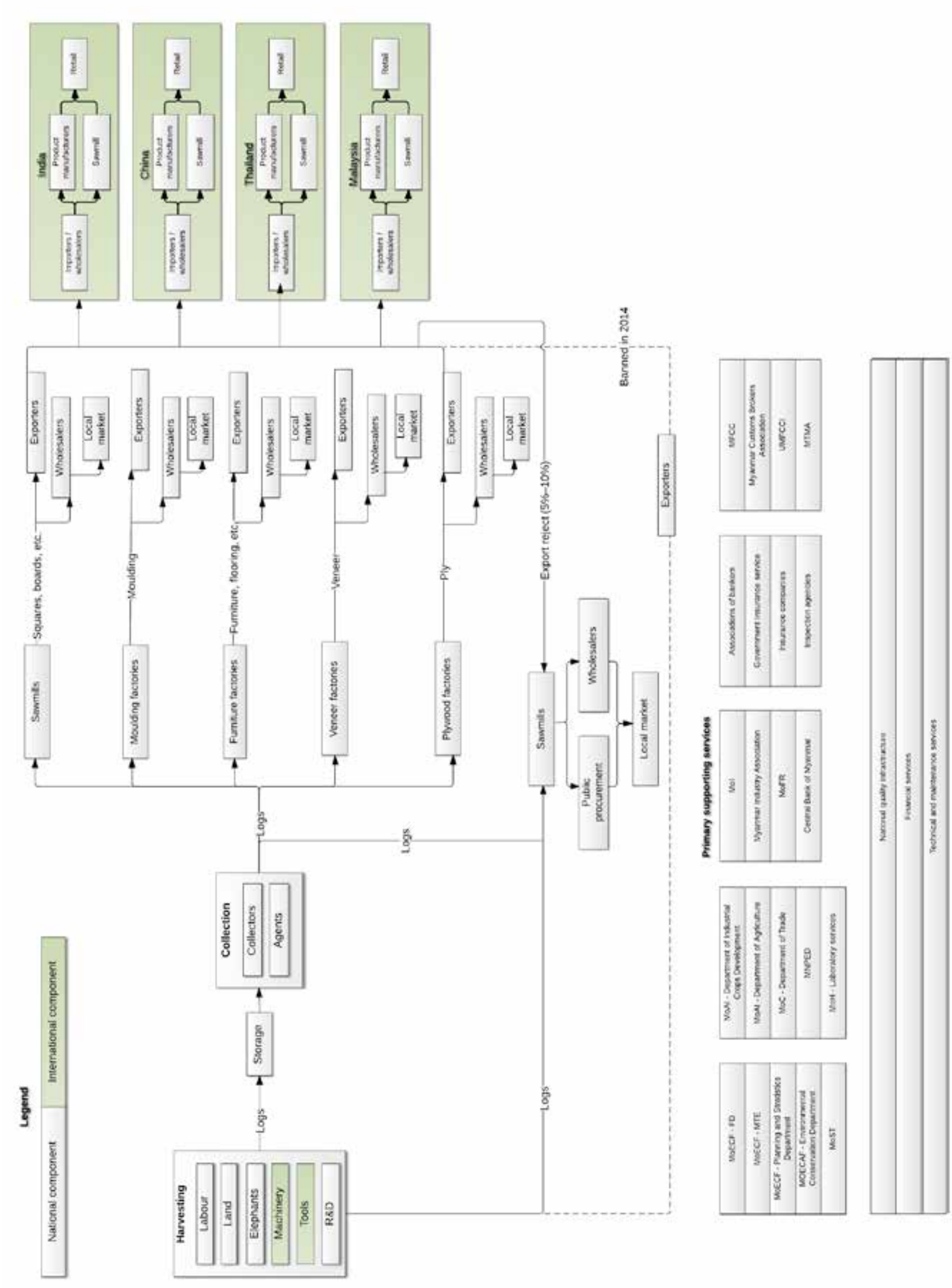
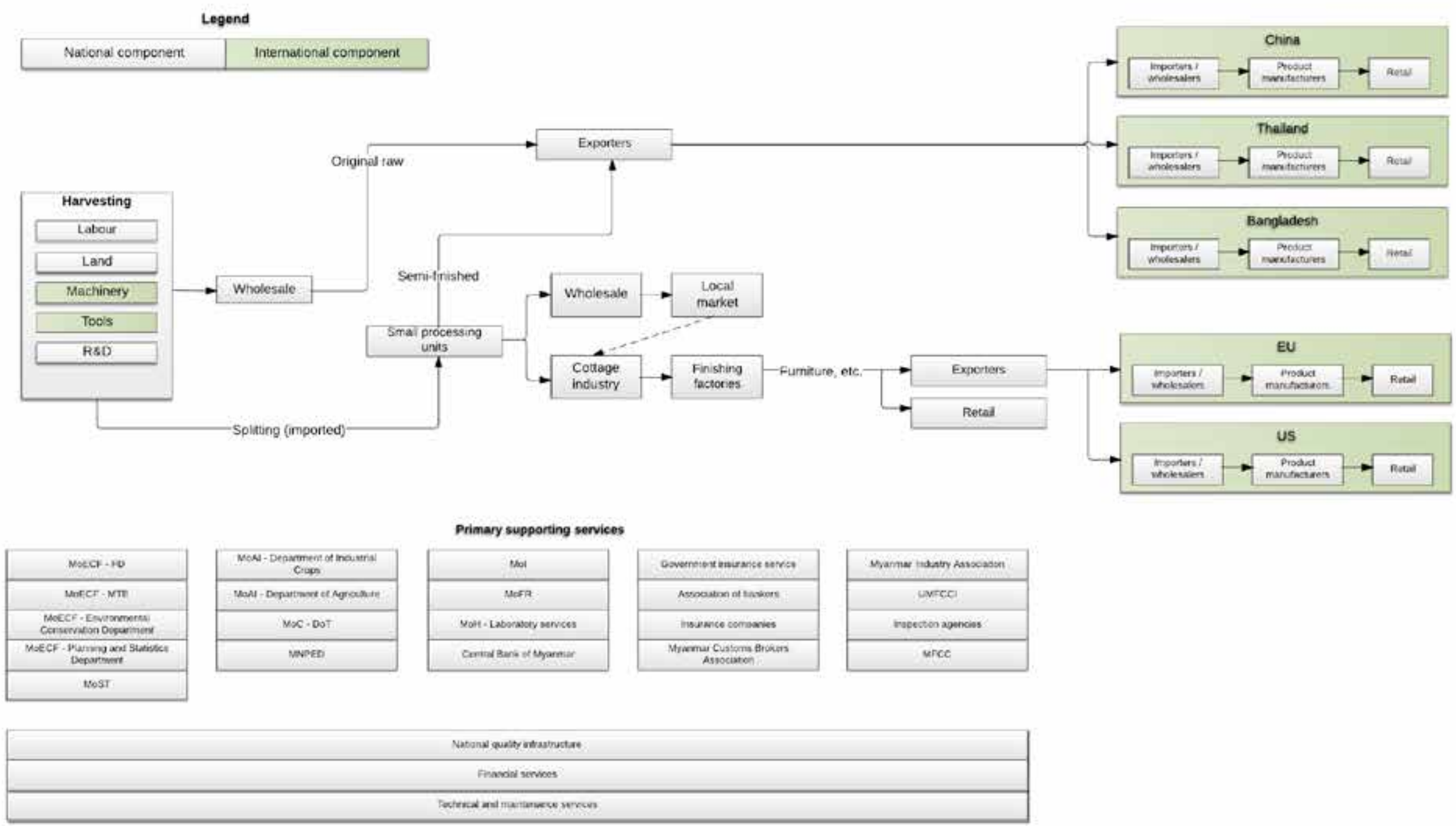


Figure 3: *Current value chain: forestry products*

Figure 4: *Current value chain - rattan and bamboo*



GLOBAL PERSPECTIVE

GLOBAL IMPORT TRENDS

The global market size for 'wood and articles of wood, wood charcoal'[13] (hereafter referred to as wood products) stood at US$ 124 billion in 2012, and grew on average by 3% yearly since 2008 (table 1). While China is the largest single importer with US$ 15 billion worth of wood products imported in 2012, Western markets constitute the main importing markets for these products, led by the EU member states (US$ 44 billion), the United States (US$ 14 billion) and Japan (US$ 12 billion). China and India appear to be the most dynamic markets for wood products, reporting annual growth in imports of 22% and 18% respectively between 2008 and 2012. Figure 5 plots the import value and growth of the world's largest markets for the consumption of wood products.

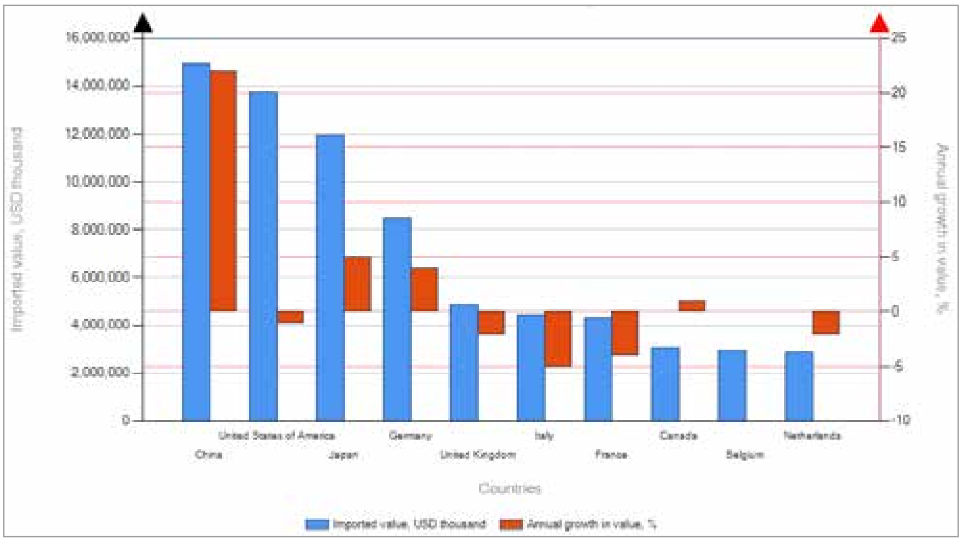
13. Defined as products under the heading HS44 of the Harmonized System.

Table 1: *Leading global importers of wood and articles of wood, wood charcoal (HS 44)*

World rank	Importers	Value imported in 2012 (US$ billions)	Annual growth in value 2008-2012 (%)	Annual growth in value 2011-2012 (%)	Share in world imports (%)	Average tariff (estimated) applied by the country (%)
	World	**123.9**	**3**	**-4**	**100.0**	
1	China	14.9	22	-6	12.2	5.6
2	United States	13.7	-1	15	11.2	0.6
3	Japan	11.9	5	-5	9.8	1.7
4	Germany	8.5	4	-20	5.9	0.4
5	United Kingdom	4.9	-2	-5	4.0	0.4
6	Italy	4.4	-5	-21	3.6	0.4
7	France	4.3	-4	-11	3.5	0.4
8	Canada	3.1	1	4	2.5	0.6
9	Belgium	3.0	0	-6	2.4	0.4
10	Netherlands	2.9	-2	-20	2.4	0.4

Source: ITC calculations based on United Nations Comtrade statistics.

Figure 5: *Major importers of wood products (HS44) in 2012*



Source: ITC calculations based on United Nations Comtrade statistics

Although world demand for wood products grew at an average annual rate of 3% in value between 2008 and 2012, the sector faced a sharp decline in world demand in 2012, with world imports decreasing by 4% in value. Because Myanmar's exported forestry products consist mainly of tropical hardwood logs (accounting for 44% of Myanmar's wood exports) and non-coniferous logs (42%), the analysis is therefore focused on global markets for these two products.

1) TROPICAL HARDWOOD LOGS (HS 440349)

India and China are by far the main importers of tropical hardwood logs, with world market shares of 40% and 36% respectively in 2012. The Indian market is more dynamic than the Chinese one, with an annual growth in value of its imports of 8% between 2011 and 2012, compared with a significant decline in Chinese demand of 12% during the same period.

2) NON-CONIFEROUS LOGS (HS 440399)

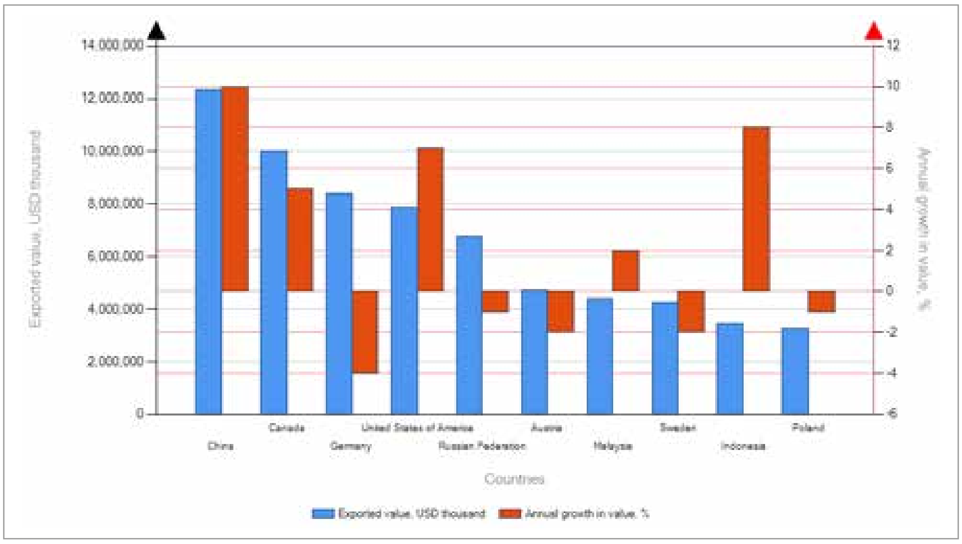
Similarly to the market for tropical hardwood logs, India and China account for around two-thirds of the world imports of non-coniferous logs, China alone accounting for 46% of world imports for this product in 2012 (US$2.6 billion in value). With US$1.2 billion worth of non-coniferous logs imported, Indian demand accounts for 21.4% of world imports. Both countries' import growth has outperformed the global trend, reporting a 10% growth of their imports for the period 2011-2012, compared with world import growth of 3% over the same period.

GLOBAL EXPORT TRENDS

China and Canada are the leading global exporters of wood products, followed by Germany and the United States. Together, these countries command around one-third of global markets. Malaysia and Indonesia are catching up with a growth rate of 2% and 8% per annum in value respectively between 2008 and 2012, while European countries have reported negative growth rates over the same period (figure 6).

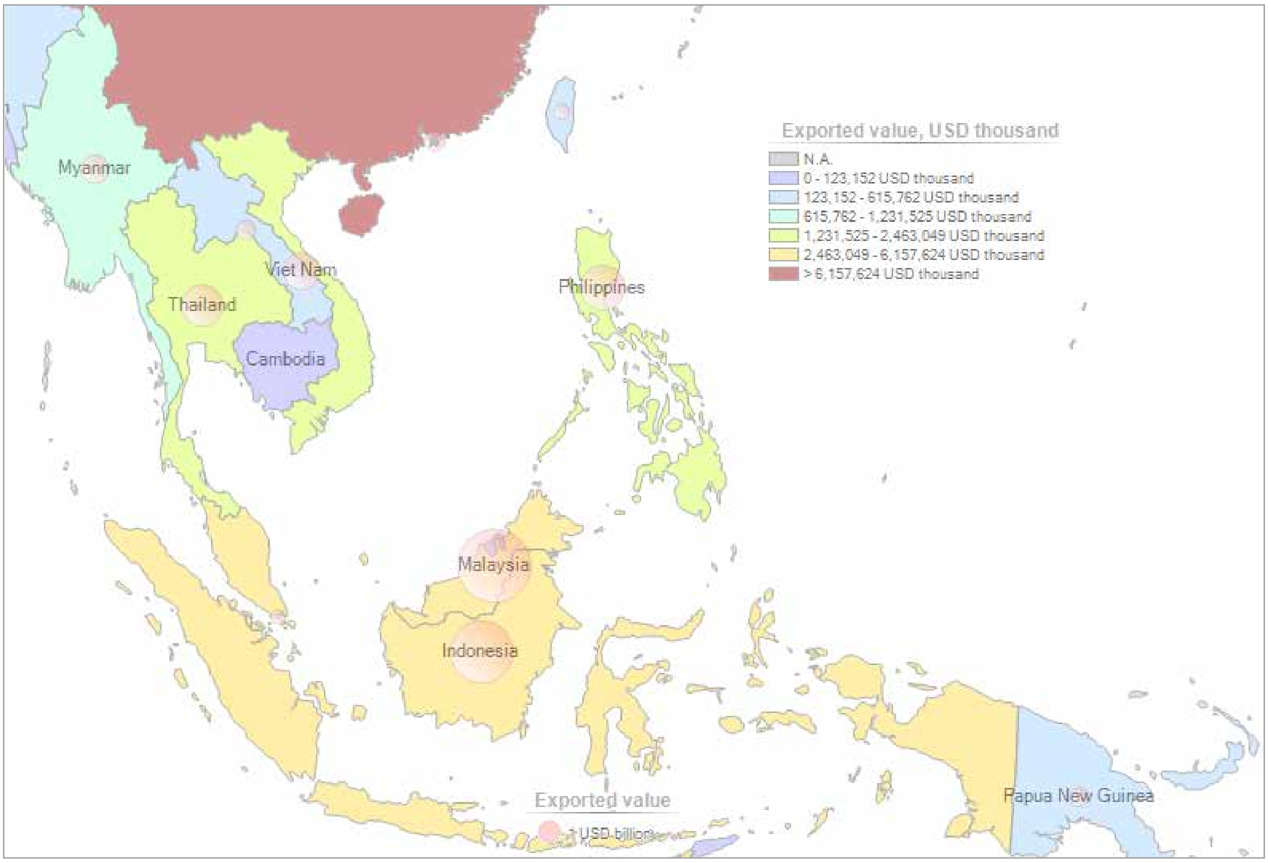
In the region, beyond Malaysia and Indonesia, the Philippines, Thailand and Viet Nam also aim to become major international actors, recording annual growth in wood products exports of 27%, 16% and 33% in value between 2008 and 2012, respectively (figure 7).

Figure 6: *Exporters of wood products (HS44) in 2012*



Source: ITC calculations based on United Nations Comtrade statistics.

Figure 7: *Main exporters of wood products in the ASEAN region*



Source: ITC calculations based on United Nations Comtrade statistics.

Table 2: *Leading global exporters of tropical hardwood logs (HS 440349)*

World rank	Exporters	Value exported in 2012 (US$ billions)	Annual growth in value 2008-2012 (%)	Annual growth in value 2011-2012 (%)	Share in world exports (%)
	World	1 464	-1	11	100.0
1	Myanmar	511	9	8	34.9
2	Cameroon	122	1	-14	8.3
3	Malaysia	111	-5	-15	7.6
4	Equatorial Guinea	97	51	-4	6.6
5	Papua New Guinea	62	-	77	4.2
6	Congo	58	-15	-37	3.9

Source: ITC calculations based on United Nations Comtrade statistics.

Looking more specifically at the global trends for exports of tropical hardwood logs (HS 440349) and non-coniferous logs (HS 440399), it appears that Myanmar is the main exporter for both products.

Table 3: *Leading global exporters of non-coniferous logs (HS 440399)*

World rank	Exporters	Value exported in 2012 (US$ millions)	Annual growth in value 2008-2012 (%)	Annual growth in value 2011-2012 (%)	Share in world exports (%)
	World	3 863	4	-8	100.0
1	Myanmar	493	19	25	12.8
2	Solomon Islands	410	18	7	10.6
3	Malaysia	368	0	-15	9.5
4	United States	347	-5	-16	9
5	Russian Federation	317	-17	-2	8.2

Source: ITC calculations based on United Nations Comtrade statistics.

1) TROPICAL HARDWOOD LOGS (HS 440349)

Myanmar's share in world exports for tropical hardwood logs reached 35% in 2012 (US$0.5 billion in value), with a strong growth in value of 9% yearly between 2008 and 2012. Cameroon, Malaysia and Equatorial Guinea are the next highest exporters in the world, with market shares of 8.3%, 7.6% and 6.6% respectively. The gap is widening between Myanmar and these markets, as the latter have reported negative growth of their exports of tropical hardwood logs in 2012 (table 2).

2) NON-CONIFEROUS LOGS (HS 440399)

Myanmar is also the world's largest exporter of non-coniferous logs, with a reported value of US$493 million exported in 2012, accounting for 12.8% of the world market. The country has outperformed the global annual growth of exports in value for this product with 19% growth over the period 2008-2012, compared with global export growth of 4%. Similarly to Myanmar, the Solomon Islands, the world's second largest exporter of this product, is reporting rapid growth of its exports (+18% between 2008 and 2012). Malaysia, the United States and the Russian Federation follow but with stagnant (Malaysia) or negative (United States, Russian Federation) growth rates on average during the past five years (table 3).

EXPORT PERFORMANCE

The broader sector of 'wood and articles of wood' (HS 44) is Myanmar's second largest export heading after mineral fuels, oils and distillation products, accounting for 12% of the country's exports in 2012 with an exported value of US$1.2 billion.[14] Internationally, Myanmar remains a minor player, ranking 26 in world exports with a 1% market share, despite an annual increase of 7% in world market share and an annual growth rate for exports of 13% in value between 2008 and 2012.

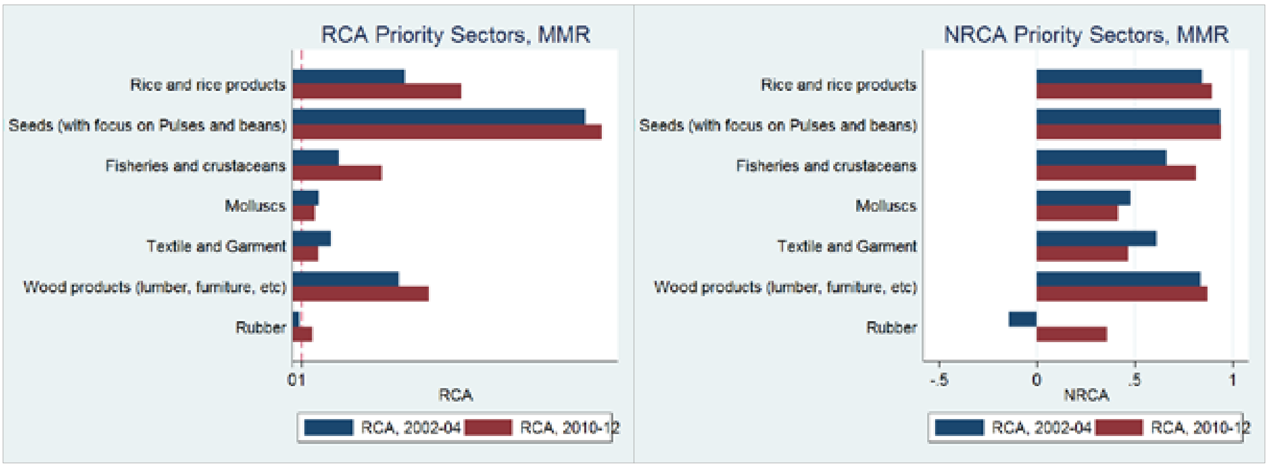
The forestry products sector represents a promising source of growth and could become a strong export sector, as confirmed by the significant competitive advantage presented in the revealed comparative advantage analysis.

Product diversification is extremely low in the sector, with 86% of the 'wood and articles of wood, and wood charcoal' (HS 44) exports consisting of 'wood in the rough' (HS 4403). Exports in this subsector exceeded US$1 billion in 2012, consisting almost exclusively of tropical hardwood logs (accounting for 43.5% of the sector's exports or US$0.5 billion in value) and non-coniferous logs (42% or US$0.4 billion).[15] As stated earlier, Myanmar is the foremost exporter of tropical hardwood logs and non-coniferous logs internationally and is a major exporter of teak, accounting for three-quarters of the world's market.

14. Discrepancies in bilateral trade statistics have recently attracted attention as potential indicators of illegal trade practices, such as intentional underreporting or smuggling. When looking at the statistics of Myanmar's exports, it is important to note significant differences in data between international sources and national statistics. This report uses the 'mirror' trade statistics from ITC based on Comtrade data. Official data collected from MTMA, MTE or MNPED differ significantly from these figures.

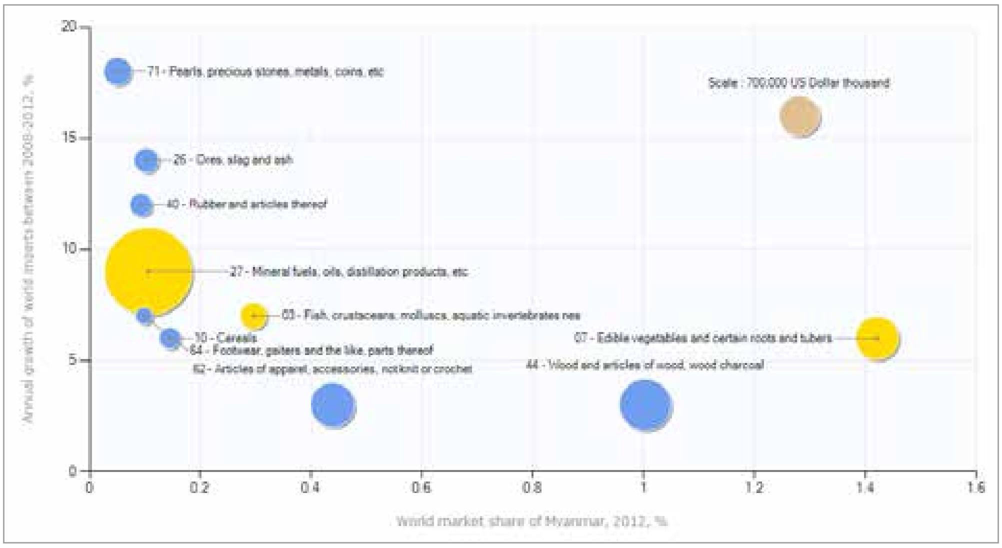
15. Source: ITC.

Figure 8: *Evolution of revealed comparative advantage and normalized revealed comparative advantage in priority sectors in Myanmar, 2002-2010*



Source: ITC calculations based on United Nations Comtrade SITC.

Figure 9: *Size of national supply and growth of international demand for export products of Myanmar*

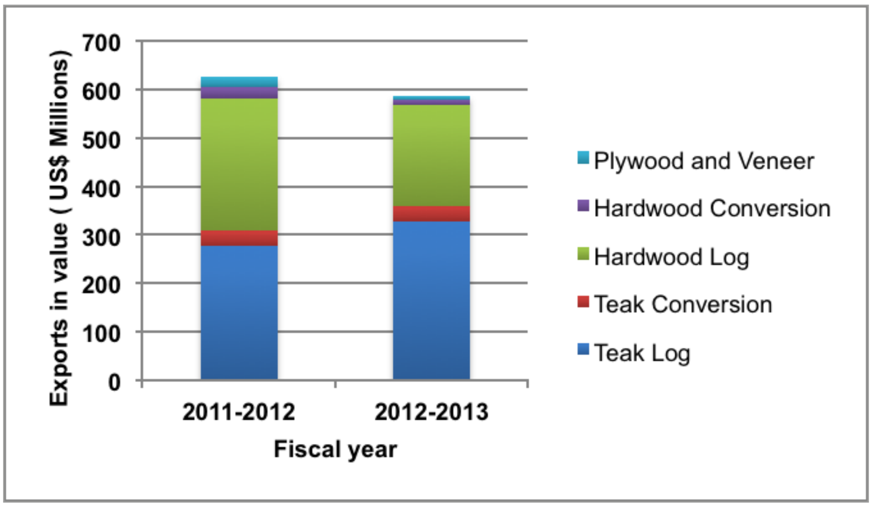


Source: ITC calculations based on United Nations Comtrade statistics.
In blue: Myanmar has increased world market share. **In yellow:** Myanmar has lost world market share

Myanmar also exports sawn or chipped wood, wood charcoal, plywood and veneered panels, shaped wood, and veneer sheets but these products remain largely underdeveloped, altogether representing an exported value of US$154 million in 2012. Other wood products with more value addition, such as furniture (exported value of US$8 million), pulp of wood (US$2 million) and paper (US$0.6 million), are still at an embryonic stage. Myanmar remains one of the only countries in the world to permit hardwood logs to be exported (with value addition taking place elsewhere). However, the situation is expected to change with the ban on the export of logs from 1 April 2014.

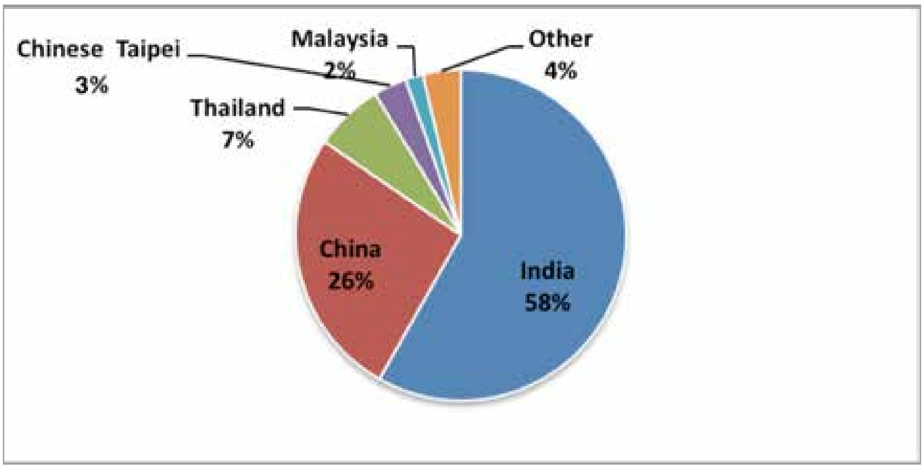
To obtain a clearer idea of the sector's exports, it is interesting to take a look at the data provided by of Ministry of National Planning and Economic Development (MNPED). According to the Ministry, for the fiscal year 2012-2013, the country exported 1,252,000 cubic tons of wood, broken down as follows: 510,000 cubic tons of teak logs and teak conversion, and 742,000 cubic tons of hardwood logs and hardwood conversion. Looking at the quantity exported, the Ministry reported a sharp increase of the quantity of teak logs exported between 2011-2012 and 2012-2013, from 263,300 to 485,600 cubic tons. However, this can be explained by the inclusion of statistics from the Department of Border Trade since April 2012.

Figure 10: *Exports of principal commodities, Myanmar, 2011-2012 and 2012-2013*



Source: Republic of the Union of Myanmar, Ministry of National Planning and Economic Development.

Figure 11: *Importing markets for wood-based products exported by Myanmar (2012)*



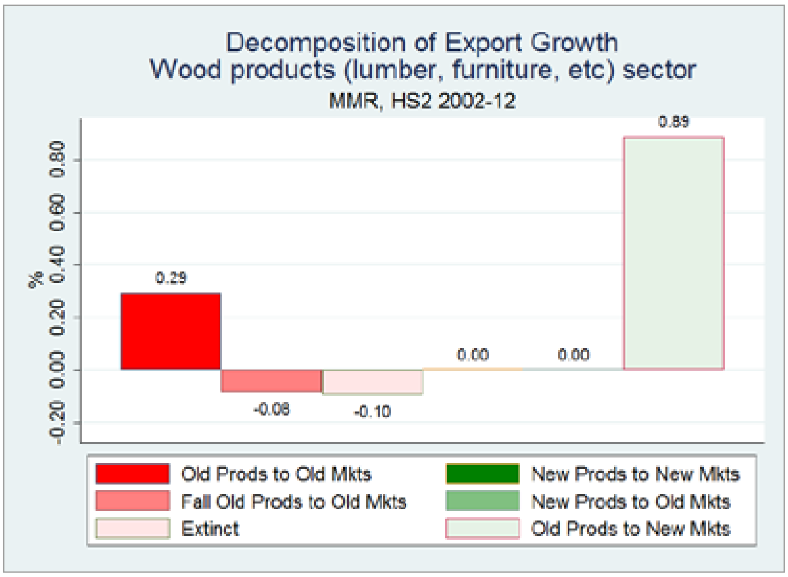
Source: ITC calculations based on United Nations Comtrade statistics.

The value exported reported by MNPED differs significantly from United Nations Comtrade data: forestry products exports only totalling US$587.6 million in 2012-2013 as opposed to more than US$1 billion according to international data (figure 10). Also, according to MNPED, the total value exported for the sector decreased by 6% compared with the fiscal year 2011-2012, when United Nations Comtrade reported a 15% growth of the sector between 2011 and 2012.

Myanmar's market orientation for forestry products is geared towards neighbouring countries and lower value added products. Isolation from global trade and finance systems has resulted in limited investments, high import restrictions and a poor trade facilitation framework. As indicated in figure 11, Myanmar's exports are highly dependent on the neighbouring Indian and Chinese markets. These two countries accounted for 58% and 26% respectively of the wood products exported by Myanmar in 2012. This also indicates the high degree of concentration of the country's exports.

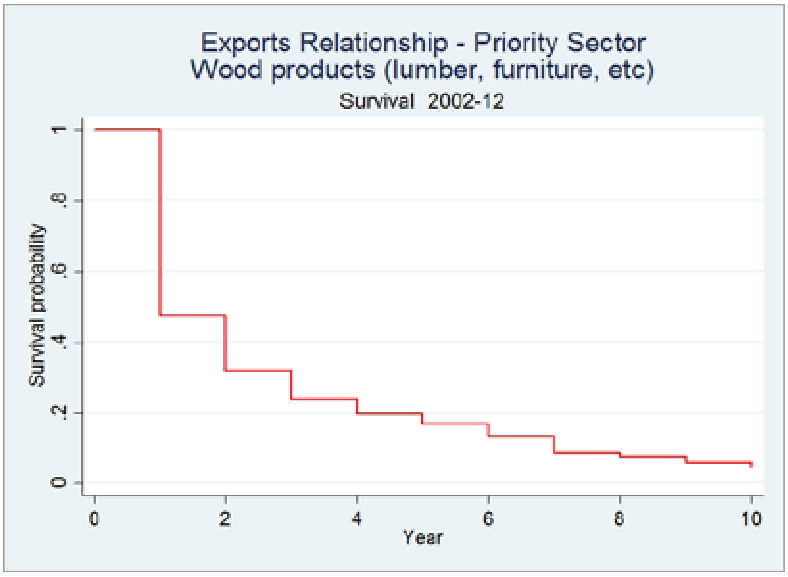
With the reinstatement of trade preferences by the EU and the easing of sanctions against Myanmar in the United States, Myanmar can expand its trade from Asia to a more global setting. Diversifying into new markets will be a source of economic growth that reduces vulnerability to possible shifts in market conditions among traditional trading partners. At the moment, it appears that Myanmar is not yet tapping into the European, American and Japanese markets, which are major importing markets for wood-based products.

Figure 12: *Myanmar, decomposition of export growth, wood products sector*



Source: ITC calculations based on United Nations Comtrade SITC.

Figure 13: *Survivability of export relationships in the Myanmar forestry products sector*



Source: ITC calculations based on United Nations Comtrade SITC.

The decomposition of export growth indicates that Myanmar's exporters have been unable to diversify their product base, and growth is exclusively driven by exports of existing products. The second lesson drawn from this decomposition is that export growth is largely driven by exports to new markets. Figure 12 shows the decomposition:

- Existing flows to current destinations accounted for 29% of the growth, but this growth was importantly offset by exports that fell to existing markets (8%), and notably by-products that became extinct (10%)
- Growth attributed to new products reaching new markets was nil
- An important 89% of export growth was explained by existing products to new markets.

DIFFICULTY IN SUSTAINING EXPORT RELATIONSHIPS OVER A PROLONGED PERIOD

Figure 13 indicates the probability that an export relationship survives one year, two years, and up to 10 years. In the wood products sector in Myanmar, the probability of an export relationship surviving until the second year is 0.31 (on a 0–1 scale), and of maintaining a relationship for five years is 0.13. This probability falls to 0.04 after 10 years.

IMPORTS

The forestry products sector is characterized by very low product diversification, with export destinations remaining extremely concentrated. The main destinations for forestry products, and logs more particularly, remain India and China, and Myanmar exporters have been largely unable to penetrate international markets. If the Indian and Chinese markets seem to be offering long-term perspectives for the sector, it is crucial for its development that local producers and exporters access new markets internationally.

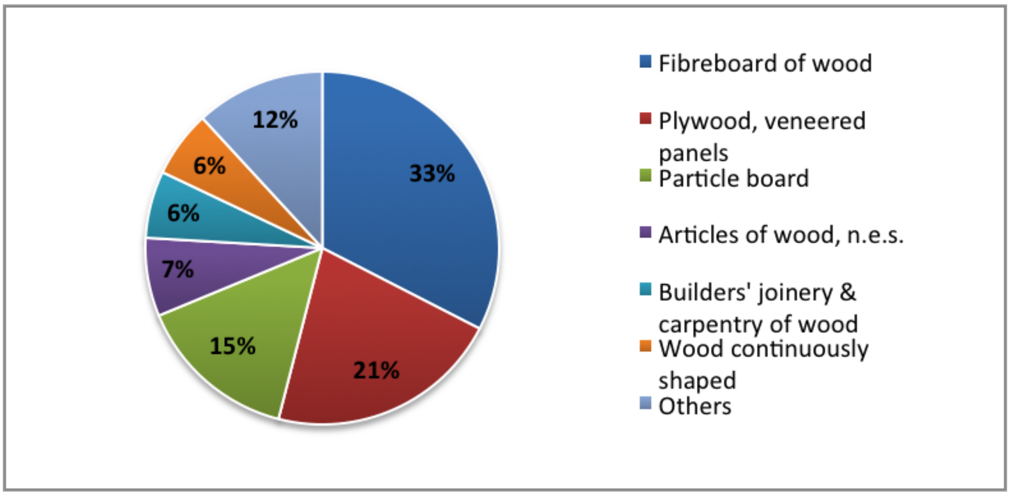
There is little reliance on inputs in the harvesting process as it currently uses low levels of technology. At the processing level, imported production inputs mainly consist of machinery and equipment, due to a weak domestic supply base for these inputs.

With a trade balance of US$ 1.2 billion for the sector in 2012 according to ITC statistics, Myanmar is self-sufficient for producing final products for the domestic market. If the country's vast natural resources partly explain the situation, local authorities have also played a significant role in prioritizing the domestic market rather than exports. As a result, Myanmar's imports of forestry products only represented US$ 15 million in 2012, the main imported product being fibreboard of wood, with an imported value of US$ 5 million. Apart from a few instances of imports from suppliers in Malaysia, the majority of imports in Myanmar are sourced from China and Thailand.

Figure 14: *Trade balance for the Myanmar forestry products sector, 2002-2012*

Source: ITC calculations based on United Nations Comtrade SITC.

Figure 15: *List of products at four-digit level imported by Myanmar in 2012 (US$ thousands)*



Source: ITC calculations based on United Nations Comtrade statistics.

THE INSTITUTIONAL PERSPECTIVE

The TSIs providing important services to the sector can be categorized according to the following support areas:

- Policy support network
- Trade services network
- Business services network
- Civil society network.

Tables 4 to 7 identify the main TSIs whose service delivery impacts the forestry products sector in Myanmar. An assessment of the TSIs along four key dimensions – coordination, human capital, financial sustainability and advocacy – is provided. The ranking (high / medium / low) for each TSI was selected taking into account the service delivery of the TSI relative to the forestry products sector. In other words, the assessment was conducted based on stakeholders' evaluation of TSIs from the perspective of how well they serve forestry products sector stakeholders.

POLICY SUPPORT NETWORK

These represent key ministries and authorities responsible for influencing or implementing policies affecting the sector. Examples of such institutions are: the Ministry of Commerce, the Ministry of Agriculture and Irrigation, the Ministry of Finance and Revenue, MNPED, the Customs Department and the Central Bank of Myanmar.

Table 4: *Myanmar forest products sector policy support network*

Name of institution	Activities	Coordination *	Human capital **	Financial sustainability ***	Advocacy / communication ****
Ministry of Commerce (MoC) Department of Trade Promotion Trade Department	• Market information, trade promotion, business-to-business meetings, trade fairs, export training, commodity prices	M	H	L	L
Ministry of Industry (MoI)	• Licensing and registration of industrial operators • Pulp wood industry	L	L	L	L
Ministry of Health	• Lab services (occasionally for wood / rattan exporting countries)	L	L	L	L
Ministry of Agriculture and Irrigation (MoAI) Department of Agriculture Department of Industrial Crops Development	• Fumigation • Phytosanitary certificates • Certificates for rubber wood components	L	M	L	L
MoECAF FD MTE	• Joint production • Saw milling • Conservation & forest plantation • Harvesting • Logistics • Export • Depot / storage • Research & development (R&D) (in wood properties)	H	M	M	M
MNPED Directorate of Investment and Company Administration	• Company registration • Joint venture services • Investment promotion	M	L	L	M
Ministry of Electric Power	• Production & distribution of electricity	L	L	L	L
Ministry of Finance and Revenue (MoFR) Department of Internal Revenue Customs Department	• Commercial taxes • Customs duties • Check shipments • Export documentation	L	L	M	L
Central Bank	• Foreign exchange • Monetary policy	L	M	M	M
Ministry of Science and Technology (MoST)	• Establishes standards in timber • Starting to play a role in timber certification in the future	L	L	M	M

* Coordination: measures the strength of this institution's linkages with other institutions as well as the beneficiaries of their services (in particular, the private sector) in terms of collaboration and information sharing.
** Human capital: assesses the general level of capability of this institution's staff in terms of their training, and responsiveness to sector stakeholders.
*** Financial resources: assesses the financial resources / capacity available to the institution to provide service delivery in an efficient manner.
**** Advocacy: the efficacy of this institution's advocacy mechanisms, and how well / frequently this institution disseminates important information to the sector.

TRADE SERVICES NETWORK

These institutions or agencies provide a wide range of trade-related services to public and private stakeholders of the sector. Examples of such public or private institutions are: trade promotion organizations, chambers of commerce and industry, sector associations, producers associations, the national standards organization, vocational training centres, free trade zones, development banks, export / import banks or other relevant agencies.

Table 5: *Myanmar forest products sector trade services network*

Name of institution	Activities	Coordination	Human capital	Financial sustainability	Advocacy / communication
MFCC	Certification – sustainable forest management & legality	L	L	L	M
The Republic of the Union of Myanmar Federation of Chambers of Commerce & Industry (UMFCCI)	Certificate of origin Business to business meetings Trade missions, fairs	M	M	H	M
Myanmar Organic Agriculture Group	Traceability Standard setting Testing	L	L	L	L
MTMA	Testify for Certificate of Origin (CoO) (before UMFCCI) Lobby and advocate in favour of the sector Defends the interests of its members Organizes trade fairs Arbitration Code of conduct Monitoring	M	L	L	L
Yangon region chambers of commerce and industry	Arbitration Business to business meetings Market information	M	L	L	L
Myanma Insurance (Government insurance service)	Fire, flood and transport insurance Theft insurance	M	M	H	L

Table 6: *Myanmar forest products sector business services network*

Name of institution	Activities	Coordination	Human capital	Financial sustainability	Advocacy / communication
Myanmar Banks Association	Loans to large processors and exporters	L	M	M	L
Private insurance companies	Loans for processors and exporters	L	L	L	L
Inspection agencies: SGS, OMIC, MPCS, MOCIC, MITS	Inspection, weight, quantity, quality, packing, fumigation, marking testing	L	L	M	L
Myanmar Logging Truck Association	Transportation	L	L	L	L
Myanmar Customs Brokers Association	Export / import procedures Clearing agents	L	L	L	M
Myanmar Highway Freight Transportation Services Association	Transportation	L	L	L	L
Myanmar Plastic Industries Association	Bags (polypropylene bags)	L	L	M	L

Table 7: *Myanmar forest products sector civil society network*

Name of institution	Activities	Coordination	Human capital	Financial resources	Advocacy / communication
Commerce Journal	Market and price information	M	M	L	M
ETrade Myanmar	Trade information	M	M	L	M
Universities	Specialized research	L	L	L	L

BUSINESS SERVICES NETWORK

These are associations, or major representatives, of commercial services providers used by exporters to effect international trade transactions. Examples include: association of commercial banks, association of insurance companies, association of freight forwarders, association of transport providers, association of commercial information providers, and association of packaging providers.

CIVIL SOCIETY NETWORK

ANALYSIS OF THE TRADE SUPPORT NETWORK

These institutions are not explicitly engaged in the sector's trade-related activities. However, they are opinion leaders representing specific interests that have a bearing on the sector's export potential and socioeconomic development. Examples of such institutions are: women's organizations, the media, academia, labour unions, employers' unions, environmental groups, and various non-governmental organizations (NGOs).

In a country that has only recently opened up its economy, the need to ensure coordination among TSIs is very important. In the absence of coordination, redundancies and overlaps result in wastage of effort and valuable resources, and on the other hand lead to gaps in service delivery. From the perspective of Myanmar forestry products sector stakeholders, several institutions have been identified as being significantly limited in terms of coordinating their service delivery. Those identified are MoAI, MoST, MoFR, MoI, MFCC and inspection agencies, as well as financial institutions and universities. According to the key stakeholders of the sector, these institutions are not planning their interventions for the sector sufficiently in coordination with other ministries or institutions.

According to the assessment, most institutions suffer from significant human capital deficiencies. There is an urgent need to improve the skill levels of these institutions' staff, as well as a need for organizational alignment. The few institutions considered as having adequate human resources are MoC and, to a lesser extent, MoECAF, MoAI, UMFCCI and the Central Bank of Myanmar.

From the perspective of financial stability, UMFCCI and Myanma Insurance are the only institutions considered to possess adequate financial resources to complete their mandate. MoECAF, MoFR, and MoST have been ranked 'medium'. The fact that most institutions are considered financially constrained may stem from the limited resources of the state. Poor financial intermediation and difficulties in accessing finance might also explain the situation.

Advocacy is also a very important aspect of the work of TSIs and serves to inform beneficiaries (current and potential exporting enterprises) of the services available to them and other important information. Advocacy is also important to raise awareness about certain critical issues affecting the development of trade and export of forestry products. None of the institutions cited were considered to have a high advocacy role, with the exception of MoST (ranked 'medium / high). This area has been cited as a significant weakness for most institutions with the exception of UMFCCI, MNPED, MoECAF and MFCC. This situation indicates that significant efforts are still needed for TSIs related to the forestry products sector to actively lobby in favour of the sector, support the sector developing and diversifying its activities, and help local entities penetrate new markets internationally.

PERCEPTION OF MYANMAR TSIS IN THE FORESTRY PRODUCTS SECTOR – INFLUENCE VERSUS CAPACITY

The above analysis resulted in a multidimensional assessment of the capacities of TSIs to respond to the needs of forestry products sector enterprises. This analysis can be further developed by considering another dimension: the level of influence the TSI possesses over sector stakeholders. This classification represents the sector stakeholders' perception of the level of influence and capacity to respond of each institution. Table 8 presents this classification for TSIs supporting the forestry products sector.

Table 8: *Stakeholders' perception of TSIs' level of influence and capacity*

		Capacity of institution to respond to sector's needs	
		Low	Medium to high
Level of influence on the sector	Medium to high	MNPED MoST Central Bank of Myanmar Media entities	MoECAF UMFCCI
	Low to medium	MoFR Myanmar Customs Brokers Association Inspection agencies Yangon region chambers of commerce and industry MTMA MFCC MoAI Myanmar Plastic Industries Association Universities Myanmar Logging Truck Association Private insurance companies Myanmar Organic Agriculture Group Ministry of Electric Power Ministry of Health MoI	MoC Myanmar Banks Association Myanma Insurance

According to the perceived influence and capacity of TSIs, stakeholders consider that the vast majority of institutions have limited influence on the sector and limited capacity to respond to its needs. Only two TSIs of importance, MoECAF and UMFCCI, are assessed to have the desired high-high combination for forestry products sector enterprises. This is an encouraging sign, showing that these organizations are currently in the best position to contribute to the sector's development through targeted initiatives.

On the other hand, two institutions which are critical to the development of the forestry products sector, MTMA and MFCC, have both been assessed to have a low level of influence as well as low capacity to respond to sector stakeholder needs. This is a significant constraint, as both institutions are critical from the perspective of export competitiveness.

DEVELOPMENT INITIATIVES

The analysis of ongoing development activities in the forestry products sector is relevant insofar as it serves to identify the main thrusts of the various development actors and their initiatives, while also identifying duplications, gaps and areas of neglect (see table 9). The latter is especially important as identified gaps will be further analysed, and addressed through specific interventions in the sector's strategic PoA.

It also important to note that under the Comprehensive Framework for the European Union's policy and support to Myanmar / Burma agreed in July 2013,[16] the EU has, among several things, agreed to assist Myanmar in addressing environmental challenges related to sustainable management of natural resources. This support could also include the conclusion of a VPA under the FLEGT Action Plan, an environmental policy designed by the EU to combat illegal logging and improve forest governance in key regions and countries.

16. Council of the European Union (2013). *Council conclusions on the Comprehensive Framework for the European Union's policy and support to Myanmar / Burma.* Foreign Affairs Council Meeting, 22 July.

Table 9: *Development activities in the forestry products sector*

Project	Status	Funding agency / lead implementer	Expected areas of intervention
Developing environmental quality standards for FDI to undergo a rigorous environmental sustainability filter	Planned	Asian Development Bank through the Greater Mekong Subregion Environment Operations Centre	Support MoECAF in finalizing their environment impact assessment procedures, ensuring consistency with the Environmental Conservation Law's framework, rules and procedures.
Core Environment Programme and Biodiversity Conservation Corridors Initiative in the Greater Mekong Subregion	Ongoing	Asian Development Bank	Promote sound environmental management and climate-resilient interventions within the context of the Greater Mekong Subregion Economic Cooperation Programme. The project aims to reconcile development objectives in Greater Mekong Subregion economic corridors with conservation and sustainable use of ecosystem services in priority transboundary landscapes and associated biodiversity corridors.

POLICIES AND LEGAL FRAMEWORK

FOREST MANAGEMENT SYSTEM IN MYANMAR

The forest management system comprises three main elements in Myanmar, which are described below.

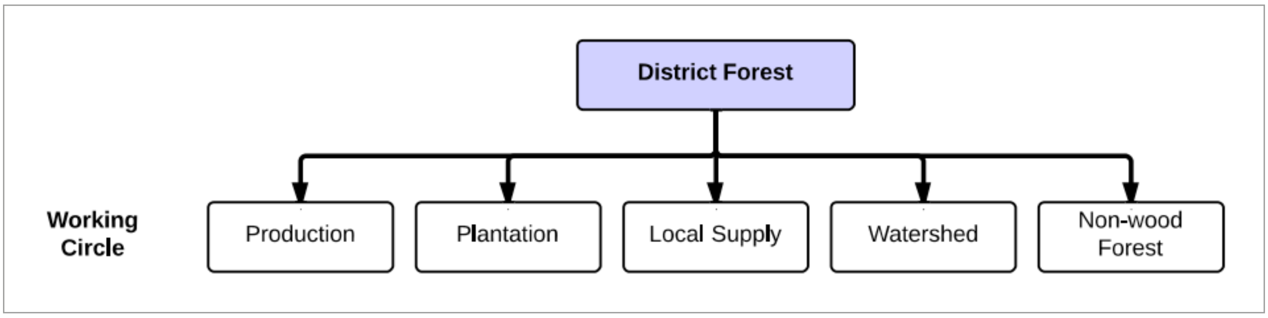
MYANMAR SELECTION SYSTEM

The MSS is responsible for establishing the objectives for the harvest annual yield on a sustainable basis and works out estimated future yields. The MSS is based on an identified Annual Allowable Cut and operates according to felling cycles of 30 years, with the division of forest blocks into 30 plots of approximately equal yield capacity. Each year select felling is carried out in one plot. Trees that have reached minimum exploitable girth requirements are selected for cutting. This system has been applied in managing the natural forests in Myanmar since 1856.

FOREST MANAGEMENT PLAN

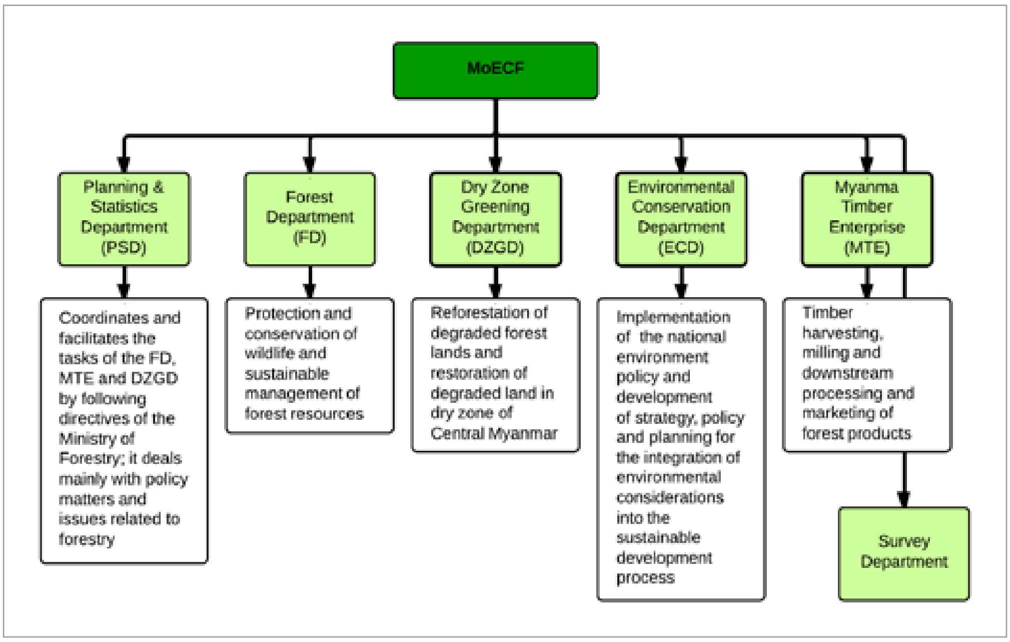
In 1996, the FD updated the Forest Working Plans to incorporate more modern sustainable forest management concepts, which emphasized not only timber production but also non-wood forest products, biodiversity conservation and the socioeconomic well-being of local people. The Forest Management Plan includes short-term and long-term plans and is revised every 10 years. It is a blueprint for forest districts – management units – management. Forest districts comprise the following working circles (i.e. area of forest from which a sustained yield of timber and by-products is planned).

Figure 16: *Myanmar Forest Management Plan*



Source: Republic of the Union of Myanmar, Ministry of Forestry.

Figure 17: *MoECAF departments & enterprises*



ELEPHANT LOGGING

The use of elephants in skidding and rafting for the transportation of logs is a common practice in Myanmar. About 3,000 elephants work in timber harvesting through the country. This practice is seen as a reduced impact logging system.

INSTITUTIONS IN CHARGE

MoECAF was upgraded to replace the Ministry of Forestry in 2011. MoECAF is the institution responsible for forest management, environmental policies and protection, and consists of six Government institutions, as illustrated in figure 17.

In Myanmar, the FD and MTE are the two Government organizations responsible for forestry products sector activities within MoECAF:

The **FD** is responsible for the conservation and management of the forest. Over the past decade it has put in place new policies and initiatives in an attempt to protect and sustainably manage Myanmar's tropical forests, as well as the country's teak stands.

MTE acts as the commercial arm of MoECAF and is concerned principally with the extraction, processing and marketing of forest products. As the commercial arm, MTE carries more political influence and resources compared with the FD.

POLICIES AND LEGAL FRAMEWORK

FOREST LAW (1992)

The 1992 Forest Law (updated from the first Forest Act of 1902) supports conservation, sustainable forestry and socioeconomic benefits. The new Forest Law also decentralizes management and opens up opportunities for increased private sector involvement in the timber trade. Highlighting environmental and biodiversity conservation, it encourages community forestry and people's participation in forest management to contribute towards the food, clothing and shelter needs of the public and for perpetual enjoyment of benefits by the conservation and protection of forests. In addition, the Ministry of Forestry promulgated the Forest Rules in 1995.

Implementation of the Forest Law has also been facilitated by the Myanmar Forest Policy (1995), which focuses on enhancing national socioeconomic development while also ensuring ecological balance and environmental stability (see below).

Box 2: Myanmar Forest Policy

Core principles of the Myanmar Forest Policy include:

1. **Protection** of soil, water, wildlife, biodiversity and the environment
2. **Sustainability** of forest resources
3. **Basic needs** of the people
4. **Efficiency** to harness the full economic potential of forest resources
5. **Participation** of the people
6. **Public awareness** about the vital role of forests in the socioeconomic development of the nation.

The policy also includes important measures directly or indirectly related to the involvement of the public sector in implementing the forestry policy and the environmental conservation policy of the Government in accordance with international agreements relating to conservation of forests and environment, among others.

Source: MoECAF.

FOREST POLICY (1995)

The 1995 Myanmar Forest Policy identifies six imperatives in accordance with the forest principles adopted at the United Nations Conference on Environment and Development (see box 2). The Myanmar Forest Policy encourages forest plantation establishment in order to supply local and industrial use, as well as to increase reforestation of degraded lands. Four categories of plantations exist:

- Commercial (for marketable wood, both domestic and for export)
- Local supply (village woodlots for firewood, posts and poles)
- Industrial (for supplying raw material to paper and pulp factories)
- Watershed (for water utilization, water catchments of dams and irrigation flow).

COMMUNITY FORESTRY INSTRUCTION (1995)

Issued by the FD, the 1995 Community Forestry Instruction is a comprehensive legal framework that promotes and facilitates community participation in managing forests. It focuses on management of forests by rural communities through protection of natural vegetation and establishment of forest nurseries and plantations so as to enable them to fulfil their own basic needs for firewood, farm implements and small timbers.[17] By the end of 2009, about 41,458 ha of community forests had been established and counted nearly 40,000 members.

PROTECTION OF WILDLIFE AND WILD PLANTS AND CONSERVATION OF NATURAL AREAS LAW (1994)

The new Protection of Wildlife and Wild Plants and Conservation of Natural Areas Law, replacing the old Burma Wildlife Protection Act of 1936, was enacted in 1994. The Law highlights habitat maintenance and restoration, protection of endangered and rare species of both fauna and flora, establishment of new parks and protected areas, and buffer zone management.[18]

NATIONAL FORESTRY ACTION PLAN (2001)

The National Forestry Action Plan, established in 2001, outlines the forestry situation from 2001/2002 to 2030/2031. This includes a wide range of forest activities – including wildlife and nature conservation – in order to achieve the objectives of sustainable harvesting of teak, protection of forests against degradation, environmental conservation, and earning more foreign exchange by exporting more value added products.

17. Htun, K. (2009). Myanmar forestry outlook study. Asia-Pacific Forestry Sector Outlook Study II Working Paper Series, Working Paper No. APFSOS II/WP/2009/07. Bangkok; FAO..

18. From MoECAF.

OTHER FOREST LAWS AND RULES

Myanmar Agenda 21 was formulated and published in 1997 with a view to implementing a national environmental policy. Its purpose is to mobilize and focus national efforts to achieve sustainable development in the country. It covers three dimensions of sustainable development: namely, the social, economic and environmental dimensions.

The National Code of Practice for Forest Harvesting, published by MoECAF in 2000. The national code was prepared by the FD in cooperation with MTE and the Planning and Statistics Department of MoECAF.

The Environmental Conservation Law was enacted as Pyidaungsu Hluttaw Law No. 9, on 30 March 2012, to implement the national environment policy.

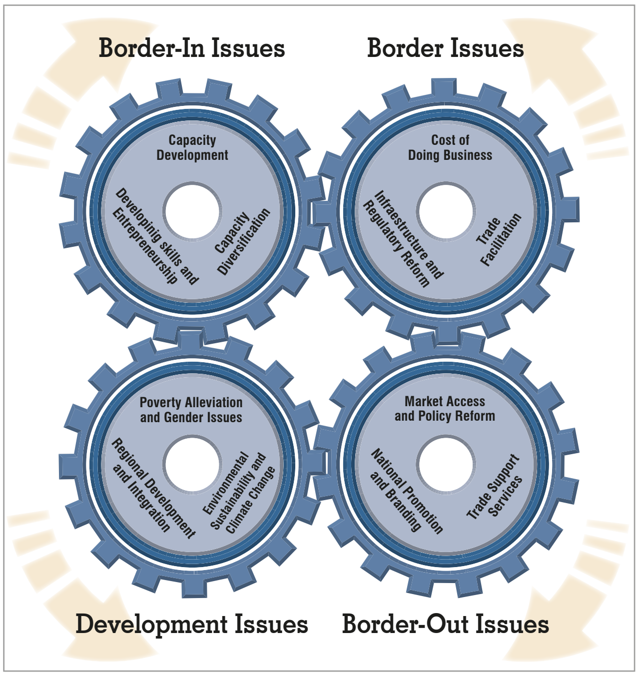
EXPORT COMPETITIVENESS ISSUES

The export constraints analysis uses the four gears framework presented below to determine the major concerns to export development.

- **Supply-side issues** affect production capacity and include challenges in areas such as availability of appropriate skills and competencies, diversification capacity, technology, and low value addition in the sector's products.
- **The quality of the business environment issues** are constraints that influence transaction costs, such as regulatory environment, administrative procedures and documentation, infrastructure bottlenecks, certification costs, Internet access and cost of support services.
- **Market entry issues** are essentially external to the country (but may also be manifested internally), such as market access, market development, market diversification and export promotion.

The analysis presents those majors constraints that are currently main export competitiveness bottlenecks for the forestry products sector. However, the assessment also explores issues limiting socioeconomic spillovers of exports to the society at large:

- **Social and economic concerns** include poverty reduction, gender equity, youth development, environmental sustainability and regional integration.



THE BORDER-IN GEAR (SUPPLY-SIDE)

Box 3: Overview of supply-side issues related to the Myanmar forestry products sector

- Insufficient skilled persons and lack of technology know-how affects the quality of production
- Low use of modern harvesting and processing techniques reduces quality of production
- Inconsistent and unreliable supply of quality timber affects forestry products trade
- Transboundary illegal trade creates unfair competition and increases the rate of deforestation
- Inequality of treatment between local and foreign companies in joint production with MTE and local private factories creates market distortions

INSUFFICIENT SKILLED PERSONS AND LACK OF TECHNOLOGY KNOW-HOW AFFECTS THE QUALITY OF PRODUCTION

There is a clear lack of education of workers and exporters to produce and export high quality products in higher value markets, illustrating a crucial and urgent need for technical and vocational training and awareness-raising campaigns, as well as a need to promote business skills and competencies (business plans, accountancy, marketing etc.)

There is an overall lack of both competency and technical and vocational education and training for skilled labour in the sector. Technical schools and colleges exist but they do not necessarily cover the forestry products industry's needs. According to the Ministry of Labour, Employment and Social Security (MoLESS), 745 skills training courses were completed in Forestry Training Schools in 2009-2010,[19] notably through MTE training schools that offer various training courses for MTE employees and workers from private and public wood-based industries involved in the production of value added goods. This offer, however, appears to be insufficient for a sector of such importance. Despite some initiatives, such as the memorandum of understanding between MTMA and the Center for Vocational Training (CVT), limited investments have been made in training in Myanmar so far.

Overall, the lack of theoretical training in Myanmar is widely recognized and efforts should be made to improve the number of skilled workers in the sector, notably by opening new specialized schools and by developing new curricula in close collaboration with the Ministry of Education and universities.

LOW USE OF MODERN HARVESTING AND PROCESSING TECHNIQUES REDUCES QUALITY OF PRODUCTION

The export production capability of the sector is also constrained by the low adoption of improved harvesting techniques. Two main reasons can be given to explain this situation: the limited training of the majority of workers and the low level of R&D in the country. In addition, the low level of R&D in harvesting and processing techniques, and limited access to finance, do not currently allow for adequate technological transfer. Advanced technology machinery should also be installed in wood-based industries in order to extend the processing line in stages and to produce precise and more complex, higher added value products.

As well as machinery and human resources, technology know-how should be improved, especially when running the latest modern machines, to allow a shift in the structure of production towards higher value added activities, increased productivity and improved competitiveness and export performance.

INCONSISTENT AND UNRELIABLE SUPPLY OF QUALITY TIMBER AFFECTS FORESTRY PRODUCTS TRADE

The problems associated with raw material supply are a major obstacle for the forestry products industry. Sourcing of raw material supply appears to be unsecure, unstable and variable in terms of time, quality, place and price, creating an uncertain environment where the economic agents (buyers, wholesalers, agents, brokers, exporters, etc.) are unable to ensure constant levels of quality, price and delivery time, which considerably affects the development of the sector. More particularly, this situation significantly affects the survivability of the country's export relationships. Ensuring that the sector's non-log products are of minimum quality and supplied with consistency is a given prerequisite in this regard, and thus the lack of suitable products for exports is a major obstacle.

The sector also suffers from a lack of control and related regulation for the harvesting, processing, trading and export of logs in accordance with type specification along the whole supply chain. Unskilled workers not following domestic laws, regulations and rules, coupled with the use unsophisticated harvesting techniques and tools, explains the inconsistency of production and supply.

One of the solutions envisaged by sector stakeholders is to transfer responsibility for the supply of raw materials to MoECAF. By doing that, it is believed that consistent timber supply will be ensured and, most importantly, that the supply will be adjusted to the actual demand of the factories in terms of right time, right place and suitable price.

TRANSBOUNDARY ILLEGAL TRADE CREATES UNFAIR COMPETITION AND INCREASES THE RATE OF DEFORESTATION

Transboundary illegal trade has existed for a very long time across the Chinese and Thai borders. Such practices have an extremely negative impact on the sector's operators as they create an environment of unfair competition.

Despite the progress made in fighting illegal trade,[20] timber is still being smuggled by land across the Chinese and Thai borders, by both State military and other armed groups, especially from logging concessions in natural forests in ethnic areas. Indeed, if the illegal cross-border trade considerably decreased after the 2006 crackdown, according to many sources the trade has picked up again, largely fuelled by booming Chinese demand. The high export tax rate for teak and timber products of 50% also explains this trend. Although it is too difficult to accurately

19. Central Statistical Organization Myanmar (2013). *Statistical Yearbook 2012*.

20. In March 2006, the Chinese and Myanmar national governments made a bilateral agreement to clamp down on illegal cross-border timber trade after much international pressure.

estimate volumes, a recent paper from the Environmental Investigation Agency[21] reveals that recently published official data on log harvests and timber exports during the past 15 years indicates significantly lower than reported global trade in Myanmar logs. According to the paper, unauthorized and unrecorded timber exports of 16.5 million cubic metres of logs from 2000-2013 were worth US$5.7 billion, or 72% of log shipments.

Urgent measures must therefore be taken, including, but not limited to, enforcing the laws and regulations aimed at fighting illegal logging and illegal trading; raising awareness of such practices; reinforcing the control of timber distributors and warehousing depots to fight against the use of illegal timber; and lobbying against illegal timber recipients in neighbouring countries.

INEQUALITY OF TREATMENT BETWEEN LOCAL AND FOREIGN COMPANIES IN JOINT PRODUCTION WITH MTE AND LOCAL PRIVATE FACTORIES CREATES MARKET DISTORTIONS

There have been a few examples of inequality of treatment in the processes of manufacturing and export procedures, including taxation. Voices are being raised, for example, on preferential treatment for private (local and foreign) companies involved in joint production schemes with the state-owned MTE, advocating for fair and equal competition among operators whether or not they operate under the Joint Production Scheme. Another controversial subject is the commercial tax for exports of products such as wood in the rough, whether or not stripped of bark or sapwood, or roughly squared. Local companies have to bear a 50% commercial tax to export this product, while some companies operating under the Foreign Investment Law are trying to waive this tax. It is feared that tax exemption under FDI would go against the desire of the Government to limit exploitation of natural forest resources for low added value activities, thus creating a conflict of interest between FDI promotion and forest conservation. In general, local operators are eager to put both companies under the FDI law and local companies operating under the Joint Production Scheme with MTE on an equal footing.

The same observation can be made concerning raw material outsourcing and infrastructure development. In these areas, state-owned enterprises have a clear edge over private investors since state-owned enterprises benefit from direct access to raw materials and possess a considerable advantage when it comes to building facilities and acquiring land (which represent prohibitive costs for other private companies).

21. Environmental Investigation Agency (2014). *Data Corruption: Exposing the True Scale of Logging in Myanmar*. London; EIA.

THE BORDER GEAR (QUALITY OF THE BUSINESS ENVIRONMENT)

Box 4: Overview of Myanmar forestry products sector business environment issues

- The absence of certified quality standards for forestry products limits exporters' capacity to access new markets in developed countries
- Low logistics performance significantly hampers the export of forestry products
- Limited access to finance and inadequate export finance mechanisms constrain the expansion of the sector
- The complexity of administrative procedures and documentation constrains the development of the sector and hampers export potential
- Insufficient power supply increases production costs and has a negative impact on the activities of sector factories
- The high commercial tax rate for forestry products exports reduces the sector's attractiveness and limits FDI potential

THE ABSENCE OF CERTIFIED QUALITY STANDARDS FOR FORESTRY PRODUCTS LIMITS EXPORTERS' CAPACITY TO ACCESS NEW MARKETS IN DEVELOPED COUNTRIES

The main issue faced by Myanmar's forestry products sector in the international market is its inability to comply with the standards and certification requirements of developed markets. Sustainable forest management certification and legality licensing are demanded worldwide. Several reasons can be given as to why such requirements are demanded, including:

- Existence of illegal logging
- Higher environmental and social sensitivity on the part of investors, governments and consumers
- Growing scepticism of sustainability claims of governments and industry
- Increased demand by consumers for transparency

Although each market has specific requirements, all share some similarities, such as demonstration of 'due care' or 'due diligence'. Owing to the lack of certification mechanisms and the lack of awareness on the part of producers, and despite the lifting of the ban imposed on Myanmar's exports, exporters face difficulties in penetrating key Western international markets such as the EU, the United States and Japan. Many factors can explain the major barriers to export development.

Although the establishment of the MFCC – acting as the national governing body to monitor the future timber certification process and activities in Myanmar – is a first step towards the development of national certification based on international standards, the national certification system is not internationally recognized yet, and independent third party monitoring and audit systems are needed to augment existing systems if international standards are to be met. Despite these efforts to allow domestic products to penetrate international markets, it is clear that the country is not yet able to comply with the changes in requirements for products exported to Western markets, such as the VPA for EU FLEGT. As a consequence, the vast majority of domestic production is sold to lower value markets such as India and China.

It is also to be noted that, according to the institutional perspective assessment, MFCC impact on the forestry products sector seems limited due to its financial constraints, human resources capacity and unexploited coordination role. Producers' and exporters' lack of awareness of the importance of certification should also be solved and technical training programmes developed in the area of quality standards and market access requirements as indicated in the PoA (activity 2.3.1).

LOW LOGISTICS PERFORMANCE SIGNIFICANTLY HAMPERS THE EXPORT OF FORESTRY PRODUCTS

Closely related to administrative procedures are issues related to freight forwarders and Customs agents. The latter are said to be neither efficient nor competitive in facilitating the export of forestry products. Currently, most shipments to / from Myanmar are by sea. However, because of past sanctions and the absence of adequate infrastructures, there are no main line operators calling in Myanmar, resulting in all shipments to or from Myanmar transiting in either Singapore or Port Kelang. Inland waterways transport – commonly used to transport logs – also appears to be largely underdeveloped, as there is no proper terminal to handle containers for intermodal transportation.[22] Road and rail logistics also need to be upgraded.

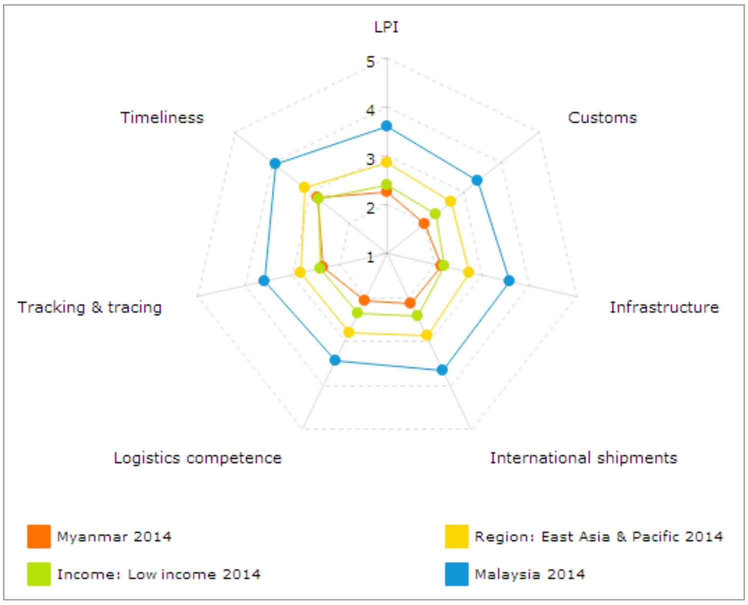
The Logistics Performance Index[23] 2014 confirms the very poor performance of logistics in Myanmar (it was ranked 145 out of 155 countries, with an overall score of 2.25). As illustrated in figure 18, for each of the six dimensions specified in the Logistics Performance Index,[24] Myanmar presents scores that are largely inferior to the East Asia & Pacific average and even below the low income countries average, with the exception of the timeliness dimension. This poor overall logistics performance translates into relatively high trade costs and unpredictable delays, representing a significant obstacle to Myanmar benefiting from its trade potential.

22. Myanmar International Freight Forwarders' Association.

23. Based on a survey of operators, such as global freight forwarders and express carriers, the World Bank Logistics Performance Index measures the logistics 'friendliness' of 155 countries.

24. The six variables specified in the Logistics Performance Index are: (i) efficiency of the clearance process; (ii) quality of trade- and transport-related infrastructure; (iii) ease of arranging competitively priced shipments; (iv) competence and quality of logistics services; (v) ability to track and trace consignments; and (vi) timeliness o f shipments.

Figure 18: *Logistics Performance Index and Myanmar's scores in its six dimensions (2014)*



Source: World Bank (2014). Logistics Performance Index Database. Available from http://lpi.worldbank.org/. Accessed 28 April 2014.

The forestry products industry would benefit from accelerated development of transport infrastructure (mainly road and water) to support facilitation of trade flows both inside (from rural areas to Yangon in particular) and outside the country. The situation is about to change as the Government is currently upgrading and improving the national infrastructures for the logistics sector, including the construction of deep sea ports in Kyauk Phyu and Dawei, the implementation of Special Economic Zones (i.e. in Thilawa), and the development of the highway network. The gradual development of the Myanmar Automated Cargo and Port Consolidated System[25] should also greatly improve the efficiency of administrative and Customs procedures for exporters.

It is important to include private sector operators in discussions on implementation activities to ensure coherence with the needs of importers and exporters. Building mechanisms and capacities of the public and the private sector players so they can effectively and consistently coordinate activities to ensure dialogue and integration of transport modes and systems should also be considered.

LIMITED ACCESS TO FINANCE AND INADEQUATE EXPORT FINANCE MECHANISMS CONSTRAIN THE EXPANSION OF THE SECTOR

The financial sector in Myanmar remains largely underdeveloped, hampering effective mobilization of domestic savings for investment. Access to finance in Myanmar is limited, with the number of commercial bank branches per 100,000 adults only 1.69 in 2011, with rural areas being particularly isolated. In comparison, the ratio was 3.63 in Viet Nam, 4.33 in Cambodia and 11.29 in Thailand.[26]

Producers and exporters also face considerable constraints in accessing credit to offset the lack of operating and investment capital at their disposal. Businesses suffer from limited credit availability due to strict regulation by the Central Bank of Myanmar. Even when granted, for secured lending only, the high interest rates charged by banks (around 13%) limit opportunities for small and medium producers and processors to upgrade capital equipment and make other investments. A direct consequence of this absence of financial or credit support is that enterprises usually obtain capital through informal channels (family or friends or informal credit institutions, rather than the banking sector) when they require it.

Similarly to all other export sectors in Myanmar, the forestry products sector is also constrained in its export development due to outdated trade regulations and inadequate export finance mechanisms. National regulations on exports are applied by Customs authorities before allowing exports. Exporters need to demonstrate to Customs that payment for the goods has been received in full before export clearance is given, so enterprises must receive full payment before the shipment leaves port.

Overall, the level of financial intermediation is also low compared with Myanmar's peers. This matters because capital is required to invest in technology / equipment in order to become competitive. Inventories are needed to be able to ensure delivery, and access to trade finance is a vital part of increasing exports.

THE COMPLEXITY OF ADMINISTRATIVE PROCEDURES AND DOCUMENTATION CONSTRAINS THE DEVELOPMENT OF THE SECTOR AND HAMPERS EXPORT POTENTIAL

The absence of a streamlined process to receive all required authorizations and certificates to operate and to trade across borders greatly affects the time and costs of doing business for forestry products exporters. Heavy and time-consuming administrative procedures considerably constrain the smooth development of the forestry products sector's activities. This includes rigid procedures for importing production inputs and time-consuming administrative procedures to get permission for processing. More generally, as indicated in the World Bank Doing Business 2014 survey, difficulties faced in dealing with construction permits, registering property and, most importantly, starting a business in Myanmar, significantly affect the development of the private sector (it requires 11 procedures, takes 72 days, costs 176.7% of income per capita and requires paid-in minimum capital of 7,016.0% of income per capita to start a business in the country).[27]

Operators also face difficulties when shipping wood products, facing multiple processes for international shipment. For instance, shipments must obtain an approval of non-antique certificate from the Ministry of Culture, which can take up to a month, considerably increasing the time needed to export forestry products. Overall, there is a lack of transparency in the system, which involves different departments and ministries and is characterized by opaque decision-making procedures.

More flexibility is urgently needed in this regard. Streamlining procedures (from Customs to other providers

25. This system is an adaptation of the Nippon Automated Cargo and Port Consolidated System. It is a first step towards the creation of a single window system for Myanmar.

26. International Monetary Fund (2013. Financial Access Survey Database. Available from http://fas.imf.org/. Accessed 28 April 2014.

27. World Bank. 2013. *Doing Business 2014: Understanding Regulations for Small and Medium-Size Enterprises*. Washington, DC; World Bank Group. DOI; 10.1596/978-0-8213-9615-5. License: Creative Commons Attribution CC BY 3.0.

of services within a trade facilitation framework) by setting up a one-stop shop, making procedures simpler or faster by introducing technology, and reducing or eliminating minimum capital requirements are potential solutions and are likely to boost manufacturing competitiveness.

INSUFFICIENT POWER SUPPLY INCREASES PRODUCTION COSTS AND HAS A NEGATIVE IMPACT ON THE ACTIVITIES OF SECTOR FACTORIES

The limited level of electrification appears to be insufficient to support economic activity, as only about 26% of the population had access to electricity in 2011[28], with frequent power outages. In addition, the level of electrification in rural areas – where a large proportion of forestry products production takes place – is still limited, with an average ratio of electrification of only 16%, while Yangon benefits from an average rate of 67% in 2011 (ADB[29]). This insufficient and unstable electricity supply leads to high energy costs, considerably affecting the sector's competitiveness. To counter weak electricity supply, many firms have to rely on self-supply, often at a prohibitively high cost (electricity from generators costs approximately 10 times that obtained from the national grid).

It is now urgent to advocate in favour of setting up alternative power production facilities (hydro, gas, solar, wind, tide, coal, nuclear, etc.) in rural areas for the adequate and reliable supply of electricity to industrial zones, factories and processing centres through public and private partnerships in line with energy policy.

THE HIGH COMMERCIAL TAX RATE FOR FORESTRY PRODUCTS EXPORTS REDUCES THE SECTOR'S ATTRACTIVENESS AND LIMITS FDI POTENTIAL

Myanmar reformed its export tax regime in 2011. Prior to the reform, exporters had to pay commercial tax at a rate of 8% and income tax at a rate of 2% before exporting goods. Currently, commercial tax is levied only on exports of five commodities, including timber and conversions and teak and conversions. These commodities are currently taxed at a 50% rate in order to preserve natural resources, according to the authorities.[30] This commercial tax is a very high price to pay for potential operators that might be reluctant to invest in a sector where financial profitability seems limited. The tax also affects current private operators' prospects for development.

New solutions should be envisaged to combine economic development of the forestry products sector with environmental concerns. Incentives for wood-based industries should be created in the taxation system to support the development of the sector and to encourage the export of value added products.

THE BORDER OUT GEAR (MARKET ENTRY)

Box 5: Overview of market entry issues for the forestry products sector

- Limited access to trade information and weaknesses of TSIs do not allow the sector to keep up with international market trends and technical requirements
- Poor perception of the sector's image negatively affects export potential
- Limited marketing activities and the absence of export promotion limit the international outreach of forestry products
- Limited investment promotion limits the diversification potential of the sector

LIMITED ACCESS TO TRADE INFORMATION AND WEAKNESSES OF TSIS DO NOT ALLOW THE SECTOR TO KEEP UP WITH INTERNATIONAL MARKET TRENDS AND TECHNICAL REQUIREMENTS

Access to timely and relevant market intelligence is a prerequisite for building export competitiveness in a sector. This information includes consumer trends and target market needs and certification requirements. This requirement plays an even more prominent role considering that operators in the forestry products sector are inexperienced in market penetration and development. Indeed, although Myanmar can benefit from preferential market access in a number of advanced country markets – as well as being a signatory to ASEAN agreements, including ASEAN+ agreements, which include Korea and Japan – market information and knowledge on standards and procedures for exporting will be required in order to fully tap into these markets.

A lack of participation by both public and private sector organizations in international or regional forestry associations or organizations has also been identified, resulting in institutions such as MoC, MoECAF, MTMA or UMFCCI not being abreast of real-time information regarding the policies, strategies, trends, technologies, markets, etc. that are ruling the forestry products sector. Generally, information on buyers' requirements is not readily available,

28. World Bank, World Development Indicators (2013)

29. ADB, *Power Transmission and Distribution Improvement Project*. Available from http://www.adb.org/projects/46390-002/details

30. World Trade Organization (2014). *Trade Policy Review: Myanmar*.

preventing exporters from assessing the factors that are critical to succeed in a specific target market.

This situation highlights the relative weaknesses of the TSIs that should play a key role in obtaining real-time market information and prices, and information on standards, rules and regulations. Such information would allow private sector organizations to better identify their target markets; adapt their business strategies to better meet their clients' needs; align their production with market demand and thus reduce storage costs; diversify their production, etc.

TSIs should therefore be developed to improve the organization of the sector, modernize the communication system, strengthen the linkages between stakeholders, and centralize the collection and dissemination of trade information, as well as making it easier to access. MTMA, in cooperation with MoC and MoECAF, seems to be the most relevant organization to take on this responsibility.

POOR PERCEPTION OF THE SECTOR'S IMAGE NEGATIVELY AFFECTS EXPORT POTENTIAL

Despite the internationally recognized quality of Myanmar teak, national products currently suffer from international markets' perception of their image, which may have been generated through media reports on issues such as illegal logging practices, lack of certification systems, poor labour conditions or, more generally, ethnic violence and repression. The absence of a national brand for the forestry products sector limits the visibility of products.

To build export competitiveness, the sector must establish an effective brand for forestry products that will overcome the above-mentioned stereotypes and promote the superior quality of its teak and forestry products, as well as Myanmar's ethnic diversity, strong workforce and ambitious drive. This brand should be accompanied by the development of promotional campaigns to target markets.

LIMITED MARKETING ACTIVITIES AND THE ABSENCE OF EXPORT PROMOTION LIMIT THE INTERNATIONAL OUTREACH OF FORESTRY PRODUCTS

Closely linked to the absence of a national brand for forestry products is the absence of an export promotion agency in Myanmar. More generally, financial support to the sector has, until recently, been restricted to areas such as capacity development, rules and regulations, and environmental sustainability. Marketing and export promotion activities have typically not been addressed as part of development initiatives, and as a result current and potential exporters in the forestry products sector have relatively low capacity in this area.

At the national level, trade promotion is currently undertaken by the Trade Promotion Department of MoC, and UMFCCI. As far as the forestry products sector is concerned, the MTE policy has so far focused on log exports, partly contributing to slow or non-existent branding and promotion efforts, notably for higher added value products. The limited capacity of the timber associations and the ministries in charge (MoECAF and MoC in particular) has also hindered the development of, and participation in, promotion and marketing activities the forestry products sector would benefit from. Such activities include fairs, export promotion campaigns, trade shows, developing online visibility, etc.

Cooperatives or associations of producers could leverage collective strengths towards greater supply, quality, branding and promotion, but these entities are yet to be established. The establishment of an export promotion agency should be considered, and a special department dedicated to the forestry products sector created. The use of modern communication channels should also be developed, notably to increase the online visibly of the sector and to implement online marketing strategies. There is also a need to upgrade trade fairs from regional level to international level. The recently created Myanmar Marketing Association could play a role in developing such tools and strategies, together with UMFCCI and MTMA.

LIMITED INVESTMENT PROMOTION LIMITS THE DIVERSIFICATION POTENTIAL OF THE SECTOR

Investment promotion activities focusing on the country's potential for high value wood-based commodities such as plywood, veneer, marquetry, panel board, wooden furniture, etc. are required to better promote the potential of the sector and increase its investment attractiveness. Attracting FDI will allow the sector to develop these activities, hence diversifying its product range focusing on higher added value products.

In line with the needs related to export promotion identified above, in order to tackle this issue private and Government institutions must support prompt and effective actions to encourage export-oriented production and investment. Increased visibility of the sector and participation in trade fairs and other activities are important for promoting Myanmar products and knowledge and attracting investors. Participation in such fairs is a skilled operation requiring significant effort, resources and rigour.

DEVELOPMENT GEAR

Box 6: Overview of forestry products sector development issues

- The alarming deforestation rate represents a serious threat to the environmental sustainability of the country
- Socioeconomic development of the sector's rural farmers is difficult because of limited access to key services
- High levels of energy poverty in Myanmar and massive dependence on wood as a source of energy

THE ALARMING DEFORESTATION RATE REPRESENTS A SERIOUS THREAT TO THE ENVIRONMENTAL SUSTAINABILITY OF THE COUNTRY

According to a recent United Nations Development Programme report on the achievement of the Millennium Development Goals in Myanmar, the country is said to be regressing in terms of forest coverage, with a reported 11% loss between 1990 and 2010.

The United Nations collaborative initiative on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries is even more alarmist, stating that the country has one of the highest rates of forest loss on Earth. According to the programme, between 1990 and 2005 Myanmar lost an average of 466,000 hectares of forest per year – or 18% of its total forest cover during that period. The deforestation rate has increased by 13.5% since the end of the 1990s, largely resulting from agriculture, logging, fuelwood collection, and, to a lesser extent, development for energy infrastructure.

Also, although Myanmar is well endowed with diverse natural resources of flora and fauna, some species are now being listed as endangered or threatened to be extinct, partly due to the loss of habitats (as well as unlawful hunting and illegal trade in wildlife products).[31] Habitat maintenance and restoration, protection of endangered and rare species of both flora and fauna, and the creation of protected areas should therefore be undertaken. Although efforts are being made by the local authorities to preserve the country's forests, continued attention should be paid to environmental sustainability and deforestation issues.

31. Republic of the Union of Myanmar, Ministry of Forestry (2005). *National Action Programme to Combat Desertification in the Context of the United Nations Convention to Combat Desertification (UNCCD)*. Yangon.

SOCIOECONOMIC DEVELOPMENT OF THE SECTOR'S RURAL FARMERS IS DIFFICULT BECAUSE OF LIMITED ACCESS TO KEY SERVICES

There is low distribution of key services such as finance, electricity and transport outside the main urban centres of Myanmar – Yangon, Nay Pyi Taw and Mandalay.[32] According to figure 19, there is also an uneven and highly varied concentration of GDP per region in Myanmar.

The forestry products sector's performance is largely based on the ability of its agricultural producers in varied rural regions to increase production. The development of the sector is therefore closely linked to better distribution of services and support to producer groups in production areas.

In addition, although the forestry products sector contributes to employment creation (around 500,000 people are estimated to be directly employed in the industry)[33] and reduces unemployment or underemployment of rural families, there are limited decent job opportunities for skilled labourers in local communities. Job opportunities for both skilled and unskilled labourers are concentrated in urban areas (Yangon and Mandalay in particular) where wood-based industries producing value added products such as furniture are based.

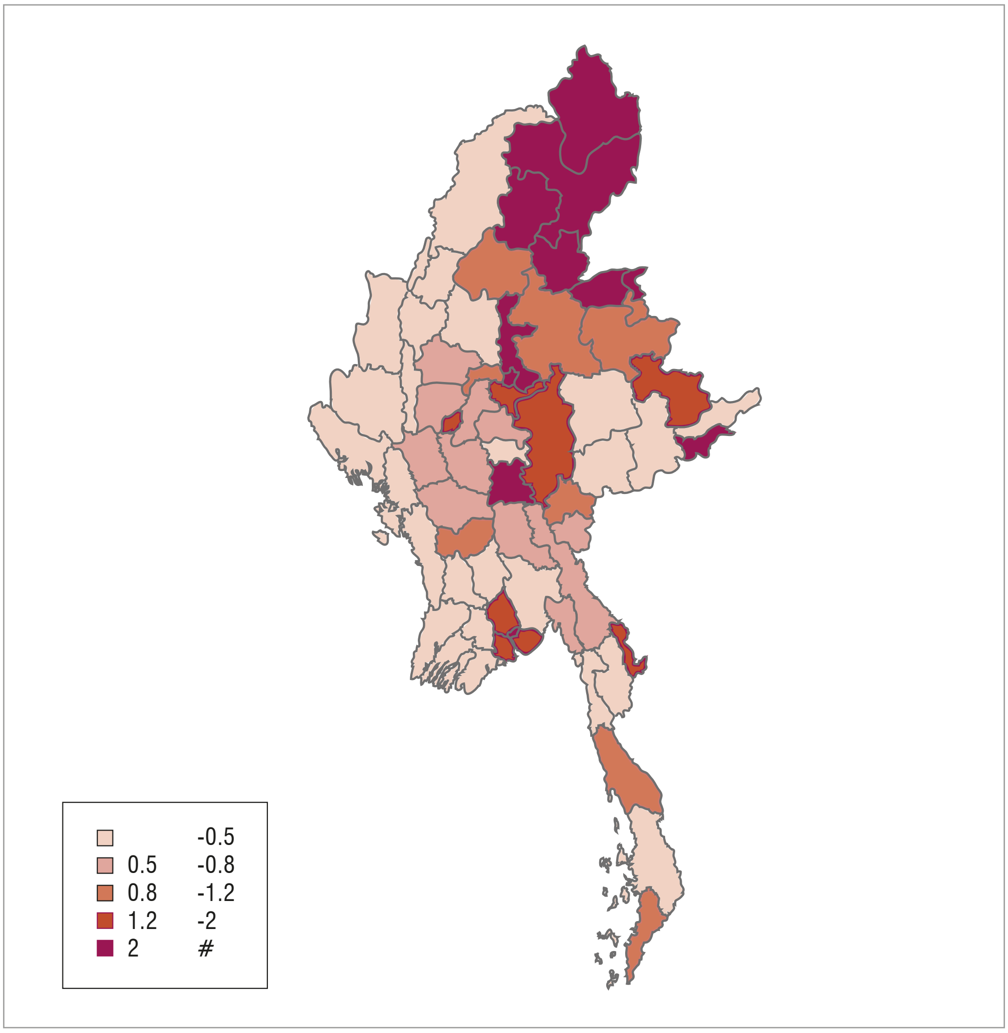
The development of the forestry products sector could have a positive impact on rural areas as it would foster rural development in a sustainable manner. With a large concentration of poverty (85%) being located in rural areas,[34] the development of the sector could contribute to reducing the gap between urban and rural zones.

32. Institute of Developing Economies (2012). Myanmar economy viewed at night. *Policy Review Series on Myanmar Economy*, No. 05, August. Japan: Institute of Developing Economies, JETRO.

33. Woods, K. and Canby, K. (2011). Baseline Study 4, Myanmar: Overview of Forest Law Enforcement, Governance and Trade. Kuala Lumpur; European Union Forest Law Enforcement, Governance and Trade Action Plan in Asia.

34. Swedish International Development Cooperation Agency / United Nations Children's Fund / United Nations Development Programme (2011). *Integrated Household Living Conditions Survey in Myanmar (2009-2010) – Poverty Profile.* Yangon, Myanmar; UNDP.

Figure 19: *Estimated GDP per capita in Myanmar by district (2009)*



Source: Institute of Developing Economies (2012). Myanmar economy viewed at night. *Policy Review Series on Myanmar Economy*, No. 05, August. Japan: Institute of Developing Economies, JETRO.

HIGH LEVELS OF ENERGY POVERTY IN MYANMAR AND MASSIVE DEPENDENCE ON WOOD AS A SOURCE OF ENERGY

In Myanmar, inadequate electric power supply and limited provision of household fuel gas lead to continued use of fuelwood and charcoal. At the national level, approximately 70% of the population depended on firewood and charcoal as a source of energy in 2010.[35] In rural areas, where wood is the main source of energy, with average fuelwood consumption per household estimated at about 2.5 cubic tons per annum for the last decade (1.4 cubic tons for urban households),[36] the resource is particularly important. Wood energy is also used in cottage industries and large agro-industries in rural areas.

As indicated in the PoA (operational objective 3.7), it is necessary to promote fuelwood and substitutes to safeguard the interests of rural communities. This can be done by implementing a quota system for the supply of fuelwood and supplying rural communities with alternative forms of fuels for household consumption or by encouraging households to have better bio-stoves or fuel efficient stoves so as to reduce household wood consumption. This can only be achieved under the framework of community-based management of forestry resources. The introduction of an incentive scheme for those switching to alternative sources of renewable energies (including studying the impact of subsidies for green energies) is also envisaged.

35. Htun, K. (2009). Myanmar forestry outlook study. Asia-Pacific Forestry Sector Outlook Study II Working Paper Series, Working Paper No. APFSOS II/WP/2009/07. Bangkok; FAO.

36. *Ibid*.

WHERE WE WANT TO GO

VISION

The following vision has been developed towards the goal of increasing export competitiveness in the Myanmar forestry products sector.

> "Growth through sustainable innovation in harmony with a responsible forestry industry."

The immense natural endowments and the positive reforms which the Government has enacted will offer vast opportunities for the forestry products sector to grow throughout the value chain. Adapting to new market opportunities and reaching competitive advantage will require, in some cases, the strengthening of existing linkages, while in other areas structural modifications to the sector are required. Both these types of improvements must lead to *market penetration* (increasing exports in existing markets), *product development* (increasing exports of new products in existing markets), *market development* (increasing exports of existing products in new markets), and *full diversification* (increasing exports of new products in new markets).

The strategic options available to, and the envisaged future marketing efforts of, the forestry products sector are discussed in greater detail below.

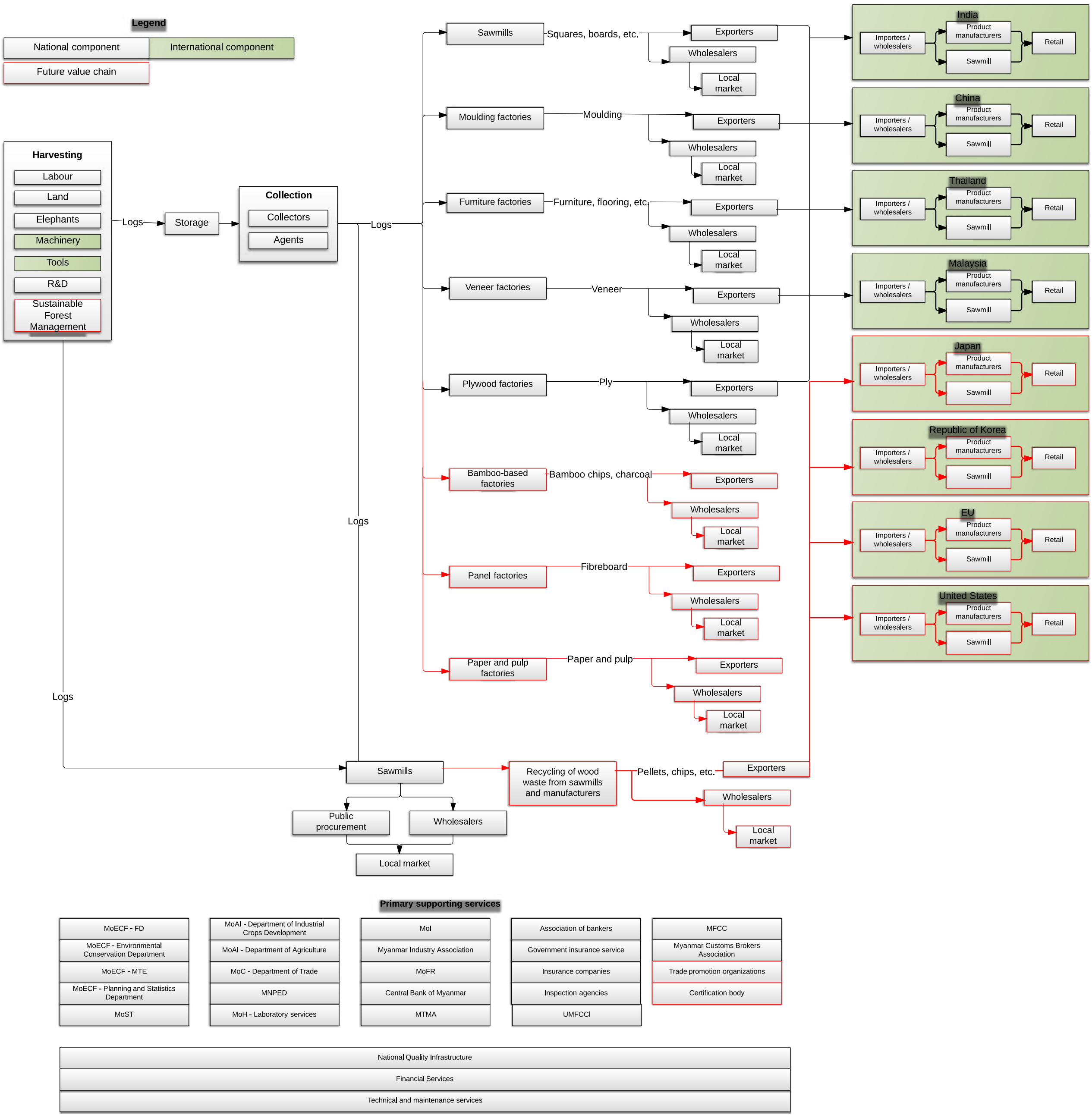
MARKET AND STRATEGIC OPTIONS

As indicated in the introduction, the envisioned future state of the forestry products sector has been developed using a combination of consultations, surveys and analyses. This future state consists of two components:

- A market-related component involving identification of market development options for Myanmar exporters
- Structural changes to the value chain that result in either strengthening of linkages or introduction of new structural linkages.

The market identification was based on a combination of trade analysis using ITC methodology for identifying potential target markets, and consultations with the main stakeholders of the forestry products sector. Both existing and new products are assessed. The projected structural changes to the sector are based on efficiency gains identified through the four gears analysis of the sector's performance, and through the identification of opportunities for improving the sector's capacity to add, create, retain and distribute value. The proposed future state is presented in figure 20 through a future value chain which captures both the selected key markets and strategic options.

Figure 20: *Future value chain*



MARKET DEVELOPMENT OPTIONS

The following section provides insights into market development opportunities based on quantitative and qualitative research.

Key markets associated with short-term opportunities are selected based on factors such as existing trade relationships, cultural affinity and geographical distances. These factors highlight strong existing market linkages that form the foundation for expanded future growth. Markets representing longer-term opportunities reflect the increasing ability of exporters to move into new and/or higher value markets over time – as envisioned by the NES and its PoA. In the longer term, it is expected that the evolving capacities of exporters – across multiple dimensions including quality management, supply capacities, product diversification, time to market efficiency, and marketing / branding, in conjunction with the improving business environment, investment climate and export value chain improvements – will allow exporters to develop new products and to target other markets which seem hard to penetrate now.

FORESTRY PRODUCTS: SHORT-TERM STRATEGY (1–3 YEARS)

INDIA

India is Myanmar's most important trading partner for forestry products, representing 57% of Myanmar exports of wood and articles of wood (HS44) in 2012. However, 77% of the US$683 million worth of forestry products imported by India that year were logs, used primarily in the construction industry. Given the composition of Myanmar's exports to India, it is expected that, with the progressive ban on log exports starting in April 2014, trade between the countries will sharply decrease in the short term. In spite of this, Myanmar should build on this well-established trading relationship with India to develop the forestry products sector and diversify its production.

CHINA

Currently the second trading partner for forestry products with a 26% market share, China's importance is likely to grow in the coming years given its booming demand. With almost US$15 billion worth of products imported, China was the world's major importer of wood products in 2012. If logs were almost half of the country's imports that year, wood in chips and sawn wood also represent a large share of China's imports, from which Myanmar could benefit in the short term given the low level of sophistication of these products. Chinese imports of sawn wood (HS4407) grew by 34% between 2008 and 2012. This rate has reached 67% for wood in chips (HS4401) over the same period. Exports of veneer sheets and sheets of plywood as well as wooden furniture to China could also be further developed, even if Chinese demand currently remains limited for these products.

THAILAND

Currently the third trading partner for Myanmar forestry products exports, Thailand offers great opportunities for Myanmar's products. It is a rapidly growing market for Myanmar plywood and veneer panels, with 19% growth in export value recorded between 2008 and 2012. Sawn wood being the main forestry product imported by Thailand, mainly for transformation purposes, private operators should also look at strengthening their trade relationship with Thai counterparts.

CHINESE TAIPEI

Chinese Taipei is an important destination for Myanmar's forestry products – ranked fourth after India, China and Thailand – with a market share of 3.2%. The country mainly imports sawn wood, plywood and wood in chips, and currently relies on other ASEAN member states for its supply (Malaysia, Indonesia, Thailand and Viet Nam were among the country's major suppliers of wood and articles of wood in 2012). It is clear that Myanmar should be able to catch up with these countries and increase its market share for the above-mentioned products.

JAPAN

In 2012, Japan was the third largest importer of wood and articles of wood (HS44) globally, behind China and the United States, with a 9.8% share of world imports. Japanese importers are increasingly relying on ASEAN countries for wood supply, with imports from Indonesia, Malaysia, the Philippines, Viet Nam and Thailand representing more than 30% of the country's imports in 2012, with a two digit export growth rate in value for the period 2008-2012 for these countries (with the exception of Malaysia). This trend indicates that the Japanese market could offer significant opportunities for Myanmar's forestry products in the coming years. The composition of Japanese imports further reinforces this view, given the fact that Myanmar already has the capacity to produce and export the main items imported by Japan – i.e. sawn wood, plywood and veneered panels, and builders' joinery and carpentry of wood – even if these activities remain largely underdeveloped. Japan is also the world's most important import market for wood charcoal as well as the foremost importer of wood in chips – increasingly relying on Viet Nam for this product – indicating potential prospects for Myanmar given the low level of sophistication of these products.

Overall, however, although Myanmar forestry products could offer both price (cheap labour force) and quality (Myanmar teak) advantages over most of its regional competitors, the absence of certified quality standards for forestry products limits exporters' capacity to access the demanding Japanese market with its higher standards and quality requirements. In 2012, Japan accounted for less than 8% of Myanmar's forestry products exports, or US$9 million worth.

FORESTRY PRODUCTS: MEDIUM-TO-LONG TERM (3+ YEARS)

EU

Over the medium-to-long term, the EU market offers promising prospects for Myanmar exporters seeking to enter higher value markets. By building on emerging capacities, Myanmar firms will be able to expand their product offering. As for the Japanese market, initial areas of focus include the introduction of certified quality standards for forestry products and, more generally, higher quality requirements.

In the medium term, the priority will be to develop and/or expand trade relationships with EU member states, focusing on existing products for which Myanmar already possesses the technical know-how. Plywood exports to Germany and the United Kingdom of Great Britain and Northern Ireland could, for instance, be envisaged – the two countries accounting for 10% of world imports – as well as wood charcoal exports to the rapidly growing German, French and British markets, with annual import growth rates in value ranging from 12% to 14% over the period 2008-2012. Supplying builders' joinery and carpentry of wood (HS4418) to these markets should also be considered.

Other longer-term opportunities include the introduction of a greater range of goods targeting the EU's growing demand for some wood-based products. First of all, the demand for high quality wooden furniture is high in EU member states, offering promising opportunities for Myanmar's furniture manufacturers. Myanmar could also develop the production of wood pulp and paper and enter these promising sectors, respectively representing global imported values of US$50 billion and US$170 billion in 2012.

UNITED STATES

The United States is the second largest importer of wood and articles of wood (HS44) globally after China. Although Canada is by far the main trading partner of the United States, accounting for almost half of the US$13.7 billion worth of products imported by the country in 2012, the vast American market remains promising for Myanmar's forestry products now that most economic sanctions have been lifted.

Similarly to the European market, the first step for Myanmar's forestry products exporters will be to focus on developing exports of existing product. In particular, builders' joinery and carpentry of wood (including doors and flooring panels) (HS4418) are highly demanded items in the United States, with an imported value of US$1.6 billion in 2012, making it the world's biggest importer. The country is also the second largest importer of plywood after Japan.

Other longer-term opportunities include the development of a wooden furniture industry capable of meeting the demanding quality requirements of the American market. The United States is world's top importer for all types of wooden furniture, including kitchen, bedroom, office and garden wooden furniture, accounting for approximately 25% of world demand for these products. Exports of paper and paperboard targeting the American market could also be envisaged, the United States being the major consumer of paper worldwide with an imported value of US$16 billion in 2012. Other activities such as the production of fibreboard of wood, wooden tools, furniture of bamboo or rattan also represent interesting niches for Myanmar's forestry products sector. Upgrading production and processing methods to meet strict American standards is also a good opportunity for Myanmar exporters to meet (or exceed) the standards of several other markets.

JAPAN

In addition to the products mentioned in the previous section, Japan could also become a key market for more complex wood-based products such as flooring panels of wood and parquet flooring. The Japanese market is indeed viewed as a stable export market for these products. Japan is also an important destination for wooden furniture and is currently relying on China, Malaysia, Viet Nam and Indonesia and for its supply. By developing and upgrading its wooden furniture production, Myanmar should also be able, in the medium-to-long term, to penetrate this market.

CHINA

The economic development of China and the development of the Chinese middle class will progressively boost the country's imports of higher added value forestry products. If the demand for these products is currently relatively low, the Chinese market will inevitably become a driver of the industry. It is also to be noted that, in 2012, the country was by far the main importer of wood pulp, with US$ 17.2 billion worth of pulp imported, accounting for 34.9% of the world's imports for this product. The development of the production of wood pulp should therefore be considered in Myanmar's NES with a view to entering this rapidly growing market.

STRUCTURAL IMPROVEMENTS TO THE VALUE CHAIN

Box 7: Overview of structural changes to Myanmar's forestry products sector

- Develop technical competencies of the forestry products sector towards value added products
- Develop a new product line of wood residue and wood by-products
- Improve the capacity of the forestry products sector to comply with international standards
- Ecotourism for conservation areas of forests could also represent a source of revenue
- Link with other sectors through the supply of alternative energy such as biomass boilers for electricity production
- Improve environmental sustainability

DEVELOP TECHNICAL COMPETENCIES OF THE FORESTRY PRODUCTS SECTOR TOWARDS VALUE ADDED PRODUCTS

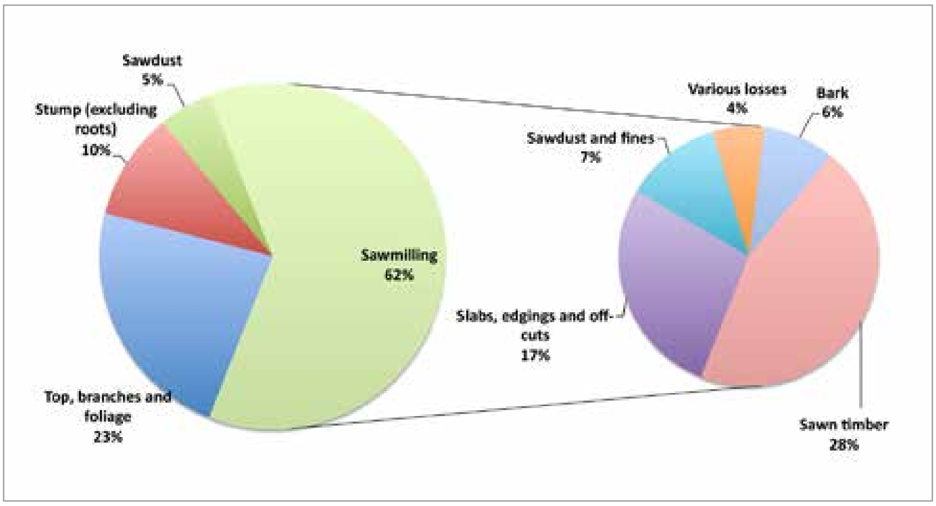
Despite some technical training provided to MTE staff, there is relatively limited training provided to workers in the private sector. There is a need to provide training for harvesting (both timber and non-timber) and also in production techniques, use of new technology, design and quality. Beyond purely technical training, business education is weak in the sector, as well as accounting skills. The proposed strategy will directly tackle this through a series of training programmes. Training will also be given to reach European, Japanese and United States standards, and both public and private sector bodies will be provided with capacity-building in this regard.

DEVELOP A NEW PRODUCT LINE OF WOOD RESIDUE AND WOOD BY-PRODUCTS

Less than 30% of a typical tree harvested for timber is used in the production of the wood sector, while the remainder is residue, usually left in the forest or used for fuel in rural communities. There is therefore a strong case for using the residue as an input into the industry. The level of wood residue arising from different activities in timber harvesting is illustrated in figure 21.

For wood residues employed as an input as an energy source (for simple kiln drying or use as electricity generation for manufacturing), success will depend on the cost of collecting residues and reliability of supplies, as well as the kind of market exchange generated for marketing the by-products. These elements are considered in the strategy and are incorporated into the action plan.

Figure 21: *Residues generated by a typical tree harvested for timber*



Source: Food and Agriculture Organization of the United Nations (1990). Energy Conservation in the Mechanical Forest Industries: FAO Forestry Paper 93. Rome.

IMPROVE THE CAPACITY OF THE FORESTRY PRODUCTS SECTOR TO COMPLY WITH INTERNATIONAL STANDARDS

A key prerequisite for building export competitiveness in the forestry products sector lies in the ability of enterprises to meet international standards. Global standards vary across markets, although they tend to focus on sustainability criteria and transparency with regard to origin. Standards are highest in the EU and United States markets.

Myanmar currently does not have any internationally recognized certification standard, such as Forest Stewardship Committee,[37] although the country has had a long history of scientific forest management and has engaged in several domestic and regional initiatives that could serve as a positive foundation to those seeking to establish certification programmes in Myanmar.[38]

MoECAF notably established the MFCC in 2012, which replaces the old Myanmar Timber Certification Committee. The Committee is responsible for the establishment of a national forestry certification scheme. As a member of ASEAN, Myanmar also participates in the Working Group on a Pan-ASEAN Timber Certification Initiative.

Similarly to some ASEAN member states, Myanmar should work on additional measures for a more responsible and sustainable trade in forestry products through the development of a national Timber Legality Assurance System. Broad-ranging initiatives will need to be launched in order to develop and improve capacities of companies and cooperatives to commit to international voluntary and mandatory standards, including negotiating FLEGT VPAs with the EU, in which a Timber Legality Assurance System is the core element,[39] as well as complying with the United States' Lacey Act.

These initiatives will include, but not be restricted to:

- Identifying the current level of compliance and key barriers that are preventing producers from attaining compliance
- Working towards gaining international recognition of MFCC
- Pilot projects to support upgrading of facilities
- Improving quality management infrastructure within enterprises
- Developing a strong traceability infrastructure across the value chain
- Technical field trainings related to best practices involved in pre-/post-harvesting of trees, as well as support to the technical and vocational education and training infrastructure to overhaul the curriculum.

37. The Forest Stewardship Council works to improve forest management worldwide, and through certification creates an incentive for forest owners and managers to follow best social and environmental practices.

38. Woods, K. and Canby, K. (2011). *Baseline Study 4, Myanmar: Overview of Forest Law Enforcement, Governance and Trade*. Kuala Lumpur: European Union Forest Law Enforcement, Governance and Trade Action Plan in Asia.

39. ASEAN Forest (2014). Forest and timber certification. Available from www.aseanforest-chm.org/forest-and-timber-certification.

ECOTOURISM FOR CONSERVATION AREAS OF FORESTS COULD ALSO REPRESENT A SOURCE OF REVENUE

Myanmar is a land of richness of nature and diversity of species. It is endowed with one of the largest forest covers in the region and the land area of Myanmar has a variety of natural resources, plants and animals, providing substantial opportunities for ecotourism development.

In addition to the source of revenue ecotourism could represent in the coming years, the development of this industry will also help preserve and protect the environment and will create awareness among rural communities living in the concerned areas. The creation of additional protected zones will be a first step, as well as the creation of appropriate, eco-friendly infrastructure for tourists. Educating local communities is also a prerequisite, in particular to raise awareness of natural areas and how to best protect them while deriving benefits in the present.

LINK WITH OTHER SECTORS THROUGH THE SUPPLY OF ALTERNATIVE ENERGY SUCH AS BIOMASS BOILERS FOR ELECTRICITY PRODUCTION

There is a diversity of potential biomass in Myanmar, including wood chips, lumber waste and sawdust. It is commonly accepted that approximately 30% of logs become sawmill waste, 20% mill ends and 10% sawdust. These residues from milling processes could be collected and used in strategically located boilers to generate part of the energy required by the forestry products sector itself as well as to supply other sectors, notably households and agricultural sectors operating in rural areas, with this alternative source of energy.

The use of biomass in heating systems is beneficial because it uses forest residues and waste to produce heat and electricity with less effect on the environment than fossil fuels. It is also an alternative to setting up costly fuel generators.

IMPROVE ENVIRONMENTAL SUSTAINABILITY

Enforcement of illegal logging remains weak, and cross-border trade in logs accounts for the largest proportion of trade in wood products. The ban on the export of logs from April 2014 is expected to generate pressure to curb illegal logging. Rural communities also need to be better informed with regard to the need for preservation and conservation of forestry resources, and provided with new sources of energy (from residues to electrification of rural areas). Without a national plan to tackle this, illegal logging will remain vibrant in Myanmar.

ROLE OF INVESTMENT

Myanmar's investment environment has changed significantly in recent years, since the Government embarked on political and economic reforms while improving its international relations with important partners around the world. In 2012 project numbers increased from 10 to 54 and Myanmar has also shown increases in capital investment (151.94%) and job creation from FDI (157.20%).[40]

Net FDI outside of the sector of gas has, however, remains very low, with a small exception for the garment and textile sector. FDI has remained very low in the Myanmar forestry products sector. There is some limited foreign investment in distribution services for wood, and in joint venture operations with MTE and in sawmilling. Both FDI and domestic investment are seen as essential to accompany the ambitions of the forestry products sector in Myanmar, a sector that lacks adequate investment in capital and knowledge. The development of the pulp and paper industry would, for instance, require significant investments in the coming years.

Although growth has been somewhat restricted due to environmental sustainability concerns, FDI is encouraged. Under the new Foreign Investment Law, there are no restrictions on the repatriation of profits from wood. There is currently no joint production or technology sharing in the private sector, but the sector aims for this in the near future. The Myanmar Investment Commission has recently approved firms from India to enter into strategic alliances. Stakeholders have expressed concern over the new Foreign Investment Law, which may lead to foreign enterprises setting up sawmills in the country and displacing local producers, owing to greater capital and economies of scale. Stakeholders favour joint ventures instead of full foreign ownership, as is allowed now.

However, significant opportunities for the forestry products sector exist, including:

- Quality of the teak produced: teak is recognized as one of the most valuable timbers in the world, and Myanmar produces the best quality teak.
- Sizeable international markets to supply with forestry products.
- Strategic geographical situation between two growing and giant markets, China and India. The demand for forestry products in China and India is enormous and expected to continue.
- Other interregional countries such as Thailand, the Republic of Korea, Australia and Japan are major Asia–Pacific importers of solid wood forestry products.
- Vast forestry resources exist but investment in capital and advanced technology within this sector is quite low.
- Exercise of monopoly practice, especially in teak export.
- Controlling supply could create maximum earnings with minimum use of resources.
- There is room to invite foreign investment in value added production.

From the country's point of view, investment would contribute to:

- Setting up downstream industries;
- Developing new value added product production;
- Modernizing pre-harvest, harvest and postharvest technologies in the forestry products sector that are still low in Myanmar, allowing for higher value added production and limiting wastage;
- Technical development;
- Better distribution. Foreign firms have better access to other distribution channels in foreign markets because of better knowledge. Myanmar firms tend to export just free on board and stop at ports. They can also better meet buyer requirements because of financing from head offices.

40. Financial Times (2013). *The fDi Report 2013*.

HOW TO GET THERE

The vision of the strategy of "Growth through sustainable innovation in harmony with a responsible forestry industry" responds to the constraints, but equally to the ambitions, identified in the sector strategy. The following section explains the framework that will guide the implementation of the strategy. A detailed action plan setting out what needs to be done, and by whom, is presented at the end of this section.

STRATEGIC OBJECTIVES

Stakeholders considered that four strategic objectives are necessary to realize the sector vision and address both challenges and opportunities facing the forestry products sector in Myanmar.

THE FIRST STRATEGIC OBJECTIVE IS TO STREAMLINE ADMINISTRATIVE RULES AND PROCEDURES, AND ASSURE RELIABLE UPSTREAM SUPPLIES.

This goal will be broadly achieved through operational objectives and related activities aimed at encouraging the streamlining of business licensing and regulatory procedures; simplifying and making more transparent the procurement procedure of MTE; and increasing the quality and reliability of supplies.

THE SECOND STRATEGIC OBJECTIVE IS TO IMPROVE THE SKILLS AND CAPACITY OF THE INDUSTRY.

This goal will involve operational objectives and related activities aimed at implementing skills and training programmes for the forestry products sector, such as extending vocational training programmes run by MoLESS, the FD and MTMA to the private sector, and increasing the number of courses available; providing technical assistance to upgrade the industry; and introducing scholarships for overseas studies. This strategic objective also aims at strengthening the TSN in the forestry products sector through activities focused on the provision of financial services to the forestry products sector by: improving knowledge and understanding by financial institutions and increasing availability of products; encouraging the establishment of cooperatives, joint ventures, partnerships and consortiums; and forming a federation for the forestry products sector.

THE THIRD STRATEGIC OBJECTIVE IS TO INCREASE THE SECTOR'S SUSTAINABILITY.

This objective has many dimensions, namely to: curb illegal logging; ensure that the sector adopts sustainable harvesting and efficient, effective use of resources in all segments of the forestry industry; and ensure that development of the wood sector is accompanied by improvements in the livelihoods of rural communities which depend on forestry resources. In order to achieve this goal, operational objectives and related activities will be focused on applying a wood certification system and strengthening the FD's management of forestry resources, extending forest plantations, and extending and upgrading the industry to move away from raw product into high value added wood products. The goal of safeguarding the livelihoods of rural communities will be reached through operational objectives and related activities focused on promoting more responsible practices with fuelwood and introducing substitutes, and developing better infrastructure and practices for water resources. Finally, illegal logging will be dealt with through education, more resources being mobilized for monitoring, and tougher penalties.

THE FOURTH STRATEGIC OBJECTIVE IS TO IMPROVE MYANMAR'S INTERNATIONAL MARKET SHARE IN VALUE ADDED PRODUCTS, AND PROMOTE TRADE AND INVESTMENT IN MYANMAR FORESTRY PRODUCTS.

This goal will be accomplished through operational objectives and related activities focused on: enforcing bans on exports of forestry products which are unprocessed or have undergone limited processing; proposing rules and reforms to encourage foreign investment into the sector; addressing the issue of underreporting or non-reporting of forestry product exports in order to evade or lower tax levels; implementing a programme of investment promotion though trade fairs and commercial attachés; arranging trade fairs and organizing regular missions abroad by Myanmar trade delegations in potential markets; and fostering the production of high value added forestry products and by-products.

IMPORTANCE OF COORDINATED IMPLEMENTATION

The broad range of activities, together with the complex nature of integrated intervention, requires careful implementation that efficiently directs resources and monitors results at both the micro and macro levels. To this end, the MTDC was established in order to facilitate the public-private partnership in elaborating, coordinating, and implementing the NES. In particular, the MTDC will be tasked with coordinating the implementation of activities in order to optimize the allocation of both resources and efforts across the wide spectrum of stakeholders. Within this framework, implementation of the forestry products strategy also falls within the purview of the MTDC.

Such efforts will involve directing donor and private and public sector organizations towards the various NES priorities in order to avoid duplication and guarantee maximum impact. Responsibilities include monitoring the results of activities and outputs, while at the same time recommending policies that could serve to enhance realization of the strategic objectives. With a 360 degree view of progress, the Committee is best placed to manage funding and provide regular reports to donors and stakeholders. Moreover, the MTDC will play a key role in recommending revisions and updates to the strategy so that it continues to evolve in alignment with Myanmar's changing needs.

IMPLEMENTATION PARTNERS-LEADING AND SUPPORTING INSTITUTIONS

A number of institutions will play a key role in the implementation of the PoA for the forestry products products sector, as illustrated in the trade support network section and the PoA. These are institutions that have the overall responsibility for successful execution of the strategy, as well as support institutions that are active partners but not leading institutions. Each institution mandated to support the export development of the rubber products sector is clearly identified in the strategy PoA.

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NATIONAL EXPORT STRATEGY
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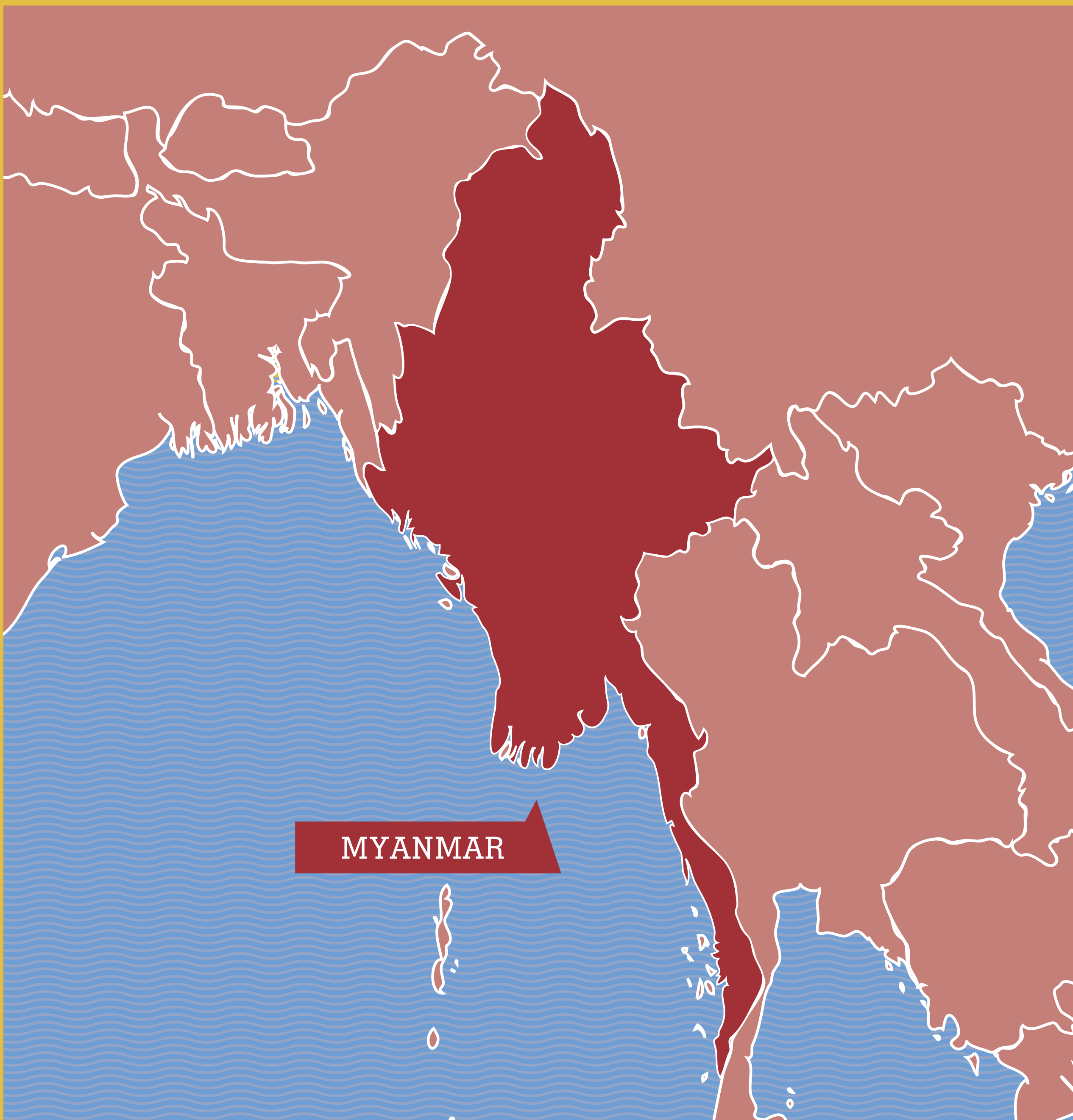
PLAN OF ACTION

The following action plan details all the activities to be undertaken over the next five years to achieve the vision of the strategy. The action plan is organized around strategic and operational objectives that respond to the constraints and opportunities identified in the strategy. The action plan provides a clear and detailed framework for the effective implementation of the Forestry products strategy.



Strategic objective 1: Streamline administrative rules and procedures, and assure reliable upstream supplies.

Operational objective	Activities	Priority 1=high 2=med 3=low	Beneficiaries	Targets	Leading implementing partner	Supporting implementing partners	Existing programmes or potential support	Estimated cost (US$)
1.1 Review and streamline the current rules and regulations for the extraction, processing and export of forestry products.	1.1.1 Set up a working group with private–public stakeholders to meet on a monthly basis to discuss developments and issues related to exporting and production (including taxes, investment, obstacles etc.). The working group should prepare policy notes and make proposals.	1	Private operators / MTMA	» The working group is established » Regular meetings are kept » Decisions are taken and policies are adopted to favour the industry	MoECAF	MTMA, MoC, Customs	Working group currently meets on an ad hoc basis and is not formalized	50 000
	1.1.2 Analyse the proposals made by the working group and produce an impact analysis linked to the introduction of new policies.	1	Private operators	» Impact assessments are conducted for changes in policy decisions » Stakeholder consultations are held to adopt a position	MoECAF	MTMA, MoC, Customs		20 000
	1.1.3 Present the proposals to parliament with the objective that some regulations will be lifted or eased.	1	Private operators	» Changes are made to legislation » New legislation is adopted	MoECAF	MoC, Customs		20 000
1.2 Simplify the transparency of procurement procedures for upstream supplies and improve the quantity supplied.	1.2.1 Introduce a policy to announce next year's estimated quota (for the tender) in a timely manner (i.e. before the end of the current year). Publish allowable quotas for tendering by local industry in advance on a monthly basis.	1	Private operators	» Announcements are published on the website » Announcements are made on a monthly basis and in advance	MoECAF	MTMA	Currently on open tender	60 000
	1.2.2 Introduce a system whereby open tendering becomes the only way of purchasing raw timber materials.	2	Private operators	» All timber is sold through open tenders only	MoECAF	MTMA	Multiple selling channels	30 000
	1.2.3 Implement, under the authority of MoECAF and in close collaboration with MTMA, a forecasting system based on previous tender data, consumption forecasts and current extraction data.	1	Private sector / MTE	» Forecasting system based on statistical confidence levels is developed	MoECAF	MTMA		100 000
	1.2.4 Define quality grades for upstream supplies using clear and transparent criteria in line with the grading rules of MTE.	1	Private sector / MTE	» Quality grades are correctly defined and adhered to » Inspection and control system in place	MoECAF	MTMA	Currently mixed	20 000
1.3 Enforce a sustainable forest management system.	1.3.1 Introduce long-term leasing of forest areas to the private sector based on sustainability principles, and allow private operators to operate through company-based contracts. Appropriate training for private sector operators on sustainability principles will accompany this measure, as well as a monitoring system.	1	Private operators / MTMA / State	» Regular meetings » Distribution of minutes » Policy drafts / proposals	MoECAF	MTMA, UMFCCI, private operators		200 000
	1.3.2 Provide targeted trainings on natural forest resources management to the FD to ensure that supplies are sustainable.	1	Private operators / State	» Increase area of natural forest resources » Increased biodiversity	MoECAF	MTMA, UMFCCI, operators	Existing but insufficient	100 000
	1.3.3 Prepare an impact assessment for deforestation and provide recommendations for sustainability.	1	MoECAF / private operators	» Clear assessment of the current situation and comprehensive recommendations to tackle the issue	MoECAF		Existing but insufficient	150 000

Strategic objective 2: Improve the skills and capacity of the industry.

Operational objective	Activities	Priority 1=high 2=med 3=low	Beneficiaries	Targets	Leading implementing partner	Supporting implementing partners	Existing programmes or potential support	Estimated cost (US$)
2.1 Extend FD vocational training programmes and the MTE training programme to the private sector.	2.1.1 Extend forest conservation training programmes to private sector participants (4 × 25 participants).	1	Private operators / MTMA	» Regular training programmes once per year	MoECAF	MTMA	Existing but insufficient and not extended to the private sector	150 000
	2.1.2 Extend forest plantation and sustainable forest management training programmes, including harvesting and logging techniques, to private sector participants (4 × 25 participants).	1	Private operators / MTMA	» Regular training programmes once per year	MoECAF	MTMA	Existing but insufficient and not extended to the private sector	150 000
2.2 Develop MTMA technical training programmes to transfer knowledge and technology know-how to the private sector.	2.2.1 Develop training programmes on product specifications and marketing to the private sector (4 × 25 participants).	2	Private operators / MTMA	» Regular training programmes twice per year	MTMA	MTE, CVT or CBI or MoLESS	Currently co-sponsored by CVT (Switzerland) in other areas	150 000
	2.2.2 Develop training programmes for value added non-timber forestry products for the private sector (25 participants).	2	Private operators / MTMA	» Regular training programmes twice per year	MTMA	MTE, CVT or CBI or MoLESS		75 000
	2.2.3 Develop training programmes in design and moulding for the private sector (25 participants)	2	Private operators / MTMA	» Regular training programmes twice per year	MTMA	MTE, CVT or CBI or MoLESS		75 000
2.3 Provide technical assistance to upgrade the industry.	2.3.1 Develop seminars and workshops in the following areas; » Harvesting and extraction techniques » Value chain development » Value addition » Environmental conservation » Marketing » Quality standards and market access requirements, among others. (Six workshops / seminars per year.)	2	Private operators / MTMA	» Terms of reference produced » Training activity delivered » Adoption of new processes by operators	MTMA	MoECAF, UMFCCI	Currently on an ad hoc basis	250 000
	2.3.2 Develop practical and vocational training programmes in forestry industry design and machinery.	2	Private operators / MTMA	» Terms of reference produced » Training activity delivered » Adoption of new processes by operators	MTMA	MoECAF, UMFCCI		150 000
	2.3.3 Develop practical and vocational training programmes in operational aspects (business plans, financing, management, marketing, etc.).	2	Private operators / MTMA	» Terms of reference produced » Training activity delivered » Adoption of new processes by operators	MTMA	MoECAF, UMFCCI		100 000
2.4 Extend the MoLESS vocational training programme to the private sector.	2.4.1 Extend training programmes in welding, carpentry, flooring, cabinet making, etc. Increase the number of trainees from the private sector.	2	Private operators / MTMA	» Regular training programmes twice per year	MoLESS	MTMA	Existing but insufficient and not extended to the private sector	100 000
	2.4.2 Organize twinning courses with higher level regional institutes to introduce higher technology content into courses and facilitate transfer of knowledge.	2	Private operators / MTMA	» Regular training programmes twice per year	MoLESS	MTMA	Existing but insufficient and not extended to the private sector	100 000

Strategic objective 2: Improve the skills and capacity of the industry.

Operational objective	Activities	Priority 1=high 2=med 3=low	Beneficiaries	Targets	Leading implementing partner	Supporting implementing partners	Existing programmes or potential support	Estimated cost (US$)
2.5 Support the development of highly skilled workers by encouraging promising students to participate in courses abroad.	2.5.1 Provide scholarships to 10 students from the sector in marketing and finance.	3	Private operators / MTMA	» Scholarships set up » Twinning with international institutes » Staff get trained	Ministry of Education	MTMA, MoECAF, UMFCCI		75 000
	2.5.2 Provide scholarships to 10 students in operational aspects (business plans, financing, management, marketing, etc.).	3	Private operators / MTMA	» Scholarships set up » Twinning with international institutes » Staff get trained	Ministry of Education	MTMA, MoECAF, UMFCCI		75 000
	2.5.3 Provide scholarships to 10 students in forestry industry design and machinery in line with the foreign institute	3	Private operators / MTMA	» Scholarships set up » Twinning with international institutes » Staff get trained	Ministry of Education	MTMA, MoECAF, UMFCCI		75 000
2.6 Strengthen the support institutions of the forestry products sector.	2.6.1 Improve the sector's access to financial services (loans, trade credit, insurance) by; » Improving private operators' knowledge of the existing financial products available to them; » Improving financial institutions' knowledge of the forestry products sector's needs and work towards the development of adapted products for private operators.			» Improvements registered in companies' cash flow » Investment increases	MTMA	Myanmar Banks Association, MoFR, Central Bank of Myanmar, MoECAF, MoC		300 000
	2.6.2 Encourage the establishment of cooperatives, joint ventures, partnerships, consortiums and memorandums of understanding to facilitate knowledge transfer, increase associative production, and improve the marketing of forestry products.	2	Private operators	» Increased associative production or marketing of products by Myanmar firms	MTMA	UMFCCI, MoC		200 000
	2.6.3 Form a federation for the forestry products sector to improve the overall organization of the sector and represent operators' interests at the decision-making level.	1	Private operators	» Improved organization of the sector » Stronger influence on Government policies	MTMA	Planning Department, MoECAF	Being planned	200 000

Strategic objective 3: Increase the sector's sustainability.								
Operational objective	Activities	Priority 1=high 2=med 3=low	Beneficiaries	Targets	Leading implementing partner	Supporting implementing partners	Existing programmes or potential support	Estimated cost (US$)
3.1 Raise awareness of illegal logging and illegal trading.	3.1.1 Change consumer and public perception and awareness by increasing the level of public education on illegal logging and illegal trading through talks, media, extension services, etc.	1	Timber industry, sustainability of forest resources, public image	» Awareness-raising events » Reduction of illicit forestry felling » Price stability » Market assurance	MTE (FD)	MTMA, local authorities, local and international NGOs, community-based organizations	Regular exercise of FD but not systematized	200 000
	3.1.2 Have MTMA evaluate the practical measures it could adopt to raise awareness and punish offenders, including the possibility of implementing a blacklisting system against offenders.	1	Timber industry, sustainability of forest resources	» Reports and surveillance of performance of MTMA members (and non-members) » MTMA introduces a blacklisting system	MTMA	FD		100 000
	3.1.3 Lobby against illegal timber recipients in neighbouring countries by organizing meetings with the ministers responsible for forestry in those countries, with a view to enhancing cooperation between the countries to eradicate illegal cross-border timber trade.	1	Timber industry, sustainability of forest resources	» Higher proportion of legal timber trade at the border » Regular communication with other countries' Customs authorities	MoECAF	MTMA, Customs, UMFCC, MoC	Insufficient	400 000
3.2 Enforce the laws and regulations aimed at fighting Illegal logging and Illegal trading.	3.2.1 Increase the intensity of activities of law enforcement officials to police forestry resources, including more systematic inspections and controls, border controls, and implementation of sanctions. Initiatives to increase transparency and monitoring of trade flows should also be strengthened.	1	Law enforcement agencies, timber industry	» Reward by incentive » Punishment by law	MTE (FD)	Police force, local authorities, Customs mobile team (MoC), MTMA, local and international NGOs, community-based organizations	Regular exercise of FD. Special operations are conducted based on information obtained	500 000
	3.2.2 Control and inspect timber distributors and warehousing depots, timber used in construction sites, etc. to fight against the use of illegal timber.	2	Public	» Documentary competence	MTE (FD)	Private timber industry	Insufficient	500 000
	3.2.3 Improve the system in place for issuing export licences for timber products by simplifying and streamlining the administrative procedures and improving their transparency.	1	Timber industry	» Higher proportion of legal & certified timber in the market	MoECAF	MTMA, MFCC, Customs, buyers, local and international NGOs	Insufficient	150 000
	3.2.4 Intensify the control of harvesters through the establishment of binding contracts, inspections and controls, as well as severe sanctions, to trigger dissuasion.	1	Timber industry, sustainability of forest resources	» Existence of contracts » Establishment of a performance monitoring system » Establishment and application of sanctions	MTE (FD)	MTMA	Regular exercise of MTE & FD	150 000

Strategic objective 3: Increase the sector's sustainability.

Operational objective	Activities	Priority 1=high 2=med 3=low	Beneficiaries	Targets	Leading implementing partner	Supporting implementing partners	Existing programmes or potential support	Estimated cost (US$)
3.3 Extend forest plantations, based on environmental sustainability principles.	3.3.1 Study the feasibility of extending private plantations. Based on the result of the policy study, introduce a policy and support its implementation.	1	Private operators / State / community	» Size of plantations are increased	MoECAF	MTMA, UMFCCI, private operators	Exists but remains limited and too restrictive	100 000
	3.3.2 Study ways to engage the community in order to extend community-based forestry. Undertake a pilot study to test the feasibility of stronger community-based engagement.	1	Private operators / State / community	» Results of the pilot study	MoECAF	MTMA, UMFCCI, private operators	Exists but remains limited and too restrictive	150 000
	3.3.3 Develop incentive measures to protect and extend forests.	1	Private operators / State / community	» Incentive measures	MoECAF	MTMA, UMFCCI, private operators		100 000
3.4 Promote fuelwood substitutes to safeguard the interests of rural communities.	3.4.1 Implement a quota system for the supply of fuelwood and supply rural communities with alternative forms of fuel for household consumption. This can only be achieved under the framework of community-based management of forestry resources.	1	Communities	Reduced usage of wood for producing energy Increased use of alternative forms of fuels	MoECAF	MTMA, local government		300 000
	3.4.2 Undertake a feasibility study for the introduction of an incentive scheme for those switching to alternative sources of renewable energies (including studying the impact of subsidies for green energies).	1	Communities' forest resources	Study which details the impacts that such measures can have and the costs to the public sector	MoECAF	MTMA, local government	Insufficient	100 000
	3.4.3 Develop pilots and demonstration centres for the promotion of fuelwood substitutes.	2	Communities	Active participation of rural communities	MoECAF	MTMA, local government	Insufficient	600 000

Strategic objective 4: Improve Myanmar's international market share in value added products, and promote trade and investment in Myanmar forestry products.

Operational objective	Activities	Priority 1=high 2=med 3=low	Beneficiaries	Targets	Leading implementing partner	Supporting implementing partners	Existing programmes or potential support	Estimated cost (US$)
4.1 Improve international market share in value added products (investment and trade).	4.1.1 Reduce the exportation of non-uniform shapes of rough-sawn teak and other unprocessed precious tropical hardwoods (Tamalan, Padauk and Thinwin) by introducing and enforcing a ban on the export of logs, as well as the commodities below, which involve very minor processing; » Teak boule-cut (fully rough) » Teak baulks (up to 95% rough) » Teak flitches and teak squares (up to 75% rough).	1	Government & private sector	» Producing more value added » Creation of more employment » Foreign exchange creation	MoECAF	Customs, MoC, MTMA	The Government has already imposed an export ban on raw timber logs	200 000
	4.1.2 In consultation with the Government and the private sector, implement the strategy for the processing of low added value forestry products (such as teak flitches, squares, board, planks, etc.) targeting, among others, veneer treatment and mini-decking, with a view to increasing export value in Myanmar.	1	Government & private sector	» Producing more value added » Creation of more employment » Foreign exchange creation	MoECAF	Customs, MoC, MTMA		300 000
	4.1.3 Develop, through consultations with the Government, solutions to address the practice of underreported or non-reported forestry product exports, which is used by operators to lower or evade tax payment. A careful analysis of the taxation system for forestry products operators should also be conducted, as well as considering the possibility of introducing an incentive scheme to encourage operators to report accurate figures.	1	Government & private sector	» More tax earnings » Less complaints of unfair competition through tax avoidance	MoECAF	MoFR (Customs), MTMA, MoC		250 000
	4.1.4 Undertake a study to identify potential institutional reforms needed in MoC and Customs to improve the accuracy of the estimated export values (without causing undue trade disruption).	1	Government & private sector	» More tax earnings » Less complaints of unfair competition through tax avoidance	MoC	MoFR (Customs)		200 000
	4.1.5 Design an investment promotion programme. A first step will be to review the investment climate in the forestry products sector, from identifying investment bottlenecks to proposing new regulations and reforms, aimed at attracting FDI into the sector so as to allow capital investment and new technologies, as well as managerial, competencies and skills development.	1	Private sector	» Study on investment promotion » Changes to investment conditions	MTMA	UMFCCI, MoI (Directorate of Investment and Company Administration), MoECAF, MoC		200 000
	4.1.6 Implement the investment promotion programme through trade fairs, matchmaking events and communication campaigns. The strategy will seek to foster joint ventures and strategic partnerships with foreign firms.	1	Private sector	» Joint ventures are signed » Level of FDI in the sector increased » New factories and upgraded machinery and advanced technology employed	Ministry of Foreign Affairs	MoC, MTMA, private operators, MoECAF	Currently operating but poorly defined and not properly set up	400 000

Strategic objective 4: Improve Myanmar's international market share in value added products, and promote trade and investment in Myanmar forestry products.

Operational objective	Activities	Priority 1=high 2=med 3=low	Beneficiaries	Targets	Leading implementing partner	Supporting implementing partners	Existing programmes or potential support	Estimated cost (US$)
4.2 Extend and upgrade the industry to produce high value added wood products such as decking, boards, etc.	4.2.1 Develop a pilot project for the development of ecotourism in the remaining virgin forests in southern and northern Myanmar.	1	Private operators	» Potential of ecotourism in terms of revenue generated and environmental sustainability assessed » Natural areas for ecotourism identified	Ministry of Hotels and Tourism	MoECAF		500 000
	4.2.2 Foster production of high value added wood products such as decking, boards, planks and plywood through R&D, marketing research, capacity-building activities and technical support, as well as the development of incentives for the sector.	2	Private operators	» Production of higher value added increased » Penetration of developed markets (EU, United Sates, Japan) improved	MTMA	MoC, MoECAF, UMFCCI		300 000
	4.2.3 Foster production of value added products from by-products such as sawdust, wood chips (finished products are finger joints, particle boards, etc.) through R&D, marketing research, capacity-building activities and technical support, as well as the development of incentives for the sector.	2	Private operators	» Production of higher value added products increased » Penetration of developed markets (EU, United States, Japan) improved	MTMA	MoC, MoECAF, UMFCCI		300 000
	4.2.4 Foster production of value added products using tops and lops (wood ends) through R&D, marketing research, capacity-building activities and technical support, as well as the development of incentives for the sector.	2	Private operators	» Production of higher value added products increased » Penetration of developed markets (EU, United States, Japan) improved	MTMA	MoC, MoECAF, UMFCCI		300 000
4.3 Promote Myanmar forestry products.	4.3.1 Explore new branding of forestry products by designing a branding strategy for the sector and developing a Myanmar brand to improve the image of national products.	1	MTMA	» One branding campaign a year	MTMA	MoC, UMFCCI		250 000
	4.3.2 Ensure effective management and quality controls of the brand by setting quality requirements and control systems for users of the brand.	1	UMFCCI	» One quality control system	UMFCCI	MoC, MTMA		150 000
	4.3.3 Provide commercial attachés with the necessary training to effectively collect and disseminate information related to market opportunities, as well as promote national products in an effective manner, with a view to penetrating end user markets. A strategy should also be developed to make better use of these commercial attachés.	1	Private operators	» Trained commercial attachés » Better visibility of Myanmar forestry products in key markets (EU, United States, Japan) » Greater awareness of Myanmar brand and products	Ministry of Foreign Affairs	MoC, MoECAF, MTMA, private operators	Planning for this	100 000
	4.3.4 Organize regular missions by Myanmar trade delegations to potential markets abroad through a joint cost-sharing scheme.	2	Private operators	» Private sector participating in trade delegations » Identification of new markets & buyers » Increased exports	MTMA	MoC, Ministry of Foreign Affairs, Myanmar Investment Commission, MoECAF, UMFCCI, private operators	Currently operating but requires further strengthening and better organization	300 000

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APPENDIX 1: MEMBERS OF SECTOR TEAM

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APPENDIX 2: MARKET DEVELOPMENT OPTIONS – PRODUCT-BASED ANALYSIS

METHODOLOGICAL NOTE

The approach used by ITC in the market development options design process relies on a number of analytical elements such as:

- The share of the target market in world imports (A);
- The importer's annual growth in value between 2008 and 2012 (B);
- The concentration of supplying countries for this particular product (C); and
- The average estimated tariff applied by the country (D).

For each product, between 9 and 18 key markets have been identified and analysed, relating to the main importers reported in ITC's TradeMap tool, as well as based on the identification exercise conducted during the stakeholders' consultations.

For each factor, scores were calculated with values ranging from 0 to 1, with the highest performing country for a particular factor given a score of 1 (and the worst performing received 0).

The obtained scores were then weighed according to the importance given to each one of them, as below:

- A weight of 1
- B weight of 3
- C weight of 2
- D Weight 2

A country's overall performance index for a particular product is then calculated by averaging the individual weighed coefficients, using the following formula:

Detailed tables presenting the factors for each product are presented below.

The overall performance indexes for each product per country are presented at the end of this section.

Product: 440122 Wood in chips, non-coniferous

Importers	Share in world imports (%)	Annual growth in value between 2008-2012 (%) (world average 9%)	Concentration of supplying countries (world average 0.14)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
Japan	53.1	0	0.21	0	0.58
China	31.1	66	0.31	0.8	0.60
Turkey	2.9	26	0.23	0	0.50
Taipei, Chinese	2.7	-2	0.28	0	0.40
Korea, Republic of	2.1	-3	0.9	0.9	0.30
Portugal	1.3	27	0.91	0	0.36
Spain	1.1	-3	0.66	0	0.31
Denmark	0.7	36	0.17	0	0.58
Finland	0.7	-20	0.8	0	0.26
Canada	0.6	-9	0.98	0	0.28
Norway	0.5	-15	0.56	0	0.30
Netherlands	0.4	179	0.47	0	0.72

Product: 440130 Sawdust and wood waste and scrap

Importers	Share in world imports (%)	Annual growth in value between 2008-2012 (%) (world average 18%)	Concentration of supplying countries (world average 0.07)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
Denmark	15.4	36	0.15	0	0.77
Italy	13.4	36	0.13	0	0.78
United Kingdom	12.2	60	0.45	0	0.78
Belgium	12.2	5	0.23	0	0.49
Netherlands	9.8	15	0.26	0	0.52
Germany	6.7	25	0.1	0	0.71
Sweden	6.2	9	0.14	0	0.54
Austria	4.4	13	0.23	0	0.48
United States of America	2.9	-14	0.97	0.1	0.21
Poland	2.5	41	0.37	0	0.59
France	1.7	1	0.33	0	0.35
Korea, Republic of	1.5	59	0.33	1.9	0.71
Thailand	0.2	39	0.41	0	0.56
India	0	-1	0.25	4.7	0.34

Product: 440210 Bamboo charcoal, including shell or nut charcoal, whether or not agglomerated

Importers	Share in world imports (%)	Annual growth in value between 2008-2012 (%) (world average - 1%)	Concentration of supplying countries (world average 0.29)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
Netherlands	18.6	31	0.96	0	0.46
Japan	15.3	1	0.96	0	0.39
Korea, Republic of	12.6	3	0.77	1.9	0.39
United States of America	8.3	-14	0.52	0	0.36
Saudi Arabia	7.3	16	0.92	0	0.36
United Kingdom	4.6	-35	0.15	0	0.48
Jordan	3.1	67	0.6	9.3	0.38
Iran (Islamic Republic of)	2.9	104	0.94	4	0.47
Viet Nam	2.2	241	0.83	5.7	0.62

Product: 4407 Wood sawn / chipped lengthwise, sliced / peeled

Importers	Share in world imports (%)	Annual growth in value between 2008-2012 (%) (world average 4%)	Concentration of supplying countries (world average 0.08)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
China	16.9	34	0.15	1.5	0.88
United States of America	12.8	0	0.7	0	0.37
Japan	7.7	5	0.15	0.6	0.50
United Kingdom	5	-3	0.19	0	0.36
Italy	4.2	-8	0.21	0	0.29
Germany	3.9	2	0.08	0	0.55
Egypt	3.7	8	0.2	0	0.47
France	3.1	-7	0.1	0	0.40
Netherlands	3	-2	0.11	0	0.43
Korea, Republic of	1.4	17	0.11	3.9	0.63
Thailand	1.2	3	0.33	0	0.35
Denmark	1.2	-8	0.32	0	0.23
Taipei, Chinese	0.9	8	0.15	0	0.48
Viet Nam	0.9	9	0.26	0	0.43
Turkey	0.7	15	0.15	0	0.55
Malaysia	0.5	1	0.08	0	0.51
Singapore	0.4	-3	0.5	0	0.26
Indonesia	0.3	-2	0.18	0	0.34

Product: 440721 Mahogany (swietenia spp.), sawn or chipped lengthwise, sliced or peeled

Importers	Share in world imports (%)	Annual growth in value between 2008-2012 (%) (world average 4%)	Concentration of supplying countries (world average 0.1)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
United States of America	34.2	-14	0.25	0	0.57
France	13.9	35	0.22	0.1	0.62
Dominican Republic	10	-3	0.75	2.8	0.35
Netherlands	9.1	19	0.48	0.1	0.44
Saudi Arabia	3.5	57	0.49	4.6	0.49
Malaysia	3.4	33	0.98	0	0.39
United Arab Emirates	2.6	68	0.55	4.6	0.50
Cape Verde	1.9	59	0.42	5	0.51
Finland	1.9	185	0.62	0.1	0.72
United Kingdom	1.6	-21	0.47	0.1	0.33

Product: 440839 Veneer, tropical woods n.e.s.

Importers	Share in world imports (%)	Annual growth in value between 2008-2012 (%) (world average -5%)	Concentration of supplying countries (world average 0.1)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
France	14.3	-6	0.66	0.3	0.33
Italy	11.2	-16	0.27	0.3	0.22
Russian Federation	8.8	18	0.46	11.6	0.51
United States of America	7.6	-4	0.1	0.2	0.51
Spain	6	-7	0.2	0.3	0.33
Korea, Republic of	5.1	-14	0.69	3.7	0.14
Morocco	4.9	27	0.7	23.2	0.45
Germany	4.4	-9	0.28	0.3	0.25
India	2.6	21	0.18	9.4	0.64
Belgium	2.6	4	0.13	0.3	0.52
Japan	2.1	-1	0.5	3.1	0.30
United Kingdom	2.1	-2	0.28	0.3	0.33

Product: 440929 Wood, including strips and friezes for parquet flooring, not assembled

Importers	Share in world imports (%)	Annual growth in value between 2008-2012 (%) (world average -2%)	Concentration of supplying countries (world average 0.1)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
United States of America	11	-3	0.19	0.7	0.44
Canada	8.3	-3	0.35	0.5	0.33
Japan	8.2	8	0.27	1.2	0.74
France	7.2	0	0.14	0	0.56
Australia	7	11	0.55	2.9	0.76
Germany	6.5	6	0.13	0	0.78
United Kingdom	6.1	-3	0.34	0	0.31
Netherlands	3.9	-10	0.15	0	0.17
Italy	3.9	-15	0.2	0	-0.05

Product: 4411 Fibreboard of wood or other ligneous materials

Importers	Share in world imports (%)	Annual growth in value between 2008-2012 (%) (world average 2%)	Concentration of supplying countries (world average 0.08)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
United States of America	9.2	-2	0.28	0.8	0.46
France	5.4	2	0.23	1.4	0.46
Canada	4.9	3	0.23	0.1	0.46
Germany	4.6	4	0.16	1.4	0.51
Russian Federation	4.5	10	0.17	19.6	0.41
Iran (Islamic Republic of)	4.5	26	0.24	26.6	0.34
United Kingdom	3.9	-3	0.18	1.4	0.44
Turkey	3.5	10	0.25	2.2	0.47
Japan	3.4	14	0.34	1.6	0.47
Viet Nam	1.7	15	0.26	5.6	0.41
China	1	-9	0.11	8.6	0.39
India	1	59	0.12	9.4	0.81
Indonesia	0.8	15	0.25	4.7	0.47
Korea, Republic of	0.6	-19	0.52	7.9	0.13
Malaysia	0.4	38	0.23	19.1	0.49

Product: 441294 Veneered panels and similar laminated wood with blockboard, laminboard

Importers	Share in world imports (%)	Annual growth in value between 2008-2012 (%) (world average 5%)	Concentration of supplying countries (world average 0.12)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
Japan	11.7	4	0.34	4.3	0.54
Austria	10.4	31	0.25	1.7	0.78
Switzerland	9.3	21	0.29	0.3	0.67
Germany	6.9	10	0.19	1.7	0.65
Jordan	6.2	6	0.76	0	0.42
Italy	5.3	-5	0.27	1.7	0.45
United States of America	5.2	-17	0.29	1.6	0.34
Saudi Arabia	4.1	5	0.79	4.6	0.39
France	4	7	0.32	1.7	0.49
Korea, Republic of	3	-10	0.49	8	0.24
India	0.1	51	0.38	9.4	0.69

Product: 4417 Tools, tool & broom bodies & handles, shoe lasts of wood

Importers	Share in world imports (%)	Annual growth in value between 2008-2012 (%) (world average 2%)	Concentration of supplying countries (world average 0.09)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
United States of America	19.8	1	0.12	0.7	0.57
Germany	12	8	0.08	0	0.78
Mexico	6.6	6	0.81	15	0.34
France	6.1	1	0.1	0	0.51
Japan	5.2	10	0.49	1.5	0.57
Belgium	4	-3	0.25	0	0.28
Austria	3.2	3	0.49	0	0.39
United Kingdom	2.9	3	0.13	0	0.50
Canada	2.8	7	0.25	0.8	0.52
Sweden	2.1	2	0.16	0	0.44
Netherlands	1.9	2	0.22	0	0.40
Korea, Republic of	0.9	9	0.59	7.8	0.45
Singapore	0.8	15	0.15	0	0.76

Product: 441872 Flooring panels, multilayer, assembled, of wood (excluding for mosaic flooring)

Importers	Share in world imports (%)	Annual growth in value between 2008-2012 (%) (world average 3%)	Concentration of supplying countries (world average 0.11)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
Germany	15.4	8	0.19	0	0.60
Switzerland	8.9	5	0.24	0.3	0.49
Norway	7	12	0.14	0	0.62
United States of America	6.8	-2	0.52	1.7	0.35
Belgium	5.7	5	0.48	0	0.40
Sweden	5.5	6	0.33	0	0.43
Russian Federation	5.4	16	0.21	26.4	0.31
United Kingdom	5.1	7	0.26	0	0.46
Italy	4.7	1	0.27	0	0.42
Austria	4.7	7	0.23	0	0.48
France	3.8	11	0.13	0	0.61
Japan	0.8	26	0.49	1.2	0.50
Korea, Republic of	0.7	26	0.3	7.8	0.48
Malaysia	0.3	5	0.71	0	0.33
Singapore	0.1	55	0.19	0	0.80

Product: 441879 Flooring panels, assembled, of wood (excluding multilayer panels and floor)

Importers	Share in world imports (%)	Annual growth in value between 2008-2012 (%) (world average - 5%)	Concentration of supplying countries (world average 0.17)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
United Kingdom	12.6	12	0.31	0	0.59
Sweden	12.6	48	0.51	0	0.82
United States of America	6.9	-15	0.37	1.4	0.30
Switzerland	4.5	3	0.15	0.3	0.57
Australia	4.3	35	0.4	2.9	0.66
Germany	4.2	5	0.15	0	0.58
Mexico	4.1	39	0.45	20	0.55
Italy	4	-14	0.16	0	0.41
France	4	-10	0.43	0	0.30
Denmark	3.8	-1	0.19	0	0.48
Chile	3.1	16	0.38	4.7	0.50
Norway	2.6	-11	0.26	0	0.33
Japan	2.6	21	0.27	1.2	0.58
Singapore	1.4	18	0.24	0	0.56
Malaysia	0.4	8	0.34	0	0.43
Thailand	0.3	14	0.49	0	0.44

Product: 47 Pulp of wood, fibrous cellulosic material, waste etc.

Importers	Share in world imports (%)	Annual growth in value between 2008-2012 (%) (world average 7%)	Concentration of supplying countries (world average 0.09)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
China	34.9	13	0.12	0.8	0.91
Germany	8.9	4	0.09	0	0.64
United States of America	7.1	1	0.53	0	0.34
Italy	4.5	0	0.11	0	0.47
Korea, Republic of	3.8	2	0.13	0	0.49
Netherlands	3.5	12	0.11	0	0.79
Indonesia	3.1	8	0.09	1.8	0.73
France	3	2	0.1	0	0.54
Japan	2.9	3	0.19	0	0.46
India	2.6	14	0.12	6.1	0.76
Mexico	1.9	1	0.66	0	0.32
Spain	1.8	4	0.14	0	0.52
United Kingdom	1.7	-3	0.13	0	0.35

Product: 48 Paper and paperboard, articles of pulp, paper and board

Importers	Share in world imports (%)	Annual growth in value between 2008-2012 (%) (world average 2%)	Concentration of supplying countries (world average 0.05)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
United States of America	9.4	-2	0.24	0.2	0.39
Germany	8	-1	0.08	0	0.55
France	5.5	-2	0.11	0	0.43
United Kingdom	5.2	-1	0.09	0	0.49
Italy	3.3	0	0.1	0	0.47
Canada	3.3	2	0.71	0	0.37
Belgium	3.2	-1	0.15	0	0.38
Netherlands	3.1	0	0.15	0	0.41
China	2.7	5	0.1	10.6	0.47
Japan	2.4	13	0.2	0	0.72
India	1.3	10	0.07	9.4	0.72
Malaysia	1.1	6	0.09	0	0.62
Singapore	1.1	12	0.15	0	0.70
Thailand	0.9	10	0.09	0	0.72
Viet Nam	0.9	13	0.11	0	0.77
Korea, Republic of	0.9	6	0.13	0	0.56
Indonesia	0.8	14	0.08	0	0.85

Product: 940330 Office furniture, wooden, n.e.s.

Importers	Share in world imports (%)	Annual growth in value between 2008-2012 (%) (world average - 1%)	Concentration of supplying countries (world average 0.1)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
United States of America	27	0	0.29	0.3	0.45
France	4.8	-5	0.12	0	0.27
Germany	4.4	2	0.1	0	0.57
Canada	4.2	5	0.27	0	0.54
Norway	3.3	-3	0.43	0	0.21
United Kingdom	3.2	-9	0.09	0	0.18
Russian Federation	3	3	0.13	41.9	0.30
Saudi Arabia	3	10	0.27	4.6	0.72
Belgium	2	-8	0.14	0	0.12
Sweden	1.5	9	0.13	0	0.77
Netherlands	1.5	-2	0.18	0	0.31
Austria	1.5	0	0.32	0	0.33
Korea, Republic of	1.4	2	0.71	0	0.36
Italy	1.1	9	0.15	0	0.74

Product: 940340 Kitchen furniture, wooden, n.e.s.

Importers	Share in world imports (%)	Annual growth in value between 2008-2012 (%) (world average -2%)	Concentration of supplying countries (world average 0.17)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
United States of America	18.6	-2	0.41	0.3	0.46
France	12.6	1	0.35	0.2	0.49
Switzerland	8.1	6	0.49	0.4	0.51
Austria	4.8	5	0.87	0.2	0.42
Netherlands	4.7	-8	0.84	0.2	0.20
Norway	4.6	14	0.32	0	0.68
Belgium	4.1	-7	0.69	0.2	0.23
United Kingdom	3.2	-20	0.28	0.2	0.11
Canada	3.1	-1	0.43	4.9	0.37
Japan	2.8	8	0.21	0	0.64
Germany	2.8	5	0.2	0.2	0.60
China	2.3	22	0.58	10.2	0.60

Product: 940350 Bedroom furniture, wooden, n.e.s.

Importers	Share in world imports (%)	Annual growth in value between 2008-2012 (%) (world average 2%)	Concentration of supplying countries (world average 0.12)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
United States of America	34	2	0.22	0.3	0.54
United Kingdom	6.7	-4	0.19	0	0.30
Germany	5.3	6	0.11	0	0.66
Canada	4	6	0.15	4.9	0.59
France	3.4	-5	0.1	0	0.38
Switzerland	3.1	5	0.27	0	0.49
Australia	2.9	9	0.39	3.3	0.57
Austria	2.3	2	0.46	0	0.37
Japan	2.2	6	0.36	0	0.49
Netherlands	2.1	-2	0.17	0	0.35
Korea, Republic of	1	4	0.6	0	0.40
China	0.9	14	0.14	10.2	0.68

Product: 940360 Furniture, wooden, n.e.s.

Importers	Share in world imports (%)	Annual growth in value between 2008-2012 (%) (world average 0%)	Concentration of supplying countries (world average 0.14)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
United States of America	21	-1	0.32	0.3	0.43
Germany	8.9	6	0.13	0	0.50
France	6.2	-5	0.1	0	0.45
Japan	6.1	6	0.27	0	0.40
United Kingdom	5.6	-6	0.18	0	0.36
China	1	20	0.08	10.2	0.51
India	0.6	22	0.42	9.3	0.38
Thailand	0.2	23	0.18	0	0.51
Viet Nam	0.2	58	0.46	23.1	0.42
Philippines	0.1	20	0.34	0	0.44
Indonesia	0.1	27	0.55	0	0.46
Brazil	0.1	42	0.15	17.2	0.53
Bangladesh	0	49	0.27	25	0.39

Product: 940381 Furniture of bamboo or rattan

Importers	Share in world imports (%)	Annual growth in value between 2008-2012 (%) (world average -14%)	Concentration of supplying countries (world average 0.26)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
United States of America	24.5	-8	0.37	0.5	0.44
Germany	8.2	-11	0.25	0.4	0.39
France	7	-28	0.23	0.4	0.21
United Kingdom	6.9	-16	0.32	0.4	0.28
Japan	3.6	-8	0.52	0	0.29
Spain	2.6	-27	0.23	0.4	0.20
Canada	2.4	-17	0.41	1.6	0.20
Belgium	2.2	-25	0.24	0.4	0.21
Netherlands	2.1	-10	0.26	0.4	0.36
Philippines	1.1	14	0.44	0	0.55
Australia	1.1	-2	0.43	3.3	0.37
Brazil	0.7	32	0.47	17.2	0.63
Chile	0.5	13	0.35	4.7	0.57
Colombia	0.5	19	0.48	13.4	0.47
New Zealand	0.2	9	0.39	3.7	0.50

Product: 140120 Rattans used primarily for plaiting

Importers	Share in world imports (%)	Annual growth in value between 2008-2012 (%) (world average 0%)	Concentration of supplying countries (world average 0.25)	Average tariff (estimated) applied by the country (%)	Overall Performance Index
China	36	-2	0.5	11.9	0.29
Singapore	19.7	4	0.5	0	0.56
Egypt	6.7	11	0.54	1.8	0.75
United States of America	5.6	-2	0.64	0.4	0.29
Thailand	3.2	-4	0.22	0	0.37
Hungary	3		1	0	0.32
Germany	2.7	2	0.28	0	0.52
Mexico	2.2	-3	0.55	0	0.26
France	2.1	3	0.5	0	0.47
Japan	1.6	10	0.27	0	0.80

Forestry products: overall performance indexes

PRODUCTS / IMPORTERS	HS 440122	HS 440130	HS 440210	HS 4407	HS 440721	HS 440839	HS 440929	HS 4411	HS 441294	HS 4417	HS 441872	HS 441879	HS 47	HS 48	HS 940330	HS 940340	HS 940350	HS 940360	HS 940381	HS 140120
Austria		0.48							0.78	0.39	0.48				0.33	0.42	0.37			
Belgium		0.49				0.52				0.28	0.40			0.38	0.12	0.23			0.21	
Denmark	0.58	0.77		0.23								0.48								
Finland	0.26				0.72															
France		0.35		0.40	0.62	0.33	0.56	0.46	0.49	0.51	0.61	0.30	0.54	0.43	0.27	0.49	0.38	0.45	0.21	0.47
Germany		0.71		0.55		0.25	0.78	0.51	0.65	0.78	0.60	0.58	0.64	0.55	0.57	0.60	0.66	0.50	0.39	0.52
Hungary																				0.32
Italy		0.78		0.29		0.22	-0.05		0.45		0.42	0.41	0.47	0.47	0.74					
Netherlands	0.72	0.52	0.46	0.43	0.44		0.17			0.40			0.79	0.41	0.31	0.20	0.35		0.36	
Norway	0.30										0.62	0.33			0.21	0.68				
Poland		0.59																		
Portugal	0.36																			
Russian Federation						0.51		0.41			0.31				0.30					
Spain	0.31					0.33							0.52						0.20	
Sweden		0.54								0.44	0.43	0.82			0.77					
Switzerland									0.67		0.49	0.57				0.51	0.49			
United Kingdom		0.78	0.48	0.36	0.33	0.33	0.31	0.44		0.50	0.46	0.59	0.35	0.49	0.18	0.11	0.30	0.36	0.28	
USA		0.21	0.36	0.37	0.57	0.51	0.44	0.46	0.34	0.57	0.35	0.30	0.34	0.39	0.45	0.46	0.54	0.43	0.44	0.29
Canada	0.28						0.33	0.46		0.52				0.37	0.54	0.37	0.59		0.20	
Australia							0.76					0.66					0.57		0.37	
New Zealand																			0.50	
Japan	0.58		0.39	0.50		0.30	0.74	0.47	0.54	0.57	0.50	0.58	0.46	0.72		0.64	0.49	0.40	0.29	0.80
Korea, Republic of	0.30	0.71	0.39	0.63		0.14		0.13	0.24	0.45	0.48		0.49	0.56	0.36		0.40			
China	0.60			0.88				0.39					0.91	0.47		0.60	0.68	0.51	0.47	0.29
India		0.34				0.64		0.81	0.69				0.76	0.72				0.38		
Indonesia				0.34				0.47					0.73	0.85				0.46		
Malaysia				0.51	0.39			0.49			0.33	0.43		0.62						
Philippines																		0.44	0.55	
Singapore				0.26						0.76	0.80	0.56		0.70						0.56
Taipei, Chinese	0.40			0.48																
Thailand		0.56		0.35								0.44		0.72				0.51		0.37
Viet Nam			0.62	0.43				0.41						0.77				0.42		
Bangladesh																		0.39		
Brazil																		0.53	0.63	
Cape Verde					0.51															
Chile												0.50							0.57	
Colombia																				
Dominican Republic					0.35															
Egypt				0.47																0.75
Iran (Islamic Rep of)			0.47					0.34												
Jordan			0.38						0.42											
Mexico										0.34		0.55	0.32							0.26
Morocco						0.45														
Saudi Arabia			0.36		0.49				0.39						0.72					
Turkey	0.50			0.55				0.47												
UAE					0.50															


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